

# **SAN DIEGO COUNTY GRADING ORDINANCE**



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An excerpt from The San Diego County Code of Regulatory Ordinances

**Amended by Ord. No. 10224 (N.S.)**

**Effective 10-25-12**



**San Diego County Code of Regulatory Ordinances**

**TITLE 8 ZONING AND LAND USE REGULATIONS\***

**DIVISION 7. GRADING, CLEARING AND WATERCOURSES\***

\***Note**—Div. 7, Excavation and Grading, added by Ord. No. 2925 (N.S.), effective 3-3-66; repealed by Ord. No. 9547 (N.S.), effective 5-9-03. New Div. 7, Grading, Clearing and Watercourses, enacted by Ord. No. 9547 (N.S.), effective 5-9-03.

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**Cross reference(s)**--Excavations, fills and obstructions, § 71.301 et seq.  
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**CHAPTER 1.**

**RESPONSIBILITIES AND ENFORCEMENT**

**SEC. 87.101. RESPONSIBILITIES OF OWNERS, PERMITTEES AND OTHERS.**

(a) General. It shall be unlawful for any owner, permittee or other person to perform or cause to be performed any grading or clearing on any property contrary to any provision of this Division, or to use or maintain such property in an unlawfully graded or cleared condition, or to commit any other act prohibited by this Division. This prohibition shall apply to any person operating grading or clearing equipment or otherwise performing work for hire, only if that person knowingly participates in activity prohibited by this Division. An owner shall be considered to have caused any grading, clearing or prohibited act on the property under the owner's dominion and control, and shall be responsible for the correction of any violation of any provision of this Division, including a violation which occurred prior to the owner's acquisition thereof which continues after such acquisition.

(b) Hazardous Conditions. The owner of the property upon which an excavation, embankment or fill is located, or other person or agent in control of said property, upon receipt of notice in writing from the County Official to do so, shall within the period specified in such notice, repair or eliminate such excavation, embankment or fill so as to eliminate the hazard and be in conformance with the requirements of this Division.

(c) Compliance With Plans and Requirements. All permits issued under this Division shall be presumed to include the provision that the permittee and his or her agent, contractors and employees, shall carry out the proposed work in accordance with the approved plans and specifications, where such approval is required, and in compliance with any applicable storm water pollution prevention plan (SWPPP) prepared and maintained pursuant to federal or state requirements or a County directive, and in compliance with all the requirements of the permit and this Division. Failure to carry out the work in accordance with approved plans and specifications, any applicable SWPPP, and in compliance with all the requirements of the permit and this Division shall be a violation of this Division.

(d) Storm Damage Precautions. The owner, the permittee, and all persons performing any grading operations shall remove all loose dirt from the grading site and provide adequate erosion control or drainage devices, debris basins, or other safety devices and take all safety precautions reasonably necessary to protect persons and property. All such persons shall put into effect all safety precautions which in the opinion of the County Official are necessary.

(e) Maintenance of Protective Devices. The owner of any property on which a fill or excavation has been made, the permittee pursuant to a permit granted under the provisions of this Division, or any other person or agent in control of such property, shall maintain in good condition and repair all retaining walls, cribbing, drainage structures or means and other protective devices and planting shown in the approved plans and specifications or in the record plans filed pursuant to Section 87.425 or required by the permit. Facilities dedicated for use by the public and accepted for such use by a public agency are excepted.

(f) Protection of Utilities and Adjacent Property. During grading operations the permittee shall be responsible for the prevention of damage to any public utilities or services. This responsibility applies within the limits of grading and along any routes of travel of equipment. Notwithstanding the minimum standards set forth in this Division, the permittee is responsible for the prevention of damage to adjacent property and no person shall excavate on land so close to the property line as to endanger any adjoining public street, sidewalk, alley, or any other public or private property without supporting and protecting such property from settling, cracking, or other damage which might result. In the event that, during the grading operation, expansive soil is found within either two feet of the finished lot grade or three feet of the finished floor grade of any area intended or designed to be used as the location of a building, the applicant shall either: (1) remove the expansive soil and replace it with non-expansive soil properly compacted, to a depth of three feet; or (2) install a foundation which either conforms to the San Diego County Standard Foundation System For Single Family Dwellings (on file with the Department of Planning and Development Services) or has been approved and signed by a licensed civil engineer.

(g) Truthful Statements. Owners, permittees, soils engineers, engineers serving as Permit Compliance Engineers, and others filing reports or providing official information to the County pursuant to this Division shall cooperate with and provide truthful and correct information to the County Official relating to the enforcement of this Division. Any falsification or misrepresentation made to the County concerning compliance with this Division, including any voluntary disclosures and including any report that is so deficient or incomplete as to cause misunderstanding, and any withholding of information required to be submitted by or pursuant to this Division, is a violation of this Division.

(h) Compliance with Federal and State Requirements. Any violation of an applicable federal or state-issued Storm Water Permit, or any failure to conform to an applicable storm water pollution prevention plan (SWPPP) prepared pursuant to such a permit or pursuant to this division or Chapter 8 of Division 7 of Title 6 of the San Diego County Code, or any failure to comply with storm water-related provisions of a County-issued grading permit or of a grading plan prepared to secure such a permit, is also a violation of this division. Potentially applicable federal or state-issued Storm Water Permits and requirements include but may not be limited to: the state Industrial Activities Storm Water General Permit (State Water Resources Control Board (SWRCB) Order 97-03-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001); the state General Permit for Construction Activities Associated With Construction Activities (SWRCB Order 99-08-DWQ, NPDES General Permit No. CAS000002); the State Ocean Plan, Inland Surface Waters Plan, or Enclosed Bays and Estuaries Plan; the State Comprehensive Water Quality Control Plan for the San Diego Basin; any applicable U.S. Environmental Protection Agency or state-issued multi-sector, group, or general permit; and the stormwater-related provisions of any NPDES permit or state-issued Waste Discharge Requirements permit issued to a specific facility, each as it now exists or may hereafter be amended or superseded.

(i) Permits and Compliance. Neither the issuance of a grading permit, clearing permit, watercourse permit, or reclamation plan under the provisions of this division, nor the compliance with any provisions or condition thereof, nor compliance with federal or state requirements, shall relieve any person from any liability or responsibility for compliance with this Division or responsibility or liability otherwise imposed –

—by law for damage to person or property.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04; amended by Ord. No. 10224 (N.S.), effective 10-25-12)

## **SEC. 87.102. ENFORCEMENT AUTHORITY OF COUNTY OFFICIAL.**

(a) General. The County Official and each agent or deputy thereof who is assigned to duties which include the enforcement of this Division, and any peace officer, are authorized to enforce the provisions of this Division, including the activities set forth in this section below.

(b) Directors of Public Works and Planning and Development Services. The Director of Public Works and the Director of Planning and Development Services shall each generally have enforcement authority relating to work done pursuant to, or compliance with, a permit issued by the respective Director, acting as the "County Official" in the areas specified in Section 87.803 . Enforcement authority relating to work or activities conducted without the necessary permit having been obtained, is given to the Director of Public Works in cases involving work or activities subject to Chapter 6 (Watercourses) of this Division, and to the Director of Planning and Development Services in all other cases.

(c) Inspections. The County Official may enter any property or premises subject to this Division for the purpose of determining compliance with this Division.

(d) Order to Stop or Repair Work. Whenever the County Official determines that any existing excavation, embankment or fill endangers or adversely affects the safety, use or stability of any public or private property, or that any work is being done contrary to the provisions of this Division or other laws implemented through the enforcement of this Division, he or she may order work to be stopped and/or repairs or corrections to be made, by serving written notice on the owner, permittee or any person engaged in the doing or causing such work to be done, and such persons shall immediately stop such work until authorized by the County Official in writing to proceed.

(e) Notice of Violation. The County Official may issue and enforce Notices of Violation and Notices of Ineligibility For Land Development, pursuant to this Division.

(f) Site Restoration. The County Official may order the site of illegal grading or clearing to be restored, pursuant to Section 87.110 below.

(g) Administrative Remedies. The County Official may pursue the Administrative Remedies set forth at Division 8 of Title 1 of this Code, including the issuance of Administrative Citations pursuant to Chapter 1 (commencing with Section 18.101 ) of said Division 8.

(h) Arrests and Citations. The County Official shall have the power to make arrests for violations of this Division and State laws which he or she has a duty to enforce, and to issue citations for such violations. Any person so arrested who does not demand to be taken before a magistrate may instead be cited in the manner prescribed in Chapter 5C (commencing with Section 853.5) of Title 3, Part 2 of the Penal Code. The County Official may arrest an owner without warrant whenever they have reasonable cause to believe that the person arrested has committed a violation of this Division, provided that the officer or employee making the arrest shall have completed a course of training that meets the minimum standards prescribed by the Commission on Peace Officer Standards and Training as prescribed by Section 832(a) of the Penal Code. An officer or employee making an arrest under this Section shall follow the citation-release

procedures prescribed by the Penal Code.

(i) Non-Liability. The County Official or any employee charged with the enforcement of this Division, acting in good faith and without malice for the County in the discharge of his duties, shall not thereby render himself or herself liable personally and he or she is hereby relieved from all personal liability for any damage that may accrue to persons or property as a result of any act required or by reason of any act or omission in the discharge of his duties. Any suit brought against the County Official or employee, because of such act or omission performed by him or her in the enforcement of any provisions of this Division, shall be defended by the legal department of the County until final termination of the proceedings.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 10224 (N.S.), effective 10-25-12)

### **SEC. 87.103. VIOLATIONS - CRIMINAL PENALTIES.**

(a) Any person violating any provision of this Division other than Sections 87.501 or 87.505 shall be deemed guilty of a misdemeanor, unless, in the discretion of the prosecutor, it is charged as an infraction. A person convicted of a third or subsequent such violation within two years from the date of the first conviction shall be deemed guilty of a misdemeanor.

(b) Any clearing which is done in violation of Sections 87.501 or 87.505 shall be a misdemeanor.

(c) Any person convicted of an infraction under this Division shall be punished by a fine not exceeding one hundred dollars for the first violation, two hundred dollars for the second violation within one year, and five hundred dollars for each subsequent violation within one year. Any person convicted of a misdemeanor under this Division shall be punished by imprisonment in the County jail for a term not exceeding six months, or by a fine not exceeding one thousand dollars, or both.

(d) Each day or any portion of a day that any person violates or continues to violate provisions of this Division constitutes a separate offense and may be charged and punished separately without awaiting conviction on any prior offense. The penalties imposed by this section are in addition to penalties imposed under other provisions of this Code and the Zoning Ordinance.

(e) Paying a fine or serving a jail sentence shall not relieve any owner or permittee from responsibility for correcting any condition which violates any provision of this Division.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

### **SEC. 87.104. VIOLATIONS - PUBLIC NUISANCE.**

In addition to any penalty prescribed for violation of this Code, any grading, clearing or other act done contrary to the provisions of this Division is unlawful and a public nuisance. Any grading or clearing done without a permit first having been obtained as required by this Division, regardless of whether such failure is due to neglect or refusal, shall be prima facie evidence that a public nuisance has been committed. A public nuisance may be abated in accordance with the Uniform Public Nuisance Abatement Procedure contained in Chapter 2, Division 6, Title 1 (commencing with Section 16.201) of this Code or, upon order of the Board of Supervisors, the County Counsel is authorized to commence necessary proceedings provided by law to abate, remove and/or enjoin such public nuisance.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.105. VIOLATIONS - DENIAL OF SUBSEQUENT PERMITS.**

Any grading or clearing which according to a field inspection of the property was done in violation of Sections 87.201, 87.501, 87.505, 87.602 or 87.603, or in violation of one or more conditions of a grading permit or a clearing permit, shall be grounds for denying for five years all applications for grading permits, administrative permits, site plans, use permits, major and minor subdivisions, rezones, specific plans, specific plan amendments, general plan amendments and other land development applications proposed for the property on which the violation occurred. The "property" shall be deemed to include the lot or parcel on which the violation occurred, together with all adjacent parcels owned by the same person or entity or which are part of a common plan of development. The five-year period shall commence from the date of the violation, if documented, or from the date of discovery of the violation. The Board of Supervisors may waive the penalty imposed by this subsection, for good cause. Any such waiver, if granted, shall in no way relieve the owner or applicant for any such subsequent land development application, of their duty to include the effects of the grading or clearing in any environmental analysis performed for the subsequent application, and to restore or rehabilitate the site, provide substitute or compensating resources, or perform other appropriate measures to mitigate the adverse effects of the illegal grading or clearing.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.106. VIOLATIONS - INJUNCTIVE OR DECLARATORY RELIEF.**

In addition to or in lieu of other remedies specified in this Chapter, any violation of this division may be enforced by a judicial action for injunctive or declaratory relief.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.107. VIOLATIONS - CIVIL PENALTIES.**

(a) As part of a civil action filed by the County to enforce provisions of this Division, a court may assess a maximum civil penalty of \$2,500 per violation of this Division for each day during which any violation of any provision of this Division is committed, continued, permitted or maintained by such person(s).

(b) In determining the amount of any civil liability to be imposed pursuant to this division, the superior court shall take into consideration the nature, circumstances, extent, and gravity of the violation or violations, whether any discharge caused by the violation is susceptible to cleanup or abatement, and, with respect to the violator, the ability to pay, the effect on ability to continue in business, the extent of any advantage gained by an unfair business practice, any voluntary cleanup efforts undertaken, any prior history of violations, the degree of culpability, economic savings, if any, resulting from the violation, and such other matters as justice may require.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.108. VIOLATIONS - COST RECOVERY.**

In addition to other penalties and remedies permitted in this Division, the following may be awarded without monetary limitations in any civil action:

(a) Costs to investigate, inspect, monitor, survey, or litigate;

- (b) Costs to place or remove soils or erosion control materials; costs to correct any violation; and costs to end any adverse effects of a violation;
- (c) Compensatory damages for losses to the County or any other plaintiff caused by violations; and/or
- (d) Restitution to third parties for losses caused by violations.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

**SEC. 87.109. NOTICE OF INELIGIBILITY FOR LAND DEVELOPMENT.**

(a) If the County Official believes that grading or clearing has been done in violation of this Division, he or she may deliver to the owner of the property upon which the grading occurred a Notice of Intent to File a Notice of Ineligibility for Land Development with the Departments of Planning and Development Services and Public Works. The notice of intent shall be either served upon the owner personally or be both mailed (via certified mail, return receipt requested) to the owner at the address shown on the most recent tax assessment records and posted on the property. The notice of intent shall state the County Official's intention to file the Notice of Ineligibility for Land Development, and shall fix a location, time and date (which shall not be less than fifteen days after the delivery of the notice), at which the County Official will hold a hearing at which the owner may submit to the County Official written comments or reasons why a Notice of Ineligibility for Land Development should not be filed. The County Official shall hold the hearing at the appointed time, shall consider any information provided by the owner, and shall determine whether a violation occurred, whether it has been remedied, and whether to file a Notice of Ineligibility for Land Development.

(b) If the County Official files a Notice of Ineligibility for Land Development, and for so long as said notice remains in effect, no application for a building permit, administrative permit, site plan, use permit, variance, tentative parcel map, tentative map, parcel map or final map or any other permit for the development of the subject property shall be approved. All such applications shall be denied, and the County Official receiving such an application shall not be required to undertake further review of the application. The "subject property" shall be deemed to include the lot or parcel on which the violation occurred, together with all adjacent parcels owned by the same person or entity or which are part of a common plan of development. The Notice of Ineligibility for Land Development shall remain in effect until the County Official files a "Release of Notice of Ineligibility for Land Development," which the County Official shall file when he or she determines that a grading or clearing permit as required by this Division has been obtained for the grading or clearing, and that the grading or clearing has been completed, inspected and approved in writing by the County Official as being in compliance with the requirements of this Division.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 10224 (N.S.), effective 10-25-12)

**SEC. 87.110. VIOLATIONS - SITE RESTORATION.**

(a) Whenever the County Official determines that grading or clearing has been done in violation of the requirements of this Division, including grading or clearing without obtaining the required permit or grading or clearing in excess of that permitted by an approved permit, the County Official may order that the site be restored to the condition it was in previous to the unlawful grading or clearing. Restoration ordered may include revegetation of the site with species of plants identical to or serving biological resource values as close as possible to those of the vegetation which existed on the site prior to the illegal grading or clearing.



(b) If the County Official determines that restoration to such previous condition would result in a condition which is unsafe or does not conform to this Division or other applicable laws, or is otherwise impractical, then the County Official may order restoration to such other condition as he or she determines to be as close as practical to the site's previous condition; provided however, that the County Official shall require that any adverse environmental impacts which resulted from the illegal grading or clearing be mitigated (such as through the creation and/or preservation of onsite or offsite substitute habitat or other resources) to at least the same extent as would have been required if the impacts occurred as a result of a development project application which was required to comply with the California Environmental Quality Act, the Resource Protection Ordinance, the Biological Mitigation Ordinance and other County resource protection regulations.

(c) Such an order for restoration may require that the restoration work be performed pursuant to plans which the permittee, owner or other responsible person(s) is directed to prepare and submit for the County Official's approval. Failure to submit such plans within the time specified in the order for restoration shall constitute a violation of this Division. The order may require that permits required by this Division or other laws or regulations be obtained for the restoration work, including compliance with all requirements for obtaining such permits. The order for restoration may require that adequate security be provided to the County Official, to assure completion of the restoration work. The order for restoration may impose time deadlines for performance of certain acts. Failure to timely implement or otherwise comply with an order for restoration shall constitute a violation of this Division.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.111. AGRICULTURAL GRADING PERMIT OR CLEARING PERMIT.**

(a) For a period of five years (ten years if the land is located within the "MSCP Subarea" as defined in Section 87.203) from and after the date of issuance of either an agricultural grading permit pursuant to Section 87.205 or an agricultural clearing permit pursuant to Section 87.506, no County decision maker shall grant or approve any authorization for land development on the land for which grading or clearing is authorized by the permit, to the permittee who made the certification required by Section 87.205(c)(12) or any other person who has actual or constructive notice of that certification, unless the authorization would be for a project or activity which is either: (1) one for which an exemption is provided at Sections 87.202 or 87.502; or (2) in furtherance of the agricultural operation specified in the property owner's certification. This prohibition does not prohibit the issuance of a building permit for construction of one single family dwelling on an existing legal lot, or the issuance of a minor grading permit pursuant to Section 87.206 of this Division, if it is found that the circumstances of the case are such that providing the single family dwelling would be in furtherance of the specified agricultural operation.

(b) Where a certification of agricultural operation has been signed pursuant to Section 87.205 for an agricultural grading permit, or pursuant to Section 87.506 for an agricultural clearing permit, if the property owner fails either to establish the stated agricultural operation within one year, or to retain the land in agriculture for five years (ten years if the land is located within the MSCP Subarea) from the date the agricultural grading permit or agricultural clearing permit is issued, the agricultural grading permit or agricultural clearing permit shall immediately expire and the property owner shall restore the land to its condition prior to grading or clearing. The property owner shall obtain the appropriate grading or clearing permit as required by this Division for such restoration work. Such restoration work, which may include excavation, filling, construction or installation of erosion protection or other protective facilities, planting and landscaping, shall be completed to the satisfaction of the County Official. All provisions of Section

87.110(c), including the County Official's authority to require security and to establish time deadlines, shall apply.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

**SEC. 87.112. GRADING OR CLEARING WITHIN OPEN SPACE EASEMENTS.**

It shall be unlawful for any person to maintain or allow any structure, grading or clearing on a property contrary to the express terms of an open space easement, conservation easement or other development restrictive easement which has been granted to the County of San Diego, except where such clearing or grading is performed pursuant to and is limited to the extent authorized by the valid order or regulation of an authorized government official, for fire control or other public safety purposes.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 10211 (N.S.), effective 6-1-12)

## CHAPTER 2. GRADING PERMITS

### **SEC. 87.201. GRADING PERMIT REQUIRED.**

(a) Except as exempted by Section 87.202, no person shall do any grading nor shall an owner allow any grading on his property, nor allow property to remain in a graded condition, unless the person or owner has a valid, unexpired grading permit issued by the County Official authorizing such grading or the grading is part of a surface mining operation authorized by Chapter 7 of this Division. A separate grading permit shall be required for each site.

(b) The grading permit shall constitute an authorization to do only that work which is described or illustrated on the grading or improvement plans which are associated with the grading permit approved by the County Official and the work shall be done in accordance with any conditions imposed by the County Official and in accordance with the requirements of this Division.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

### **SEC. 87.202. EXEMPTIONS FROM PERMIT REQUIREMENT.**

The following are exempt from the requirements to obtain a grading permit (but not from other requirements of this Division including, but not limited to, the maximum slope, required setbacks, erosion prevention and planting requirements), provided they do not occur in or affect a watercourse or are within one of the exemptions under Section 87.604 of this Division:

(a) An excavation or fill which:

(1) is less than eight feet in vertical height (measured from the toe of the slope to the top of the slope); and

(2) does not result in the movement of more than 200 cubic yards of material on any one site.

(b) An excavation below finished grade for basements and footings of a building, retaining wall, swimming pool, septic tank, leaching system, or other structure authorized by a valid building permit. This paragraph shall not exempt from the permit requirements any fill made with the material from such excavation having an unsupported height greater than eight feet after the completion of such structure.

(c) Refuse disposal areas or sanitary fills operated and conducted in accordance with a use permit issued pursuant to the Zoning Ordinance or a permit issued pursuant to Article 2, Chapter 5, Division 8, Title 6, of this Code or as a lawful non-conforming use and where the operation and conduct thereof does not block or divert any natural drainage way or affect the lateral support of, or unduly increase the stresses in or pressures upon, any adjacent or contiguous property.

(d) Tilling or cultivating land exclusively for agricultural production, subject to the following:

(1) The following limitations must be met:

(aa) no soils shall be exported from the area tilled or cultivated;

(bb) the tilling or cultivating will not block or divert any natural drainage way;

(cc) the tilling or cultivating will not affect the lateral support or unduly increase the stresses in or pressures upon any adjacent or contiguous property; and

(dd) the land to be tilled or cultivated has been in agricultural production for at least one of the preceding five years.

(2) This exemption does not allow:

(aa) the establishment of new agricultural operations on, or the expansion of existing agricultural operations onto, any area which has not been in agricultural production for at least one of the preceding five years;

(bb) conversion of agricultural land to nonagricultural use or activities that reduce habitat and wildlife to facilitate conversion to non-agricultural use;

(cc) conversion of land previously used solely for grazing or beekeeping, to other types of agricultural operations which involve a greater intensity of land disturbance, such as planted crops. Planting crops on land previously used for grazing is a prohibited conversion, unless the grazing conducted for the period specified in paragraph (1)(dd) above included such crop planting.

(e) Grading incidental to the construction or installation of facilities by a public agency or utility not subject to regulation by this Division.

(f) Grading to the limited extent authorized in advance in writing by the County Official to perform repairs so as to prevent immediately threatened injury to persons or property which has arisen as a result of an emergency. The County Official may require that a grading permit subsequently be obtained to reflect the work performed, and may require the submittal of information, documentation, reports and other matter as required by the applicable provisions of this Division for such permit.

(g) Grading or reclamation work pursuant to a use permit or reclamation plan approved pursuant to Chapter 7 of this Division for a borrow pit, quarry or other surface mining operation, unless the operation is not required to obtain a reclamation plan because it will complete the removal of material to be used exclusively for fill at another approved site or sites within one year. Operations required to secure a grading permit must do so for the excavation site as well as the fill sites.

(h) Routine road maintenance activities, such as smoothing, texturing, and filling of small rills and potholes, provided they do not involve land form changes and are conducted entirely within the existing disturbed footprint of an existing road.

(i) Temporary stockpiling of earth authorized by a valid and unexpired permit issued pursuant to Section 87.218 of this Chapter.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

### **SEC. 87.203. ISSUANCE OF GRADING PERMIT.**

(a) Upon application signed by the owner of the property, the County Official shall issue a grading permit where the County Official determines that:

(1) The proposed grading substantially complies with grading plans or improvement plans approved pursuant to Section 87.204 through 87.208;

(2) Any conditions imposed upon such grading or improvement plan approval, which are required to be completed or performed prior to grading permit issuance, have been satisfied;

(3) The grading permit application was filed not more than 24 months following the approval of grading plans or improvement plans, or within the duration of a renewal of that period pursuant to paragraph (c) below, and for minor grading permits issued by the Department of Planning and Development Services the plan review for the associated dwelling or accessory building pursuant to Section 87.206(a)(9) must be active;

(4) The grading permit fee specified in Chapter 3 of this Division has been paid;

(5) An Agreement conforming to Section 87.215 has been signed and submitted, for purposes of providing the County with a Right of Entry for Inspection, and Indemnification;

(6) The Agreement and Cash Deposit have been submitted, if required by Section 87.304; and

(7) For Major Grading (Section 87.208), the application is accompanied by an "Acknowledgment to Employ Consultants" form which shall list the Permit Compliance Engineer as required by Sec. 87.420, the Soils Engineer and the Engineering Geologist (if required), and a signed "Acceptance of Employment by Consultants" form for each consultant. The owner shall be responsible for notifying the County Official of any change in the consultants listed on the "Acknowledgment to Employ Consultants" form.

(b) Notwithstanding paragraph (a), where the approval of plans occurred prior to May 9, 2003, the application for a grading permit shall be evaluated based upon the criteria applicable under Sections 87.204 through 87.208; and where federal or state wildlife protection agencies identify newly discovered concerns with impacts to resources that were not known at the time of grading plan or improvement plan approval, the County Official may defer issuance of a grading permit until those agencies' requirements have been complied with.

(c) The 24 month period referenced in paragraph (a)(3) may be renewed by the County Official one time for an additional 24 months, if he or she determines that no significant changes in the work are proposed, environmental review documentation has been appropriately updated and, in the case of major grading, none of the criteria requiring denial under Section 87.211 exist. Notwithstanding the foregoing, the 24 month period shall not be renewed in violation cases, where the application has been filed to correct work done in violation of this Division (including work done without obtaining a grading permit).

(d) Once issued, the grading permit shall authorize only the work shown on the approved grading plans, which shall be deemed to be incorporated into the grading permit, for a period of 36 months following the date of permit issuance, after which time the permit shall expire and be of no further force or effect. All work authorized by the grading permit, including the matters required by Sections 87.425 (Completion of Work -- Final Reports) and 87.426 (Notification of Completion), shall be completed within 36 months.

(e) On the effective date of this subsection, a grading permit issued on or after August 21, 2007 and

before August 21, 2009 that was issued for 24 months shall automatically be extended for an additional 12 months to make the expiration date 36 months from the original issue date.

(f) When requested by a permittee, the County Official shall grant a one time extension, up to an additional 12 months for a permit in subsection (d) or subsection (e) if the County Official determines that:

(1) No significant changes in the work are proposed;

(2) For a permit issued before August 21, 2009 the permittee has provided a statement that due to economic reasons, the permittee has not been able to complete at least 30 percent of the total volume of earthwork. For a permit issued after August 21, 2009, substantial progress has been made towards completing the approved grading, in that at least 30 percent of the total volume of earthwork has been completed; and

(3) The estimates of the costs of the work for purposes of Section 87.304 have been updated to current costs at the time of extension.

(g) Upon application by the owner, the County Official shall approve a modification to a grading permit, provided that:

(1) A grading plan or improvement plan change has been approved for the modification pursuant to Section 87.204(c);

(2) The proposed grading, as modified, substantially complies with grading plans or improvement plans approved pursuant to Section 87.204 through 87.208;

(3) The grading permit application was filed not more than 24 months following the approval of grading plans or improvement plans, or within the duration of a renewal of that period pursuant to paragraph (c);

(4) The grading permit modification fee specified in Chapter 3 of this Division has been paid; and

(5) Appropriate amendments have been entered into, if required by the County Official, for the Agreement relating to a Right of Entry for Inspection and Indemnification pursuant to Section 87.215, and the Agreement and Cash Deposit if required by Section 87.304.

A modification to a grading permit shall have no effect on the period of time within which grading shall be completed.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9997 (N.S.), effective 8-21-09; amended by Ord. No. 10224 (N.S.), effective 10-25-12)

#### **SEC. 87.204. APPROVAL OF GRADING PLANS OR IMPROVEMENT PLANS -- PLAN CHANGES.**

(a) All persons who desire to obtain a grading permit must first obtain the County Official's approval of grading plans or improvement plans for such work. An application for grading plan or improvement plan approval, signed by the owner of the property to be graded, shall be filed with the County Official. All applications shall be reviewed for compliance with the California Environmental Quality Act (Pub. Res.

Code Sec. 21000 et seq.) prior to approval.

(b) The application shall contain all information, documentation and other matters necessary to enable the County Official to make the determinations required by the California Environmental Quality Act, and the appropriate one of the following Sections of this Division, depending upon the type of grading involved:

- (1) Agricultural grading: Section 87.205;
- (2) Minor grading: Section 87.206;
- (3) Previously-approved project grading: Section 87.207;
- (4) Major grading: Section 87.208.

(c) Where an owner desires to make modifications to the work shown on approved grading plans or improvement plans (whether before or after a grading permit has been issued), prior to the completion of the grading, the owner may submit an application for a plan change. The County Official shall determine whether the application shall be processed pursuant to Section 87.205, Section 87.206, Section 87.207 or 87.208, based upon the total grading operation as represented in the original grading plans or improvement plans, as modified by the proposed plan change. The County Official may approve the application if he or she determines that the total grading operation as modified by the plan change remains in compliance with this Division; provided that, if the plan change is not in substantial conformance with the approved plans, then prior to approving the plan change, the County Official shall provide the appropriate community sponsor or planning group with an opportunity to review and comment on the proposed plan change. The application shall be accompanied by all information, documentation and other matter which the County Official determines to be necessary to enable him or her to make the determinations required by this paragraph. The approval of the plan change shall have no effect on the time within which a grading permit must be obtained under Section 87.203(c).

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.205. AGRICULTURAL GRADING.**

(a) The County Official shall appoint an Agricultural Permit Coordinator to facilitate the filing and processing of applications for agricultural grading plans, improvement plans and grading permits.

(b) The County Official shall prepare, circulate for public review, disseminate and maintain guidance documents which shall identify, explain and clarify standards for approval of grading plans, improvement plans and grading permits for agricultural grading. The guidance documents may include criteria which can be used to assure that proposed grading avoids adverse impacts to neighboring properties or the environment. The guidance documents may also address matters related to compliance with such plans and permits. The County Official may take these guidance documents into consideration when determining whether applications for grading plans or improvement plans for agricultural grading should be approved. The guidance documents shall not confer rights on applicants, nor constrain the discretion of the County Official relative to acting on such applications or enforcing such permits.

(c) An application for grading plans or improvement plans for agricultural grading may be approved if the County Official makes all of the following determinations:

- (1) The graded area is to be used exclusively for agricultural production;
- (2) There will be no more than 200 cubic yards of soil imported or exported from the site;
- (3) The graded area does not include or affect a watercourse (a watercourse may be onsite, but not in the graded area or affected by the proposed grading);
- (4) The grading will not result in cut slopes steeper than one and one-half horizontal to one vertical, or in an exposed fill slope steeper than two horizontal to one vertical, exclusive of benches and rounding;
- (5) Sections 87.212 and 87.213, regarding specified sensitive areas, have been complied with;
- (6) If the grading will involve waters, rivers, streams or lakes, as referenced in Section 87.214, the applicant has submitted documentation of compliance with the requirements of that Section;
- (7) The application is accompanied by plans showing a vicinity sketch, property lines, location of all structures in the area to be graded (including those on land of others if within fifteen feet), contours showing the topography of the existing ground, elevations, dimensions, location, extent and slopes of all proposed grading, the location, extent and square footage of the total area to be cleared of vegetation, all areas proposed to be subjected to any "Land Disturbance Activity" (as that term is defined in Section 67.803 of this Code), all watercourses located on site and a map of the drainage area tributary to the site, all at a scale that allows analysis and review of what is proposed and is not smaller than 200 feet = 1 inch;
- (8) The grading conforms to the setbacks stated in paragraphs (a) and (b) of Section 87.412;
- (9) The application and accompanying plans demonstrate compliance with Title 6, Division 7, Chapter 8 of this code;
- (10) The plans include dust control measures sufficient to comply with Section 87.428;
- (11) The graded area is not to be used as a site for a building other than a greenhouse or agricultural shade structure; and
- (12) The property owner has signed a statement under penalty of perjury (which must be reaffirmed prior to grading permit issuance) certifying the following:
  - (aa) His or her intention to grade for a specified agricultural operation, to continue or establish the agricultural operation within one year and to retain the land in agriculture (including changing crops and fallowing for the specified agricultural operation) for at least five years (ten years if the land is located within the "MSCP Subarea" as defined in Section 87.803) from the date the permit is issued;
  - (bb) His or her agreement to take no actions to change from the specified agricultural operation to a different type of land use for the period of time stated at paragraph (aa); and
  - (cc) His or her acknowledgement that the County will deny any application for any non-agricultural land development, as specified in Section 87.111, for a period of five years (ten years if the land is located within the "MSCP Subarea" as defined in Section 87.803) following the date the grading permit is issued.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04;



amended by Ord. No. 9926 (N.S.), effective 4-11-08)

**SEC. 87.206. MINOR GRADING.**

(a) Requirements For All Minor Grading. Proposed grading shall be considered "Minor Grading" if it:

(1) will not result in cut slopes steeper than one and one-half horizontal to one vertical, exclusive of benches and roundings;

(2) will not result in an exposed fill slope steeper in average slope than two horizontal to one vertical exclusive of benches and roundings;

(3) will be protected and conducted so that runoff water leaving the premises will not contain sand, silt or other debris;

(4) complies with the requirements of Sections 87.404 and 87.405 regarding fill compaction and preparation of the ground;

(5) includes the following drainage protections: will not result in the ponding of water on or above cut or fill slopes or damage from surface waters to the face of any excavation or fill; includes drainage facilities which will carry surface waters to the nearest practical street, storm drain or other watercourse; any area designed for buildings has a minimum of a one percent grade toward the approved drainage disposal area; all swales and ditches have a minimum grade of two percent and a minimum depth of one foot; and the point at which any drainage facility discharges onto natural ground shall be protected from erosion;

(6) includes installation and maintenance of ground cover or other planting which will protect against erosion and instability, on the face of all cut and fill slopes in excess of three feet in vertical height; such planting is to commence as soon as slopes are completed on any portion of the site and is to be maintained so that 70 percent of the plantings are established on all slopes during construction and established prior to final approval of the grading;

(7) complies with Title 6, Division 7, Chapter 8 of this code;

(8) conforms to the setbacks stated in Section 87.412(a) and (b);

(9) is to prepare the land for the construction of a single or two-family dwelling or accessory structures;

(10) complies with either paragraph (b) or (c) below;

(11) complies with Section 87.213 regarding grading within the "MSCP Subarea" (as defined in Section 87.803);

(12) is not for land development or borrow operation purposes where denial would be required by paragraphs (b) or (g) of Section 87.211 if major grading were involved;

(13) either will not involve waters, rivers, streams or lakes, as referenced in Section 87.214, or the applicant has submitted documentation of compliance with the requirements of that section;

(14) is accompanied by a statement signed by the owner, as to the proposed use of the graded area; and

(15) is described by grading plans or improvement plans which include the following:

(aa) vicinity sketch,

(bb) property lines,

(cc) the location of all structures in the area to be graded, including those on adjacent properties if within fifteen feet of the property line,

(dd) contour lines showing the topography of the existing ground, with a maximum contour interval of five feet;

(ee) the quantity of excavation and fill involved;

(ff) elevations, dimensions, location, extent and slopes of all proposed grading,

(gg) the setbacks from all structures and property lines as stated in Section 87.412;

(hh) all areas proposed to be subjected to any "Land Disturbance Activity" (as that term is defined in Section 67.803 of this Code);

(ii) all drainage devices, walls, cribbing, dams, stormwater protection best management practice devices or other protective devices to be constructed, including all temporary construction erosion and sediment control devices;

(jj) a map of the drainage area of the land tributary to the site;

(kk) dust control measures sufficient to comply with Section 87.428;

(ll) the location, extent and square footage of the total area to be cleared of vegetation; and

(mm) all watercourses located on the site.

(b) Minor Grading or Improvement Plans Under Jurisdiction of Director of Planning and Development Services. The Director of Planning and Development Services may approve grading plans or improvement plans for Minor Grading if he or she determines that the proposed grading complies with paragraph (a) above and:

(1) does not exceed 2,500 cubic yards and will not require more than 200 cubic yards of import or export;

(2) is on a single lot, or within an access easement serving such lot;

(3) will not be on or across or affect any surface water body and will not require the construction of any drainage structures or facilities except for berms, swales, brow ditches or driveway culverts, except that a driveway crossing a water body serving a drainage area of 25 acres or less may be allowed; and

(4) will not have a cut or fill bank in excess of 20 feet measured vertically from the toe of the slope to

the top of the slope.

The Director of Planning and Development Services may decline to process, and instead refer to the Director of Public Works for processing under paragraph (c) below, any application where the complexity of grading operations, potential conflict with existing or proposed easements, drainage or storm water issues, unusual soil types or conditions, or potential existence of any of the circumstances requiring denial under Section 878.211, make it more appropriate that the application be subject to the more involved review required by paragraph (c).

(c) Minor Grading Plans Under Jurisdiction of Director of Public Works. The Director of Public Works may approve grading plans or improvement plans for Minor Grading if he or she determines that the proposed grading complies with paragraph (a) above and:

- (1) The proposed grading does not exceed a total of 5,000 cubic yards;
- (2) The proposed grading is on a lot or adjacent lots under the same ownership, or within access easements serving such lots;
- (3) The proposed grading will not be on or across or affect any surface water body, except that a driveway crossing a water body serving a drainage area of 25 acres or less may be allowed;
- (4) The proposed grading will not have a cut or fill bank in excess of 25 feet measured vertically from the toe of the slope to the top of the slope;
- (5) The application sets forth the estimated start and completion dates and estimated cost;
- (6) The grading plans are stamped and signed by a registered civil engineer; and
- (7) A calculation is included, showing that the estimated runoff of the area served by any existing or proposed drains can be accommodated by the carrying capacity of such drains.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04; amended by Ord. No. 9926 (N.S.), effective 4-11-08; amended by Ord. No. 10224 (N.S.), effective 10-25-12)

**SEC. 87.207. GRADING PLANS OR IMPROVEMENT PLANS FOR PROJECTS WITH PREVIOUS DISCRETIONARY LAND USE APPROVAL.**

(a) The County Official may approve grading plans or improvement plans for a project for which a discretionary land use approval has previously been granted, where he or she determines that:

- (1) The work substantially conforms to that shown on preliminary grading plans which were reviewed as part of an approved and unexpired tentative map, tentative parcel map, use permit or other land development application;
- (2) An analysis is conducted pursuant to Section 15162 of Title 14 of the California Code of Regulations, to determine whether the effects of such grading were analyzed in the environmental review of such approved land development application, and whether further environmental documentation is necessary;

(3) The grading complies with Title 6, Division 7, Chapter 8 of this code.

(4) Sections 87.212 and 87.213, regarding specified sensitive areas, have been complied with;

(5) If the grading will involve waters, rivers, streams or lakes, as referenced in Section 87.214, the applicant has submitted documentation of compliance with the requirements of that Section;

(6) The grading or improvement plans identify any environmental mitigation measures or other conditions which were required by the previous approval to be completed prior to issuance of a grading permit, and makes these conditions which must be fulfilled prior to issuance of a grading permit;

(7) All conditions of the previous approval which were required to be completed prior to approval of grading plans or improvement plans have been fulfilled;

(8) Dust control measures will be employed, sufficient to comply with Section 87.428; and

(9) The grading complies with the design standards stated in Chapter 4 of this Division.

(b) The application shall be accompanied by plans showing a vicinity sketch, property lines, location of all structures in the area to be graded, including those on land of others if within fifteen feet, contours showing the topography of the existing ground, elevations, dimensions, location, extent and slopes of all proposed grading, the location, extent and square footage of the total area to be cleared of vegetation, all areas proposed to be subjected to any "Land Disturbance Activity" (as that term is defined in Section 67.803 of this Code), and all watercourses located on site.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9926 (N.S.), effective 4-11-08)

**SEC. 87.208. GRADING PLANS OR IMPROVEMENT PLANS FOR MAJOR GRADING.**

(a) Grading not covered by Sections 87.205, 87.206 or 87.207 shall be known as "Major Grading." The County Official may approve grading plans or improvement plans for major grading, if he or she determines that:

(1) The proposed grading conforms to all requirements of this Division;

(2) Denial is not required by Section 87.211;

(3) Sections 87.212, 87.213 and 87.214, regarding specified sensitive areas, have been complied with;

(4) The proposed grading complies with Title 6, Division 7, Chapter 8 of this code; and

(5) If the area to be graded includes a watercourse, the proposed grading conforms to Chapter 6 of this Division.

(b) Grading plans or improvement plans for major grading shall be approved and signed by a registered civil engineer. The plans shall show or be accompanied by the following:

(1) A vicinity sketch or other data adequately indicating the site location;

- (2) Property lines of the site on which the work is to be performed;
- (3) Location of any buildings or structures on the site where the work is to be performed, and the location of any building or structure on land of adjacent property owners which is within the fifteen feet of the site;
- (4) Topographical contour lines adequate to show the topography of the existing ground;
- (5) Elevations, dimensions, location, extent, and slopes of all proposed grading, shown by contours or other means;
- (6) The quantity of excavation and fill involved, estimated starting and completion dates and the estimated cost;
- (7) All drainage devices, walls, cribbing, dams, stormwater protection best management practice devices or other protective devices to be constructed in connection with, or as part of, the proposed work, including all temporary construction erosion and sediment control devices, all watercourses located on the site, a map showing the drainage area of land tributary to the site, the estimated runoff of the area served by any drains, and calculations of the carrying capacity of such drains;
- (8) The following shall be required for grading which will require the use of groundwater and for grading to be done during a time when the San Diego County Water Authority declares that a drought is in effect:
  - (aa) Information demonstrating to the satisfaction of the County Official the source (imported potable water, reclaimed water or groundwater) and amount of water available to be used in grading operations, including a statement from the applicable public agency or other party supplying the water specifying the dates when temporary service shall commence and when temporary service shall cease. The applicant shall specify the timing and duration of water needed to complete each phase of the project;
  - (bb) A short-term plan for erosion control and for slope stabilization where necessary which, in the opinion of the County Official, can be accomplished with the amount of water demonstrated to be available to the project; and
  - (cc) Except for grading on projects for which the Director of Planning and Development Services has approved a landscape plan, a long-term plan for erosion control and for slope stabilization where necessary to the satisfaction of the County Official;
- (9) A statement of the purpose for which the proposed grading is to be done;
- (10) Information demonstrating to the satisfaction of the County Official that the applicant is satisfying Chapter 8 (commencing with Section 67.801) of Division 7 of Title 6 of this Code;
- (11) The names and addresses of all owners of property located within 300 feet of the exterior boundaries of the property to be graded, taken from the latest equalized assessment roll or such other records of the County Assessor or Tax Collector as contain more recent information;
- (12) Dust control measures sufficient to comply with Section 87.428;

(13) The location, extent and square footage of the total area to be cleared of vegetation;

(14) All areas proposed to be subjected to any "Land Disturbance Activity" (as that term is defined in Section 67.803 of this Code); and

(15) Such other information or data as may be required by the County Official.

(c) Prior to approving the grading plans or improvement plans, the County Official shall provide notice to each of the persons identified in the application as being owners of property located within 300 feet of the exterior boundaries of the property to be graded. Said notice shall be sent via United States mail and shall inform the addressee of the following:

(1) The receipt of the application and the official number or name of the application;

(2) A basic description of the location of the property upon which grading is proposed and the nature of the grading operation;

(3) The manner in which more information concerning the application may be obtained;

(4) That the County Official will consider any comments concerning the application which the addressee desires to submit, provided that they are submitted in writing and received no later than a date stated in the notice, which date shall be no sooner than 15 days after the notice was sent. The County Official shall consider any such comments received by the stated date prior to making a decision whether to approve the application.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9926 (N.S.), effective 4-11-08; amended by Ord. No. 10224 (N.S.), effective 10-25-12)

**SEC. 87.209. SOIL INVESTIGATION REPORT, OR PROOF OF LANDOWNER'S PERMISSION, MAY BE REQUIRED.**

(a) The County Official may require a soils investigation prior to approval of grading plans or improvement plans, to correlate surface and subsurface conditions with the proposed grading plan. The results of the investigation shall be presented in a soil report by a soil engineer which shall include, but need not be limited to, data regarding the nature, distribution and strength of existing soils and rock on the site; the soil engineer's conclusions and recommendations for grading requirements, including the correction of weak or unstable soil conditions and treatment of any expansive soils that may be present; and his opinions as to the adequacy of building sites to be developed by the proposed grading operations. The soil engineer shall provide an engineering geology report by an engineering geologist when required by the County Official.

The County Official may require such supplemental reports and data as deemed necessary. Recommendations included in such reports and approved by the County Official shall be incorporated in the grading plan or specifications.

(b) The County Official may require that the applicant provide evidence that the owner of the land upon which any grading work is to be performed, has granted permission for such work, or that the applicant has the right to perform that work on the land.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

**SEC. 87.210. CONDITIONS OF APPROVAL OF GRADING PLANS, IMPROVEMENT PLANS OR GRADING PERMITS.**

In approving grading plans or improvement plans, or in issuing a grading permit, the County Official may impose such conditions as may be reasonably necessary to enable the County Official to make the required determinations and to prevent creation of a nuisance or unreasonable hazard to persons or to public or private property.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.211. DENIAL OF GRADING PLANS OR IMPROVEMENT PLANS.**

The County Official shall deny approval of grading plans or improvement plans if he or she makes any of the following determinations:

(a) Hazardous Grading: The proposed grading may:

(1) interfere with any existing drainage course in such a manner as to cause damage to any adjacent property or result in the depositing of debris on any public way; or

(2) create an unreasonable geological, flood or other hazard to person or public or private property (including the land upon which the grading is proposed). If it can be shown that the hazard can be essentially eliminated by the construction of retaining structures, buttress fills, drainage structures or facilities or by other means, the permit may be issued on the condition that such construction work be performed.

(b) Subdivision or Use Permit: The purpose of the proposed grading, based upon the application or other information, is to prepare the land for subdivision or for some use for which a use permit is required, and either:

(1) the required final map or parcel map has not been approved; or

(2) the required use permit either has not been granted or is subject to conditions which may cause its expiration under Section 7374 of The Zoning Ordinance.

Notwithstanding the preceding, if a tentative map or tentative parcel map has been approved but no final map or parcel map has been recorded, or if a use permit has been approved but conditions of that use permit which must be complied with in order to avoid expiration under Section 7374 of The Zoning Ordinance have not yet been completed, then the application for grading plan or improvement plan approval shall be denied unless it is accompanied by an agreement whereby the owner agrees to rehabilitate the site to the satisfaction of the County Official, in the event that the tentative map, tentative parcel map or use permit expires. Said agreement shall require that restoration be completed within 90 days of such expiration (which period may be extended by the County Official for an additional 90 days), and shall be accompanied by faithful performance security in the full amount of the County Official's determination as to the amount necessary to restore the site, and shall remain in effect until a parcel map or final map is recorded, or until the use permit is vested.

(c) Groundwater Impacts: Based upon information from the County Hydrogeologist in conjunction with any available information provided from the applicant, the withdrawal of groundwater for the grading operation would decrease the supply of groundwater to land uses for household or irrigation use to other properties within the basin if developed to the density and intensity permitted by existing provisions of the County General Plan.

(d) Insufficient Water Supply: The water supply is not sufficient to provide for adequate compaction or dust control during grading operations, or to provide for adequate planting of disturbed areas (unless waived under Section 87.419 ).

(e) Failure To Comply With Stormwater Ordinance: The proposed grading fails in any respect to comply with the requirements of the County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance (Section 67.801 and following of this Code).

(f) Non-performance: The applicant has failed or refused to complete the work required by a grading permit within the time allowed and has not renewed the permit. In such cases, the County Official shall refuse to issue a new permit for any work other than the delinquent work, until the delinquent work is complete.

(g) Borrow Operations: No grading plans or improvement plans shall be approved, and no grading permit shall be issued when borrow or waste material is to be removed from a grading site unless a Use Permit and Reclamation Plan have been issued for the operation of a borrow pit on the grading site, a legally nonconforming borrow pit is being operated on the grading site or the grading comes within one of the exceptions to the use permit requirement listed in The Zoning Ordinance.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.212. GRADING WITHIN COASTAL SAGE SCRUB HABITAT.**

No grading plans or improvement plans, other than those for Minor Grading pursuant to Section 87.206 of this Chapter, shall be approved for grading on land located outside the "MSCP Subarea" (as defined in Section 87.803), unless Chapter 1 of Division 6 of Title 8 of this Code, regarding Habitat Loss Permits, has been complied with.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.213. GRADING WITHIN MSCP SUBAREA.**

No grading plans or improvement plans shall be approved, if the land upon which the proposed grading is to be performed is designated as within the "MSCP Subarea" (as defined in Section 87.803), unless the plans are accompanied by a written certification from the Director of Planning and Development Services that the Biological Mitigation Ordinance has been complied with.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 10224 (N.S.), effective 10-25-12)

#### **SEC. 87.214. GRADING WITHIN CERTAIN WATERWAYS.**

(a) If the County Official suspects that proposed grading may involve jurisdictional waters of the United States (as defined in Section 328.3 of Title 33 of the Code of Federal Regulations), the County Official may defer approval of grading plans or improvement plans until the applicant obtains and submits to the County



Official either evidence that an appropriate permit has been issued pursuant to the Federal Water Pollution Control Act (33 U.S.C. Sec. 1251 et seq.) authorizing the grading, or a statement from the U.S. Army Corps of Engineers, certifying that such permit is not required.

(b) If the County Official suspects that proposed grading may involve a river, stream or lake (as referenced in Fish and Game Code Section 1603), the County Official may defer approval of grading or improvement plans until the applicant obtains and submits to the County Official evidence that the California Department of Fish and Game has determined that Section 1602 has been complied with.

(c) No permit or approval pursuant to this Chapter shall constitute authorization for grading in violation of any local, state or federal law, including in particular the Federal Water Pollution Control Act (33 U.S.C. Sec. 1251 et seq.) or Chapter 6 of Division 2 of the Fish and Game Code.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.215. RIGHT OF ENTRY -- INDEMNIFICATION.**

Prior to issuance of any grading permit, the owner of the site to be graded shall grant to the County a right of entry onto the site for purposes of inspection. The right of entry shall also allow entry for purposes of correction of grading not performed in compliance with the terms and conditions of the permit. The owner and the applicant shall agree to release the County from any and all claims for damages or injury which may result from the County's entry onto the property, including any corrective action taken. The applicant shall also agree to indemnify the County against claims asserted by third parties relating to damage or injury alleged to have resulted from the County's entry or corrective action. The right of entry and indemnification agreements shall be on a form approved by the County Counsel.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

#### **SEC. 87.216. MODIFICATION OR REVOCATION OF PERMIT FOR CAUSE.**

(a) The County Official may modify or revoke a grading permit granted under the provisions of this Division if he or she determines that:

(1) the permit was obtained by fraud, or the permittee has made false or misleading statements on the application or supporting documents, or has hindered or interfered with enforcement of the permit, the conditions thereof, or this Division;

(2) one or more of the conditions upon which the permit was granted have been violated, or grading or clearing was performed in a manner inconsistent with the permit or plans;

(3) the permittee fails or refuses to correct a deficiency or a hazard upon the receipt of written notice and within the time specified in such notices;

(4) the permittee fails or refuses to perform any of the work required or fails or refuses to conform with any of the standards established by a use permit;

(5) the permittee fails to submit all material necessary for approval of a reclamation plan within 120 days from the date of written request therefor;

(6) revocation or modification is reasonably necessary to prevent creation of a nuisance or unreasonable hazard to persons or to public or private property; or

(7) information has been received indicating that previously unknown historical resources (as defined in Public Resources Code Section 21084.1) or unique archaeological resources (as defined in Public Resources Code Section 21083.2) may be located on the site, and therefore a modification is necessary, to prohibit grading in the area of the resources so as to preserve the resources, or to redirect proposed grading so as to avoid the location of such resources until they can be retrieved, or potential impacts to them have otherwise been appropriately mitigated.

(b) A request to revoke or modify the permit or waiver may be made by any County officer, shall be in writing, and shall set forth the grounds upon which revocation or modification is sought.

(c) If a permit is revoked, no further work shall be done upon the site except the correction of hazards as directed by the County Official. Every agreement and every security required by this Division shall remain in full force and effect notwithstanding any such revocation.

(d) The County Official shall consider the request for revocation at a public hearing, unless a public hearing is waived in writing by the permittee. Request for revocation shall be directed to the County Official, who shall fix a time and place for the hearing, to be published once in a newspaper of general circulation published in the County of San Diego. The County Official shall also notify the permittee of the time and place set for the hearing. Any interested person may appear at the hearing and present evidence. At the conclusion of the hearing, the County Official may deny the request for revocation, grant the request for revocation, or modify existing conditions of or add new conditions to the grading permit. The decision of the County Official shall be final.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

#### **SEC. 87.217. PRE-CONSTRUCTION CONFERENCES.**

The County Official may condition the issuance of a grading permit upon the permittee attending, prior to commencement of any work authorized by the permit, a pre-construction conference with the County Official. At that conference, the County Official may provide direction to the permittee and others to be involved in the work, as to County requirements. Where such a conference has been required, it shall be a violation of this Division for the permittee to commence or allow any work to be commenced prior to such conference.

(Added by Ord. No. 9634 (N.S.), effective 4-23-04)

#### **SEC. 87.218. TEMPORARY STOCKPILING PERMITS.**

The County Official may issue a permit for temporary stockpiling (storage) of earth conforming to the following:

(a) Requirements. Temporary stockpiling shall:

(1) not exceed 7,000 cubic yards and cover an area less than one acre in size;

(2) be on a single lot;

- (3) not be on or across or affect any surface water body or divert existing drainage;
- (4) not have a fill bank in excess of 6 feet measured vertically from the toe of the slope to the top of the slope;
- (5) not exceed 18 months (or such shorter period as the County Official may require in the permit) from the date any stockpiled material is initially placed, to the date all material has been removed;
- (6) not result in exposed fill slopes steeper in average slope than two horizontal to one vertical, including benches and roundings to ensure stability and reduce visual impacts;
- (7) include, on the face of all fill slopes in excess of three feet in vertical height, installation and maintenance of measures to protect against erosion and instability and so that run-off water leaving the premises will not contain sand, silt or other debris, and will comply with Title 6, Division 7, Chapter 8 of this code.
- (8) conform to the setbacks stated in Section 87.412(a) and (b) of this Division;
- (9) involve placement of material only on areas which have been previously excavated or disturbed and which contain no significant habitat value, designated scenic area, or mapped geologic hazards; and complies with Sections 87.212 and 87.213 of this Chapter, regarding specified sensitive areas; and
- (10) involve only material for use on the site, not for export, sales or borrow operations.

(b) Application and Plan. The application shall be signed by the owner of the land upon which the earth is to be stockpiled and be accompanied by a stockpiling plan, grading plan or improvement plan. The application or the plan shall include the following:

- (1) a certification that the fill material is for use exclusively on site;
- (2) a description of the proposed ultimate use of the stockpiled material;
- (3) a vicinity sketch, property lines, the location of all structures in the within 100 feet of the proposed stockpile and those on adjacent properties if within fifteen feet of the property line, contour lines showing the topography of the existing ground, with a maximum contour interval of five feet; the quantity of fill involved; elevations, dimensions, location, extent and slopes of all proposed stockpile areas, the setbacks from all structures and property lines as stated in Section 87.412 of this Division; the extent and square footage of the total footprint of the area proposed to be covered by the stockpiled material; all drainage devices, walls, cribbing, dams, stormwater protection best management practice devices or other protective devices to be constructed, including all temporary construction erosion and sediment control devices; a map of the drainage area of the land tributary to the site; and dust control measures sufficient to comply with Section 87.428 of this Division.

(c) Security. At the time of permit issuance, the applicant shall enter into an agreement pursuant to Section 87.304 of this Division, secured by a cash deposit, to assure the future permanent placement or removal of the stockpiled material.

(Added by Ord. No. 9634 (N.S.), effective 4-23-04; amended by Ord. No. 9926 (N.S.), effective 4-11-08)

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## CHAPTER 3.

### FEES, DEPOSITS AND SECURITY

#### **SEC. 87.301. FEES AND DEPOSITS FOR PLAN CHECKING, APPLICATION REVIEW, AND GRADING INSPECTION.**

At the time of filing the following applications, the following fees or deposits shall be paid to the County Official:

(a) Grading Plans or Improvement Plans for Major Grading (Section 87.208 ): The actual costs to the County of examining and approving Grading Plans or Improvement Plans, or plan changes, including review under the California Environmental Quality Act, the review of any required reports, compliance with project conditions, and the preparation of all necessary documents, shall be paid by the applicant. At the time of submitting a grading or improvement plan to the County Official for examination and approval, the subdivider shall deposit with the County Official, a sum sufficient to cover actual costs as prescribed by the Board of Supervisors.

(b) Grading Plans or Improvement Plans for Agricultural Grading (Section 87.205 ), Minor Grading Under Department of Public Works Review (Section 87.206 (c)) or Grading for a Project With a Previous Discretionary Land Use Approval (Section 87.207 ):

(1) Intake Screening. The actual costs to the County of application intake screening for project impacts for agricultural grading, minor grading under review by the Department of Public Works, or grading associated with a project with a previous discretionary approval, including the review of any plans or reports, comparing project to public information, and the preparation of all necessary documents, shall be paid by the applicant. At the time of submitting a grading or improvement plan for examination and approval, the applicant shall deposit with the County Official, a sum sufficient to cover actual costs as prescribed by the Board of Supervisors.

(2) Plan Review. The actual costs to the County of examining and approving Grading Plans or Improvement Plans, or plan changes, including review under the California Environmental Quality Act, for grading referenced in paragraph (1), including the review of any plans or reports and the preparation of all necessary documents, shall be paid by the applicant. At the time of submitting a grading or improvement plan, or application for plan change, for examination and approval, the applicant shall deposit with the County Official, a sum sufficient to cover actual costs as prescribed by the Board of Supervisors.

(c) Grading Plans or Improvement Plans for Minor Grading Under Department of Planning and Development Services (Section 87.206 (b)). For grading plan or improvement plan review, or plan change review, for a grading permit to be issued for projects subject to Section 87.206(b), the applicant shall pay to the County Official a fee in an amount as prescribed by the Board of Supervisors in Section 362.1 of the San Diego County Administrative Code.

(d) Grading Permits:

(1) For each grading permit or permit modification issued for projects subject to Section 87.206(b) (Minor grading under review by the Department of Planning and Development Services), the applicant shall pay to the County Official a fee in an amount as prescribed by the Board of Supervisors in Section 362.1 of the San Diego County Administrative Code.

(2) For all grading permits not covered under paragraph (1) above, all costs associated with grading permit application processing and permit issuance are included in the cost of checking grading plans or improvement plans. There is no separate fee or deposit for issuance of the grading permit.

(e) Structural Review. Where the plans or specifications provide for the construction of drainage structures or facilities (other than standard terrace drains and similar facilities), including retaining walls and sprinkler irrigation systems, or when such plans include proposals for granting drainage and appurtenant easements to the San Diego County Flood Control District, the applicant shall deposit amounts estimated by the County Official appropriate to pay for the County's actual cost of checking the plans and specifications, preparing the documents for the drainage and appurtenant easements, and inspecting the construction.

(f) Clearing Permits. For all clearing permits applied for pursuant to Chapter 5 of this Division, the applicant shall pay to the County Official both: (1) an "Environmental Action CEQA Processing" fee or deposit, in the amount specified in Section 362.1 of the San Diego County Administrative Code; and (2) a clearing permit review fee in the amount specified in Section 362.1 of the San Diego County Administrative Code.

(g) Deposit Refund or Increase. Where a deposit has been made, if the County's actual cost is less than the amount deposited, the excess shall be refunded. If any deposit is insufficient to pay all the County's actual costs, the permittee, upon demand of the County Official, shall deposit an additional amount deemed sufficient by the County Official to complete the work. If the permittee fails or refuses to pay such additional amount, the County Official may cease further work relating to the application, refuse approval of the plans or issuance of a grading permit until the amount is paid in full, or, if a permit is already issued, consider the grading incomplete and pursue proceedings to revoke the grading permit in accordance with Section 87.216.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04; amended by Ord. No. 9689 (N.S.), operative 2-4-05, effective 2-13-05; amended by Ord. No. 10224 (N.S.), effective 10-25-12)

#### **SEC. 87.302. DEPARTMENT OF ENVIRONMENTAL HEALTH GRADING PLAN EXAMINATION FEE.**

Whenever the Department of Environmental Health is required to examine a grading plan in accordance with Section 68.326.2, there shall be paid to that Department an examination fee as set forth in Title 6, Division 5, Section 65.107, paragraph (g), of this Code.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.303. FEE EXEMPTION FOR CONSERVATION PROJECTS.**

Applications for grading plans, improvement plans or grading permits for grading for soil and water conservation projects, when they are to be approved and inspected by a State or Federal agency shall be issued without fee.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.304. SECURITY REQUIRED FOR CERTAIN PERMITS.**

(a) No grading permit shall be issued pursuant to Section 87.207 or pursuant to Section 87.208 of this

Division, and no temporary stockpiling permit shall be issued pursuant to Section 87.218 of this Division, unless the applicant shall first enter into an agreement with the County assuring that the proposed grading will be completed in accordance with the permit and the terms and conditions thereof. For a temporary stockpiling permit pursuant to Section 87.218, the agreement shall be accompanied by a cash deposit in compliance with paragraph (1) below. For a grading permit, except where the grading will result in the movement of less than 3,000 cubic yards of material, the agreement shall be accompanied by security in the form of either a cash deposit or a combination of cash deposit and performance bond, in the following amounts (except as provided at paragraph (b) below):

(1) Cash Deposit: If the applicant elects to provide a cash deposit only, the amount thereof shall be 5% of the estimated cost of the earthwork, plus 100% of the estimated cost of construction of all drainage or other structures authorized by the permit, with a minimum of \$5,000 and a maximum of \$30,000.

(2) Cash Deposit and Performance Bond Combination: If the applicant elects to provide a combination of a cash deposit and a faithful performance bond, the following shall apply:

(aa) The bond shall be in an amount equal to 30% of the estimated cost of the earthwork, plus 100% of the estimated cost of construction of all drainage or other structures authorized by the permit. The applicant may elect to provide a separate bond for work involving drainage and other structures, which may also be used for purposes of improvement security required by the Subdivision Ordinance (Section 81.101 and following of this Code).

(bb) The cash deposit shall be in an amount equal to 10% of the total amount of the bond required under subparagraph (aa), up to a bond amount of \$75,000 or less, plus an additional 5% of any portion of said required bond amount over \$75,000; provided, that the minimum cash deposit shall be \$1,000 and the maximum cash deposit shall be \$10,000.

(b) The estimated cost of the work shall be determined by the County Official after reviewing the civil engineer's estimates. The phrase, "Drainage or other structures" as used in paragraph (a) shall include retaining walls, sprinkler irrigation systems, landscaping, standard terrace drains, slope planting and similar facilities. Notwithstanding the security amounts specified in paragraph (a), if the County Official determines that possible deficiencies or the hazard or danger created by the work do not justify the full amount of the security, he or she may waive all or part of the amounts to the extent that there is no hazard or danger, and if the County Official determines that possible deficiencies, hazards or dangers posed by the work require greater protection, he or she may increase the amounts.

(c) All agreements and bonds required by this Section shall be in a form approved by the County Counsel, shall remain in effect until the completion of the work to the satisfaction of the County Official, and shall include and be made on condition that the permittee shall:

(1) Comply with all the provisions of this Code and all other applicable laws and ordinances;

(2) Comply with all of the terms and conditions of the grading permit, to the satisfaction of the County Official; and

(3) Complete all of the work contemplated under the grading permit within the time limit specified in the grading permit, or if no time limit is so specified, the time limit specified in Section 87.203(d) of this Division (including any approved time extensions).

(d) The grading permit may provide for the partial release of the security upon the partial acceptance of the work.

(e) In the event of failure to complete the work, failure to comply with any of the conditions or terms of the grading permit or this Division or other ordinances, or when necessary to eliminate any hazardous or dangerous condition, the County Official may cause to be performed such work as in his opinion is necessary to correct such deficiencies. Completion of work shall include the preparation of as-built plans, the certification of compliance and other matters required by Sections 87.425 and 87.426. The County Official may use all or any part of the security for such work. Any unused portion of a cash deposit shall be refunded to the permittee, and any unused portion of the bond shall be released, after the completion of all work and the fulfillment of all requirements.

(f) The permittee shall continue to be firmly bound under a continuing obligation for the payment of all necessary costs and expenses that may be incurred or expended by the County in causing any and all such work to be done. Use of the security or a portion thereof shall in no way limit or release the obligation of the permittee to satisfy the full cost of completing the work or correcting any deficiency, hazard, or injury created by the work. If the amount of the cash deposit is insufficient to satisfy the said cost in full, the permittee shall be liable to satisfy the remainder of the said cost in excess of the cash deposit. In addition, if suit is brought upon the agreement referred to in paragraph (a) by the County and judgment is recovered, the permittee shall pay all costs incurred by the County in such suit, including a reasonable attorney's fee to be fixed by the court.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

### **SEC. 87.305. WAIVER OF SPECIFIED FEES AND DEPOSITS FOR FARM EMPLOYEE HOUSING AND FARM LABOR CAMPS.**

Notwithstanding any other provision of this chapter, the examination, plan checking and inspection fees and deposits specified in Section 87.301 shall be waived for:

(a) Any farm employee housing or farm labor camp project for which (i) a complete application for any Administrative Permit or a Minor Use Permit was filed between July 13, 1990, and January 13, 1991 pursuant to Ordinance No. 7768 (N.S.); or was filed between April 5, 1991 and October 5, 1991, pursuant to Ordinance No. 7875 (N.S.); or was filed between October 31, 1991 and June 30, 1993, pursuant to Ordinance No. 8086 (N.S.); or was filed between July 30, 1993 and June 30, 1994, pursuant to Ordinance No. 8271 (N.S.); or was filed between September 2, 1994 and June 30, 1995, pursuant to Ordinance No. 8436 (N.S.); or was filed between September 15, 1995 and June 30, 1998 pursuant to Ordinance No. 8574 (N.S.); or any farm employee housing or farm labor camp project for which a complete application for a Building Permit or Minor Use Permit was filed between May 14, 1999 and June 30, 2004, pursuant to Ordinance No. 9021 (N.S.); or was filed between July 1, 2004 and June 30, 2009 pursuant to Ordinance No. 9647 (N.S.) and (ii) the application was approved; or

(b) Any farm employee housing or farm labor camp project for which (i) Section 17021.5 or Section 17021.6 of the California Health and Safety Code is applicable; (ii) the Agricultural Commissioner has issued a certificate of active agricultural enterprise; (iii) the housing is not the subject of an active code enforcement action; (iv) the applicant has entered into the contract required by Section 6156 u.11 or Section 6906 d. of The Zoning Ordinance; and (v) the application was filed between July 30, 1993, and June 30, 1994, pursuant to Ordinance No. 8271 (N.S.); or was filed between September 2, 1994 and June 30, 1995, pursuant to Ordinance No. 8436 (N.S.); or was filed between September 15, 1995 and June 30, 1998



pursuant to Ordinance No. 8574 (N.S.); or was filed between May 14, 1999 and June 30, 2004, pursuant to Ordinance No. 9021 (N.S.); or was filed between July 1, 2004 and June 30, 2009 pursuant to Ordinance No. 9647 (N.S.).

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9647 (N.S.), effective 6-18-04)

**SEC. 87.306. REFUNDS.**

No fee collected pursuant to this Division shall be refunded, in whole or in part, except as expressly provided in this Division and in accordance with the following:

(a) Grounds for Refund. Whenever the County Official collects a fee, no part of which is legally due, the entire fee shall be refundable. Whenever the County Official collects a fee in excess of the amount legally due by reason of an error of fact or law made by the County Official, the total amount of the excess shall be refundable. Whenever the County Official collects a fee in excess of the amount legally due because, by reason of a mistake made by the applicant, the permit does not accurately state the true present intent of the applicant, the total amount of the excess, less \$5 to cover County costs, shall be refundable.

(b) Claim for Refund. Whenever a fee or a portion of a fee is refundable, the person who paid said fee may submit to the County Official a claim for refund of money setting forth the facts which constitute the basis for a refund. If the basis for a refund is a mistake made by the applicant, the claim must be accompanied by a revised application showing the true facts as they existed at the time of the submission of the original application.

(c) When Refund Not Payable. No refund shall be made pursuant to this section if a claim for refund is submitted to the County Official more than one year from the date of payment of the fee as to which a refund is claimed; nor shall any refund be paid if the total refundable amount, after deduction of County costs as hereinabove provided, is less than \$5.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.307. FEES FOR PLANS OR PERMIT WHERE WORK COMMENCED BEFORE PERMIT ISSUED.**

In addition to any penalty prescribed for violation of this code or for violation of the provisions of this Division, and in addition to the fees or deposits required by Section 87.301, a fee of \$500 shall be assessed for an application for grading plan or improvement plan approval, or for an application for a grading permit, in cases where work for which a permit is required by this Division was commenced prior to obtaining a grading permit. Payment of such fee shall not relieve any person from any liability under provisions of this code or from fully complying with the requirements of this Division. The fee described by this section shall not be construed as a penalty but is added to defray the added expense of investigation, recordkeeping, inspection and enforcement of the provisions of this Division which are involved in such violation cases. The County Official may waive or reduce this fee if he or she determines that the added expenses of the County in a given case do not warrant the full amount of the fee.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

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## CHAPTER 4.

### DESIGN STANDARDS AND PERFORMANCE REQUIREMENTS

#### SEC. 87.401. CUTS -- MAXIMUM SLOPE.

(a) Major Slopes. The average slope of each cut surface resulting in a major slope shall not be steeper than two horizontal to one vertical exclusive of benches and exclusive of roundings unless:

(1) a report is received from a soil engineer certifying that he or she has investigated the property and that in his or her opinion the proposed steeper slope will be stable and will not endanger any public or private property or result in the deposition of debris on any public way or interfere with any existing drainage course; and

(2) a report is received from a landscape architect certifying that such steeper slope, considering the nature of the soils on the slope surface, will support the proposed planting by maturity without significant or excessive erosion.

All major cut slopes shall be rounded into the existing terrain to produce a contoured transition from cut face to natural ground and abutting cut or fill surfaces where conditions permit. The County Official may require at any time that the excavation be made with a cut face flatter in average slope than two horizontal to one vertical or require such other measures as he or she deems necessary for stability and safety.

(b) Minor Slopes. Cuts resulting in minor slopes shall not be steeper in slope than one and one half horizontal to one vertical unless the County Official approves such steeper slope after receipt of a report by a soil engineer certifying that he or she has investigated the property and that in his or her opinion the proposed steeper slope will be stable and will not endanger any public or private property or result in the deposition of debris on any public way or interfere with any existing drainage course.

(c) Borrow Pits. The application of this section to borrow pits shall be limited to the final slopes thereof.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### SEC. 87.402. DRAINAGE TERRACES ON CUT OR FILL SLOPES EXCEEDING 40 FEET.

All cut or fill slopes exceeding forty feet in vertical height shall have drainage terraces at vertical intervals not exceeding thirty feet except that where only one terrace is required, it shall be at approximately mid-height unless some other location is approved by the County Official. Such drainage terraces shall be at least six feet wide and be designed and constructed so as to provide a swale or ditch having a minimum depth of one foot and a minimum grade of two percent unless a flatter grade is approved by the County Official. The terrace including the swale or ditch shall provide a paved drainage way based upon the need as determined by the slope, wetted perimeter and discharge that drains into a paved gutter, pipe or other safe disposal area. Such drainage terraces including the swales and ditches shall be paved with a minimum thickness of three inches of portland cement concrete, or with two inches of pneumatically applied concrete mortar, or shall be improved with other materials or with other treatment approved by the County Official as equal. If the drainage discharges onto natural ground, the County Official may require that such natural ground be protected from erosion outlet protection/velocity dissipation devices. Drainage terraces or the paving thereof may be waived by the County Official after receipt of the report by the soil engineer certifying that he or she has investigated the property and that in the engineer's opinion drainage terraces or paving is unnecessary.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.403. CUTS -- EXPANSIVE SOILS.**

In the event that during the grading operation, expansive soil (as identified in the American Society for Testing Materials D4829-25 test or modification thereof approved by the County Official) is found within either two feet of the finished lot grade or three feet of the finished floor grade of any area intended or designed as the location for a building, the permittee shall cause such expansive soil to be removed from such building area to a depth specified by the County Official and replaced with nonexpansive soil properly compacted; provided, however, the County Official may, upon receipt of a report by a soil engineer certifying that he or she has investigated the property and recommending a design of footings or floor slab or other procedure that in his opinion will alleviate any problem created by such expansive soil, waive the requirement that such expansive soil be removed and replaced with nonexpansive soil.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.404. FILLS -- COMPACTION.**

All fills shall be compacted to a minimum of ninety percent of maximum density as determined in the laboratory by the American Society for Testing Materials D-1557-91 test or modification thereof approved by the County Official, provided that the compactive energy of the test shall not be less than 35,000 foot-pounds per cubic foot. Field density shall be determined by the American Society for Testing Materials D-1556-90 or D2922-91 method, or an equivalent test approved by the County Official. Lower degrees of compaction may be permitted by the County Official after he or she receives a soil engineer's report certifying that the soil engineer has investigated the property, made soil tests, and that in the engineer's opinion such lower degree of compaction will be adequate for the intended use of the property which use shall be described in the report.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.405. FILLS -- PREPARATION OF GROUND.**

The natural ground surface shall be prepared to receive fill by removing vegetation, non-complying fill, unsuitable soil, and, where slopes are five horizontal to one vertical or steeper, by benching into material approved by the soil engineer.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.406. FILLS -- MAXIMUM SLOPE.**

(a) No fill shall be made which creates an exposed surface steeper in average slope than two horizontal to one vertical exclusive of benches and exclusive of roundings described in subsection (b) unless a report satisfactory to the County Official is received from a landscape architect certifying that such steeper slope, considering the nature of the soils on the slope surface, will support the proposed planting to maturity without significant or excessive erosion and a report by a soil engineer is received certifying that he or she has investigated the property and that in the engineer's opinion such steeper slope will be stable and will not endanger any public or private property or result in the deposition of debris in any public way or interfere with any existing drainage course.

(b) All fill slopes which are major slopes shall be rounded into the existing terrain to produce a contoured transition from fill face to natural ground and abutting cut or fill surfaces where conditions permit.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.407. FILLS -- MATERIALS.**

(a) No organic material shall be permitted in fills.

(b) No rock or similar irreducible material with a maximum dimension greater than eight inches shall be buried or placed in any fill unless permitted by the County Official after receipt of a report by a soil engineer certifying that he or she has investigated the property and the fill material and that a fill including such greater size material may be constructed to meet the requirements of this Division. When such greater size material is placed in fills it shall be done under the direction and supervision of a soil engineer.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.408. SCREENING AND MIXING.**

Unless specifically prohibited by the terms of the Grading Permit, materials excavated from any site for use thereon may be screened upon that site, and all materials which are to be placed as fill upon any site may be mixed upon that site.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.409. FILLS RESULTING IN STEEP SLOPES.**

Fills toeing out on natural slopes which are steeper than two horizontal to one vertical shall not be made unless approved by the County Official after receipt of a report by a soil engineer certifying that he has investigated the property, made soil tests and that in his or her opinion such steeper slope will safely support the fill proposed to be made.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.410. FILLS -- EXPANSIVE SOILS.**

In areas intended or designed to support buildings, expansive soil shall not be placed within three feet of the finish grade in such building areas unless approved by the County Official after receipt of a report by a soil engineer certifying that he or she has investigated the property and recommended a design of footings or floor slab or other procedure that will alleviate any problem created by placing the expansive soil within such building areas.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.411. FILLS -- STRUCTURAL ROCK.**

Fills constructed predominantly of large rock will be permitted only if the specifications for such fill are prepared by and construction done under the direction and supervision of a soil engineer. Large rock fills will not be permitted within six feet of finish grade or within two feet of the bottom of any utility pipeline.

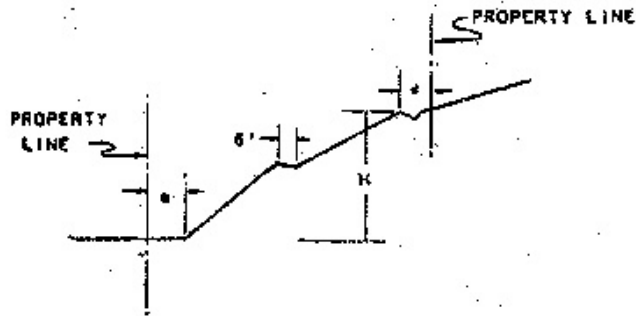
(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.412. SETBACKS.**

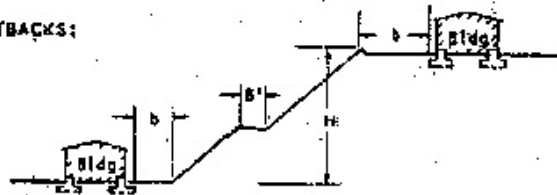
- (a) Cuts and fills shall be set back from property lines and buildings shall be set back from cut or fill slopes in accordance with Figure No. 1 of this section.
- (b) Fill placed above the top of an existing or proposed cut or above a natural slope steeper than three horizontal to one vertical shall be set back from the edge of the slope a minimum distance of six feet.
- (c) The setbacks established by this section are minimum and may be increased by the County Official if he or she deems it necessary for safety or stability or to prevent possible damage from water, soil or debris.
- (d) The County Official may reduce the required setback in either of the following cases:
  - (1) where he or she determines the necessity for the setback eliminated or reduced by the construction of retaining walls or because the owner has the right to extend slopes onto the adjacent property; or
  - (2) after receipt of a report by a soil engineer certifying that he or she has investigated the property and that in the engineer's opinion the reduction in the setback will not endanger any public or private property or result in the deposition of debris on any public way or interfere with any existing drainage course.

FIGURE NO. 1  
REQUIRED SETBACKS

A: PROPERTY LINE SETBACKS:



B: BUILDING SETBACKS:



| REQUIRED SETBACKS |       |    |    |
|-------------------|-------|----|----|
| H FEET            | a     | b  | c  |
| 0 - 15            | 1'-6" | 5' | 5' |
| 15 - 30           | 3'    | 5' | 5' |
| OVER 30           | 5'    | 5' | 5' |

- a. DISTANCE FROM TOE OF SLOPE TO PROPERTY LINE.
- b. DISTANCE FROM EDGE OF FOUNDATION TO TOE OR TOP OF SLOPE.
- c. DISTANCE FROM TOP OF SLOPE TO PROPERTY LINE.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.413. DRAINAGE -- DISPOSAL.**

(a) The ponding of water shall not be permitted above cut or fill slopes or on drainage terraces. Adequate drainage facilities shall be provided to prevent such ponding.

(b) All drainage facilities shall be designed to carry surface waters to the nearest practical street, storm drain, or other watercourse approved by the County Official or other appropriate governmental agency.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.414. DRAINAGE -- EROSION PREVENTION.**

(a) The permittee and the owner shall make adequate provisions to prevent any surface waters from damaging the face of any excavation or fill. All slopes shall be protected from surface water runoff from above by berms, swales or brow ditches unless the County Official determines such berms, swales or brow ditches are unnecessary to provide such protection and waives this requirement.

(b) Where grading operations are to be conducted for any time during the period from November 11 through April 30, the County Official may require the incorporation of additional erosion control measures,

including but not limited to the application of geotextile fabrics, erosion control blankets, particularly if slope plantings required by Section 81.417 have not become established.

(c) If any part of grading work on any site is ceased for any reason for a period in excess of 10 calendar days or prior to the onset of precipitation (50% chance of ½ inch or more of rain), the County Official requires that additional stormwater measures be implemented to disturbed soil areas, as required by Section 67.817, in order to prevent damage such as erosion or sedimentation to the site, slopes, adjoining properties, public rights of way or watercourses.

(d) The active disturbed soil area of a project site shall be no more than 50 acres for an individual grading permit/improvement plan or combination of grading permits under associated Tentative or Final Map (i.e. TM XXXX-1 through 3), unless otherwise approved by the County Official. 125% of the required Stormwater BMP materials shall be maintained on site to protect the disturbed soil area.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9926 (N.S.), effective 4-11-08)

#### **SEC. 87.415. DRAINAGE -- BUILDING PADS.**

All areas designed for buildings shall be graded to provide at least one percent grade toward the approved disposal area unless waived by the County Official where the terrain is so flat as to make such grade unnecessary or impractical.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.416. DRAINAGE -- DRAINAGE FACILITIES.**

(a) All berms, swales and brow ditches shall be designed and constructed, and when required, shall be paved or otherwise improved to the satisfaction of the County Official.

(b) Except as otherwise provided in Section 87.402, all swales and ditches shall have a minimum grade of two percent, a minimum depth of one foot and shall be paved for a width of at least three feet with a minimum thickness of three inches of portland cement concrete or two inches of pneumatically applied concrete mortar or shall be improved with other material or by other treatment approved by the County Official as equal. The paving of such swales or ditches may be waived by the County Official after receipt of a report by a soil engineer certifying that in the engineer's opinion the paving is unnecessary.

(c) If the drainage discharges onto natural ground, the County Official shall require that such natural ground be protected from erosion.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.417. PLANTING.**

(a) General. The face of all cut and fill slopes, in excess of 3 feet in vertical height, but only final slopes of any borrow pit, shall be planted and maintained with a ground cover or other planting to protect the slopes against erosion and instability. Planting shall commence as soon as slopes are completed on any portion of the site and shall be established upon all slopes prior to the final approval of the grading. In order to minimize the period during which a cut or filled surface remains exposed, such planting shall provide for rapid short term coverage of the slope as well as long term permanent coverage. Planting materials and procedures shall conform to regulations adopted by the County Official. Other plant materials as specified



by a landscape architect may be approved by the County Official. The permittee shall maintain such planting until it is well established as determined by the County Official, and at least until coverage of 70%, as compared to the native background plants, is achieved.

(b) Minimum Requirements. In addition to planting with ground cover, slopes in excess of fifteen feet in vertical height shall be planted with shrubs having a one gallon minimum size or trees having a five gallon minimum size. The maximum spacing for shrubs and trees shall be ten feet on center each way. The planting pattern, but not the minimum quantity, may be varied upon the recommendation of landscape architect and approval by the County Official.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.418. IRRIGATION SYSTEM REQUIREMENTS.**

(a) General. Except for agricultural grading permits and borrow pits, all slopes to be constructed shall be provided with an irrigation system which shall be used to promote the growth of the slope plantings to protect the slopes against erosion. Slopes for borrow pits shall be planted in accordance with the requirements of the applicable use permit and reclamation plan under Chapter 7 of this Division. The owner shall be responsible for installation and maintenance of the irrigation.

(b) Minimum Requirements.

(1) Plans for the irrigation system shall be in accordance with County of San Diego Standard Specifications for Sprinkler Irrigation Systems and shall be approved by the County Official prior to installation.

(2) The irrigation system shall be located relative to existing and proposed property lines to insure that the irrigation system and the slopes sprinkled thereby will both be within the same property boundaries. The irrigation system shall be supplied or be readily converted so as to be supplied through the metered water service line serving each individual property.

(3) The irrigation system shall provide uniform coverage for the slope area at a precipitation rate not exceeding the intake rate of the soil. A functional test of the irrigation systems shall be performed to the satisfaction of the County Official prior to final approval of the rough grading.

(4) Check valves shall be installed in the irrigation system to prevent erosion from low sprinkler heads.

(5) Adequate back flow protection devices shall be installed in each irrigation system. Such devices shall be protected against physical damage during construction operations.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.419. WAIVER OF PLANTING AND IRRIGATION REQUIREMENTS.**

The County Official may modify or waive the requirements for planting and/or irrigation systems if he or she finds that said requirements would be unreasonable or unnecessary for any of the following reasons:

(a) the area is subject to periodic inundation,

- (b) water is unavailable to the area such that irrigation would be impractical or impossible,
- (c) the area is naturally devoid of vegetation, or
- (d) the area consists of cut slopes which are not subject to erosion due to their rocky character or slopes which are protected with pneumatically applied concrete mortar or are otherwise treated to protect against erosion and instability to the County Official's satisfaction.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.420. REGULAR OR SUPERVISED GRADING REQUIRED.**

(a) All grading, except grading for a borrow pit, in excess of 5,000 cubic yards shall be performed under the general supervision and coordination of a civil engineer hired by the applicant, who shall assume and perform the duties specified in Section 87.422 throughout grading operations until completion and approval of all work pursuant to Section 87.428. Such grading shall be designated "supervised grading", and such an engineer shall be known as the "Permit Compliance Engineer."

(b) Grading not supervised in accordance with this section shall be designated "regular grading."

(c) For grading of 5,000 cubic yards or less, the permittee may elect to have the grading performed as either supervised grading or regular grading.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.421. INSPECTION AND REPORTING REQUIREMENTS FOR REGULAR AND SUPERVISED GRADING.**

The following requirements are applicable to regular and supervised grading:

(a) The County Official shall cause the work to be inspected to the extent he or she deems necessary and may require inspection of excavations and fills and compaction control by a soils engineer. Rough and final grading inspection approvals sought for lots within major subdivisions shall be issued subject to any limitations imposed by section 81.404. At a minimum, the following inspections shall be required:

(1) Initial Site Inspection: A site inspection shall be performed prior to grading permit issuance.

(2) Rough Grading Inspection: Upon completion of rough grading and prior to issuance of a building permit, an inspection of the rough grading, and in particular the drainage and erosion control measures, shall be performed. All required landscaping shall be planted and irrigation systems installed prior to the rough grading inspection. The permittee shall complete and submit to the County Official a compaction report prior to or at the time of this inspection. The County Official shall approve the rough grading if he or she determines, based upon the inspection and the compaction report, that the rough grading complies with the requirements of the grading permit, section 81.404 in the case of grading completed for a major subdivision, and this Division.

(3) Final Grading Inspection: Upon completion of all grading, and prior to occupancy of any building or structure, a final grading inspection shall be performed. The County Official shall review the reports submitted pursuant to paragraph (c) below and shall determine that planting is established and that all

irrigation systems are operational. The County Official shall approve the final grading if it conforms to all requirements of the grading permit, section 81.404 in the case of grading completed for a major subdivision, and this Division.

(b) The County Official may require sufficient inspection by the soil engineer to assure that the soil engineer has adequately considered all geological conditions. These inspections may be required to include, but need not be limited to inspection of cut slopes, canyons during clearing operations for ground water and earth material conditions, benches prior to placement of fill, and possible spring locations. Where geologic conditions warrant, the County Official may require periodic geologic reports.

(c) Reports of a soil engineer certifying the compaction or acceptability of all fills shall be filed with the County Official. The reports shall include but need not be limited to:

(1) inspection of cleared areas and benches prepared to receive fill and removal of all soil and unsuitable materials;

(2) the placement and compaction of fill materials;

(3) the bearing capacity of the fill to support structures;

(4) the inspection or review of the construction of retaining walls, subdrains, drainage facilities and devices, storm water protection devices, buttress fills, and other similar measures;

(5) excavation for and back filling of retaining walls; and

(6) where potentially expansive soils are present at either cut or fill grade, written recommendations regarding treatment given or to be given to such soils.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 10179 (N.S.), effective 11-11-11)

#### **SEC. 87.422. ADDITIONAL INSPECTION AND REPORTING REQUIREMENTS FOR SUPERVISED GRADING.**

The following requirements shall apply to "supervised grading" as referenced in Section 87.420:

(a) Requirements Applicable to the Permit Compliance Engineer. It shall be the responsibility of the Permit Compliance Engineer to oversee and coordinate all field surveys, setting of grade stakes in conformance with the plans, and site inspection during grading operations to assure that the site is graded in accordance with the permit, this Division and the San Diego County Watershed Protection and Stormwater Management Ordinance (Division 7 of Title 6 of this Code). This responsibility shall not include the superintendency of the contractor's equipment or personnel. The Permit Compliance Engineer shall file reports with the County Official, as follows:

(1) Said reports shall be filed at the following intervals:

(aa) weekly, during all times when grading of 200 cubic yards or more per week is active on the site;

(bb) monthly, at all other times; and

(cc) at any time when requested in writing by the County Official.

(2) Such reports shall certify to the County Official that the Permit Compliance Engineer has inspected the grading and related activities and has found them to substantially comply with the approved grading plans, the grading permit including any conditions thereof, this Division, and other applicable County ordinances, except with regards to any areas of noncompliance which the engineer shall specify in detail. The reports shall contain all matters required in a standard Report of Grading Activities form which the County Official shall publish.

(b) Other Requirements. Soils reports shall be required and geology reports may also be required as specified in Sections 87.421 (b) and (c). In addition to the copies filed with the County Official, copies of such reports shall be sent by the permittee to the Permit Compliance Engineer. The soil engineer shall make such tests and inspections as necessary to assure that the recommendations given in the soils report and incorporated in the grading plan or specifications or the permit have been followed.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

#### **SEC. 87.423. NOTIFICATION OF NONCOMPLIANCE.**

If in the course of fulfilling his responsibility under this Division, the Permit Compliance Engineer or the soil engineer finds that the work is not being done in conformance with this Division or the plans approved by the County Official, or in accordance with accepted practices, he or she shall immediately notify the permittee, the person in charge of the grading work and the County Official in writing of the nonconformity and of the corrective measures which should be taken.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.424. SAFETY PRECAUTIONS.**

(a) If at any stage of the work the County Official determines that further grading as authorized is likely to endanger any public or private property or result in the deposition of debris on any public way or interfere with any existing drainage course, the County Official may require as a condition to allowing the work to be continued, that such reasonable safety precautions (including forensic testing or other measures) be taken as he or she considers advisable to avoid such likelihood of danger.

(b) In the event the work does not conform to the permit or the plans or specifications or any instructions of the County Official, notice to comply shall be given to the permittee in writing. After a notice to comply is given, a period of 10 days shall be allowed for the permittee or his contractor to begin to make the corrections, unless an imminent hazard exists, in which case the County Official may require that the corrective work begin immediately.

(c) If the County Official finds any existing conditions not as stated in the application, grading permit or approved plans, he or she may refuse to approve further work until approval is obtained for a revised grading plan which will conform to the existing conditions.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.425. COMPLETION OF WORK -- FINAL REPORTS.**

Not later than 60 days following completion of grading pursuant to Sections 87.207 or 87.208, the

following reports shall be filed with the County Official unless waived by him or her:

(a) A certification by a civil engineer that all grading, lot drainage, and drainage facilities have been completed in conformance with the approved plans and specifications, the permit and this Division. In making such certification, the civil engineer does not assume responsibility for the correctness of the contents of the reports referred to in paragraphs (c) and (d) of this section;

(b) An "as-built" or record plan of the completed work prepared by a civil engineer;

(c) A soil engineer's report, which shall include certification of soil bearing capacity (except where the County Official determines such certification inapplicable), summaries of field and laboratory tests and location of tests if not previously submitted, and the limits of compacted fill on a record plan. The report shall include reference to the presence of any expansive soils or other soil problems which, if not corrected, would lead to structural defects in buildings constructed on the site. If the report discloses the presence of such expansive soils or such other soil problems, it shall include recommended corrective action which is likely to prevent structural damage to each building proposed to be constructed upon the site; and

(d) A final engineering geology report by an engineering geologist, based on the as-built plan, including specific approval of the grading as affected by geological factors. Where required by the County Official, the report shall include a revised geologic map and cross sections and recommendations regarding building restrictions or foundation setbacks.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

#### **SEC. 87.426. NOTIFICATION OF COMPLETION.**

The permittee shall notify the County Official when the grading operation is ready for final inspection. Final approval shall not be given until all work including installation of all drainage structures and facilities, sprinkler irrigation systems, and all protective devices have been completed and any required planting established and all as-built plans and reports have been submitted. The County Official may certify in writing to the completion of all work, or any portion of the work, required by the permit issued in accordance with this Division and thereupon accept said work or portion thereof.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.427. SOIL EXPANSION TESTS.**

The procedure which shall be used for testing the expansion of soils shall be that specified in the American Society for Testing Materials "Test Method For Expansion Index of Soils" D4829-25.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.428. DUST CONTROL MEASURES.**

All clearing and grading shall be carried out with dust control measures adequate to prevent creation of a nuisance to persons or public or private property. Clearing, grading or improvement plans shall require that measures such as the following be undertaken to achieve this result: watering, application of surfactants, shrouding, control of vehicle speeds, paving of access areas, or other operational or technological measures to reduce dispersion of dust.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.429. HUMAN REMAINS OR NATIVE AMERICAN ARTIFACTS.**

If, in the process of grading operations, human remains or Native American artifacts are encountered, grading operations shall be suspended in that area and the operator shall immediately inform the County Official, and the requirements of Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.99 shall be complied with.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.430. PALEONTOLOGICAL RESOURCES.**

The County Official may require that a qualified paleontologist be present during all or selected grading operations, to monitor for the presence of paleontological resources. If fossils greater than twelve inches in any dimension are encountered, then all grading operations in the area where they were found shall be suspended immediately and not resumed until authorized by the County Official. The permittee shall immediately notify the County Official of the discovery. The County Official shall investigate and determine the appropriate resource recovery operations, which the permittee shall carry out prior to the County Official's authorization to resume normal grading operations.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

## **CHAPTER 5.**

### **CLEARING REGULATIONS**

#### **SEC. 87.501. CLEARING PERMIT REQUIRED.**

Except as exempted by Section 87.502, no person shall do any clearing, nor shall an owner allow any clearing on his or her property or allow the property to remain in an unlawfully cleared condition, unless the person or owner has a valid clearing permit issued by the County Official authorizing such clearing. An owner is presumed to have allowed clearing which has been done on property occupied by him or her or is under his dominion and control. This presumption is a presumption affecting the burden of producing evidence. A separate clearing permit shall be required for each site. All clearing shall conform to the conditions of the authorizing permit.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.502. EXEMPTIONS.**

The following activities are exempt from the requirements of this Chapter:

- (a) Routine landscaping, maintenance, and the removal of dead or diseased trees or shrubs, including trimming or mowing of vegetation to the limited extent required in order to comply with Chapter 4 of Division 8 of Title 6 of this Code, dealing with abatement of weeds and rubbish.
- (b) Clearing for fire protection purposes within 100 feet of a dwelling unit. Any additional clearing for fire prevention, control or suppression purposes is exempt when authorized or required, in writing, by a fire prevention or suppression agency.
- (c) Clearing limited to the least amount necessary for the purpose of surveying, geotechnical exploration and access for percolation tests and wells. This exemption does not include clearing for building pads or leach fields.
- (d) Clearing incidental to the repair, alteration or construction of a single-family dwelling and accessory buildings and structures, pursuant to an approved building permit.
- (e) Clearing conforming to the location, extent and purpose authorized, explicitly or implicitly, by an approved plot plan pursuant to a discretionary land use permit or a discretionary development permit.
- (f) Clearing incidental to grading activities for which a grading permit has been issued pursuant to this Division, or which are exempt from a grading permit requirement pursuant to Section 87.202, paragraph (b), (c), (f) or (g) of this Division.
- (g) Tilling or cultivating which is within the exemption of Section 87.202(d), (reading the terms of said exemption as if they applied to clearing rather than grading).
- (h) Limited clearing to provide access to property to perform activities that would otherwise be exempt from the provisions of this Division.
- (i) On land located outside the "MSCP Subarea" (as defined in Section 87.803 of this Division), clearing of up to a maximum of five acres, on a parcel zoned for single family residential use and improved with a single family residence. The amount of land cleared under this exemption shall not exceed a total of five

acres, regardless of the number of occasions on which clearing is performed.

(j) On land located within the boundaries of the MSCP Subarea (as defined in Section 87.803 of this Division), clearing shall be exempt from this Division if it is exempt from the Biological Mitigation Ordinance pursuant to its terms.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

### **SEC. 87.503. HABITAT PROTECTION.**

No permit required by Section 87.501 shall be issued, unless first:

(a) If the land upon which the proposed clearing is to be performed is within the MSCP Subarea, the County Official shall assure that the Biological Mitigation Ordinance, has been complied with; and

(b) If the land upon which the proposed clearing is to be performed is not within the MSCP Subarea, the County Official shall assure that Chapter 1 of Division 6 of Title 8 of this Code, regarding Habitat Loss Permits, has been complied with.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

### **SEC. 87.504. CLEARING PERMIT PROCEDURE AND REQUIREMENTS.**

The following procedures and requirements shall apply to an application for a clearing permit:

(a) The application shall be submitted to the County Official, accompanied by fees and deposits as specified in Section 87.301(f). The application shall be processed as an application for an Administrative Permit pursuant to the Administrative Permit Procedure, Section 7050 and following of the Zoning Ordinance, except as otherwise provided herein. The application (except for an application for agricultural clearing, which is governed by Section 87.506) shall include or be accompanied by plans which show or include the following:

(1) a vicinity sketch;

(2) property lines;

(3) contour lines showing the topography of the existing ground, with a maximum contour interval of five feet;

(4) the location, extent and square footage of the total area to be cleared;

(5) the location, nature and extent of all vegetation growing on the area to be cleared and the area within 100 feet;

(6) dust control measures sufficient to comply with Section 87.428;

(7) information and documentation sufficient to enable the County Official to make the determinations required by the California Environmental Quality Act (CEQA);



- (8) a signed statement by the owner as to the proposed use of the area to be cleared;
- (9) all watercourses located on the site; and

(10) such other information as the County Official may require.

(b) The application (except for an application for agricultural clearing, which is governed by Section 87.506) may be approved if the County Official determines that:

(1) the proposed clearing is exempt from environmental review under the terms of CEQA, or the proposed clearing would not have a significant effect on the environment, or all significant effects have been mitigated; if the County Official determines that the proposed clearing would have one or more significant effects which are not mitigated, he or she shall deny the permit;

(2) the proposed clearing conforms to all requirements of this Division and other applicable County ordinances; and

(3) none of the grounds for denial of a permit specified at Section 87.211, paragraphs (a), (c), (d), (e) or (f) exists (reading said provisions as if they applied to clearing rather than grading).

(c) The provisions of the Administrative Permit Procedure regarding appeals shall apply, except that an application which has been denied on the basis that the proposed clearing would have one or more significant effects which are not mitigated, is subject to appeal only directly to the Board of Supervisors. If the Board of Supervisors determines that the proposed clearing would have one or more significant effects which are not mitigated, it shall deny the appeal unless it makes a statement of overriding considerations pursuant to CEQA. The time periods specified in the Administrative Permit Procedure shall commence to run from the date that environmental documentation prepared to comply with CEQA has been completed.

(d) All clearing authorized by an approved clearing permit shall be completed within 12 months of the date of approval. The County Official may grant one extension of said period, for up to an additional 12 months, if he or she determines that no significant changes in the work are proposed, and substantial progress has been made towards completion.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.505. CLEARING FOR LAND DEVELOPMENT.**

Clearing to be performed in preparation for land development shall not be undertaken until all discretionary approvals for the land development have been issued.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.506. AGRICULTURAL CLEARING.**

(a) The Agricultural Permit Coordinator appointed pursuant to Section 87.205 of this Division shall also facilitate applications for agricultural clearing permits. The County Official's guidance documents prepared pursuant to that Section shall also provide guidance concerning approval and implementation of agricultural clearing permits.

(b) An application for an agricultural clearing permit shall comply with Section 87.504, except that the

application contents and the standards for issuance of the permit shall be the same as those specified Section 87.205 of this Division, applying the requirements of that Section as if the term "clearing" were used instead of "grading."

(c) For a period of five years (ten years if the land is located within the MSCP Subarea) from and after the date of issuance of the agricultural clearing permit, no County decisionmaker shall grant or approve any permit or other authorization for land development on the land for which clearing is authorized, to the permittee who made the certification required by Section 87.205(c)(12) or any other person who has actual or constructive notice of that certification, unless the permit or authorization would be for a project or activity either: (a) for which an exemption is provided in Section 87.502; or (b) which is in furtherance of the agricultural operation specified by the permittee in said certification.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

## **CHAPTER 6.**

### **WATERCOURSES**

#### **SEC. 87.601. PURPOSE AND RELATIONSHIP TO OTHER LAWS.**

The purpose of this chapter is to protect persons and property against flood hazards. In case of conflict between the regulations imposed by this chapter and other County Ordinances, State and Federal Regulations, the regulation imposing the more stringent restrictions shall prevail.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.602. ACTS PROHIBITED.**

No person shall do or commit or cause to be done or committed, any of the following described acts, nor allow the same to be done on his or her property, nor allow the property to remain in such condition:

(a) Deposit any material of any kind in a watercourse which may impair, impede or accelerate the flow of water therein so as to adversely affect adjoining property;

(b) Plant any vegetation (other than grasses or annual crops) within a watercourse which may impair, impede, or divert the flow of water in such watercourse (unless this is required by a land development permit issued by the County);

(c) Commit any act on or in any easement dedicated, granted or reserved for flood control or drainage purposes which will impair the use of such easement for such purposes; or

(d) Within a flood plain where a Flood Plain Designator or a Flood Channel Designator has been applied under the Zoning Ordinance or within a flood plain as delineated on approved maps issued by the Federal Insurance Administrator (designated by the Secretary of the United States Department of Housing and Urban Development), construct new or substantial improvements of structures unless the lowest floor (including basement) is elevated to or above the level of the 100-year flood or the structure, including attendant utility and sanitary facilities, is flood proofed up to the level of the 100-year flood. "Substantial improvements" means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50% of the market value of the structure either: (1) before the improvement is started, or (2) if the structure has been damaged, and is being restored, before the damage occurred. "Substantial improvements" are considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. "Substantial Improvements" do not, however, include any alteration to comply with existing federal, state or local health, sanitary, building or safety codes or regulations.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

#### **SEC. 87.603. ACTS PROHIBITED UNLESS PERMIT OBTAINED.**

No person shall do or commit or cause to be done or committed, any of the following described acts without first obtaining a grading permit pursuant to Chapter 2 of this Division:

(a) Impair, impede or accelerate the flow of water in a watercourse;

(b) Alter the surface of land, by construction, excavation, embankment or otherwise, so as to reduce the

capacity of a watercourse;

(c) Construct, alter or remove any flood control or storm water drainage structure, facility or channel of or in a watercourse;

(d) Construct or place any structure in, upon or across a watercourse; or

(e) Place fill or encroachments that would increase the flood level or impair the ability of a floodway to carry and discharge the waters resulting from the 100-year flood, within a "floodway" as shown on San Diego County Flood Plan Maps adopted by the Board of Supervisors and on file at the Department of Public Works, as shown on a "Flood Insurance Rate Map" adopted by the Federal Emergency Management Agency, or as defined in Section 87.803(20) of this Division. Permits may be issued where the effect of the fill or encroachment on flood heights is fully offset by stream improvements.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

#### **SEC. 87.604. EXCEPTIONS.**

(a) Sections 87.602 and 87.603 do not apply to:

(1) Any act lawfully done pursuant to Chapter 3 (Excavations, Fills and Obstructions) or 4 (Construction) of Division 1 (Protection of Highways) of Title 7 of this Code.

(2) Work performed by the Federal Government, the State of California, the County of San Diego or their agents or contractors. (Note that the County of San Diego is not a "person" to whom this Division applies; see Section 87.803(27) of this Division.)

(3) Acts of the owner of the watercourse in the routine maintenance thereof, provided such acts do not impair, impede or divert the flow of water in such watercourse.

(4) Acts of persons engaged in natural resource extraction operations performed pursuant to a Use Permit, provided such acts are normally and routinely associated with such pursuits and provided further that such acts do not substantially impair, impede, or divert the flow of water in the watercourse.

(5) Repair, reconstruction or improvement to existing structures, provided it:

(aa) is not a substantial improvement (as defined in Section 87.602(d));

(bb) is designed and anchored to prevent flotation, collapse or lateral movement of the structure;

(cc) uses construction materials and utility equipment that are resistant to flood damage; and

(dd) uses construction methods and practices that will minimize potential flood damage.

(6) Construction of parking facilities within the flood plain fringe area below the 100-year flood level, provided:

(aa) The parking facility will service a non-residential building; or

(bb) The structure is open and will not impede the flow of flood waters.

(b) In addition, Section 87.603 does not apply to grading which is exempt from the requirement to obtain a grading permit under one or more of the following paragraphs of Section 87.202 of this Division:

- (1) Sec. 87.202(d): Specified agricultural tilling or cultivating.
- (2) Sec. 87.202(e): Specified utility construction.
- (3) Sec. 87.202(f): Emergency watercourse grading.
- (4) Sec. 87.202(g): Specified surface mining operations.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

### **SEC. 87.605. GRADING PLANS OR IMPROVEMENT PLANS AFFECTING WATERCOURSES.**

Where grading proposed by grading plans or improvement plans would be within or would affect a watercourse, the following requirements shall apply, in addition to the requirements specified in Chapter 2 of this Division:

(a) The County Official shall not approve the grading plans or improvement plans unless he or she has evaluated and determined that the proposed grading is consistent with the San Diego County general plan; provided that, if the proposed grading is associated with a subdivision or other land development project which has been approved by a County decision making body which determined the project to be consistent with the general plan, the County Official shall instead evaluate whether the proposed grading is consistent with such prior project approval and shall not approve the plans if they are not consistent with the prior approval.

(b) The County Official shall not approve the grading plans or improvement plans unless he or she determines that the proposed grading does not create an unreasonable hazard of flood or inundation to persons or property.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

### **SEC. 87.606. EMERGENCY WATERCOURSE GRADING PERMITS.**

(a) Notwithstanding any other provision of this Division or any other County Ordinance, an emergency watercourse grading permit may be granted solely for the removal of silt, sand and debris from a watercourse, upon a finding that an emergency exists on public or private property. The permit may be granted by the County Official for the removal of up to 10,000 cubic yards of silt, sand and debris, or by the Board of Supervisors for amounts in excess of 10,000 cubic yards. For purposes of this section, "Emergency" means a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of or damage to life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage, (see Section 15025, Title 14 of the California Administrative Code) or projects undertaken, carried out, or approved by a public agency to maintain, repair, restore, demolish or replace property or facilities damaged or destroyed as a result of a disaster in a disaster stricken area in which a state of emergency has been proclaimed pursuant to Chapter 7

of Division 1, Title 2 of the Government Code (see Section 15071, Title 14 of the California Administrative Code).

(b) The emergency watercourse grading permit shall be granted for such periods of time as the County Official or Board shall deem to be reasonable and necessary or advisable under the circumstances, and upon such conditions as the County Official or Board deems necessary to insure the health, safety and welfare of the affected persons or the protection of the affected properties, and to assure that the work shown is in accordance with County Plans and Specifications. Such permit shall be granted to the owner of the property or the authorized agent of the owner.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

**SEC. 87.607. MAINTENANCE OF WATERCOURSE REQUIRED.**

The property owner is responsible for the timely maintenance of any watercourse on the owner's property. "Maintenance" means cleaning, removing obstructions and repair of existing facilities. Obstructions shall include vegetation, shrubs, trees, tree stumps, limbs and foliage, debris, trash, rubbish, waste matter, deposits of dirt, silt, sand or rock, walls, structures, building materials or any other material which may impede, impair, restrict or divert the flow of water from its natural course. (In the case of live vegetation, any required permits and approvals shall be obtained prior to removal.) The owner shall obtain any approvals or permits required by federal or state law (such as section 404 of the Federal Water Pollution Control Act (33 U.S. Code Section 1344) or section 1600 and following of the Fish & Game Code for such work. Failure to maintain a watercourse in a safe and unobstructed condition is hereby declared to be violation of this section, and a public nuisance.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.608. CIVIL ENGINEER FIELD SUPERVISION.**

All work under the provisions of this Chapter shall be performed under the general supervision and coordination of a civil engineer unless waived by the County Official for small projects (or minor work) or the work is supervised by an agency of the Federal or State government.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

## CHAPTER 7. SURFACE MINING

### **SEC. 87.701. PURPOSE.**

The Board of Supervisors hereby finds and declares that the extraction of minerals is essential to the continued economic well-being of the County of San Diego and that it is the purpose and intent of this chapter to regulate all surface mining operations in the unincorporated area of the County of San Diego as authorized by The Zoning Ordinance and by the California Surface Mining and Reclamation Act of 1975 ("SMARA") to ensure that:

- (a) The continued mining of minerals will be permitted in a manner which will protect the public health and safety and will provide for the protection and subsequent beneficial use of mined and reclaimed land; and
- (b) The possible adverse effects of surface mining operations on the environment, including air pollution, impedance of groundwater movement, water quality degradation, damage to aquatic or wildlife habitat, flooding, erosion and sedimentation, will be prevented or minimized; and
- (c) The production and conservation of minerals will be encouraged while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment.

This Chapter is intended to implement the minimum requirements of SMARA as well as to specify local requirements. Should conflict arise between the provisions of this Chapter and the minimum requirements of SMARA, the SMARA requirements shall take precedence.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

### **SEC. 87.702. DEFINITIONS.**

Whenever the following words are used in this chapter, they have the following meanings:

- (a) "DEPARTMENT" means the Department of Planning and Development Services of the County of San Diego.
- (b) "DIRECTOR OF CONSERVATION" means the Director of the Department of Conservation within the California Resources Agency.
- (c) "SMARA" means the Surface Mining and Reclamation Act of 1975 (Public Resources Code, Section 2710 et seq.).
- (d) "SMGB" means the State Mining and Geology Board.
- (e) "SURFACE MINING" means all, or any part of, the process involved in the mining of minerals on mined lands by removing overburden and mining directly from the mineral deposits, open-pit mining of minerals naturally exposed, mining by the auger method, dredging and quarrying, surface work incident to an underground mine, borrow pitting, streambed skimming, and the segregation and stockpiling of mined materials and recovery of same. Surface mining shall include, but is not limited to: (i) inplace distillation or retorting or leaching; (ii) the production and disposal of mining waste; and (iii) prospecting and exploratory activities.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04; amended by Ord. No. 10224 (N.S.), effective 10-25-12)

**SEC. 87.703. SURFACE MINING PERMIT AND RECLAMATION PLAN REQUIRED.**

Except as specified in Section 87.704, no person shall conduct surface mining unless a Major Use Permit therefor is obtained, a Reclamation Plan is approved as provided by this chapter, the Zoning Ordinance, and SMARA, and financial assurances for reclamation have been approved by the County. Grading performed pursuant to such Major Use Permit or Reclamation Plan shall be in accordance with a plot plan and conditions approved therewith. Where surface mining has been conducted in violation of this or other ordinances, a Reclamation Plan shall be obtained for the restoration of the site.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

**SEC. 87.704. EXEMPTIONS.**

(a) The provisions of this chapter do not apply to surface mining operations which the SMGB finds are exempt from the provisions of SMARA under Public Resources Code Section 2714.

(b) Any person who has obtained a vested non-conforming right to conduct surface mining prior to January 1, 1976, shall not be required to secure a Major Use Permit as long as such vested non-conforming right continues; provided, however, that the mining operation is not in violation of any provision of this chapter, and provided further that a person who has obtained such a right to conduct surface mining prior to January 1, 1976, shall obtain approval of a Reclamation Plan for vested operations conducted after January 1, 1976. Nothing in this chapter shall be construed as requiring the filing of a Reclamation Plan for mined lands on which surface mining operations were conducted prior to, but not after, January 1, 1976.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

**SEC. 87.705. APPLICATION AND REVIEW.**

(a) All applications for a Major Use Permit for surface mining shall be made, considered and granted or denied pursuant to The Zoning Ordinance, and shall be accompanied by an "Application for Reclamation Plan" as provided by the Department. Both applications shall be processed concurrently. An application for a Reclamation Plan shall be processed under the same procedures as the Major Use Permit, including those provisions requiring a public hearing those provisions relating to appeals. Reclamation Plans may be granted subject to such conditions and limitations as may be deemed appropriate. All plans and specifications for the grading of the property shall be prepared or approved and signed by a registered civil engineer, and shall include all information required in Section 87.208 and any other information required by the County Official.

(b) Any surface mining operation conducted pursuant to vested non-conforming rights or pursuant to a Major Use Permit, shall cease operating until a Reclamation Plan is approved by the County, unless the Reclamation Plan is on appeal to the SMGB. An "Application for Reclamation Plan" shall be submitted within 120 days from the date the County Official requests in writing to the mining operator or mining site property owner that such Reclamation Plan be submitted or within the extension periods the County Official may grant if cause is shown why more time should be granted for the filing.

(c) The Department shall submit all proposed Reclamation Plans and any proposed amendments to the



Director of Conservation for review at least 45 days before the County acts thereon. The County shall notify the Director of Conservation of the filing of an application for a surface mining permit within 30 days of the filing of an application. The Department shall also send the Director of Conservation a copy of each mining permit approved by the County.

(d) The Reclamation Plan shall contain all matters required by SMARA and Sections 3502 and 3700 and following of Title 14 of the California Code of Regulations, and shall provide in designated phases for the progressive rehabilitation of the mining site land form so that, when reclamation is complete, it will contain stable slopes, be readily adaptable for alternate land uses, and be free of derelict machinery, waste materials and scrap to the satisfaction of the County Official. The proposed mining site land form, to the extent reasonable and practical, shall be revegetated for soil stabilization, free of drainage problems, coordinated with present and anticipated future land use, and compatible with the topography and general environment of surrounding property.

(e) Where any requirement of the reclamation plan conflicts with any requirement of the approved major use permit, the County Official shall determine which requirement shall apply; provided however, that the minimum reclamation standards of SMARA shall apply in any event.

(f) When the approval of any Reclamation Plan and Agreement has become final and effective, the Director shall cause a copy to be filed with the San Diego County Recorder. The documents to be recorded shall set forth the names of all owners of the property subject to the Reclamation Plan. The recorded document shall provide constructive notice to all purchasers, transferees, or other successors to the interests of the owners named, of the rights and obligations created by the Reclamation Plan.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04; amended by Ord. No. 10119 (N.S.), effective 2-25-11)

#### **SEC. 87.706. FILING FEE FOR RECLAMATION PLAN.**

A deposit shall be paid to the Department upon the filing of each application for a Reclamation Plan; provided, however that no deposit shall be charged for applications filed concurrently with, or pursuant to any condition of, a Major Use Permit. The amount of said deposit shall be determined no less than annually by the Board of Supervisors by resolution. If the actual costs of processing the Reclamation Plan are less than the amount deposited, the Department shall refund the balance to the applicant. If any deposit is insufficient to pay all the actual costs of processing the Reclamation Plan the applicant, upon demand of the Department, shall pay an amount deemed sufficient by the Department to complete the work in process.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.707. AGREEMENT, RIGHT OF ENTRY AND FINANCIAL ASSURANCE.**

(a) No surface mining shall be conducted pursuant to a Major Use Permit or pursuant to a vested nonconforming right unless prior to commencement an Agreement has been entered into whereby the operator agrees to reclaim the land in accordance with the Reclamation Plan and which allows the County to enter the property to correct any landscaping or irrigation system deficiencies, any unsafe condition, or any breach of provisions of the Major Use Permit and/or Reclamation Plan.

(b) The Agreement shall authorize the County or any person authorized by the County to enter the property at a mutually agreeable time and after having given the mining operator or permittee a minimum

24 hour notice, to perform an inspection at least once each calendar year, as mandated by the State, or follow-up inspections as a result of the once a year inspections. The Agreement shall also authorize the County or any person authorized by the County to enter the property at any reasonable time to investigate any suspected violation of any condition of the Major Use Permit or Reclamation Plan and/or for emergency abatement of hazardous conditions. Said Agreement shall be executed by the permittee, the owner of the property and by holders of any lien upon the property which could ripen into a fee, other than government entities. The permittee shall provide acceptable evidence of title showing all existing legal and equitable interests in the property. The Director of Planning and Development Services is hereby authorized to execute and accept the Agreement on behalf of the County. The Agreement shall be recorded before any mining is done.

(c) The Agreement shall be secured by financial assurances as follows:

(1) Pursuant to Section 2773.1 of SMARA, financial assurances shall be provided in an amount as specified in subsection (d), to assure that the site is reclaimed in accordance with the requirements of the approved Reclamation Plan. The assurance shall be made payable to the Director of Planning and Development Services and the California Department of Conservation and may take the form of surety bonds, irrevocable letters of credit, trust funds, or other forms of financial assurance adopted by the State Mining and Geology Board, which the County reasonably determines will be readily available to pay for reclamation in accordance with the surface mining operation's approved Reclamation Plan.

(2) The County Official may also require that additional, separate security be provided pursuant to Section 7362.a of the Zoning Ordinance, to insure the performance of conditions of a major use permit for a surface mining operation or a reclamation plan, other than the obligation to reclaim the site in accordance with the Reclamation Plan.

(d) The financial assurances required by paragraph (c)(1) shall be in an amount equal to the estimated cost to reclaim, in accordance with the requirements of the approved Reclamation Plan, all disturbed, unreclaimed lands and all acreage expected to be disturbed in the forthcoming year, to a condition that will not constitute a danger to the public health or safety and that will provide for the type of reclamation required in the Reclamation Plan. The surface mining operator or permittee shall provide an estimate of the cost of reclamation prepared by a state-registered civil engineer. All financial assurances shall be forwarded to the California Department of Conservation for review at least 45 days prior to County approval. The Director of Planning and Development Services shall review all financial assurance estimates and shall approve those that are sufficient. The estimate must be submitted not later than July 1st of each year. If the operator or permittee does not submit this estimate by the required deadline, the County may calculate an estimate of assurance. The staff time spent calculating this estimate will be charged against the inspection deposit. The financial assurance shall be provided to the County within 60 days of notification of the Director of Planning and Development Services' approval of the financial assurance amount.

(e) The amount specified in paragraph (d) shall be adjusted annually to account for new lands disturbed or expected to be disturbed in the forthcoming year by surface mining operations, inflation, and reclamation of lands accomplished in accordance with the approved Reclamation Plan. In no event shall the amount of assurance required be construed as a limitation on the liability of the permittee.

(f) The surface mining operator or permittee, and the surety(ies) providing financial assurances, shall continue to be firmly bound under a continuing obligation for the payment of all necessary costs and expenses that may be incurred or expended by the County in causing any and all work covered by the assurances to be done. When reclamation has been completed in accordance with the approved Reclamation

Plan, financial assurances pursuant to paragraph (c)(1) above shall no longer be required and shall be released, upon written notification by the County, which shall be forwarded to the surface mining operator or the permittee and the Director of Conservation. Financial assurances provided pursuant to paragraph (c)(2) above shall be released and returned upon completion of the covered work or performance of applicable conditions. In the case of a cash deposit, any unused portion thereof shall be refunded to the surface mining operator or permittee.

(g) The County must be notified no less than 180 days prior to cancellation of any financial assurance. The County may seek the forfeiture of such financial assurance if new assurance is not posted at least 30 days prior to the expiration of the financial assurance.

(h) If a mining operation is sold or ownership is transferred to another person, the existing financial assurances shall remain in force and shall not be released by the lead agency until new financial assurances are secured from the new owner and have been approved by the County.

(i) The County Official is authorized to terminate and release the Agreement and the right of entry, and to execute all documents necessary to effectuate such termination and release, upon determining that all required reclamation work and other obligations of the Agreement have been completed to the County Official's satisfaction.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04; amended by Ord. No. 10224 (N.S.), effective 10-25-12)

#### **SEC. 87.708. DENIAL OF AN APPLICATION FOR RECLAMATION PLAN.**

Any application for a reclamation plan which is denied, shall be revised as directed by the authority denying it and resubmitted within 120 days of such denial. All resubmitted applications shall be accompanied by a fee of \$250 paid to the County unless said fee is waived by the decisionmaker, for cause.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### **SEC. 87.709. MODIFICATION OR REVOCATION OF RECLAMATION PLAN.**

(a) An approved Reclamation Plan, or any conditions thereof, may be modified using the same procedures for processing a new application, including environmental review. The application fee and deposit for a Reclamation Plan modification shall be the same as that required for a modification of a Major Use Permit. If both a Major Use Permit and Reclamation Plan modification are applied for concurrently, the fee and deposit are the same as for a modification of a Major Use Permit. The County shall send a copy of all applications to modify Reclamation Plans to the Director of Conservation for review in sufficient time before the County acts on the application, to allow the Director of Conservation 30 days to review the application after receipt of the documents.

A modification to an approved Reclamation Plan shall be filed with the San Diego County Recorder pursuant to Section 87.705(f).

(b) The County Official may approve minor amendments to the Reclamation Plan in the same manner as a Minor Deviation to a Major Use Permit. A minor amendment is a change to the approved Reclamation Plan that the Director determines will not increase any deleterious impact the project has on the environment or the conditions of the project's approved Major Use Permit or Reclamation Plan. The application fee for a minor amendment to an approved Reclamation Plan shall be the same as that required for a Minor Deviation

of Major Use Permit.

(c) Pursuant to Section 2774 of SMARA, any modification or amendment to a Reclamation Plan shall be forwarded to the Director of Conservation. The Director of Conservation shall have 30 days to provide written comments.

(d) The County Official may modify or revoke a reclamation plan for cause, upon the grounds and upon following the same procedures as are specified regarding grading permits at Section 87.216 of this Division.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04; amended by Ord. No. 10119 (N.S.), effective 2-25-11)

#### **SEC. 87.710. INSPECTION.**

(a) The County Official shall inspect each surface mining site at least once each calendar year within 6 months of receipt of a copy of the mining operation's annual report, filed with the State pursuant to Section 2207 of SMARA. A copy of the completed inspection report shall be forwarded to the Director of Conservation, within thirty days of inspection using a form approved by the State.

(b) The mining operator or permittee shall provide to the County Official by each July 1, aerial photographs of the mining site taken in the same month of the second quarter of each year. The aerial photographs shall consist of:

(1) Defined, marked and permanent ground controls; and

(2) Planimetric map of the mining site based on the aerial models with 5" contours and drawn to 1" = 200' scale.

(c) Upon the request of a mining operator or permittee, the County Official may waive the requirement for the aerial photographs on a case by case basis, such as when only channel maintenance is involved or when no excavation has been accomplished since the last inspection, or may adjust the quarter of each year in which the aerial photographs are taken.

(d) Each surface mining operator or permittee shall pay an annual inspection deposit to the County Official by July 1 of each year unless otherwise stated in an approved Reclamation Plan. The amount of the deposit shall be as determined by the Board of Supervisors. This amount shall apply for the first year to all existing surface mining operations and for the first year of any new mining operation. Thereafter, the County Official will determine the amount of the deposit annually based on the cost to inspect each surface mining operation. If the County Official determines that the annual inspection should include volume calculations or a boundary survey, the cost for this work shall be included in the deposit. The County Official shall notify each mining operator by May 1 each year of the amount of the deposit. The amount of the deposit required shall not be construed as a limitation on the liability of the operator or permittee.

(e) If, after inspecting the mining operation, the County Official determines that it does not comply with the Major Use Permit or Reclamation Plan, he or she shall notify the mining operator in writing of the non-compliance and shall give the mining operator a reasonable time, not to exceed 180 days, to comply. If at the end of this time the mining operation still does not comply with the Major Use Permit or Reclamation Plan, the County Official may:

(1) Pursue the remedies specified at Section 2774.1 of SMARA, if the Major Use Permit or Reclamation Plan violation(s) are also violations of said Section;

(2) Pursue the remedies specified in the Zoning Ordinance for violation of a Major Use Permit, including revocation or modification for cause; and/or

(3) Pursue the remedies specified in Chapter 1 of this Division.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04)

**SEC. 87.711. SUCCESSORS IN INTEREST.**

Whenever any surface mining operation or portion of an operation subject to this Division is sold, assigned, conveyed, exchanged, or otherwise transferred, the successor in interest shall be bound by the provisions of any reclamation plan approved pursuant to the provisions of this Division and shall notify and provide evidence of the transfer to the County Official no later than thirty days from the date of the transfer.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.712. COMPLIANCE WITH DESIGN STANDARDS.**

All final grades established pursuant to the major use permit plot plan or reclamation plan shall comply with the "Design Standards -- Performance Requirements" contained in Chapter 4 of this Division; except that the requirement of 90% compaction of fills and the requirements of Section 87.425 "Completion of Work -- Final Reports" may be waived by the County Official. All soil engineer's reports relative to the grading of the property shall be maintained and be made available to the County Official prior to placement of any permanent structure on the property.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.713. IDLE MINES.**

An idle mine (as defined by SMARA) must meet all of the following requirements:

(a) Obtain County approval of an Interim Management Plan, pursuant to Section 2770(h) of SMARA and Section 87.714 of this Division. Costs of review of Interim Management Plans shall be charged to the annual inspection deposit;

(b) Comply with the requirements for financial assurance;

(c) Submit the annual report required by Section 2207 of SMARA; and

(d) Submit to an annual inspection, pursuant to Section 2774 of SMARA.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

**SEC. 87.714. INTERIM MANAGEMENT PLANS.**

An Interim Management Plan (required to be submitted pursuant to Section 2770(h) of SMARA) shall include or be accompanied by all of the following:

- (a) A cover sheet, or sheets, describing:
  - (1) The name and address of the person responsible for the mining operation while it is idle;
  - (2) The date the operation became idle and, if known, the date the operation is expected to resume active status;
  - (3) A statement outlining reasons for the change in operational status;
  - (4) A description of the equipment, structures, and other facilities that will remain on the site while the operation is idle; and
  - (5) A description of expected activity on the site, if any, that will be conducted while the operation is idle, including the estimated annual production from overburden, stockpiles, mining waste, and ore.
- (b) A map, or maps, of the site subject to the approved reclamation plan, depicting:
  - (1) Areas not reclaimed in accordance with the approved reclamation plan, including the location of existing pit slopes and cross-sections of the highest and steepest slopes;
  - (2) Areas reclaimed in accordance with the approved reclamation plan;
  - (3) Areas and facilities that will be utilized while the operation is idle; and
  - (4) The location of all sedimentation ponds, stockpiles, plant facilities, tailings, utilities, and other facilities associated with the surface mining operation.
- (c) A drainage plan or description of how erosion and sedimentation will be controlled, including maintenance of sedimentation basins and culverts.
- (d) A revegetation plan, if necessary for erosion control or aesthetics, for those areas that will be temporarily replanted. The plan shall explain planting techniques, describe soil amendments to be used, list species to be planted, and include a map delineating areas to be revegetated.
- (e) A monitoring maintenance plan, including a description of safety measures, and schedule of activities (such as repairing fences, removing garbage, posting signs, repairing roads, as applicable) that will be followed while the operation is idle to ensure public health and safety and to ensure that the operation is in an environmentally safe and stable condition.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

## CHAPTER 8.

### GENERAL PROVISIONS AND DEFINITIONS

#### SEC. 87.801. TITLE AND PURPOSE.

This Division shall be known as "The Grading Ordinance." The purpose of this Division is to establish minimum requirements for clearing, grading and excavating of land and activities affecting watercourses, and to provide for the issuance of permits and to provide for the enforcement of the requirements.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### SEC. 87.802. ADMINISTRATION BY COUNTY OFFICIAL.

(a) The County Official is authorized to administer, interpret and enforce the provisions of this Division. His or her authorities with respect to enforcement actions are set forth at Section 87.102.

(b) Guidance Documents. The County Official may prepare, maintain and disseminate guidance documents identifying pollution prevention and control practices for construction activities and other activities that have been determined by the County Official to be effective and practicable in specified circumstances. The County Official may take any such guidance into account when determining whether any practice proposed in a grading plan, or any other submittal, is in compliance with this Division.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

#### SEC. 87.803. DEFINITIONS.

Whenever the following words are used in this Division they shall have the following meanings:

(1) "AGRICULTURAL OPERATIONS" or "AGRICULTURAL PRODUCTION" shall mean routine and ongoing commercial operations associated with a farm, grove, dairy, or other agricultural business, and shall include:

(a) The cultivation and tillage of the soil; crop rotation; fallowing for agricultural purposes; the production, cultivation, growing, replanting and harvesting of any agricultural commodity including viticulture, vermiculture, apiculture, or horticulture;

(b) The raising of livestock, fur bearing animals, fish, or poultry, and dairying;

(c) Any practices performed by a farmer on a farm as incident to or in conjunction with those farming or grove operations, including the preparation for market, delivery to storage or to market, or delivery to carriers for transportation to market; and

(d) Ordinary pasture maintenance and renovation and dry land farming operations consistent with rangeland management and soil disturbance activities.

All such activities must be consistent with the economics of commercial agricultural operations and other similar agricultural activities. The final determination of a qualifying use shall be made by the County Official.

(2) "BEDROCK" is the solid undisturbed rock in place either at the ground surface or beneath surficial

deposits of gravel, sand or soil.

(3) "CERTIFY" or "CERTIFICATION" shall refer to a signed written statement that the specific inspections and tests where required have been performed and that such tests comply with the applicable requirements of this Division.

(4) "CIVIL ENGINEER" is an engineer duly registered by the State of California to practice in the field of civil engineering.

(5) "CLEARING" shall mean the removal or destruction of natural vegetation by any means, including brushing and grubbing.

(6) "COMPACTION" shall mean densification of a soil or rock fill by mechanical or other acceptable procedures.

(7) "COUNTY OFFICIAL" shall generally mean the Director of Public Works or his or her authorized representative, except that it shall mean the Director of Planning and Development Services or his or her authorized representative when used in any of the following contexts:

(a) minor grading pursuant to Section 87.206 (b);

(b) clearing pursuant to Chapter 5 of this Division;

(c) surface mining pursuant to Chapter 7 of this Division; or

(d) exercise of enforcement authority given to the Director of Planning and Development Services under Section 87.102.

(8) "COUNTY STORMWATER STANDARDS MANUAL" shall mean the manual adopted by Ordinance No. 9426 (N.S.) as Appendix A to the County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance (San Diego County Code Section 67.80 1 and following).

(9) "CUT" shall have the same meaning as "excavation."

(10) "EMBANKMENT" shall have the same meaning as "fill."

(11) "ENGINEERING GEOLOGIST" is a geologist duly registered by the State of California and certified in "Engineering Geology" by the State.

(12) "ENGINEERING GEOLOGY" is the application of geological data and principles to engineering problems dealing with naturally occurring rock and soil for the purpose of assuring that geological factors are recognized and adequately interpreted in engineering practice.

(13) "EROSION" shall mean the process by which the ground surface is worn away by the action of water or wind.

(14) "EXCAVATION" shall mean any act by which soil, sand, gravel or rock is cut into, dug, quarried, uncovered, removed, displaced or relocated and shall include the conditions resulting therefrom.



(15) "EXPANSIVE SOIL" is any soil which swells more than 3 percent when prepared and tested in accordance with the test prescribed by Chapter 6 or other equivalent test approved by the County Official.

(16) "FILL" shall mean deposits of soil, sand, gravel, rock or other materials placed by man.

(17) "FINISH GRADE" is the final grade or elevation of the ground surface conforming to the proposed design.

(18) "FLOOD PLAIN" means a land area in and adjoining a river, stream, watercourse, ocean, bay or lake, which is likely to be flooded.

(19) "FLOOD PLAIN FRINGE" means all that land lying within the 100-year flood plain that is not within a floodway, where a floodway has been defined.

(20) "FLOODWAY" means the channel of a river or other watercourse and the adjacent land areas required to carry and discharge a flood. The selection of the floodway shall be based on the principle that the area chosen for the floodway must be designed to carry the waters of the 100-year flood, without increasing the water surface elevation of that flood more than one foot at any point. "100-YEAR FLOOD" means a flood estimated to occur on an average of once in 100 years (one percent probability of occurrence each year) which is determined from an analysis of historical flood and rainfall records and computed in accordance with the San Diego County Flood Control District Design and Procedure Manual approved by the Board of Supervisors on May 19, 1970, and filed with the Clerk of the Board of Supervisors as Document Number 427201 and as amended by the Board of Supervisors on July 8, 1975, and filed with the Clerk of the Board of Supervisors as Document Number 506917.

(21) "GRADING" is any excavating or filling or combination thereof and shall include the land in its excavated or filled condition.

"AGRICULTURAL GRADING" is grading which meets the requirements of Section 87.205 and is not exempt under Section 87.202(d). "MINOR GRADING" is grading which meets the requirements of Section 87.206. "PREVIOUSLY APPROVED PROJECT GRADING" is grading which meets the requirements of Section 87.207. "MAJOR GRADING" is grading which is governed by Section 87.208. In calculating the quantities of grading, soil to be removed and replaced for purposes of conditioning and compaction shall not be included.

(22) "GRADING PLANS" are plans for proposed grading work, which contain the matters required by Section 87.204 through 87.208 of this Division.

(23) "IMPROVEMENT PLANS" are plans for road or drainage improvements which are presented to the County for approval, which also show grading work associated with such road or drainage improvements. "Improvement plans" include plans which accompany a subdivision improvement agreement and other agreements entered into with the County which require the construction of improvements.

(24) "LANDSCAPE ARCHITECT" shall mean a landscape architect registered by the State of California.

(25) "MSCP Subarea" shall mean that area shown as the "County of San Diego MSCP Subarea" on the map referenced in Section 86.502 of this Code.

(26) "MAJOR SLOPE" shall mean any constructed slope which is greater than fifteen feet in vertical height measured from toe of slope to brow of slope as illustrated in San Diego County Design Standard DS-10 and DS-11 on file with the San Diego County Engineer.

(27) "MINOR SLOPE" shall mean any constructed slope which is not a major slope.

(28) "NATURAL GROUND SURFACE" shall mean the ground surface in its original state before any grading, excavation or filling.

(29) "OWNER" shall mean any person who is the owner of, has a possessory interest in, has possession or control of, or occupies, real property. The County of San Diego is not a "person" (See Section 12.115 of this Code) and shall not be considered an "OWNER" of real property for purposes of this Division, even if it is the holder of an open space easement, drainage easement, flowage easement, development restriction easement or other interest less than fee title, and regardless of whether it exercises or enforces its rights under such easement or interest.

(30) "PERMITTEE" shall mean any person to whom a permit is issued pursuant to this division.

(31) "PERSON" shall have the meaning assigned in Section 12.115 of this Code.

(32) "SITE" is any lot or parcel of land or combination of contiguous lots or parcels of land where grading is performed or permitted.

(33) "SLOPE" shall mean the inclined exposed surface of a fill, excavation or natural terrain.

(34) "SOIL" is all earth material of whatever origin that overlies bedrock and may include the decomposed zone of bedrock which can be excavated readily by mechanical equipment.

(35) "SOIL ENGINEER" shall mean a person who meets the qualifications stated in Section 6736.1 of the Professional Engineers Act (Business and Professions Code Section 6700 and following).

(36) "STRUCTURAL ROCK FILLS" shall mean fills constructed predominantly of rock materials for the purpose of supporting structures.

(37) "VERTICAL HEIGHT" shall be the measurement from the toe of the slope to a point projected horizontally from the top of the slope.

(38) "WATERCOURSE" means any surface water body (including any arroyo, canal, channel, conduit, creek, culvert, ditch, drain, gully, ravine, reservoir, river, stream, wash, waterway or wetland), in which waters from a tributary drainage area of 100 acres or larger flow in a definite direction or course, either continuously or intermittently, and any area adjacent thereto which is subject to inundation from a 100-year flood.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03; amended by Ord. No. 9634 (N.S.), effective 4-23-04; amended by Ord. No. 10224 (N.S.), effective 10-25-12)

**Cross reference(s)**--Definitions, § 12.101 et seq.

#### **SEC. 87.804. ALTERNATIVE GRADING PLANS AND REPORTS.**

In lieu of the grading plans and reports required pursuant to this Division, grading plans and reports

prepared for submission to the United States, the State of California, or other public entity may be accepted as drafts and subsequently approved by the County Official if they are substantially the same as the grading plans and reports required by this Division.

(Added by Ord. No. 9547 (N.S.), effective 5-9-03)

# Attachment E

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Approved Soil Stabilizers

## Products Available for Controlling Dust

The source of this information is from a booklet titled "Air Quality Conservation Management Practices for San Joaquin Valley Farms" and was developed in cooperation with the Agriculture Improving Resources (AIR) partners, the USDA Natural Resources Conservation Service, the San Joaquin Valley Region of the California Association of Resource Conservation Districts, and the San Joaquin Valley Air Pollution Control District. You may view the booklet on-line by visiting the California Cotton Ginners and Growers Association web site and [clicking here](#). [The file is quite large and may take a few minutes to download].

The products and brand names mentioned below are for informational purposes only and should not be considered a complete listing of all the available products, nor as an endorsement of any of the products listed.

Per [Rule 8011 – General Requirements](#), any chemical or organic material used for stabilizing solids shall not violate State Water Quality Control Board standards for use as a soil stabilizer. Any material prohibited for use as a dust suppressant by the US Environmental Protection Agency, the California Air Resources Board, or other applicable law, rule, or regulation is also prohibited under Regulation VIII. Hygroscopic materials may be prohibited in areas lacking sufficient atmospheric moisture of soil for such materials to effectively reduce fugitive dust emissions. The atmospheric moisture of soil is considered to be sufficient if it meets the application specifications of the hygroscopic product manufacturer. Use of such materials may be approved in conjunction with sufficient wetting of the controlled area.

Table 1: The suppressant categories listed below have been found to meet the 50 percent PM10 control for a [Fugitive PM10 Management Plan](#). In addition, these products may be effective in limiting visible dust emissions and maintaining a stabilized unpaved road surface.

| Suppressant Category                    | Product Common Name                  |
|---|--------------------------------------|
| <b>Hygroscopic Suppressants</b>         |                                      |
| Calcium Chloride                        | ◦ Calcium chloride liquid            |
|   | ◦ Calcium chloride flakes            |
|   | ◦ Dowflake                           |
|   | ◦ Durablend-C                        |
|   | ◦ Liquidow                           |
| Magnesium Chloride                      | ◦ Roadsaver-C                        |
|   | ◦ Durablend                          |
|   | ◦ DustGard                           |
|   | ◦ Dust-off                           |
| Blend of Calcium and Magnesium Chloride | ◦ Chlor-tex                          |
|   | ◦ Roadsaver                          |
|   | ◦ Dust Fyghter                       |
| <b>Adhesives</b>                        |                                      |
| Lignosulfonate                          | ◦ DC-22                              |
|   | ◦ Dustac, Dustac-100                 |
|   | ◦ CalBinder                          |
|   | ◦ Lignin Sulfonate                   |
| Calcium Lignosulfonate                  | ◦ Polybinder                         |
|   | ◦ RB Ultra Plus                      |
|   | ◦ Wesling-120                        |
| Petroleum Emulsions                     | ◦ Asphotac                           |
|   | ◦ Coherex                            |
|   | ◦ CSS-1                              |
|   | ◦ DOPE-30                            |
|   | ◦ Duo Prime Oil                      |
|   | ◦ Dust Devil                         |
|   | ◦ <a href="#">EarthBind 100</a>      |
|   | ◦ Earth Glue                         |
|   | ◦ EnviroKleen                        |
|   | ◦ FlowPro 1505                       |
|   | ◦ Penetrating Emulsion Primer (PEP)  |
|   | ◦ <a href="#">PennzSuppress-D1,2</a> |
|   | ◦ Petro Tac                          |
| ◦ Retain                                |                                      |
| ◦ Road Pro                              |                                      |
| ◦ Sandstill                             |                                      |
| <b>Polymer Emulsions</b>                |                                      |
| Polymer Emulsions                       | ◦ Aerospray 70A                      |
|   | ◦ Blend R40 Series                   |

- Coherex PM
- DC-1000
- DSS-40
- [Dustguard](#)
- Earthbound L
- [Earthguard](#)
- ECO0110 and C-50
- Eco-Polymer
- [Envirotae II](#)
- Gorilla Snot
- Liquid Dust Control
- Marloc
- PolyPavement
- Soiloc-D
- Soilfloc DC70
- Soilfloc DC90
- Soil Master WR
- Soil Seal
- [Soil Sement](#) 1,2
- [Soil Tech FSB1000](#)
- SR-400
- TerraBond PolySeal
- Terrafirma
- Top Shield
- X-Hesion Pro

Bituminous Materials (Road Oil)

- Oil Sand
- SC-80
- SC-250
- SC-350
- SC-800

1 ["Pre-certified" by the California Air Resources Board](#)

2 ["Certified Technology" by the California Environmental Protection Agency](#)

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Table 2: The following suppressant categories have not been demonstrated to achieve the 50 percent PM10 control, but may be useful in limiting visible dust emissions and maintaining a stabilized unpaved road surface.

| Suppressant Category | Product Common Name   |
|----------------------|---|
| Electro-chemical     |   |
| Enzymes              | <ul style="list-style-type: none"> <li>◦ Bio Cat 300-1</li> <li>◦ EMCSQUARED</li> <li>◦ Perma-Zyme 11x</li> </ul>   |
| Ionic                | <ul style="list-style-type: none"> <li>◦ UBIX No. 0010</li> <li>◦ CBR Plus</li> <li>◦ Condor SS</li> <li>◦ Road Bnd EN-1</li> <li>◦ SA-44</li> <li>◦ Settler</li> <li>◦ TerraBound Clay Stabilizer</li> <li>◦ Terrastone</li> </ul>   |
| Fibers and Mulches   | Agri-Fiber  |
|                      | <ul style="list-style-type: none"> <li>◦ A/F 2000</li> <li>◦ Cellulose Fiber (M-Binder)</li> <li>◦ Dewatered Residual Wood Fiber</li> <li>◦ Ecotak-OP and Ecotak-SAT</li> <li>◦ Excel-Fibermulch II</li> <li>◦ Fibercraft</li> <li>◦ Fiberwood</li> <li>◦ Sentinel</li> <li>◦ Soil Guard</li> </ul> |

◦ Stabilizer

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Unclassified

- AGRI-LOCK and DUST-LOCK
  - Airtrol Plaster
  - Durasoil
  - Dust Attack
  - Dust Buster Systems
  - Dust Sorb 1118
  - Dust-Trol DCF
  - DustSuppress
  - EnviroCycle
  - Hydroshield (endosperm product)
  - Organic Soil Stabilizer
  - POX-O-CAP lime mixture
  - Raybinder
  - Sandcastles Dust Control Mix
  - Sodium silicate
- 

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# Dust Palliative Selection and Application Guide





# DUST PALLIATIVE SELECTION AND APPLICATION GUIDE

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**November 1999**

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## INTRODUCTION

The purpose of this publication is to help practitioners understand and correctly choose and apply the dust palliative that is appropriate for their particular site, traffic conditions, and climate. In addition, this publication describes the expected performance, limitations, and potential environmental impacts of various palliatives.

This guide examines most of the commonly available dust palliatives currently available and does not endorse any particular product. Since new products will become available and existing products will most likely change following publication of this report, it is recommended that this guide be used as a starting point for determining which palliative would be most appropriate for a given situation.

## DUST ABATEMENT BASICS

Dust from unpaved roads is not only a nuisance but creates a safety hazard by reducing the driver's visibility. Dust also affects the health of road users and increases wear-and-tear on vehicles. Dust is always considered an intruder at campsites and picnic areas. In some areas there are regulations that limit the amount of particulate allowed in the atmosphere.

Fine particles, including dust, act to help hold the surface of unpaved roads together. With a loss of fine particles from the roadway, there is an increase in roadway surface raveling and maintenance costs. These fines are smaller than what the eye can see and pass through the 75  $\mu\text{m}$  (No. 200) sieve.

How can dust emissions from the roadway be reduced or eliminated? Since the fines act as a binder that holds the surface of the unpaved road

together, removing them is not a good option. Sealing the surface with an asphalt or concrete pavement or Bituminous Surface Treatment eliminates the dust problem; however, the low traffic on most Forest Service roads does not justify the cost of sealing the road with asphalt, concrete, or a surface treatment. Another alternative is to apply a dust suppressant product. These products are not a permanent solution and will require further applications as the effectiveness of the product decreases with time. Dust suppressants are one of many possible methods to control dust (Foley 1996; UMA 1987; Washington Dept. of Ecology 1996).

Dust suppressants work by either agglomerating the fine particles, adhering/binding the surface particles together, or increasing the density of the road surface material. They reduce the ability of the surface particles to be lifted and suspended by either vehicle tires or wind.

To properly select the appropriate palliative one must understand the primary factors that generate dust. They include the following:

- Vehicle speed
- Number of wheels per vehicle
- Number of vehicles
- Vehicle weight
- Particle size distribution (gradation) of the surface material
- Restraint of the surface fines (compaction, cohesiveness/bonding, durability)
- Surface moisture (humidity, amount of precipitation, amount of evaporation).

An excellent description of these factors that generate dust and how to analyze total long-term costs can be found in Foley et al. (1996) and UMA Engineering (1987).

Selection of the proper dust abatement program must include an understanding of not only the above factors, but the total long-term cost and environmental impacts of that program. Long-term costs include road improvement, road preparation, application of the suppressant in conjunction with the number of times the palliative needs to be applied, and expected change in maintenance practices. Environmental considerations typically

include impacts to the water quality, aquatic habitat, and plant community.

Besides controlling dust, a good dust abatement program may include reduced maintenance bladings and decreased aggregate loss (UMA 1987; Addo and Sanders 1995; Lund 1973).

## DUST PALLIATIVE BASICS

There are a wide variety of dust suppressants available on the market today and there will continue to be more in the future. They can be divided into seven basic categories: water, water absorbing products, petroleum based products, organic nonpetroleum based products, electrochemical products, polymer products, and clay additive products. The categories are listed in order based on an estimate of past usage/popularity.

Typical suppressants in each category are:

- Water
- Water Absorbing Products (deliquescent/hygroscopic)
  - calcium chloride brine and flakes
  - magnesium chloride brine
  - sodium chloride (salt)
- Organic Petroleum Products
  - asphalt emulsions
  - cutback asphalt (liquid asphalt)
  - dust oils
  - modified asphalt emulsions
- Organic Nonpetroleum Products
  - animal fats
  - lignosulfonate
  - molasses/sugar beet
  - tall oil emulsions
  - vegetable oils
- Electrochemical Products
  - enzymes
  - ionic products
  - sulfonated oils
- Synthetic Polymer Products
  - polyvinyl acetate
  - vinyl acrylic
- Clay Additives
  - bentonite
  - montmorillonite

Table 1 gives an overview of these seven categories, listing their attributes, limitations, typical application rates, and common names based on Foley et al. (1996), UMA Engineering (1987), TTAO (1986), Bolander (1997), and Scholen (1992). Table 2 lists manufacturers and some distributors of the various dust palliatives.

## SUPPRESSANT SELECTION TIPS

To determine the most cost-effective dust palliative, it is recommended that the flow diagram by UMA Engineering (1987) and Washington State Department of Ecology (1996) in figure 1 be followed. Important benefiting factors (Langdon 1980) of dust palliatives that should be considered when evaluating and selecting the proper dust palliative include:

- Cohering the dust particles to themselves or to larger particles
- Resisting wear by traffic
- Remaining on the road
- Resisting aging.

Based on the above characteristics, the product selection chart shown in table 3 should aid in selecting the most suitable dust palliative (Foley et al. 1996; UMA 1987; Bolander 1997; Bolander 1999; Scholen 1992; Langdon et al. 1980; Han 1992). When using the information in table 3, first perform a soils analysis to classify the surface material. Some palliatives require a clay component (plasticity index) or specific amount of fines to properly bind and/or agglomerate. Table 1 provides additional information about dust suppressant limitations, application methods, and environmental impact, which helps further in selecting the best dust palliative. The flow diagram in figure 1 leads the practitioner to figure 2, which is a guide for determining the overall cost of the dust abatement program including the yearly and possibly the multi-year cost of a dust abatement application. Figure 3 is a guide for summarizing the expected benefits of the selected dust control plan.

If a petroleum dust palliative is being considered, further suppressant selection information can be found in Langdon (1980) and Langdon, Hicks, and Williamson (1980).

Table 1—Road dust suppressants.

| Dust Suppressant Category                        | Attributes  | Limitations   | Application   | Origin   | Environmental Impact   |
|--|---|---|---|--|--|
| Water  | <ul style="list-style-type: none"> <li>agglomerates the surface particles</li> <li>normally, readily available</li> </ul>   | <ul style="list-style-type: none"> <li>evaporates readily</li> <li>controls dust generally for less than a day</li> <li>generally the most expensive and labor intensive of the inorganic suppressants</li> </ul>   | <ul style="list-style-type: none"> <li>frequency depends on temperature and humidity; typically only effective from 1/2 to 12 hours</li> </ul>  | <ul style="list-style-type: none"> <li>any potable water source</li> </ul>   | <ul style="list-style-type: none"> <li>none</li> </ul>   |
| Water Absorbing: Calcium Chloride (deliquescent) | <ul style="list-style-type: none"> <li>ability to absorb water from the air is a function of temperature and relative humidity; for example, at 25°C (77°F) it starts to absorb water at 29% relative humidity, and at 38°C (100°F) it starts to absorb water at 20% relative humidity</li> <li>significantly increases surface tension of water film between particles, helping to slow evaporation and further tighten compacted soil as drying progresses</li> <li>treated road can be regraded and recompacted with less concern for losing moisture and density</li> </ul> | <ul style="list-style-type: none"> <li>requires minimum humidity level to absorb moisture from the air</li> <li>doesn't perform as well as MgCl in long dry spells</li> <li>performs better than MgCl when high humidity is present</li> <li>slightly corrosive to metal, highly to aluminum and its alloys, attracts moisture, thereby prolonging active period for corrosion</li> <li>rainwater tends to leach out highly soluble chlorides</li> <li>if high fines content in treated material, the surface may become slippery when wet</li> <li>effectiveness when less than 20% solution has performance similar to water</li> </ul> | <ul style="list-style-type: none"> <li>generally 1 to 2 treatments per season</li> <li>initial application: <u>flake</u>: @ 0.5 to 1.1 kg/m<sup>2</sup> (1.0 to 2.0 lb/y<sup>2</sup>), typical application 0.9 kg/m<sup>2</sup> (1.7 lb/y<sup>2</sup>) @ 77% purity <u>liquid</u>: 35 to 38% residual @ 0.9 to 1.6 L/m<sup>2</sup> (0.2 to 0.35 g/y<sup>2</sup>), typical application is 38% residual concentrate applied undiluted @ 1.6 L/m<sup>2</sup> (0.35 g/y<sup>2</sup>)</li> <li>follow-up: apply @ 1/2 to 1/3 initial dosage</li> </ul> | <ul style="list-style-type: none"> <li>by-product in the form of brine from manufacture of sodium carbonate by ammonia-soda process and of bromine from natural brines</li> <li>three forms: <u>flake</u>, or Type I, @ 77 to 80% purity <u>pellet</u>, or Type II, @ 94 to 97% purity <u>clear liquid</u> @ 35 to 38% solids</li> </ul> | <ul style="list-style-type: none"> <li>water quality impact: generally negligible if the proper buffer zone exists between treated area and water</li> <li>fresh water aquatic impact: may develop at chloride concentrations as low as 400 ppm for trout, up to 10,000 ppm for other fish species</li> <li>plant impact: some species susceptible, such as pine, hemlock, poplar, ash, spruce, and maple</li> <li>potential concerns with spills of liquid concentrate</li> </ul> |

Table 1—Road dust suppressants (continued).

| Dust Suppressant Category                                | Attributes   | Limitations   | Application  | Origin   | Environmental Impact  |
|--|--|---|--|--|---|
| Water Absorbing:<br>Magnesium Chloride<br>(deliquescent) | <ul style="list-style-type: none"> <li>• starts to absorb water from the air at 32% relative humidity independent of temperature</li> <li>• more effective than calcium chloride solutions for increasing surface tension, resulting in a very hard road surface when dry</li> <li>• treated road can be regraded and recompacted with less concern for losing moisture and density</li> </ul> | <ul style="list-style-type: none"> <li>• requires minimum humidity level to absorb moisture from the air</li> <li>• more suitable in drier climates</li> <li>• in concentrated solutions, very corrosive to steel (note: some products may contain a corrosive-inhibiting additive); attracts moisture, thereby prolonging active period for corrosion</li> <li>• rainwater tends to leach out highly soluble chlorides</li> <li>• if high fines content in treated material, the surface may become slippery when wet</li> <li>• effectiveness when less than 20% solution has performance similar to water</li> </ul> | <ul style="list-style-type: none"> <li>• generally 1 - 2 treatments per season</li> <li>• initial application: 28 to 35% residual @ 1.4 to 2.3 L/m<sup>2</sup> (0.30 to 0.5 g/y<sup>2</sup>), typical application is 30% residual concentrate applied undiluted @ 2.3 L/m<sup>2</sup> (0.50 g/y<sup>2</sup>)</li> <li>• follow-up: apply @ 1/2 initial dosage</li> </ul> | <ul style="list-style-type: none"> <li>• occurs naturally as brine (evaporated)</li> </ul>   | <ul style="list-style-type: none"> <li>• water quality impact: generally negligible if the proper buffer zone exists between treated area and water</li> <li>• fresh water aquatic impact: may develop at chloride concentrations as low as 400 ppm for trout, up to 10,000 ppm for other fish species</li> <li>• plant impact: some species susceptible such as pine, hemlock, poplar, ash, spruce, and maple</li> <li>• potential concerns with spills</li> </ul> |
| Water Absorbing:<br>Sodium Chloride<br>(hygroscopic)     | <ul style="list-style-type: none"> <li>• starts to absorb water from the air at 79% relative humidity independent of temperature</li> <li>• increases surface tension slightly less than calcium chloride</li> </ul>   | <ul style="list-style-type: none"> <li>• requires minimum humidity level to absorb moisture from the air</li> <li>• moderately corrosive to steel in dilute solutions</li> <li>• tends not to hold up well as a surface application</li> </ul>  | <ul style="list-style-type: none"> <li>• generally 1 - 2 treatments per season</li> <li>• higher dosages than calcium treatment</li> </ul>   | <ul style="list-style-type: none"> <li>• occurs naturally as rock salt and brines</li> </ul> | <ul style="list-style-type: none"> <li>• same as calcium chloride</li> </ul>  |

Table 1—Road dust suppressants (continued).

| Dust Suppressant Category                | Attributes  | Limitations   | Application  | Origin  | Environmental Impact  |
|--|---|---|--|---|---|
| Organic Petroleum Products               | <ul style="list-style-type: none"> <li>• binds and/or agglomerates surface particles because of asphalt adhesive properties</li> <li>• serves to waterproof the road</li> </ul>   | <ul style="list-style-type: none"> <li>• under dry conditions some products may not maintain resilience</li> <li>• if too many fines in surface and high in asphaltenes, it can form a crust and fragment under traffic and in wet weather</li> <li>• some products are difficult to maintain</li> </ul>  | <ul style="list-style-type: none"> <li>• generally 1 to 2 treatments per season</li> <li>• 0.5 to 4.5 L/m<sup>2</sup> (0.1 to 1 g/y<sup>2</sup>) depending on road surface condition, dilution, and product</li> <li>• the higher viscosity emulsions are used for the more open-graded surface materials</li> <li>• follow-up: apply at reduced initial dosages</li> </ul>  | <ul style="list-style-type: none"> <li>• cutback asphalt: SC-70</li> <li>• Asphalt emulsion: SS-1, SS-1h, CSS-1, or CSS-1h mixed with 5+ parts water by volume</li> <li>• modified asphalt emulsions</li> <li>• emulsified oils</li> <li>• mineral oils</li> </ul>  | <ul style="list-style-type: none"> <li>• wide variety of ingredients in these products</li> <li>• “used” products are toxic</li> <li>• oil in products might be toxic</li> <li>• need product specific analysis</li> <li>• potential concerns with spills and leaching prior to the product “curing”</li> </ul> |
| Organic Nonpetroleum: Lignin Derivatives | <ul style="list-style-type: none"> <li>• binds surface particles together</li> <li>• greatly increases dry strength of material under dry conditions</li> <li>• retains effectiveness during long dry periods with low humidity</li> <li>• with high amounts of clay, it tends to remain slightly plastic permitting reshaping and additional traffic compaction</li> </ul> | <ul style="list-style-type: none"> <li>• may cause corrosion of aluminum and its alloys</li> <li>• surface binding action may be reduced or completely destroyed by heavy rain, due to solubility of solids in water</li> <li>• becomes slippery when wet, brittle when dry</li> <li>• difficult to maintain as a hard surface, but can be done under adequate moisture conditions</li> </ul> | <ul style="list-style-type: none"> <li>• generally 1 to 2 treatments per season</li> <li>• 10 to 25% residual @ 2.3 to 4.5 L/m<sup>2</sup> (0.5 to 1.0 g/y<sup>2</sup>), typical application is 50% residual concentrate applied undiluted @ 2.3 L/m<sup>2</sup> (0.50 g/y<sup>2</sup>) or 50% residual concentrate applied diluted 1:1 w/water @ 4.5 L/m<sup>2</sup> (1.0 g/y<sup>2</sup>)</li> <li>• may be advantageous to apply in two applications</li> <li>• also comes in powdered form that is mixed 1 kg to 840 liters (1 lb to 100 gallons) of water and then sprayed</li> </ul> | <ul style="list-style-type: none"> <li>• water liquor product of sulfite paper making process, contains lignin in solution</li> <li>• composition depends on raw materials (mainly wood pulp) and chemicals used to extract cellulose; active constituent is neutralized lignin sulfuric acid containing sugar</li> </ul> | <ul style="list-style-type: none"> <li>• water quality impacts: none</li> <li>• fresh water aquatic impacts: BOD may be high upon leaching into a small stream</li> <li>• plant impacts: none</li> <li>• potential concern with spills</li> </ul>   |

Table 1—Road dust suppressants (continued).

| Dust Suppressant Category                         | Attributes  | Limitations  | Application   | Origin   | Environmental Impact  |
|---|---|--|---|--|---|
| Organic Nonpetroleum: Molasses/Sugar Beet Extract | <ul style="list-style-type: none"> <li>provides temporary binding of the surface particles</li> </ul>   | <ul style="list-style-type: none"> <li>limited availability</li> </ul>   | <ul style="list-style-type: none"> <li>not researched</li> </ul>  | <ul style="list-style-type: none"> <li>by-product of the sugar beet processing industry</li> </ul>                         | <ul style="list-style-type: none"> <li>water quality impact: unknown</li> <li>fresh water aquatic impact: unknown</li> <li>plant impact: unknown, none expected</li> </ul>  |
| Organic Nonpetroleum: Tall-Oil Derivatives        | <ul style="list-style-type: none"> <li>adheres surface particles together</li> <li>greatly increases dry strength of material under dry conditions</li> </ul> | <ul style="list-style-type: none"> <li>surface binding action may be reduced or completely destroyed by long-term exposure to heavy rain, due to solubility of solids in water</li> <li>difficult to maintain as a hard surface</li> </ul> | <ul style="list-style-type: none"> <li>generally 1 treatment every few years</li> <li>10 to 20% residual solution @ 1.4 to 4.5 L/m<sup>2</sup> (0.3 to 1.0 g/y<sup>2</sup>); typical application is 40 to 50% residual concentrate applied diluted 1:4 w/water @ 2.3 L/m<sup>2</sup> (0.5 gal/y<sup>2</sup>)</li> </ul> | <ul style="list-style-type: none"> <li>distilled product of the kraft (sulfate) paper making process</li> </ul>            | <ul style="list-style-type: none"> <li>water quality impact: unknown</li> <li>fresh water aquatic impact: unknown</li> <li>plant impact: unknown</li> </ul>   |
| Organic Nonpetroleum: Vegetable oils              | <ul style="list-style-type: none"> <li>agglomerates the surface particles</li> </ul>  | <ul style="list-style-type: none"> <li>limited availability</li> <li>oxidizes rapidly, then becomes brittle</li> </ul>   | <ul style="list-style-type: none"> <li>generally 1 treatment per season</li> <li>application rate varies by product, typically 1.1 to 2.3 L/m<sup>2</sup> (0.25 to 0.50 g/y<sup>2</sup>)</li> <li>the warmer the product, the faster the penetration</li> <li>follow-up: apply at reduced initial dosages</li> </ul>    | <ul style="list-style-type: none"> <li>some products: canola oil, soybean oil, cotton seed oil, and linseed oil</li> </ul> | <ul style="list-style-type: none"> <li>water quality impact: unknown</li> <li>fresh water aquatic impact: some products have been tested and have a low impact</li> <li>plant impact: unknown, none expected</li> </ul> |



Table 1—Road dust suppressants (continued).

| Dust Suppressant Category     | Attributes   | Limitations  | Application  | Origin   | Environmental Impact  |
|-------------------------------|--|--|--|--|---|
| Electrochemical Derivatives   | <ul style="list-style-type: none"> <li>changes characteristics of clay-sized particles</li> <li>generally effective regardless of climatic conditions</li> </ul>   | <ul style="list-style-type: none"> <li>performance dependent on fine-clay mineralogy</li> <li>needs time to “set-up,” i.e. react with the clay fraction</li> <li>difficult to maintain if full strengthening reaction occurs</li> <li>limited life span</li> </ul> | <ul style="list-style-type: none"> <li>generally diluted 1 part product to anywhere from 100 to 600 parts water</li> <li>diluted product also used to compact the scarified surface</li> </ul>   | <ul style="list-style-type: none"> <li>typical products: sulfonated oils, ammonium chloride enzymes, ionic products</li> </ul>         | <ul style="list-style-type: none"> <li>need product specific analysis</li> <li>some products are highly acidic in their undiluted form</li> </ul>   |
| Synthetic Polymer Derivatives | <ul style="list-style-type: none"> <li>binds surface particles because of polymer’s adhesive properties</li> </ul>   | <ul style="list-style-type: none"> <li>difficult to maintain as a hard surface</li> </ul>  | <ul style="list-style-type: none"> <li>generally 1 treatment every few years</li> <li>5 to 15% residual solution @ 1.4 to 4.5 L/m<sup>2</sup> (0.3 to 1.0 g/y<sup>2</sup>); typical application is 40 to 50% residual concentrate applied, diluted 1:9 w/water @ 2.3 L/m<sup>2</sup> (0.50 gal/y<sup>2</sup>)</li> </ul> | <ul style="list-style-type: none"> <li>by-product of the adhesive manufacturing process</li> <li>typically 40 to 60% solids</li> </ul> | <ul style="list-style-type: none"> <li>water quality impact: none</li> <li>fresh water aquatic impact: generally low</li> <li>plant impact: none</li> <li>need product specific analysis</li> </ul> |
| Clay Additives                | <ul style="list-style-type: none"> <li>agglomerates with fine dust particles</li> <li>generally increases dry strength of material under dry conditions</li> </ul> | <ul style="list-style-type: none"> <li>if high fines content in treated material, the surface may become slippery when wet</li> </ul>  | <ul style="list-style-type: none"> <li>generally 1 treatment every 5 years</li> <li>typical application rate is at 1 to 3% by dry weight</li> </ul>  | <ul style="list-style-type: none"> <li>mined natural clay deposits</li> </ul>  | <ul style="list-style-type: none"> <li>water quality impact: unknown</li> <li>fresh water aquatic impact: none</li> <li>plant impact: none</li> </ul>   |

Table 2—Suppressant manufacturers.

| Suppressant Category |   | Product Name                      | Manufacturer or Primary Distributor | Phone Number | Web Site                                     |
|----------------------|---|-----------------------------------|-------------------------------------|--------------|--|
| Water Absorbing      | Calcium Chloride                        | Calcium Chloride Liquid           | General Chemical                    | 800-668-0433 | www.genchem.com                              |
|                      |   | Calcium Chloride Flakes           | General Chemical                    | 800-668-0433 | www.genchem.com                              |
|                      |   | Dowflake                          | Dow Chemical                        | 800-447-4369 | www.dowcalciumchloride.com                   |
|                      |   | Liquidow                          | Dow Chemical                        | 800-447-4369 | www.dowcalciumchloride.com                   |
|                      | Magnesium Chloride                      | DustGard                          | IMC Salt                            | 913-344-9334 |  |
|                      |   | Dust-Off                          | Cargill Salt Division               | 800-553-7879 |  |
|                      |   | Chlor-tex                         | Soil-Tech                           | 702-873-2023 | www.soil-tech.com                            |
|                      | Blend of Calcium and Magnesium Chloride | Dust Fyghter                      | Midwestern Industrial Supply, Inc.  | 800-321-0699 | www.midwestind.com                           |
|                      | Sodium Chloride                         | Morton Salt                       | Morton International                | 312-807-2000 |  |
|                      |   | IMC Salt                          | IMC Salt                            | 800-323-1641 |  |
| Organic Petroleum    | Asphalt Emulsion                        | CSS-1                             | Any major asphalt supplier          |              |  |
|                      | Cutback                                 | MC-70                             | Any major asphalt supplier          |              |  |
|                      | Dust Oil/Dust Fluids                    | Fuel Oil                          | Pacific Northern Industrial Fuels   | 206-282-4421 |  |
|                      |   | Duo Prime Oil                     | Lyondell Petrochemical Co.          | 800-423-8434 | (white mineral oil)                          |
|                      |   | EnviroKleen                       | Midwestern Industrial Supply, Inc.  | 800-321-0699 | www.midwestind.com<br>(synthetic iso-alkane) |
|                      | Modified Asphalt Emulsion               | Asphotac                          | Actin                               | 219-397-5020 |  |
|                      |   | Coherex                           | Witco Corp.                         | 800-494-8287 | www.witco.com                                |
|                      |   | DOPE-30                           | Morgan Emultech, Inc.               | 530-241-1364 |  |
|                      |   | PennzSuppress-D                   | Pennzoil-Quaker State Co.           | 713-546-4000 | www.pennzsuppress.com                        |
|                      |   | Penetrating Emulsion Primer (PEP) | Koch Asphalt Co.                    | 909-829-0505 | www.kochmaterials.com                        |
|                      |   | Petro Tac                         | Syntech Products, Inc.              | 800-537-0288 | www.syntechproducts.com                      |
|                      |   | Road Pro                          | Midwestern Industrial Supply, Inc.  | 800-321-0699 | www.midwestind.com                           |
|                      | Sandstill                               | Energy Systems Associates, Inc.   | 703-503-7873                        |              |  |
| Organic Nonpetroleum | Lignosulfonate                          | DC-22                             | Dallas Roadway Products, Inc.       | 800-317-1968 | www.dallasroadway.com                        |
|                      |   | Dustac                            | Georgia Pacific West, Inc.          | 360-733-4410 | (was Lignosite)                              |
|                      |   | Dustac-100                        | Georgia Pacific West, Inc.          | 360-733-4410 | www.gp.com/chemical/<br>lignosulfonate       |
|                      |   | CalBinder                         | California-Fresno Oil Co.           | 209-486-0220 | www.calfresno.com                            |
|                      |   | Polybinder                        | Jim Good Marketing                  | 805-746-3783 |  |
|                      |   | RB Ultra Plus                     | Roadbind America Inc.               | 888-488-4273 | www.roadbind.com                             |

Table 2—Suppressant manufacturers (continued).

| Suppressant Category    | Product Name                | Manufacturer or Primary Distributor | Phone Number  | Web Site                        |   |                   |
|-------------------------|-----------------------------|-------------------------------------|---|---------------------------------|---|-------------------|
|                         | Molassas/Sugar Beet         | Dust Down                           | Amalgamated Sugar Co.                                     | 208-733-4104                    |   |                   |
|                         | Tall Oil Emulsion           | Dust Control E                      | Pacific Chemicals, Inc./<br>Lyman Dust Control            | 604-828-0218 or<br>800-952-6457 |   |                   |
|                         |                             | Dustrol EX                          | Pacific Chemicals, Inc /<br>Lyman Dust Control            | 604-828-0218 or<br>800-952-6457 |   |                   |
|                         |                             | Road Oyl                            | Soil Stabilization Products Co., Inc.                     | 800-523-9992                    | www.sspco.org                             |                   |
|                         | Vegetable Oils              | Soapstock                           | Kansas Soybean Association<br>Indiana Soybean Association | 800-328-7390<br>800-735-0195    |   |                   |
|                         |                             | Dust Control Agent SS               | Greenland Corp.   | 888-682-6040                    |   |                   |
| Electro-chemical        | Enzymes                     | Bio Cat 300-1                       | Soil Stabilization Products Co., Inc.                     | 800-523-9992                    | www.sspco.org                             |                   |
|                         |                             | EMCSQUARED                          | Soil Stabilization Products Co., Inc.                     | 800-523-9992                    | www.sspco.org                             |                   |
|                         |                             | Perma-Zyme 11X                      | The Charbon Group, Inc.                                   | 714-593-1034                    | www.natural-industrial.com                |                   |
|                         |                             | UBIX No. 0010                       | Enzymes Plus, Div of Anderson<br>Affiliates               | 800-444-7741                    |   |                   |
|                         | Ionic                       | Road Bond EN-1                      | C.S.S. Technology, Inc.                                   | 800-541-3348                    | www.csstech.com                           |                   |
|                         |                             | Terrastone                          | Moorhead Group  | 831-685-1148                    | www.terrastone.com                        |                   |
|                         | Sulfonated Oils             | CBR Plus                            | CBR Plus, Inc. (Canada)                                   | 604-684-8072                    | www.cbrplus.com                           |                   |
|                         |                             | Condor SS                           | Earth Sciences Products Corp.                             | 503-678-1216                    | www.earthscienceproducts.com              |                   |
|                         |                             | SA-44 System                        | Dallas Roadway Products, Inc.                             | 800-317-1968                    | www.dallasroadway.com                     |                   |
|                         |                             | Settler                             | Mantex  | 800-527-9919                    |   |                   |
|                         |                             | TerraBond Clay Stabilizer           | Fluid Sciences, LLC                                       | 888-356-7847 or<br>318-264-9448 | www.fluidsciences.com                     |                   |
|                         | Synthetic Polymer Emulsions | Polyvinyl Acetate                   | Aerospray 70A   | Cytec Industries                | 800-835-9844                              | www.cytec.com     |
|                         |                             |                                     | Soil Master WR  | Enviromental Soil Systems, Inc. | 800-368-4115                              |                   |
|                         |                             | Vinyl Acrylic                       | Earthbound L  | Earth Chem Inc.                 | 970-223-4998                              | www.earthchem.com |
| ECO-110                 |                             |                                     | Chem-crete  | 972-234-8565                    | www.chem-crete.com/<br>soilstabilizer.htm |                   |
| PolyPavement            |                             |                                     | PolyPavement Company                                      | 323-954-2240                    | www.polypavement.com                      |                   |
| Liquid Dust Control     |                             |                                     | Enviroseal Corp.  | 561-969-0400                    | www.enviroseal.com                        |                   |
| Marloc                  |                             |                                     | Reclamare Co.   | 206-824-2385                    |   |                   |
| Soiloc-D                |                             |                                     | Hercules Soiloc   | 800-815-7668                    |   |                   |
| Soil Seal               |                             |                                     | Soil Stabilization Products Co., Inc.                     | 800-523-9992                    | www.sspco.org                             |                   |
| Soil Sement             |                             |                                     | Midwestern Industrial Supply, Inc.                        | 800-321-0699                    | www.midwestind.com                        |                   |
| TerraBond PolySeal      |                             | Fluid Sciences, LLC                 | 888-356-7847  | www.fluidsciences.com           |   |                   |
| Combination of Polymers | Top Shield                  | Base Seal International, Inc.       | 800-729-6985  | www.baseseal.com                |   |                   |

Table 2—Suppressant manufacturers (continued).

| Suppressant Category |                 | Product Name             | Manufacturer or Primary Distributor      | Phone Number                    | Web Site        |
|----------------------|-----------------|--------------------------|--|---------------------------------|-----------------|
| Clay Additives       | Bentonite       | Central Oregon Bentonite | Central Oregon Bentonite                 | 541-477-3351                    |                 |
|                      |                 | Pelbon                   | American Colloid Co.                     | 800-426-5564 or<br>847-392-4600 | www.colloid.com |
|                      |                 | Volclay                  | American Colloid Co.                     | 708-392-4600                    | www.colloid.com |
|                      | Montmorillonite | Stabilite                | Soil Stabilization Products Co.,<br>Inc. | 800-523-9992                    | www.sspco.org   |

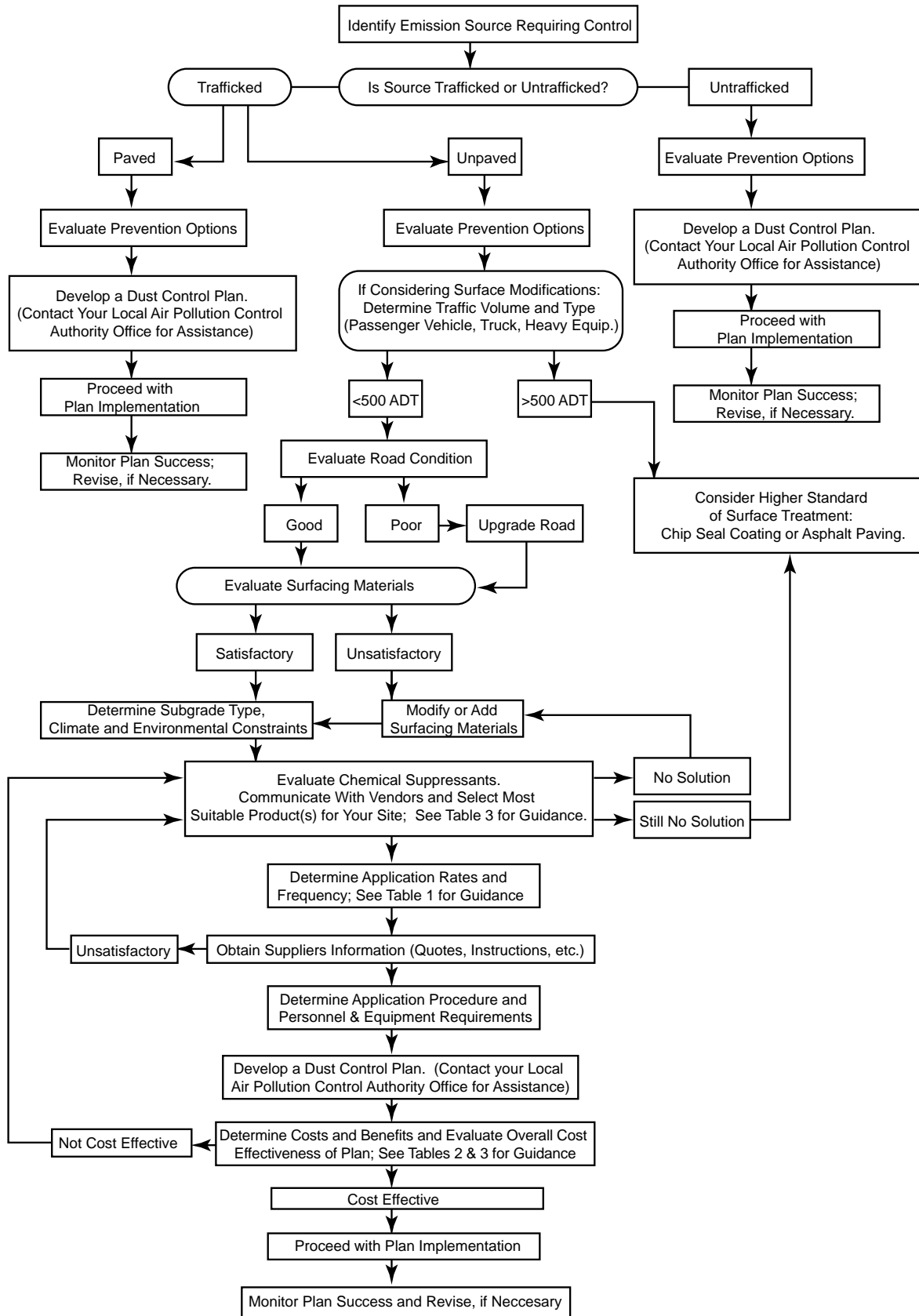


Figure 1—Guidelines for cost-effective selection and use of dust palliatives.

Table 3—Product selection chart.

| Dust Palliative       | Traffic Volumes, Average Daily Traffic |                         |                      | Surface Material |     |           |                                      |      |           |          |            | Climate During Traffic |                |            |
|-----------------------|--|-------------------------|----------------------|------------------|-----|-----------|--------------------------------------|------|-----------|----------|------------|------------------------|----------------|------------|
|                       | Light<br><100                          | Medium<br>100 to<br>250 | Heavy<br>>250<br>(1) | Plasticity Index |     |           | Fines (Passing 75µm, No. 200, Sieve) |      |           |          |            | Wet<br>&/or<br>Rainy   | Damp<br>to Dry | Dry<br>(2) |
|                       |  |                         |                      | <3               | 3–8 | >8        | <5                                   | 5–10 | 10–20     | 20–30    | >30        |                        |                |            |
| Calcium Chloride      | ✓✓                                     | ✓✓                      | ✓                    | ✗                | ✓   | ✓✓        | ✗                                    | ✓    | ✓✓        | ✓        | ✗<br>(3)   | ✗<br>(3,4)             | ✓✓             | ✗          |
| Magnesium Chloride    | ✓✓                                     | ✓✓                      | ✓                    | ✗                | ✓   | ✓✓        | ✗                                    | ✓    | ✓✓        | ✓        | ✗<br>(3)   | ✗<br>(3,4)             | ✓✓             | ✓          |
| Petroleum             | ✓                                      | ✓                       | ✓                    | ✓✓               | ✓   | ✗         | ✓<br>(5)                             | ✓    | ✓         | ✗<br>(6) | ✗          | ✓<br>(3)               | ✓✓             | ✓          |
| Lignin                | ✓✓                                     | ✓✓                      | ✓                    | ✗                | ✓   | ✓✓<br>(6) | ✗                                    | ✓    | ✓✓        | ✓✓       | ✓<br>(3,6) | ✗<br>(4)               | ✓✓             | ✓✓         |
| Tall Oil              | ✓✓                                     | ✓                       | ✗                    | ✓✓               | ✓   | ✗         | ✗                                    | ✓    | ✓✓<br>(6) | ✓<br>(6) | ✗          | ✓                      | ✓✓             | ✓✓         |
| Vegetable Oils        | ✓                                      | ✗                       | ✗                    | ✓                | ✓   | ✓         | ✗                                    | ✓    | ✓         | ✗        | ✗          | ✗                      | ✓              | ✓          |
| Electro-chemical      | ✓✓                                     | ✓                       | ✓                    | ✗                | ✓   | ✓✓        | ✗                                    | ✓    | ✓✓        | ✓✓       | ✓✓         | ✓<br>(3,4)             | ✓              | ✓          |
| Synthetic Polymers    | ✓✓                                     | ✓                       | ✗                    | ✓✓               | ✓   | ✗         | ✗                                    | ✓✓   | ✓✓<br>(6) | ✗        | ✗          | ✓                      | ✓✓             | ✓✓         |
| Clay Additives<br>(6) | ✓✓                                     | ✓                       | ✗                    | ✓✓               | ✓✓  | ✓         | ✓✓                                   | ✓    | ✓         | ✗        | ✗          | ✗<br>(3)               | ✓              | ✓✓         |

Legend

✓✓ = Good    ✓ = Fair    ✗ = Poor

Notes:

- (1) May require higher or more frequent application rates, especially with high truck volumes
- (2) Greater than 20 days with less than 40% relative humidity
- (3) May become slippery in wet weather
- (4) SS-1 or CSS-1 with only clean, open-graded aggregate
- (6) Road mix for best results

Forest \_\_\_\_\_ Date \_\_\_\_\_

Road Name \_\_\_\_\_ Estimated ADT \_\_\_\_\_

Road Number \_\_\_\_\_ Average Road Width \_\_\_\_\_

Project Location From \_\_\_\_\_ To \_\_\_\_\_ Length \_\_\_\_\_

Dust Palliative Product \_\_\_\_\_ First Application Rate \_\_\_\_\_

Second Application Rate \_\_\_\_\_

| Item  | Total Cost | Cost/km |
|---|------------|---------|
| A. Road Improvement Costs <ul style="list-style-type: none"> <li>• Drainage improvements</li> <li>• Geometric improvements</li> <li>• Repair of failed areas</li> <li>• Addition of gravel surfacing</li> </ul> |            |         |
| B. Surface Preparation Costs <ul style="list-style-type: none"> <li>• Addition of select material (fines, etc.)</li> <li>• Break up and loosen, watering, shaping, compacting</li> </ul>                        |            |         |
| C. Product Supply and Application Cost <ul style="list-style-type: none"> <li>• Material supply</li> <li>• Diluting with water (if necessary)</li> <li>• Transportation &amp; application</li> </ul>            |            |         |
| D. Miscellaneous Costs <ul style="list-style-type: none"> <li>• Traffic control, detours</li> <li>• Inspection, supervision</li> <li>• Other costs</li> </ul>   |            |         |
| TOTAL COST OF PROGRAM   |            |         |
| COST EXCLUDING ITEM "A" ABOVE   |            |         |

Figure 2—Cost record for dust control programs.

Forest \_\_\_\_\_ Date \_\_\_\_\_

Road Name \_\_\_\_\_ Estimated ADT \_\_\_\_\_

Road Number \_\_\_\_\_ Average Road Width \_\_\_\_\_

Project Location From \_\_\_\_\_ To \_\_\_\_\_ Length \_\_\_\_\_

Dust Palliative Product \_\_\_\_\_ First Application Rate \_\_\_\_\_

Second Application Rate \_\_\_\_\_

| Benefits  | Estimated Savings per Year |
|---|----------------------------|
| <p>A. Reduced Maintenance costs</p> <ul style="list-style-type: none"> <li>• Estimate 25 to 75% savings over previous blading costs. Use local figures, if available.</li> </ul>  |                            |
| <p>B. Reduced Regravelling</p> <ul style="list-style-type: none"> <li>• Estimate based on traffic volume and climate. Use local figures, if available.</li> </ul>   |                            |
| <p>C. Other (intangible)</p> <ul style="list-style-type: none"> <li>• Reduced vehicle accidents</li> <li>• Reduced vehicle damage</li> <li>• Higher quality of life and property values</li> <li>• Reduced cleaning costs</li> <li>• Reduced dust induced respiratory problems</li> <li>• Reduced sedimentation in water bodies</li> <li>• Reduced impact on dust sensitive vegetation</li> <li>• Reduced complaints from public</li> </ul> |                            |
| <p><b>TOTAL TANGIBLE BENEFITS OF PROGRAM</b></p>  |                            |

Figure 3—Benefits of dust control programs.



## **SUPPRESSANT APPLICATION TIPS**

Once a suitable product is selected, the next step is to determine the appropriate application rate and frequency. Table 1 lists broad ranges of application rates for various products and can be used as a guideline. Manufacturer's literature, past experience, and field or laboratory test plots over a square meter (1 square yard) can also be used to help determine the appropriate application rate.

Generally, higher application rates or increased frequency is required when the following conditions are present:

- High traffic volumes with high speeds and a larger percentage of truck traffic
- Low humidity conditions, especially when using calcium chloride
- Low fines content in road surface, typically when there is less than 10 percent passing through the 75 µm (No. 200) sieve
- Poorly bladed surface and/or loose wearing surface.

### **General Application Tips**

The performance of any dust suppressant is related to many application factors. Application method, rate, frequency, and product concentration are a few of these factors. A stable, tight surface that readily sheds surface water is another. If properly applied and constructed, a longer life and higher level of service can be expected from the dust abatement efforts (Foley et al. 1996; UMA 1987; Washington Dept. of Ecology 1996; Giummarra, Foley, and Cropley 1997). Since dust suppression and road maintenance efforts are usually combined, it is prudent to include the following practices in the maintenance and rehabilitation of road surfaces prior to applying a dust palliative:

- Repair unstable surfacing and/or subgrade areas
- Adequately drain (crown and crossfall) the road surface
- Remove boney (poorly graded) surface material
- Grade sufficient depth of roadway to remove ruts, potholes, and erosion gullies

- Compact the roadway (depending on treatment and sequence of operations).

Maximum benefits can also be achieved by adequate penetration of the liquid dust suppressant. This penetration should be on the order of 10 to 20 millimeters (3/8 to 3/4 inches). Proper penetration mitigates loss of the palliative resulting from surface wear. Adequate penetration also resists leaching, imparts cohesion, and resists aging (Langdon 1980).

Application tips that apply to all liquid dust suppressant products include:

- Apply suppressants, especially salts, immediately following the wet season.
- If possible, apply after rain so materials are moister (aids mixing) and more workable. If applied just before a rain, the material may wash away.
- Adhere to manufacturers' recommendations on minimum application rate, compaction and curing time prior to allowing traffic.
- If the surface material is dry, dampen, except when using cut-back asphalt products.
- If a hard crust is present, break up and loosen the surface.
- Use a pressure distributor to uniformly distribute the dust suppressant.
- Ensure that the necessary "residual" of the product is obtained. The residual is the amount of product that remains after the evaporation of water from the concentrate, as well as that used to dilute the product prior to application. The residual (sometimes called solids or binder) is the portion of the product that is responsible for the binding and/or agglomeration of the particles.

### **Water Application Tips**

Regular, light watering is more effective than less frequent, heavy watering.

### **Chloride Application Tips**

Light compaction is recommended after a chloride brine application.

### **Petroleum Application Tips**

Soil type and density greatly affect the rate and amount of penetration. In all instances, it is desirable to attain a 12 to 25 millimeter (1/2 to 1 inch) penetration. Most products (with the exception of SS- and CSS-1) will penetrate and coat most soils if they have been loosened by scarification. For surfaces which have not been scarified, only those products with low viscosities will penetrate.

### **Organic Nonpetroleum Application Tips**

Remove loose material prior to application unless the road surface will be mixed and/or compacted after the spray application. When applying vegetable oils, the top 25 to 50 millimeter (1 to 2 inches) of the surface should be loose to improve penetration.

### **Electrochemical Application Tips**

Typically these products are mixed into the road surface.

### **Polymer Application Tips**

Light compaction is recommended after a polymer application, unless the polymer is mixed into the road surface.

### **Clay Additive Application Tips**

Ensure that the clay and the associated water used for compaction is uniformly distributed throughout the surface material. This method requires a minimum of 8 passes with a motor-grader or use of a cross-shaft rotary mixer.

All dust suppressants have a limited lifespan and require regular applications to satisfactorily control dust on a long-term basis. Subsequent applications should be made if and when dust levels exceed acceptable levels. These subsequent applications may be lighter than the initial application.

## **ENVIRONMENTAL IMPACTS**

Any suppressant ingredient may migrate due to carelessness in application, run-off, leaching, dust particle migration, or adhesion to vehicles. Carefully review the product literature, Material Safety Data Sheet, and manufacturer's instructions before purchase and use. Observe all safety

precautions and follow manufacturer's directions when handling, mixing, and applying dust suppressants. Application of all dust suppressants must comply with federal, state, and local laws and regulations. These vary by locality and need to be checked prior to implementing the dust abatement program.

The primary environmental concern with dust palliatives is how they impact the groundwater quality, freshwater aquatic environment, and plant community. Take all necessary precautions to keep dust palliative material out of water drainages and roadway ditches leading to streams.

The impact of dust palliatives on groundwater quality is based on how the suppressant migrates to the local groundwater table in conjunction with the chemicals used in the suppressant. Chemical analysis of the suppressant will assist in determining if harmful constituents are present. Knowing the depth to groundwater and the permeability of the native soil will assist in determining how and if the chemicals will leach to the groundwater table. A direct way to evaluate the contamination of harmful constituents to the groundwater is to conduct water quality sampling of the surrounding area before and after dust palliative application.

The impact of dust palliatives on the freshwater aquatic environment is measured by both the toxicity to fish and the availability of oxygen. Each state sets its own standards and they may vary by watershed and the type and age of the fish population. The test to determine toxicity is the LC50 test and the test to determine available oxygen is the BOD (Biochemical Oxygen Demand) test. The LC50 test measures the lethal concentration (LC) of product, expressed in parts per million (ppm), that will produce a 50 percent mortality rate in the test group in 96 hours. The larger the concentration, the less toxic the material. Typically, less than 100 ppm is considered toxic, 1,000 ppm is considered practically nontoxic, and greater than 10,000 ppm is considered nontoxic. The BOD test measures the oxygen used by microbes as it digests (feeds on) the product in water. Typically, the products that are derived from organic nonpetroleum suppressants are the most likely to have high BOD results.

There are no standard tests for measuring how dust palliatives impact the plant community; however, some tests have been performed that simply observe the impact on plant life.

Addo and Sanders (1995) summarize a number of environmental impact studies on the use of various chlorides on water quality, plants, and animals. Heffner (1997) updates the work by Schwendeman (1981) concerning the environmental impacts of some of the most common dust palliatives used by the Forest Service. Based on their efforts, the following is recommended when using these palliatives once or twice a year at their typical application rates:

Lignosulfonate - Determine prior to application if significant migration (water drainage) might occur from the treated area into local streams, ponds, and lakes. Ensure that migration will not impact the oxygen needs of the aquatic community.

Calcium and Magnesium Chlorides - Restrict the use of chlorides within 8 meters (25 feet) of a body of water. In areas of shallow groundwater, determine if significant migration of the chloride would reach the groundwater table. Restrict the use of chlorides if low salt tolerant vegetation is within 8 meters (25 feet) of the treated area. Typical low-tolerant vegetation includes various varieties of alder, hemlock, larch, maple, ornamentals, and pine.

Evaluations of other dust palliatives have not been made. If there is concern regarding the impact of a dust palliative on the environment, then, as a minimum, the LC50 and BOD tests should be performed. Results can be used to estimate the potential impact of the dust palliative in question on the local aquatic and plant communities.

## **PAST FIELD OR LABORATORY STUDY REFERENCES**

Gifford Pinchot National Forest Study (1988)

*"Dust Abatement Review and Recommendation,"* by Marjorie Apodaca and Don Huffmon (internal report).

Lolo National Forest Study (1992)

*"Dust Abatement Product Comparisons in the Northern Region,"* by Steve Monlux, Engineering Field Notes, Volume 26, May–June, 1993.

Fremont National Forest Study (1991)

*"Asphotac, A Demonstration of a Dust Palliative,"* by Joe Acosta, Jim Bassel, and John Crumrine (internal report).

Larimer County, Colorado Study (1995)

*"Effectiveness and Environmental Impact of Road Dust Suppressants,"* by Jonathan Addo and Thomas Sanders, Department of Civil Engineering, Colorado State University, Report No. 95-28A, March 1995.

Forest Service Region Six Laboratory Study (1999)

*"Laboratory Testing of Nontraditional Additives for Dust Abatement and Stabilization of Roads and Trails,"* by Peter Bolander, Transportation Research Board, Proceedings of the 7th International Conference on Low Volume Roads, TRR No. 1652, Volume 2, May 1999.

US Army Corps of Engineers Waterways Experiment Station (WES-1993)

*"Evaluation of Methods for Controlling Dust,"* by Richard Grau, Technical Report No. GL-93-25, September 1993.

US Army Corps of Engineers Construction Engineering Research Laboratory (1997)

*"Effectiveness of Dust Control Agents Applied to Tank Trails and Helicopter Landing Zones,"* by Dick Gebhart and Thomas Hale, Technical Report 97/69, April 1997.

## **ONGOING FIELD OR LABORATORY STUDIES**

Council for Scientific and Industrial Research (CSIR), South Africa

*"Holistic Approach to Research into Dust and Dust Control on Unsealed Roads,"* by David Jones, Transportation Research Board, Proceedings of the 7th International Conference on Low Volume Roads, TRR No. 1652, Volume 2, May 1999.

Environmental Technology Evaluation Center (EvTEC), Highway Innovative Technology Evaluation Center, Civil Engineering Research Foundation, Washington, D.C.

*"Dust Control/Road Stabilization Agents" (ongoing study).*

## LITERATURE CITED

- Addo, J., and T. Sanders. 1995. *Effectiveness and Environmental Impact of Road Dust Suppressants*, Mountain-Plains Consortium, Colorado State University, MPC Report No. 92-28A.
- Bolander, P. 1999. "Laboratory Testing of Nontraditional Additives for Dust Abatement and Stabilization of Roads and Trails," Transportation Research Board, *Proceedings from the Seventh International Conference on Low-Volume Roads*, Transportation Research Record No. 1652, Volume 2, Washington D.C.
- Bolander, P. 1997. "Chemical Additives for Dust Control—What We Have Used and What We Have Learned." In *Variable tire pressure, flowable fill, dust control, and base and slope stabilization*, Transportation Research Board, Transportation Research Record No. 1589, Washington D.C.
- Foley G., S. Cropley, and G. Giummarra. 1996. *Road Dust Control Techniques—Evaluation of Chemical Dust Suppressants' Performance*, ARRB Transport Research Ltd., Special Report 54, Victoria, Australia.
- Giummarra, G., G. Foley, and S. Cropley. 1997. "Dust Control—Australian Experiences with Various Chemical Additives," In *Variable tire pressure, flowable fill, dust control, and base and slope stabilization*, Transportation Research Board, Transportation Research Record No. 1589, Washington D.C.
- Han, C. 1992. *Dust Control on Unpaved Roads*, Minnesota Local Roads Research Board (LRRB), Report No. MN/RC-92/07.
- Heffner, K. 1997. *Water Quality Effects of Three Dust-Abatement Compounds*, USDA Forest Service Engineering Field Notes, Volume 29.
- Langdon, B. 1992. *An Evaluation of Dust Abatement Materials Used in Region 6*, Transportation Research Institute, Civil Engineering Department, Oregon State University, Research Report 80-3.
- Langdon, B., G. Hicks, and R. Williamson. 1980. *A Guide for Selecting and Using Dust Palliatives*, Transportation Research Institute, Civil Engineering Department, Oregon State University, Research Report 80-13.
- Lund, J. 1973. *Surfacing Loss Study*, unpublished, USDA Forest Service, Portland, Oregon.
- Scholen, D.E. 1992. *Non-Standard Stabilizers*, Federal Highway Administration, FHWA-FLP-92-011, Washington D.C.
- Schwendeman, T. 1981. *Dust Control Study—Part 2—Dust Palliative Evaluation*, USDA Forest Service, Gallatin National Forest.
- Transportation Technical Assistance Office of the University of Missouri-Rolla. 1986. *Operating Tips - Road Dust Suppressants*, Northwest Technology Transfer Center, Olympia, Washington.
- UMA Engineering Ltd. 1987. *Guidelines for Cost Effective Use and Application of Dust Palliatives*, Roads and Transportation Association of Canada, Ottawa, Canada.
- Washington Department of Ecology. 1996. *Techniques for Dust Prevention and Suppression*, Washington Department of Ecology Fact Sheet, Publication No. 96-433.

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### **Pete Bolander**

Pete graduated from Michigan State University with a degree in civil engineering. He has a master's degree in soil mechanics and foundation engineering from Oregon State University. Pete began his career with the Forest Service as a geotechnical engineer on the Willamette NF. After 10 years on the Willamette, Pete moved to the Pacific Northwest Regional Office (Region 6) in Portland, OR as the Regional Pavement Engineer.

### **Alan Yamada**

Alan graduated from the University of Hawaii with a Bachelor of Science in Civil Engineering and is a licensed Professional Engineer in the State of Oregon. He served as a Zone Engineer in Region 2 and on the construction team for the Coldwater Visitor Center and the Johnston Ridge Observatory within the Mount St. Helens National Volcanic Monument in Region 6. Alan joined the Center in December 1996 and serves as a project leader supporting the Engineering Program.

### **Library Card**

Bolander, Peter, ed. 1999. Dust palliative selection and application guide. Project Report. 9977-1207-SDTDC. San Dimas, CA: U.S. Department of Agriculture, Forest Service, San Dimas Technology and Development Center. 20 p.

This publication helps practitioners understand and correctly choose and apply the dust palliative that is appropriate for their particular site, traffic conditions, and climate. Describes the expected performance, limitations, and potential environmental impacts of various palliatives. It is recommended that this guide be used as a starting point for determining which palliative would be most appropriate for a given situation.

Keywords: dust abatement, palliatives, suppressants

### **Additional single copies of this document may be ordered from:**

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# Appendix B

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## Emissions Calculation Sheets

**Emissions Total Summary**

| <b>Phase 1 Construction</b>             |             |            |                 |                 |                  |                   |                        |
|---|-------------|------------|-----------------|-----------------|------------------|-------------------|------------------------|
| <b>Maximum Daily Emissions (pounds)</b> |             |            |                 |                 |                  |                   |                        |
| Source                                  | ROG         | CO         | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>        |
| Demolition Site Prep and Grading        | 16.141      | 15.798     | 20.900          | 0.003           | 4.321            | 2.459             | 3107.697               |
| <b>San Diego County Screening Level</b> | <b>75</b>   | <b>550</b> | <b>250</b>      | <b>250</b>      | <b>100</b>       | <b>55</b>         | -                      |
| <b>Average Annual Emissions (tons)</b>  |             |            |                 |                 |                  |                   |                        |
| Source                                  | ROG         | CO         | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub> e (MT) |
| Demolition Site Prep and Grading        | 0.786       | 0.447      | 0.643           | 0.001           | 0.108            | 0.063             | 91.596                 |
| <b>San Diego County Screening Level</b> | <b>13.7</b> | <b>100</b> | <b>40</b>       | <b>40</b>       | <b>15</b>        | <b>10</b>         | -                      |

| <b>Phase 1</b>                          |             |             |                 |                 |                  |                   |                        |
|---|-------------|-------------|-----------------|-----------------|------------------|-------------------|------------------------|
| <b>Maximum Daily Emissions (pounds)</b> |             |             |                 |                 |                  |                   |                        |
| Source                                  | ROG         | CO          | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>        |
| Off-Road Equipment Exhaust              | 1.8         | 11.3        | 16.0            | 0.0             | 0.6              | 0.6               | 4330.9                 |
| Mining and Processing Dust              | 0.0         | 0.0         | 0.0             | 0.0             | 79.2             | 15.2              | 0                      |
| On-Road Mobile Emissions                | 0.5         | 6.9         | 19.9            | 0.1             | 2.9              | 0.9               | 10090.6                |
| Phase 2 Construction                    | 1.2         | 10.3        | 11.1            | 0.0             | 0.7              | 0.5               | 2077.7                 |
| <b>Total</b>                            | <b>3.5</b>  | <b>28.5</b> | <b>47.0</b>     | <b>0.1</b>      | <b>83.4</b>      | <b>17.2</b>       | <b>16499.22</b>        |
| <b>San Diego County Screening Level</b> | <b>75</b>   | <b>550</b>  | <b>250</b>      | <b>250</b>      | <b>100</b>       | <b>55</b>         | -                      |
| <b>Average Annual Emissions (tons)</b>  |             |             |                 |                 |                  |                   |                        |
| Source                                  | ROG         | CO          | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub> e (MT) |
| Off-Road Equipment Exhaust              | 0.196       | 1.240       | 1.794           | 0.004           | 0.068            | 0.063             | 424.6                  |
| Mining and Processing Dust              | 0           | 0           | 0               | 0               | 9.935            | 1.913             | 0                      |
| On-Road Mobile Emissions                | 0.060       | 0.882       | 2.572           | 0.011           | 0.369            | 0.115             | 1188.0                 |
| Electricity                             | 0           | 0           | 0               | 0               | 0                | 0                 | 186.1                  |
| Solid Waste                             | 0           | 0           | 0               | 0               | 0                | 0                 | 4.8                    |
| <b>Total</b>                            | <b>0.26</b> | <b>2.12</b> | <b>4.37</b>     | <b>0.02</b>     | <b>10.37</b>     | <b>2.09</b>       | <b>1803.6</b>          |
| <b>San Diego County Screening Level</b> | <b>13.7</b> | <b>100</b>  | <b>40</b>       | <b>40</b>       | <b>15</b>        | <b>10</b>         | -                      |

| <b>Phase 2</b>                          |             |             |                 |                 |                  |                   |                        |
|---|-------------|-------------|-----------------|-----------------|------------------|-------------------|------------------------|
| <b>Maximum Daily Emissions (pounds)</b> |             |             |                 |                 |                  |                   |                        |
| Source                                  | ROG         | CO          | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>        |
| Off-Road Equipment Exhaust              | 1.8         | 11.3        | 16.0            | 0.0             | 0.6              | 0.6               | 4330.9                 |
| Mining and Processing Dust              | 0.0         | 0.0         | 0.0             | 0.0             | 79.2             | 15.2              | 0                      |
| On-Road Mobile Emissions                | 0.4         | 6.9         | 19.4            | 0.1             | 2.9              | 0.9               | 9710.7                 |
| Phase 3 Construction                    | 1.1         | 10.3        | 10.8            | 0.0             | 1.2              | 0.6               | 2346.3                 |
| <b>Total</b>                            | <b>3.4</b>  | <b>28.5</b> | <b>46.2</b>     | <b>0.1</b>      | <b>83.8</b>      | <b>17.3</b>       | <b>16387.9</b>         |
| <b>San Diego County Screening Level</b> | <b>75</b>   | <b>550</b>  | <b>250</b>      | <b>250</b>      | <b>100</b>       | <b>55</b>         | -                      |
| <b>Average Annual Emissions (tons)</b>  |             |             |                 |                 |                  |                   |                        |
| Source                                  | ROG         | CO          | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub> e (MT) |
| Off-Road Equipment Exhaust              | 0.196       | 1.240       | 1.794           | 0.004           | 0.068            | 0.063             | 424.6                  |
| Mining and Processing Dust              | 0           | 0           | 0               | 0               | 9.935            | 1.913             | 0                      |
| On-Road Mobile Emissions                | 0.056       | 0.898       | 2.406           | 0.010           | 0.020            | 0.368             | 1143.3                 |
| Electricity                             | 0           | 0           | 0               | 0               | 0                | 0                 | 186.1                  |
| Solid Waste                             | 0           | 0           | 0               | 0               | 0                | 0                 | 4.8                    |
| <b>Total</b>                            | <b>0.25</b> | <b>2.14</b> | <b>4.20</b>     | <b>0.01</b>     | <b>10.02</b>     | <b>2.34</b>       | <b>1758.8</b>          |
| <b>San Diego County Screening Level</b> | <b>13.7</b> | <b>100</b>  | <b>40</b>       | <b>40</b>       | <b>15</b>        | <b>10</b>         | -                      |

| <b>Phase 3</b>                          |             |             |                 |                 |                  |                   |                        |
|---|-------------|-------------|-----------------|-----------------|------------------|-------------------|------------------------|
| <b>Maximum Daily Emissions (pounds)</b> |             |             |                 |                 |                  |                   |                        |
| Source                                  | ROG         | CO          | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>        |
| Off-Road Equipment Exhaust              | 1.8         | 11.3        | 16.0            | 0.0             | 0.6              | 0.6               | 4330.937               |
| Mining and Processing Dust              | 0.0         | 0.0         | 0.0             | 0.0             | 79.2             | 15.2              | 0                      |
| On-Road Mobile Emissions                | 0.8         | 9.9         | 23.3            | 0.1             | 2.7              | 0.8               | 0.77                   |
| <b>Total</b>                            | <b>2.5</b>  | <b>21.2</b> | <b>39.3</b>     | <b>0.1</b>      | <b>82.5</b>      | <b>16.6</b>       | <b>4331.7</b>          |
| <b>San Diego County Screening Level</b> | <b>75</b>   | <b>550</b>  | <b>250</b>      | <b>250</b>      | <b>100</b>       | <b>55</b>         | -                      |
| <b>Average Annual Emissions (tons)</b>  |             |             |                 |                 |                  |                   |                        |
| Source                                  | ROG         | CO          | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub> e (MT) |
| Off-Road Equipment Exhaust              | 0.196       | 1.240       | 1.794           | 0.004           | 0.068            | 0.063             | 424.6                  |
| Mining and Processing Dust              | 0           | 0           | 0               | 0               | 9.935            | 1.913             | 0                      |
| On-Road Mobile Emissions                | 0.056       | 0.898       | 2.406           | 0.010           | 0.020            | 0.368             | 1069.4                 |
| Electricity                             | 0           | 0           | 0               | 0               | 0                | 0                 | 186.1                  |
| Solid Waste                             | 0           | 0           | 0               | 0               | 0                | 0                 | 4.8                    |
| <b>Total</b>                            | <b>0.25</b> | <b>2.14</b> | <b>4.20</b>     | <b>0.01</b>     | <b>10.02</b>     | <b>2.34</b>       | <b>1684.9</b>          |
| <b>San Diego County Screening Level</b> | <b>13.7</b> | <b>100</b>  | <b>40</b>       | <b>40</b>       | <b>15</b>        | <b>10</b>         | -                      |

| <b>Phase 3</b>                          |             |             |                 |                 |                  |                   |                        |
|---|-------------|-------------|-----------------|-----------------|------------------|-------------------|------------------------|
| <b>Maximum Daily Emissions (pounds)</b> |             |             |                 |                 |                  |                   |                        |
| Source                                  | ROG         | CO          | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>        |
| Off-Road Equipment Exhaust              | 1.8         | 11.3        | 16.0            | 0.0             | 0.6              | 0.6               | 4330.937               |
| Mining and Processing Dust              | 0.0         | 0.0         | 0.0             | 0.0             | 79.2             | 15.2              | 0                      |
| On-Road Mobile Emissions                | 0.8         | 9.9         | 23.3            | 0.1             | 2.7              | 0.8               | 0.77                   |
| <b>Total</b>                            | <b>2.5</b>  | <b>21.2</b> | <b>39.3</b>     | <b>0.1</b>      | <b>82.5</b>      | <b>16.6</b>       | <b>4331.7</b>          |
| <b>San Diego County Screening Level</b> | <b>75</b>   | <b>550</b>  | <b>250</b>      | <b>250</b>      | <b>100</b>       | <b>55</b>         | -                      |
| <b>Average Annual Emissions (tons)</b>  |             |             |                 |                 |                  |                   |                        |
| Source                                  | ROG         | CO          | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub> e (MT) |
| Off-Road Equipment Exhaust              | 0.196       | 1.240       | 1.794           | 0.004           | 0.068            | 0.063             | 424.6                  |
| Mining and Processing Dust              | 0           | 0           | 0               | 0               | 9.935            | 1.913             | 0                      |
| On-Road Mobile Emissions                | 0.056       | 0.898       | 2.406           | 0.010           | 0.020            | 0.368             | 1069.4                 |
| Electricity                             | 0           | 0           | 0               | 0               | 0                | 0                 | 186.1                  |
| Solid Waste                             | 0           | 0           | 0               | 0               | 0                | 0                 | 4.8                    |
| <b>Total</b>                            | <b>0.25</b> | <b>2.14</b> | <b>4.20</b>     | <b>0.01</b>     | <b>10.02</b>     | <b>2.34</b>       | <b>1684.9</b>          |
| <b>San Diego County Screening Level</b> | <b>13.7</b> | <b>100</b>  | <b>40</b>       | <b>40</b>       | <b>15</b>        | <b>10</b>         | -                      |

Notes:  
 1. Phase 1 construction would occur prior to commencement of mining operations. Phase 2 construction would occur near the end of phase 1 mining and concurrently with mine operation. Phase 3 construction would occur near the end of phase 2 mining and concurrently with mine operation. Maximum daily emissions for phase 1 and 2 include estimated construction emissions for the next phase.



## Construction Emissions

| Phase 1   |        |        |                 |                 |                        |                         |                   |
|---|--------|--------|-----------------|-----------------|------------------------|-------------------------|-------------------|
| Source  | ROG    | CO     | NO <sub>x</sub> | SO <sub>x</sub> | Total PM <sub>10</sub> | Total PM <sub>2.5</sub> | CO <sub>2</sub> e |
| <b>Maximum Daily Emissions (pounds)</b>                           |        |        |                 |                 |                        |                         |                   |
| Willow Glen Drive Improvements, Demolition, Site Prep and Grading | 16.141 | 15.798 | 20.900          | 0.003           | 4.321                  | 2.459                   | 3107.70           |
| <b>Annual Emissions (tons)</b>                                    |        |        |                 |                 |                        |                         |                   |
| 2022  | 0.786  | 0.447  | 0.643           | 0.001           | 0.108                  | 0.063                   | 91.60             |

| Phase 2                                 |       |        |                 |                 |                        |                         |                   |
|---|-------|--------|-----------------|-----------------|------------------------|-------------------------|-------------------|
| Source                                  | ROG   | CO     | NO <sub>x</sub> | SO <sub>x</sub> | Total PM <sub>10</sub> | Total PM <sub>2.5</sub> | CO <sub>2</sub> e |
| <b>Maximum Daily Emissions (pounds)</b> |       |        |                 |                 |                        |                         |                   |
| Demolition                              | 1.220 | 10.322 | 11.086          | 0.021           | 0.710                  | 0.516                   | 2077.71           |
| <b>Annual Emissions (tons)</b>          |       |        |                 |                 |                        |                         |                   |
| 2024                                    | 0.006 | 0.052  | 0.055           | 0.0001          | 0.004                  | 0.003                   | 9.43              |

| Phase 3                                 |       |        |                 |                 |                        |                         |                   |
|---|-------|--------|-----------------|-----------------|------------------------|-------------------------|-------------------|
| Source                                  | ROG   | CO     | NO <sub>x</sub> | SO <sub>x</sub> | Total PM <sub>10</sub> | Total PM <sub>2.5</sub> | CO <sub>2</sub> e |
| <b>Maximum Daily Emissions (pounds)</b> |       |        |                 |                 |                        |                         |                   |
| Demolition                              | 1.146 | 10.306 | 10.814          | 0.024           | 1.159                  | 0.551                   | 2346.26           |
| <b>Annual Emissions (tons)</b>          |       |        |                 |                 |                        |                         |                   |
| 2026                                    | 0.011 | 0.103  | 0.108           | 0.0002          | 0.012                  | 0.006                   | 21.30             |

**Off-Road Equipment Exhaust Emissions - All Phases**

|                                     |     |
|-------------------------------------|-----|
| Max Daily Equipment Operation Hours | 8   |
| Work Days per Year                  | 251 |

| Mining and Processing Heavy Equipment Maximum Daily Exhaust Emissions |                          |     |                   |                    |   |          |                 |                 |                  |                   |                 |   |               |                 |                 |                  |                   |                 |
|---|--------------------------|-----|-------------------|--------------------|---|----------|-----------------|-----------------|------------------|-------------------|-----------------|---|---------------|-----------------|-----------------|------------------|-------------------|-----------------|
| Equipment <sup>1</sup>  | Load Factor <sup>2</sup> | HP  | Max No. Equipment | Usage <sup>3</sup> | Emission Factor (pounds/hp-hr) <sup>4</sup> |          |                 |                 |                  |                   |                 | Daily Emissions (pounds/day) <sup>5</sup> |               |                 |                 |                  |                   |                 |
|   |                          |     |                   |                    | ROG   | CO       | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub> | ROG                                       | CO            | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub> |
| <b>Mine Pit Area</b>  |                          |     |                   |                    |   |          |                 |                 |                  |                   |                 |   |               |                 |                 |                  |                   |                 |
| Extraction Loader (Cat 988K)  | 0.36                     | 541 | 2                 | 100%               | 1.95E-04                                    | 1.12E-03 | 1.82E-03        | 3.87E-06        | 6.82E-05         | 6.28E-05          | 4.19E-01        | 0.608                                     | 3.479         | 5.665           | 0.012           | 0.213            | 0.196             | 1306.440        |
| Excavator (Cat 349F)  | 0.38                     | 396 | 1                 | 80%                | 1.07E-04                                    | 8.86E-04 | 8.61E-04        | 4.10E-06        | 2.90E-05         | 2.66E-05          | 4.43E-01        | 0.103                                     | 0.853         | 0.829           | 0.004           | 0.028            | 0.026             | 426.883         |
| Dozer (Cat D8T)   | 0.43                     | 354 | 1                 | 80%                | 2.09E-04                                    | 1.46E-03 | 2.25E-03        | 4.61E-06        | 8.71E-05         | 8.01E-05          | 4.99E-01        | 0.203                                     | 1.424         | 2.191           | 0.004           | 0.085            | 0.078             | 485.844         |
| <b>Subtotal</b>   |                          |     |                   |                    |   |          |                 |                 |                  |                   | <b>0.914</b>    | <b>5.756</b>                              | <b>8.685</b>  | <b>0.020</b>    | <b>0.325</b>    | <b>0.299</b>     | <b>2219.167</b>   |                 |
| <b>Plant Area</b>   |                          |     |                   |                    |   |          |                 |                 |                  |                   |                 |   |               |                 |                 |                  |                   |                 |
| Highway Truck Loader (Cat 988K)                                       | 0.36                     | 541 | 1                 | 80%                | 1.95E-04                                    | 1.12E-03 | 1.82E-03        | 3.87E-06        | 6.82E-05         | 6.28E-05          | 4.19E-01        | 0.243                                     | 1.392         | 2.266           | 0.005           | 0.085            | 0.078             | 522.576         |
| Highway Truck Loader (Cat 966M-BR)                                    | 0.36                     | 276 | 1                 | 20%                | 1.80E-04                                    | 9.85E-04 | 1.85E-03        | 3.88E-06        | 6.24E-05         | 5.74E-05          | 4.20E-01        | 0.029                                     | 0.157         | 0.294           | 0.001           | 0.010            | 0.009             | 66.787          |
| Skid Steer Loader (Cat 246D)  | 0.37                     | 74  | 1                 | 50%                | 1.33E-04                                    | 1.77E-03 | 1.77E-03        | 3.96E-06        | 6.46E-05         | 5.94E-05          | 4.29E-01        | 0.015                                     | 0.193         | 0.193           | 0.000           | 0.007            | 0.007             | 47.003          |
| <b>Subtotal</b>   |                          |     |                   |                    |   |          |                 |                 |                  |                   | <b>0.286</b>    | <b>1.742</b>                              | <b>2.753</b>  | <b>0.006</b>    | <b>0.102</b>    | <b>0.094</b>     | <b>636.365</b>    |                 |
| <b>On-Site Haul Route</b>   |                          |     |                   |                    |   |          |                 |                 |                  |                   |                 |   |               |                 |                 |                  |                   |                 |
| Off-Road Haul Truck (Cat 740EJ)                                       | 0.38                     | 496 | 1                 | 40%                | 1.64E-04                                    | 1.04E-03 | 1.25E-03        | 4.11E-06        | 4.54E-05         | 4.18E-05          | 4.45E-01        | 0.099                                     | 0.627         | 0.757           | 0.002           | 0.027            | 0.025             | 268.273         |
| Supervisor/Maintenance Truck  | 0.34                     | 450 | 2                 | 15%                | 1.64E-04                                    | 1.04E-03 | 1.25E-03        | 4.11E-06        | 4.54E-05         | 4.18E-05          | 4.45E-01        | 0.060                                     | 0.382         | 0.461           | 0.002           | 0.017            | 0.015             | 163.329         |
| Water Truck (Freightliner M2106)                                      | 0.38                     | 350 | 1                 | 75%                | 1.64E-04                                    | 1.04E-03 | 1.25E-03        | 4.11E-06        | 4.54E-05         | 4.18E-05          | 4.45E-01        | 0.131                                     | 0.829         | 1.001           | 0.003           | 0.036            | 0.033             | 354.947         |
| <b>Subtotal</b>   |                          |     |                   |                    |   |          |                 |                 |                  |                   | <b>0.290</b>    | <b>1.838</b>                              | <b>2.219</b>  | <b>0.007</b>    | <b>0.080</b>    | <b>0.074</b>     | <b>786.549</b>    |                 |
| <b>Daily Total</b>  |                          |     |                   |                    |   |          |                 |                 |                  |                   | <b>1.491</b>    | <b>9.336</b>                              | <b>13.657</b> | <b>0.034</b>    | <b>0.508</b>    | <b>0.467</b>     | <b>3642.082</b>   |                 |
| <b>Ongoing Reclamation</b>  |                          |     |                   |                    |   |          |                 |                 |                  |                   |                 |   |               |                 |                 |                  |                   |                 |
| Grader (Cat 140K)   | 0.41                     | 171 | 1                 | 30%                | 3.91E-04                                    | 3.12E-03 | 3.66E-03        | 4.41E-06        | 2.03E-04         | 1.87E-04          | 4.78E-01        | 0.066                                     | 0.525         | 0.616           | 0.001           | 0.034            | 0.031             | 80.374          |
| Seeding Truck <sup>6</sup>  | 0.38                     | 450 | 1                 | 100%               | 1.64E-04                                    | 1.04E-03 | 1.25E-03        | 4.11E-06        | 4.54E-05         | 4.18E-05          | 4.45E-01        | 0.225                                     | 1.422         | 1.716           | 0.006           | 0.062            | 0.057             | 608.481         |
| <b>Subtotal</b>   |                          |     |                   |                    |   |          |                 |                 |                  |                   | <b>0.290</b>    | <b>1.947</b>                              | <b>2.333</b>  | <b>0.006</b>    | <b>0.096</b>    | <b>0.089</b>     | <b>688.855</b>    |                 |
| <b>Max Daily</b>  |                          |     |                   |                    |   |          |                 |                 |                  |                   | <b>1.782</b>    | <b>11.283</b>                             | <b>15.989</b> | <b>0.040</b>    | <b>0.604</b>    | <b>0.556</b>     | <b>4330.937</b>   |                 |

| Average Annual Emissions |           |                        |                        |                         |                          |                        |                        |
|--------------------------|-----------|------------------------|------------------------|-------------------------|--------------------------|------------------------|------------------------|
| ROG (tons)               | CO (tons) | NO <sub>x</sub> (tons) | SO <sub>x</sub> (tons) | PM <sub>10</sub> (tons) | PM <sub>2.5</sub> (tons) | CO <sub>2</sub> (tons) | CO <sub>2</sub> e (MT) |
| 0.196                    | 1.240     | 1.794                  | 0.004                  | 0.068                   | 0.063                    | 468.081                | 424.636                |

**Notes:**

1. Equipment types, number, and use per project applicant,
2. Load Factor from CARB 20017 Off-road Diesel Emission Factors: Load Factor Look Up Table. [https://www.arb.ca.gov/msei/ordiesel/ordas\\_ef\\_fcf\\_2017\\_v7.xlsx](https://www.arb.ca.gov/msei/ordiesel/ordas_ef_fcf_2017_v7.xlsx)
3. Maximum daily hours for each piece of equipment is assumed to be 9 hours out of the 10 hours of mine operation. Usage per applicant. Equipment hours include reclamation activities.
4. Exhaust Emissions factors from CARB OFFROAD2017- ORION Web Database, for San Diego county, aggregate model years for 2020. <https://www.arb.ca.gov/orion/>
5. Daily Emissions = Load Factor x Horsepower x Max No. Equipment x Max Hours x Usage% x Emission Factor.

**OnSite Fugitive Dust Emissions - All Phases**

| Daily Material Processing Quantities |           |                    |                          |                 |
|--------------------------------------|-----------|--------------------|--------------------------|-----------------|
| Annual Sales (tons)                  | Work Days | Daily Sales (tons) | Annual Excavation (tons) | Daily Excavated |
| 570,000                              | 251       | 2,271              | 705,000                  | 2,809           |

| Aggregate Mining & Processing Particulate (Fugitive Dust) Emissions - All Phases |  |                   |             |               |             |               |
|--|--|-------------------|-------------|---------------|-------------|---------------|
| Source   | Activity                                       | PM10 EF (lbs/ton) | PM10        |               | PM2.5       |               |
|  |  |                   | Daily (lbs) | Annual (tons) | Daily (lbs) | Annual (tons) |
| Mining Pit Dust Emissions  | Quarry Activity <sup>1</sup>                   | 0.021             | 58.98       | 7.40          | 12.39       | 1.55          |
| Groundline Conveyor  | Conveyor Transfer, up to 9 points <sup>2</sup> | 0.000048          | 1.21        | 0.15          | 0.25        | 0.03          |
| Processing Area  | Blade Mill <sup>2</sup>                        | 0.000048          | 0.13        | 0.02          | 0.03        | 0.00          |
|  | Screening <sup>3</sup>                         | 0.0021            | 5.90        | 0.74          | 1.24        | 0.16          |
|  | Radial Stacker <sup>2</sup>                    | 0.000048          | 0.13        | 0.02          | 0.03        | 0.00          |
|  | Loading Delivery Trucks <sup>2</sup>           | 0.000048          | 0.13        | 0.02          | 0.03        | 0.00          |
|  | Loading Fines/Backfill Trucks <sup>2</sup>     | 0.000048          | 0.13        | 0.02          | 0.03        | 0.00          |

Notes:  
 1. Emission factors and calculation procedures from [https://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Misc/EFT/Mineral/Quarry\\_Activity/APCD\\_Quarry\\_Operations\\_Sand\\_Mining.pdf](https://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Misc/EFT/Mineral/Quarry_Activity/APCD_Quarry_Operations_Sand_Mining.pdf).  
 2. Emission factors and calculation procedures from [https://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Misc/EFT/Mineral/Aggregate\\_Transfer\\_Point/APCD\\_Transfer\\_Point\\_Fines\\_Material\\_Wet\\_Uncontrolled.pdf](https://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Misc/EFT/Mineral/Aggregate_Transfer_Point/APCD_Transfer_Point_Fines_Material_Wet_Uncontrolled.pdf).  
 3. Emission factors and calculation procedures from [https://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Misc/EFT/Mineral/Aggregate\\_Screening/APCD\\_Screening\\_Operation\\_Fines\\_Material\\_Wet\\_Uncontrolled.pdf](https://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Misc/EFT/Mineral/Aggregate_Screening/APCD_Screening_Operation_Fines_Material_Wet_Uncontrolled.pdf).

**Vehicle Movement Particulate (Fugitive Dust) Emissions - All Phases**

| Vehicle Dust Emissions Factor Input <sup>1</sup> |      |       |
|--|------|-------|
|  | PM10 | PM2.5 |
| a, empirical constant                            | 0.9  | 0.9   |
| b, empirical constant                            | 0.45 | 0.45  |
| k, empirical constant                            | 1.5  | 0.15  |
| s, surface material silt content (%)             | 13.6 | 13.6  |
| W, average vehicle weight (tons)                 | -    | -     |

| Mining Pit Vehicles on Unpaved Surfaces <sup>2</sup> |               |                     |       |       |                                   |                          |                |                          |                |
|--|---------------|---------------------|-------|-------|-----------------------------------|--------------------------|----------------|--------------------------|----------------|
| Source   | Vehicle Use   |                     |       |       | % Control Efficiency <sup>4</sup> | PM10                     |                | PM2.5                    |                |
|  | Weight (tons) | Average Speed (MPH) | Hours | Miles |                                   | Emission Factor (lb/VMT) | Max Daily (lb) | Emission Factor (lb/VMT) | Max Daily (lb) |
| Loaders  | 55.70         | 5.00                | 16.00 | 80.00 | 95%                               | 0.31                     | 2.78           | 0.03                     | 0.28           |
| Excavator  | 58.75         | 5.00                | 6.40  | 32.00 | 95%                               | 0.32                     | 1.14           | 0.03                     | 0.11           |
| <b>Subtotal</b>                                      |               |                     |       |       |                                   |                          | <b>3.92</b>    |                          | <b>0.39</b>    |

| Processing Area Vehicles on Unpaved Surfaces <sup>2</sup> |               |                     |       |       |                                   |                          |                |                          |                |
|---|---------------|---------------------|-------|-------|-----------------------------------|--------------------------|----------------|--------------------------|----------------|
| Source  | Vehicle Use   |                     |       |       | % Control Efficiency <sup>4</sup> | PM10                     |                | PM2.5                    |                |
|   | Weight (tons) | Average Speed (MPH) | Hours | Miles |                                   | Emission Factor (lb/VMT) | Max Daily (lb) | Emission Factor (lb/VMT) | Max Daily (lb) |
| Primary Loader  | 55.70         | 5.00                | 6.40  | 32.00 | 95%                               | 0.31                     | 1.11           | 0.03                     | 0.11           |
| Backup Loader   | 25.60         | 5.00                | 1.60  | 8.00  | 95%                               | 0.22                     | 0.20           | 0.02                     | 0.02           |
| Skidsteer Loader  | 3.60          | 5.00                | 4.00  | 20.00 | 95%                               | 0.09                     | 0.20           | 0.01                     | 0.02           |
| Highway Delivery Trucks                                   | 30.00         | 15.00               | N/A   | 22.00 | 95%                               | 0.24                     | 1.73           | 0.02                     | 0.17           |
| <b>Subtotal</b>   |               |                     |       |       |                                   |                          | <b>3.24</b>    |                          | <b>0.32</b>    |

| On-Site Haul Road Vehicles on Unpaved Surfaces <sup>2</sup> |               |                     |       |       |                                   |                          |                |                          |                |
|---|---------------|---------------------|-------|-------|-----------------------------------|--------------------------|----------------|--------------------------|----------------|
| Source  | Vehicle Use   |                     |       |       | % Control Efficiency <sup>4</sup> | PM10                     |                | PM2.5                    |                |
|   | Weight (tons) | Average Speed (MPH) | Hours | Miles |                                   | Emission Factor (lb/VMT) | Max Daily (lb) | Emission Factor (lb/VMT) | Max Daily (lb) |
| Fines/Backfill Haul Truck                                   | 39.30         | 15.00               | 3.20  | 48.00 | 95%                               | 0.27                     | 4.27           | 0.03                     | 0.43           |
| Supervisor/Maintenance Truck                                | 3.60          | 15.00               | 2.40  | 36.00 | 95%                               | 0.09                     | 1.09           | 0.01                     | 0.11           |
| <b>Subtotal</b>   |               |                     |       |       |                                   |                          | <b>5.37</b>    |                          | <b>0.54</b>    |

Notes:  
 1. Emissions factor equation from EPA AP-42 Fifth Edition: 13.2.2 Unpaved Roads.  $EF = k * (s/12)^{0.8} * (W/3)^{0.8}$   
 2. Calculations include reductions for vehicle speeds below 45 mph: Dust control on unpaved roads from Western Regional Air Partnership Fugitive Dust Handbook. 45 MPH = uncontrolled, % emissions reduction below 45 mph = speed/45.  
 3. Emissions control % for watering from Western Regional Air Partnership Fugitive Dust Handbook.

| Controlled Dust Emissions Summary |                |              |                      |             |
|-----------------------------------|----------------|--------------|----------------------|-------------|
| Source                            | Max Daily (lb) |              | Average Annual (ton) |             |
|                                   | PM10           | PM2.5        | PM10                 | PM2.5       |
| Mining Pit Operation              | 58.984         | 12.387       | 7.403                | 1.555       |
| Groundline Conveyor               | 1.213          | 0.255        | 0.152                | 0.032       |
| Processing Area Operation         | 6.438          | 1.352        | 0.808                | 0.170       |
| Mining Pit Vehicles               | 3.916          | 0.392        | 0.492                | 0.049       |
| Processing Area Vehicles          | 3.245          | 0.324        | 0.407                | 0.041       |
| On-Site Haul Road                 | 5.368          | 0.537        | 0.674                | 0.067       |
| <b>Maximum Total (pounds)</b>     | <b>79.16</b>   | <b>15.25</b> | <b>9.94</b>          | <b>1.91</b> |

## On-Road Mobile Emissions

| Phase 1                                 |                |             |                  |                 |                          |                        |                         |                  |
|---|----------------|-------------|------------------|-----------------|--------------------------|------------------------|-------------------------|------------------|
| Source                                  | ROG            | CO          | NO <sub>x</sub>  | SO <sub>x</sub> | Exhaust PM <sub>10</sub> | Total PM <sub>10</sub> | Total PM <sub>2.5</sub> | CO <sub>2e</sub> |
| <b>Maximum Daily Emissions (pounds)</b> |                |             |                  |                 |                          |                        |                         |                  |
| Operational Mobile                      | 0.451          | 6.863       | 19.887           | 0.084           | 0.1582                   | 2.897                  | 0.899                   | 10090.57         |
| <b>Annual Emissions (tons)</b>          |                |             |                  |                 |                          |                        |                         |                  |
| Operational Mobile                      | 0.060          | 0.882       | 2.572            | 0.011           | 0.0205                   | 0.369                  | 0.115                   | 1188.01          |
| <b>Phase 1 Diesel PM Distribution</b>   |                |             |                  |                 |                          |                        |                         |                  |
| Segment                                 | Segment Length | Haul Length | % of Haul Length | % of Trips      | Daily Exhaust PM10       | Annual Exhaust PM10    |                         |                  |
| Willow Glen Drive                       | 1.159479       | 16          | 7.25%            | 100%            | 0.01146                  | 2.87755                |                         |                  |
| Jamacha Road North                      | 0.965052       | 16          | 6.03%            | 15%             | 0.00143                  | 0.35925                |                         |                  |
| Jamacha Road Southwest                  | 1.365960       | 16          | 8.54%            | 85%             | 0.01148                  | 2.88149                |                         |                  |

| Phase 2                                 |                |             |                  |                 |                          |                        |                         |                  |
|---|----------------|-------------|------------------|-----------------|--------------------------|------------------------|-------------------------|------------------|
| Source                                  | ROG            | CO          | NO <sub>x</sub>  | SO <sub>x</sub> | Exhaust PM <sub>10</sub> | Total PM <sub>10</sub> | Total PM <sub>2.5</sub> | CO <sub>2e</sub> |
| <b>Maximum Daily Emissions (pounds)</b> |                |             |                  |                 |                          |                        |                         |                  |
| Operational Mobile                      | 0.435          | 6.902       | 19.442           | 0.084           | 0.1583                   | 2.897                  | 0.900                   | 9710.67          |
| <b>Annual Emissions (tons)</b>          |                |             |                  |                 |                          |                        |                         |                  |
| Operational Mobile                      | 0.058          | 0.888       | 2.514            | 0.011           | 0.0205                   | 0.369                  | 0.115                   | 1143.25          |
| <b>Phase 2 Diesel PM Distribution</b>   |                |             |                  |                 |                          |                        |                         |                  |
| Segment                                 | Segment Length | Haul Length | % of Haul Length | % of Trips      | Daily Exhaust PM10       | Annual Exhaust PM10    |                         |                  |
| Willow Glen Drive                       | 1.159479       | 16          | 7.25%            | 100%            | 0.01147                  | 2.87937                |                         |                  |
| Jamacha Road North                      | 0.965052       | 16          | 6.03%            | 15%             | 0.00143                  | 0.35948                |                         |                  |
| Jamacha Road Southwest                  | 1.365960       | 16          | 8.54%            | 85%             | 0.01149                  | 2.88331                |                         |                  |

| Phase 3                                 |                |             |                  |                 |                          |                        |                         |                  |
|---|----------------|-------------|------------------|-----------------|--------------------------|------------------------|-------------------------|------------------|
| Source                                  | ROG            | CO          | NO <sub>x</sub>  | SO <sub>x</sub> | Exhaust PM <sub>10</sub> | Total PM <sub>10</sub> | Total PM <sub>2.5</sub> | CO <sub>2e</sub> |
| <b>Maximum Daily Emissions (pounds)</b> |                |             |                  |                 |                          |                        |                         |                  |
| Operational Mobile                      | 0.756          | 9.909       | 23.306           | 0.102           | 0.0411                   | 2.700                  | 0.766                   | 11362.09         |
| <b>Annual Emissions (tons)</b>          |                |             |                  |                 |                          |                        |                         |                  |
| Operational Mobile                      | 0.056          | 0.898       | 2.406            | 0.0101          | 0.0199                   | 0.368                  | 0.115                   | 1069.36          |
| <b>Phase 3 Diesel PM Distribution</b>   |                |             |                  |                 |                          |                        |                         |                  |
| Segment                                 | Segment Length | Haul Length | % of Haul Length | % of Trips      | Daily Exhaust PM10       | Annual Exhaust PM10    |                         |                  |
| Willow Glen Drive                       | 1.159479       | 16          | 7.25%            | 100%            | 0.00298                  | 0.74758                |                         |                  |
| Jamacha Road North                      | 0.965052       | 16          | 6.03%            | 15%             | 0.00037                  | 0.09333                |                         |                  |
| Jamacha Road Southwest                  | 1.365960       | 16          | 8.54%            | 85%             | 0.00298                  | 0.74860                |                         |                  |

**Notes:**

1. On-Road operational mobile emissions estimated using CalEEMod version 2020.4.0.
2. Project trip generation per TIA.
3. CalEEMod default trip distances and purpose for worker and vendors, San Diego County
4. Haul Distance per TIA.

**Off-Site GHG Emissions from Electricity Use - All Phases**

| GHG Intensity Factors (lb/MW-hr) |                 |                 |                  |
|----------------------------------|-----------------|-----------------|------------------|
|                                  | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> O |
| San Diego Gas & Electric         | 540             | 0.033           | 0.00400          |

| Equipment                | Quantity | Hours/yr | HP  | KW    | Power Factor | MW-hr/yr | CO2              |         | CH4              |         | N2O              |         | Co2e          |
|--------------------------|----------|----------|-----|-------|--------------|----------|------------------|---------|------------------|---------|------------------|---------|---------------|
|                          |          |          |     |       |              |          | Intensity Factor | MT/Year | Intensity Factor | MT/Year | Intensity Factor | MT/Year |               |
| Feed Hopper              | 1        | 1,763    | 25  | 18.65 | 0.86         | 28.3     | 540              | 6.9261  | 0.029            | 0.0004  | 0.00617          | 0.00008 | 6.96          |
| Groundline Conveyor 825' | 5        | 1,763    | 50  | 37.3  | 0.86         | 282.8    | 540              | 69.2610 | 0.029            | 0.0037  | 0.00617          | 0.00079 | 69.59         |
| Groundline Conveyor 375' | 1        | 1,763    | 30  | 22.38 | 0.86         | 33.9     | 540              | 8.3113  | 0.029            | 0.0004  | 0.00617          | 0.00009 | 8.35          |
| Groundline Conveyor 200' | 1        | 1,763    | 25  | 18.65 | 0.86         | 28.3     | 540              | 6.9261  | 0.029            | 0.0004  | 0.00617          | 0.00008 | 6.96          |
| Truss Frame Conveyor     | 1        | 1,763    | 50  | 37.3  | 0.86         | 56.6     | 540              | 13.8522 | 0.029            | 0.0007  | 0.00617          | 0.00016 | 13.92         |
| Triple Deck Screen       | 1        | 1,763    | 50  | 37.3  | 0.86         | 56.6     | 540              | 13.8522 | 0.029            | 0.0007  | 0.00617          | 0.00016 | 13.92         |
| Blade Mill               | 1        | 1,763    | 100 | 74.6  | 0.86         | 113.1    | 540              | 27.7044 | 0.029            | 0.0015  | 0.00617          | 0.00032 | 27.84         |
| Fine Material Washer     | 1        | 1,763    | 50  | 37.3  | 0.86         | 56.6     | 540              | 13.8522 | 0.029            | 0.0007  | 0.00617          | 0.00016 | 13.92         |
| Radial Stacker 80'       | 1        | 1,763    | 25  | 18.65 | 0.86         | 28.3     | 540              | 6.9261  | 0.029            | 0.0004  | 0.00617          | 0.00008 | 6.96          |
| Radial Stacker 100'      | 1        | 1,763    | 30  | 22.38 | 0.86         | 33.9     | 540              | 8.3113  | 0.029            | 0.0004  | 0.00617          | 0.00009 | 8.35          |
| Water pumping            | -        | -        | -   | -     | -            | 18.4     | 540              | 4.4971  | 0.029            | 0.0002  | 0.00617          | 0.00005 | 4.52          |
| Office, control room     | -        | -        | -   | -     | -            | 10.8     | 540              | 2.6453  | 0.029            | 0.0001  | 0.00617          | 0.00003 | 2.66          |
| Security lighting        | -        | -        | -   | -     | -            | 8.8      | 540              | 2.1555  | 0.029            | 0.0001  | 0.00617          | 0.00002 | 2.17          |
| <b>Total</b>             |          |          |     |       |              |          |                  |         |                  |         |                  |         | <b>186.10</b> |

**Notes:**

- GHG Intensity Factors from CalEEMod User's Guide Appendix D (May 2021).
- Per project applicant, the plant processes 400 tons/hour of raw material. Total annual hours = 705,000 tons / 400 tons/hour = 1,763 hours.
- 1 HP = 0.746 KW. Power factor is typical average for a 3-phase motor operating at 75 percent of rated power. MWhr/year = Hours \* HP \* 0.746 \* Power Factor / 1000 KW/MW.
- Estimated water use = 180 acre-feet/year per applicant. Energy required to lift 1 acre-foot of water 1 foot in elevation = 1.02 KWhr. Assuming a pump depth of 100 feet, electricity use for pumping = 180 \* 1.02 \* 100 = 18,360 KWhr.
- CalEEMod User's Guide Appendix D, electricity use for general office building (title 24, non-title 24, and lighting) climate zone 13 = 13.44 KWhr/square foot. Assuming 800 square feet, electricity use = 10.8 MWhr/yr.
- CalEEMod User's Guide Appendix D, electricity for lighting a parking lot = 0.35 KWhr/square foot. Assuming 25,000 square feet of lit processing area, electricity use = 8.8 MWhr/yr.

### Off-Site GHG Emissions from Electricity Use - All Phases

| GHG Intensity Factors (lb/MW-hr) |                 |                 |                  |
|----------------------------------|-----------------|-----------------|------------------|
|                                  | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> O |
| San Diego Gas & Electric         | 540             | 0.033           | 0.00400          |

| Equipment                | Quantity | Hours/yr | HP  | KW    | Power Factor | MW-hr/yr | CO <sub>2</sub>  |         | CH <sub>4</sub>  |         | N <sub>2</sub> O |               | Co <sub>2</sub> e |
|--------------------------|----------|----------|-----|-------|--------------|----------|------------------|---------|------------------|---------|------------------|---------------|-------------------|
|                          |          |          |     |       |              |          | Intensity Factor | MT/Year | Intensity Factor | MT/Year | Intensity Factor | MT/Year       |                   |
| Feed Hopper              | 1        | 1,763    | 25  | 18.65 | 0.86         | 28.3     | 540              | 6.9261  | 0.029            | 0.0004  | 0.00617          | 0.00008       | 6.96              |
| Groundline Conveyor 825' | 5        | 1,763    | 50  | 37.3  | 0.86         | 282.8    | 540              | 69.2610 | 0.029            | 0.0037  | 0.00617          | 0.00079       | 69.59             |
| Groundline Conveyor 375' | 1        | 1,763    | 30  | 22.38 | 0.86         | 33.9     | 540              | 8.3113  | 0.029            | 0.0004  | 0.00617          | 0.00009       | 8.35              |
| Groundline Conveyor 200' | 1        | 1,763    | 25  | 18.65 | 0.86         | 28.3     | 540              | 6.9261  | 0.029            | 0.0004  | 0.00617          | 0.00008       | 6.96              |
| Truss Frame Conveyor     | 1        | 1,763    | 50  | 37.3  | 0.86         | 56.6     | 540              | 13.8522 | 0.029            | 0.0007  | 0.00617          | 0.00016       | 13.92             |
| Triple Deck Screen       | 1        | 1,763    | 50  | 37.3  | 0.86         | 56.6     | 540              | 13.8522 | 0.029            | 0.0007  | 0.00617          | 0.00016       | 13.92             |
| Blade Mill               | 1        | 1,763    | 100 | 74.6  | 0.86         | 113.1    | 540              | 27.7044 | 0.029            | 0.0015  | 0.00617          | 0.00032       | 27.84             |
| Fine Material Washer     | 1        | 1,763    | 50  | 37.3  | 0.86         | 56.6     | 540              | 13.8522 | 0.029            | 0.0007  | 0.00617          | 0.00016       | 13.92             |
| Radial Stacker 80'       | 1        | 1,763    | 25  | 18.65 | 0.86         | 28.3     | 540              | 6.9261  | 0.029            | 0.0004  | 0.00617          | 0.00008       | 6.96              |
| Radial Stacker 100'      | 1        | 1,763    | 30  | 22.38 | 0.86         | 33.9     | 540              | 8.3113  | 0.029            | 0.0004  | 0.00617          | 0.00009       | 8.35              |
| Water pumping            | -        | -        | -   | -     | -            | 18.4     | 540              | 4.4971  | 0.029            | 0.0002  | 0.00617          | 0.00005       | 4.52              |
| Office, control room     | -        | -        | -   | -     | -            | 10.8     | 540              | 2.6453  | 0.029            | 0.0001  | 0.00617          | 0.00003       | 2.66              |
| Security lighting        | -        | -        | -   | -     | -            | 8.8      | 540              | 2.1555  | 0.029            | 0.0001  | 0.00617          | 0.00002       | 2.17              |
| <b>Total</b>             |          |          |     |       |              |          |                  |         |                  |         |                  | <b>186.10</b> |                   |

**Notes:**

- GHG Intensity Factors from CalEEMod User's Guide Appendix D (May 2021).
- Per project applicant, the plant processes 400 tons/hour of raw material. Total annual hours = 705,000 tons / 400 tons/hour = 1,763 hours.
- 1 HP = 0.746 KW. Power factor is typical average for a 3-phase motor operating at 75 percent of rated power. MWhr/year = Hours \* HP \* 0.746 \* Power Factor / 1000 KW/MW.
- Estimated water use = 180 acre-feet/year per applicant. Energy required to lift 1 acre-foot of water 1 foot in elevation = 1.02 KWhr. Assuming a pump depth of 100 feet, electricity use for pumping = 180 \* 1.02 \* 100 = 18,360 KWhr.
- CalEEMod User's Guide Appendix D, electricity use for general office building (title 24, non-title 24, and lighting) climate zone 13 = 13.44 KWhr/square foot. Assuming 800 square feet, electricity use = 10.8 MWhr/yr.
- CalEEMod User's Guide Appendix D, electricity for lighting a parking lot = 0.35 KWhr/square foot. Assuming 25,000 square feet of lit processing area, electricity use = 8.8 MWhr/yr.

## Off-Road Emissions Factor Calculations

Model Output: OFFROAD2017 (v1.0.1) Emissions Inventory

Region Type: County

Region: San Diego

Calendar Year: 2022

Scenario: All Adopted Rules - Exhaust

Vehicle Classification: OFFROAD2017 Equipment Types

Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

| Region                 | CalYr | VehClass                        | MdlYr     | HP_Bin | Fuel   | ROG_tpd         | CO_tpd             | NOx_tpd            | CO2_tpd            | PM10_tpd           | PM2_5_tpd          | SOx_tpd            | Horsepower_Hours_hhpy |
|------------------------|-------|---------------------------------|-----------|--------|--------|-----------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-----------------------|
| San Diego              | 2022  | ConstMin - Rubber Tired Loaders | Aggregate | 600    | Diesel | 1.72620E-02     | 9.87535E-02        | 1.60793E-01        | 3.70839E+01        | 6.03689E-03        | 5.55394E-03        | 3.42431E-04        | 64615332.86           |
| <b>Emission Factor</b> |       |                                 |           |        |        | <b>lb/hp-hr</b> | <b>1.95154E-04</b> | <b>1.11644E-03</b> | <b>1.81782E-03</b> | <b>4.19247E-01</b> | <b>6.82493E-05</b> | <b>6.27894E-05</b> | <b>3.87131E-06</b>    |
| San Diego              | 2022  | ConstMin - Rubber Tired Loaders | Aggregate | 300    | Diesel | 1.23049E-02     | 6.74952E-02        | 1.26717E-01        | 2.87776E+01        | 4.27295E-03        | 3.93112E-03        | 2.65758E-04        | 50039882.29           |
| <b>Emission Factor</b> |       |                                 |           |        |        | <b>lb/hp-hr</b> | <b>1.79632E-04</b> | <b>9.85319E-04</b> | <b>1.84987E-03</b> | <b>4.20106E-01</b> | <b>6.23781E-05</b> | <b>5.73878E-05</b> | <b>3.87964E-06</b>    |
| San Diego              | 2022  | ConstMin - Off-Highway Trucks   | Aggregate | 600    | Diesel | 1.34307E-02     | 8.49843E-02        | 1.02593E-01        | 3.63723E+01        | 3.71328E-03        | 3.41622E-03        | 3.35947E-04        | 59735196.43           |
| <b>Emission Factor</b> |       |                                 |           |        |        | <b>lb/hp-hr</b> | <b>1.64243E-04</b> | <b>1.03927E-03</b> | <b>1.25461E-03</b> | <b>4.44796E-01</b> | <b>4.54096E-05</b> | <b>4.17768E-05</b> | <b>4.10829E-06</b>    |
| San Diego              | 2022  | ConstMin - Excavators           | Aggregate | 600    | Diesel | 6.60403E-03     | 5.46378E-02        | 5.31064E-02        | 2.73373E+01        | 1.78572E-03        | 1.64286E-03        | 2.52583E-04        | 45053213.44           |
| <b>Emission Factor</b> |       |                                 |           |        |        | <b>lb/hp-hr</b> | <b>1.07079E-04</b> | <b>8.85907E-04</b> | <b>8.61076E-04</b> | <b>4.43251E-01</b> | <b>2.89539E-05</b> | <b>2.66376E-05</b> | <b>4.09542E-06</b>    |
| San Diego              | 2022  | ConstMin - Crawler Tractors     | Aggregate | 600    | Diesel | 8.12417E-03     | 5.69584E-02        | 8.76263E-02        | 1.94297E+01        | 3.39352E-03        | 3.12203E-03        | 1.79436E-04        | 28460412.56           |
| <b>Emission Factor</b> |       |                                 |           |        |        | <b>lb/hp-hr</b> | <b>2.08525E-04</b> | <b>1.46196E-03</b> | <b>2.24912E-03</b> | <b>4.98707E-01</b> | <b>8.71022E-05</b> | <b>8.01340E-05</b> | <b>4.60562E-06</b>    |
| San Diego              | 2022  | ConstMin - Skid Steer Loaders   | Aggregate | 75     | Diesel | 3.02974E-03     | 6.06030E-02        | 4.03346E-02        | 9.80034E+00        | 1.47475E-03        | 1.35677E-03        | 9.05339E-05        | 16681372.26           |
| <b>Emission Factor</b> |       |                                 |           |        |        | <b>lb/hp-hr</b> | <b>1.32676E-04</b> | <b>2.65389E-03</b> | <b>1.76631E-03</b> | <b>4.29170E-01</b> | <b>6.45812E-05</b> | <b>5.94147E-05</b> | <b>3.96460E-06</b>    |
| San Diego              | 2022  | ConstMin - Graders              | Aggregate | 175    | Diesel | 6.01282E-03     | 4.80231E-02        | 5.63761E-02        | 7.35354E+00        | 3.12943E-03        | 2.87907E-03        | 6.78381E-05        | 11245830.91           |
| <b>Emission Factor</b> |       |                                 |           |        |        | <b>lb/hp-hr</b> | <b>3.90578E-04</b> | <b>3.11945E-03</b> | <b>3.66205E-03</b> | <b>4.77667E-01</b> | <b>2.03280E-04</b> | <b>1.87017E-04</b> | <b>4.40658E-06</b>    |

Notes: Emissions Factors (lb/hp-hr) = emissions (tons/day) \* 2000 (lb/ton) / hp-hr per year \* 365 (days/yr)

### OnSite TAC Emissions - All Phases

|                               |     |
|-------------------------------|-----|
| Operating Days per Year       | 251 |
| Equipment/Plant Hours per Day | 9   |
| Delivery Trucks Hours per Day | 9   |

| Controlled Dust Emissions Summary |         |       |
|-----------------------------------|---------|-------|
| Source                            | PM10    |       |
|                                   | lbs/day | TPY   |
| Mine Extraction Area              | 62.901  | 7.894 |
| Processing Area                   | 9.682   | 1.215 |
| Groundline Conveyor               | 1.213   | 0.152 |
| On-Site Haul Road                 | 5.368   | 0.674 |

| Source               | AB2588 Toxic Air Contaminant | Ci (ppmw) | Emissions (lb/hr) | Emissions (lb/day) | Emissions (lbs/yr) |
|----------------------|------------------------------|-----------|-------------------|--------------------|--------------------|
| Mine Extraction Area | DPM                          | NA        | 4.00E-02          | 3.60E-01           | 8.18E+01           |
|                      | Arsenic                      | 6         | 4.19E-05          | 3.77E-04           | 9.47E-02           |
|                      | Beryllium                    | 1         | 6.99E-06          | 6.29E-05           | 1.58E-02           |
|                      | Cadmium                      | 1         | 6.99E-06          | 6.29E-05           | 1.58E-02           |
|                      | Hex-Chromium                 | -         | 0.00E+00          | 0.00E+00           | 0.00E+00           |
|                      | Copper                       | 72        | 5.03E-04          | 4.53E-03           | 1.14E+00           |
|                      | Lead                         | 19        | 1.33E-04          | 1.20E-03           | 3.00E-01           |
|                      | Manganese                    | 315       | 2.20E-03          | 1.98E-02           | 4.97E+00           |
|                      | Mercury                      | -         | 0.00E+00          | 0.00E+00           | 0.00E+00           |
|                      | Nickle                       | 20        | 1.40E-04          | 1.26E-03           | 3.16E-01           |
|                      | Selenium                     | 1         | 6.99E-06          | 6.29E-05           | 1.58E-02           |
| Crytalline Silica    | 100,000                      | 6.99E-01  | 6.29E+00          | 1.58E+03           |                    |
| Processing Area      | DPM                          | NA        | 1.13E-02          | 1.02E-01           | 2.56E+01           |
|                      | Arsenic                      | 22        | 2.37E-05          | 2.13E-04           | 5.35E-02           |
|                      | Beryllium                    | 1         | 1.08E-06          | 9.68E-06           | 2.43E-03           |
|                      | Cadmium                      | 1         | 1.08E-06          | 9.68E-06           | 2.43E-03           |
|                      | Hex-Chromium                 | -         | 0.00E+00          | 0.00E+00           | 0.00E+00           |
|                      | Copper                       | 37        | 3.98E-05          | 3.58E-04           | 8.99E-02           |
|                      | Lead                         | 50        | 5.38E-05          | 4.84E-04           | 1.22E-01           |
|                      | Manganese                    | 530       | 5.70E-04          | 5.13E-03           | 1.29E+00           |
|                      | Mercury                      | -         | 0.00E+00          | 0.00E+00           | 0.00E+00           |
|                      | Nickle                       | 28        | 3.01E-05          | 2.71E-04           | 6.80E-02           |
|                      | Selenium                     | 1         | 1.08E-06          | 9.68E-06           | 2.43E-03           |
| Crytalline Silica    | 100,000                      | 1.08E-01  | 9.68E-01          | 2.43E+02           |                    |
| Groundline Conveyor  | DPM                          | NA        | 0.00E+00          | 0.00E+00           | 0.00E+00           |
|                      | Arsenic                      | 6         | 8.09E-07          | 7.28E-06           | 1.83E-03           |
|                      | Beryllium                    | 1         | 1.35E-07          | 1.21E-06           | 3.05E-04           |
|                      | Cadmium                      | 1         | 1.35E-07          | 1.21E-06           | 3.05E-04           |
|                      | Hex-Chromium                 | -         | 0.00E+00          | 0.00E+00           | 0.00E+00           |
|                      | Copper                       | 72        | 9.71E-06          | 8.74E-05           | 2.19E-02           |
|                      | Lead                         | 19        | 2.56E-06          | 2.31E-05           | 5.79E-03           |
|                      | Manganese                    | 315       | 4.25E-05          | 3.82E-04           | 9.59E-02           |
|                      | Mercury                      | -         | 0.00E+00          | 0.00E+00           | 0.00E+00           |
|                      | Nickle                       | 20        | 2.70E-06          | 2.43E-05           | 6.09E-03           |
|                      | Selenium                     | 1         | 1.35E-07          | 1.21E-06           | 3.05E-04           |
| Crytalline Silica    | 100,000                      | 1.35E-02  | 1.21E-01          | 3.05E+01           |                    |
| On Site Haul Road    | DPM                          | NA        | 8.92E-03          | 8.03E-02           | 2.02E+01           |
|                      | Arsenic                      | 21        | 1.25E-05          | 1.13E-04           | 2.83E-02           |
|                      | Beryllium                    | 1         | 5.96E-07          | 5.37E-06           | 1.35E-03           |
|                      | Cadmium                      | 1         | 5.96E-07          | 5.37E-06           | 1.35E-03           |
|                      | Hex-Chromium                 | -         | 0.00E+00          | 0.00E+00           | 0.00E+00           |
|                      | Copper                       | 40        | 2.39E-05          | 2.15E-04           | 5.39E-02           |
|                      | Lead                         | 30        | 1.79E-05          | 1.61E-04           | 4.04E-02           |
|                      | Manganese                    | 490       | 2.92E-04          | 2.63E-03           | 6.60E-01           |
|                      | Mercury                      | -         | 0.00E+00          | 0.00E+00           | 0.00E+00           |
|                      | Nickle                       | 19        | 1.13E-05          | 1.02E-04           | 2.56E-02           |
|                      | Selenium                     | 1         | 5.96E-07          | 5.37E-06           | 1.35E-03           |
| Crytalline Silica    | 100,000                      | 5.96E-02  | 5.37E-01          | 1.35E+02           |                    |



## OffSite TAC Emissions - By Phase

|                               |     |
|-------------------------------|-----|
| Operating Days per Year       | 251 |
| Equipment/Plant Hours per Day | 9   |
| Delivery Trucks Hours per Day | 9   |

| Phase 1                                 |           |         |           |
|---|-----------|---------|-----------|
| Source                                  | Source ID | DPM     |           |
|   |           | lb/yr   | lb/hr     |
| Truck Route Willow Glen Drive           | Willow    | 2.87755 | 1.274E-03 |
| Truck Route Jamacha Road North Area     | JamachaN  | 0.35925 | 1.590E-04 |
| Truck Route Jamacha Road Southwest Area | JamachaSW | 2.88149 | 1.276E-03 |

| Phase 2                                 |           |         |           |
|---|-----------|---------|-----------|
| Source                                  | Source ID | DPM     |           |
|   |           | lb/yr   | lb/hr     |
| Truck Route Willow Glen Drive           | Willow    | 2.87937 | 1.275E-03 |
| Truck Route Jamacha Road North Area     | JamachaN  | 0.35948 | 1.591E-04 |
| Truck Route Jamacha Road Southwest Area | JamachaSW | 2.88331 | 1.276E-03 |

| Phase 3                                 |           |         |           |
|---|-----------|---------|-----------|
| Source                                  | Source ID | DPM     |           |
|   |           | lb/yr   | lb/hr     |
| Truck Route Willow Glen Drive           | Willow    | 0.74758 | 3.309E-04 |
| Truck Route Jamacha Road North Area     | JamachaN  | 0.09333 | 4.132E-05 |
| Truck Route Jamacha Road Southwest Area | JamachaSW | 0.74860 | 3.314E-04 |

# Appendix C

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CalEEMod Output

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**SIR-02 Cottonwood Sand Mine Phase 1**

**San Diego County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                  | Size  | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------|-------|----------|-------------|--------------------|------------|
| General Office Building    | 1.00  | 1000sqft | 0.02        | 1,000.00           | 0          |
| Other Asphalt Surfaces     | 16.00 | 1000sqft | 0.37        | 16,000.00          | 0          |
| Other Non-Asphalt Surfaces | 8.00  | Acre     | 8.00        | 348,480.00         | 0          |

**1.2 Other Project Characteristics**

|                                |                          |                                |       |                                  |       |
|--------------------------------|--------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Rural                    | <b>Wind Speed (m/s)</b>        | 2.6   | <b>Precipitation Freq (Days)</b> | 40    |
| <b>Climate Zone</b>            | 13                       |                                |       | <b>Operational Year</b>          | 2023  |
| <b>Utility Company</b>         | San Diego Gas & Electric |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 539.98                   | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Run v3 - Roadway improvement construction activity added; Updated Phase 1 schedule; Update to CalEEMod 2020.4.0.

Land Use - No construction for the office building, structure will be mobile/prefabricated units.

Other non-asphalt areas = main entrance, parking/load area, plant area, settling ponds, and 2nd entrance west.

Other asphalt surfaces = improvements to Willow Glen Dr.

Construction Phase - No building construction, schedule per project applicant.

Off-road Equipment - Demolition of a residential structure, garage, and golf course restroom...total approx 3,000 SF.

Off-road Equipment - Equipment for Phase 1 demolition.

Off-road Equipment - Equipment for Phase 1 grading.

Off-road Equipment - Equipment for Phase 1 site preparation.

Off-road Equipment - Equipment for construction of new site access points/roads

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Off-road Equipment - Equipment for Willow Glen Drive Improvements - demolition.

Off-Highway Truck = water truck.

Off-road Equipment - Equipment for Willow Glen Drive Improvements - widening.

Off-Highway Truck = water truck.

Off-road Equipment - Equipment for Willow Glen Drive Improvements - paving.

Off-road Equipment - Equipment for Willow Glen Drive Improvements - striping.

Off-Highway Truck = striping truck.

Crane for installing light posts.

Trips and VMT - 50 fill haul trips @ 10 CY per trip during grading for widening Willow Glen Dr.

8 loads concrete and 8 loads asphalt during paving for Willow Glen improvements.

Demolition -

Grading -

Architectural Coating - Pavement marking coating 100 g/L maximum VOC contentnt per SDAPCD Rule 67.0.1.

10% of Willow Glen Dr. improvment area asuumed to require striping (1,600 SF).

Vehicle Trips - ADT and ATL per project TIA; employee and vendor trips assinged to office (71% employees, 29% vendors); truck trips assigned to non-ashpalt surface.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Consumer Products - Operational mobile emissions only, this model.

Area Coating - Operational mobile emissions only, this model.

Energy Use - Building energy calculated off-model.

Water And Wastewater - Water supplied on-site, no sewer hookup.

Solid Waste - Solid waste calculated off-model.

Construction Off-road Equipment Mitigation - Dust mitigation to comply with SDAPCD Rule 55.

Fleet Mix - Fleet mix for trucks = 100% HHD.

| Table Name              | Column Name                  | Default Value | New Value |
|-------------------------|------------------------------|---------------|-----------|
| tblArchitecturalCoating | ConstArea_Parking            | 21,869.00     | 1,600.00  |
| tblArchitecturalCoating | EF_Parking                   | 250.00        | 100.00    |
| tblAreaCoating          | Area_Nonresidential_Exterior | 500           | 0         |
| tblAreaCoating          | Area_Nonresidential_Interior | 1500          | 0         |

## SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                        |                              |             |       |
|------------------------|------------------------------|-------------|-------|
| tblAreaCoating         | Area_Parking                 | 21869       | 0     |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0           | 15    |
| tblConstructionPhase   | NumDays                      | 10.00       | 15.00 |
| tblConstructionPhase   | NumDays                      | 20.00       | 2.00  |
| tblConstructionPhase   | NumDays                      | 20.00       | 15.00 |
| tblConstructionPhase   | NumDays                      | 20.00       | 2.00  |
| tblConstructionPhase   | NumDays                      | 20.00       | 2.00  |
| tblConsumerProducts    | ROG_EF                       | 2.14E-05    | 0     |
| tblConsumerProducts    | ROG_EF_Degreaser             | 3.542E-07   | 0     |
| tblConsumerProducts    | ROG_EF_PesticidesFertilizers | 5.152E-08   | 0     |
| tblEnergyUse           | LightingElect                | 3.81        | 0.00  |
| tblEnergyUse           | NT24E                        | 4.97        | 0.00  |
| tblEnergyUse           | NT24NG                       | 4.20        | 0.00  |
| tblEnergyUse           | T24E                         | 4.16        | 0.00  |
| tblEnergyUse           | T24NG                        | 15.83       | 0.00  |
| tblFleetMix            | HHD                          | 6.1840e-003 | 1.00  |
| tblFleetMix            | LDA                          | 0.55        | 0.00  |
| tblFleetMix            | LDT1                         | 0.06        | 0.00  |
| tblFleetMix            | LDT2                         | 0.18        | 0.00  |
| tblFleetMix            | LHD1                         | 0.02        | 0.00  |
| tblFleetMix            | LHD2                         | 6.2140e-003 | 0.00  |
| tblFleetMix            | MCY                          | 0.03        | 0.00  |
| tblFleetMix            | MDV                          | 0.12        | 0.00  |
| tblFleetMix            | MH                           | 5.1640e-003 | 0.00  |
| tblFleetMix            | MHD                          | 8.4930e-003 | 0.00  |
| tblFleetMix            | OBUS                         | 7.1500e-004 | 0.00  |
| tblFleetMix            | SBUS                         | 9.8200e-004 | 0.00  |
| tblFleetMix            | UBUS                         | 5.5600e-004 | 0.00  |
| tblOffRoadEquipment    | OffRoadEquipmentUnitAmount   | 3.00        | 1.00  |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                           |                            |            |        |
|---------------------------|----------------------------|------------|--------|
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 2.00       | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 2.00       | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 2.00       | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 2.00       | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 3.00       | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 3.00       | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 4.00       | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 4.00       | 1.00   |
| tblProjectCharacteristics | UrbanizationLevel          | Urban      | Rural  |
| tblSolidWaste             | SolidWasteGenerationRate   | 0.93       | 0.00   |
| tblTripsAndVMT            | HaulingTripNumber          | 0.00       | 100.00 |
| tblTripsAndVMT            | HaulingTripNumber          | 0.00       | 32.00  |
| tblVehicleTrips           | CC_TL                      | 6.60       | 0.00   |
| tblVehicleTrips           | CC_TTP                     | 48.00      | 0.00   |
| tblVehicleTrips           | CNW_TL                     | 6.60       | 0.00   |
| tblVehicleTrips           | CNW_TTP                    | 19.00      | 29.00  |
| tblVehicleTrips           | CW_TL                      | 14.70      | 16.00  |
| tblVehicleTrips           | CW_TTP                     | 33.00      | 71.00  |
| tblVehicleTrips           | CW_TTP                     | 0.00       | 100.00 |
| tblVehicleTrips           | PR_TP                      | 0.00       | 100.00 |
| tblVehicleTrips           | ST_TR                      | 2.21       | 0.00   |
| tblVehicleTrips           | SU_TR                      | 0.70       | 0.00   |
| tblVehicleTrips           | WD_TR                      | 9.74       | 36.00  |
| tblVehicleTrips           | WD_TR                      | 0.00       | 22.00  |
| tblWater                  | IndoorWaterUseRate         | 177,733.75 | 0.00   |
| tblWater                  | OutdoorWaterUseRate        | 108,933.59 | 0.00   |

**2.0 Emissions Summary**



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Quarter | Start Date | End Date  | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|-----------|--|--|
| 1       | 2-1-2022   | 4-30-2022 | 0.4839                                       | 0.4839                                     |
| 2       | 5-1-2022   | 7-31-2022 | 0.2413                                       | 0.2413                                     |
|         |            | Highest   | 0.4839                                       | 0.4839                                     |

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Area         | 2.0000e-005   | 0.0000        | 2.3000e-004   | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 4.5000e-004       | 4.5000e-004       | 0.0000        | 0.0000        | 4.8000e-004       |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.0602        | 2.5717        | 0.8822        | 0.0113        | 0.3485        | 0.0205        | 0.3690        | 0.0954         | 0.0196        | 0.1150        | 0.0000        | 1,133.9388        | 1,133.9388        | 0.0573        | 0.1767        | 1,188.0124        |
| Waste        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Water        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| <b>Total</b> | <b>0.0602</b> | <b>2.5717</b> | <b>0.8824</b> | <b>0.0113</b> | <b>0.3485</b> | <b>0.0205</b> | <b>0.3690</b> | <b>0.0954</b>  | <b>0.0196</b> | <b>0.1150</b> | <b>0.0000</b> | <b>1,133.9393</b> | <b>1,133.9393</b> | <b>0.0573</b> | <b>0.1767</b> | <b>1,188.0129</b> |



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.2 Overall Operational**

**Mitigated Operational**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Area         | 2.0000e-005   | 0.0000        | 2.3000e-004   | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 4.5000e-004       | 4.5000e-004       | 0.0000        | 0.0000        | 4.8000e-004       |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.0602        | 2.5717        | 0.8822        | 0.0113        | 0.3485        | 0.0205        | 0.3690        | 0.0954         | 0.0196        | 0.1150        | 0.0000        | 1,133.9388        | 1,133.9388        | 0.0573        | 0.1767        | 1,188.0124        |
| Waste        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Water        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| <b>Total</b> | <b>0.0602</b> | <b>2.5717</b> | <b>0.8824</b> | <b>0.0113</b> | <b>0.3485</b> | <b>0.0205</b> | <b>0.3690</b> | <b>0.0954</b>  | <b>0.0196</b> | <b>0.1150</b> | <b>0.0000</b> | <b>1,133.9393</b> | <b>1,133.9393</b> | <b>0.0573</b> | <b>0.1767</b> | <b>1,188.0129</b> |

|                          | ROG         | NOx         | CO          | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2    | NBio-CO2    | Total CO2   | CH4         | N2O         | CO2e        |
|--------------------------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Percent Reduction</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b>   | <b>0.00</b>  | <b>0.00</b> | <b>0.00</b>    | <b>0.00</b>   | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> |

**3.0 Construction Detail**

**Construction Phase**

| Phase Number | Phase Name                  | Phase Type       | Start Date | End Date  | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------------|------------------|------------|-----------|---------------|----------|-------------------|
| 1            | Site Access                 | Site Preparation | 2/1/2022   | 2/21/2022 | 5             | 15       |                   |
| 2            | Willow Glen Imp. Demolition | Demolition       | 2/22/2022  | 2/23/2022 | 5             | 2        |                   |
| 3            | Willow Glen Imp. Grading    | Grading          | 2/24/2022  | 3/16/2022 | 5             | 15       |                   |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|   |                           |                       |           |           |   |    |
|---|---------------------------|-----------------------|-----------|-----------|---|----|
| 4 | Willow Glen Imp. Paving   | Paving                | 3/17/2022 | 3/18/2022 | 5 | 2  |
| 5 | Willow Glen Imp. Striping | Architectural Coating | 3/19/2022 | 3/22/2022 | 5 | 2  |
| 6 | Phase 1 Demolition        | Demolition            | 3/23/2022 | 4/19/2022 | 5 | 20 |
| 7 | Phase 1 Site Preparation  | Site Preparation      | 4/20/2022 | 5/3/2022  | 5 | 10 |
| 8 | Phase 1 Grading           | Grading               | 5/4/2022  | 5/31/2022 | 5 | 20 |

**Acres of Grading (Site Preparation Phase): 15**

**Acres of Grading (Grading Phase): 7.5**

**Acres of Paving: 8.37**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,500; Non-Residential Outdoor: 500; Striped Parking Area: 1,600 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name                  | Offroad Equipment Type    | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------------|---------------------------|--------|-------------|-------------|-------------|
| Site Access                 | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Site Access                 | Rubber Tired Dozers       | 1      | 8.00        | 247         | 0.40        |
| Site Access                 | Tractors/Loaders/Backhoes | 1      | 8.00        | 97          | 0.37        |
| Willow Glen Imp. Demolition | Concrete/Industrial Saws  | 1      | 8.00        | 81          | 0.73        |
| Willow Glen Imp. Demolition | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Willow Glen Imp. Demolition | Off-Highway Trucks        | 1      | 4.00        | 402         | 0.38        |
| Willow Glen Imp. Grading    | Crawler Tractors          | 1      | 8.00        | 212         | 0.43        |
| Willow Glen Imp. Grading    | Off-Highway Trucks        | 1      | 8.00        | 402         | 0.38        |
| Willow Glen Imp. Grading    | Rollers                   | 1      | 8.00        | 80          | 0.38        |
| Willow Glen Imp. Grading    | Skid Steer Loaders        | 1      | 8.00        | 65          | 0.37        |
| Willow Glen Imp. Paving     | Pavers                    | 1      | 8.00        | 130         | 0.42        |
| Willow Glen Imp. Paving     | Paving Equipment          | 1      | 8.00        | 132         | 0.36        |
| Willow Glen Imp. Paving     | Rollers                   | 1      | 8.00        | 80          | 0.38        |
| Willow Glen Imp. Striping   | Cranes                    | 1      | 4.00        | 231         | 0.29        |
| Willow Glen Imp. Striping   | Off-Highway Trucks        | 1      | 8.00        | 402         | 0.38        |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                          |                           |   |      |     |      |
|--------------------------|---------------------------|---|------|-----|------|
| Phase 1 Demolition       | Concrete/Industrial Saws  | 1 | 8.00 | 81  | 0.73 |
| Phase 1 Demolition       | Excavators                | 1 | 8.00 | 158 | 0.38 |
| Phase 1 Demolition       | Rubber Tired Dozers       | 1 | 8.00 | 247 | 0.40 |
| Phase 1 Site Preparation | Rubber Tired Dozers       | 1 | 8.00 | 247 | 0.40 |
| Phase 1 Site Preparation | Tractors/Loaders/Backhoes | 1 | 8.00 | 97  | 0.37 |
| Phase 1 Grading          | Excavators                | 1 | 8.00 | 158 | 0.38 |
| Phase 1 Grading          | Graders                   | 1 | 8.00 | 187 | 0.41 |
| Phase 1 Grading          | Rubber Tired Dozers       | 1 | 8.00 | 247 | 0.40 |
| Phase 1 Grading          | Tractors/Loaders/Backhoes | 3 | 8.00 | 97  | 0.37 |

**Trips and VMT**

| Phase Name                  | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Site Access                 | 3                       | 8.00               | 0.00               | 0.00                | 16.80              | 6.60               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Willow Glen Imp. Demolition | 3                       | 8.00               | 0.00               | 0.00                | 16.80              | 6.60               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Willow Glen Imp. Grading    | 4                       | 10.00              | 0.00               | 100.00              | 16.80              | 6.60               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Willow Glen Imp. Paving     | 3                       | 8.00               | 0.00               | 32.00               | 16.80              | 6.60               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Willow Glen Imp. Stripping  | 2                       | 31.00              | 0.00               | 0.00                | 16.80              | 6.60               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Phase 1 Demolition          | 3                       | 8.00               | 0.00               | 14.00               | 16.80              | 6.60               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Phase 1 Site Preparation    | 2                       | 5.00               | 0.00               | 0.00                | 16.80              | 6.60               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Phase 1 Grading             | 6                       | 15.00              | 0.00               | 0.00                | 16.80              | 6.60               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Site Access - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |               |               |               |                    | 0.0531        | 0.0000             | 0.0531        | 0.0257         | 0.0000             | 0.0257        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 0.0106        | 0.1180        | 0.0566        | 1.4000e-004        |               | 5.0600e-003        | 5.0600e-003   |                | 4.6600e-003        | 4.6600e-003   | 0.0000        | 12.0398        | 12.0398        | 3.8900e-003        | 0.0000        | 12.1372        |
| <b>Total</b>  | <b>0.0106</b> | <b>0.1180</b> | <b>0.0566</b> | <b>1.4000e-004</b> | <b>0.0531</b> | <b>5.0600e-003</b> | <b>0.0582</b> | <b>0.0257</b>  | <b>4.6600e-003</b> | <b>0.0304</b> | <b>0.0000</b> | <b>12.0398</b> | <b>12.0398</b> | <b>3.8900e-003</b> | <b>0.0000</b> | <b>12.1372</b> |

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |               |                    |                    |               |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 2.3000e-004        | 1.8000e-004        | 2.1200e-003        | 1.0000e-005        | 7.5000e-004        | 0.0000        | 7.5000e-004        | 2.0000e-004        | 0.0000        | 2.0000e-004        | 0.0000        | 0.6095        | 0.6095        | 2.0000e-005        | 2.0000e-005        | 0.6146        |
| <b>Total</b> | <b>2.3000e-004</b> | <b>1.8000e-004</b> | <b>2.1200e-003</b> | <b>1.0000e-005</b> | <b>7.5000e-004</b> | <b>0.0000</b> | <b>7.5000e-004</b> | <b>2.0000e-004</b> | <b>0.0000</b> | <b>2.0000e-004</b> | <b>0.0000</b> | <b>0.6095</b> | <b>0.6095</b> | <b>2.0000e-005</b> | <b>2.0000e-005</b> | <b>0.6146</b> |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Site Access - 2022**

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |               |               |               |                    | 0.0239        | 0.0000             | 0.0239        | 0.0116         | 0.0000             | 0.0116        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 0.0106        | 0.1180        | 0.0566        | 1.4000e-004        |               | 5.0600e-003        | 5.0600e-003   |                | 4.6600e-003        | 4.6600e-003   | 0.0000        | 12.0398        | 12.0398        | 3.8900e-003        | 0.0000        | 12.1372        |
| <b>Total</b>  | <b>0.0106</b> | <b>0.1180</b> | <b>0.0566</b> | <b>1.4000e-004</b> | <b>0.0239</b> | <b>5.0600e-003</b> | <b>0.0290</b> | <b>0.0116</b>  | <b>4.6600e-003</b> | <b>0.0162</b> | <b>0.0000</b> | <b>12.0398</b> | <b>12.0398</b> | <b>3.8900e-003</b> | <b>0.0000</b> | <b>12.1372</b> |

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |               |                    |                    |               |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 2.3000e-004        | 1.8000e-004        | 2.1200e-003        | 1.0000e-005        | 7.5000e-004        | 0.0000        | 7.5000e-004        | 2.0000e-004        | 0.0000        | 2.0000e-004        | 0.0000        | 0.6095        | 0.6095        | 2.0000e-005        | 2.0000e-005        | 0.6146        |
| <b>Total</b> | <b>2.3000e-004</b> | <b>1.8000e-004</b> | <b>2.1200e-003</b> | <b>1.0000e-005</b> | <b>7.5000e-004</b> | <b>0.0000</b> | <b>7.5000e-004</b> | <b>2.0000e-004</b> | <b>0.0000</b> | <b>2.0000e-004</b> | <b>0.0000</b> | <b>0.6095</b> | <b>0.6095</b> | <b>2.0000e-005</b> | <b>2.0000e-005</b> | <b>0.6146</b> |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Willow Glen Imp. Demolition - 2022**

**Unmitigated Construction On-Site**

|              | ROG                | NOx           | CO                 | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |                    |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 1.0400e-003        | 0.0101        | 7.0700e-003        | 2.0000e-005        |               | 3.9000e-004        | 3.9000e-004        |                | 3.7000e-004        | 3.7000e-004        | 0.0000        | 1.6996        | 1.6996        | 4.1000e-004        | 0.0000        | 1.7097        |
| <b>Total</b> | <b>1.0400e-003</b> | <b>0.0101</b> | <b>7.0700e-003</b> | <b>2.0000e-005</b> |               | <b>3.9000e-004</b> | <b>3.9000e-004</b> |                | <b>3.7000e-004</b> | <b>3.7000e-004</b> | <b>0.0000</b> | <b>1.6996</b> | <b>1.6996</b> | <b>4.1000e-004</b> | <b>0.0000</b> | <b>1.7097</b> |

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 3.0000e-005        | 2.0000e-005        | 2.8000e-004        | 0.0000        | 1.0000e-004        | 0.0000        | 1.0000e-004        | 3.0000e-005        | 0.0000        | 3.0000e-005        | 0.0000        | 0.0813        | 0.0813        | 0.0000        | 0.0000        | 0.0820        |
| <b>Total</b> | <b>3.0000e-005</b> | <b>2.0000e-005</b> | <b>2.8000e-004</b> | <b>0.0000</b> | <b>1.0000e-004</b> | <b>0.0000</b> | <b>1.0000e-004</b> | <b>3.0000e-005</b> | <b>0.0000</b> | <b>3.0000e-005</b> | <b>0.0000</b> | <b>0.0813</b> | <b>0.0813</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0820</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Willow Glen Imp. Demolition - 2022**

**Mitigated Construction On-Site**

|              | ROG                | NOx           | CO                 | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |                    |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 1.0400e-003        | 0.0101        | 7.0700e-003        | 2.0000e-005        |               | 3.9000e-004        | 3.9000e-004        |                | 3.7000e-004        | 3.7000e-004        | 0.0000        | 1.6996        | 1.6996        | 4.1000e-004        | 0.0000        | 1.7097        |
| <b>Total</b> | <b>1.0400e-003</b> | <b>0.0101</b> | <b>7.0700e-003</b> | <b>2.0000e-005</b> |               | <b>3.9000e-004</b> | <b>3.9000e-004</b> |                | <b>3.7000e-004</b> | <b>3.7000e-004</b> | <b>0.0000</b> | <b>1.6996</b> | <b>1.6996</b> | <b>4.1000e-004</b> | <b>0.0000</b> | <b>1.7097</b> |

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 3.0000e-005        | 2.0000e-005        | 2.8000e-004        | 0.0000        | 1.0000e-004        | 0.0000        | 1.0000e-004        | 3.0000e-005        | 0.0000        | 3.0000e-005        | 0.0000        | 0.0813        | 0.0813        | 0.0000        | 0.0000        | 0.0820        |
| <b>Total</b> | <b>3.0000e-005</b> | <b>2.0000e-005</b> | <b>2.8000e-004</b> | <b>0.0000</b> | <b>1.0000e-004</b> | <b>0.0000</b> | <b>1.0000e-004</b> | <b>3.0000e-005</b> | <b>0.0000</b> | <b>3.0000e-005</b> | <b>0.0000</b> | <b>0.0813</b> | <b>0.0813</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0820</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Willow Glen Imp. Grading - 2022**

**Unmitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |                    |               |               |                    | 3.9800e-003        | 0.0000             | 3.9800e-003        | 4.3000e-004        | 0.0000             | 4.3000e-004        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 9.4200e-003        | 0.0951        | 0.0669        | 1.9000e-004        |                    | 3.8000e-003        | 3.8000e-003        |                    | 3.5000e-003        | 3.5000e-003        | 0.0000        | 16.9588        | 16.9588        | 5.4800e-003        | 0.0000        | 17.0959        |
| <b>Total</b>  | <b>9.4200e-003</b> | <b>0.0951</b> | <b>0.0669</b> | <b>1.9000e-004</b> | <b>3.9800e-003</b> | <b>3.8000e-003</b> | <b>7.7800e-003</b> | <b>4.3000e-004</b> | <b>3.5000e-003</b> | <b>3.9300e-003</b> | <b>0.0000</b> | <b>16.9588</b> | <b>16.9588</b> | <b>5.4800e-003</b> | <b>0.0000</b> | <b>17.0959</b> |

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 2.2000e-004        | 8.4200e-003        | 1.9900e-003        | 3.0000e-005        | 8.6000e-004        | 8.0000e-005        | 9.3000e-004        | 2.4000e-004        | 7.0000e-005        | 3.1000e-004        | 0.0000        | 3.1341        | 3.1341        | 1.5000e-004        | 5.0000e-004        | 3.2862        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 2.8000e-004        | 2.2000e-004        | 2.6400e-003        | 1.0000e-005        | 9.4000e-004        | 1.0000e-005        | 9.4000e-004        | 2.5000e-004        | 0.0000             | 2.5000e-004        | 0.0000        | 0.7619        | 0.7619        | 2.0000e-005        | 2.0000e-005        | 0.7682        |
| <b>Total</b> | <b>5.0000e-004</b> | <b>8.6400e-003</b> | <b>4.6300e-003</b> | <b>4.0000e-005</b> | <b>1.8000e-003</b> | <b>9.0000e-005</b> | <b>1.8700e-003</b> | <b>4.9000e-004</b> | <b>7.0000e-005</b> | <b>5.6000e-004</b> | <b>0.0000</b> | <b>3.8959</b> | <b>3.8959</b> | <b>1.7000e-004</b> | <b>5.2000e-004</b> | <b>4.0544</b> |



SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Willow Glen Imp. Grading - 2022**

**Mitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |                    |               |               |                    | 1.7900e-003        | 0.0000             | 1.7900e-003        | 1.9000e-004        | 0.0000             | 1.9000e-004        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 9.4200e-003        | 0.0951        | 0.0669        | 1.9000e-004        |                    | 3.8000e-003        | 3.8000e-003        |                    | 3.5000e-003        | 3.5000e-003        | 0.0000        | 16.9588        | 16.9588        | 5.4800e-003        | 0.0000        | 17.0959        |
| <b>Total</b>  | <b>9.4200e-003</b> | <b>0.0951</b> | <b>0.0669</b> | <b>1.9000e-004</b> | <b>1.7900e-003</b> | <b>3.8000e-003</b> | <b>5.5900e-003</b> | <b>1.9000e-004</b> | <b>3.5000e-003</b> | <b>3.6900e-003</b> | <b>0.0000</b> | <b>16.9588</b> | <b>16.9588</b> | <b>5.4800e-003</b> | <b>0.0000</b> | <b>17.0959</b> |

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 2.2000e-004        | 8.4200e-003        | 1.9900e-003        | 3.0000e-005        | 8.6000e-004        | 8.0000e-005        | 9.3000e-004        | 2.4000e-004        | 7.0000e-005        | 3.1000e-004        | 0.0000        | 3.1341        | 3.1341        | 1.5000e-004        | 5.0000e-004        | 3.2862        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 2.8000e-004        | 2.2000e-004        | 2.6400e-003        | 1.0000e-005        | 9.4000e-004        | 1.0000e-005        | 9.4000e-004        | 2.5000e-004        | 0.0000             | 2.5000e-004        | 0.0000        | 0.7619        | 0.7619        | 2.0000e-005        | 2.0000e-005        | 0.7682        |
| <b>Total</b> | <b>5.0000e-004</b> | <b>8.6400e-003</b> | <b>4.6300e-003</b> | <b>4.0000e-005</b> | <b>1.8000e-003</b> | <b>9.0000e-005</b> | <b>1.8700e-003</b> | <b>4.9000e-004</b> | <b>7.0000e-005</b> | <b>5.6000e-004</b> | <b>0.0000</b> | <b>3.8959</b> | <b>3.8959</b> | <b>1.7000e-004</b> | <b>5.2000e-004</b> | <b>4.0544</b> |

## SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Willow Glen Imp. Paving - 2022****Unmitigated Construction On-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |                    |                    |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 5.5000e-004        | 5.5600e-003        | 7.2900e-003        | 1.0000e-005        |               | 2.8000e-004        | 2.8000e-004        |                | 2.6000e-004        | 2.6000e-004        | 0.0000        | 1.0014        | 1.0014        | 3.2000e-004        | 0.0000        | 1.0095        |
| Paving       | 4.8000e-004        |                    |                    |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| <b>Total</b> | <b>1.0300e-003</b> | <b>5.5600e-003</b> | <b>7.2900e-003</b> | <b>1.0000e-005</b> |               | <b>2.8000e-004</b> | <b>2.8000e-004</b> |                | <b>2.6000e-004</b> | <b>2.6000e-004</b> | <b>0.0000</b> | <b>1.0014</b> | <b>1.0014</b> | <b>3.2000e-004</b> | <b>0.0000</b> | <b>1.0095</b> |

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 7.0000e-005        | 2.6900e-003        | 6.4000e-004        | 1.0000e-005        | 2.7000e-004        | 3.0000e-005        | 3.0000e-004        | 8.0000e-005        | 2.0000e-005        | 1.0000e-004        | 0.0000        | 1.0029        | 1.0029        | 5.0000e-005        | 1.6000e-004        | 1.0516        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 3.0000e-005        | 2.0000e-005        | 2.8000e-004        | 0.0000             | 1.0000e-004        | 0.0000             | 1.0000e-004        | 3.0000e-005        | 0.0000             | 3.0000e-005        | 0.0000        | 0.0813        | 0.0813        | 0.0000             | 0.0000             | 0.0820        |
| <b>Total</b> | <b>1.0000e-004</b> | <b>2.7100e-003</b> | <b>9.2000e-004</b> | <b>1.0000e-005</b> | <b>3.7000e-004</b> | <b>3.0000e-005</b> | <b>4.0000e-004</b> | <b>1.1000e-004</b> | <b>2.0000e-005</b> | <b>1.3000e-004</b> | <b>0.0000</b> | <b>1.0842</b> | <b>1.0842</b> | <b>5.0000e-005</b> | <b>1.6000e-004</b> | <b>1.1335</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Willow Glen Imp. Paving - 2022**

**Mitigated Construction On-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |                    |                    |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 5.5000e-004        | 5.5600e-003        | 7.2900e-003        | 1.0000e-005        |               | 2.8000e-004        | 2.8000e-004        |                | 2.6000e-004        | 2.6000e-004        | 0.0000        | 1.0014        | 1.0014        | 3.2000e-004        | 0.0000        | 1.0095        |
| Paving       | 4.8000e-004        |                    |                    |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| <b>Total</b> | <b>1.0300e-003</b> | <b>5.5600e-003</b> | <b>7.2900e-003</b> | <b>1.0000e-005</b> |               | <b>2.8000e-004</b> | <b>2.8000e-004</b> |                | <b>2.6000e-004</b> | <b>2.6000e-004</b> | <b>0.0000</b> | <b>1.0014</b> | <b>1.0014</b> | <b>3.2000e-004</b> | <b>0.0000</b> | <b>1.0095</b> |

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 7.0000e-005        | 2.6900e-003        | 6.4000e-004        | 1.0000e-005        | 2.7000e-004        | 3.0000e-005        | 3.0000e-004        | 8.0000e-005        | 2.0000e-005        | 1.0000e-004        | 0.0000        | 1.0029        | 1.0029        | 5.0000e-005        | 1.6000e-004        | 1.0516        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 3.0000e-005        | 2.0000e-005        | 2.8000e-004        | 0.0000             | 1.0000e-004        | 0.0000             | 1.0000e-004        | 3.0000e-005        | 0.0000             | 3.0000e-005        | 0.0000        | 0.0813        | 0.0813        | 0.0000             | 0.0000             | 0.0820        |
| <b>Total</b> | <b>1.0000e-004</b> | <b>2.7100e-003</b> | <b>9.2000e-004</b> | <b>1.0000e-005</b> | <b>3.7000e-004</b> | <b>3.0000e-005</b> | <b>4.0000e-004</b> | <b>1.1000e-004</b> | <b>2.0000e-005</b> | <b>1.3000e-004</b> | <b>0.0000</b> | <b>1.0842</b> | <b>1.0842</b> | <b>5.0000e-005</b> | <b>1.6000e-004</b> | <b>1.1335</b> |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Willow Glen Imp. Striping - 2022**

**Unmitigated Construction On-Site**

|                 | ROG           | NOx                | CO                 | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|-----------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category        | tons/yr       |                    |                    |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Archit. Coating | 0.0153        |                    |                    |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road        | 7.1000e-004   | 6.1100e-003        | 4.3000e-003        | 2.0000e-005        |               | 2.3000e-004        | 2.3000e-004        |                | 2.1000e-004        | 2.1000e-004        | 0.0000        | 1.4138        | 1.4138        | 4.6000e-004        | 0.0000        | 1.4252        |
| <b>Total</b>    | <b>0.0160</b> | <b>6.1100e-003</b> | <b>4.3000e-003</b> | <b>2.0000e-005</b> |               | <b>2.3000e-004</b> | <b>2.3000e-004</b> |                | <b>2.1000e-004</b> | <b>2.1000e-004</b> | <b>0.0000</b> | <b>1.4138</b> | <b>1.4138</b> | <b>4.6000e-004</b> | <b>0.0000</b> | <b>1.4252</b> |

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 1.2000e-004        | 9.0000e-005        | 1.0900e-003        | 0.0000        | 3.9000e-004        | 0.0000        | 3.9000e-004        | 1.0000e-004        | 0.0000        | 1.0000e-004        | 0.0000        | 0.3149        | 0.3149        | 1.0000e-005        | 1.0000e-005        | 0.3175        |
| <b>Total</b> | <b>1.2000e-004</b> | <b>9.0000e-005</b> | <b>1.0900e-003</b> | <b>0.0000</b> | <b>3.9000e-004</b> | <b>0.0000</b> | <b>3.9000e-004</b> | <b>1.0000e-004</b> | <b>0.0000</b> | <b>1.0000e-004</b> | <b>0.0000</b> | <b>0.3149</b> | <b>0.3149</b> | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.3175</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Willow Glen Imp. Striping - 2022**

**Mitigated Construction On-Site**

|                 | ROG           | NOx                | CO                 | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|-----------------|---------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category        | tons/yr       |                    |                    |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Archit. Coating | 0.0153        |                    |                    |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road        | 7.1000e-004   | 6.1100e-003        | 4.3000e-003        | 2.0000e-005        |               | 2.3000e-004        | 2.3000e-004        |                | 2.1000e-004        | 2.1000e-004        | 0.0000        | 1.4138        | 1.4138        | 4.6000e-004        | 0.0000        | 1.4252        |
| <b>Total</b>    | <b>0.0160</b> | <b>6.1100e-003</b> | <b>4.3000e-003</b> | <b>2.0000e-005</b> |               | <b>2.3000e-004</b> | <b>2.3000e-004</b> |                | <b>2.1000e-004</b> | <b>2.1000e-004</b> | <b>0.0000</b> | <b>1.4138</b> | <b>1.4138</b> | <b>4.6000e-004</b> | <b>0.0000</b> | <b>1.4252</b> |

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 1.2000e-004        | 9.0000e-005        | 1.0900e-003        | 0.0000        | 3.9000e-004        | 0.0000        | 3.9000e-004        | 1.0000e-004        | 0.0000        | 1.0000e-004        | 0.0000        | 0.3149        | 0.3149        | 1.0000e-005        | 1.0000e-005        | 0.3175        |
| <b>Total</b> | <b>1.2000e-004</b> | <b>9.0000e-005</b> | <b>1.0900e-003</b> | <b>0.0000</b> | <b>3.9000e-004</b> | <b>0.0000</b> | <b>3.9000e-004</b> | <b>1.0000e-004</b> | <b>0.0000</b> | <b>1.0000e-004</b> | <b>0.0000</b> | <b>0.3149</b> | <b>0.3149</b> | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.3175</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Phase 1 Demolition - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |               |               |               |                    | 1.4900e-003        | 0.0000             | 1.4900e-003        | 2.3000e-004        | 0.0000             | 2.3000e-004        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 0.0140        | 0.1337        | 0.1050        | 2.0000e-004        |                    | 6.5300e-003        | 6.5300e-003        |                    | 6.1300e-003        | 6.1300e-003        | 0.0000        | 17.4154        | 17.4154        | 4.1900e-003        | 0.0000        | 17.5200        |
| <b>Total</b>  | <b>0.0140</b> | <b>0.1337</b> | <b>0.1050</b> | <b>2.0000e-004</b> | <b>1.4900e-003</b> | <b>6.5300e-003</b> | <b>8.0200e-003</b> | <b>2.3000e-004</b> | <b>6.1300e-003</b> | <b>6.3600e-003</b> | <b>0.0000</b> | <b>17.4154</b> | <b>17.4154</b> | <b>4.1900e-003</b> | <b>0.0000</b> | <b>17.5200</b> |

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 3.0000e-005        | 1.1800e-003        | 2.8000e-004        | 0.0000             | 1.2000e-004        | 1.0000e-005        | 1.3000e-004        | 3.0000e-005        | 1.0000e-005        | 4.0000e-005        | 0.0000        | 0.4388        | 0.4388        | 2.0000e-005        | 7.0000e-005        | 0.4601        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 3.0000e-004        | 2.4000e-004        | 2.8200e-003        | 1.0000e-005        | 1.0000e-003        | 1.0000e-005        | 1.0000e-003        | 2.7000e-004        | 1.0000e-005        | 2.7000e-004        | 0.0000        | 0.8127        | 0.8127        | 2.0000e-005        | 2.0000e-005        | 0.8195        |
| <b>Total</b> | <b>3.3000e-004</b> | <b>1.4200e-003</b> | <b>3.1000e-003</b> | <b>1.0000e-005</b> | <b>1.1200e-003</b> | <b>2.0000e-005</b> | <b>1.1300e-003</b> | <b>3.0000e-004</b> | <b>2.0000e-005</b> | <b>3.1000e-004</b> | <b>0.0000</b> | <b>1.2514</b> | <b>1.2514</b> | <b>4.0000e-005</b> | <b>9.0000e-005</b> | <b>1.2795</b> |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Phase 1 Demolition - 2022**

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |               |               |               |                    | 6.7000e-004        | 0.0000             | 6.7000e-004        | 1.0000e-004        | 0.0000             | 1.0000e-004        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 0.0140        | 0.1337        | 0.1050        | 2.0000e-004        |                    | 6.5300e-003        | 6.5300e-003        |                    | 6.1300e-003        | 6.1300e-003        | 0.0000        | 17.4153        | 17.4153        | 4.1900e-003        | 0.0000        | 17.5200        |
| <b>Total</b>  | <b>0.0140</b> | <b>0.1337</b> | <b>0.1050</b> | <b>2.0000e-004</b> | <b>6.7000e-004</b> | <b>6.5300e-003</b> | <b>7.2000e-003</b> | <b>1.0000e-004</b> | <b>6.1300e-003</b> | <b>6.2300e-003</b> | <b>0.0000</b> | <b>17.4153</b> | <b>17.4153</b> | <b>4.1900e-003</b> | <b>0.0000</b> | <b>17.5200</b> |

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 3.0000e-005        | 1.1800e-003        | 2.8000e-004        | 0.0000             | 1.2000e-004        | 1.0000e-005        | 1.3000e-004        | 3.0000e-005        | 1.0000e-005        | 4.0000e-005        | 0.0000        | 0.4388        | 0.4388        | 2.0000e-005        | 7.0000e-005        | 0.4601        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 3.0000e-004        | 2.4000e-004        | 2.8200e-003        | 1.0000e-005        | 1.0000e-003        | 1.0000e-005        | 1.0000e-003        | 2.7000e-004        | 1.0000e-005        | 2.7000e-004        | 0.0000        | 0.8127        | 0.8127        | 2.0000e-005        | 2.0000e-005        | 0.8195        |
| <b>Total</b> | <b>3.3000e-004</b> | <b>1.4200e-003</b> | <b>3.1000e-003</b> | <b>1.0000e-005</b> | <b>1.1200e-003</b> | <b>2.0000e-005</b> | <b>1.1300e-003</b> | <b>3.0000e-004</b> | <b>2.0000e-005</b> | <b>3.1000e-004</b> | <b>0.0000</b> | <b>1.2514</b> | <b>1.2514</b> | <b>4.0000e-005</b> | <b>9.0000e-005</b> | <b>1.2795</b> |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.8 Phase 1 Site Preparation - 2022**

**Unmitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |               |                    |               |                |                    |               | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 0.0328        | 0.0000             | 0.0328        | 0.0168         | 0.0000             | 0.0168        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 5.0100e-003        | 0.0524        | 0.0291        | 6.0000e-005        |               | 2.5400e-003        | 2.5400e-003   |                | 2.3300e-003        | 2.3300e-003   | 0.0000        | 5.1178        | 5.1178        | 1.6600e-003        | 0.0000        | 5.1592        |
| <b>Total</b>  | <b>5.0100e-003</b> | <b>0.0524</b> | <b>0.0291</b> | <b>6.0000e-005</b> | <b>0.0328</b> | <b>2.5400e-003</b> | <b>0.0353</b> | <b>0.0168</b>  | <b>2.3300e-003</b> | <b>0.0192</b> | <b>0.0000</b> | <b>5.1178</b> | <b>5.1178</b> | <b>1.6600e-003</b> | <b>0.0000</b> | <b>5.1592</b> |

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 9.0000e-005        | 7.0000e-005        | 8.8000e-004        | 0.0000        | 3.1000e-004        | 0.0000        | 3.1000e-004        | 8.0000e-005        | 0.0000        | 8.0000e-005        | 0.0000        | 0.2540        | 0.2540        | 1.0000e-005        | 1.0000e-005        | 0.2561        |
| <b>Total</b> | <b>9.0000e-005</b> | <b>7.0000e-005</b> | <b>8.8000e-004</b> | <b>0.0000</b> | <b>3.1000e-004</b> | <b>0.0000</b> | <b>3.1000e-004</b> | <b>8.0000e-005</b> | <b>0.0000</b> | <b>8.0000e-005</b> | <b>0.0000</b> | <b>0.2540</b> | <b>0.2540</b> | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.2561</b> |



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.8 Phase 1 Site Preparation - 2022**

**Mitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |               |                    |               |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 0.0147        | 0.0000             | 0.0147        | 7.5800e-003        | 0.0000             | 7.5800e-003        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 5.0100e-003        | 0.0524        | 0.0291        | 6.0000e-005        |               | 2.5400e-003        | 2.5400e-003   |                    | 2.3300e-003        | 2.3300e-003        | 0.0000        | 5.1178        | 5.1178        | 1.6600e-003        | 0.0000        | 5.1591        |
| <b>Total</b>  | <b>5.0100e-003</b> | <b>0.0524</b> | <b>0.0291</b> | <b>6.0000e-005</b> | <b>0.0147</b> | <b>2.5400e-003</b> | <b>0.0173</b> | <b>7.5800e-003</b> | <b>2.3300e-003</b> | <b>9.9100e-003</b> | <b>0.0000</b> | <b>5.1178</b> | <b>5.1178</b> | <b>1.6600e-003</b> | <b>0.0000</b> | <b>5.1591</b> |

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 9.0000e-005        | 7.0000e-005        | 8.8000e-004        | 0.0000        | 3.1000e-004        | 0.0000        | 3.1000e-004        | 8.0000e-005        | 0.0000        | 8.0000e-005        | 0.0000        | 0.2540        | 0.2540        | 1.0000e-005        | 1.0000e-005        | 0.2561        |
| <b>Total</b> | <b>9.0000e-005</b> | <b>7.0000e-005</b> | <b>8.8000e-004</b> | <b>0.0000</b> | <b>3.1000e-004</b> | <b>0.0000</b> | <b>3.1000e-004</b> | <b>8.0000e-005</b> | <b>0.0000</b> | <b>8.0000e-005</b> | <b>0.0000</b> | <b>0.2540</b> | <b>0.2540</b> | <b>1.0000e-005</b> | <b>1.0000e-005</b> | <b>0.2561</b> |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.9 Phase 1 Grading - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |               |               |               |                    | 0.0708        | 0.0000             | 0.0708        | 0.0343         | 0.0000             | 0.0343        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 0.0195        | 0.2086        | 0.1527        | 3.0000e-004        |               | 9.4100e-003        | 9.4100e-003   |                | 8.6600e-003        | 8.6600e-003   | 0.0000        | 26.0548        | 26.0548        | 8.4300e-003        | 0.0000        | 26.2654        |
| <b>Total</b>  | <b>0.0195</b> | <b>0.2086</b> | <b>0.1527</b> | <b>3.0000e-004</b> | <b>0.0708</b> | <b>9.4100e-003</b> | <b>0.0802</b> | <b>0.0343</b>  | <b>8.6600e-003</b> | <b>0.0429</b> | <b>0.0000</b> | <b>26.0548</b> | <b>26.0548</b> | <b>8.4300e-003</b> | <b>0.0000</b> | <b>26.2654</b> |

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 5.7000e-004        | 4.4000e-004        | 5.2900e-003        | 2.0000e-005        | 1.8700e-003        | 1.0000e-005        | 1.8800e-003        | 5.0000e-004        | 1.0000e-005        | 5.1000e-004        | 0.0000        | 1.5237        | 1.5237        | 4.0000e-005        | 4.0000e-005        | 1.5365        |
| <b>Total</b> | <b>5.7000e-004</b> | <b>4.4000e-004</b> | <b>5.2900e-003</b> | <b>2.0000e-005</b> | <b>1.8700e-003</b> | <b>1.0000e-005</b> | <b>1.8800e-003</b> | <b>5.0000e-004</b> | <b>1.0000e-005</b> | <b>5.1000e-004</b> | <b>0.0000</b> | <b>1.5237</b> | <b>1.5237</b> | <b>4.0000e-005</b> | <b>4.0000e-005</b> | <b>1.5365</b> |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.9 Phase 1 Grading - 2022**

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |               |               |               |                    | 0.0319        | 0.0000             | 0.0319        | 0.0154         | 0.0000             | 0.0154        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 0.0195        | 0.2086        | 0.1527        | 3.0000e-004        |               | 9.4100e-003        | 9.4100e-003   |                | 8.6600e-003        | 8.6600e-003   | 0.0000        | 26.0547        | 26.0547        | 8.4300e-003        | 0.0000        | 26.2654        |
| <b>Total</b>  | <b>0.0195</b> | <b>0.2086</b> | <b>0.1527</b> | <b>3.0000e-004</b> | <b>0.0319</b> | <b>9.4100e-003</b> | <b>0.0413</b> | <b>0.0154</b>  | <b>8.6600e-003</b> | <b>0.0241</b> | <b>0.0000</b> | <b>26.0547</b> | <b>26.0547</b> | <b>8.4300e-003</b> | <b>0.0000</b> | <b>26.2654</b> |

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 5.7000e-004        | 4.4000e-004        | 5.2900e-003        | 2.0000e-005        | 1.8700e-003        | 1.0000e-005        | 1.8800e-003        | 5.0000e-004        | 1.0000e-005        | 5.1000e-004        | 0.0000        | 1.5237        | 1.5237        | 4.0000e-005        | 4.0000e-005        | 1.5365        |
| <b>Total</b> | <b>5.7000e-004</b> | <b>4.4000e-004</b> | <b>5.2900e-003</b> | <b>2.0000e-005</b> | <b>1.8700e-003</b> | <b>1.0000e-005</b> | <b>1.8800e-003</b> | <b>5.0000e-004</b> | <b>1.0000e-005</b> | <b>5.1000e-004</b> | <b>0.0000</b> | <b>1.5237</b> | <b>1.5237</b> | <b>4.0000e-005</b> | <b>4.0000e-005</b> | <b>1.5365</b> |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

|             | ROG     | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category    | tons/yr |        |        |        |               |              |            |                |               |             | MT/yr    |            |            |        |        |            |
| Mitigated   | 0.0602  | 2.5717 | 0.8822 | 0.0113 | 0.3485        | 0.0205       | 0.3690     | 0.0954         | 0.0196        | 0.1150      | 0.0000   | 1,133.9388 | 1,133.9388 | 0.0573 | 0.1767 | 1,188.0124 |
| Unmitigated | 0.0602  | 2.5717 | 0.8822 | 0.0113 | 0.3485        | 0.0205       | 0.3690     | 0.0954         | 0.0196        | 0.1150      | 0.0000   | 1,133.9388 | 1,133.9388 | 0.0573 | 0.1767 | 1,188.0124 |

**4.2 Trip Summary Information**

| Land Use                   | Average Daily Trip Rate |             |             | Unmitigated    | Mitigated      |
|----------------------------|-------------------------|-------------|-------------|----------------|----------------|
|                            | Weekday                 | Saturday    | Sunday      | Annual VMT     | Annual VMT     |
| General Office Building    | 36.00                   | 0.00        | 0.00        | 94,545         | 94,545         |
| Other Asphalt Surfaces     | 0.00                    | 0.00        | 0.00        |                |                |
| Other Non-Asphalt Surfaces | 176.00                  | 0.00        | 0.00        | 732,160        | 732,160        |
| <b>Total</b>               | <b>212.00</b>           | <b>0.00</b> | <b>0.00</b> | <b>826,705</b> | <b>826,705</b> |

**4.3 Trip Type Information**

| Land Use                   | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                            | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| General Office Building    | 14.70      | 6.60       | 6.60        | 71.00      | 0.00       | 29.00       | 77             | 19       | 4       |
| Other Asphalt Surfaces     | 14.70      | 6.60       | 6.60        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces | 16.00      | 0.00       | 0.00        | 100.00     | 0.00       | 0.00        | 100            | 0        | 0       |







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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

|                            | Electricity Use | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|-----------------|---------------|---------------|---------------|---------------|
| Land Use                   | kWh/yr          | MT/yr         |               |               |               |
| General Office Building    | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Asphalt Surfaces     | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                 | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.3 Energy by Land Use - Electricity**

**Mitigated**

|                            | Electricity Use | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|-----------------|---------------|---------------|---------------|---------------|
| Land Use                   | kWh/yr          | MT/yr         |               |               |               |
| General Office Building    | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Asphalt Surfaces     | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                 | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|             | ROG         | NOx    | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4    | N2O    | CO2e        |
|-------------|-------------|--------|-------------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|--------|--------|-------------|
| Category    | tons/yr     |        |             |        |               |              |            |                |               |             | MT/yr    |             |             |        |        |             |
| Mitigated   | 2.0000e-005 | 0.0000 | 2.3000e-004 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 4.5000e-004 | 4.5000e-004 | 0.0000 | 0.0000 | 4.8000e-004 |
| Unmitigated | 2.0000e-005 | 0.0000 | 2.3000e-004 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 4.5000e-004 | 4.5000e-004 | 0.0000 | 0.0000 | 4.8000e-004 |

**6.2 Area by SubCategory**

Unmitigated

|                       | ROG                | NOx           | CO                 | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|-----------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| SubCategory           | tons/yr            |               |                    |               |               |               |               |                |               |               | MT/yr         |                    |                    |               |               |                    |
| Architectural Coating | 0.0000             |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Consumer Products     | 0.0000             |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Landscaping           | 2.0000e-005        | 0.0000        | 2.3000e-004        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 4.5000e-004        | 4.5000e-004        | 0.0000        | 0.0000        | 4.8000e-004        |
| <b>Total</b>          | <b>2.0000e-005</b> | <b>0.0000</b> | <b>2.3000e-004</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>4.5000e-004</b> | <b>4.5000e-004</b> | <b>0.0000</b> | <b>0.0000</b> | <b>4.8000e-004</b> |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.2 Area by SubCategory**

Mitigated

|                       | ROG                | NOx           | CO                 | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|-----------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| SubCategory           | tons/yr            |               |                    |               |               |               |               |                |               |               | MT/yr         |                    |                    |               |               |                    |
| Architectural Coating | 0.0000             |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Consumer Products     | 0.0000             |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Landscaping           | 2.0000e-005        | 0.0000        | 2.3000e-004        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 4.5000e-004        | 4.5000e-004        | 0.0000        | 0.0000        | 4.8000e-004        |
| <b>Total</b>          | <b>2.0000e-005</b> | <b>0.0000</b> | <b>2.3000e-004</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>4.5000e-004</b> | <b>4.5000e-004</b> | <b>0.0000</b> | <b>0.0000</b> | <b>4.8000e-004</b> |

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|             | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|-----------|--------|--------|--------|
| Category    | MT/yr     |        |        |        |
| Mitigated   | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

**7.2 Water by Land Use**

**Unmitigated**

|                            | Indoor/Outdoor Use | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|--------------------|---------------|---------------|---------------|---------------|
| Land Use                   | Mgal               | MT/yr         |               |               |               |
| General Office Building    | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Asphalt Surfaces     | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                    | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.2 Water by Land Use**

Mitigated

|                            | Indoor/Outdoor Use | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|--------------------|---------------|---------------|---------------|---------------|
| Land Use                   | Mgal               | MT/yr         |               |               |               |
| General Office Building    | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Asphalt Surfaces     | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                    | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Category/Year

|             | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|-----------|--------|--------|--------|
|             | MT/yr     |        |        |        |
| Mitigated   | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

**8.2 Waste by Land Use**

Unmitigated

|                            | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use                   | tons           | MT/yr         |               |               |               |
| General Office Building    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Asphalt Surfaces     | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.2 Waste by Land Use**

Mitigated

|                            | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use                   | tons           | MT/yr         |               |               |               |
| General Office Building    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Asphalt Surfaces     | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**11.0 Vegetation**

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SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**SIR-02 Cottonwood Sand Mine Phase 1**

**San Diego County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                  | Size  | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------|-------|----------|-------------|--------------------|------------|
| General Office Building    | 1.00  | 1000sqft | 0.02        | 1,000.00           | 0          |
| Other Asphalt Surfaces     | 16.00 | 1000sqft | 0.37        | 16,000.00          | 0          |
| Other Non-Asphalt Surfaces | 8.00  | Acre     | 8.00        | 348,480.00         | 0          |

**1.2 Other Project Characteristics**

|                                |                          |                                |       |                                  |       |
|--------------------------------|--------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Rural                    | <b>Wind Speed (m/s)</b>        | 2.6   | <b>Precipitation Freq (Days)</b> | 40    |
| <b>Climate Zone</b>            | 13                       |                                |       | <b>Operational Year</b>          | 2023  |
| <b>Utility Company</b>         | San Diego Gas & Electric |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 539.98                   | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Run v3 - Roadway improvement construction activity added; Updated Phase 1 schedule; Update to CalEEMod 2020.4.0.

Land Use - No construction for the office building, structure will be mobile/prefabricated units.

Other non-asphalt areas = main entrance, parking/load area, plant area, settling ponds, and 2nd entrance west.

Other asphalt surfaces = improvements to Willow Glen Dr.

Construction Phase - No building construction, schedule per project applicant.

Off-road Equipment - Demolition of a residential structure, garage, and golf course restroom...total approx 3,000 SF.

Off-road Equipment - Equipment for Phase 1 demolition.

Off-road Equipment - Equipment for Phase 1 grading.

Off-road Equipment - Equipment for Phase 1 site preparation.

Off-road Equipment - Equipment for construction of new site access points/roads

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Off-road Equipment - Equipment for Willow Glen Drive Improvements - demolition.

Off-Highway Truck = water truck.

Off-road Equipment - Equipment for Willow Glen Drive Improvements - widening.

Off-Highway Truck = water truck.

Off-road Equipment - Equipment for Willow Glen Drive Improvements - paving.

Off-road Equipment - Equipment for Willow Glen Drive Improvements - striping.

Off-Highway Truck = striping truck.

Crane for installing light posts.

Trips and VMT - 50 fill haul trips @ 10 CY per trip during grading for widening Willow Glen Dr.

8 loads concrete and 8 loads asphalt during paving for Willow Glen improvements.

Demolition -

Grading -

Architectural Coating - Pavement marking coating 100 g/L maximum VOC contentnt per SDAPCD Rule 67.0.1.

10% of Willow Glen Dr. improvment area asuumed to require striping (1,600 SF).

Vehicle Trips - ADT and ATL per project TIA; employee and vendor trips assinged to office (71% employees, 29% vendors); truck trips assigned to non-ashpalt surface.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Consumer Products - Operational mobile emissions only, this model.

Area Coating - Operational mobile emissions only, this model.

Energy Use - Building energy calculated off-model.

Water And Wastewater - Water supplied on-site, no sewer hookup.

Solid Waste - Solid waste calculated off-model.

Construction Off-road Equipment Mitigation - Dust mitigation to comply with SDAPCD Rule 55.

Fleet Mix - Fleet mix for trucks = 100% HHD.

| Table Name              | Column Name                  | Default Value | New Value |
|-------------------------|------------------------------|---------------|-----------|
| tblArchitecturalCoating | ConstArea_Parking            | 21,869.00     | 1,600.00  |
| tblArchitecturalCoating | EF_Parking                   | 250.00        | 100.00    |
| tblAreaCoating          | Area_Nonresidential_Exterior | 500           | 0         |
| tblAreaCoating          | Area_Nonresidential_Interior | 1500          | 0         |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                        |                              |             |       |
|------------------------|------------------------------|-------------|-------|
| tblAreaCoating         | Area_Parking                 | 21869       | 0     |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0           | 15    |
| tblConstructionPhase   | NumDays                      | 10.00       | 15.00 |
| tblConstructionPhase   | NumDays                      | 20.00       | 2.00  |
| tblConstructionPhase   | NumDays                      | 20.00       | 15.00 |
| tblConstructionPhase   | NumDays                      | 20.00       | 2.00  |
| tblConstructionPhase   | NumDays                      | 20.00       | 2.00  |
| tblConsumerProducts    | ROG_EF                       | 2.14E-05    | 0     |
| tblConsumerProducts    | ROG_EF_Degreaser             | 3.542E-07   | 0     |
| tblConsumerProducts    | ROG_EF_PesticidesFertilizers | 5.152E-08   | 0     |
| tblEnergyUse           | LightingElect                | 3.81        | 0.00  |
| tblEnergyUse           | NT24E                        | 4.97        | 0.00  |
| tblEnergyUse           | NT24NG                       | 4.20        | 0.00  |
| tblEnergyUse           | T24E                         | 4.16        | 0.00  |
| tblEnergyUse           | T24NG                        | 15.83       | 0.00  |
| tblFleetMix            | HHD                          | 6.1840e-003 | 1.00  |
| tblFleetMix            | LDA                          | 0.55        | 0.00  |
| tblFleetMix            | LDT1                         | 0.06        | 0.00  |
| tblFleetMix            | LDT2                         | 0.18        | 0.00  |
| tblFleetMix            | LHD1                         | 0.02        | 0.00  |
| tblFleetMix            | LHD2                         | 6.2140e-003 | 0.00  |
| tblFleetMix            | MCY                          | 0.03        | 0.00  |
| tblFleetMix            | MDV                          | 0.12        | 0.00  |
| tblFleetMix            | MH                           | 5.1640e-003 | 0.00  |
| tblFleetMix            | MHD                          | 8.4930e-003 | 0.00  |
| tblFleetMix            | OBUS                         | 7.1500e-004 | 0.00  |
| tblFleetMix            | SBUS                         | 9.8200e-004 | 0.00  |
| tblFleetMix            | UBUS                         | 5.5600e-004 | 0.00  |
| tblOffRoadEquipment    | OffRoadEquipmentUnitAmount   | 3.00        | 1.00  |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                           |                            |            |        |
|---------------------------|----------------------------|------------|--------|
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 2.00       | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 2.00       | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 2.00       | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 2.00       | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 3.00       | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 3.00       | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 4.00       | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 4.00       | 1.00   |
| tblProjectCharacteristics | UrbanizationLevel          | Urban      | Rural  |
| tblSolidWaste             | SolidWasteGenerationRate   | 0.93       | 0.00   |
| tblTripsAndVMT            | HaulingTripNumber          | 0.00       | 100.00 |
| tblTripsAndVMT            | HaulingTripNumber          | 0.00       | 32.00  |
| tblVehicleTrips           | CC_TL                      | 6.60       | 0.00   |
| tblVehicleTrips           | CC_TTP                     | 48.00      | 0.00   |
| tblVehicleTrips           | CNW_TL                     | 6.60       | 0.00   |
| tblVehicleTrips           | CNW_TTP                    | 19.00      | 29.00  |
| tblVehicleTrips           | CW_TL                      | 14.70      | 16.00  |
| tblVehicleTrips           | CW_TTP                     | 33.00      | 71.00  |
| tblVehicleTrips           | CW_TTP                     | 0.00       | 100.00 |
| tblVehicleTrips           | PR_TP                      | 0.00       | 100.00 |
| tblVehicleTrips           | ST_TR                      | 2.21       | 0.00   |
| tblVehicleTrips           | SU_TR                      | 0.70       | 0.00   |
| tblVehicleTrips           | WD_TR                      | 9.74       | 36.00  |
| tblVehicleTrips           | WD_TR                      | 0.00       | 22.00  |
| tblWater                  | IndoorWaterUseRate         | 177,733.75 | 0.00   |
| tblWater                  | OutdoorWaterUseRate        | 108,933.59 | 0.00   |

**2.0 Emissions Summary**



SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e               |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|--------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                    |
| Area         | 2.4000e-004   | 2.0000e-005    | 2.5500e-003   | 0.0000        |               | 1.0000e-005   | 1.0000e-005   |                | 1.0000e-005   | 1.0000e-005   |          | 5.4700e-003       | 5.4700e-003       | 1.0000e-005   |               | 5.8300e-003        |
| Energy       | 0.0000        | 0.0000         | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000             |
| Mobile       | 0.4513        | 19.8867        | 6.8631        | 0.0873        | 2.7383        | 0.1582        | 2.8965        | 0.7482         | 0.1513        | 0.8994        |          | 9,631.1921        | 9,631.1921        | 0.4861        | 1.5008        | 10,090.5719        |
| <b>Total</b> | <b>0.4515</b> | <b>19.8867</b> | <b>6.8657</b> | <b>0.0873</b> | <b>2.7383</b> | <b>0.1582</b> | <b>2.8965</b> | <b>0.7482</b>  | <b>0.1513</b> | <b>0.8995</b> |          | <b>9,631.1976</b> | <b>9,631.1976</b> | <b>0.4861</b> | <b>1.5008</b> | <b>10,090.5777</b> |

**Mitigated Operational**

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e               |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|--------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                    |
| Area         | 2.4000e-004   | 2.0000e-005    | 2.5500e-003   | 0.0000        |               | 1.0000e-005   | 1.0000e-005   |                | 1.0000e-005   | 1.0000e-005   |          | 5.4700e-003       | 5.4700e-003       | 1.0000e-005   |               | 5.8300e-003        |
| Energy       | 0.0000        | 0.0000         | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000             |
| Mobile       | 0.4513        | 19.8867        | 6.8631        | 0.0873        | 2.7383        | 0.1582        | 2.8965        | 0.7482         | 0.1513        | 0.8994        |          | 9,631.1921        | 9,631.1921        | 0.4861        | 1.5008        | 10,090.5719        |
| <b>Total</b> | <b>0.4515</b> | <b>19.8867</b> | <b>6.8657</b> | <b>0.0873</b> | <b>2.7383</b> | <b>0.1582</b> | <b>2.8965</b> | <b>0.7482</b>  | <b>0.1513</b> | <b>0.8995</b> |          | <b>9,631.1976</b> | <b>9,631.1976</b> | <b>0.4861</b> | <b>1.5008</b> | <b>10,090.5777</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00          | 0.00         | 0.00       | 0.00           | 0.00          | 0.00        | 0.00     | 0.00     | 0.00      | 0.00 | 0.00 | 0.00 |

**3.0 Construction Detail**

**Construction Phase**

| Phase Number | Phase Name                  | Phase Type            | Start Date | End Date  | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------------|-----------------------|------------|-----------|---------------|----------|-------------------|
| 1            | Site Access                 | Site Preparation      | 2/1/2022   | 2/21/2022 | 5             | 15       |                   |
| 2            | Willow Glen Imp. Demolition | Demolition            | 2/22/2022  | 2/23/2022 | 5             | 2        |                   |
| 3            | Willow Glen Imp. Grading    | Grading               | 2/24/2022  | 3/16/2022 | 5             | 15       |                   |
| 4            | Willow Glen Imp. Paving     | Paving                | 3/17/2022  | 3/18/2022 | 5             | 2        |                   |
| 5            | Willow Glen Imp. Striping   | Architectural Coating | 3/19/2022  | 3/22/2022 | 5             | 2        |                   |
| 6            | Phase 1 Demolition          | Demolition            | 3/23/2022  | 4/19/2022 | 5             | 20       |                   |
| 7            | Phase 1 Site Preparation    | Site Preparation      | 4/20/2022  | 5/3/2022  | 5             | 10       |                   |
| 8            | Phase 1 Grading             | Grading               | 5/4/2022   | 5/31/2022 | 5             | 20       |                   |

**Acres of Grading (Site Preparation Phase): 15**

**Acres of Grading (Grading Phase): 7.5**

**Acres of Paving: 8.37**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,500; Non-Residential Outdoor: 500; Striped Parking Area: 1,600 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name  | Offroad Equipment Type    | Amount | Usage Hours | Horse Power | Load Factor |
|-------------|---------------------------|--------|-------------|-------------|-------------|
| Site Access | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Site Access | Rubber Tired Dozers       | 1      | 8.00        | 247         | 0.40        |
| Site Access | Tractors/Loaders/Backhoes | 1      | 8.00        | 97          | 0.37        |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                             |                           |   |      |     |      |
|-----------------------------|---------------------------|---|------|-----|------|
| Willow Glen Imp. Demolition | Concrete/Industrial Saws  | 1 | 8.00 | 81  | 0.73 |
| Willow Glen Imp. Demolition | Graders                   | 1 | 8.00 | 187 | 0.41 |
| Willow Glen Imp. Demolition | Off-Highway Trucks        | 1 | 4.00 | 402 | 0.38 |
| Willow Glen Imp. Grading    | Crawler Tractors          | 1 | 8.00 | 212 | 0.43 |
| Willow Glen Imp. Grading    | Off-Highway Trucks        | 1 | 8.00 | 402 | 0.38 |
| Willow Glen Imp. Grading    | Rollers                   | 1 | 8.00 | 80  | 0.38 |
| Willow Glen Imp. Grading    | Skid Steer Loaders        | 1 | 8.00 | 65  | 0.37 |
| Willow Glen Imp. Paving     | Pavers                    | 1 | 8.00 | 130 | 0.42 |
| Willow Glen Imp. Paving     | Paving Equipment          | 1 | 8.00 | 132 | 0.36 |
| Willow Glen Imp. Paving     | Rollers                   | 1 | 8.00 | 80  | 0.38 |
| Willow Glen Imp. Striping   | Cranes                    | 1 | 4.00 | 231 | 0.29 |
| Willow Glen Imp. Striping   | Off-Highway Trucks        | 1 | 8.00 | 402 | 0.38 |
| Phase 1 Demolition          | Concrete/Industrial Saws  | 1 | 8.00 | 81  | 0.73 |
| Phase 1 Demolition          | Excavators                | 1 | 8.00 | 158 | 0.38 |
| Phase 1 Demolition          | Rubber Tired Dozers       | 1 | 8.00 | 247 | 0.40 |
| Phase 1 Site Preparation    | Rubber Tired Dozers       | 1 | 8.00 | 247 | 0.40 |
| Phase 1 Site Preparation    | Tractors/Loaders/Backhoes | 1 | 8.00 | 97  | 0.37 |
| Phase 1 Grading             | Excavators                | 1 | 8.00 | 158 | 0.38 |
| Phase 1 Grading             | Graders                   | 1 | 8.00 | 187 | 0.41 |
| Phase 1 Grading             | Rubber Tired Dozers       | 1 | 8.00 | 247 | 0.40 |
| Phase 1 Grading             | Tractors/Loaders/Backhoes | 3 | 8.00 | 97  | 0.37 |

**Trips and VMT**

| Phase Name                  | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Site Access                 | 3                       | 8.00               | 0.00               | 0.00                | 16.80              | 6.60               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Willow Glen Imp. Demolition | 3                       | 8.00               | 0.00               | 0.00                | 16.80              | 6.60               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Willow Glen Imp. Grading    | 4                       | 10.00              | 0.00               | 100.00              | 16.80              | 6.60               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |



SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                           |   |       |      |       |       |      |       |        |         |      |
|---------------------------|---|-------|------|-------|-------|------|-------|--------|---------|------|
| Willow Glen Imp. Paving   | 3 | 8.00  | 0.00 | 32.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Willow Glen Imp. Striping | 2 | 31.00 | 0.00 | 0.00  | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Phase 1 Demolition        | 3 | 8.00  | 0.00 | 14.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Phase 1 Site Preparation  | 2 | 5.00  | 0.00 | 0.00  | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Phase 1 Grading           | 6 | 15.00 | 0.00 | 0.00  | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Site Access - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |               |               | 7.0826        | 0.0000        | 7.0826        | 3.4247         | 0.0000        | 3.4247        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.4168        | 15.7269        | 7.5417        | 0.0183        |               | 0.6747        | 0.6747        |                | 0.6207        | 0.6207        |          | 1,769.5532        | 1,769.5532        | 0.5723        |     | 1,783.8610        |
| <b>Total</b>  | <b>1.4168</b> | <b>15.7269</b> | <b>7.5417</b> | <b>0.0183</b> | <b>7.0826</b> | <b>0.6747</b> | <b>7.7573</b> | <b>3.4247</b>  | <b>0.6207</b> | <b>4.0455</b> |          | <b>1,769.5532</b> | <b>1,769.5532</b> | <b>0.5723</b> |     | <b>1,783.8610</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Site Access - 2022**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Worker       | 0.0336        | 0.0242        | 0.2804        | 8.7000e-004        | 0.1022        | 5.6000e-004        | 0.1027        | 0.0271         | 5.1000e-004        | 0.0276        |          | 88.7825        | 88.7825        | 2.2600e-003        | 2.3500e-003        | 89.5407        |
| <b>Total</b> | <b>0.0336</b> | <b>0.0242</b> | <b>0.2804</b> | <b>8.7000e-004</b> | <b>0.1022</b> | <b>5.6000e-004</b> | <b>0.1027</b> | <b>0.0271</b>  | <b>5.1000e-004</b> | <b>0.0276</b> |          | <b>88.7825</b> | <b>88.7825</b> | <b>2.2600e-003</b> | <b>2.3500e-003</b> | <b>89.5407</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |                |               |               | 3.1872        | 0.0000        | 3.1872        | 1.5411         | 0.0000        | 1.5411        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.4168        | 15.7269        | 7.5417        | 0.0183        |               | 0.6747        | 0.6747        |                | 0.6207        | 0.6207        | 0.0000        | 1,769.5532        | 1,769.5532        | 0.5723        |     | 1,783.8610        |
| <b>Total</b>  | <b>1.4168</b> | <b>15.7269</b> | <b>7.5417</b> | <b>0.0183</b> | <b>3.1872</b> | <b>0.6747</b> | <b>3.8619</b> | <b>1.5411</b>  | <b>0.6207</b> | <b>2.1619</b> | <b>0.0000</b> | <b>1,769.5532</b> | <b>1,769.5532</b> | <b>0.5723</b> |     | <b>1,783.8610</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Site Access - 2022**

Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Worker       | 0.0336        | 0.0242        | 0.2804        | 8.7000e-004        | 0.1022        | 5.6000e-004        | 0.1027        | 0.0271         | 5.1000e-004        | 0.0276        |          | 88.7825        | 88.7825        | 2.2600e-003        | 2.3500e-003        | 89.5407        |
| <b>Total</b> | <b>0.0336</b> | <b>0.0242</b> | <b>0.2804</b> | <b>8.7000e-004</b> | <b>0.1022</b> | <b>5.6000e-004</b> | <b>0.1027</b> | <b>0.0271</b>  | <b>5.1000e-004</b> | <b>0.0276</b> |          | <b>88.7825</b> | <b>88.7825</b> | <b>2.2600e-003</b> | <b>2.3500e-003</b> | <b>89.5407</b> |

**3.3 Willow Glen Imp. Demolition - 2022**

Unmitigated Construction On-Site

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Off-Road     | 1.0369        | 10.0656        | 7.0658        | 0.0195        |               | 0.3904        | 0.3904        |                | 0.3711        | 0.3711        |          | 1,873.4362        | 1,873.4362        | 0.4466        |     | 1,884.6001        |
| <b>Total</b> | <b>1.0369</b> | <b>10.0656</b> | <b>7.0658</b> | <b>0.0195</b> |               | <b>0.3904</b> | <b>0.3904</b> |                | <b>0.3711</b> | <b>0.3711</b> |          | <b>1,873.4362</b> | <b>1,873.4362</b> | <b>0.4466</b> |     | <b>1,884.6001</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Willow Glen Imp. Demolition - 2022**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Worker       | 0.0336        | 0.0242        | 0.2804        | 8.7000e-004        | 0.1022        | 5.6000e-004        | 0.1027        | 0.0271         | 5.1000e-004        | 0.0276        |          | 88.7825        | 88.7825        | 2.2600e-003        | 2.3500e-003        | 89.5407        |
| <b>Total</b> | <b>0.0336</b> | <b>0.0242</b> | <b>0.2804</b> | <b>8.7000e-004</b> | <b>0.1022</b> | <b>5.6000e-004</b> | <b>0.1027</b> | <b>0.0271</b>  | <b>5.1000e-004</b> | <b>0.0276</b> |          | <b>88.7825</b> | <b>88.7825</b> | <b>2.2600e-003</b> | <b>2.3500e-003</b> | <b>89.5407</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Off-Road     | 1.0369        | 10.0656        | 7.0658        | 0.0195        |               | 0.3904        | 0.3904        |                | 0.3711        | 0.3711        | 0.0000        | 1,873.4362        | 1,873.4362        | 0.4466        |     | 1,884.6001        |
| <b>Total</b> | <b>1.0369</b> | <b>10.0656</b> | <b>7.0658</b> | <b>0.0195</b> |               | <b>0.3904</b> | <b>0.3904</b> |                | <b>0.3711</b> | <b>0.3711</b> | <b>0.0000</b> | <b>1,873.4362</b> | <b>1,873.4362</b> | <b>0.4466</b> |     | <b>1,884.6001</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Willow Glen Imp. Demolition - 2022**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Worker       | 0.0336        | 0.0242        | 0.2804        | 8.7000e-004        | 0.1022        | 5.6000e-004        | 0.1027        | 0.0271         | 5.1000e-004        | 0.0276        |          | 88.7825        | 88.7825        | 2.2600e-003        | 2.3500e-003        | 89.5407        |
| <b>Total</b> | <b>0.0336</b> | <b>0.0242</b> | <b>0.2804</b> | <b>8.7000e-004</b> | <b>0.1022</b> | <b>5.6000e-004</b> | <b>0.1027</b> | <b>0.0271</b>  | <b>5.1000e-004</b> | <b>0.0276</b> |          | <b>88.7825</b> | <b>88.7825</b> | <b>2.2600e-003</b> | <b>2.3500e-003</b> | <b>89.5407</b> |

**3.4 Willow Glen Imp. Grading - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |               |               | 0.5303        | 0.0000        | 0.5303        | 0.0573         | 0.0000        | 0.0573        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.2562        | 12.6761        | 8.9211        | 0.0258        |               | 0.5066        | 0.5066        |                | 0.4661        | 0.4661        |          | 2,492.5127        | 2,492.5127        | 0.8061        |     | 2,512.6660        |
| <b>Total</b>  | <b>1.2562</b> | <b>12.6761</b> | <b>8.9211</b> | <b>0.0258</b> | <b>0.5303</b> | <b>0.5066</b> | <b>1.0369</b> | <b>0.0573</b>  | <b>0.4661</b> | <b>0.5234</b> |          | <b>2,492.5127</b> | <b>2,492.5127</b> | <b>0.8061</b> |     | <b>2,512.6660</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Willow Glen Imp. Grading - 2022**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |               |                 |
| Hauling      | 0.0291        | 1.1234        | 0.2672        | 4.1900e-003        | 0.1166        | 0.0105        | 0.1271        | 0.0320         | 0.0100        | 0.0420        |          | 460.7414        | 460.7414        | 0.0221        | 0.0732        | 483.1057        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Worker       | 0.0420        | 0.0302        | 0.3504        | 1.0900e-003        | 0.1277        | 7.0000e-004   | 0.1284        | 0.0339         | 6.4000e-004   | 0.0345        |          | 110.9782        | 110.9782        | 2.8200e-003   | 2.9400e-003   | 111.9259        |
| <b>Total</b> | <b>0.0711</b> | <b>1.1536</b> | <b>0.6176</b> | <b>5.2800e-003</b> | <b>0.2443</b> | <b>0.0112</b> | <b>0.2555</b> | <b>0.0658</b>  | <b>0.0106</b> | <b>0.0765</b> |          | <b>571.7195</b> | <b>571.7195</b> | <b>0.0249</b> | <b>0.0761</b> | <b>595.0316</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |                |               |               | 0.2386        | 0.0000        | 0.2386        | 0.0258         | 0.0000        | 0.0258        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.2562        | 12.6761        | 8.9211        | 0.0258        |               | 0.5066        | 0.5066        |                | 0.4661        | 0.4661        | 0.0000        | 2,492.5127        | 2,492.5127        | 0.8061        |     | 2,512.6660        |
| <b>Total</b>  | <b>1.2562</b> | <b>12.6761</b> | <b>8.9211</b> | <b>0.0258</b> | <b>0.2386</b> | <b>0.5066</b> | <b>0.7453</b> | <b>0.0258</b>  | <b>0.4661</b> | <b>0.4919</b> | <b>0.0000</b> | <b>2,492.5127</b> | <b>2,492.5127</b> | <b>0.8061</b> |     | <b>2,512.6660</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Willow Glen Imp. Grading - 2022**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |               |                 |
| Hauling      | 0.0291        | 1.1234        | 0.2672        | 4.1900e-003        | 0.1166        | 0.0105        | 0.1271        | 0.0320         | 0.0100        | 0.0420        |          | 460.7414        | 460.7414        | 0.0221        | 0.0732        | 483.1057        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Worker       | 0.0420        | 0.0302        | 0.3504        | 1.0900e-003        | 0.1277        | 7.0000e-004   | 0.1284        | 0.0339         | 6.4000e-004   | 0.0345        |          | 110.9782        | 110.9782        | 2.8200e-003   | 2.9400e-003   | 111.9259        |
| <b>Total</b> | <b>0.0711</b> | <b>1.1536</b> | <b>0.6176</b> | <b>5.2800e-003</b> | <b>0.2443</b> | <b>0.0112</b> | <b>0.2555</b> | <b>0.0658</b>  | <b>0.0106</b> | <b>0.0765</b> |          | <b>571.7195</b> | <b>571.7195</b> | <b>0.0249</b> | <b>0.0761</b> | <b>595.0316</b> |

**3.5 Willow Glen Imp. Paving - 2022**

**Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Off-Road     | 0.5514        | 5.5624        | 7.2902        | 0.0114        |               | 0.2840        | 0.2840        |                | 0.2612        | 0.2612        |          | 1,103.8302        | 1,103.8302        | 0.3570        |     | 1,112.7552        |
| Paving       | 0.4847        |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                   | 0.0000            |               |     | 0.0000            |
| <b>Total</b> | <b>1.0361</b> | <b>5.5624</b> | <b>7.2902</b> | <b>0.0114</b> |               | <b>0.2840</b> | <b>0.2840</b> |                | <b>0.2612</b> | <b>0.2612</b> |          | <b>1,103.8302</b> | <b>1,103.8302</b> | <b>0.3570</b> |     | <b>1,112.7552</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Willow Glen Imp. Paving - 2022**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2              | Total CO2              | CH4           | N2O           | CO2e                   |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|------------------------|------------------------|---------------|---------------|------------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                        |                        |               |               |                        |
| Hauling      | 0.0699        | 2.6961        | 0.6413        | 0.0100        | 0.2798        | 0.0251        | 0.3049        | 0.0767         | 0.0240        | 0.1007        |          | 1,105.779<br>3         | 1,105.779<br>3         | 0.0531        | 0.1757        | 1,159.453<br>7         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000                 | 0.0000                 | 0.0000        | 0.0000        | 0.0000                 |
| Worker       | 0.0336        | 0.0242        | 0.2804        | 8.7000e-004   | 0.1022        | 5.6000e-004   | 0.1027        | 0.0271         | 5.1000e-004   | 0.0276        |          | 88.7825                | 88.7825                | 2.2600e-003   | 2.3500e-003   | 89.5407                |
| <b>Total</b> | <b>0.1035</b> | <b>2.7203</b> | <b>0.9216</b> | <b>0.0109</b> | <b>0.3820</b> | <b>0.0256</b> | <b>0.4077</b> | <b>0.1038</b>  | <b>0.0245</b> | <b>0.1283</b> |          | <b>1,194.561<br/>9</b> | <b>1,194.561<br/>9</b> | <b>0.0553</b> | <b>0.1780</b> | <b>1,248.994<br/>4</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2              | Total CO2              | CH4           | N2O | CO2e                   |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|------------------------|------------------------|---------------|-----|------------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day        |                        |                        |               |     |                        |
| Off-Road     | 0.5514        | 5.5624        | 7.2902        | 0.0114        |               | 0.2840        | 0.2840        |                | 0.2612        | 0.2612        | 0.0000        | 1,103.830<br>2         | 1,103.830<br>2         | 0.3570        |     | 1,112.755<br>2         |
| Paving       | 0.4847        |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                        | 0.0000                 |               |     | 0.0000                 |
| <b>Total</b> | <b>1.0361</b> | <b>5.5624</b> | <b>7.2902</b> | <b>0.0114</b> |               | <b>0.2840</b> | <b>0.2840</b> |                | <b>0.2612</b> | <b>0.2612</b> | <b>0.0000</b> | <b>1,103.830<br/>2</b> | <b>1,103.830<br/>2</b> | <b>0.3570</b> |     | <b>1,112.755<br/>2</b> |



SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Willow Glen Imp. Paving - 2022**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2              | Total CO2              | CH4           | N2O           | CO2e                   |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|------------------------|------------------------|---------------|---------------|------------------------|
| Category     | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |                        |                        |               |               |                        |
| Hauling      | 0.0699        | 2.6961        | 0.6413        | 0.0100        | 0.2798        | 0.0251        | 0.3049        | 0.0767         | 0.0240        | 0.1007        |          | 1,105.779<br>3         | 1,105.779<br>3         | 0.0531        | 0.1757        | 1,159.453<br>7         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000                 | 0.0000                 | 0.0000        | 0.0000        | 0.0000                 |
| Worker       | 0.0336        | 0.0242        | 0.2804        | 8.7000e-004   | 0.1022        | 5.6000e-004   | 0.1027        | 0.0271         | 5.1000e-004   | 0.0276        |          | 88.7825                | 88.7825                | 2.2600e-003   | 2.3500e-003   | 89.5407                |
| <b>Total</b> | <b>0.1035</b> | <b>2.7203</b> | <b>0.9216</b> | <b>0.0109</b> | <b>0.3820</b> | <b>0.0256</b> | <b>0.4077</b> | <b>0.1038</b>  | <b>0.0245</b> | <b>0.1283</b> |          | <b>1,194.561<br/>9</b> | <b>1,194.561<br/>9</b> | <b>0.0553</b> | <b>0.1780</b> | <b>1,248.994<br/>4</b> |

**3.6 Willow Glen Imp. Striping - 2022**

**Unmitigated Construction On-Site**

|                 | ROG            | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2              | Total CO2              | CH4           | N2O | CO2e                   |
|-----------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|------------------------|------------------------|---------------|-----|------------------------|
| Category        | lb/day         |               |               |               |               |               |               |                |               |               | lb/day   |                        |                        |               |     |                        |
| Archit. Coating | 15.2955        |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                        | 0.0000                 |               |     | 0.0000                 |
| Off-Road        | 0.7149         | 6.1059        | 4.3049        | 0.0161        |               | 0.2328        | 0.2328        |                | 0.2142        | 0.2142        |          | 1,558.400<br>5         | 1,558.400<br>5         | 0.5040        |     | 1,571.000<br>9         |
| <b>Total</b>    | <b>16.0104</b> | <b>6.1059</b> | <b>4.3049</b> | <b>0.0161</b> |               | <b>0.2328</b> | <b>0.2328</b> |                | <b>0.2142</b> | <b>0.2142</b> |          | <b>1,558.400<br/>5</b> | <b>1,558.400<br/>5</b> | <b>0.5040</b> |     | <b>1,571.000<br/>9</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Willow Glen Imp. Striping - 2022**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |                    |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Worker       | 0.1301        | 0.0936        | 1.0864        | 3.3800e-003        | 0.3960        | 2.1600e-003        | 0.3981        | 0.1050         | 1.9900e-003        | 0.1070        |          | 344.0323        | 344.0323        | 8.7400e-003        | 9.1300e-003        | 346.9702        |
| <b>Total</b> | <b>0.1301</b> | <b>0.0936</b> | <b>1.0864</b> | <b>3.3800e-003</b> | <b>0.3960</b> | <b>2.1600e-003</b> | <b>0.3981</b> | <b>0.1050</b>  | <b>1.9900e-003</b> | <b>0.1070</b> |          | <b>344.0323</b> | <b>344.0323</b> | <b>8.7400e-003</b> | <b>9.1300e-003</b> | <b>346.9702</b> |

**Mitigated Construction On-Site**

|                 | ROG            | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|-----------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category        | lb/day         |               |               |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Archit. Coating | 15.2955        |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road        | 0.7149         | 6.1059        | 4.3049        | 0.0161        |               | 0.2328        | 0.2328        |                | 0.2142        | 0.2142        | 0.0000        | 1,558.4005        | 1,558.4005        | 0.5040        |     | 1,571.0009        |
| <b>Total</b>    | <b>16.0104</b> | <b>6.1059</b> | <b>4.3049</b> | <b>0.0161</b> |               | <b>0.2328</b> | <b>0.2328</b> |                | <b>0.2142</b> | <b>0.2142</b> | <b>0.0000</b> | <b>1,558.4005</b> | <b>1,558.4005</b> | <b>0.5040</b> |     | <b>1,571.0009</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Willow Glen Imp. Striping - 2022**

Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |                    |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Worker       | 0.1301        | 0.0936        | 1.0864        | 3.3800e-003        | 0.3960        | 2.1600e-003        | 0.3981        | 0.1050         | 1.9900e-003        | 0.1070        |          | 344.0323        | 344.0323        | 8.7400e-003        | 9.1300e-003        | 346.9702        |
| <b>Total</b> | <b>0.1301</b> | <b>0.0936</b> | <b>1.0864</b> | <b>3.3800e-003</b> | <b>0.3960</b> | <b>2.1600e-003</b> | <b>0.3981</b> | <b>0.1050</b>  | <b>1.9900e-003</b> | <b>0.1070</b> |          | <b>344.0323</b> | <b>344.0323</b> | <b>8.7400e-003</b> | <b>9.1300e-003</b> | <b>346.9702</b> |

**3.7 Phase 1 Demolition - 2022**

Unmitigated Construction On-Site

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 0.1495        | 0.0000        | 0.1495        | 0.0226         | 0.0000        | 0.0226        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.3972        | 13.3718        | 10.5018        | 0.0200        |               | 0.6535        | 0.6535        |                | 0.6132        | 0.6132        |          | 1,919.7153        | 1,919.7153        | 0.4615        |     | 1,931.2534        |
| <b>Total</b>  | <b>1.3972</b> | <b>13.3718</b> | <b>10.5018</b> | <b>0.0200</b> | <b>0.1495</b> | <b>0.6535</b> | <b>0.8030</b> | <b>0.0226</b>  | <b>0.6132</b> | <b>0.6358</b> |          | <b>1,919.7153</b> | <b>1,919.7153</b> | <b>0.4615</b> |     | <b>1,931.2534</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Phase 1 Demolition - 2022**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |               |                 |
| Hauling      | 3.0600e-003   | 0.1180        | 0.0281        | 4.4000e-004        | 0.0122        | 1.1000e-003        | 0.0133        | 3.3600e-003    | 1.0500e-003        | 4.4100e-003   |          | 48.3779         | 48.3779         | 2.3200e-003        | 7.6900e-003   | 50.7261         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.0336        | 0.0242        | 0.2804        | 8.7000e-004        | 0.1022        | 5.6000e-004        | 0.1027        | 0.0271         | 5.1000e-004        | 0.0276        |          | 88.7825         | 88.7825         | 2.2600e-003        | 2.3500e-003   | 89.5407         |
| <b>Total</b> | <b>0.0366</b> | <b>0.1421</b> | <b>0.3084</b> | <b>1.3100e-003</b> | <b>0.1144</b> | <b>1.6600e-003</b> | <b>0.1161</b> | <b>0.0305</b>  | <b>1.5600e-003</b> | <b>0.0320</b> |          | <b>137.1604</b> | <b>137.1604</b> | <b>4.5800e-003</b> | <b>0.0100</b> | <b>140.2668</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 0.0673        | 0.0000        | 0.0673        | 0.0102         | 0.0000        | 0.0102        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.3972        | 13.3718        | 10.5018        | 0.0200        |               | 0.6535        | 0.6535        |                | 0.6132        | 0.6132        | 0.0000        | 1,919.7153        | 1,919.7153        | 0.4615        |     | 1,931.2534        |
| <b>Total</b>  | <b>1.3972</b> | <b>13.3718</b> | <b>10.5018</b> | <b>0.0200</b> | <b>0.0673</b> | <b>0.6535</b> | <b>0.7207</b> | <b>0.0102</b>  | <b>0.6132</b> | <b>0.6234</b> | <b>0.0000</b> | <b>1,919.7153</b> | <b>1,919.7153</b> | <b>0.4615</b> |     | <b>1,931.2534</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Phase 1 Demolition - 2022**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |               |                 |
| Hauling      | 3.0600e-003   | 0.1180        | 0.0281        | 4.4000e-004        | 0.0122        | 1.1000e-003        | 0.0133        | 3.3600e-003    | 1.0500e-003        | 4.4100e-003   |          | 48.3779         | 48.3779         | 2.3200e-003        | 7.6900e-003   | 50.7261         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.0336        | 0.0242        | 0.2804        | 8.7000e-004        | 0.1022        | 5.6000e-004        | 0.1027        | 0.0271         | 5.1000e-004        | 0.0276        |          | 88.7825         | 88.7825         | 2.2600e-003        | 2.3500e-003   | 89.5407         |
| <b>Total</b> | <b>0.0366</b> | <b>0.1421</b> | <b>0.3084</b> | <b>1.3100e-003</b> | <b>0.1144</b> | <b>1.6600e-003</b> | <b>0.1161</b> | <b>0.0305</b>  | <b>1.5600e-003</b> | <b>0.0320</b> |          | <b>137.1604</b> | <b>137.1604</b> | <b>4.5800e-003</b> | <b>0.0100</b> | <b>140.2668</b> |

**3.8 Phase 1 Site Preparation - 2022**

**Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |               |               | 6.5523        | 0.0000        | 6.5523        | 3.3675         | 0.0000        | 3.3675        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.0018        | 10.4693        | 5.8199        | 0.0116        |               | 0.5075        | 0.5075        |                | 0.4669        | 0.4669        |          | 1,128.2743        | 1,128.2743        | 0.3649        |     | 1,137.3970        |
| <b>Total</b>  | <b>1.0018</b> | <b>10.4693</b> | <b>5.8199</b> | <b>0.0116</b> | <b>6.5523</b> | <b>0.5075</b> | <b>7.0598</b> | <b>3.3675</b>  | <b>0.4669</b> | <b>3.8344</b> |          | <b>1,128.2743</b> | <b>1,128.2743</b> | <b>0.3649</b> |     | <b>1,137.3970</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.8 Phase 1 Site Preparation - 2022**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Worker       | 0.0210        | 0.0151        | 0.1752        | 5.5000e-004        | 0.0639        | 3.5000e-004        | 0.0642        | 0.0169         | 3.2000e-004        | 0.0173        |          | 55.4891        | 55.4891        | 1.4100e-003        | 1.4700e-003        | 55.9629        |
| <b>Total</b> | <b>0.0210</b> | <b>0.0151</b> | <b>0.1752</b> | <b>5.5000e-004</b> | <b>0.0639</b> | <b>3.5000e-004</b> | <b>0.0642</b> | <b>0.0169</b>  | <b>3.2000e-004</b> | <b>0.0173</b> |          | <b>55.4891</b> | <b>55.4891</b> | <b>1.4100e-003</b> | <b>1.4700e-003</b> | <b>55.9629</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |                |               |               | 2.9486        | 0.0000        | 2.9486        | 1.5154         | 0.0000        | 1.5154        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.0018        | 10.4693        | 5.8199        | 0.0116        |               | 0.5075        | 0.5075        |                | 0.4669        | 0.4669        | 0.0000        | 1,128.2743        | 1,128.2743        | 0.3649        |     | 1,137.3970        |
| <b>Total</b>  | <b>1.0018</b> | <b>10.4693</b> | <b>5.8199</b> | <b>0.0116</b> | <b>2.9486</b> | <b>0.5075</b> | <b>3.4560</b> | <b>1.5154</b>  | <b>0.4669</b> | <b>1.9823</b> | <b>0.0000</b> | <b>1,128.2743</b> | <b>1,128.2743</b> | <b>0.3649</b> |     | <b>1,137.3970</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.8 Phase 1 Site Preparation - 2022**

Mitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2      | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|----------------|----------------|--------------------|--------------------|----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                |                |                    |                    |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000         | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Worker       | 0.0210        | 0.0151        | 0.1752        | 5.5000e-004        | 0.0639        | 3.5000e-004        | 0.0642        | 0.0169         | 3.2000e-004        | 0.0173        |          | 55.4891        | 55.4891        | 1.4100e-003        | 1.4700e-003        | 55.9629        |
| <b>Total</b> | <b>0.0210</b> | <b>0.0151</b> | <b>0.1752</b> | <b>5.5000e-004</b> | <b>0.0639</b> | <b>3.5000e-004</b> | <b>0.0642</b> | <b>0.0169</b>  | <b>3.2000e-004</b> | <b>0.0173</b> |          | <b>55.4891</b> | <b>55.4891</b> | <b>1.4100e-003</b> | <b>1.4700e-003</b> | <b>55.9629</b> |

**3.9 Phase 1 Grading - 2022**

Unmitigated Construction On-Site

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 7.0826        | 0.0000        | 7.0826        | 3.4247         | 0.0000        | 3.4247        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.9486        | 20.8551        | 15.2727        | 0.0297        |               | 0.9409        | 0.9409        |                | 0.8656        | 0.8656        |          | 2,872.0464        | 2,872.0464        | 0.9289        |     | 2,895.2684        |
| <b>Total</b>  | <b>1.9486</b> | <b>20.8551</b> | <b>15.2727</b> | <b>0.0297</b> | <b>7.0826</b> | <b>0.9409</b> | <b>8.0234</b> | <b>3.4247</b>  | <b>0.8656</b> | <b>4.2903</b> |          | <b>2,872.0464</b> | <b>2,872.0464</b> | <b>0.9289</b> |     | <b>2,895.2684</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.9 Phase 1 Grading - 2022**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |                    |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Worker       | 0.0630        | 0.0453        | 0.5257        | 1.6400e-003        | 0.1916        | 1.0400e-003        | 0.1926        | 0.0508         | 9.6000e-004        | 0.0518        |          | 166.4672        | 166.4672        | 4.2300e-003        | 4.4200e-003        | 167.8888        |
| <b>Total</b> | <b>0.0630</b> | <b>0.0453</b> | <b>0.5257</b> | <b>1.6400e-003</b> | <b>0.1916</b> | <b>1.0400e-003</b> | <b>0.1926</b> | <b>0.0508</b>  | <b>9.6000e-004</b> | <b>0.0518</b> |          | <b>166.4672</b> | <b>166.4672</b> | <b>4.2300e-003</b> | <b>4.4200e-003</b> | <b>167.8888</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 3.1872        | 0.0000        | 3.1872        | 1.5411         | 0.0000        | 1.5411        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.9486        | 20.8551        | 15.2727        | 0.0297        |               | 0.9409        | 0.9409        |                | 0.8656        | 0.8656        | 0.0000        | 2,872.0464        | 2,872.0464        | 0.9289        |     | 2,895.2684        |
| <b>Total</b>  | <b>1.9486</b> | <b>20.8551</b> | <b>15.2727</b> | <b>0.0297</b> | <b>3.1872</b> | <b>0.9409</b> | <b>4.1280</b> | <b>1.5411</b>  | <b>0.8656</b> | <b>2.4067</b> | <b>0.0000</b> | <b>2,872.0464</b> | <b>2,872.0464</b> | <b>0.9289</b> |     | <b>2,895.2684</b> |



SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.9 Phase 1 Grading - 2022**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O                | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |                    |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000             | 0.0000          |
| Worker       | 0.0630        | 0.0453        | 0.5257        | 1.6400e-003        | 0.1916        | 1.0400e-003        | 0.1926        | 0.0508         | 9.6000e-004        | 0.0518        |          | 166.4672        | 166.4672        | 4.2300e-003        | 4.4200e-003        | 167.8888        |
| <b>Total</b> | <b>0.0630</b> | <b>0.0453</b> | <b>0.5257</b> | <b>1.6400e-003</b> | <b>0.1916</b> | <b>1.0400e-003</b> | <b>0.1926</b> | <b>0.0508</b>  | <b>9.6000e-004</b> | <b>0.0518</b> |          | <b>166.4672</b> | <b>166.4672</b> | <b>4.2300e-003</b> | <b>4.4200e-003</b> | <b>167.8888</b> |

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|             | ROG    | NOx     | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2      | Total CO2      | CH4    | N2O    | CO2e            |
|-------------|--------|---------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------------|----------------|--------|--------|-----------------|
| Category    | lb/day |         |        |        |               |              |            |                |               |             | lb/day   |                |                |        |        |                 |
| Mitigated   | 0.4513 | 19.8867 | 6.8631 | 0.0873 | 2.7383        | 0.1582       | 2.8965     | 0.7482         | 0.1513        | 0.8994      |          | 9,631.192<br>1 | 9,631.192<br>1 | 0.4861 | 1.5008 | 10,090.57<br>19 |
| Unmitigated | 0.4513 | 19.8867 | 6.8631 | 0.0873 | 2.7383        | 0.1582       | 2.8965     | 0.7482         | 0.1513        | 0.8994      |          | 9,631.192<br>1 | 9,631.192<br>1 | 0.4861 | 1.5008 | 10,090.57<br>19 |

**4.2 Trip Summary Information**

| Land Use                   | Average Daily Trip Rate |             |             | Unmitigated    | Mitigated      |
|----------------------------|-------------------------|-------------|-------------|----------------|----------------|
|                            | Weekday                 | Saturday    | Sunday      | Annual VMT     | Annual VMT     |
| General Office Building    | 36.00                   | 0.00        | 0.00        | 94,545         | 94,545         |
| Other Asphalt Surfaces     | 0.00                    | 0.00        | 0.00        |                |                |
| Other Non-Asphalt Surfaces | 176.00                  | 0.00        | 0.00        | 732,160        | 732,160        |
| <b>Total</b>               | <b>212.00</b>           | <b>0.00</b> | <b>0.00</b> | <b>826,705</b> | <b>826,705</b> |

**4.3 Trip Type Information**

| Land Use                   | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                            | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| General Office Building    | 14.70      | 6.60       | 6.60        | 71.00      | 0.00       | 29.00       | 77             | 19       | 4       |
| Other Asphalt Surfaces     | 14.70      | 6.60       | 6.60        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Other Non-Asphalt Surfaces | 16.00      | 0.00       | 0.00        | 100.00     | 0.00       | 0.00        | 100            | 0        | 0       |

**4.4 Fleet Mix**

| Land Use                | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|-------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| General Office Building | 0.553514 | 0.062792 | 0.181046 | 0.120736 | 0.024419 | 0.006214 | 0.008493 | 0.006184 | 0.000715 | 0.000556 | 0.029185 | 0.000982 | 0.005164 |
| Other Asphalt Surfaces  | 0.553514 | 0.062792 | 0.181046 | 0.120736 | 0.024419 | 0.006214 | 0.008493 | 0.006184 | 0.000715 | 0.000556 | 0.029185 | 0.000982 | 0.005164 |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                            |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
|----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Other Non-Asphalt Surfaces | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
|----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

|                        | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e   |
|------------------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
| Category               | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |           |           |        |        |        |
| NaturalGas Mitigated   | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| NaturalGas Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - Natural Gas**

**Unmitigated**

|                            | Natural Gas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                   | kBTU/yr         | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| General Office Building    | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Asphalt Surfaces     | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                 | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - NaturalGas**

Mitigated

|                            | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                   | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| General Office Building    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Asphalt Surfaces     | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|             | ROG         | NOx         | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4         | N2O | CO2e        |
|-------------|-------------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-------------|-------------|-------------|-----|-------------|
| Category    | lb/day      |             |             |        |               |              |             |                |               |             | lb/day   |             |             |             |     |             |
| Mitigated   | 2.4000e-004 | 2.0000e-005 | 2.5500e-003 | 0.0000 |               | 1.0000e-005  | 1.0000e-005 |                | 1.0000e-005   | 1.0000e-005 |          | 5.4700e-003 | 5.4700e-003 | 1.0000e-005 |     | 5.8300e-003 |
| Unmitigated | 2.4000e-004 | 2.0000e-005 | 2.5500e-003 | 0.0000 |               | 1.0000e-005  | 1.0000e-005 |                | 1.0000e-005   | 1.0000e-005 |          | 5.4700e-003 | 5.4700e-003 | 1.0000e-005 |     | 5.8300e-003 |

**6.2 Area by SubCategory**

Unmitigated

|                       | ROG                | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2          | Total CO2          | CH4                | N2O | CO2e               |
|-----------------------|--------------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|--------------------|--------------------|--------------------|-----|--------------------|
| SubCategory           | lb/day             |                    |                    |               |               |                    |                    |                |                    |                    | lb/day   |                    |                    |                    |     |                    |
| Architectural Coating | 0.0000             |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |                    | 0.0000             |                    |     | 0.0000             |
| Consumer Products     | 0.0000             |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |                    | 0.0000             |                    |     | 0.0000             |
| Landscaping           | 2.4000e-004        | 2.0000e-005        | 2.5500e-003        | 0.0000        |               | 1.0000e-005        | 1.0000e-005        |                | 1.0000e-005        | 1.0000e-005        |          | 5.4700e-003        | 5.4700e-003        | 1.0000e-005        |     | 5.8300e-003        |
| <b>Total</b>          | <b>2.4000e-004</b> | <b>2.0000e-005</b> | <b>2.5500e-003</b> | <b>0.0000</b> |               | <b>1.0000e-005</b> | <b>1.0000e-005</b> |                | <b>1.0000e-005</b> | <b>1.0000e-005</b> |          | <b>5.4700e-003</b> | <b>5.4700e-003</b> | <b>1.0000e-005</b> |     | <b>5.8300e-003</b> |

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.2 Area by SubCategory**

Mitigated

|                       | ROG                | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2 | Total CO2          | CH4                | N2O                | CO2e               |
|-----------------------|--------------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|-----------|--------------------|--------------------|--------------------|--------------------|
| SubCategory           | lb/day             |                    |                    |               |               |                    |                    |                |                    |                    | lb/day   |           |                    |                    |                    |                    |
| Architectural Coating | 0.0000             |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |           | 0.0000             |                    |                    | 0.0000             |
| Consumer Products     | 0.0000             |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |           | 0.0000             |                    |                    | 0.0000             |
| Landscaping           | 2.4000e-004        | 2.0000e-005        | 2.5500e-003        | 0.0000        |               | 1.0000e-005        | 1.0000e-005        |                | 1.0000e-005        | 1.0000e-005        |          |           | 5.4700e-003        | 5.4700e-003        | 1.0000e-005        | 5.8300e-003        |
| <b>Total</b>          | <b>2.4000e-004</b> | <b>2.0000e-005</b> | <b>2.5500e-003</b> | <b>0.0000</b> |               | <b>1.0000e-005</b> | <b>1.0000e-005</b> |                | <b>1.0000e-005</b> | <b>1.0000e-005</b> |          |           | <b>5.4700e-003</b> | <b>5.4700e-003</b> | <b>1.0000e-005</b> | <b>5.8300e-003</b> |

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

SIR-02 Cottonwood Sand Mine Phase 1 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

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SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**SIR-02 Conttonwood Sand Mine Phase 2**

**San Diego County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                  | Size | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------|------|----------|-------------|--------------------|------------|
| General Office Building    | 1.00 | 1000sqft | 0.02        | 1,000.00           | 0          |
| Other Non-Asphalt Surfaces | 8.00 | Acre     | 8.00        | 348,480.00         | 0          |

**1.2 Other Project Characteristics**

|                                |                          |                                |       |                                  |       |
|--------------------------------|--------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Rural                    | <b>Wind Speed (m/s)</b>        | 2.6   | <b>Precipitation Freq (Days)</b> | 40    |
| <b>Climate Zone</b>            | 13                       |                                |       | <b>Operational Year</b>          | 2025  |
| <b>Utility Company</b>         | San Diego Gas & Electric |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 539.98                   | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Run v3 - Upated Phase 2 schedule; Update to CalEEMod version 2020.4.0.

Land Use - Other non-ashplt areas = main entrance, mine parking, truck load area, plant area, settling ponds, and 2nd entrance west.

Construction Phase - Demolition only for phase 2.

Off-road Equipment - Demolition of a storage structure...total approx 2,000 SF.

Off-road Equipment - Grading for plant pad, parking, truck load area, settling ponds and entrances.

Trips and VMT -

Demolition -

Grading -

Vehicle Trips - ADT and ATL per project TIA; employee and vendor trips assinged to office (71% employees, 29% vendors); truck trips assigned to non-ashpalt surface.

Vehicle Emission Factors -

SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Vehicle Emission Factors -

Vehicle Emission Factors -

Consumer Products - Operational mobile emissions only, this model.

Area Coating - Operational mobile emissions only, this model.

Energy Use - Building energy calculated off-model.

Water And Wastewater - Water supplied on-site, no sewer hookup.

Solid Waste - Solid waste calculated off-model.

Construction Off-road Equipment Mitigation - Dust mitigation to comply with SDAPCD Rule 55.

Fleet Mix - Fleet mix for trucks = 100% HHD.

| Table Name             | Column Name                  | Default Value | New Value |
|------------------------|------------------------------|---------------|-----------|
| tblAreaCoating         | Area_Nonresidential_Exterior | 500           | 0         |
| tblAreaCoating         | Area_Nonresidential_Interior | 1500          | 0         |
| tblAreaCoating         | Area_Parking                 | 20909         | 0         |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0             | 15        |
| tblConstructionPhase   | NumDays                      | 20.00         | 10.00     |
| tblConsumerProducts    | ROG_EF                       | 2.14E-05      | 0         |
| tblConsumerProducts    | ROG_EF_Degreaser             | 3.542E-07     | 0         |
| tblEnergyUse           | LightingElect                | 3.81          | 0.00      |
| tblEnergyUse           | NT24E                        | 4.97          | 0.00      |
| tblEnergyUse           | NT24NG                       | 4.20          | 0.00      |
| tblEnergyUse           | T24E                         | 4.16          | 0.00      |
| tblEnergyUse           | T24NG                        | 15.83         | 0.00      |
| tblFleetMix            | HHD                          | 6.2980e-003   | 1.00      |
| tblFleetMix            | LDA                          | 0.56          | 0.00      |
| tblFleetMix            | LDT1                         | 0.06          | 0.00      |
| tblFleetMix            | LDT2                         | 0.18          | 0.00      |
| tblFleetMix            | LHD1                         | 0.02          | 0.00      |
| tblFleetMix            | LHD2                         | 6.3170e-003   | 0.00      |

SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                           |                            |             |        |
|---------------------------|----------------------------|-------------|--------|
| tblFleetMix               | MCY                        | 0.03        | 0.00   |
| tblFleetMix               | MDV                        | 0.12        | 0.00   |
| tblFleetMix               | MH                         | 4.7510e-003 | 0.00   |
| tblFleetMix               | MHD                        | 8.9490e-003 | 0.00   |
| tblFleetMix               | OBUS                       | 7.0500e-004 | 0.00   |
| tblFleetMix               | SBUS                       | 9.5500e-004 | 0.00   |
| tblFleetMix               | UBUS                       | 5.7700e-004 | 0.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 3.00        | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 2.00        | 1.00   |
| tblProjectCharacteristics | UrbanizationLevel          | Urban       | Rural  |
| tblSolidWaste             | SolidWasteGenerationRate   | 0.93        | 0.00   |
| tblVehicleTrips           | CC_TL                      | 6.60        | 16.00  |
| tblVehicleTrips           | CC_TTP                     | 48.00       | 0.00   |
| tblVehicleTrips           | CC_TTP                     | 0.00        | 100.00 |
| tblVehicleTrips           | CNW_TL                     | 6.60        | 0.00   |
| tblVehicleTrips           | CNW_TTP                    | 19.00       | 29.00  |
| tblVehicleTrips           | CW_TL                      | 14.70       | 0.00   |
| tblVehicleTrips           | CW_TTP                     | 33.00       | 71.00  |
| tblVehicleTrips           | PR_TP                      | 0.00        | 100.00 |
| tblVehicleTrips           | ST_TR                      | 2.21        | 0.00   |
| tblVehicleTrips           | SU_TR                      | 0.70        | 0.00   |
| tblVehicleTrips           | WD_TR                      | 9.74        | 36.00  |
| tblVehicleTrips           | WD_TR                      | 0.00        | 22.00  |
| tblWater                  | IndoorWaterUseRate         | 177,733.75  | 0.00   |
| tblWater                  | OutdoorWaterUseRate        | 108,933.59  | 0.00   |

**2.0 Emissions Summary**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Quarter | Start Date | End Date  | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|-----------|--|--|
| 1       | 6-1-2024   | 8-31-2024 | 0.0615                                       | 0.0615                                     |
|         |            | Highest   | 0.0615                                       | 0.0615                                     |

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Area         | 1.0000e-005   | 0.0000        | 8.0000e-005   | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 1.6000e-004       | 1.6000e-004       | 0.0000        | 0.0000        | 1.7000e-004       |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.0581        | 2.5137        | 0.8875        | 0.0109        | 0.3485        | 0.0205        | 0.3690        | 0.0954         | 0.0196        | 0.1151        | 0.0000        | 1,091.0091        | 1,091.0091        | 0.0607        | 0.1702        | 1,143.2547        |
| Waste        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Water        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| <b>Total</b> | <b>0.0581</b> | <b>2.5137</b> | <b>0.8876</b> | <b>0.0109</b> | <b>0.3485</b> | <b>0.0205</b> | <b>0.3690</b> | <b>0.0954</b>  | <b>0.0196</b> | <b>0.1151</b> | <b>0.0000</b> | <b>1,091.0093</b> | <b>1,091.0093</b> | <b>0.0607</b> | <b>0.1702</b> | <b>1,143.2548</b> |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.2 Overall Operational**

**Mitigated Operational**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2              | Total CO2              | CH4           | N2O           | CO2e                   |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|------------------------|------------------------|---------------|---------------|------------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                        |                        |               |               |                        |
| Area         | 1.0000e-005   | 0.0000        | 8.0000e-005   | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 1.6000e-004            | 1.6000e-004            | 0.0000        | 0.0000        | 1.7000e-004            |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000                 | 0.0000                 | 0.0000        | 0.0000        | 0.0000                 |
| Mobile       | 0.0581        | 2.5137        | 0.8875        | 0.0109        | 0.3485        | 0.0205        | 0.3690        | 0.0954         | 0.0196        | 0.1151        | 0.0000        | 1,091.009<br>1         | 1,091.009<br>1         | 0.0607        | 0.1702        | 1,143.254<br>7         |
| Waste        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000                 | 0.0000                 | 0.0000        | 0.0000        | 0.0000                 |
| Water        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000                 | 0.0000                 | 0.0000        | 0.0000        | 0.0000                 |
| <b>Total</b> | <b>0.0581</b> | <b>2.5137</b> | <b>0.8876</b> | <b>0.0109</b> | <b>0.3485</b> | <b>0.0205</b> | <b>0.3690</b> | <b>0.0954</b>  | <b>0.0196</b> | <b>0.1151</b> | <b>0.0000</b> | <b>1,091.009<br/>3</b> | <b>1,091.009<br/>3</b> | <b>0.0607</b> | <b>0.1702</b> | <b>1,143.254<br/>8</b> |

|                          | ROG         | NOx         | CO          | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2    | NBio-CO2    | Total CO2   | CH4         | N2O         | CO2e        |
|--------------------------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Percent Reduction</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b>   | <b>0.00</b>  | <b>0.00</b> | <b>0.00</b>    | <b>0.00</b>   | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> |

**3.0 Construction Detail**

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date  | Num Days Week | Num Days | Phase Description |
|--------------|------------|------------|------------|-----------|---------------|----------|-------------------|
| 1            | Demolition | Demolition | 6/1/2024   | 6/14/2024 | 5             | 10       |                   |

**Acres of Grading (Site Preparation Phase): 0**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 8**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type   | Amount | Usage Hours | Horse Power | Load Factor |
|------------|--------------------------|--------|-------------|-------------|-------------|
| Demolition | Concrete/Industrial Saws | 1      | 8.00        | 81          | 0.73        |
| Demolition | Excavators               | 1      | 8.00        | 158         | 0.38        |
| Demolition | Rubber Tired Dozers      | 1      | 8.00        | 247         | 0.40        |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition | 3                       | 8.00               | 0.00               | 9.00                | 16.80              | 6.60               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2024**

**Unmitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 1.0000e-003        | 0.0000             | 1.0000e-003        | 1.5000e-004        | 0.0000             | 1.5000e-004        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 5.9400e-003        | 0.0547        | 0.0502        | 1.0000e-004        |                    | 2.5000e-003        | 2.5000e-003        |                    | 2.3500e-003        | 2.3500e-003        | 0.0000        | 8.7086        | 8.7086        | 2.0700e-003        | 0.0000        | 8.7604        |
| <b>Total</b>  | <b>5.9400e-003</b> | <b>0.0547</b> | <b>0.0502</b> | <b>1.0000e-004</b> | <b>1.0000e-003</b> | <b>2.5000e-003</b> | <b>3.5000e-003</b> | <b>1.5000e-004</b> | <b>2.3500e-003</b> | <b>2.5000e-003</b> | <b>0.0000</b> | <b>8.7086</b> | <b>8.7086</b> | <b>2.0700e-003</b> | <b>0.0000</b> | <b>8.7604</b> |

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |                    |                    |                    |               |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 1.0000e-005        | 6.1000e-004        | 1.6000e-004        | 0.0000        | 8.0000e-005        | 1.0000e-005        | 8.0000e-005        | 2.0000e-005        | 0.0000        | 3.0000e-005        | 0.0000        | 0.2653        | 0.2653        | 1.0000e-005        | 4.0000e-005        | 0.2783        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 1.3000e-004        | 9.0000e-005        | 1.2200e-003        | 0.0000        | 5.0000e-004        | 0.0000             | 5.0000e-004        | 1.3000e-004        | 0.0000        | 1.3000e-004        | 0.0000        | 0.3859        | 0.3859        | 1.0000e-005        | 1.0000e-005        | 0.3889        |
| <b>Total</b> | <b>1.4000e-004</b> | <b>7.0000e-004</b> | <b>1.3800e-003</b> | <b>0.0000</b> | <b>5.8000e-004</b> | <b>1.0000e-005</b> | <b>5.8000e-004</b> | <b>1.5000e-004</b> | <b>0.0000</b> | <b>1.6000e-004</b> | <b>0.0000</b> | <b>0.6512</b> | <b>0.6512</b> | <b>2.0000e-005</b> | <b>5.0000e-005</b> | <b>0.6671</b> |



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2024**

**Mitigated Construction On-Site**

|               | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|---------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category      | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Fugitive Dust |                    |               |               |                    | 4.5000e-004        | 0.0000             | 4.5000e-004        | 7.0000e-005        | 0.0000             | 7.0000e-005        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 5.9400e-003        | 0.0547        | 0.0502        | 1.0000e-004        |                    | 2.5000e-003        | 2.5000e-003        |                    | 2.3500e-003        | 2.3500e-003        | 0.0000        | 8.7086        | 8.7086        | 2.0700e-003        | 0.0000        | 8.7604        |
| <b>Total</b>  | <b>5.9400e-003</b> | <b>0.0547</b> | <b>0.0502</b> | <b>1.0000e-004</b> | <b>4.5000e-004</b> | <b>2.5000e-003</b> | <b>2.9500e-003</b> | <b>7.0000e-005</b> | <b>2.3500e-003</b> | <b>2.4200e-003</b> | <b>0.0000</b> | <b>8.7086</b> | <b>8.7086</b> | <b>2.0700e-003</b> | <b>0.0000</b> | <b>8.7604</b> |

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |                    |                    |                    |               |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 1.0000e-005        | 6.1000e-004        | 1.6000e-004        | 0.0000        | 8.0000e-005        | 1.0000e-005        | 8.0000e-005        | 2.0000e-005        | 0.0000        | 3.0000e-005        | 0.0000        | 0.2653        | 0.2653        | 1.0000e-005        | 4.0000e-005        | 0.2783        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 1.3000e-004        | 9.0000e-005        | 1.2200e-003        | 0.0000        | 5.0000e-004        | 0.0000             | 5.0000e-004        | 1.3000e-004        | 0.0000        | 1.3000e-004        | 0.0000        | 0.3859        | 0.3859        | 1.0000e-005        | 1.0000e-005        | 0.3889        |
| <b>Total</b> | <b>1.4000e-004</b> | <b>7.0000e-004</b> | <b>1.3800e-003</b> | <b>0.0000</b> | <b>5.8000e-004</b> | <b>1.0000e-005</b> | <b>5.8000e-004</b> | <b>1.5000e-004</b> | <b>0.0000</b> | <b>1.6000e-004</b> | <b>0.0000</b> | <b>0.6512</b> | <b>0.6512</b> | <b>2.0000e-005</b> | <b>5.0000e-005</b> | <b>0.6671</b> |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

|             | ROG     | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2      | Total CO2      | CH4    | N2O    | CO2e           |
|-------------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------------|----------------|--------|--------|----------------|
| Category    | tons/yr |        |        |        |               |              |            |                |               |             | MT/yr    |                |                |        |        |                |
| Mitigated   | 0.0581  | 2.5137 | 0.8875 | 0.0109 | 0.3485        | 0.0205       | 0.3690     | 0.0954         | 0.0196        | 0.1151      | 0.0000   | 1,091,009<br>1 | 1,091,009<br>1 | 0.0607 | 0.1702 | 1,143,254<br>7 |
| Unmitigated | 0.0581  | 2.5137 | 0.8875 | 0.0109 | 0.3485        | 0.0205       | 0.3690     | 0.0954         | 0.0196        | 0.1151      | 0.0000   | 1,091,009<br>1 | 1,091,009<br>1 | 0.0607 | 0.1702 | 1,143,254<br>7 |

**4.2 Trip Summary Information**

| Land Use                   | Average Daily Trip Rate |             |             | Unmitigated    | Mitigated      |
|----------------------------|-------------------------|-------------|-------------|----------------|----------------|
|                            | Weekday                 | Saturday    | Sunday      | Annual VMT     | Annual VMT     |
| General Office Building    | 36.00                   | 0.00        | 0.00        | 94,545         | 94,545         |
| Other Non-Asphalt Surfaces | 176.00                  | 0.00        | 0.00        | 732,160        | 732,160        |
| <b>Total</b>               | <b>212.00</b>           | <b>0.00</b> | <b>0.00</b> | <b>826,705</b> | <b>826,705</b> |

**4.3 Trip Type Information**

| Land Use                   | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                            | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| General Office Building    | 14.70      | 6.60       | 6.60        | 71.00      | 0.00       | 29.00       | 77             | 19       | 4       |
| Other Non-Asphalt Surfaces | 0.00       | 16.00      | 0.00        | 0.00       | 100.00     | 0.00        | 100            | 0        | 0       |

**4.4 Fleet Mix**





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**5.3 Energy by Land Use - Electricity**

**Unmitigated**

|                            | Electricity Use | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|-----------------|---------------|---------------|---------------|---------------|
| Land Use                   | kWh/yr          | MT/yr         |               |               |               |
| General Office Building    | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                 | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated**

|                            | Electricity Use | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|-----------------|---------------|---------------|---------------|---------------|
| Land Use                   | kWh/yr          | MT/yr         |               |               |               |
| General Office Building    | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                 | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**6.0 Area Detail**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.1 Mitigation Measures Area**

|             | ROG         | NOx    | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4    | N2O    | CO2e        |
|-------------|-------------|--------|-------------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|--------|--------|-------------|
| Category    | tons/yr     |        |             |        |               |              |            |                |               |             | MT/yr    |             |             |        |        |             |
| Mitigated   | 1.0000e-005 | 0.0000 | 8.0000e-005 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0000 | 1.7000e-004 |
| Unmitigated | 1.0000e-005 | 0.0000 | 8.0000e-005 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0000 | 1.7000e-004 |

**6.2 Area by SubCategory**

Unmitigated

|                       | ROG                | NOx           | CO                 | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|-----------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| SubCategory           | tons/yr            |               |                    |               |               |               |               |                |               |               | MT/yr         |                    |                    |               |               |                    |
| Architectural Coating | 0.0000             |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Consumer Products     | 0.0000             |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Landscaping           | 1.0000e-005        | 0.0000        | 8.0000e-005        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 1.6000e-004        | 1.6000e-004        | 0.0000        | 0.0000        | 1.7000e-004        |
| <b>Total</b>          | <b>1.0000e-005</b> | <b>0.0000</b> | <b>8.0000e-005</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>1.6000e-004</b> | <b>1.6000e-004</b> | <b>0.0000</b> | <b>0.0000</b> | <b>1.7000e-004</b> |

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**6.2 Area by SubCategory**

Mitigated

|                       | ROG                | NOx           | CO                 | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|-----------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| SubCategory           | tons/yr            |               |                    |               |               |               |               |                |               |               | MT/yr         |                    |                    |               |               |                    |
| Architectural Coating | 0.0000             |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Consumer Products     | 0.0000             |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Landscaping           | 1.0000e-005        | 0.0000        | 8.0000e-005        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 1.6000e-004        | 1.6000e-004        | 0.0000        | 0.0000        | 1.7000e-004        |
| <b>Total</b>          | <b>1.0000e-005</b> | <b>0.0000</b> | <b>8.0000e-005</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>1.6000e-004</b> | <b>1.6000e-004</b> | <b>0.0000</b> | <b>0.0000</b> | <b>1.7000e-004</b> |

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|             | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|-----------|--------|--------|--------|
| Category    | MT/yr     |        |        |        |
| Mitigated   | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

**7.2 Water by Land Use**

**Unmitigated**

|                            | Indoor/Outdoor Use | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|--------------------|---------------|---------------|---------------|---------------|
| Land Use                   | Mgal               | MT/yr         |               |               |               |
| General Office Building    | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                    | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |



SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.2 Water by Land Use**

Mitigated

|                            | Indoor/Outdoor Use | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|--------------------|---------------|---------------|---------------|---------------|
| Land Use                   | Mgal               | MT/yr         |               |               |               |
| General Office Building    | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                    | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

Category/Year

|             | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|-----------|--------|--------|--------|
|             | MT/yr     |        |        |        |
| Mitigated   | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.2 Waste by Land Use**

**Unmitigated**

|                            | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use                   | tons           | MT/yr         |               |               |               |
| General Office Building    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated**

|                            | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use                   | tons           | MT/yr         |               |               |               |
| General Office Building    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**9.0 Operational Offroad**

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SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

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SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**SIR-02 Conttonwood Sand Mine Phase 2**

**San Diego County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                  | Size | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------|------|----------|-------------|--------------------|------------|
| General Office Building    | 1.00 | 1000sqft | 0.02        | 1,000.00           | 0          |
| Other Non-Asphalt Surfaces | 8.00 | Acre     | 8.00        | 348,480.00         | 0          |

**1.2 Other Project Characteristics**

|                                |                          |                                |       |                                  |       |
|--------------------------------|--------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Rural                    | <b>Wind Speed (m/s)</b>        | 2.6   | <b>Precipitation Freq (Days)</b> | 40    |
| <b>Climate Zone</b>            | 13                       |                                |       | <b>Operational Year</b>          | 2025  |
| <b>Utility Company</b>         | San Diego Gas & Electric |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 539.98                   | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Run v3 - Upated Phase 2 schedule; Update to CalEEMod version 2020.4.0.

Land Use - Other non-ashpalt areas = main entrance, mine parking, truck load area, plant area, settling ponds, and 2nd entrance west.

Construction Phase - Demolition only for phase 2.

Off-road Equipment - Demolition of a storage structure...total approx 2,000 SF.

Off-road Equipment - Grading for plant pad, parking, truck load area, settling ponds and entrances.

Trips and VMT -

Demolition -

Grading -

Vehicle Trips - ADT and ATL per project TIA; employee and vendor trips assinged to office (71% employees, 29% vendors); truck trips assigned to non-ashpalt surface.

Vehicle Emission Factors -

SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Vehicle Emission Factors -

Vehicle Emission Factors -

Consumer Products - Operational mobile emissions only, this model.

Area Coating - Operational mobile emissions only, this model.

Energy Use - Building energy calculated off-model.

Water And Wastewater - Water supplied on-site, no sewer hookup.

Solid Waste - Solid waste calculated off-model.

Construction Off-road Equipment Mitigation - Dust mitigation to comply with SDAPCD Rule 55.

Fleet Mix - Fleet mix for trucks = 100% HHD.

| Table Name             | Column Name                  | Default Value | New Value |
|------------------------|------------------------------|---------------|-----------|
| tblAreaCoating         | Area_Nonresidential_Exterior | 500           | 0         |
| tblAreaCoating         | Area_Nonresidential_Interior | 1500          | 0         |
| tblAreaCoating         | Area_Parking                 | 20909         | 0         |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0             | 15        |
| tblConstructionPhase   | NumDays                      | 20.00         | 10.00     |
| tblConsumerProducts    | ROG_EF                       | 2.14E-05      | 0         |
| tblConsumerProducts    | ROG_EF_Degreaser             | 3.542E-07     | 0         |
| tblEnergyUse           | LightingElect                | 3.81          | 0.00      |
| tblEnergyUse           | NT24E                        | 4.97          | 0.00      |
| tblEnergyUse           | NT24NG                       | 4.20          | 0.00      |
| tblEnergyUse           | T24E                         | 4.16          | 0.00      |
| tblEnergyUse           | T24NG                        | 15.83         | 0.00      |
| tblFleetMix            | HHD                          | 6.2980e-003   | 1.00      |
| tblFleetMix            | LDA                          | 0.56          | 0.00      |
| tblFleetMix            | LDT1                         | 0.06          | 0.00      |
| tblFleetMix            | LDT2                         | 0.18          | 0.00      |
| tblFleetMix            | LHD1                         | 0.02          | 0.00      |
| tblFleetMix            | LHD2                         | 6.3170e-003   | 0.00      |

SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                           |                            |             |        |
|---------------------------|----------------------------|-------------|--------|
| tblFleetMix               | MCY                        | 0.03        | 0.00   |
| tblFleetMix               | MDV                        | 0.12        | 0.00   |
| tblFleetMix               | MH                         | 4.7510e-003 | 0.00   |
| tblFleetMix               | MHD                        | 8.9490e-003 | 0.00   |
| tblFleetMix               | OBUS                       | 7.0500e-004 | 0.00   |
| tblFleetMix               | SBUS                       | 9.5500e-004 | 0.00   |
| tblFleetMix               | UBUS                       | 5.7700e-004 | 0.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 3.00        | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 2.00        | 1.00   |
| tblProjectCharacteristics | UrbanizationLevel          | Urban       | Rural  |
| tblSolidWaste             | SolidWasteGenerationRate   | 0.93        | 0.00   |
| tblVehicleTrips           | CC_TL                      | 6.60        | 16.00  |
| tblVehicleTrips           | CC_TTP                     | 48.00       | 0.00   |
| tblVehicleTrips           | CC_TTP                     | 0.00        | 100.00 |
| tblVehicleTrips           | CNW_TL                     | 6.60        | 0.00   |
| tblVehicleTrips           | CNW_TTP                    | 19.00       | 29.00  |
| tblVehicleTrips           | CW_TL                      | 14.70       | 0.00   |
| tblVehicleTrips           | CW_TTP                     | 33.00       | 71.00  |
| tblVehicleTrips           | PR_TP                      | 0.00        | 100.00 |
| tblVehicleTrips           | ST_TR                      | 2.21        | 0.00   |
| tblVehicleTrips           | SU_TR                      | 0.70        | 0.00   |
| tblVehicleTrips           | WD_TR                      | 9.74        | 36.00  |
| tblVehicleTrips           | WD_TR                      | 0.00        | 22.00  |
| tblWater                  | IndoorWaterUseRate         | 177,733.75  | 0.00   |
| tblWater                  | OutdoorWaterUseRate        | 108,933.59  | 0.00   |

**2.0 Emissions Summary**

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SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 8.0000e-005   | 1.0000e-005    | 9.2000e-004   | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 1.9700e-003       | 1.9700e-003       | 1.0000e-005   |               | 2.1000e-003       |
| Energy       | 0.0000        | 0.0000         | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.4347        | 19.4417        | 6.9022        | 0.0836        | 2.7384        | 0.1583        | 2.8967        | 0.7482         | 0.1514        | 0.8996        |          | 9,266.8147        | 9,266.8147        | 0.5145        | 1.4463        | 9,710.6696        |
| <b>Total</b> | <b>0.4348</b> | <b>19.4417</b> | <b>6.9031</b> | <b>0.0836</b> | <b>2.7384</b> | <b>0.1583</b> | <b>2.8967</b> | <b>0.7482</b>  | <b>0.1514</b> | <b>0.8996</b> |          | <b>9,266.8167</b> | <b>9,266.8167</b> | <b>0.5145</b> | <b>1.4463</b> | <b>9,710.6717</b> |

**Mitigated Operational**

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 8.0000e-005   | 1.0000e-005    | 9.2000e-004   | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 1.9700e-003       | 1.9700e-003       | 1.0000e-005   |               | 2.1000e-003       |
| Energy       | 0.0000        | 0.0000         | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.4347        | 19.4417        | 6.9022        | 0.0836        | 2.7384        | 0.1583        | 2.8967        | 0.7482         | 0.1514        | 0.8996        |          | 9,266.8147        | 9,266.8147        | 0.5145        | 1.4463        | 9,710.6696        |
| <b>Total</b> | <b>0.4348</b> | <b>19.4417</b> | <b>6.9031</b> | <b>0.0836</b> | <b>2.7384</b> | <b>0.1583</b> | <b>2.8967</b> | <b>0.7482</b>  | <b>0.1514</b> | <b>0.8996</b> |          | <b>9,266.8167</b> | <b>9,266.8167</b> | <b>0.5145</b> | <b>1.4463</b> | <b>9,710.6717</b> |



SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00          | 0.00         | 0.00       | 0.00           | 0.00          | 0.00        | 0.00     | 0.00     | 0.00      | 0.00 | 0.00 | 0.00 |

**3.0 Construction Detail**

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date  | Num Days Week | Num Days | Phase Description |
|--------------|------------|------------|------------|-----------|---------------|----------|-------------------|
| 1            | Demolition | Demolition | 6/1/2024   | 6/14/2024 | 5             | 10       |                   |

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 8

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type   | Amount | Usage Hours | Horse Power | Load Factor |
|------------|--------------------------|--------|-------------|-------------|-------------|
| Demolition | Concrete/Industrial Saws | 1      | 8.00        | 81          | 0.73        |
| Demolition | Excavators               | 1      | 8.00        | 158         | 0.38        |
| Demolition | Rubber Tired Dozers      | 1      | 8.00        | 247         | 0.40        |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition | 3                       | 8.00               | 0.00               | 9.00                | 16.80              | 6.60               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

**3.1 Mitigation Measures Construction**

SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Demolition - 2024**

**Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 0.1993        | 0.0000        | 0.1993        | 0.0302         | 0.0000        | 0.0302        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.1882        | 10.9448        | 10.0462        | 0.0200        |               | 0.5008        | 0.5008        |                | 0.4696        | 0.4696        |          | 1,919.9110        | 1,919.9110        | 0.4574        |     | 1,931.3464        |
| <b>Total</b>  | <b>1.1882</b> | <b>10.9448</b> | <b>10.0462</b> | <b>0.0200</b> | <b>0.1993</b> | <b>0.5008</b> | <b>0.7001</b> | <b>0.0302</b>  | <b>0.4696</b> | <b>0.4998</b> |          | <b>1,919.9110</b> | <b>1,919.9110</b> | <b>0.4574</b> |     | <b>1,931.3464</b> |

SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2024**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |               |                 |
| Hauling      | 1.8900e-003   | 0.1214        | 0.0332        | 5.3000e-004        | 0.0157        | 1.0100e-003        | 0.0168        | 4.3100e-003    | 9.6000e-004        | 5.2800e-003   |          | 58.5251         | 58.5251         | 3.0800e-003        | 9.3100e-003   | 61.3779         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.0298        | 0.0193        | 0.2426        | 8.2000e-004        | 0.1022        | 5.0000e-004        | 0.1027        | 0.0271         | 4.6000e-004        | 0.0276        |          | 84.3298         | 84.3298         | 1.8600e-003        | 2.0300e-003   | 84.9823         |
| <b>Total</b> | <b>0.0317</b> | <b>0.1407</b> | <b>0.2758</b> | <b>1.3500e-003</b> | <b>0.1179</b> | <b>1.5100e-003</b> | <b>0.1194</b> | <b>0.0314</b>  | <b>1.4200e-003</b> | <b>0.0328</b> |          | <b>142.8549</b> | <b>142.8549</b> | <b>4.9400e-003</b> | <b>0.0113</b> | <b>146.3602</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 0.0897        | 0.0000        | 0.0897        | 0.0136         | 0.0000        | 0.0136        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.1882        | 10.9448        | 10.0462        | 0.0200        |               | 0.5008        | 0.5008        |                | 0.4696        | 0.4696        | 0.0000        | 1,919.9110        | 1,919.9110        | 0.4574        |     | 1,931.3464        |
| <b>Total</b>  | <b>1.1882</b> | <b>10.9448</b> | <b>10.0462</b> | <b>0.0200</b> | <b>0.0897</b> | <b>0.5008</b> | <b>0.5905</b> | <b>0.0136</b>  | <b>0.4696</b> | <b>0.4832</b> | <b>0.0000</b> | <b>1,919.9110</b> | <b>1,919.9110</b> | <b>0.4574</b> |     | <b>1,931.3464</b> |

SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2024**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |               |                 |
| Hauling      | 1.8900e-003   | 0.1214        | 0.0332        | 5.3000e-004        | 0.0157        | 1.0100e-003        | 0.0168        | 4.3100e-003    | 9.6000e-004        | 5.2800e-003   |          | 58.5251         | 58.5251         | 3.0800e-003        | 9.3100e-003   | 61.3779         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Worker       | 0.0298        | 0.0193        | 0.2426        | 8.2000e-004        | 0.1022        | 5.0000e-004        | 0.1027        | 0.0271         | 4.6000e-004        | 0.0276        |          | 84.3298         | 84.3298         | 1.8600e-003        | 2.0300e-003   | 84.9823         |
| <b>Total</b> | <b>0.0317</b> | <b>0.1407</b> | <b>0.2758</b> | <b>1.3500e-003</b> | <b>0.1179</b> | <b>1.5100e-003</b> | <b>0.1194</b> | <b>0.0314</b>  | <b>1.4200e-003</b> | <b>0.0328</b> |          | <b>142.8549</b> | <b>142.8549</b> | <b>4.9400e-003</b> | <b>0.0113</b> | <b>146.3602</b> |

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|             | ROG    | NOx     | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------|--------|---------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category    | lb/day |         |        |        |               |              |            |                |               |             | lb/day   |            |            |        |        |            |
| Mitigated   | 0.4347 | 19.4417 | 6.9022 | 0.0836 | 2.7384        | 0.1583       | 2.8967     | 0.7482         | 0.1514        | 0.8996      |          | 9,266.8147 | 9,266.8147 | 0.5145 | 1.4463 | 9,710.6696 |
| Unmitigated | 0.4347 | 19.4417 | 6.9022 | 0.0836 | 2.7384        | 0.1583       | 2.8967     | 0.7482         | 0.1514        | 0.8996      |          | 9,266.8147 | 9,266.8147 | 0.5145 | 1.4463 | 9,710.6696 |

**4.2 Trip Summary Information**

| Land Use                   | Average Daily Trip Rate |             |             | Unmitigated    | Mitigated      |
|----------------------------|-------------------------|-------------|-------------|----------------|----------------|
|                            | Weekday                 | Saturday    | Sunday      | Annual VMT     | Annual VMT     |
| General Office Building    | 36.00                   | 0.00        | 0.00        | 94,545         | 94,545         |
| Other Non-Asphalt Surfaces | 176.00                  | 0.00        | 0.00        | 732,160        | 732,160        |
| <b>Total</b>               | <b>212.00</b>           | <b>0.00</b> | <b>0.00</b> | <b>826,705</b> | <b>826,705</b> |

**4.3 Trip Type Information**

| Land Use                   | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                            | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| General Office Building    | 14.70      | 6.60       | 6.60        | 71.00      | 0.00       | 29.00       | 77             | 19       | 4       |
| Other Non-Asphalt Surfaces | 0.00       | 16.00      | 0.00        | 0.00       | 100.00     | 0.00        | 100            | 0        | 0       |

**4.4 Fleet Mix**

| Land Use                   | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| General Office Building    | 0.561854 | 0.062428 | 0.177046 | 0.117565 | 0.023832 | 0.006317 | 0.008949 | 0.006298 | 0.000705 | 0.000577 | 0.028723 | 0.000955 | 0.004751 |
| Other Non-Asphalt Surfaces | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

**5.0 Energy Detail**

SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

|                        | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e   |
|------------------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
| Category               | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |           |           |        |        |        |
| NaturalGas Mitigated   | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| NaturalGas Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

|                            | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                   | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| General Office Building    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - NaturalGas**

Mitigated

|                            | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                   | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| General Office Building    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG         | NOx         | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4         | N2O | CO2e        |
|-------------|-------------|-------------|-------------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|-------------|-----|-------------|
| Category    | lb/day      |             |             |        |               |              |            |                |               |             | lb/day   |             |             |             |     |             |
| Mitigated   | 8.0000e-005 | 1.0000e-005 | 9.2000e-004 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 1.9700e-003 | 1.9700e-003 | 1.0000e-005 |     | 2.1000e-003 |
| Unmitigated | 8.0000e-005 | 1.0000e-005 | 9.2000e-004 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 1.9700e-003 | 1.9700e-003 | 1.0000e-005 |     | 2.1000e-003 |

SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG                | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4                | N2O | CO2e               |
|-----------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|--------------------|-----|--------------------|
| SubCategory           | lb/day             |                    |                    |               |               |               |               |                |               |               | lb/day   |                    |                    |                    |     |                    |
| Architectural Coating | 0.0000             |                    |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                    | 0.0000             |                    |     | 0.0000             |
| Consumer Products     | 0.0000             |                    |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                    | 0.0000             |                    |     | 0.0000             |
| Landscaping           | 8.0000e-005        | 1.0000e-005        | 9.2000e-004        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 1.9700e-003        | 1.9700e-003        | 1.0000e-005        |     | 2.1000e-003        |
| <b>Total</b>          | <b>8.0000e-005</b> | <b>1.0000e-005</b> | <b>9.2000e-004</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>1.9700e-003</b> | <b>1.9700e-003</b> | <b>1.0000e-005</b> |     | <b>2.1000e-003</b> |



SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.2 Area by SubCategory**

Mitigated

|                       | ROG                | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4                | N2O | CO2e               |
|-----------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|--------------------|-----|--------------------|
| SubCategory           | lb/day             |                    |                    |               |               |               |               |                |               |               | lb/day   |                    |                    |                    |     |                    |
| Architectural Coating | 0.0000             |                    |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                    | 0.0000             |                    |     | 0.0000             |
| Consumer Products     | 0.0000             |                    |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                    | 0.0000             |                    |     | 0.0000             |
| Landscaping           | 8.0000e-005        | 1.0000e-005        | 9.2000e-004        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 1.9700e-003        | 1.9700e-003        | 1.0000e-005        |     | 2.1000e-003        |
| <b>Total</b>          | <b>8.0000e-005</b> | <b>1.0000e-005</b> | <b>9.2000e-004</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>1.9700e-003</b> | <b>1.9700e-003</b> | <b>1.0000e-005</b> |     | <b>2.1000e-003</b> |

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

SIR-02 Conttonwood Sand Mine Phase 2 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**SIR-02 Conttonwood Sand Mine Phase 3**

**San Diego County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                  | Size | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------|------|----------|-------------|--------------------|------------|
| General Office Building    | 1.00 | 1000sqft | 0.02        | 1,000.00           | 0          |
| Other Non-Asphalt Surfaces | 8.00 | Acre     | 8.00        | 348,480.00         | 0          |

**1.2 Other Project Characteristics**

|                                |                          |                                |       |                                  |       |
|--------------------------------|--------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Rural                    | <b>Wind Speed (m/s)</b>        | 2.6   | <b>Precipitation Freq (Days)</b> | 40    |
| <b>Climate Zone</b>            | 13                       |                                |       | <b>Operational Year</b>          | 2028  |
| <b>Utility Company</b>         | San Diego Gas & Electric |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 539.98                   | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Run v3 - Updated Phase 3 schedule; Update to CalEEMod 2020.4.0.

Land Use - Other non-asphalt areas = main entrance, mine parking, truck load area, plant area, settling ponds, and 2nd entrance west.

Construction Phase - Demolition only for phase 3.

Off-road Equipment - Demolition of a golf club house and related structure...total approx 23,000 SF.

Off-road Equipment - Grading for plant pad, parking, truck load area, settling ponds and entrances.

Trips and VMT -

Demolition -

Grading -

Vehicle Trips - ADT and ATL per project TIA; employee and vendor trips assigned to office (71% employees, 29% vendors); truck trips assigned to non-asphalt surface.

Vehicle Emission Factors -

SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Vehicle Emission Factors -

Vehicle Emission Factors -

Consumer Products - Operational mobile emissions only, this model.

Area Coating - Operational mobile emissions only, this model.

Energy Use - Building energy calculated off-model.

Water And Wastewater - Water supplied on-site, no sewer hookup.

Solid Waste - Solid waste calculated off-model.

Construction Off-road Equipment Mitigation - Dust mitigation to comply with SDAPCD Rule 55.

Fleet Mix - Fleet mix for trucks = 100% HHD.

| Table Name             | Column Name                  | Default Value | New Value |
|------------------------|------------------------------|---------------|-----------|
| tblAreaCoating         | Area_Nonresidential_Exterior | 500           | 0         |
| tblAreaCoating         | Area_Nonresidential_Interior | 1500          | 0         |
| tblAreaCoating         | Area_Parking                 | 20909         | 0         |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0             | 15        |
| tblConsumerProducts    | ROG_EF                       | 2.14E-05      | 0         |
| tblConsumerProducts    | ROG_EF_Degreaser             | 3.542E-07     | 0         |
| tblEnergyUse           | LightingElect                | 3.81          | 0.00      |
| tblEnergyUse           | NT24E                        | 4.97          | 0.00      |
| tblEnergyUse           | NT24NG                       | 4.20          | 0.00      |
| tblEnergyUse           | T24E                         | 4.16          | 0.00      |
| tblEnergyUse           | T24NG                        | 15.83         | 0.00      |
| tblFleetMix            | HHD                          | 6.3030e-003   | 1.00      |
| tblFleetMix            | LDA                          | 0.57          | 0.00      |
| tblFleetMix            | LDT1                         | 0.06          | 0.00      |
| tblFleetMix            | LDT2                         | 0.17          | 0.00      |
| tblFleetMix            | LHD1                         | 0.02          | 0.00      |
| tblFleetMix            | LHD2                         | 6.4400e-003   | 0.00      |
| tblFleetMix            | MCY                          | 0.03          | 0.00      |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                           |                            |             |        |
|---------------------------|----------------------------|-------------|--------|
| tblFleetMix               | MDV                        | 0.11        | 0.00   |
| tblFleetMix               | MH                         | 4.2180e-003 | 0.00   |
| tblFleetMix               | MHD                        | 9.5210e-003 | 0.00   |
| tblFleetMix               | OBUS                       | 6.8900e-004 | 0.00   |
| tblFleetMix               | SBUS                       | 8.9900e-004 | 0.00   |
| tblFleetMix               | UBUS                       | 6.0500e-004 | 0.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 3.00        | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 2.00        | 1.00   |
| tblProjectCharacteristics | UrbanizationLevel          | Urban       | Rural  |
| tblSolidWaste             | SolidWasteGenerationRate   | 0.93        | 0.00   |
| tblVehicleTrips           | CC_TL                      | 6.60        | 16.00  |
| tblVehicleTrips           | CC_TTP                     | 48.00       | 0.00   |
| tblVehicleTrips           | CC_TTP                     | 0.00        | 100.00 |
| tblVehicleTrips           | CNW_TL                     | 6.60        | 0.00   |
| tblVehicleTrips           | CNW_TTP                    | 19.00       | 29.00  |
| tblVehicleTrips           | CW_TL                      | 14.70       | 0.00   |
| tblVehicleTrips           | CW_TTP                     | 33.00       | 71.00  |
| tblVehicleTrips           | PR_TP                      | 0.00        | 100.00 |
| tblVehicleTrips           | ST_TR                      | 2.21        | 0.00   |
| tblVehicleTrips           | SU_TR                      | 0.70        | 0.00   |
| tblVehicleTrips           | WD_TR                      | 9.74        | 36.00  |
| tblVehicleTrips           | WD_TR                      | 0.00        | 22.00  |
| tblWater                  | IndoorWaterUseRate         | 177,733.75  | 0.00   |
| tblWater                  | OutdoorWaterUseRate        | 108,933.59  | 0.00   |

**2.0 Emissions Summary**

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SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Quarter | Start Date | End Date  | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|-----------|--|--|
| 1       | 6-1-2027   | 8-31-2027 | 0.1193                                       | 0.1193                                     |
|         |            | Highest   | 0.1193                                       | 0.1193                                     |

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Area         | 1.0000e-005   | 0.0000        | 8.0000e-005   | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 1.6000e-004       | 1.6000e-004       | 0.0000        | 0.0000        | 1.7000e-004       |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.0554        | 2.4057        | 0.8976        | 0.0101        | 0.3485        | 0.0199        | 0.3684        | 0.0954         | 0.0191        | 0.1145        | 0.0000        | 1,020.1939        | 1,020.1939        | 0.0654        | 0.1595        | 1,069.3613        |
| Waste        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Water        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| <b>Total</b> | <b>0.0554</b> | <b>2.4057</b> | <b>0.8977</b> | <b>0.0101</b> | <b>0.3485</b> | <b>0.0199</b> | <b>0.3684</b> | <b>0.0954</b>  | <b>0.0191</b> | <b>0.1145</b> | <b>0.0000</b> | <b>1,020.1940</b> | <b>1,020.1940</b> | <b>0.0654</b> | <b>0.1595</b> | <b>1,069.3614</b> |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.2 Overall Operational**

**Mitigated Operational**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Area         | 1.0000e-005   | 0.0000        | 8.0000e-005   | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 1.6000e-004       | 1.6000e-004       | 0.0000        | 0.0000        | 1.7000e-004       |
| Energy       | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.0554        | 2.4057        | 0.8976        | 0.0101        | 0.3485        | 0.0199        | 0.3684        | 0.0954         | 0.0191        | 0.1145        | 0.0000        | 1,020.1939        | 1,020.1939        | 0.0654        | 0.1595        | 1,069.3613        |
| Waste        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Water        |               |               |               |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| <b>Total</b> | <b>0.0554</b> | <b>2.4057</b> | <b>0.8977</b> | <b>0.0101</b> | <b>0.3485</b> | <b>0.0199</b> | <b>0.3684</b> | <b>0.0954</b>  | <b>0.0191</b> | <b>0.1145</b> | <b>0.0000</b> | <b>1,020.1940</b> | <b>1,020.1940</b> | <b>0.0654</b> | <b>0.1595</b> | <b>1,069.3614</b> |

|                          | ROG         | NOx         | CO          | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2    | NBio-CO2    | Total CO2   | CH4         | N2O         | CO2e        |
|--------------------------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Percent Reduction</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b>   | <b>0.00</b>  | <b>0.00</b> | <b>0.00</b>    | <b>0.00</b>   | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> |

**3.0 Construction Detail**

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date  | Num Days Week | Num Days | Phase Description |
|--------------|------------|------------|------------|-----------|---------------|----------|-------------------|
| 1            | Demolition | Demolition | 6/1/2027   | 6/28/2027 | 5             | 20       |                   |

**Acres of Grading (Site Preparation Phase): 0**



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 8**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type   | Amount | Usage Hours | Horse Power | Load Factor |
|------------|--------------------------|--------|-------------|-------------|-------------|
| Demolition | Concrete/Industrial Saws | 1      | 8.00        | 81          | 0.73        |
| Demolition | Excavators               | 1      | 8.00        | 158         | 0.38        |
| Demolition | Rubber Tired Dozers      | 1      | 8.00        | 247         | 0.40        |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition | 3                       | 8.00               | 0.00               | 105.00              | 16.80              | 6.60               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2027**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |               |               |               |                    | 0.0115        | 0.0000             | 0.0115        | 1.7400e-003        | 0.0000             | 1.7400e-003        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 0.0111        | 0.1012        | 0.0990        | 2.0000e-004        |               | 4.4300e-003        | 4.4300e-003   |                    | 4.1500e-003        | 4.1500e-003        | 0.0000        | 17.4176        | 17.4176        | 4.1300e-003        | 0.0000        | 17.5209        |
| <b>Total</b>  | <b>0.0111</b> | <b>0.1012</b> | <b>0.0990</b> | <b>2.0000e-004</b> | <b>0.0115</b> | <b>4.4300e-003</b> | <b>0.0159</b> | <b>1.7400e-003</b> | <b>4.1500e-003</b> | <b>5.8900e-003</b> | <b>0.0000</b> | <b>17.4176</b> | <b>17.4176</b> | <b>4.1300e-003</b> | <b>0.0000</b> | <b>17.5209</b> |

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 1.1000e-004        | 6.7600e-003        | 2.0000e-003        | 3.0000e-005        | 9.0000e-004        | 6.0000e-005        | 9.6000e-004        | 2.5000e-004        | 5.0000e-005        | 3.0000e-004        | 0.0000        | 2.9017        | 2.9017        | 1.8000e-004        | 4.6000e-004        | 3.0441        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 2.3000e-004        | 1.4000e-004        | 2.0400e-003        | 1.0000e-005        | 1.0000e-003        | 0.0000             | 1.0000e-003        | 2.7000e-004        | 0.0000             | 2.7000e-004        | 0.0000        | 0.7196        | 0.7196        | 1.0000e-005        | 2.0000e-005        | 0.7244        |
| <b>Total</b> | <b>3.4000e-004</b> | <b>6.9000e-003</b> | <b>4.0400e-003</b> | <b>4.0000e-005</b> | <b>1.9000e-003</b> | <b>6.0000e-005</b> | <b>1.9600e-003</b> | <b>5.2000e-004</b> | <b>5.0000e-005</b> | <b>5.7000e-004</b> | <b>0.0000</b> | <b>3.6213</b> | <b>3.6213</b> | <b>1.9000e-004</b> | <b>4.8000e-004</b> | <b>3.7685</b> |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2027**

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |               |               |               |                    | 5.1600e-003        | 0.0000             | 5.1600e-003        | 7.8000e-004        | 0.0000             | 7.8000e-004        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 0.0111        | 0.1012        | 0.0990        | 2.0000e-004        |                    | 4.4300e-003        | 4.4300e-003        |                    | 4.1500e-003        | 4.1500e-003        | 0.0000        | 17.4176        | 17.4176        | 4.1300e-003        | 0.0000        | 17.5209        |
| <b>Total</b>  | <b>0.0111</b> | <b>0.1012</b> | <b>0.0990</b> | <b>2.0000e-004</b> | <b>5.1600e-003</b> | <b>4.4300e-003</b> | <b>9.5900e-003</b> | <b>7.8000e-004</b> | <b>4.1500e-003</b> | <b>4.9300e-003</b> | <b>0.0000</b> | <b>17.4176</b> | <b>17.4176</b> | <b>4.1300e-003</b> | <b>0.0000</b> | <b>17.5209</b> |

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O                | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |                    |               |
| Hauling      | 1.1000e-004        | 6.7600e-003        | 2.0000e-003        | 3.0000e-005        | 9.0000e-004        | 6.0000e-005        | 9.6000e-004        | 2.5000e-004        | 5.0000e-005        | 3.0000e-004        | 0.0000        | 2.9017        | 2.9017        | 1.8000e-004        | 4.6000e-004        | 3.0441        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        |
| Worker       | 2.3000e-004        | 1.4000e-004        | 2.0400e-003        | 1.0000e-005        | 1.0000e-003        | 0.0000             | 1.0000e-003        | 2.7000e-004        | 0.0000             | 2.7000e-004        | 0.0000        | 0.7196        | 0.7196        | 1.0000e-005        | 2.0000e-005        | 0.7244        |
| <b>Total</b> | <b>3.4000e-004</b> | <b>6.9000e-003</b> | <b>4.0400e-003</b> | <b>4.0000e-005</b> | <b>1.9000e-003</b> | <b>6.0000e-005</b> | <b>1.9600e-003</b> | <b>5.2000e-004</b> | <b>5.0000e-005</b> | <b>5.7000e-004</b> | <b>0.0000</b> | <b>3.6213</b> | <b>3.6213</b> | <b>1.9000e-004</b> | <b>4.8000e-004</b> | <b>3.7685</b> |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

|             | ROG     | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category    | tons/yr |        |        |        |               |              |            |                |               |             | MT/yr    |            |            |        |        |            |
| Mitigated   | 0.0554  | 2.4057 | 0.8976 | 0.0101 | 0.3485        | 0.0199       | 0.3684     | 0.0954         | 0.0191        | 0.1145      | 0.0000   | 1,020.1939 | 1,020.1939 | 0.0654 | 0.1595 | 1,069.3613 |
| Unmitigated | 0.0554  | 2.4057 | 0.8976 | 0.0101 | 0.3485        | 0.0199       | 0.3684     | 0.0954         | 0.0191        | 0.1145      | 0.0000   | 1,020.1939 | 1,020.1939 | 0.0654 | 0.1595 | 1,069.3613 |

**4.2 Trip Summary Information**

| Land Use                   | Average Daily Trip Rate |             |             | Unmitigated    | Mitigated      |
|----------------------------|-------------------------|-------------|-------------|----------------|----------------|
|                            | Weekday                 | Saturday    | Sunday      | Annual VMT     | Annual VMT     |
| General Office Building    | 36.00                   | 0.00        | 0.00        | 94,545         | 94,545         |
| Other Non-Asphalt Surfaces | 176.00                  | 0.00        | 0.00        | 732,160        | 732,160        |
| <b>Total</b>               | <b>212.00</b>           | <b>0.00</b> | <b>0.00</b> | <b>826,705</b> | <b>826,705</b> |

**4.3 Trip Type Information**

| Land Use                   | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                            | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| General Office Building    | 14.70      | 6.60       | 6.60        | 71.00      | 0.00       | 29.00       | 77             | 19       | 4       |
| Other Non-Asphalt Surfaces | 0.00       | 16.00      | 0.00        | 0.00       | 100.00     | 0.00        | 100            | 0        | 0       |

**4.4 Fleet Mix**





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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

|                            | Electricity Use | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|-----------------|---------------|---------------|---------------|---------------|
| Land Use                   | kWh/yr          | MT/yr         |               |               |               |
| General Office Building    | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                 | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated**

|                            | Electricity Use | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|-----------------|---------------|---------------|---------------|---------------|
| Land Use                   | kWh/yr          | MT/yr         |               |               |               |
| General Office Building    | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0               | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                 | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**6.0 Area Detail**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.1 Mitigation Measures Area**

|             | ROG         | NOx    | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4    | N2O    | CO2e        |
|-------------|-------------|--------|-------------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|--------|--------|-------------|
| Category    | tons/yr     |        |             |        |               |              |            |                |               |             | MT/yr    |             |             |        |        |             |
| Mitigated   | 1.0000e-005 | 0.0000 | 8.0000e-005 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0000 | 1.7000e-004 |
| Unmitigated | 1.0000e-005 | 0.0000 | 8.0000e-005 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 1.6000e-004 | 1.6000e-004 | 0.0000 | 0.0000 | 1.7000e-004 |

**6.2 Area by SubCategory**

Unmitigated

|                       | ROG                | NOx           | CO                 | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|-----------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| SubCategory           | tons/yr            |               |                    |               |               |               |               |                |               |               | MT/yr         |                    |                    |               |               |                    |
| Architectural Coating | 0.0000             |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Consumer Products     | 0.0000             |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Landscaping           | 1.0000e-005        | 0.0000        | 8.0000e-005        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 1.6000e-004        | 1.6000e-004        | 0.0000        | 0.0000        | 1.7000e-004        |
| <b>Total</b>          | <b>1.0000e-005</b> | <b>0.0000</b> | <b>8.0000e-005</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>1.6000e-004</b> | <b>1.6000e-004</b> | <b>0.0000</b> | <b>0.0000</b> | <b>1.7000e-004</b> |



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.2 Area by SubCategory**

Mitigated

|                       | ROG                | NOx           | CO                 | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|-----------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| SubCategory           | tons/yr            |               |                    |               |               |               |               |                |               |               | MT/yr         |                    |                    |               |               |                    |
| Architectural Coating | 0.0000             |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Consumer Products     | 0.0000             |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Landscaping           | 1.0000e-005        | 0.0000        | 8.0000e-005        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 1.6000e-004        | 1.6000e-004        | 0.0000        | 0.0000        | 1.7000e-004        |
| <b>Total</b>          | <b>1.0000e-005</b> | <b>0.0000</b> | <b>8.0000e-005</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>1.6000e-004</b> | <b>1.6000e-004</b> | <b>0.0000</b> | <b>0.0000</b> | <b>1.7000e-004</b> |

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|             | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|-----------|--------|--------|--------|
| Category    | MT/yr     |        |        |        |
| Mitigated   | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

**7.2 Water by Land Use**

**Unmitigated**

|                            | Indoor/Outdoor Use | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|--------------------|---------------|---------------|---------------|---------------|
| Land Use                   | Mgal               | MT/yr         |               |               |               |
| General Office Building    | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                    | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.2 Water by Land Use**

Mitigated

|                            | Indoor/Outdoor Use | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|--------------------|---------------|---------------|---------------|---------------|
| Land Use                   | Mgal               | MT/yr         |               |               |               |
| General Office Building    | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0 / 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                    | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

Category/Year

|             | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|-----------|--------|--------|--------|
|             | MT/yr     |        |        |        |
| Mitigated   | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.2 Waste by Land Use**

**Unmitigated**

|                            | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use                   | tons           | MT/yr         |               |               |               |
| General Office Building    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated**

|                            | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|----------------|---------------|---------------|---------------|---------------|
| Land Use                   | tons           | MT/yr         |               |               |               |
| General Office Building    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**9.0 Operational Offroad**

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SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

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SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**SIR-02 Conttonwood Sand Mine Phase 3  
San Diego County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses                  | Size | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------|------|----------|-------------|--------------------|------------|
| General Office Building    | 1.00 | 1000sqft | 0.02        | 1,000.00           | 0          |
| Other Non-Asphalt Surfaces | 8.00 | Acre     | 8.00        | 348,480.00         | 0          |

**1.2 Other Project Characteristics**

|                                |                          |                                |       |                                  |       |
|--------------------------------|--------------------------|--------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>            | Rural                    | <b>Wind Speed (m/s)</b>        | 2.6   | <b>Precipitation Freq (Days)</b> | 40    |
| <b>Climate Zone</b>            | 13                       |                                |       | <b>Operational Year</b>          | 2028  |
| <b>Utility Company</b>         | San Diego Gas & Electric |                                |       |                                  |       |
| <b>CO2 Intensity (lb/MWhr)</b> | 539.98                   | <b>CH4 Intensity (lb/MWhr)</b> | 0.033 | <b>N2O Intensity (lb/MWhr)</b>   | 0.004 |

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - Run v3 - Updated Phase 3 schedule; Update to CalEEMod 2020.4.0.

Land Use - Other non-asphalt areas = main entrance, mine parking, truck load area, plant area, settling ponds, and 2nd entrance west.

Construction Phase - Demolition only for phase 3.

Off-road Equipment - Demolition of a golf club house and related structure...total approx 23,000 SF.

Off-road Equipment - Grading for plant pad, parking, truck load area, settling ponds and entrances.

Trips and VMT -

Demolition -

Grading -

Vehicle Trips - ADT and ATL per project TIA; employee and vendor trips assigned to office (71% employees, 29% vendors); truck trips assigned to non-asphalt surface.

Vehicle Emission Factors -

SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Vehicle Emission Factors -

Vehicle Emission Factors -

Consumer Products - Operational mobile emissions only, this model.

Area Coating - Operational mobile emissions only, this model.

Energy Use - Building energy calculated off-model.

Water And Wastewater - Water supplied on-site, no sewer hookup.

Solid Waste - Solid waste calculated off-model.

Construction Off-road Equipment Mitigation - Dust mitigation to comply with SDAPCD Rule 55.

Fleet Mix - Fleet mix for trucks = 100% HHD.

| Table Name             | Column Name                  | Default Value | New Value |
|------------------------|------------------------------|---------------|-----------|
| tblAreaCoating         | Area_Nonresidential_Exterior | 500           | 0         |
| tblAreaCoating         | Area_Nonresidential_Interior | 1500          | 0         |
| tblAreaCoating         | Area_Parking                 | 20909         | 0         |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0             | 15        |
| tblConsumerProducts    | ROG_EF                       | 2.14E-05      | 0         |
| tblConsumerProducts    | ROG_EF_Degreaser             | 3.542E-07     | 0         |
| tblEnergyUse           | LightingElect                | 3.81          | 0.00      |
| tblEnergyUse           | NT24E                        | 4.97          | 0.00      |
| tblEnergyUse           | NT24NG                       | 4.20          | 0.00      |
| tblEnergyUse           | T24E                         | 4.16          | 0.00      |
| tblEnergyUse           | T24NG                        | 15.83         | 0.00      |
| tblFleetMix            | HHD                          | 6.3030e-003   | 1.00      |
| tblFleetMix            | LDA                          | 0.57          | 0.00      |
| tblFleetMix            | LDT1                         | 0.06          | 0.00      |
| tblFleetMix            | LDT2                         | 0.17          | 0.00      |
| tblFleetMix            | LHD1                         | 0.02          | 0.00      |
| tblFleetMix            | LHD2                         | 6.4400e-003   | 0.00      |
| tblFleetMix            | MCY                          | 0.03          | 0.00      |

## SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                           |                            |             |        |
|---------------------------|----------------------------|-------------|--------|
| tblFleetMix               | MDV                        | 0.11        | 0.00   |
| tblFleetMix               | MH                         | 4.2180e-003 | 0.00   |
| tblFleetMix               | MHD                        | 9.5210e-003 | 0.00   |
| tblFleetMix               | OBUS                       | 6.8900e-004 | 0.00   |
| tblFleetMix               | SBUS                       | 8.9900e-004 | 0.00   |
| tblFleetMix               | UBUS                       | 6.0500e-004 | 0.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 3.00        | 1.00   |
| tblOffRoadEquipment       | OffRoadEquipmentUnitAmount | 2.00        | 1.00   |
| tblProjectCharacteristics | UrbanizationLevel          | Urban       | Rural  |
| tblSolidWaste             | SolidWasteGenerationRate   | 0.93        | 0.00   |
| tblVehicleTrips           | CC_TL                      | 6.60        | 16.00  |
| tblVehicleTrips           | CC_TTP                     | 48.00       | 0.00   |
| tblVehicleTrips           | CC_TTP                     | 0.00        | 100.00 |
| tblVehicleTrips           | CNW_TL                     | 6.60        | 0.00   |
| tblVehicleTrips           | CNW_TTP                    | 19.00       | 29.00  |
| tblVehicleTrips           | CW_TL                      | 14.70       | 0.00   |
| tblVehicleTrips           | CW_TTP                     | 33.00       | 71.00  |
| tblVehicleTrips           | PR_TP                      | 0.00        | 100.00 |
| tblVehicleTrips           | ST_TR                      | 2.21        | 0.00   |
| tblVehicleTrips           | SU_TR                      | 0.70        | 0.00   |
| tblVehicleTrips           | WD_TR                      | 9.74        | 36.00  |
| tblVehicleTrips           | WD_TR                      | 0.00        | 22.00  |
| tblWater                  | IndoorWaterUseRate         | 177,733.75  | 0.00   |
| tblWater                  | OutdoorWaterUseRate        | 108,933.59  | 0.00   |

**2.0 Emissions Summary**





SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 8.0000e-005   | 1.0000e-005    | 9.2000e-004   | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 1.9700e-003       | 1.9700e-003       | 1.0000e-005   |               | 2.1000e-003       |
| Energy       | 0.0000        | 0.0000         | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.4137        | 18.6132        | 6.9772        | 0.0775        | 2.7385        | 0.1536        | 2.8920        | 0.7482         | 0.1469        | 0.8951        |          | 8,665.5902        | 8,665.5902        | 0.5547        | 1.3552        | 9,083.2995        |
| <b>Total</b> | <b>0.4137</b> | <b>18.6132</b> | <b>6.9781</b> | <b>0.0775</b> | <b>2.7385</b> | <b>0.1536</b> | <b>2.8920</b> | <b>0.7482</b>  | <b>0.1469</b> | <b>0.8951</b> |          | <b>8,665.5922</b> | <b>8,665.5922</b> | <b>0.5547</b> | <b>1.3552</b> | <b>9,083.3016</b> |

**Mitigated Operational**

|              | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                   |                   |               |               |                   |
| Area         | 8.0000e-005   | 1.0000e-005    | 9.2000e-004   | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 1.9700e-003       | 1.9700e-003       | 1.0000e-005   |               | 2.1000e-003       |
| Energy       | 0.0000        | 0.0000         | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Mobile       | 0.4137        | 18.6132        | 6.9772        | 0.0775        | 2.7385        | 0.1536        | 2.8920        | 0.7482         | 0.1469        | 0.8951        |          | 8,665.5902        | 8,665.5902        | 0.5547        | 1.3552        | 9,083.2995        |
| <b>Total</b> | <b>0.4137</b> | <b>18.6132</b> | <b>6.9781</b> | <b>0.0775</b> | <b>2.7385</b> | <b>0.1536</b> | <b>2.8920</b> | <b>0.7482</b>  | <b>0.1469</b> | <b>0.8951</b> |          | <b>8,665.5922</b> | <b>8,665.5922</b> | <b>0.5547</b> | <b>1.3552</b> | <b>9,083.3016</b> |

SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00          | 0.00         | 0.00       | 0.00           | 0.00          | 0.00        | 0.00     | 0.00     | 0.00      | 0.00 | 0.00 | 0.00 |

**3.0 Construction Detail**

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date  | Num Days Week | Num Days | Phase Description |
|--------------|------------|------------|------------|-----------|---------------|----------|-------------------|
| 1            | Demolition | Demolition | 6/1/2027   | 6/28/2027 | 5             | 20       |                   |

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 8

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type   | Amount | Usage Hours | Horse Power | Load Factor |
|------------|--------------------------|--------|-------------|-------------|-------------|
| Demolition | Concrete/Industrial Saws | 1      | 8.00        | 81          | 0.73        |
| Demolition | Excavators               | 1      | 8.00        | 158         | 0.38        |
| Demolition | Rubber Tired Dozers      | 1      | 8.00        | 247         | 0.40        |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition | 3                       | 8.00               | 0.00               | 105.00              | 16.80              | 6.60               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

**3.1 Mitigation Measures Construction**

SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Demolition - 2027**

**Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2              | Total CO2              | CH4           | N2O | CO2e                   |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|------------------------|------------------------|---------------|-----|------------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day   |                        |                        |               |     |                        |
| Fugitive Dust |               |                |               |               | 1.1461        | 0.0000        | 1.1461        | 0.1736         | 0.0000        | 0.1736        |          |                        | 0.0000                 |               |     | 0.0000                 |
| Off-Road      | 1.1103        | 10.1221        | 9.9019        | 0.0200        |               | 0.4428        | 0.4428        |                | 0.4148        | 0.4148        |          | 1,919.963<br>7         | 1,919.963<br>7         | 0.4554        |     | 1,931.347<br>4         |
| <b>Total</b>  | <b>1.1103</b> | <b>10.1221</b> | <b>9.9019</b> | <b>0.0200</b> | <b>1.1461</b> | <b>0.4428</b> | <b>1.5890</b> | <b>0.1736</b>  | <b>0.4148</b> | <b>0.5884</b> |          | <b>1,919.963<br/>7</b> | <b>1,919.963<br/>7</b> | <b>0.4554</b> |     | <b>1,931.347<br/>4</b> |

SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2027**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |               |                 |
| Hauling      | 0.0106        | 0.6777        | 0.2010        | 2.8700e-003        | 0.0918        | 5.7400e-003        | 0.0976        | 0.0252         | 5.4900e-003        | 0.0307        |          | 320.0504        | 320.0504        | 0.0196        | 0.0511        | 335.7538        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Worker       | 0.0255        | 0.0145        | 0.2032        | 7.4000e-004        | 0.1022        | 4.3000e-004        | 0.1026        | 0.0271         | 4.0000e-004        | 0.0275        |          | 78.6191         | 78.6191         | 1.4100e-003   | 1.7100e-003   | 79.1627         |
| <b>Total</b> | <b>0.0361</b> | <b>0.6922</b> | <b>0.4042</b> | <b>3.6100e-003</b> | <b>0.1940</b> | <b>6.1700e-003</b> | <b>0.2002</b> | <b>0.0523</b>  | <b>5.8900e-003</b> | <b>0.0582</b> |          | <b>398.6695</b> | <b>398.6695</b> | <b>0.0210</b> | <b>0.0528</b> | <b>414.9165</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |               |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |                |               |               | 0.5158        | 0.0000        | 0.5158        | 0.0781         | 0.0000        | 0.0781        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 1.1103        | 10.1221        | 9.9019        | 0.0200        |               | 0.4428        | 0.4428        |                | 0.4148        | 0.4148        | 0.0000        | 1,919.9637        | 1,919.9637        | 0.4554        |     | 1,931.3474        |
| <b>Total</b>  | <b>1.1103</b> | <b>10.1221</b> | <b>9.9019</b> | <b>0.0200</b> | <b>0.5158</b> | <b>0.4428</b> | <b>0.9586</b> | <b>0.0781</b>  | <b>0.4148</b> | <b>0.4929</b> | <b>0.0000</b> | <b>1,919.9637</b> | <b>1,919.9637</b> | <b>0.4554</b> |     | <b>1,931.3474</b> |

SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2027**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|---------------|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |               |                 |
| Hauling      | 0.0106        | 0.6777        | 0.2010        | 2.8700e-003        | 0.0918        | 5.7400e-003        | 0.0976        | 0.0252         | 5.4900e-003        | 0.0307        |          | 320.0504        | 320.0504        | 0.0196        | 0.0511        | 335.7538        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Worker       | 0.0255        | 0.0145        | 0.2032        | 7.4000e-004        | 0.1022        | 4.3000e-004        | 0.1026        | 0.0271         | 4.0000e-004        | 0.0275        |          | 78.6191         | 78.6191         | 1.4100e-003   | 1.7100e-003   | 79.1627         |
| <b>Total</b> | <b>0.0361</b> | <b>0.6922</b> | <b>0.4042</b> | <b>3.6100e-003</b> | <b>0.1940</b> | <b>6.1700e-003</b> | <b>0.2002</b> | <b>0.0523</b>  | <b>5.8900e-003</b> | <b>0.0582</b> |          | <b>398.6695</b> | <b>398.6695</b> | <b>0.0210</b> | <b>0.0528</b> | <b>414.9165</b> |

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

|             | ROG    | NOx     | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|-------------|--------|---------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category    | lb/day |         |        |        |               |              |            |                |               |             | lb/day   |            |            |        |        |            |
| Mitigated   | 0.4137 | 18.6132 | 6.9772 | 0.0775 | 2.7385        | 0.1536       | 2.8920     | 0.7482         | 0.1469        | 0.8951      |          | 8,665.5902 | 8,665.5902 | 0.5547 | 1.3552 | 9,083.2995 |
| Unmitigated | 0.4137 | 18.6132 | 6.9772 | 0.0775 | 2.7385        | 0.1536       | 2.8920     | 0.7482         | 0.1469        | 0.8951      |          | 8,665.5902 | 8,665.5902 | 0.5547 | 1.3552 | 9,083.2995 |

**4.2 Trip Summary Information**

| Land Use                   | Average Daily Trip Rate |             |             | Unmitigated    | Mitigated      |
|----------------------------|-------------------------|-------------|-------------|----------------|----------------|
|                            | Weekday                 | Saturday    | Sunday      | Annual VMT     | Annual VMT     |
| General Office Building    | 36.00                   | 0.00        | 0.00        | 94,545         | 94,545         |
| Other Non-Asphalt Surfaces | 176.00                  | 0.00        | 0.00        | 732,160        | 732,160        |
| <b>Total</b>               | <b>212.00</b>           | <b>0.00</b> | <b>0.00</b> | <b>826,705</b> | <b>826,705</b> |

**4.3 Trip Type Information**

| Land Use                   | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                            | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| General Office Building    | 14.70      | 6.60       | 6.60        | 71.00      | 0.00       | 29.00       | 77             | 19       | 4       |
| Other Non-Asphalt Surfaces | 0.00       | 16.00      | 0.00        | 0.00       | 100.00     | 0.00        | 100            | 0        | 0       |

**4.4 Fleet Mix**

| Land Use                   | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| General Office Building    | 0.571163 | 0.061971 | 0.173016 | 0.114025 | 0.023169 | 0.006440 | 0.009521 | 0.006303 | 0.000689 | 0.000605 | 0.027981 | 0.000899 | 0.004218 |
| Other Non-Asphalt Surfaces | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

**5.0 Energy Detail**

SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

|                        | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e   |
|------------------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
| Category               | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |           |           |        |        |        |
| NaturalGas Mitigated   | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| NaturalGas Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

|                            | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                   | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| General Office Building    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |



SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - NaturalGas**

Mitigated

|                            | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|----------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use                   | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| General Office Building    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Other Non-Asphalt Surfaces | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>               |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

|             | ROG         | NOx         | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2   | Total CO2   | CH4         | N2O | CO2e        |
|-------------|-------------|-------------|-------------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-------------|-------------|-------------|-----|-------------|
| Category    | lb/day      |             |             |        |               |              |            |                |               |             | lb/day   |             |             |             |     |             |
| Mitigated   | 8.0000e-005 | 1.0000e-005 | 9.2000e-004 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 1.9700e-003 | 1.9700e-003 | 1.0000e-005 |     | 2.1000e-003 |
| Unmitigated | 8.0000e-005 | 1.0000e-005 | 9.2000e-004 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 1.9700e-003 | 1.9700e-003 | 1.0000e-005 |     | 2.1000e-003 |

SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.2 Area by SubCategory**

**Unmitigated**

|                       | ROG                | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4                | N2O | CO2e               |
|-----------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|--------------------|-----|--------------------|
| SubCategory           | lb/day             |                    |                    |               |               |               |               |                |               |               | lb/day   |                    |                    |                    |     |                    |
| Architectural Coating | 0.0000             |                    |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                    | 0.0000             |                    |     | 0.0000             |
| Consumer Products     | 0.0000             |                    |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                    | 0.0000             |                    |     | 0.0000             |
| Landscaping           | 8.0000e-005        | 1.0000e-005        | 9.2000e-004        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 1.9700e-003        | 1.9700e-003        | 1.0000e-005        |     | 2.1000e-003        |
| <b>Total</b>          | <b>8.0000e-005</b> | <b>1.0000e-005</b> | <b>9.2000e-004</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>1.9700e-003</b> | <b>1.9700e-003</b> | <b>1.0000e-005</b> |     | <b>2.1000e-003</b> |

SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.2 Area by SubCategory**

Mitigated

|                       | ROG                | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2          | Total CO2          | CH4                | N2O | CO2e               |
|-----------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|--------------------|--------------------|--------------------|-----|--------------------|
| SubCategory           | lb/day             |                    |                    |               |               |               |               |                |               |               | lb/day   |                    |                    |                    |     |                    |
| Architectural Coating | 0.0000             |                    |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                    | 0.0000             |                    |     | 0.0000             |
| Consumer Products     | 0.0000             |                    |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                    | 0.0000             |                    |     | 0.0000             |
| Landscaping           | 8.0000e-005        | 1.0000e-005        | 9.2000e-004        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 1.9700e-003        | 1.9700e-003        | 1.0000e-005        |     | 2.1000e-003        |
| <b>Total</b>          | <b>8.0000e-005</b> | <b>1.0000e-005</b> | <b>9.2000e-004</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>1.9700e-003</b> | <b>1.9700e-003</b> | <b>1.0000e-005</b> |     | <b>2.1000e-003</b> |

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

SIR-02 Conttonwood Sand Mine Phase 3 - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

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# Appendix D

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Health Risk Assessment

# Control Pathway

AERMOD

## Dispersion Options

|  |  |
|--|--|
| <b>Titles</b><br>SIR02 Cottonwood Sand Mine Phase 2 AERMOD   |  |
| <b>Dispersion Options</b><br><input checked="" type="checkbox"/> Regulatory Default <input type="checkbox"/> Non-Default Options | <b>Dispersion Coefficient</b><br>Rural   |
|  | <b>Output Type</b><br><input checked="" type="checkbox"/> Concentration<br><input type="checkbox"/> Total Deposition (Dry & Wet)<br><input type="checkbox"/> Dry Deposition<br><input type="checkbox"/> Wet Deposition |
|  | <b>Plume Depletion</b><br><input type="checkbox"/> Dry Removal<br><input type="checkbox"/> Wet Removal   |
|  | <b>Output Warnings</b><br><input type="checkbox"/> No Output Warnings<br><input type="checkbox"/> Non-fatal Warnings for Non-sequential Met Data   |

## Pollutant / Averaging Time / Terrain Options

|  |   |
|--|---|
| <b>Pollutant Type</b><br>LEAD  | <b>Exponential Decay</b><br>Option not available  |
| <b>Averaging Time Options</b><br>Hours <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 6 <input type="checkbox"/> 8 <input type="checkbox"/> 12 <input type="checkbox"/> 24<br><input checked="" type="checkbox"/> Month <input type="checkbox"/> Period <input type="checkbox"/> Annual | <b>Terrain Height Options</b><br><input type="checkbox"/> Flat <input checked="" type="checkbox"/> Elevated      SO: Meters<br>RE: Meters<br>TG: Meters |
| <b>Flagpole Receptors</b><br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Default Height = 1.20 m  |   |

## Optional Files



Re-Start File



Init File



Multi-Year Analyses



Event Input File



Error Listing File

### Detailed Error Listing File

Filename: SIR02\_Phase1\_AERMOD.err

# Source Pathway - Source Inputs

AERMOD

## Volume Sources

| Source Type | Source ID  | X Coordinate [m]     | Y Coordinate [m] | Base Elevation (Optional) | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dim. [m] | Initial Vertical Dim. [m] |
|-------------|------------|----------------------|------------------|---------------------------|--------------------|---------------------|--------------------|---------------------|--------------------------|---------------------------|
| VOLUME      | P1AEXTRACT | 507642.95            | 3622759.45       | 104.31                    | 3.00               | 1.00000             | 50.00              | Surface-Based       | 11.63                    | 1.05                      |
|             |            | Phase 1-A Extraction |                  |                           |                    |                     |                    |                     |                          |                           |
| VOLUME      | PROCESS    | 508317.38            | 3623323.54       | 109.92                    | 3.00               | 1.00000             | 50.00              | Surface-Based       | 11.63                    | 1.19                      |
|             |            | Processing Area      |                  |                           |                    |                     |                    |                     |                          |                           |
| VOLUME      | P1BEXTACT  | 507060.85            | 3622564.77       | 101.58                    | 3.00               | 1.00000             | 50.00              | Surface-Based       | 11.63                    | 1.19                      |
|             |            | Phase 1-B Extraction |                  |                           |                    |                     |                    |                     |                          |                           |
| VOLUME      | P1CEXTRACT | 507219.95            | 3622702.66       | 102.49                    | 3.00               | 1.00000             | 50.00              | Surface-Based       | 11.63                    | 1.19                      |
|             |            | Phase 1-C Extraction |                  |                           |                    |                     |                    |                     |                          |                           |



# Source Pathway - Source Inputs

AERMOD

## Line Volume Sources

Source Type: LINE VOLUME

Source: FCONV (Final Conveyor)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 1.83               | 1.00000              |                     | 508280.92                   | 3623353.74                  | 112.41             | 10.73              |
|                    |                      |                     | 508313.10                   | 3623329.17                  | 109.91             | 10.73              |

Source Type: LINE VOLUME

Source: HRT1 (Haul Route 1 Willow Glen)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 21.24              | 1.00000              |                     | 508295.91                   | 3623410.45                  | 116.37             | 2.55               |
|                    |                      |                     | 508224.91                   | 3623337.84                  | 112.76             | 2.55               |
|                    |                      |                     | 508079.69                   | 3623244.25                  | 111.69             | 2.55               |
|                    |                      |                     | 507992.56                   | 3623192.62                  | 110.61             | 2.55               |
|                    |                      |                     | 507842.50                   | 3623139.37                  | 111.46             | 2.55               |
|                    |                      |                     | 507777.96                   | 3623107.10                  | 111.18             | 2.55               |
|                    |                      |                     | 507736.01                   | 3623068.37                  | 108.25             | 2.55               |
|                    |                      |                     | 507627.90                   | 3622961.88                  | 107.44             | 2.55               |
|                    |                      |                     | 507595.63                   | 3622937.67                  | 107.02             | 2.55               |
|                    |                      |                     | 507318.10                   | 3622821.50                  | 109.93             | 2.55               |
|                    |                      |                     | 507243.87                   | 3622802.14                  | 107.83             | 2.55               |
|                    |                      |                     | 507084.13                   | 3622821.50                  | 113.74             | 2.55               |
|                    |                      |                     | 506919.55                   | 3622853.77                  | 113.66             | 2.55               |
|                    |                      |                     | 506819.51                   | 3622897.34                  | 105.79             | 2.55               |
|                    |                      |                     | 506709.79                   | 3622957.04                  | 104.94             | 2.55               |
|                    |                      |                     | 506661.38                   | 3623007.06                  | 105.54             | 2.55               |

# Source Pathway - Source Inputs

AERMOD

Source Type: LINE VOLUME

Source: HRT2 (Haul Route 2 Jamacha N)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 24.90              | 1.00000              |                     | 506662.38                   | 3623030.07                  | 104.77             | 2.55               |
|                    |                      |                     | 506737.60                   | 3623073.38                  | 106.64             | 2.55               |
|                    |                      |                     | 506808.26                   | 3623169.12                  | 109.72             | 2.55               |
|                    |                      |                     | 506840.17                   | 3623294.48                  | 113.20             | 2.55               |
|                    |                      |                     | 506837.89                   | 3623625.00                  | 116.39             | 2.55               |
|                    |                      |                     | 506824.22                   | 3623818.75                  | 118.01             | 2.55               |
|                    |                      |                     | 506833.34                   | 3624137.87                  | 129.51             | 2.55               |
|                    |                      |                     | 506826.50                   | 3624511.70                  | 146.39             | 2.55               |

Source Type: LINE VOLUME

Source: HRT3 (Haul Route 3 Jamacha SW)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 24.90              | 1.00000              |                     | 506638.96                   | 3623027.47                  | 104.28             | 2.55               |
|                    |                      |                     | 506454.47                   | 3622950.05                  | 102.55             | 2.55               |
|                    |                      |                     | 506233.73                   | 3622851.22                  | 101.74             | 2.55               |
|                    |                      |                     | 506088.77                   | 3622772.15                  | 101.33             | 2.55               |
|                    |                      |                     | 505912.52                   | 3622670.02                  | 101.71             | 2.55               |
|                    |                      |                     | 505653.89                   | 3622511.88                  | 104.82             | 2.55               |
|                    |                      |                     | 505573.18                   | 3622465.75                  | 106.06             | 2.55               |
|                    |                      |                     | 505471.05                   | 3622452.57                  | 107.71             | 2.55               |
|                    |                      |                     | 505191.01                   | 3622436.10                  | 113.50             | 2.55               |
|                    |                      |                     | 504952.15                   | 3622416.33                  | 123.16             | 2.55               |
|                    |                      |                     | 504817.08                   | 3622422.92                  | 131.63             | 2.55               |
|                    |                      |                     | 504701.77                   | 3622449.28                  | 137.29             | 2.55               |
|                    |                      |                     | 504594.70                   | 3622490.46                  | 133.87             | 2.55               |

# Source Pathway - Source Inputs

AERMOD

**Source Type:** LINE VOLUME

**Source:** MCONV (Main Conveyor)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 1.83               | 1.00000              |                     | 508280.93                   | 3623353.72                  | 112.41             | 0.00               |
|                    |                      |                     | 508260.69                   | 3623331.50                  | 111.28             | 0.00               |
|                    |                      |                     | 508287.26                   | 3623276.19                  | 108.57             | 0.00               |
|                    |                      |                     | 507808.86                   | 3622966.90                  | 104.01             | 0.00               |
|                    |                      |                     | 507484.82                   | 3622744.23                  | 102.58             | 0.00               |
|                    |                      |                     | 507318.69                   | 3622592.01                  | 102.64             | 0.00               |

**Source Type:** LINE VOLUME

**Source:** P1HRD (Haul Road Phase 1)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 9.50               | 1.00000              |                     | 508296.07                   | 3623262.54                  | 108.47             | 3.19               |
|                    |                      |                     | 507806.20                   | 3622940.99                  | 104.30             | 3.19               |
|                    |                      |                     | 507637.00                   | 3622759.24                  | 104.13             | 3.19               |
|                    |                      |                     | 507218.35                   | 3622698.33                  | 102.54             | 3.19               |
|                    |                      |                     | 507057.72                   | 3622558.61                  | 103.10             | 3.19               |

**Source Type:** LINE VOLUME

**Source:** RSTACK1 (Radial Stacker 1)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 1.83               | 1.00000              |                     | 508310.44                   | 3623330.07                  | 110.04             | 8.29               |
|                    |                      |                     | 508300.25                   | 3623309.85                  | 109.92             | 8.29               |

**Source Type:** LINE VOLUME

**Source:** RSTACK2 (Radial Stacker 2)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 1.83               | 1.00000              |                     | 508311.27                   | 3623330.63                  | 110.03             | 10.27              |
|                    |                      |                     | 508327.81                   | 3623308.01                  | 109.55             | 10.27              |

# Source Pathway - Source Inputs

AERMOD

## Volume Sources Generated from Line Sources

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT1           | L0000524         | 508288.48        | 3623402.85       | 116.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000525         | 508273.64        | 3623387.67       | 116.60             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000526         | 508258.79        | 3623372.48       | 115.77             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000527         | 508243.94        | 3623357.29       | 113.95             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000528         | 508229.09        | 3623342.11       | 112.91             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000529         | 508212.08        | 3623329.56       | 113.15             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000530         | 508194.22        | 3623318.06       | 113.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000531         | 508176.37        | 3623306.55       | 113.63             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000532         | 508158.52        | 3623295.05       | 113.85             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000533         | 508140.66        | 3623283.54       | 113.24             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000534         | 508122.81        | 3623272.04       | 113.19             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000535         | 508104.96        | 3623260.53       | 113.09             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000536         | 508087.10        | 3623249.02       | 112.68             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000537         | 508069.00        | 3623237.92       | 112.51             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000538         | 508050.73        | 3623227.09       | 112.32             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000539         | 508032.46        | 3623216.26       | 112.33             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000540         | 508014.19        | 3623205.43       | 112.27             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000541         | 507995.91        | 3623194.60       | 112.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000542         | 507976.22        | 3623186.82       | 113.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000543         | 507956.20        | 3623179.71       | 113.53             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000544         | 507936.18        | 3623172.61       | 112.66             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000545         | 507916.16        | 3623165.51       | 112.44             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000546         | 507896.15        | 3623158.40       | 112.47             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000547         | 507876.13        | 3623151.30       | 111.94             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT1           | L0000548         | 507856.11        | 3623144.20       | 112.06             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000549         | 507836.42        | 3623136.33       | 111.94             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000550         | 507817.42        | 3623126.83       | 111.14             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000551         | 507798.43        | 3623117.33       | 110.57             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000552         | 507779.43        | 3623107.83       | 110.64             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000553         | 507763.56        | 3623093.81       | 109.41             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000554         | 507747.95        | 3623079.40       | 108.67             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000555         | 507732.46        | 3623064.88       | 108.21             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000556         | 507717.33        | 3623049.97       | 107.98             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000557         | 507702.19        | 3623035.06       | 107.75             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000558         | 507687.06        | 3623020.16       | 107.66             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000559         | 507671.93        | 3623005.25       | 107.41             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000560         | 507656.80        | 3622990.35       | 107.29             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000561         | 507641.67        | 3622975.44       | 107.27             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000562         | 507626.37        | 3622960.73       | 107.27             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000563         | 507609.38        | 3622947.99       | 107.33             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000564         | 507591.89        | 3622936.11       | 107.51             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000565         | 507572.30        | 3622927.91       | 108.74             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000566         | 507552.70        | 3622919.71       | 109.91             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000567         | 507533.11        | 3622911.51       | 110.14             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000568         | 507513.52        | 3622903.30       | 110.64             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000569         | 507493.93        | 3622895.10       | 111.16             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000570         | 507474.33        | 3622886.90       | 111.27             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000571         | 507454.74        | 3622878.70       | 110.61             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000572         | 507435.15        | 3622870.50       | 110.72             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT1           | L0000573         | 507415.55        | 3622862.30       | 110.81             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000574         | 507395.96        | 3622854.09       | 110.53             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000575         | 507376.37        | 3622845.89       | 110.77             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000576         | 507356.78        | 3622837.69       | 110.73             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000577         | 507337.18        | 3622829.49       | 110.66             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000578         | 507317.57        | 3622821.36       | 110.13             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000579         | 507297.01        | 3622816.00       | 110.47             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000580         | 507276.46        | 3622810.64       | 110.76             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000581         | 507255.91        | 3622805.28       | 109.76             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000582         | 507235.14        | 3622803.19       | 109.55             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000583         | 507214.05        | 3622805.75       | 111.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000584         | 507192.97        | 3622808.31       | 113.12             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000585         | 507171.88        | 3622810.86       | 114.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000586         | 507150.79        | 3622813.42       | 107.99             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000587         | 507129.71        | 3622815.97       | 108.59             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000588         | 507108.62        | 3622818.53       | 114.66             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000589         | 507087.54        | 3622821.09       | 114.33             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000590         | 507066.66        | 3622824.93       | 113.71             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000591         | 507045.81        | 3622829.01       | 114.46             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000592         | 507024.97        | 3622833.10       | 113.96             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000593         | 507004.13        | 3622837.19       | 114.02             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000594         | 506983.28        | 3622841.27       | 114.81             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000595         | 506962.44        | 3622845.36       | 113.90             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000596         | 506941.60        | 3622849.45       | 114.45             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000597         | 506920.75        | 3622853.53       | 114.31             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT1           | L0000598         | 506901.20        | 3622861.76       | 115.01             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000599         | 506881.73        | 3622870.24       | 113.75             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000600         | 506862.25        | 3622878.72       | 114.15             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000601         | 506842.78        | 3622887.20       | 109.05             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000602         | 506823.31        | 3622895.68       | 105.83             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000603         | 506804.49        | 3622905.51       | 105.66             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000604         | 506785.83        | 3622915.66       | 105.57             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000605         | 506767.18        | 3622925.81       | 105.31             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000606         | 506748.52        | 3622935.96       | 104.24             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000607         | 506729.86        | 3622946.11       | 105.72             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000608         | 506711.21        | 3622956.26       | 104.92             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000609         | 506696.14        | 3622971.14       | 106.11             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000610         | 506681.37        | 3622986.40       | 106.50             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000611         | 506666.60        | 3623001.67       | 105.91             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT3           | L0000612         | 506627.48        | 3623022.66       | 104.21             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000613         | 506604.53        | 3623013.02       | 104.26             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000614         | 506581.57        | 3623003.39       | 104.07             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000615         | 506558.61        | 3622993.75       | 103.82             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000616         | 506535.65        | 3622984.12       | 103.44             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000617         | 506512.69        | 3622974.49       | 103.18             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000618         | 506489.74        | 3622964.85       | 102.98             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000619         | 506466.78        | 3622955.22       | 102.78             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000620         | 506443.93        | 3622945.33       | 102.41             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT3           | L0000621         | 506421.20        | 3622935.16       | 102.35             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000622         | 506398.48        | 3622924.98       | 102.22             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000623         | 506375.76        | 3622914.81       | 102.04             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000624         | 506353.03        | 3622904.63       | 101.96             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000625         | 506330.31        | 3622894.46       | 101.82             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000626         | 506307.59        | 3622884.28       | 101.87             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000627         | 506284.86        | 3622874.11       | 101.75             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000628         | 506262.14        | 3622863.93       | 101.81             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000629         | 506239.42        | 3622853.76       | 101.87             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000630         | 506217.34        | 3622842.27       | 101.82             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000631         | 506195.48        | 3622830.35       | 101.62             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000632         | 506173.63        | 3622818.43       | 101.50             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000633         | 506151.77        | 3622806.51       | 101.46             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000634         | 506129.91        | 3622794.58       | 101.39             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000635         | 506108.05        | 3622782.66       | 101.32             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000636         | 506086.23        | 3622770.67       | 101.26             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000637         | 506064.69        | 3622758.19       | 101.18             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000638         | 506043.15        | 3622745.71       | 101.14             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000639         | 506021.61        | 3622733.23       | 101.13             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000640         | 506000.06        | 3622720.74       | 101.18             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000641         | 505978.52        | 3622708.26       | 101.26             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000642         | 505956.98        | 3622695.78       | 101.36             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000643         | 505935.44        | 3622683.30       | 101.49             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000644         | 505913.89        | 3622670.81       | 101.66             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000645         | 505892.63        | 3622657.86       | 101.87             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |



# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT3           | L0000646         | 505871.39        | 3622644.87       | 102.07             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000647         | 505850.15        | 3622631.88       | 102.40             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000648         | 505828.91        | 3622618.89       | 102.82             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000649         | 505807.67        | 3622605.90       | 103.19             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000650         | 505786.43        | 3622592.92       | 103.53             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000651         | 505765.19        | 3622579.93       | 103.76             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000652         | 505743.94        | 3622566.94       | 103.96             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000653         | 505722.70        | 3622553.95       | 104.17             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000654         | 505701.46        | 3622540.96       | 104.43             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000655         | 505680.22        | 3622527.97       | 104.64             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000656         | 505658.98        | 3622514.99       | 104.76             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000657         | 505637.45        | 3622502.48       | 104.89             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000658         | 505615.83        | 3622490.13       | 105.14             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000659         | 505594.22        | 3622477.78       | 105.50             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000660         | 505572.52        | 3622465.67       | 105.88             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000661         | 505547.82        | 3622462.48       | 106.27             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000662         | 505523.13        | 3622459.30       | 106.94             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000663         | 505498.44        | 3622456.11       | 107.39             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000664         | 505473.75        | 3622452.92       | 107.75             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000665         | 505448.91        | 3622451.27       | 107.77             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000666         | 505424.05        | 3622449.81       | 108.41             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000667         | 505399.20        | 3622448.35       | 108.13             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000668         | 505374.35        | 3622446.89       | 107.52             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000669         | 505349.49        | 3622445.42       | 107.78             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000670         | 505324.64        | 3622443.96       | 108.01             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT3           | L0000671         | 505299.78        | 3622442.50       | 109.09             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000672         | 505274.93        | 3622441.04       | 110.20             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000673         | 505250.07        | 3622439.58       | 111.13             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000674         | 505225.22        | 3622438.11       | 111.98             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000675         | 505200.36        | 3622436.65       | 113.14             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000676         | 505175.53        | 3622434.82       | 113.70             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000677         | 505150.72        | 3622432.77       | 114.23             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000678         | 505125.91        | 3622430.71       | 114.69             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000679         | 505101.10        | 3622428.66       | 114.21             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000680         | 505076.28        | 3622426.61       | 115.00             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000681         | 505051.47        | 3622424.55       | 115.46             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000682         | 505026.66        | 3622422.50       | 117.53             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000683         | 505001.85        | 3622420.45       | 121.45             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000684         | 504977.03        | 3622418.39       | 121.57             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000685         | 504952.22        | 3622416.34       | 123.10             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000686         | 504927.35        | 3622417.54       | 125.18             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000687         | 504902.48        | 3622418.76       | 126.83             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000688         | 504877.62        | 3622419.97       | 128.08             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000689         | 504852.75        | 3622421.18       | 129.48             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000690         | 504827.88        | 3622422.40       | 130.97             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000691         | 504803.35        | 3622426.06       | 132.52             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000692         | 504779.08        | 3622431.61       | 134.65             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000693         | 504754.81        | 3622437.16       | 135.95             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000694         | 504730.53        | 3622442.71       | 136.89             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000695         | 504706.26        | 3622448.25       | 137.39             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT3           | L0000696         | 504682.83        | 3622456.56       | 137.67             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000697         | 504659.59        | 3622465.50       | 137.70             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000698         | 504636.36        | 3622474.44       | 136.36             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000699         | 504613.12        | 3622483.38       | 135.62             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT2           | L0000700         | 506673.17        | 3623036.28       | 104.92             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000701         | 506694.74        | 3623048.70       | 105.38             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000702         | 506716.32        | 3623061.13       | 106.06             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000703         | 506737.80        | 3623073.66       | 106.71             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000704         | 506752.59        | 3623093.69       | 107.16             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000705         | 506767.37        | 3623113.72       | 107.74             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000706         | 506782.16        | 3623133.75       | 108.40             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000707         | 506796.95        | 3623153.78       | 109.11             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000708         | 506809.70        | 3623174.78       | 110.05             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000709         | 506815.84        | 3623198.90       | 110.58             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000710         | 506821.99        | 3623223.03       | 110.82             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000711         | 506828.13        | 3623247.16       | 112.29             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000712         | 506834.27        | 3623271.29       | 113.71             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000713         | 506840.17        | 3623295.45       | 112.90             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000714         | 506840.00        | 3623320.34       | 112.68             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000715         | 506839.82        | 3623345.24       | 112.87             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000716         | 506839.65        | 3623370.14       | 114.11             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000717         | 506839.48        | 3623395.03       | 115.60             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000718         | 506839.31        | 3623419.93       | 115.38             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT2           | L0000719         | 506839.14        | 3623444.83       | 115.36             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000720         | 506838.97        | 3623469.73       | 114.72             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000721         | 506838.79        | 3623494.62       | 119.07             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000722         | 506838.62        | 3623519.52       | 119.70             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000723         | 506838.45        | 3623544.42       | 119.89             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000724         | 506838.28        | 3623569.31       | 115.87             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000725         | 506838.11        | 3623594.21       | 116.31             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000726         | 506837.94        | 3623619.11       | 116.57             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000727         | 506836.56        | 3623643.96       | 113.69             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000728         | 506834.80        | 3623668.79       | 115.36             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000729         | 506833.05        | 3623693.63       | 115.32             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000730         | 506831.30        | 3623718.47       | 116.42             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000731         | 506829.54        | 3623743.30       | 116.38             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000732         | 506827.79        | 3623768.14       | 117.28             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000733         | 506826.04        | 3623792.97       | 117.17             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000734         | 506824.28        | 3623817.81       | 117.88             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000735         | 506824.90        | 3623842.69       | 119.08             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000736         | 506825.61        | 3623867.58       | 120.72             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000737         | 506826.32        | 3623892.47       | 121.80             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000738         | 506827.04        | 3623917.36       | 122.63             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000739         | 506827.75        | 3623942.24       | 123.39             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000740         | 506828.46        | 3623967.13       | 124.02             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000741         | 506829.17        | 3623992.02       | 124.63             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000742         | 506829.88        | 3624016.91       | 126.20             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000743         | 506830.59        | 3624041.79       | 126.61             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT2           | L0000744         | 506831.30        | 3624066.68       | 127.28             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000745         | 506832.01        | 3624091.57       | 127.99             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000746         | 506832.72        | 3624116.46       | 129.25             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000747         | 506833.27        | 3624141.34       | 129.79             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000748         | 506832.82        | 3624166.24       | 130.85             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000749         | 506832.36        | 3624191.13       | 131.50             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000750         | 506831.91        | 3624216.02       | 131.87             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000751         | 506831.45        | 3624240.92       | 132.66             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000752         | 506831.00        | 3624265.81       | 134.14             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000753         | 506830.54        | 3624290.71       | 135.44             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000754         | 506830.08        | 3624315.60       | 137.20             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000755         | 506829.63        | 3624340.49       | 138.98             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000756         | 506829.17        | 3624365.39       | 140.06             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000757         | 506828.72        | 3624390.28       | 140.81             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000758         | 506828.26        | 3624415.17       | 141.39             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000759         | 506827.81        | 3624440.07       | 142.78             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000760         | 506827.35        | 3624464.96       | 144.03             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000761         | 506826.90        | 3624489.85       | 145.02             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| FCONV          | L0002171         | 508281.65        | 3623353.18       | 112.09             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002172         | 508283.10        | 3623352.07       | 112.12             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002173         | 508284.55        | 3623350.96       | 112.12             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002174         | 508286.01        | 3623349.85       | 112.08             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002175         | 508287.46        | 3623348.74       | 112.00             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |

# Source Pathway - Source Inputs

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| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| FCONV          | L0002176         | 508288.91        | 3623347.63       | 111.83             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002177         | 508290.37        | 3623346.52       | 111.63             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002178         | 508291.82        | 3623345.41       | 111.47             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002179         | 508293.28        | 3623344.30       | 111.32             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002180         | 508294.73        | 3623343.19       | 111.14             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002181         | 508296.18        | 3623342.09       | 110.96             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002182         | 508297.64        | 3623340.98       | 110.80             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002183         | 508299.09        | 3623339.87       | 110.67             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002184         | 508300.55        | 3623338.76       | 110.56             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002185         | 508302.00        | 3623337.65       | 110.46             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002186         | 508303.45        | 3623336.54       | 110.38             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002187         | 508304.91        | 3623335.43       | 110.31             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002188         | 508306.36        | 3623334.32       | 110.22             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002189         | 508307.81        | 3623333.21       | 110.14             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002190         | 508309.27        | 3623332.10       | 110.07             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002191         | 508310.72        | 3623330.99       | 110.01             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002192         | 508312.18        | 3623329.88       | 109.97             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| RSTACK1        | L0002622         | 508310.03        | 3623329.25       | 109.97             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002623         | 508309.20        | 3623327.62       | 109.93             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002624         | 508308.38        | 3623325.99       | 109.87             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002625         | 508307.56        | 3623324.35       | 109.81             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002626         | 508306.73        | 3623322.72       | 109.91             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002627         | 508305.91        | 3623321.09       | 110.00             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |

# Source Pathway - Source Inputs

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| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| RSTACK1        | L0002628         | 508305.09        | 3623319.45       | 110.09             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002629         | 508304.27        | 3623317.82       | 110.19             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002630         | 508303.44        | 3623316.19       | 110.30             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002631         | 508302.62        | 3623314.56       | 110.41             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002632         | 508301.80        | 3623312.92       | 110.37             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002633         | 508300.97        | 3623311.29       | 110.28             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| RSTACK2        | L0002650         | 508311.81        | 3623329.89       | 109.97             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002651         | 508312.89        | 3623328.41       | 109.94             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002652         | 508313.97        | 3623326.94       | 109.92             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002653         | 508315.05        | 3623325.46       | 109.90             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002654         | 508316.13        | 3623323.98       | 109.91             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002655         | 508317.21        | 3623322.51       | 109.97             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002656         | 508318.29        | 3623321.03       | 110.01             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002657         | 508319.37        | 3623319.55       | 110.03             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002658         | 508320.45        | 3623318.08       | 110.03             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002659         | 508321.53        | 3623316.60       | 110.02             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002660         | 508322.61        | 3623315.13       | 109.98             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002661         | 508323.69        | 3623313.65       | 109.93             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002662         | 508324.77        | 3623312.17       | 109.85             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002663         | 508325.85        | 3623310.70       | 109.77             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002664         | 508326.93        | 3623309.22       | 109.69             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0005980         | 508280.32        | 3623353.04       | 111.97             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005981         | 508279.09        | 3623351.69       | 111.85             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005982         | 508277.85        | 3623350.34       | 111.84             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005983         | 508276.62        | 3623348.99       | 111.80             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005984         | 508275.39        | 3623347.64       | 111.73             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005985         | 508274.16        | 3623346.28       | 111.63             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005986         | 508272.93        | 3623344.93       | 111.51             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005987         | 508271.70        | 3623343.58       | 111.46             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005988         | 508270.47        | 3623342.23       | 111.44             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005989         | 508269.23        | 3623340.88       | 111.48             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005990         | 508268.00        | 3623339.52       | 111.48             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005991         | 508266.77        | 3623338.17       | 111.45             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005992         | 508265.54        | 3623336.82       | 111.39             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005993         | 508264.31        | 3623335.47       | 111.29             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005994         | 508263.08        | 3623334.12       | 111.22             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005995         | 508261.84        | 3623332.76       | 111.22             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005996         | 508260.75        | 3623331.39       | 111.24             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005997         | 508261.54        | 3623329.74       | 111.17             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005998         | 508262.33        | 3623328.10       | 111.12             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0005999         | 508263.12        | 3623326.45       | 111.07             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006000         | 508263.91        | 3623324.80       | 111.02             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006001         | 508264.71        | 3623323.15       | 110.95             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006002         | 508265.50        | 3623321.50       | 110.83             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006003         | 508266.29        | 3623319.85       | 110.67             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006004         | 508267.08        | 3623318.20       | 110.47             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |



# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006005         | 508267.87        | 3623316.56       | 110.23             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006006         | 508268.66        | 3623314.91       | 109.95             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006007         | 508269.46        | 3623313.26       | 109.69             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006008         | 508270.25        | 3623311.61       | 109.52             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006009         | 508271.04        | 3623309.96       | 109.43             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006010         | 508271.83        | 3623308.31       | 109.43             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006011         | 508272.62        | 3623306.66       | 109.45             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006012         | 508273.42        | 3623305.02       | 109.49             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006013         | 508274.21        | 3623303.37       | 109.51             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006014         | 508275.00        | 3623301.72       | 109.51             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006015         | 508275.79        | 3623300.07       | 109.49             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006016         | 508276.58        | 3623298.42       | 109.47             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006017         | 508277.37        | 3623296.77       | 109.44             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006018         | 508278.17        | 3623295.13       | 109.40             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006019         | 508278.96        | 3623293.48       | 109.35             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006020         | 508279.75        | 3623291.83       | 109.30             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006021         | 508280.54        | 3623290.18       | 109.25             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006022         | 508281.33        | 3623288.53       | 109.20             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006023         | 508282.13        | 3623286.88       | 109.15             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006024         | 508282.92        | 3623285.23       | 109.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006025         | 508283.71        | 3623283.59       | 109.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006026         | 508284.50        | 3623281.94       | 109.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006027         | 508285.29        | 3623280.29       | 108.93             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006028         | 508286.08        | 3623278.64       | 108.86             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006029         | 508286.88        | 3623276.99       | 108.77             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006030         | 508286.48        | 3623275.68       | 108.71             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006031         | 508284.94        | 3623274.69       | 108.69             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006032         | 508283.41        | 3623273.69       | 108.68             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006033         | 508281.87        | 3623272.70       | 108.68             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006034         | 508280.34        | 3623271.71       | 108.68             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006035         | 508278.80        | 3623270.71       | 108.67             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006036         | 508277.26        | 3623269.72       | 108.66             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006037         | 508275.73        | 3623268.73       | 108.63             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006038         | 508274.19        | 3623267.73       | 108.60             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006039         | 508272.66        | 3623266.74       | 108.56             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006040         | 508271.12        | 3623265.75       | 108.51             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006041         | 508269.58        | 3623264.76       | 108.39             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006042         | 508268.05        | 3623263.76       | 108.27             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006043         | 508266.51        | 3623262.77       | 108.18             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006044         | 508264.98        | 3623261.78       | 108.14             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006045         | 508263.44        | 3623260.78       | 108.11             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006046         | 508261.91        | 3623259.79       | 108.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006047         | 508260.37        | 3623258.80       | 108.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006048         | 508258.83        | 3623257.81       | 108.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006049         | 508257.30        | 3623256.81       | 108.08             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006050         | 508255.76        | 3623255.82       | 108.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006051         | 508254.23        | 3623254.83       | 108.01             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006052         | 508252.69        | 3623253.83       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006053         | 508251.16        | 3623252.84       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006054         | 508249.62        | 3623251.85       | 108.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006055         | 508248.08        | 3623250.86       | 108.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006056         | 508246.55        | 3623249.86       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006057         | 508245.01        | 3623248.87       | 107.98             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006058         | 508243.48        | 3623247.88       | 107.98             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006059         | 508241.94        | 3623246.88       | 107.98             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006060         | 508240.40        | 3623245.89       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006061         | 508238.87        | 3623244.90       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006062         | 508237.33        | 3623243.91       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006063         | 508235.80        | 3623242.91       | 108.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006064         | 508234.26        | 3623241.92       | 108.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006065         | 508232.73        | 3623240.93       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006066         | 508231.19        | 3623239.93       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006067         | 508229.65        | 3623238.94       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006068         | 508228.12        | 3623237.95       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006069         | 508226.58        | 3623236.96       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006070         | 508225.05        | 3623235.96       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006071         | 508223.51        | 3623234.97       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006072         | 508221.97        | 3623233.98       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006073         | 508220.44        | 3623232.98       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006074         | 508218.90        | 3623231.99       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006075         | 508217.37        | 3623231.00       | 108.01             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006076         | 508215.83        | 3623230.00       | 108.03             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006077         | 508214.30        | 3623229.01       | 108.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006078         | 508212.76        | 3623228.02       | 108.07             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006079         | 508211.22        | 3623227.03       | 108.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006080         | 508209.69        | 3623226.03       | 108.12             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006081         | 508208.15        | 3623225.04       | 108.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006082         | 508206.62        | 3623224.05       | 108.08             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006083         | 508205.08        | 3623223.05       | 108.06             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006084         | 508203.55        | 3623222.06       | 108.02             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006085         | 508202.01        | 3623221.07       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006086         | 508200.47        | 3623220.08       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006087         | 508198.94        | 3623219.08       | 108.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006088         | 508197.40        | 3623218.09       | 108.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006089         | 508195.87        | 3623217.10       | 108.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006090         | 508194.33        | 3623216.10       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006091         | 508192.79        | 3623215.11       | 107.97             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006092         | 508191.26        | 3623214.12       | 107.98             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006093         | 508189.72        | 3623213.13       | 107.98             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006094         | 508188.19        | 3623212.13       | 107.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006095         | 508186.65        | 3623211.14       | 108.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006096         | 508185.12        | 3623210.15       | 108.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006097         | 508183.58        | 3623209.15       | 108.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006098         | 508182.04        | 3623208.16       | 108.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006099         | 508180.51        | 3623207.17       | 108.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006100         | 508178.97        | 3623206.18       | 108.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006101         | 508177.44        | 3623205.18       | 108.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006102         | 508175.90        | 3623204.19       | 108.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006103         | 508174.37        | 3623203.20       | 108.01             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006104         | 508172.83        | 3623202.20       | 108.02             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006105         | 508171.29        | 3623201.21       | 108.03             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006106         | 508169.76        | 3623200.22       | 108.04             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006107         | 508168.22        | 3623199.23       | 108.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006108         | 508166.69        | 3623198.23       | 108.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006109         | 508165.15        | 3623197.24       | 108.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006110         | 508163.61        | 3623196.25       | 108.06             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006111         | 508162.08        | 3623195.25       | 108.06             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006112         | 508160.54        | 3623194.26       | 108.07             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006113         | 508159.01        | 3623193.27       | 108.09             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006114         | 508157.47        | 3623192.27       | 108.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006115         | 508155.94        | 3623191.28       | 108.11             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006116         | 508154.40        | 3623190.29       | 108.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006117         | 508152.86        | 3623189.30       | 108.06             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006118         | 508151.33        | 3623188.30       | 108.03             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006119         | 508149.79        | 3623187.31       | 107.98             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006120         | 508148.26        | 3623186.32       | 107.93             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006121         | 508146.72        | 3623185.32       | 107.87             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006122         | 508145.19        | 3623184.33       | 107.80             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006123         | 508143.65        | 3623183.34       | 107.73             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006124         | 508142.11        | 3623182.35       | 107.66             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006125         | 508140.58        | 3623181.35       | 107.58             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006126         | 508139.04        | 3623180.36       | 107.54             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006127         | 508137.51        | 3623179.37       | 107.52             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006128         | 508135.97        | 3623178.37       | 107.51             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006129         | 508134.43        | 3623177.38       | 107.49             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006130         | 508132.90        | 3623176.39       | 107.47             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006131         | 508131.36        | 3623175.40       | 107.46             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006132         | 508129.83        | 3623174.40       | 107.47             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006133         | 508128.29        | 3623173.41       | 107.47             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006134         | 508126.76        | 3623172.42       | 107.48             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006135         | 508125.22        | 3623171.42       | 107.49             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006136         | 508123.68        | 3623170.43       | 107.51             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006137         | 508122.15        | 3623169.44       | 107.55             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006138         | 508120.61        | 3623168.45       | 107.58             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006139         | 508119.08        | 3623167.45       | 107.60             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006140         | 508117.54        | 3623166.46       | 107.61             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006141         | 508116.01        | 3623165.47       | 107.59             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006142         | 508114.47        | 3623164.47       | 107.58             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006143         | 508112.93        | 3623163.48       | 107.58             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006144         | 508111.40        | 3623162.49       | 107.58             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006145         | 508109.86        | 3623161.50       | 107.58             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006146         | 508108.33        | 3623160.50       | 107.58             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006147         | 508106.79        | 3623159.51       | 107.61             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006148         | 508105.25        | 3623158.52       | 107.63             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006149         | 508103.72        | 3623157.52       | 107.63             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006150         | 508102.18        | 3623156.53       | 107.62             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006151         | 508100.65        | 3623155.54       | 107.61             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006152         | 508099.11        | 3623154.54       | 107.60             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006153         | 508097.58        | 3623153.55       | 107.58             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006154         | 508096.04        | 3623152.56       | 107.58             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006155         | 508094.50        | 3623151.57       | 107.58             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006156         | 508092.97        | 3623150.57       | 107.57             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006157         | 508091.43        | 3623149.58       | 107.56             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006158         | 508089.90        | 3623148.59       | 107.55             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006159         | 508088.36        | 3623147.59       | 107.55             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006160         | 508086.82        | 3623146.60       | 107.56             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006161         | 508085.29        | 3623145.61       | 107.57             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006162         | 508083.75        | 3623144.62       | 107.57             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006163         | 508082.22        | 3623143.62       | 107.58             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006164         | 508080.68        | 3623142.63       | 107.58             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006165         | 508079.15        | 3623141.64       | 107.57             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006166         | 508077.61        | 3623140.64       | 107.56             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006167         | 508076.07        | 3623139.65       | 107.54             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006168         | 508074.54        | 3623138.66       | 107.49             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006169         | 508073.00        | 3623137.67       | 107.43             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006170         | 508071.47        | 3623136.67       | 107.39             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006171         | 508069.93        | 3623135.68       | 107.37             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006172         | 508068.40        | 3623134.69       | 107.36             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006173         | 508066.86        | 3623133.69       | 107.36             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006174         | 508065.32        | 3623132.70       | 107.36             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006175         | 508063.79        | 3623131.71       | 107.37             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006176         | 508062.25        | 3623130.72       | 107.37             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006177         | 508060.72        | 3623129.72       | 107.36             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006178         | 508059.18        | 3623128.73       | 107.33             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006179         | 508057.64        | 3623127.74       | 107.29             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006180         | 508056.11        | 3623126.74       | 107.27             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006181         | 508054.57        | 3623125.75       | 107.24             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006182         | 508053.04        | 3623124.76       | 107.25             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006183         | 508051.50        | 3623123.77       | 107.26             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006184         | 508049.97        | 3623122.77       | 107.26             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006185         | 508048.43        | 3623121.78       | 107.25             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006186         | 508046.89        | 3623120.79       | 107.23             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006187         | 508045.36        | 3623119.79       | 107.21             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006188         | 508043.82        | 3623118.80       | 107.18             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006189         | 508042.29        | 3623117.81       | 107.18             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006190         | 508040.75        | 3623116.81       | 107.18             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006191         | 508039.22        | 3623115.82       | 107.19             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006192         | 508037.68        | 3623114.83       | 107.20             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006193         | 508036.14        | 3623113.84       | 107.21             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006194         | 508034.61        | 3623112.84       | 107.20             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006195         | 508033.07        | 3623111.85       | 107.18             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006196         | 508031.54        | 3623110.86       | 107.15             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006197         | 508030.00        | 3623109.86       | 107.12             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006198         | 508028.46        | 3623108.87       | 107.07             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006199         | 508026.93        | 3623107.88       | 107.07             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006200         | 508025.39        | 3623106.89       | 107.09             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006201         | 508023.86        | 3623105.89       | 107.11             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006202         | 508022.32        | 3623104.90       | 107.14             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006203         | 508020.79        | 3623103.91       | 107.17             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006204         | 508019.25        | 3623102.91       | 107.21             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |



# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006205         | 508017.71        | 3623101.92       | 107.22             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006206         | 508016.18        | 3623100.93       | 107.23             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006207         | 508014.64        | 3623099.94       | 107.22             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006208         | 508013.11        | 3623098.94       | 107.20             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006209         | 508011.57        | 3623097.95       | 107.17             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006210         | 508010.04        | 3623096.96       | 107.15             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006211         | 508008.50        | 3623095.96       | 107.15             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006212         | 508006.96        | 3623094.97       | 107.15             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006213         | 508005.43        | 3623093.98       | 107.15             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006214         | 508003.89        | 3623092.99       | 107.17             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006215         | 508002.36        | 3623091.99       | 107.19             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006216         | 508000.82        | 3623091.00       | 107.14             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006217         | 507999.28        | 3623090.01       | 107.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006218         | 507997.75        | 3623089.01       | 106.93             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006219         | 507996.21        | 3623088.02       | 106.76             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006220         | 507994.68        | 3623087.03       | 106.44             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006221         | 507993.14        | 3623086.04       | 106.18             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006222         | 507991.61        | 3623085.04       | 106.07             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006223         | 507990.07        | 3623084.05       | 105.96             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006224         | 507988.53        | 3623083.06       | 105.86             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006225         | 507987.00        | 3623082.06       | 105.75             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006226         | 507985.46        | 3623081.07       | 105.65             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006227         | 507983.93        | 3623080.08       | 105.54             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006228         | 507982.39        | 3623079.08       | 105.40             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006229         | 507980.86        | 3623078.09       | 105.27             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006230         | 507979.32        | 3623077.10       | 105.21             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006231         | 507977.78        | 3623076.11       | 105.20             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006232         | 507976.25        | 3623075.11       | 105.19             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006233         | 507974.71        | 3623074.12       | 105.20             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006234         | 507973.18        | 3623073.13       | 105.21             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006235         | 507971.64        | 3623072.13       | 105.21             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006236         | 507970.10        | 3623071.14       | 105.20             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006237         | 507968.57        | 3623070.15       | 105.18             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006238         | 507967.03        | 3623069.16       | 105.15             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006239         | 507965.50        | 3623068.16       | 105.09             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006240         | 507963.96        | 3623067.17       | 105.04             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006241         | 507962.43        | 3623066.18       | 105.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006242         | 507960.89        | 3623065.18       | 104.98             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006243         | 507959.35        | 3623064.19       | 104.97             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006244         | 507957.82        | 3623063.20       | 104.97             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006245         | 507956.28        | 3623062.21       | 104.96             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006246         | 507954.75        | 3623061.21       | 104.97             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006247         | 507953.21        | 3623060.22       | 104.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006248         | 507951.67        | 3623059.23       | 105.02             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006249         | 507950.14        | 3623058.23       | 105.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006250         | 507948.60        | 3623057.24       | 105.06             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006251         | 507947.07        | 3623056.25       | 105.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006252         | 507945.53        | 3623055.26       | 104.94             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006253         | 507944.00        | 3623054.26       | 104.89             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006254         | 507942.46        | 3623053.27       | 104.84             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006255         | 507940.92        | 3623052.28       | 104.81             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006256         | 507939.39        | 3623051.28       | 104.80             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006257         | 507937.85        | 3623050.29       | 104.80             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006258         | 507936.32        | 3623049.30       | 104.83             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006259         | 507934.78        | 3623048.31       | 104.86             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006260         | 507933.25        | 3623047.31       | 104.92             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006261         | 507931.71        | 3623046.32       | 104.89             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006262         | 507930.17        | 3623045.33       | 104.82             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006263         | 507928.64        | 3623044.33       | 104.75             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006264         | 507927.10        | 3623043.34       | 104.68             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006265         | 507925.57        | 3623042.35       | 104.61             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006266         | 507924.03        | 3623041.35       | 104.53             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006267         | 507922.49        | 3623040.36       | 104.47             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006268         | 507920.96        | 3623039.37       | 104.41             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006269         | 507919.42        | 3623038.38       | 104.35             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006270         | 507917.89        | 3623037.38       | 104.30             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006271         | 507916.35        | 3623036.39       | 104.28             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006272         | 507914.82        | 3623035.40       | 104.31             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006273         | 507913.28        | 3623034.40       | 104.35             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006274         | 507911.74        | 3623033.41       | 104.37             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006275         | 507910.21        | 3623032.42       | 104.36             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006276         | 507908.67        | 3623031.43       | 104.34             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006277         | 507907.14        | 3623030.43       | 104.30             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006278         | 507905.60        | 3623029.44       | 104.25             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006279         | 507904.07        | 3623028.45       | 104.20             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006280         | 507902.53        | 3623027.45       | 104.13             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006281         | 507900.99        | 3623026.46       | 104.06             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006282         | 507899.46        | 3623025.47       | 104.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006283         | 507897.92        | 3623024.48       | 104.14             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006284         | 507896.39        | 3623023.48       | 104.21             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006285         | 507894.85        | 3623022.49       | 104.25             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006286         | 507893.31        | 3623021.50       | 104.26             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006287         | 507891.78        | 3623020.50       | 104.25             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006288         | 507890.24        | 3623019.51       | 104.21             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006289         | 507888.71        | 3623018.52       | 104.15             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006290         | 507887.17        | 3623017.53       | 104.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006291         | 507885.64        | 3623016.53       | 104.03             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006292         | 507884.10        | 3623015.54       | 104.02             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006293         | 507882.56        | 3623014.55       | 104.04             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006294         | 507881.03        | 3623013.55       | 104.07             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006295         | 507879.49        | 3623012.56       | 104.11             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006296         | 507877.96        | 3623011.57       | 104.13             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006297         | 507876.42        | 3623010.58       | 104.13             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006298         | 507874.89        | 3623009.58       | 104.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006299         | 507873.35        | 3623008.59       | 104.04             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006300         | 507871.81        | 3623007.60       | 103.97             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006301         | 507870.28        | 3623006.60       | 103.94             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006302         | 507868.74        | 3623005.61       | 103.93             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006303         | 507867.21        | 3623004.62       | 103.97             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006304         | 507865.67        | 3623003.62       | 104.02             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006305         | 507864.13        | 3623002.63       | 104.06             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006306         | 507862.60        | 3623001.64       | 104.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006307         | 507861.06        | 3623000.65       | 104.14             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006308         | 507859.53        | 3622999.65       | 104.15             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006309         | 507857.99        | 3622998.66       | 104.15             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006310         | 507856.46        | 3622997.67       | 104.13             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006311         | 507854.92        | 3622996.67       | 104.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006312         | 507853.38        | 3622995.68       | 104.06             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006313         | 507851.85        | 3622994.69       | 104.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006314         | 507850.31        | 3622993.70       | 104.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006315         | 507848.78        | 3622992.70       | 104.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006316         | 507847.24        | 3622991.71       | 104.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006317         | 507845.70        | 3622990.72       | 104.06             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006318         | 507844.17        | 3622989.72       | 104.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006319         | 507842.63        | 3622988.73       | 104.14             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006320         | 507841.10        | 3622987.74       | 104.18             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006321         | 507839.56        | 3622986.75       | 104.21             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006322         | 507838.03        | 3622985.75       | 104.24             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006323         | 507836.49        | 3622984.76       | 104.27             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006324         | 507834.95        | 3622983.77       | 104.29             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006325         | 507833.42        | 3622982.77       | 104.29             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006326         | 507831.88        | 3622981.78       | 104.27             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006327         | 507830.35        | 3622980.79       | 104.22             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006328         | 507828.81        | 3622979.80       | 104.16             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006329         | 507827.28        | 3622978.80       | 104.17             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006330         | 507825.74        | 3622977.81       | 104.18             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006331         | 507824.20        | 3622976.82       | 104.20             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006332         | 507822.67        | 3622975.82       | 104.23             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006333         | 507821.13        | 3622974.83       | 104.24             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006334         | 507819.60        | 3622973.84       | 104.21             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006335         | 507818.06        | 3622972.85       | 104.18             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006336         | 507816.52        | 3622971.85       | 104.14             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006337         | 507814.99        | 3622970.86       | 104.11             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006338         | 507813.45        | 3622969.87       | 104.08             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006339         | 507811.92        | 3622968.87       | 104.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006340         | 507810.38        | 3622967.88       | 104.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006341         | 507808.85        | 3622966.89       | 103.95             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006342         | 507807.34        | 3622965.85       | 103.93             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006343         | 507805.83        | 3622964.82       | 103.92             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006344         | 507804.32        | 3622963.78       | 103.91             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006345         | 507802.82        | 3622962.74       | 103.91             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006346         | 507801.31        | 3622961.71       | 103.90             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006347         | 507799.80        | 3622960.67       | 103.90             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006348         | 507798.30        | 3622959.64       | 103.92             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006349         | 507796.79        | 3622958.60       | 103.96             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006350         | 507795.28        | 3622957.57       | 104.01             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006351         | 507793.77        | 3622956.53       | 104.07             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006352         | 507792.27        | 3622955.49       | 104.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006353         | 507790.76        | 3622954.46       | 104.14             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006354         | 507789.25        | 3622953.42       | 104.15             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006355         | 507787.74        | 3622952.39       | 104.17             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006356         | 507786.24        | 3622951.35       | 104.20             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006357         | 507784.73        | 3622950.32       | 104.22             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006358         | 507783.22        | 3622949.28       | 104.20             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006359         | 507781.72        | 3622948.24       | 104.18             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006360         | 507780.21        | 3622947.21       | 104.17             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006361         | 507778.70        | 3622946.17       | 104.16             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006362         | 507777.19        | 3622945.14       | 104.15             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006363         | 507775.69        | 3622944.10       | 104.12             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006364         | 507774.18        | 3622943.07       | 104.02             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006365         | 507772.67        | 3622942.03       | 103.94             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006366         | 507771.16        | 3622940.99       | 103.89             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006367         | 507769.66        | 3622939.96       | 103.85             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006368         | 507768.15        | 3622938.92       | 103.84             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006369         | 507766.64        | 3622937.89       | 103.87             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006370         | 507765.14        | 3622936.85       | 103.90             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006371         | 507763.63        | 3622935.82       | 103.94             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006372         | 507762.12        | 3622934.78       | 103.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006373         | 507760.61        | 3622933.74       | 104.02             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006374         | 507759.11        | 3622932.71       | 104.01             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006375         | 507757.60        | 3622931.67       | 103.95             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006376         | 507756.09        | 3622930.64       | 103.91             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006377         | 507754.58        | 3622929.60       | 103.88             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006378         | 507753.08        | 3622928.57       | 103.85             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006379         | 507751.57        | 3622927.53       | 103.83             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006380         | 507750.06        | 3622926.49       | 103.82             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006381         | 507748.56        | 3622925.46       | 103.83             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006382         | 507747.05        | 3622924.42       | 103.85             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006383         | 507745.54        | 3622923.39       | 103.85             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006384         | 507744.03        | 3622922.35       | 103.84             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006385         | 507742.53        | 3622921.32       | 103.82             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006386         | 507741.02        | 3622920.28       | 103.81             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006387         | 507739.51        | 3622919.25       | 103.79             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006388         | 507738.00        | 3622918.21       | 103.78             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006389         | 507736.50        | 3622917.17       | 103.78             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006390         | 507734.99        | 3622916.14       | 103.78             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006391         | 507733.48        | 3622915.10       | 103.78             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006392         | 507731.98        | 3622914.07       | 103.77             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006393         | 507730.47        | 3622913.03       | 103.77             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006394         | 507728.96        | 3622912.00       | 103.76             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006395         | 507727.45        | 3622910.96       | 103.74             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006396         | 507725.95        | 3622909.92       | 103.72             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006397         | 507724.44        | 3622908.89       | 103.71             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006398         | 507722.93        | 3622907.85       | 103.68             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006399         | 507721.43        | 3622906.82       | 103.66             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006400         | 507719.92        | 3622905.78       | 103.65             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006401         | 507718.41        | 3622904.75       | 103.64             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006402         | 507716.90        | 3622903.71       | 103.63             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006403         | 507715.40        | 3622902.67       | 103.63             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006404         | 507713.89        | 3622901.64       | 103.62             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |



# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006405         | 507712.38        | 3622900.60       | 103.61             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006406         | 507710.87        | 3622899.57       | 103.60             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006407         | 507709.37        | 3622898.53       | 103.59             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006408         | 507707.86        | 3622897.50       | 103.58             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006409         | 507706.35        | 3622896.46       | 103.56             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006410         | 507704.85        | 3622895.42       | 103.54             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006411         | 507703.34        | 3622894.39       | 103.53             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006412         | 507701.83        | 3622893.35       | 103.51             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006413         | 507700.32        | 3622892.32       | 103.50             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006414         | 507698.82        | 3622891.28       | 103.48             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006415         | 507697.31        | 3622890.25       | 103.48             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006416         | 507695.80        | 3622889.21       | 103.47             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006417         | 507694.29        | 3622888.17       | 103.46             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006418         | 507692.79        | 3622887.14       | 103.45             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006419         | 507691.28        | 3622886.10       | 103.44             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006420         | 507689.77        | 3622885.07       | 103.42             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006421         | 507688.27        | 3622884.03       | 103.41             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006422         | 507686.76        | 3622883.00       | 103.40             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006423         | 507685.25        | 3622881.96       | 103.40             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006424         | 507683.74        | 3622880.92       | 103.40             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006425         | 507682.24        | 3622879.89       | 103.40             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006426         | 507680.73        | 3622878.85       | 103.39             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006427         | 507679.22        | 3622877.82       | 103.39             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006428         | 507677.71        | 3622876.78       | 103.39             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006429         | 507676.21        | 3622875.75       | 103.39             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006430         | 507674.70        | 3622874.71       | 103.39             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006431         | 507673.19        | 3622873.67       | 103.40             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006432         | 507671.69        | 3622872.64       | 103.41             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006433         | 507670.18        | 3622871.60       | 103.41             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006434         | 507668.67        | 3622870.57       | 103.40             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006435         | 507667.16        | 3622869.53       | 103.40             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006436         | 507665.66        | 3622868.50       | 103.39             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006437         | 507664.15        | 3622867.46       | 103.38             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006438         | 507662.64        | 3622866.42       | 103.37             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006439         | 507661.13        | 3622865.39       | 103.35             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006440         | 507659.63        | 3622864.35       | 103.34             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006441         | 507658.12        | 3622863.32       | 103.33             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006442         | 507656.61        | 3622862.28       | 103.33             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006443         | 507655.11        | 3622861.25       | 103.32             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006444         | 507653.60        | 3622860.21       | 103.31             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006445         | 507652.09        | 3622859.17       | 103.30             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006446         | 507650.58        | 3622858.14       | 103.29             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006447         | 507649.08        | 3622857.10       | 103.28             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006448         | 507647.57        | 3622856.07       | 103.27             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006449         | 507646.06        | 3622855.03       | 103.25             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006450         | 507644.55        | 3622854.00       | 103.22             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006451         | 507643.05        | 3622852.96       | 103.20             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006452         | 507641.54        | 3622851.92       | 103.20             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006453         | 507640.03        | 3622850.89       | 103.18             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006454         | 507638.53        | 3622849.85       | 103.17             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006455         | 507637.02        | 3622848.82       | 103.13             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006456         | 507635.51        | 3622847.78       | 103.09             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006457         | 507634.00        | 3622846.75       | 103.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006458         | 507632.50        | 3622845.71       | 103.02             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006459         | 507630.99        | 3622844.67       | 103.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006460         | 507629.48        | 3622843.64       | 102.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006461         | 507627.97        | 3622842.60       | 102.98             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006462         | 507626.47        | 3622841.57       | 102.99             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006463         | 507624.96        | 3622840.53       | 102.96             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006464         | 507623.45        | 3622839.50       | 102.93             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006465         | 507621.95        | 3622838.46       | 102.90             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006466         | 507620.44        | 3622837.42       | 102.86             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006467         | 507618.93        | 3622836.39       | 102.80             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006468         | 507617.42        | 3622835.35       | 102.75             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006469         | 507615.92        | 3622834.32       | 102.71             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006470         | 507614.41        | 3622833.28       | 102.68             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006471         | 507612.90        | 3622832.25       | 102.65             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006472         | 507611.40        | 3622831.21       | 102.64             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006473         | 507609.89        | 3622830.17       | 102.66             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006474         | 507608.38        | 3622829.14       | 102.66             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006475         | 507606.87        | 3622828.10       | 102.66             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006476         | 507605.37        | 3622827.07       | 102.65             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006477         | 507603.86        | 3622826.03       | 102.63             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006478         | 507602.35        | 3622825.00       | 102.60             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006479         | 507600.84        | 3622823.96       | 102.57             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006480         | 507599.34        | 3622822.92       | 102.55             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006481         | 507597.83        | 3622821.89       | 102.54             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006482         | 507596.32        | 3622820.85       | 102.53             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006483         | 507594.82        | 3622819.82       | 102.56             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006484         | 507593.31        | 3622818.78       | 102.57             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006485         | 507591.80        | 3622817.75       | 102.57             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006486         | 507590.29        | 3622816.71       | 102.56             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006487         | 507588.79        | 3622815.68       | 102.54             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006488         | 507587.28        | 3622814.64       | 102.51             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006489         | 507585.77        | 3622813.60       | 102.48             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006490         | 507584.26        | 3622812.57       | 102.46             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006491         | 507582.76        | 3622811.53       | 102.43             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006492         | 507581.25        | 3622810.50       | 102.41             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006493         | 507579.74        | 3622809.46       | 102.47             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006494         | 507578.24        | 3622808.43       | 102.51             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006495         | 507576.73        | 3622807.39       | 102.56             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006496         | 507575.22        | 3622806.35       | 102.61             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006497         | 507573.71        | 3622805.32       | 102.64             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006498         | 507572.21        | 3622804.28       | 102.65             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006499         | 507570.70        | 3622803.25       | 102.63             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006500         | 507569.19        | 3622802.21       | 102.59             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006501         | 507567.68        | 3622801.18       | 102.54             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006502         | 507566.18        | 3622800.14       | 102.52             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006503         | 507564.67        | 3622799.10       | 102.62             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006504         | 507563.16        | 3622798.07       | 102.72             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006505         | 507561.66        | 3622797.03       | 102.82             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006506         | 507560.15        | 3622796.00       | 102.93             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006507         | 507558.64        | 3622794.96       | 103.03             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006508         | 507557.13        | 3622793.93       | 103.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006509         | 507555.63        | 3622792.89       | 103.13             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006510         | 507554.12        | 3622791.85       | 103.13             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006511         | 507552.61        | 3622790.82       | 103.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006512         | 507551.10        | 3622789.78       | 103.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006513         | 507549.60        | 3622788.75       | 103.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006514         | 507548.09        | 3622787.71       | 103.06             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006515         | 507546.58        | 3622786.68       | 103.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006516         | 507545.08        | 3622785.64       | 103.15             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006517         | 507543.57        | 3622784.60       | 103.21             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006518         | 507542.06        | 3622783.57       | 103.29             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006519         | 507540.55        | 3622782.53       | 103.35             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006520         | 507539.05        | 3622781.50       | 103.40             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006521         | 507537.54        | 3622780.46       | 103.45             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006522         | 507536.03        | 3622779.43       | 103.45             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006523         | 507534.52        | 3622778.39       | 103.42             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006524         | 507533.02        | 3622777.35       | 103.41             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006525         | 507531.51        | 3622776.32       | 103.42             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006526         | 507530.00        | 3622775.28       | 103.45             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006527         | 507528.50        | 3622774.25       | 103.49             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006528         | 507526.99        | 3622773.21       | 103.55             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006529         | 507525.48        | 3622772.18       | 103.63             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006530         | 507523.97        | 3622771.14       | 103.69             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006531         | 507522.47        | 3622770.10       | 103.77             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006532         | 507520.96        | 3622769.07       | 103.79             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006533         | 507519.45        | 3622768.03       | 103.77             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006534         | 507517.94        | 3622767.00       | 103.76             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006535         | 507516.44        | 3622765.96       | 103.74             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006536         | 507514.93        | 3622764.93       | 103.69             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006537         | 507513.42        | 3622763.89       | 103.68             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006538         | 507511.92        | 3622762.85       | 103.71             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006539         | 507510.41        | 3622761.82       | 103.78             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006540         | 507508.90        | 3622760.78       | 103.90             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006541         | 507507.39        | 3622759.75       | 103.98             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006542         | 507505.89        | 3622758.71       | 103.88             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006543         | 507504.38        | 3622757.68       | 103.74             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006544         | 507502.87        | 3622756.64       | 103.65             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006545         | 507501.37        | 3622755.60       | 103.60             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006546         | 507499.86        | 3622754.57       | 103.60             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006547         | 507498.35        | 3622753.53       | 103.57             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006548         | 507496.84        | 3622752.50       | 103.51             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006549         | 507495.34        | 3622751.46       | 103.47             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006550         | 507493.83        | 3622750.43       | 103.43             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006551         | 507492.32        | 3622749.39       | 103.41             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006552         | 507490.81        | 3622748.35       | 103.36             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006553         | 507489.31        | 3622747.32       | 103.24             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006554         | 507487.80        | 3622746.28       | 103.12             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006555         | 507486.29        | 3622745.25       | 103.01             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006556         | 507484.79        | 3622744.21       | 102.91             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006557         | 507483.44        | 3622742.97       | 102.86             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006558         | 507482.09        | 3622741.74       | 102.82             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006559         | 507480.74        | 3622740.50       | 102.76             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006560         | 507479.39        | 3622739.27       | 102.67             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006561         | 507478.05        | 3622738.03       | 102.57             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006562         | 507476.70        | 3622736.79       | 102.46             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006563         | 507475.35        | 3622735.56       | 102.37             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006564         | 507474.00        | 3622734.32       | 102.27             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006565         | 507472.65        | 3622733.09       | 102.21             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006566         | 507471.30        | 3622731.85       | 102.18             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006567         | 507469.96        | 3622730.62       | 102.12             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006568         | 507468.61        | 3622729.38       | 102.04             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006569         | 507467.26        | 3622728.15       | 101.93             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006570         | 507465.91        | 3622726.91       | 101.81             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006571         | 507464.56        | 3622725.68       | 101.68             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006572         | 507463.21        | 3622724.44       | 101.66             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006573         | 507461.87        | 3622723.20       | 101.63             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006574         | 507460.52        | 3622721.97       | 101.60             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006575         | 507459.17        | 3622720.73       | 101.56             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006576         | 507457.82        | 3622719.50       | 101.51             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006577         | 507456.47        | 3622718.26       | 101.45             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006578         | 507455.12        | 3622717.03       | 101.42             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006579         | 507453.78        | 3622715.79       | 101.41             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006580         | 507452.43        | 3622714.56       | 101.40             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006581         | 507451.08        | 3622713.32       | 101.38             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006582         | 507449.73        | 3622712.09       | 101.36             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006583         | 507448.38        | 3622710.85       | 101.34             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006584         | 507447.03        | 3622709.61       | 101.32             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006585         | 507445.69        | 3622708.38       | 101.40             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006586         | 507444.34        | 3622707.14       | 101.48             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006587         | 507442.99        | 3622705.91       | 101.53             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006588         | 507441.64        | 3622704.67       | 101.56             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006589         | 507440.29        | 3622703.44       | 101.57             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006590         | 507438.94        | 3622702.20       | 101.56             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006591         | 507437.60        | 3622700.97       | 101.69             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006592         | 507436.25        | 3622699.73       | 101.87             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006593         | 507434.90        | 3622698.49       | 102.05             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006594         | 507433.55        | 3622697.26       | 102.24             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006595         | 507432.20        | 3622696.02       | 102.43             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006596         | 507430.85        | 3622694.79       | 102.60             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006597         | 507429.51        | 3622693.55       | 102.74             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006598         | 507428.16        | 3622692.32       | 102.88             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006599         | 507426.81        | 3622691.08       | 103.02             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006600         | 507425.46        | 3622689.85       | 103.18             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006601         | 507424.11        | 3622688.61       | 103.35             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006602         | 507422.76        | 3622687.38       | 103.53             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006603         | 507421.42        | 3622686.14       | 103.72             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006604         | 507420.07        | 3622684.90       | 103.74             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |



# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006605         | 507418.72        | 3622683.67       | 103.74             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006606         | 507417.37        | 3622682.43       | 103.75             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006607         | 507416.02        | 3622681.20       | 103.77             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006608         | 507414.67        | 3622679.96       | 103.81             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006609         | 507413.32        | 3622678.73       | 103.86             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006610         | 507411.98        | 3622677.49       | 103.89             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006611         | 507410.63        | 3622676.26       | 103.90             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006612         | 507409.28        | 3622675.02       | 103.93             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006613         | 507407.93        | 3622673.79       | 103.98             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006614         | 507406.58        | 3622672.55       | 104.02             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006615         | 507405.23        | 3622671.31       | 104.08             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006616         | 507403.89        | 3622670.08       | 104.15             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006617         | 507402.54        | 3622668.84       | 104.16             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006618         | 507401.19        | 3622667.61       | 104.15             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006619         | 507399.84        | 3622666.37       | 104.09             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006620         | 507398.49        | 3622665.14       | 103.97             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006621         | 507397.14        | 3622663.90       | 103.86             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006622         | 507395.80        | 3622662.67       | 103.75             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006623         | 507394.45        | 3622661.43       | 103.69             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006624         | 507393.10        | 3622660.19       | 103.66             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006625         | 507391.75        | 3622658.96       | 103.62             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006626         | 507390.40        | 3622657.72       | 103.57             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006627         | 507389.05        | 3622656.49       | 103.51             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006628         | 507387.71        | 3622655.25       | 103.47             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006629         | 507386.36        | 3622654.02       | 103.45             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006630         | 507385.01        | 3622652.78       | 103.54             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006631         | 507383.66        | 3622651.55       | 103.57             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006632         | 507382.31        | 3622650.31       | 103.55             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006633         | 507380.96        | 3622649.08       | 103.48             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006634         | 507379.62        | 3622647.84       | 103.35             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006635         | 507378.27        | 3622646.60       | 103.17             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006636         | 507376.92        | 3622645.37       | 103.12             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006637         | 507375.57        | 3622644.13       | 103.11             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006638         | 507374.22        | 3622642.90       | 103.11             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006639         | 507372.87        | 3622641.66       | 103.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006640         | 507371.53        | 3622640.43       | 103.10             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006641         | 507370.18        | 3622639.19       | 103.08             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006642         | 507368.83        | 3622637.96       | 103.07             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006643         | 507367.48        | 3622636.72       | 103.04             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006644         | 507366.13        | 3622635.49       | 103.01             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006645         | 507364.78        | 3622634.25       | 103.00             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006646         | 507363.44        | 3622633.01       | 102.98             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006647         | 507362.09        | 3622631.78       | 102.97             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006648         | 507360.74        | 3622630.54       | 102.96             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006649         | 507359.39        | 3622629.31       | 102.93             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006650         | 507358.04        | 3622628.07       | 102.91             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006651         | 507356.69        | 3622626.84       | 102.88             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006652         | 507355.34        | 3622625.60       | 102.84             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006653         | 507354.00        | 3622624.37       | 102.81             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006654         | 507352.65        | 3622623.13       | 102.79             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0006655         | 507351.30        | 3622621.90       | 102.77             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006656         | 507349.95        | 3622620.66       | 102.75             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006657         | 507348.60        | 3622619.42       | 102.74             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006658         | 507347.25        | 3622618.19       | 102.73             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006659         | 507345.91        | 3622616.95       | 102.72             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006660         | 507344.56        | 3622615.72       | 102.71             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006661         | 507343.21        | 3622614.48       | 102.69             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006662         | 507341.86        | 3622613.25       | 102.69             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006663         | 507340.51        | 3622612.01       | 102.69             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006664         | 507339.16        | 3622610.78       | 102.69             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006665         | 507337.82        | 3622609.54       | 102.70             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006666         | 507336.47        | 3622608.30       | 102.70             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006667         | 507335.12        | 3622607.07       | 102.71             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006668         | 507333.77        | 3622605.83       | 102.72             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006669         | 507332.42        | 3622604.60       | 102.72             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006670         | 507331.07        | 3622603.36       | 102.71             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006671         | 507329.73        | 3622602.13       | 102.70             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006672         | 507328.38        | 3622600.89       | 102.69             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006673         | 507327.03        | 3622599.66       | 102.69             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006674         | 507325.68        | 3622598.42       | 102.68             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006675         | 507324.33        | 3622597.19       | 102.67             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006676         | 507322.98        | 3622595.95       | 102.66             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006677         | 507321.64        | 3622594.71       | 102.65             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006678         | 507320.29        | 3622593.48       | 102.65             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0006679         | 507318.94        | 3622592.24       | 102.65             | 0.00               | 0.00143             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P1HRD          | L0007478         | 508292.10        | 3623259.94       | 108.38             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007479         | 508284.16        | 3623254.72       | 108.30             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007480         | 508276.22        | 3623249.51       | 108.30             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007481         | 508268.28        | 3623244.30       | 108.31             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007482         | 508260.34        | 3623239.08       | 108.29             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007483         | 508252.39        | 3623233.87       | 108.18             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007484         | 508244.45        | 3623228.66       | 108.10             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007485         | 508236.51        | 3623223.44       | 107.97             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007486         | 508228.57        | 3623218.23       | 107.98             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007487         | 508220.63        | 3623213.02       | 107.87             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007488         | 508212.68        | 3623207.81       | 107.77             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007489         | 508204.74        | 3623202.59       | 107.74             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007490         | 508196.80        | 3623197.38       | 107.81             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007491         | 508188.86        | 3623192.17       | 107.83             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007492         | 508180.92        | 3623186.95       | 107.91             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007493         | 508172.97        | 3623181.74       | 107.82             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007494         | 508165.03        | 3623176.53       | 107.78             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007495         | 508157.09        | 3623171.31       | 107.47             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007496         | 508149.15        | 3623166.10       | 107.44             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007497         | 508141.21        | 3623160.89       | 107.87             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007498         | 508133.26        | 3623155.67       | 107.84             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007499         | 508125.32        | 3623150.46       | 108.11             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007500         | 508117.38        | 3623145.25       | 108.09             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007501         | 508109.44        | 3623140.04       | 107.79             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007502         | 508101.50        | 3623134.82       | 107.61             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P1HRD          | L0007503         | 508093.55        | 3623129.61       | 107.32             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007504         | 508085.61        | 3623124.40       | 107.29             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007505         | 508077.67        | 3623119.18       | 107.25             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007506         | 508069.73        | 3623113.97       | 107.29             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007507         | 508061.79        | 3623108.76       | 107.30             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007508         | 508053.85        | 3623103.54       | 106.48             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007509         | 508045.90        | 3623098.33       | 106.07             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007510         | 508037.96        | 3623093.12       | 105.86             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007511         | 508030.02        | 3623087.90       | 105.03             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007512         | 508022.08        | 3623082.69       | 105.10             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007513         | 508014.14        | 3623077.48       | 104.52             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007514         | 508006.19        | 3623072.27       | 104.53             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007515         | 507998.25        | 3623067.05       | 104.49             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007516         | 507990.31        | 3623061.84       | 104.56             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007517         | 507982.37        | 3623056.63       | 104.50             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007518         | 507974.43        | 3623051.41       | 104.69             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007519         | 507966.48        | 3623046.20       | 104.61             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007520         | 507958.54        | 3623040.99       | 104.74             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007521         | 507950.60        | 3623035.77       | 104.75             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007522         | 507942.66        | 3623030.56       | 104.79             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007523         | 507934.72        | 3623025.35       | 104.95             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007524         | 507926.77        | 3623020.14       | 104.86             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007525         | 507918.83        | 3623014.92       | 104.83             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007526         | 507910.89        | 3623009.71       | 104.78             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007527         | 507902.95        | 3623004.50       | 104.74             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P1HRD          | L0007528         | 507895.01        | 3622999.28       | 104.75             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007529         | 507887.06        | 3622994.07       | 104.79             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007530         | 507879.12        | 3622988.86       | 104.99             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007531         | 507871.18        | 3622983.64       | 105.15             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007532         | 507863.24        | 3622978.43       | 105.99             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007533         | 507855.30        | 3622973.22       | 106.45             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007534         | 507847.36        | 3622968.00       | 106.60             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007535         | 507839.41        | 3622962.79       | 107.16             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007536         | 507831.47        | 3622957.58       | 105.84             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007537         | 507823.53        | 3622952.37       | 104.46             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007538         | 507815.59        | 3622947.15       | 104.22             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007539         | 507807.65        | 3622941.94       | 104.27             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007540         | 507800.90        | 3622935.30       | 104.42             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007541         | 507794.43        | 3622928.35       | 104.73             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007542         | 507787.96        | 3622921.40       | 104.38             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007543         | 507781.48        | 3622914.44       | 104.21             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007544         | 507775.01        | 3622907.49       | 104.12             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007545         | 507768.54        | 3622900.54       | 104.06             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007546         | 507762.07        | 3622893.58       | 104.03             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007547         | 507755.59        | 3622886.63       | 103.94             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007548         | 507749.12        | 3622879.68       | 103.88             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007549         | 507742.65        | 3622872.72       | 103.85             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007550         | 507736.17        | 3622865.77       | 103.88             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007551         | 507729.70        | 3622858.82       | 104.28             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007552         | 507723.23        | 3622851.86       | 105.08             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P1HRD          | L0007553         | 507716.75        | 3622844.91       | 104.15             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007554         | 507710.28        | 3622837.96       | 104.43             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007555         | 507703.81        | 3622831.00       | 104.77             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007556         | 507697.33        | 3622824.05       | 105.06             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007557         | 507690.86        | 3622817.10       | 105.51             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007558         | 507684.39        | 3622810.14       | 104.78             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007559         | 507677.91        | 3622803.19       | 104.90             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007560         | 507671.44        | 3622796.24       | 104.67             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007561         | 507664.97        | 3622789.28       | 104.46             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007562         | 507658.50        | 3622782.33       | 104.44             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007563         | 507652.02        | 3622775.38       | 104.33             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007564         | 507645.55        | 3622768.42       | 104.21             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007565         | 507639.08        | 3622761.47       | 104.15             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007566         | 507630.61        | 3622758.31       | 104.05             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007567         | 507621.21        | 3622756.94       | 104.09             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007568         | 507611.81        | 3622755.58       | 103.99             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007569         | 507602.41        | 3622754.21       | 104.07             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007570         | 507593.01        | 3622752.84       | 104.13             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007571         | 507583.61        | 3622751.47       | 104.17             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007572         | 507574.21        | 3622750.11       | 104.20             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007573         | 507564.81        | 3622748.74       | 104.11             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007574         | 507555.41        | 3622747.37       | 104.01             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007575         | 507546.00        | 3622746.00       | 103.85             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007576         | 507536.60        | 3622744.63       | 103.72             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007577         | 507527.20        | 3622743.27       | 103.73             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P1HRD          | L0007578         | 507517.80        | 3622741.90       | 103.75             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007579         | 507508.40        | 3622740.53       | 103.73             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007580         | 507499.00        | 3622739.16       | 103.77             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007581         | 507489.60        | 3622737.80       | 103.89             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007582         | 507480.20        | 3622736.43       | 103.00             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007583         | 507470.80        | 3622735.06       | 101.93             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007584         | 507461.40        | 3622733.69       | 101.48             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007585         | 507451.99        | 3622732.32       | 101.52             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007586         | 507442.59        | 3622730.96       | 102.38             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007587         | 507433.19        | 3622729.59       | 103.63             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007588         | 507423.79        | 3622728.22       | 103.87             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007589         | 507414.39        | 3622726.85       | 103.71             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007590         | 507404.99        | 3622725.49       | 103.69             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007591         | 507395.59        | 3622724.12       | 103.67             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007592         | 507386.19        | 3622722.75       | 103.50             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007593         | 507376.79        | 3622721.38       | 103.27             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007594         | 507367.39        | 3622720.01       | 103.15             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007595         | 507357.98        | 3622718.65       | 103.17             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007596         | 507348.58        | 3622717.28       | 103.15             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007597         | 507339.18        | 3622715.91       | 103.10             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007598         | 507329.78        | 3622714.54       | 102.98             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007599         | 507320.38        | 3622713.18       | 102.91             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007600         | 507310.98        | 3622711.81       | 102.84             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007601         | 507301.58        | 3622710.44       | 102.74             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007602         | 507292.18        | 3622709.07       | 102.55             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |



# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P1HRD          | L0007603         | 507282.78        | 3622707.71       | 102.45             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007604         | 507273.37        | 3622706.34       | 103.10             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007605         | 507263.97        | 3622704.97       | 103.44             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007606         | 507254.57        | 3622703.60       | 103.58             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007607         | 507245.17        | 3622702.23       | 103.31             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007608         | 507235.77        | 3622700.87       | 102.65             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007609         | 507226.37        | 3622699.50       | 102.52             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007610         | 507217.30        | 3622697.42       | 102.51             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007611         | 507210.13        | 3622691.18       | 102.82             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007612         | 507202.96        | 3622684.95       | 103.38             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007613         | 507195.79        | 3622678.71       | 103.26             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007614         | 507188.63        | 3622672.48       | 103.05             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007615         | 507181.46        | 3622666.24       | 102.86             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007616         | 507174.29        | 3622660.01       | 102.45             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007617         | 507167.12        | 3622653.77       | 102.30             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007618         | 507159.95        | 3622647.54       | 102.26             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007619         | 507152.79        | 3622641.30       | 102.33             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007620         | 507145.62        | 3622635.07       | 102.15             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007621         | 507138.45        | 3622628.83       | 102.21             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007622         | 507131.28        | 3622622.60       | 102.40             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007623         | 507124.12        | 3622616.36       | 102.18             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007624         | 507116.95        | 3622610.13       | 101.79             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007625         | 507109.78        | 3622603.89       | 102.01             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007626         | 507102.61        | 3622597.66       | 101.69             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007627         | 507095.44        | 3622591.42       | 101.60             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P1HRD          | L0007628         | 507088.28        | 3622585.19       | 101.53             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007629         | 507081.11        | 3622578.95       | 101.60             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007630         | 507073.94        | 3622572.72       | 101.62             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007631         | 507066.77        | 3622566.49       | 101.61             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0007632         | 507059.61        | 3622560.25       | 102.13             | 3.19               | 0.00645             | 9.50               |                     | 4.42                          | 2.97                           |

# Source Pathway

AERMOD

## Building Downwash Information

Option not in use

## Emission Rate Units for Output

### For Concentration

|                           |                 |
|---------------------------|-----------------|
| Unit Factor:              | 1E6             |
| Emission Unit Label:      | GRAMS/SEC       |
| Concentration Unit Label: | MICROGRAMS/M**3 |

## Variable Emissions

# Source Pathway

AERMOD

## Hour-of-Day / Day-of-Week Emission Rate Variation

Scenario: Scenario 1

| Source ID:      |     | FCONV      |       |      |      |      |      |      |      |
|-----------------|-----|------------|-------|------|------|------|------|------|------|
| <b>Weekdays</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
|                 | Day | 13 - 18    | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |     | MCONV      |       |      |      |      |      |      |      |
| <b>Weekdays</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
|                 | Day | 13 - 18    | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |     | P1AEXTRACT |       |      |      |      |      |      |      |
| <b>Weekdays</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
|                 | Day | 13 - 18    | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |     | P1BEXTRACT |       |      |      |      |      |      |      |
| <b>Weekdays</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
|                 | Day | 13 - 18    | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |

# Source Pathway

AERMOD

Scenario: Scenario 1

| Source ID:      |         | P1BEXTACT  |      |      |      |      |      |
|-----------------|---------|------------|------|------|------|------|------|
|                 |         | 19 - 24    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |         | P1CEXTRACT |      |      |      |      |      |
| <b>Weekdays</b> |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 | 1.00       | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |         | P1HRD      |      |      |      |      |      |
| <b>Weekdays</b> |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 | 1.00       | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |         | PROCESS    |      |      |      |      |      |
| <b>Weekdays</b> |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 | 1.00       | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# Source Pathway

AERMOD

## Scenario: Scenario 1

| Source ID:      |         | PROCESS |      |      |      |      |      |      |
|-----------------|---------|---------|------|------|------|------|------|------|
| <b>Sunday</b>   |         |         |      |      |      |      |      |      |
| Hour            | 1 - 6   |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |         | RSTACK2 |      |      |      |      |      |      |
| <b>Weekdays</b> |         |         |      |      |      |      |      |      |
| Hour            | 1 - 6   |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |         | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 |         | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 | 19 - 24 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |         |      |      |      |      |      |      |
| Hour            | 1 - 6   |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |         |      |      |      |      |      |      |
| Hour            | 1 - 6   |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |         | RSTACK1 |      |      |      |      |      |      |
| <b>Weekdays</b> |         |         |      |      |      |      |      |      |
| Hour            | 1 - 6   |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |         | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 |         | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 | 19 - 24 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |         |      |      |      |      |      |      |
| Hour            | 1 - 6   |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |         |      |      |      |      |      |      |
| Hour            | 1 - 6   |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## Scenario: Scenario 2

| Source ID:      |         | HRT1 |      |      |      |      |      |      |
|-----------------|---------|------|------|------|------|------|------|------|
| <b>Weekdays</b> |         |      |      |      |      |      |      |      |
| Hour            | 1 - 6   |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |      | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 |      | 1.00 | 1.00 | 1.00 | 0.50 | 0.00 | 0.00 |
|                 | 19 - 24 |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |      |      |      |      |      |      |      |
| Hour            | 1 - 6   |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |      |      |      |      |      |      |      |
| Hour            | 1 - 6   |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# Source Pathway

AERMOD

Scenario: Scenario 2

| Source ID: |      | HRT1    |      |      |      |      |      |      |
|------------|------|---------|------|------|------|------|------|------|
|            |      | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID: |      | HRT2    |      |      |      |      |      |      |
| Weekdays   |      |         |      |      |      |      |      |      |
|            | Hour | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            | of   | 7 - 12  | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
|            | Day  | 13 - 18 | 1.00 | 1.00 | 1.00 | 0.50 | 0.00 | 0.00 |
|            |      | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Saturday   |      |         |      |      |      |      |      |      |
|            | Hour | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            | of   | 7 - 12  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            | Day  | 13 - 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            |      | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sunday     |      |         |      |      |      |      |      |      |
|            | Hour | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            | of   | 7 - 12  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            | Day  | 13 - 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            |      | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID: |      | HRT3    |      |      |      |      |      |      |
| Weekdays   |      |         |      |      |      |      |      |      |
|            | Hour | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            | of   | 7 - 12  | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
|            | Day  | 13 - 18 | 1.00 | 1.00 | 1.00 | 0.50 | 0.00 | 0.00 |
|            |      | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Saturday   |      |         |      |      |      |      |      |      |
|            | Hour | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            | of   | 7 - 12  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            | Day  | 13 - 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            |      | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sunday     |      |         |      |      |      |      |      |      |
|            | Hour | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            | of   | 7 - 12  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            | Day  | 13 - 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            |      | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# Receptor Pathway

AERMOD

## Receptor Networks

Note: Terrain Elevations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)  
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

### Uniform Cartesian Grid

| Receptor Network ID | Grid Origin X Coordinate [m] | Grid Origin Y Coordinate [m] | No. of X-Axis Receptors | No. of Y-Axis Receptors | Spacing for X-Axis [m] | Spacing for Y-Axis [m] |
|---------------------|------------------------------|------------------------------|-------------------------|-------------------------|------------------------|------------------------|
| UCART1              | 504500.00                    | 3621700.00                   | 55                      | 30                      | 100.00                 | 100.00                 |

## Discrete Receptors

### Discrete Cartesian Receptors

| Record Number | X-Coordinate [m] | Y-Coordinate [m] | Group Name (Optional) | Terrain Elevations | Flagpole Heights [m] (Optional) |
|---------------|------------------|------------------|-----------------------|--------------------|---------------------------------|
| 1             | 507580.81        | 3622577.05       |                       | 101.29             |                                 |
| 2             | 507634.55        | 3622614.60       |                       | 101.74             |                                 |
| 3             | 507681.66        | 3622633.00       |                       | 103.37             |                                 |
| 4             | 507723.62        | 3622649.19       |                       | 103.54             |                                 |
| 5             | 507783.24        | 3622669.80       |                       | 103.49             |                                 |
| 6             | 507839.92        | 3622670.54       |                       | 104.03             |                                 |
| 7             | 507898.81        | 3622678.64       |                       | 104.29             |                                 |
| 8             | 507988.61        | 3622701.46       |                       | 106.91             |                                 |
| 9             | 508100.50        | 3622721.33       |                       | 107.75             |                                 |
| 10            | 508252.14        | 3622738.26       |                       | 111.47             |                                 |
| 11            | 508274.96        | 3622762.55       |                       | 111.53             |                                 |
| 12            | 508270.54        | 3622789.05       |                       | 111.43             |                                 |
| 13            | 508272.75        | 3622822.91       |                       | 109.73             |                                 |
| 14            | 508282.32        | 3622851.62       |                       | 109.37             |                                 |
| 15            | 508302.19        | 3622882.54       |                       | 107.33             |                                 |
| 16            | 508325.01        | 3622917.14       |                       | 107.30             |                                 |
| 17            | 508348.57        | 3622925.23       |                       | 108.65             |                                 |
| 18            | 508374.33        | 3622925.23       |                       | 109.95             |                                 |
| 19            | 508389.79        | 3622921.55       |                       | 109.97             |                                 |
| 20            | 508410.40        | 3622914.19       |                       | 110.32             |                                 |
| 21            | 508429.54        | 3622906.09       |                       | 110.35             |                                 |
| 22            | 508450.89        | 3622892.84       |                       | 110.08             |                                 |
| 23            | 508463.40        | 3622878.86       |                       | 110.24             |                                 |
| 24            | 508474.44        | 3622867.08       |                       | 111.65             |                                 |
| 25            | 508490.64        | 3622854.57       |                       | 112.54             |                                 |
| 26            | 508539.96        | 3622846.47       |                       | 114.28             |                                 |



# Receptor Pathway

AERMOD

|    |           |            |        |
|----|-----------|------------|--------|
| 27 | 508572.35 | 3622891.37 | 115.79 |
| 28 | 508636.39 | 3622918.61 | 116.62 |
| 29 | 508794.57 | 3623262.05 | 113.43 |
| 30 | 508842.91 | 3623256.49 | 114.27 |
| 31 | 508873.61 | 3623236.24 | 116.16 |
| 32 | 509004.19 | 3623442.79 | 116.36 |
| 33 | 509022.69 | 3623510.97 | 116.18 |
| 34 | 509011.39 | 3623529.06 | 115.41 |
| 35 | 509090.50 | 3623601.26 | 115.51 |
| 36 | 509168.48 | 3623726.89 | 116.23 |
| 37 | 509315.56 | 3623943.46 | 115.94 |
| 38 | 508880.25 | 3624121.01 | 125.53 |
| 39 | 508844.97 | 3624057.24 | 118.77 |
| 40 | 508783.91 | 3624009.75 | 119.90 |
| 41 | 508746.82 | 3623951.85 | 118.60 |
| 42 | 508670.83 | 3623903.91 | 120.76 |
| 43 | 508594.85 | 3623863.20 | 127.80 |
| 44 | 508569.14 | 3623802.34 | 125.38 |
| 45 | 508562.36 | 3623740.37 | 118.33 |
| 46 | 508335.05 | 3623519.25 | 130.80 |
| 47 | 507959.93 | 3623225.12 | 123.76 |
| 48 | 507937.33 | 3623204.57 | 119.13 |
| 49 | 507912.67 | 3623191.01 | 118.90 |
| 50 | 507896.64 | 3623185.67 | 118.67 |
| 51 | 507881.85 | 3623175.81 | 118.28 |
| 52 | 507868.29 | 3623170.05 | 117.88 |
| 53 | 507849.80 | 3623163.07 | 117.24 |
| 54 | 507838.29 | 3623158.14 | 116.71 |
| 55 | 507823.09 | 3623151.15 | 116.36 |
| 56 | 507807.88 | 3623144.99 | 115.87 |
| 57 | 507793.09 | 3623136.36 | 115.20 |
| 58 | 507779.53 | 3623126.49 | 114.85 |
| 59 | 507763.91 | 3623121.56 | 114.28 |
| 60 | 507751.58 | 3623114.99 | 113.94 |
| 61 | 507723.23 | 3623084.17 | 109.22 |
| 62 | 507707.61 | 3623074.31 | 111.26 |
| 63 | 507696.93 | 3623064.03 | 112.76 |
| 64 | 507682.55 | 3623054.58 | 113.58 |

# Receptor Pathway

AERMOD

|     |           |            |        |
|-----|-----------|------------|--------|
| 65  | 507668.99 | 3623044.72 | 114.67 |
| 66  | 507657.89 | 3623031.16 | 115.30 |
| 67  | 507645.56 | 3623022.12 | 116.36 |
| 68  | 507629.54 | 3623009.38 | 117.67 |
| 69  | 507616.80 | 3623002.39 | 118.44 |
| 70  | 507593.79 | 3622984.31 | 119.48 |
| 71  | 507571.59 | 3622976.09 | 119.80 |
| 72  | 507563.79 | 3622959.66 | 120.10 |
| 73  | 507550.64 | 3622947.74 | 117.71 |
| 74  | 507530.91 | 3622934.18 | 114.78 |
| 75  | 507506.67 | 3622924.73 | 114.64 |
| 76  | 507457.77 | 3622924.31 | 115.68 |
| 77  | 507453.66 | 3622897.60 | 115.51 |
| 78  | 507423.25 | 3622884.87 | 113.22 |
| 79  | 507408.04 | 3622879.11 | 112.64 |
| 80  | 507391.20 | 3622869.66 | 112.46 |
| 81  | 507374.35 | 3622863.09 | 112.33 |
| 82  | 507359.96 | 3622858.57 | 112.41 |
| 83  | 507345.99 | 3622855.28 | 112.74 |
| 84  | 507330.79 | 3622849.11 | 113.16 |
| 85  | 507317.64 | 3622846.65 | 113.46 |
| 86  | 507304.49 | 3622841.72 | 113.88 |
| 87  | 507288.05 | 3622839.25 | 114.25 |
| 88  | 507269.15 | 3622837.61 | 114.43 |
| 89  | 507252.71 | 3622836.79 | 114.65 |
| 90  | 507235.86 | 3622834.32 | 114.80 |
| 91  | 507222.71 | 3622833.50 | 114.60 |
| 92  | 507207.92 | 3622832.27 | 114.39 |
| 93  | 507191.07 | 3622831.03 | 113.90 |
| 94  | 507120.39 | 3622850.35 | 114.80 |
| 95  | 507101.90 | 3622847.47 | 115.13 |
| 96  | 507087.93 | 3622849.11 | 114.69 |
| 97  | 507077.24 | 3622850.76 | 114.83 |
| 98  | 507067.79 | 3622853.63 | 115.09 |
| 99  | 507057.52 | 3622855.28 | 115.22 |
| 100 | 507047.65 | 3622856.51 | 115.20 |
| 101 | 507036.56 | 3622858.15 | 115.27 |
| 102 | 507026.70 | 3622861.03 | 115.35 |

# Receptor Pathway

AERMOD

|     |           |            |        |
|-----|-----------|------------|--------|
| 103 | 507015.19 | 3622863.09 | 115.31 |
| 104 | 507004.92 | 3622865.55 | 115.14 |
| 105 | 506995.88 | 3622865.14 | 115.09 |
| 106 | 506983.96 | 3622868.02 | 115.05 |
| 107 | 506975.74 | 3622868.43 | 115.05 |
| 108 | 506965.47 | 3622871.72 | 115.05 |
| 109 | 506955.19 | 3622875.00 | 114.87 |
| 110 | 506943.28 | 3622875.41 | 114.71 |
| 111 | 506930.54 | 3622880.76 | 114.57 |
| 112 | 506907.94 | 3622889.80 | 114.40 |
| 113 | 506892.32 | 3622907.06 | 114.68 |
| 114 | 506852.87 | 3623197.59 | 115.42 |
| 115 | 506861.09 | 3623235.80 | 115.69 |
| 116 | 506864.38 | 3623257.99 | 115.82 |
| 117 | 506868.08 | 3623296.62 | 113.65 |
| 118 | 506882.46 | 3623517.70 | 124.02 |
| 119 | 506876.71 | 3623532.91 | 124.05 |
| 120 | 506877.53 | 3623567.43 | 122.25 |
| 121 | 506896.96 | 3623639.34 | 123.44 |
| 122 | 506886.73 | 3623659.81 | 123.47 |
| 123 | 506883.58 | 3623681.85 | 123.53 |
| 124 | 506878.07 | 3623706.26 | 123.67 |
| 125 | 506882.01 | 3623729.09 | 123.89 |
| 126 | 506882.01 | 3623751.92 | 124.10 |
| 127 | 506888.30 | 3623773.17 | 124.32 |
| 128 | 506894.60 | 3623794.43 | 125.10 |
| 129 | 506904.05 | 3623815.68 | 126.24 |
| 130 | 506919.01 | 3623836.94 | 127.19 |
| 131 | 506930.82 | 3623854.26 | 127.88 |
| 132 | 506941.05 | 3623877.87 | 128.23 |
| 133 | 506947.35 | 3623893.62 | 126.57 |
| 134 | 506856.86 | 3623962.53 | 122.85 |
| 135 | 506856.29 | 3624303.98 | 135.49 |
| 136 | 506805.89 | 3624199.89 | 131.96 |
| 137 | 506808.57 | 3624149.04 | 129.97 |
| 138 | 506801.88 | 3624080.78 | 127.11 |
| 139 | 506805.89 | 3624047.99 | 126.16 |
| 140 | 506803.89 | 3623987.76 | 124.70 |

# Receptor Pathway

AERMOD

|     |           |            |        |
|-----|-----------|------------|--------|
| 141 | 506791.17 | 3623955.64 | 124.15 |
| 142 | 506777.79 | 3623863.96 | 121.98 |
| 143 | 506756.37 | 3623821.13 | 121.93 |
| 144 | 506754.37 | 3623803.07 | 121.61 |
| 145 | 506767.75 | 3623780.98 | 121.25 |
| 146 | 506781.80 | 3623746.85 | 118.86 |
| 147 | 506795.19 | 3623704.03 | 117.07 |
| 148 | 506795.86 | 3623691.31 | 116.78 |
| 149 | 506797.86 | 3623681.27 | 116.53 |
| 150 | 506799.87 | 3623667.22 | 116.28 |
| 151 | 506801.88 | 3623651.83 | 116.11 |
| 152 | 506797.19 | 3623631.08 | 115.67 |
| 153 | 506791.84 | 3623576.21 | 115.16 |
| 154 | 506798.53 | 3623554.80 | 115.03 |
| 155 | 506797.86 | 3623535.39 | 114.83 |
| 156 | 506797.19 | 3623513.98 | 114.52 |
| 157 | 506797.86 | 3623489.89 | 114.17 |
| 158 | 506798.53 | 3623466.46 | 113.85 |
| 159 | 506797.86 | 3623443.71 | 113.50 |
| 160 | 506810.58 | 3623403.56 | 113.12 |
| 161 | 506815.26 | 3623374.78 | 112.62 |
| 162 | 506140.72 | 3622834.08 | 101.86 |
| 163 | 506097.89 | 3622814.01 | 102.79 |
| 164 | 506056.40 | 3622790.58 | 102.54 |
| 165 | 506010.90 | 3622766.49 | 102.41 |
| 166 | 505964.72 | 3622742.40 | 102.26 |
| 167 | 505905.84 | 3622704.93 | 102.45 |
| 168 | 505842.26 | 3622664.78 | 102.62 |
| 169 | 505800.77 | 3622637.34 | 103.73 |
| 170 | 505252.04 | 3622475.40 | 112.05 |
| 171 | 505410.76 | 3622390.74 | 106.51 |
| 172 | 505493.57 | 3622420.16 | 107.30 |
| 173 | 505605.81 | 3622446.32 | 104.98 |
| 174 | 505652.67 | 3622475.74 | 104.20 |
| 175 | 505758.36 | 3622541.12 | 103.87 |
| 176 | 505824.83 | 3622587.97 | 102.13 |
| 177 | 505873.87 | 3622621.75 | 101.92 |
| 178 | 505962.13 | 3622634.83 | 100.14 |

# Receptor Pathway

AERMOD

|     |           |            |        |
|-----|-----------|------------|--------|
| 179 | 506647.54 | 3622965.00 | 104.50 |
| 180 | 506771.23 | 3622894.35 | 103.82 |
| 181 | 506778.84 | 3622941.54 | 105.58 |
| 182 | 506744.71 | 3622957.61 | 105.59 |
| 183 | 506696.52 | 3623003.12 | 106.26 |
| 184 | 506759.43 | 3623036.59 | 107.52 |
| 185 | 506799.59 | 3623087.46 | 109.15 |
| 186 | 506825.03 | 3623132.30 | 109.97 |
| 187 | 506884.60 | 3623439.52 | 117.86 |
| 188 | 506885.59 | 3624060.64 | 125.65 |
| 189 | 506865.33 | 3624127.94 | 129.39 |
| 190 | 506807.16 | 3623335.84 | 111.82 |
| 191 | 506662.43 | 3623064.93 | 105.91 |
| 192 | 506611.20 | 3623040.95 | 104.80 |
| 193 | 506564.33 | 3623018.06 | 104.87 |
| 194 | 506375.75 | 3622947.21 | 102.45 |
| 195 | 506333.24 | 3622925.40 | 103.07 |
| 196 | 506282.01 | 3622899.24 | 103.08 |
| 197 | 506247.13 | 3622880.71 | 103.27 |
| 198 | 505744.44 | 3622604.96 | 104.62 |
| 199 | 505710.97 | 3622588.89 | 104.92 |
| 200 | 505680.85 | 3622576.17 | 105.66 |
| 201 | 505658.75 | 3622556.76 | 105.78 |
| 202 | 505633.32 | 3622540.02 | 105.84 |
| 203 | 505590.47 | 3622507.89 | 106.09 |
| 204 | 505534.24 | 3622493.83 | 107.37 |
| 205 | 505471.98 | 3622482.45 | 107.97 |
| 206 | 505392.99 | 3622480.45 | 108.76 |
| 207 | 505309.98 | 3622472.41 | 109.66 |
| 208 | 504871.97 | 3622447.16 | 128.92 |
| 209 | 505117.07 | 3622465.66 | 116.19 |
| 210 | 504958.41 | 3622477.71 | 130.50 |
| 211 | 508353.65 | 3622554.75 | 117.19 |
| 212 | 506457.68 | 3623382.05 | 110.89 |
| 213 | 506367.01 | 3624009.61 | 164.05 |

## Plant Boundary Receptors

# Meteorology Pathway

AERMOD

## Met Input Data

### Surface Met Data

Filename: 722907.SFC  
Format Type: Default AERMET format

### Profile Met Data

Filename: 722907.PFL  
Format Type: Default AERMET format

### Wind Speed



Wind Speeds are Vector Mean (Not Scalar Means)

### Wind Direction

Rotation Adjustment [deg]:

### Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 118.00 [m]

### Meteorological Station Data

| Stations  | Station No. | Year | X Coordinate [m] | Y Coordinate [m] | Station Name |
|-----------|-------------|------|------------------|------------------|--------------|
| Surface   |             | 2009 |                  |                  |              |
| Upper Air |             | 2009 |                  |                  |              |

## Data Period

### Data Period to Process

Start Date: 1/1/2009 Start Hour: 1 End Date: 1/2/2014 End Hour: 24

## Wind Speed Categories

| Stability Category | Wind Speed [m/s] | Stability Category | Wind Speed [m/s] |
|--------------------|------------------|--------------------|------------------|
| A                  | 1.54             | D                  | 8.23             |
| B                  | 3.09             | E                  | 10.8             |
| C                  | 5.14             | F                  | No Upper Bound   |

# Output Pathway

AERMOD

## Tabular Printed Outputs

| Short Term Averaging Period | RECTABLE<br>Highest Values Table |     |     |     |     |     |     |     |     |      | MAXTABLE<br>Maximum Values Table | DAYTABLE<br>Daily Values Table |
|-----------------------------|----------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|----------------------------------|--------------------------------|
|                             | 1st                              | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |                                  |                                |
| 1                           |                                  |     |     |     |     |     |     |     |     |      |                                  | No                             |
| MONTH                       |                                  |     |     |     |     |     |     |     |     |      |                                  | No                             |

## Contour Plot Files (PLOTFILE)

Path for PLOTFILES: SIR02\_PHASE1\_AERMOD.AD

| Averaging Period | Source Group ID | High Value | File Name    |
|------------------|-----------------|------------|--------------|
| 1                | ALL             | 1st        | 01H1GALL.PLT |
| Month            | ALL             | 1st        | MOH1GALL.PLT |
| Period           | ALL             | N/A        | PE00GALL.PLT |

Cottonwood Sand Mine All Phases

\*\*\*POLLUTANT HEALTH INFORMATION\*\*\*

Health Database: C:\HARP2\Tables\HEALTH17320.mdb

Health Table Version: HEALTH21221

Official: True

| PolID    | PolAbbrev       | InhCancer | OralCancer | AcuteREL | InhChronicREL | OralChronicREL | InhChronic8HRREL |
|----------|-----------------|-----------|------------|----------|---------------|----------------|------------------|
| 9901     | DieselExhPM     | 1.1       |            |          | 5             |                |                  |
| 7429905  | Aluminum        |           |            |          |               |                |                  |
| 7440382  | Arsenic         | 12        | 1.5        | 0.2      | 0.015         | 3.50E-06       | 0.015            |
| 7440393  | Barium          |           |            |          |               |                |                  |
| 7440417  | Beryllium       | 8.4       |            |          | 0.007         | 0.002          |                  |
| 7440439  | Cadmium         | 15        |            |          | 0.02          | 0.005          |                  |
| 18540299 | Cr(VI)          | 510       | 0.5        |          | 0.2           | 0.02           |                  |
| 7440473  | Chromium        |           |            |          |               |                |                  |
| 7440484  | Cobalt          | 27        |            |          |               |                |                  |
| 7440508  | Copper          |           |            | 100      |               |                |                  |
| 7439921  | Lead            | 0.042     | 0.0085     |          |               |                |                  |
| 7439965  | Manganese       |           |            |          | 0.09          |                | 0.17             |
| 7439976  | Mercury         |           |            | 0.6      | 0.03          | 0.00016        | 0.06             |
| 7440020  | Nickel          | 0.91      |            | 0.2      | 0.014         | 0.011          | 0.06             |
| 7782492  | Selenium        |           |            |          | 20            | 0.005          |                  |
| 1175     | Silica, Crystln |           |            |          | 3             |                |                  |
| 7440666  | Zinc            |           |            |          |               |                |                  |



Cottonwood Sand Mine Phase 1 Emission Inventory

HARP Project Summary Report 11/5/2021

\*\*\*PROJECT INFORMATION\*\*\*

HARP Version: 21081  
 Project Name: SIRO2\_PHASE1\_HARP  
 HARP Database: NA

\*\*\*EMISSION INVENTORY\*\*\*

No. of Pollutants:156  
 No. of Background Pollutants:0

| Emissions |       |       |       |                    |       |                        |                       |      |
|-----------|-------|-------|-------|--------------------|-------|------------------------|-----------------------|------|
| ScrID     | StkID | ProID | PolID | PolAbbrev          | Multi | Annual Ems<br>(lbs/yr) | MaxHr Ems<br>(lbs/hr) | MWAF |
| HRT1      | 0     |       | 0     | 9901 DieselExhPM   | 1     | 2.879370434            | 0.00176486            | 1    |
| HRT2      | 0     |       | 0     | 9901 DieselExhPM   | 1     | 0.359481568            | 0.00022034            | 1    |
| HRT3      | 0     |       | 0     | 9901 DieselExhPM   | 1     | 2.883311481            | 0.00176728            | 1    |
| PROCESS   | 0     |       | 0     | 9901 DieselExhPM   | 1     | 28.81914942            | 0.01148173            | 1    |
| PROCESS   | 0     |       | 0     | 7429905 Aluminum   | 1     | 36.55913337            | 0.01441996            | 1    |
| PROCESS   | 0     |       | 0     | 7440382 Arsenic    | 1     | 0.053620062            | 2.11E-05              | 1    |
| PROCESS   | 0     |       | 0     | 7440393 Barium     | 1     | 0.548387001            | 0.0002163             | 1    |
| PROCESS   | 0     |       | 0     | 7440417 Beryllium  | 1     | 0.002437276            | 9.61E-07              | 1    |
| PROCESS   | 0     |       | 0     | 7440439 Cadmium    | 1     | 0.002437276            | 9.61E-07              | 1    |
| PROCESS   | 0     |       | 0     | 18540299 Cr(VI)    | 1     | 0                      | 0                     | 1    |
| PROCESS   | 0     |       | 0     | 7440473 Chromium   | 1     | 0.068243716            | 2.69E-05              | 1    |
| PROCESS   | 0     |       | 0     | 7440484 Cobalt     | 1     | 0.026810031            | 1.06E-05              | 1    |
| PROCESS   | 0     |       | 0     | 7440508 Copper     | 1     | 0.090179196            | 3.56E-05              | 1    |
| PROCESS   | 0     |       | 0     | 7439921 Lead       | 1     | 0.121863778            | 4.81E-05              | 1    |
| PROCESS   | 0     |       | 0     | 7439965 Manganese  | 1     | 1.291756046            | 0.00050951            | 1    |
| PROCESS   | 0     |       | 0     | 7439976 Mercury    | 1     | 0                      | 0                     | 1    |
| PROCESS   | 0     |       | 0     | 7440020 Nickel     | 1     | 0.068243716            | 2.69E-05              | 1    |
| PROCESS   | 0     |       | 0     | 7782492 Selenium   | 1     | 0.002437276            | 9.61E-07              | 1    |
| PROCESS   | 0     |       | 0     | 1175 Silica, Cryst | 1     | 243.7275558            | 0.09613305            | 1    |
| PROCESS   | 0     |       | 0     | 7440666 Zinc       | 1     | 0.24129028             | 9.52E-05              | 1    |
| RSTACK1   | 0     |       | 0     | 9901 DieselExhPM   | 1     | 0                      | 0                     | 1    |
| RSTACK1   | 0     |       | 0     | 7429905 Aluminum   | 1     | 3.5532                 | 0.00141562            | 1    |
| RSTACK1   | 0     |       | 0     | 7440382 Arsenic    | 1     | 0.00497448             | 1.98E-06              | 1    |
| RSTACK1   | 0     |       | 0     | 7440393 Barium     | 1     | 0.0343476              | 1.37E-05              | 1    |
| RSTACK1   | 0     |       | 0     | 7440417 Beryllium  | 1     | 0.00023688             | 9.44E-08              | 1    |
| RSTACK1   | 0     |       | 0     | 7440439 Cadmium    | 1     | 0.00023688             | 9.44E-08              | 1    |
| RSTACK1   | 0     |       | 0     | 18540299 Cr(VI)    | 1     | 0                      | 0                     | 1    |
| RSTACK1   | 0     |       | 0     | 7440473 Chromium   | 1     | 0.005922               | 2.36E-06              | 1    |
| RSTACK1   | 0     |       | 0     | 7440484 Cobalt     | 1     | 0                      | 0                     | 1    |
| RSTACK1   | 0     |       | 0     | 7440508 Copper     | 1     | 0.0094752              | 3.77E-06              | 1    |
| RSTACK1   | 0     |       | 0     | 7439921 Lead       | 1     | 0.0071064              | 2.83E-06              | 1    |
| RSTACK1   | 0     |       | 0     | 7439965 Manganese  | 1     | 0.1160712              | 4.62E-05              | 1    |
| RSTACK1   | 0     |       | 0     | 7439976 Mercury    | 1     | 0                      | 0                     | 1    |
| RSTACK1   | 0     |       | 0     | 7440020 Nickel     | 1     | 0.00450072             | 1.79E-06              | 1    |
| RSTACK1   | 0     |       | 0     | 7782492 Selenium   | 1     | 0.00023688             | 9.44E-08              | 1    |
| RSTACK1   | 0     |       | 0     | 1175 Silica, Cryst | 1     | 23.688                 | 0.00943745            | 1    |
| RSTACK1   | 0     |       | 0     | 7440666 Zinc       | 1     | 0.02653056             | 1.06E-05              | 1    |
| RSTACK2   | 0     |       | 0     | 9901 DieselExhPM   | 1     | 0                      | 0                     | 1    |
| RSTACK2   | 0     |       | 0     | 7429905 Aluminum   | 1     | 3.5532                 | 0.00141562            | 1    |
| RSTACK2   | 0     |       | 0     | 7440382 Arsenic    | 1     | 0.00497448             | 1.98E-06              | 1    |
| RSTACK2   | 0     |       | 0     | 7440393 Barium     | 1     | 0.0343476              | 1.37E-05              | 1    |
| RSTACK2   | 0     |       | 0     | 7440417 Beryllium  | 1     | 0.00023688             | 9.44E-08              | 1    |
| RSTACK2   | 0     |       | 0     | 7440439 Cadmium    | 1     | 0.00023688             | 9.44E-08              | 1    |
| RSTACK2   | 0     |       | 0     | 18540299 Cr(VI)    | 1     | 0                      | 0                     | 1    |
| RSTACK2   | 0     |       | 0     | 7440473 Chromium   | 1     | 0.005922               | 2.36E-06              | 1    |
| RSTACK2   | 0     |       | 0     | 7440484 Cobalt     | 1     | 0                      | 0                     | 1    |

Cottonwood Sand Mine Phase 1 Emission Inventory

|            |   |   |                      |   |             |            |   |
|------------|---|---|----------------------|---|-------------|------------|---|
| RSTACK2    | 0 | 0 | 7440508 Copper       | 1 | 0.0094752   | 3.77E-06   | 1 |
| RSTACK2    | 0 | 0 | 7439921 Lead         | 1 | 0.0071064   | 2.83E-06   | 1 |
| RSTACK2    | 0 | 0 | 7439965 Manganese    | 1 | 0.1160712   | 4.62E-05   | 1 |
| RSTACK2    | 0 | 0 | 7439976 Mercury      | 1 | 0           | 0          | 1 |
| RSTACK2    | 0 | 0 | 7440020 Nickel       | 1 | 0.00450072  | 1.79E-06   | 1 |
| RSTACK2    | 0 | 0 | 7782492 Selenium     | 1 | 0.00023688  | 9.44E-08   | 1 |
| RSTACK2    | 0 | 0 | 1175 Silica, Crystln | 1 | 23.688      | 0.00943745 | 1 |
| RSTACK2    | 0 | 0 | 7440666 Zinc         | 1 | 0.02653056  | 1.06E-05   | 1 |
| FCONV      | 0 | 0 | 9901 DieselExhPM     | 1 | 0           | 0          | 1 |
| FCONV      | 0 | 0 | 7429905 Aluminum     | 1 | 0.6768      | 0.00026964 | 1 |
| FCONV      | 0 | 0 | 7440382 Arsenic      | 1 | 0.00020304  | 8.09E-08   | 1 |
| FCONV      | 0 | 0 | 7440393 Barium       | 1 | 0.0054144   | 2.16E-06   | 1 |
| FCONV      | 0 | 0 | 7440417 Beryllium    | 1 | 3.38E-05    | 1.35E-08   | 1 |
| FCONV      | 0 | 0 | 7440439 Cadmium      | 1 | 3.38E-05    | 1.35E-08   | 1 |
| FCONV      | 0 | 0 | 18540299 Cr(VI)      | 1 | 0           | 0          | 1 |
| FCONV      | 0 | 0 | 7440473 Chromium     | 1 | 0.00115056  | 4.58E-07   | 1 |
| FCONV      | 0 | 0 | 7440484 Cobalt       | 1 | 0           | 0          | 1 |
| FCONV      | 0 | 0 | 7440508 Copper       | 1 | 0.00243648  | 9.71E-07   | 1 |
| FCONV      | 0 | 0 | 7439921 Lead         | 1 | 0.00064296  | 2.56E-07   | 1 |
| FCONV      | 0 | 0 | 7439965 Manganese    | 1 | 0.0106596   | 4.25E-06   | 1 |
| FCONV      | 0 | 0 | 7439976 Mercury      | 1 | 0           | 0          | 1 |
| FCONV      | 0 | 0 | 7440020 Nickel       | 1 | 0.0006768   | 2.70E-07   | 1 |
| FCONV      | 0 | 0 | 7782492 Selenium     | 1 | 3.38E-05    | 1.35E-08   | 1 |
| FCONV      | 0 | 0 | 1175 Silica, Crystln | 1 | 3.384       | 0.00134821 | 1 |
| FCONV      | 0 | 0 | 7440666 Zinc         | 1 | 0.0028764   | 1.15E-06   | 1 |
| MCONV      | 0 | 0 | 9901 DieselExhPM     | 1 | 0           | 0          | 1 |
| MCONV      | 0 | 0 | 7429905 Aluminum     | 1 | 4.7376      | 0.00188749 | 1 |
| MCONV      | 0 | 0 | 7440382 Arsenic      | 1 | 0.00142128  | 5.66E-07   | 1 |
| MCONV      | 0 | 0 | 7440393 Barium       | 1 | 0.0379008   | 1.51E-05   | 1 |
| MCONV      | 0 | 0 | 7440417 Beryllium    | 1 | 0.00023688  | 9.44E-08   | 1 |
| MCONV      | 0 | 0 | 7440439 Cadmium      | 1 | 0.00023688  | 9.44E-08   | 1 |
| MCONV      | 0 | 0 | 18540299 Cr(VI)      | 1 | 0           | 0          | 1 |
| MCONV      | 0 | 0 | 7440473 Chromium     | 1 | 0.00805392  | 3.21E-06   | 1 |
| MCONV      | 0 | 0 | 7440484 Cobalt       | 1 | 0           | 0          | 1 |
| MCONV      | 0 | 0 | 7440508 Copper       | 1 | 0.01705536  | 6.79E-06   | 1 |
| MCONV      | 0 | 0 | 7439921 Lead         | 1 | 0.00450072  | 1.79E-06   | 1 |
| MCONV      | 0 | 0 | 7439965 Manganese    | 1 | 0.0746172   | 2.97E-05   | 1 |
| MCONV      | 0 | 0 | 7439976 Mercury      | 1 | 0           | 0          | 1 |
| MCONV      | 0 | 0 | 7440020 Nickel       | 1 | 0.0047376   | 1.89E-06   | 1 |
| MCONV      | 0 | 0 | 7782492 Selenium     | 1 | 0.00023688  | 9.44E-08   | 1 |
| MCONV      | 0 | 0 | 1175 Silica, Crystln | 1 | 23.688      | 0.00943745 | 1 |
| MCONV      | 0 | 0 | 7440666 Zinc         | 1 | 0.0201348   | 8.02E-06   | 1 |
| P1AEXTRACT | 0 | 0 | 9901 DieselExhPM     | 1 | 30.62979095 | 0.0122031  | 1 |
| P1AEXTRACT | 0 | 0 | 7429905 Aluminum     | 1 | 106.0726955 | 0.04226004 | 1 |
| P1AEXTRACT | 0 | 0 | 7440382 Arsenic      | 1 | 0.031821809 | 1.27E-05   | 1 |
| P1AEXTRACT | 0 | 0 | 7440393 Barium       | 1 | 0.848581564 | 0.00033808 | 1 |
| P1AEXTRACT | 0 | 0 | 7440417 Beryllium    | 1 | 0.005303635 | 2.11E-06   | 1 |
| P1AEXTRACT | 0 | 0 | 7440439 Cadmium      | 1 | 0.005303635 | 2.11E-06   | 1 |
| P1AEXTRACT | 0 | 0 | 18540299 Cr(VI)      | 1 | 0           | 0          | 1 |
| P1AEXTRACT | 0 | 0 | 7440473 Chromium     | 1 | 0.180323582 | 7.18E-05   | 1 |
| P1AEXTRACT | 0 | 0 | 7440484 Cobalt       | 1 | 0           | 0          | 1 |
| P1AEXTRACT | 0 | 0 | 7440508 Copper       | 1 | 0.381861704 | 0.000152   | 1 |
| P1AEXTRACT | 0 | 0 | 7439921 Lead         | 1 | 0.100769061 | 4.01E-05   | 1 |
| P1AEXTRACT | 0 | 0 | 7439965 Manganese    | 1 | 1.670644953 | 0.0006656  | 1 |
| P1AEXTRACT | 0 | 0 | 7439976 Mercury      | 1 | 0           | 0          | 1 |
| P1AEXTRACT | 0 | 0 | 7440020 Nickel       | 1 | 0.106072695 | 4.23E-05   | 1 |
| P1AEXTRACT | 0 | 0 | 7782492 Selenium     | 1 | 0.005303635 | 2.11E-06   | 1 |
| P1AEXTRACT | 0 | 0 | 1175 Silica, Crystln | 1 | 530.3634773 | 0.21130019 | 1 |
| P1AEXTRACT | 0 | 0 | 7440666 Zinc         | 1 | 0.450808956 | 0.00017961 | 1 |
| P1BEXTRACT | 0 | 0 | 9901 DieselExhPM     | 1 | 30.62979095 | 0.0122031  | 1 |
| P1BEXTRACT | 0 | 0 | 7429905 Aluminum     | 1 | 106.0726955 | 0.04226004 | 1 |
| P1BEXTRACT | 0 | 0 | 7440382 Arsenic      | 1 | 0.031821809 | 1.27E-05   | 1 |

Cottonwood Sand Mine Phase 1 Emission Inventory

|            |   |   |                      |   |             |            |   |
|------------|---|---|----------------------|---|-------------|------------|---|
| P1BEXTRACT | 0 | 0 | 7440393 Barium       | 1 | 0.848581564 | 0.00033808 | 1 |
| P1BEXTRACT | 0 | 0 | 7440417 Beryllium    | 1 | 0.005303635 | 2.11E-06   | 1 |
| P1BEXTRACT | 0 | 0 | 7440439 Cadmium      | 1 | 0.005303635 | 2.11E-06   | 1 |
| P1BEXTRACT | 0 | 0 | 18540299 Cr(VI)      | 1 | 0           | 0          | 1 |
| P1BEXTRACT | 0 | 0 | 7440473 Chromium     | 1 | 0.180323582 | 7.18E-05   | 1 |
| P1BEXTRACT | 0 | 0 | 7440484 Cobalt       | 1 | 0           | 0          | 1 |
| P1BEXTRACT | 0 | 0 | 7440508 Copper       | 1 | 0.381861704 | 0.000152   | 1 |
| P1BEXTRACT | 0 | 0 | 7439921 Lead         | 1 | 0.100769061 | 4.01E-05   | 1 |
| P1BEXTRACT | 0 | 0 | 7439965 Manganese    | 1 | 1.670644953 | 0.0006656  | 1 |
| P1BEXTRACT | 0 | 0 | 7439976 Mercury      | 1 | 0           | 0          | 1 |
| P1BEXTRACT | 0 | 0 | 7440020 Nickel       | 1 | 0.106072695 | 4.23E-05   | 1 |
| P1BEXTRACT | 0 | 0 | 7782492 Selenium     | 1 | 0.005303635 | 2.11E-06   | 1 |
| P1BEXTRACT | 0 | 0 | 1175 Silica, Crystln | 1 | 530.3634773 | 0.21130019 | 1 |
| P1BEXTRACT | 0 | 0 | 7440666 Zinc         | 1 | 0.450808956 | 0.00017961 | 1 |
| P1CEXTRACT | 0 | 0 | 9901 DieselExhPM     | 1 | 30.62979095 | 0.0122031  | 1 |
| P1CEXTRACT | 0 | 0 | 7429905 Aluminum     | 1 | 106.0726955 | 0.04226004 | 1 |
| P1CEXTRACT | 0 | 0 | 7440382 Arsenic      | 1 | 0.031821809 | 1.27E-05   | 1 |
| P1CEXTRACT | 0 | 0 | 7440393 Barium       | 1 | 0.848581564 | 0.00033808 | 1 |
| P1CEXTRACT | 0 | 0 | 7440417 Beryllium    | 1 | 0.005303635 | 2.11E-06   | 1 |
| P1CEXTRACT | 0 | 0 | 7440439 Cadmium      | 1 | 0.005303635 | 2.11E-06   | 1 |
| P1CEXTRACT | 0 | 0 | 18540299 Cr(VI)      | 1 | 0           | 0          | 1 |
| P1CEXTRACT | 0 | 0 | 7440473 Chromium     | 1 | 0.180323582 | 7.18E-05   | 1 |
| P1CEXTRACT | 0 | 0 | 7440484 Cobalt       | 1 | 0           | 0          | 1 |
| P1CEXTRACT | 0 | 0 | 7440508 Copper       | 1 | 0.381861704 | 0.000152   | 1 |
| P1CEXTRACT | 0 | 0 | 7439921 Lead         | 1 | 0.100769061 | 4.01E-05   | 1 |
| P1CEXTRACT | 0 | 0 | 7439965 Manganese    | 1 | 1.670644953 | 0.0006656  | 1 |
| P1CEXTRACT | 0 | 0 | 7439976 Mercury      | 1 | 0           | 0          | 1 |
| P1CEXTRACT | 0 | 0 | 7440020 Nickel       | 1 | 0.106072695 | 4.23E-05   | 1 |
| P1CEXTRACT | 0 | 0 | 7782492 Selenium     | 1 | 0.005303635 | 2.11E-06   | 1 |
| P1CEXTRACT | 0 | 0 | 1175 Silica, Crystln | 1 | 530.3634773 | 0.21130019 | 1 |
| P1CEXTRACT | 0 | 0 | 7440666 Zinc         | 1 | 0.450808956 | 0.00017961 | 1 |
| P1HRD      | 0 | 0 | 9901 DieselExhPM     | 1 | 22.674552   | 0.00903369 | 1 |
| P1HRD      | 0 | 0 | 7429905 Aluminum     | 1 | 22.73617073 | 0.00905824 | 1 |
| P1HRD      | 0 | 0 | 7440382 Arsenic      | 1 | 0.031830639 | 1.27E-05   | 1 |
| P1HRD      | 0 | 0 | 7440393 Barium       | 1 | 0.219782984 | 8.76E-05   | 1 |
| P1HRD      | 0 | 0 | 7440417 Beryllium    | 1 | 0.001515745 | 6.04E-07   | 1 |
| P1HRD      | 0 | 0 | 7440439 Cadmium      | 1 | 0.001515745 | 6.04E-07   | 1 |
| P1HRD      | 0 | 0 | 18540299 Cr(VI)      | 1 | 0           | 0          | 1 |
| P1HRD      | 0 | 0 | 7440473 Chromium     | 1 | 0.037893618 | 1.51E-05   | 1 |
| P1HRD      | 0 | 0 | 7440484 Cobalt       | 1 | 0           | 0          | 1 |
| P1HRD      | 0 | 0 | 7440508 Copper       | 1 | 0.060629789 | 2.42E-05   | 1 |
| P1HRD      | 0 | 0 | 7439921 Lead         | 1 | 0.045472341 | 1.81E-05   | 1 |
| P1HRD      | 0 | 0 | 7439965 Manganese    | 1 | 0.742714911 | 0.0002959  | 1 |
| P1HRD      | 0 | 0 | 7439976 Mercury      | 1 | 0           | 0          | 1 |
| P1HRD      | 0 | 0 | 7440020 Nickel       | 1 | 0.02879915  | 1.15E-05   | 1 |
| P1HRD      | 0 | 0 | 7782492 Selenium     | 1 | 0.001515745 | 6.04E-07   | 1 |
| P1HRD      | 0 | 0 | 1175 Silica, Crystln | 1 | 151.5744715 | 0.06038824 | 1 |
| P1HRD      | 0 | 0 | 7440666 Zinc         | 1 | 0.169763408 | 6.76E-05   | 1 |

PROJECT TITLE:

**Cottonwood Sand Mine Phase 1  
Acute Hazard Index**

COMMENTS:

Maximum Hazard Index

SOURCES:

**12**

RECEPTORS:

**1863**

OUTPUT TYPE:

MAX:

COMPANY NAME:

**HELIX Environmental  
Planning**

DATE:

**11/5/2021**

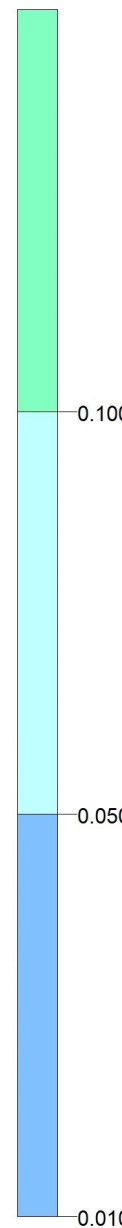
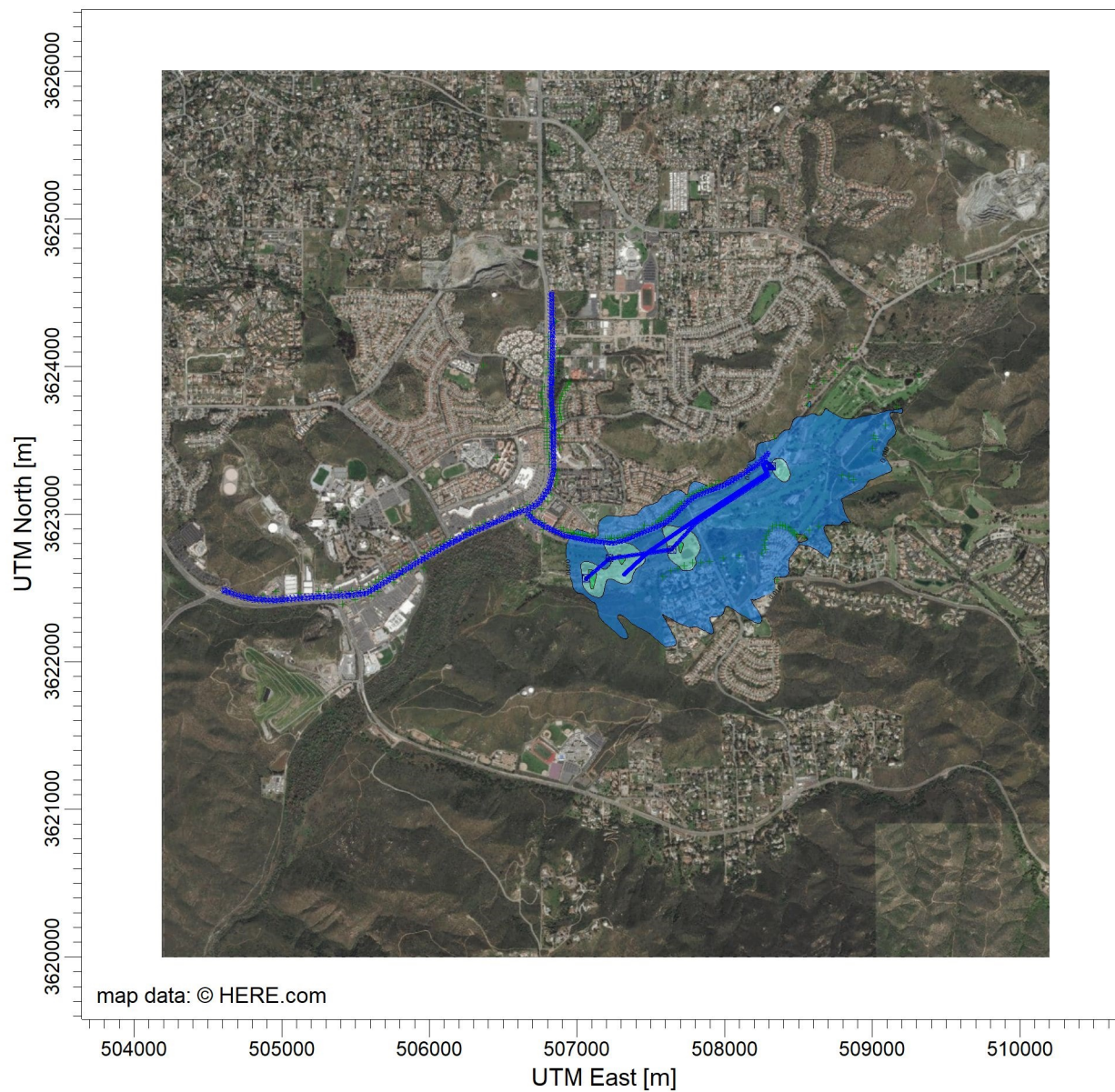
SCALE:

1:46,583

0

1 km

PROJECT NO.:



PROJECT TITLE:

**Cottonwood Sand Mine Phase 1  
Residential Cancer Risk**

COMMENTS:

Risk in chances per million

SOURCES:

**12**

RECEPTORS:

**1863**

OUTPUT TYPE:

MAX:

COMPANY NAME:

**HELIX Environmental  
Planning**

DATE:

**11/5/2021**

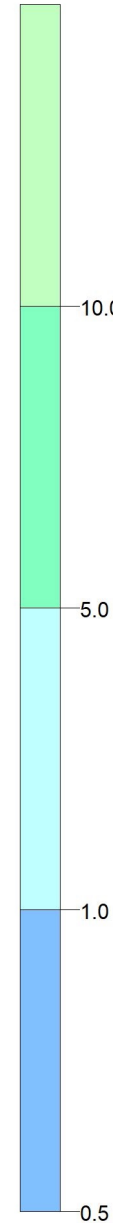
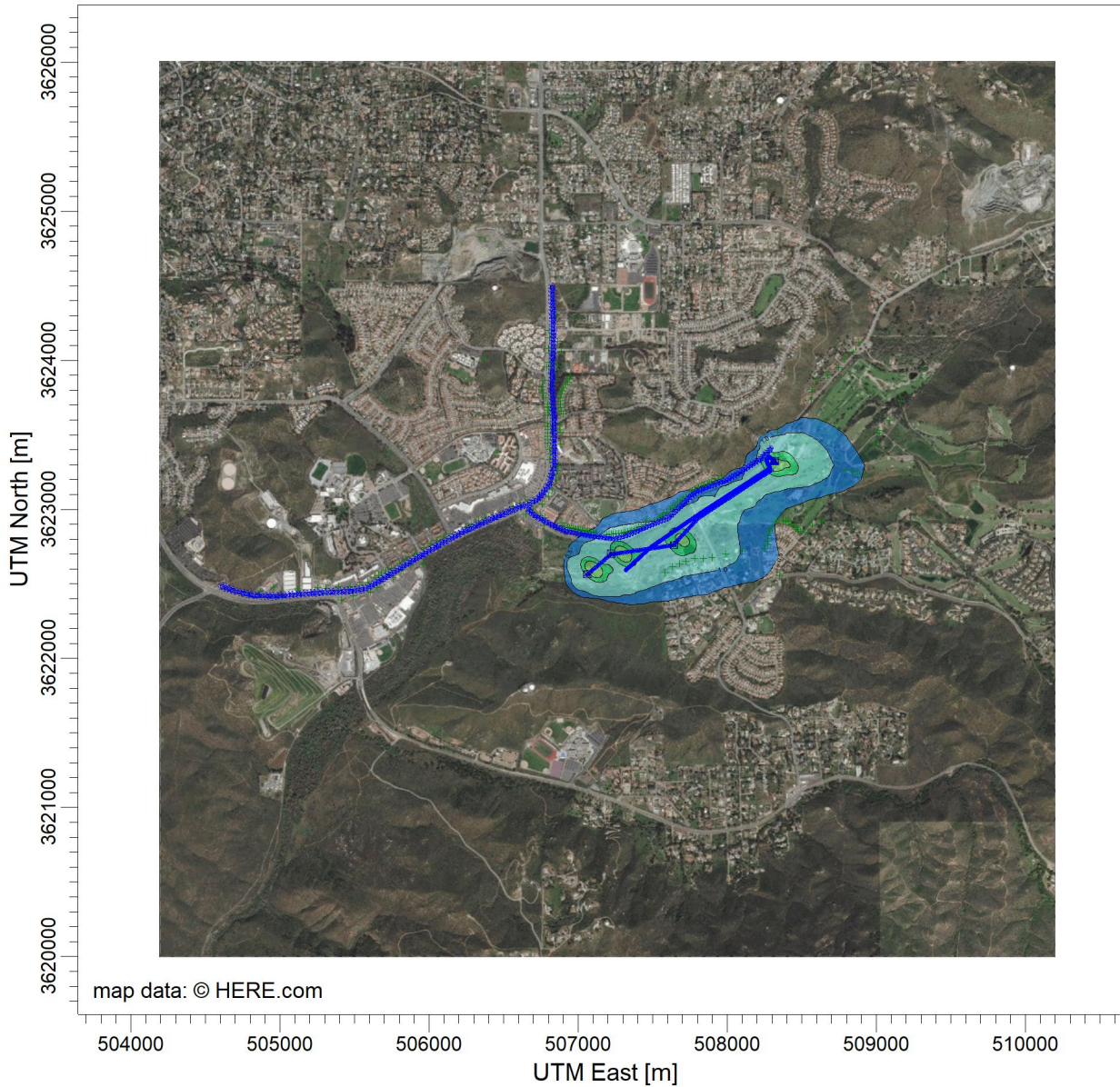
SCALE:

1:46,120

0

1 km

PROJECT NO.:



PROJECT TITLE:

**Cottonwood Sand Mine Phase 1  
Residential Chronic Hazard Index**

COMMENTS:

Maximum Hazard Index

SOURCES:

**12**

RECEPTORS:

**1863**

OUTPUT TYPE:

MAX:

COMPANY NAME:

**HELIX Environmental  
Planning**

DATE:

**11/5/2021**

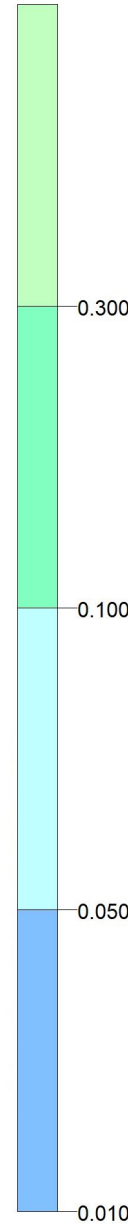
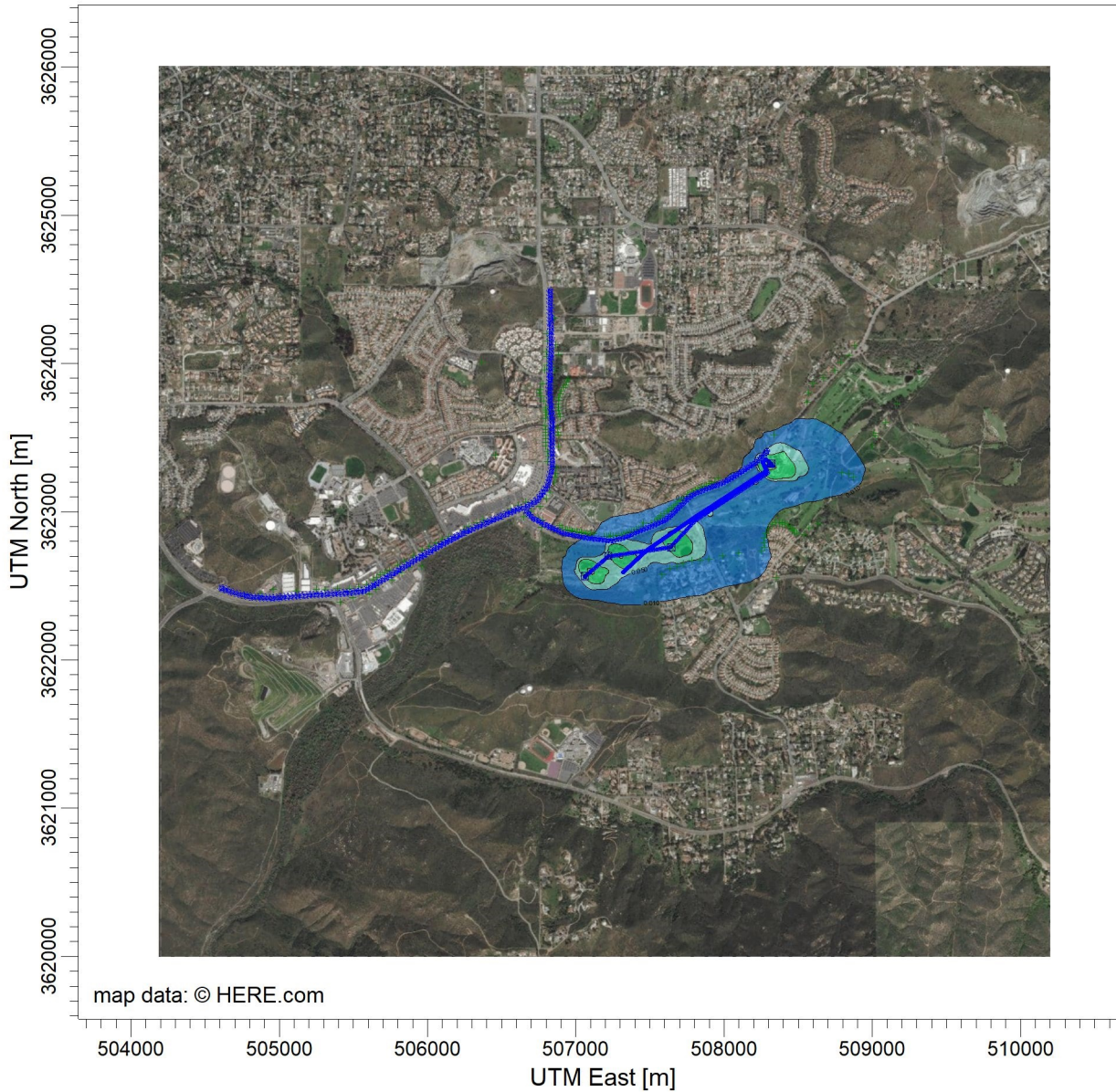
SCALE:

1:46,583

0

1 km

PROJECT NO.:



PROJECT TITLE:

**Cottonwood Sand Mine Phase 1  
Off-Site Worker Cancer Risk**

COMMENTS:

Risk in chances per million

SOURCES:

**12**

RECEPTORS:

**1863**

OUTPUT TYPE:

MAX:

COMPANY NAME:

**HELIX Environmental  
Planning**

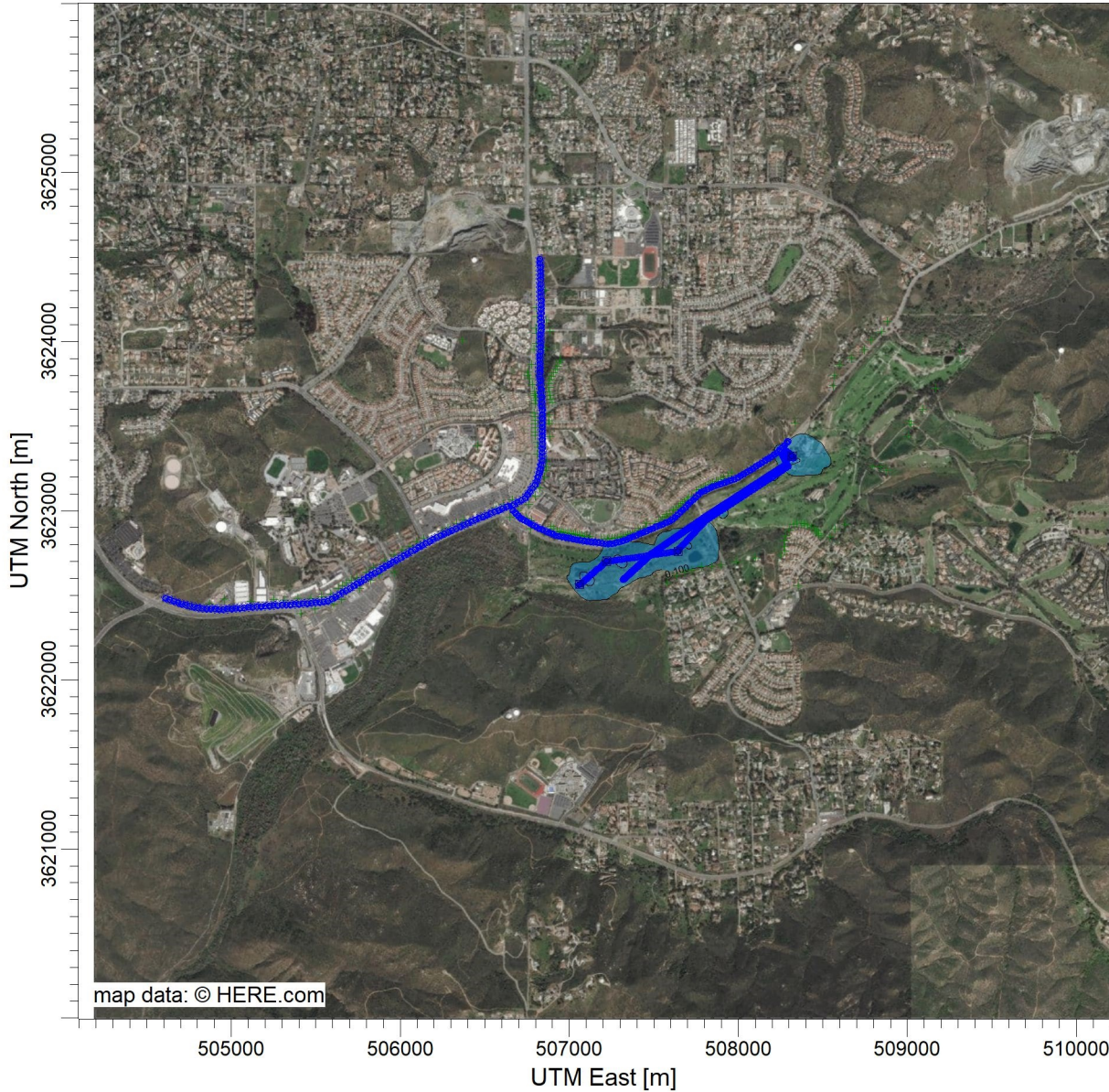
DATE:

**11/5/2021**

SCALE: 1:40,910

0  1 km

PROJECT NO.:



PROJECT TITLE:

**Cottonwood Sand Mine Phase 1  
Off-Site Worker Chronic Hazard Index**

COMMENTS:

Maximum Hazard Index

SOURCES:

**12**

RECEPTORS:

**1863**

OUTPUT TYPE:

MAX:

COMPANY NAME:

**HELIX Environmental  
Planning**

DATE:

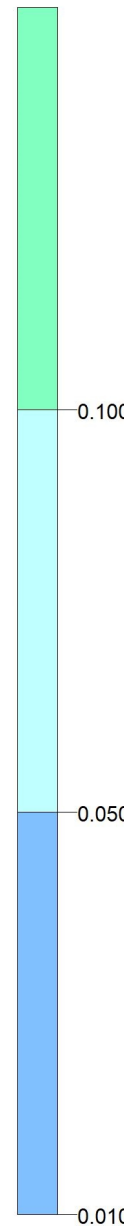
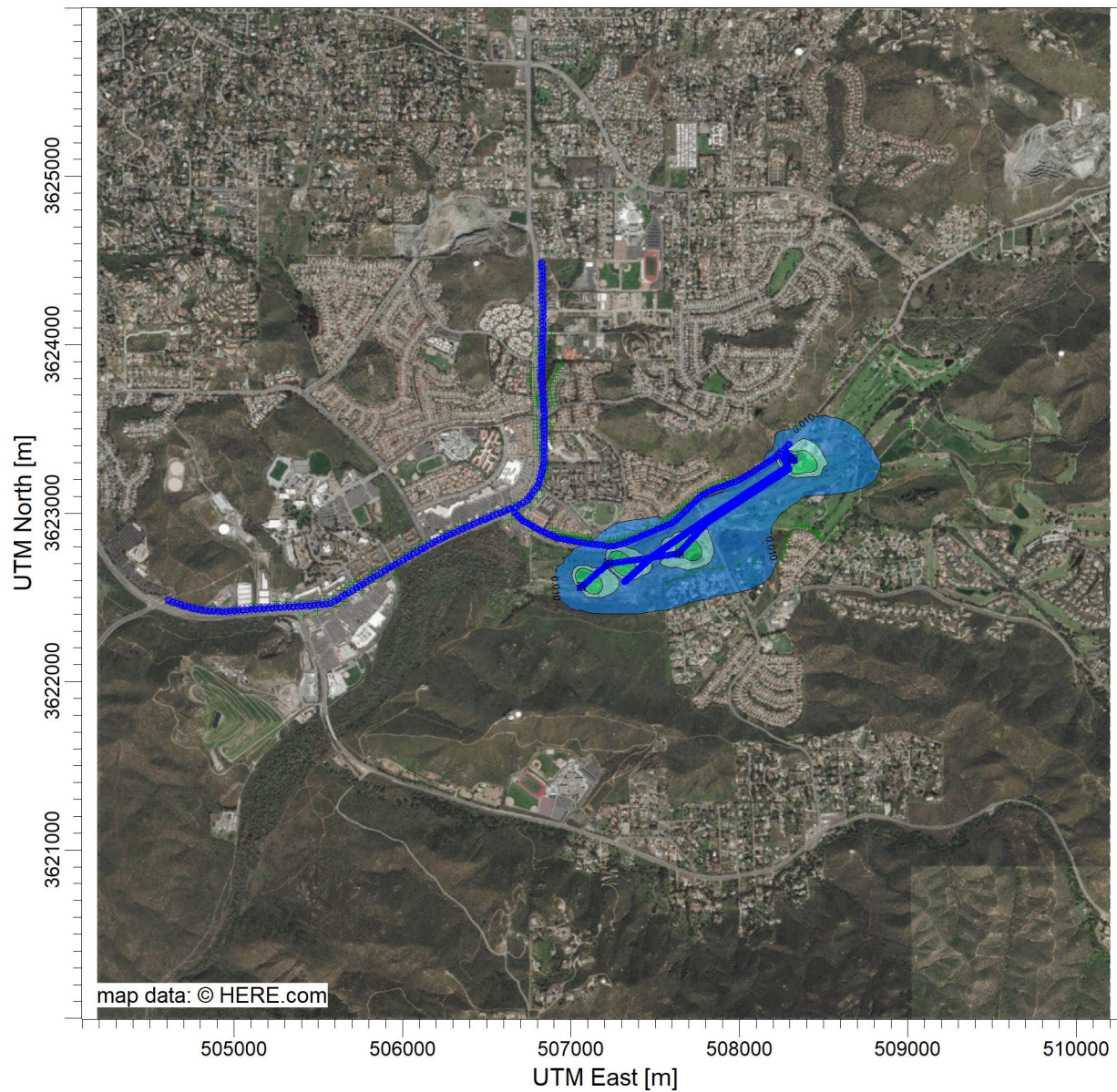
**11/5/2021**

SCALE:

1:40,910

0  1 km

PROJECT NO.:





# Control Pathway

AERMOD

## Dispersion Options

|  |  |
|--|--|
| <b>Titles</b><br>SIR02 Cottonwood Sand Mine Phase 2 AERMOD   |  |
| <b>Dispersion Options</b><br><input checked="" type="checkbox"/> Regulatory Default <input type="checkbox"/> Non-Default Options | <b>Dispersion Coefficient</b><br>Rural   |
|  | <b>Output Type</b><br><input checked="" type="checkbox"/> Concentration<br><input type="checkbox"/> Total Deposition (Dry & Wet)<br><input type="checkbox"/> Dry Deposition<br><input type="checkbox"/> Wet Deposition |
|  | <b>Plume Depletion</b><br><input type="checkbox"/> Dry Removal<br><input type="checkbox"/> Wet Removal   |
|  | <b>Output Warnings</b><br><input type="checkbox"/> No Output Warnings<br><input type="checkbox"/> Non-fatal Warnings for Non-sequential Met Data   |

## Pollutant / Averaging Time / Terrain Options

|  |   |
|--|---|
| <b>Pollutant Type</b><br>OTHER - MULTIPLE  | <b>Exponential Decay</b><br>Option not available  |
| <b>Averaging Time Options</b><br>Hours <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 6 <input type="checkbox"/> 8 <input type="checkbox"/> 12 <input type="checkbox"/> 24<br><input type="checkbox"/> Month <input checked="" type="checkbox"/> Period <input type="checkbox"/> Annual | <b>Terrain Height Options</b><br><input type="checkbox"/> Flat <input checked="" type="checkbox"/> Elevated      SO: Meters<br>RE: Meters<br>TG: Meters |
| <b>Flagpole Receptors</b><br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Default Height = 1.20 m  |   |

## Optional Files



Re-Start File



Init File



Multi-Year Analyses



Event Input File



Error Listing File

## Detailed Error Listing File

Filename: SIR02\_Phase2\_AERMOD.err

# Source Pathway - Source Inputs

AERMOD

## Volume Sources

| Source Type | Source ID  | X Coordinate [m]     | Y Coordinate [m] | Base Elevation (Optional) | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dim. [m] | Initial Vertical Dim. [m] |
|-------------|------------|----------------------|------------------|---------------------------|--------------------|---------------------|--------------------|---------------------|--------------------------|---------------------------|
| VOLUME      | P2AEXTRACT | 507975.00            | 3623022.00       | 106.96                    | 3.00               | 1.00000             | 50.00              | Surface-Based       | 11.63                    | 1.05                      |
|             |            | Phase 2-A Extraction |                  |                           |                    |                     |                    |                     |                          |                           |
| VOLUME      | PROCESS    | 508317.38            | 3623323.54       | 109.92                    | 3.00               | 1.00000             | 50.00              | Surface-Based       | 11.63                    | 1.19                      |
|             |            | Processing Area      |                  |                           |                    |                     |                    |                     |                          |                           |
| VOLUME      | P2BEXTACT  | 508335.00            | 3623003.00       | 107.44                    | 3.00               | 1.00000             | 50.00              | Surface-Based       | 11.63                    | 1.19                      |
|             |            | Phase 2-B Extraction |                  |                           |                    |                     |                    |                     |                          |                           |
| VOLUME      | P2CEXTRACT | 508540.00            | 3623189.00       | 110.10                    | 3.00               | 1.00000             | 50.00              | Surface-Based       | 11.63                    | 1.19                      |
|             |            | Phase 2-C Extraction |                  |                           |                    |                     |                    |                     |                          |                           |

# Source Pathway - Source Inputs

AERMOD

## Line Volume Sources

Source Type: LINE VOLUME

Source: FCONV (Final Conveyor)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 1.83               | 1.00000              |                     | 508280.92                   | 3623353.74                  | 112.41             | 10.73              |
|                    |                      |                     | 508313.10                   | 3623329.17                  | 109.91             | 10.73              |

Source Type: LINE VOLUME

Source: HRT1 (Haul Route 1 Willow Glen)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 21.24              | 1.00000              |                     | 508295.91                   | 3623410.45                  | 116.37             | 2.55               |
|                    |                      |                     | 508224.91                   | 3623337.84                  | 112.76             | 2.55               |
|                    |                      |                     | 508079.69                   | 3623244.25                  | 111.69             | 2.55               |
|                    |                      |                     | 507992.56                   | 3623192.62                  | 110.61             | 2.55               |
|                    |                      |                     | 507842.50                   | 3623139.37                  | 111.46             | 2.55               |
|                    |                      |                     | 507777.96                   | 3623107.10                  | 111.18             | 2.55               |
|                    |                      |                     | 507736.01                   | 3623068.37                  | 108.25             | 2.55               |
|                    |                      |                     | 507627.90                   | 3622961.88                  | 107.44             | 2.55               |
|                    |                      |                     | 507595.63                   | 3622937.67                  | 107.02             | 2.55               |
|                    |                      |                     | 507318.10                   | 3622821.50                  | 109.93             | 2.55               |
|                    |                      |                     | 507243.87                   | 3622802.14                  | 107.83             | 2.55               |
|                    |                      |                     | 507084.13                   | 3622821.50                  | 113.74             | 2.55               |
|                    |                      |                     | 506919.55                   | 3622853.77                  | 113.66             | 2.55               |
|                    |                      |                     | 506819.51                   | 3622897.34                  | 105.79             | 2.55               |
|                    |                      |                     | 506709.79                   | 3622957.04                  | 104.94             | 2.55               |
|                    |                      |                     | 506661.38                   | 3623007.06                  | 105.54             | 2.55               |

# Source Pathway - Source Inputs

AERMOD

Source Type: LINE VOLUME

Source: HRT2 (Haul Route 2 Jamacha N)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 24.90              | 1.00000              |                     | 506662.38                   | 3623030.07                  | 104.77             | 2.55               |
|                    |                      |                     | 506737.60                   | 3623073.38                  | 106.64             | 2.55               |
|                    |                      |                     | 506808.26                   | 3623169.12                  | 109.72             | 2.55               |
|                    |                      |                     | 506840.17                   | 3623294.48                  | 113.20             | 2.55               |
|                    |                      |                     | 506837.89                   | 3623625.00                  | 116.39             | 2.55               |
|                    |                      |                     | 506824.22                   | 3623818.75                  | 118.01             | 2.55               |
|                    |                      |                     | 506833.34                   | 3624137.87                  | 129.51             | 2.55               |
|                    |                      |                     | 506826.50                   | 3624511.70                  | 146.39             | 2.55               |

Source Type: LINE VOLUME

Source: HRT3 (Haul Route 3 Jamacha SW)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 24.90              | 1.00000              |                     | 506638.96                   | 3623027.47                  | 104.28             | 2.55               |
|                    |                      |                     | 506454.47                   | 3622950.05                  | 102.55             | 2.55               |
|                    |                      |                     | 506233.73                   | 3622851.22                  | 101.74             | 2.55               |
|                    |                      |                     | 506088.77                   | 3622772.15                  | 101.33             | 2.55               |
|                    |                      |                     | 505912.52                   | 3622670.02                  | 101.71             | 2.55               |
|                    |                      |                     | 505653.89                   | 3622511.88                  | 104.82             | 2.55               |
|                    |                      |                     | 505573.18                   | 3622465.75                  | 106.06             | 2.55               |
|                    |                      |                     | 505471.05                   | 3622452.57                  | 107.71             | 2.55               |
|                    |                      |                     | 505191.01                   | 3622436.10                  | 113.50             | 2.55               |
|                    |                      |                     | 504952.15                   | 3622416.33                  | 123.16             | 2.55               |
|                    |                      |                     | 504817.08                   | 3622422.92                  | 131.63             | 2.55               |
|                    |                      |                     | 504701.77                   | 3622449.28                  | 137.29             | 2.55               |
|                    |                      |                     | 504594.70                   | 3622490.46                  | 133.87             | 2.55               |

# Source Pathway - Source Inputs

AERMOD

**Source Type:** LINE VOLUME

**Source:** MCONV (Main Conveyor)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 1.83               | 1.00000              |                     | 508280.93                   | 3623353.72                  | 112.41             | 2.83               |
|                    |                      |                     | 508260.69                   | 3623331.50                  | 111.28             | 2.83               |
|                    |                      |                     | 508287.26                   | 3623276.19                  | 108.57             | 2.83               |
|                    |                      |                     | 508065.86                   | 3623123.67                  | 107.30             | 2.85               |
|                    |                      |                     | 508334.48                   | 3623002.55                  | 107.34             | 2.85               |

**Source Type:** LINE VOLUME

**Source:** P2HRD (Haul Road Phase 2)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 9.50               | 1.00000              |                     | 508296.07                   | 3623262.54                  | 108.47             | 3.19               |
|                    |                      |                     | 508115.16                   | 3623128.30                  | 107.76             | 3.19               |
|                    |                      |                     | 507984.59                   | 3623021.86                  | 107.13             | 3.19               |
|                    |                      |                     | 508334.49                   | 3622999.57                  | 107.30             | 3.19               |
|                    |                      |                     | 508538.83                   | 3623192.00                  | 109.97             | 3.19               |

**Source Type:** LINE VOLUME

**Source:** RSTACK1 (Radial Stacker 1)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 1.83               | 1.00000              |                     | 508310.44                   | 3623330.07                  | 110.04             | 8.29               |
|                    |                      |                     | 508300.25                   | 3623309.85                  | 109.92             | 8.29               |

**Source Type:** LINE VOLUME

**Source:** RSTACK2 (Radial Stacker 2)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 1.83               | 1.00000              |                     | 508311.27                   | 3623330.63                  | 110.03             | 10.27              |
|                    |                      |                     | 508327.81                   | 3623308.01                  | 109.55             | 10.27              |

# Source Pathway - Source Inputs

AERMOD

## Volume Sources Generated from Line Sources

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT1           | L0000524         | 508288.48        | 3623402.85       | 116.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000525         | 508273.64        | 3623387.67       | 116.60             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000526         | 508258.79        | 3623372.48       | 115.77             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000527         | 508243.94        | 3623357.29       | 113.95             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000528         | 508229.09        | 3623342.11       | 112.91             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000529         | 508212.08        | 3623329.56       | 113.15             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000530         | 508194.22        | 3623318.06       | 113.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000531         | 508176.37        | 3623306.55       | 113.63             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000532         | 508158.52        | 3623295.05       | 113.85             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000533         | 508140.66        | 3623283.54       | 113.24             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000534         | 508122.81        | 3623272.04       | 113.19             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000535         | 508104.96        | 3623260.53       | 113.09             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000536         | 508087.10        | 3623249.02       | 112.68             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000537         | 508069.00        | 3623237.92       | 112.51             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000538         | 508050.73        | 3623227.09       | 112.32             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000539         | 508032.46        | 3623216.26       | 112.33             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000540         | 508014.19        | 3623205.43       | 112.27             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000541         | 507995.91        | 3623194.60       | 112.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000542         | 507976.22        | 3623186.82       | 113.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000543         | 507956.20        | 3623179.71       | 113.53             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000544         | 507936.18        | 3623172.61       | 112.66             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000545         | 507916.16        | 3623165.51       | 112.44             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000546         | 507896.15        | 3623158.40       | 112.47             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000547         | 507876.13        | 3623151.30       | 111.94             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT1           | L0000548         | 507856.11        | 3623144.20       | 112.06             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000549         | 507836.42        | 3623136.33       | 111.94             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000550         | 507817.42        | 3623126.83       | 111.14             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000551         | 507798.43        | 3623117.33       | 110.57             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000552         | 507779.43        | 3623107.83       | 110.64             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000553         | 507763.56        | 3623093.81       | 109.41             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000554         | 507747.95        | 3623079.40       | 108.67             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000555         | 507732.46        | 3623064.88       | 108.21             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000556         | 507717.33        | 3623049.97       | 107.98             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000557         | 507702.19        | 3623035.06       | 107.75             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000558         | 507687.06        | 3623020.16       | 107.66             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000559         | 507671.93        | 3623005.25       | 107.41             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000560         | 507656.80        | 3622990.35       | 107.29             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000561         | 507641.67        | 3622975.44       | 107.27             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000562         | 507626.37        | 3622960.73       | 107.27             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000563         | 507609.38        | 3622947.99       | 107.33             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000564         | 507591.89        | 3622936.11       | 107.51             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000565         | 507572.30        | 3622927.91       | 108.74             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000566         | 507552.70        | 3622919.71       | 109.91             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000567         | 507533.11        | 3622911.51       | 110.14             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000568         | 507513.52        | 3622903.30       | 110.64             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000569         | 507493.93        | 3622895.10       | 111.16             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000570         | 507474.33        | 3622886.90       | 111.27             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000571         | 507454.74        | 3622878.70       | 110.61             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000572         | 507435.15        | 3622870.50       | 110.72             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |



# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT1           | L0000573         | 507415.55        | 3622862.30       | 110.81             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000574         | 507395.96        | 3622854.09       | 110.53             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000575         | 507376.37        | 3622845.89       | 110.77             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000576         | 507356.78        | 3622837.69       | 110.73             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000577         | 507337.18        | 3622829.49       | 110.66             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000578         | 507317.57        | 3622821.36       | 110.13             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000579         | 507297.01        | 3622816.00       | 110.47             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000580         | 507276.46        | 3622810.64       | 110.76             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000581         | 507255.91        | 3622805.28       | 109.76             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000582         | 507235.14        | 3622803.19       | 109.55             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000583         | 507214.05        | 3622805.75       | 111.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000584         | 507192.97        | 3622808.31       | 113.12             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000585         | 507171.88        | 3622810.86       | 114.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000586         | 507150.79        | 3622813.42       | 107.99             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000587         | 507129.71        | 3622815.97       | 108.59             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000588         | 507108.62        | 3622818.53       | 114.66             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000589         | 507087.54        | 3622821.09       | 114.33             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000590         | 507066.66        | 3622824.93       | 113.71             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000591         | 507045.81        | 3622829.01       | 114.46             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000592         | 507024.97        | 3622833.10       | 113.96             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000593         | 507004.13        | 3622837.19       | 114.02             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000594         | 506983.28        | 3622841.27       | 114.81             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000595         | 506962.44        | 3622845.36       | 113.90             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000596         | 506941.60        | 3622849.45       | 114.45             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000597         | 506920.75        | 3622853.53       | 114.31             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT1           | L0000598         | 506901.20        | 3622861.76       | 115.01             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000599         | 506881.73        | 3622870.24       | 113.75             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000600         | 506862.25        | 3622878.72       | 114.15             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000601         | 506842.78        | 3622887.20       | 109.05             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000602         | 506823.31        | 3622895.68       | 105.83             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000603         | 506804.49        | 3622905.51       | 105.66             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000604         | 506785.83        | 3622915.66       | 105.57             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000605         | 506767.18        | 3622925.81       | 105.31             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000606         | 506748.52        | 3622935.96       | 104.24             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000607         | 506729.86        | 3622946.11       | 105.72             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000608         | 506711.21        | 3622956.26       | 104.92             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000609         | 506696.14        | 3622971.14       | 106.11             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000610         | 506681.37        | 3622986.40       | 106.50             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000611         | 506666.60        | 3623001.67       | 105.91             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
| HRT3           | L0000612         | 506627.48        | 3623022.66       | 104.21             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000613         | 506604.53        | 3623013.02       | 104.26             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000614         | 506581.57        | 3623003.39       | 104.07             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000615         | 506558.61        | 3622993.75       | 103.82             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000616         | 506535.65        | 3622984.12       | 103.44             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000617         | 506512.69        | 3622974.49       | 103.18             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000618         | 506489.74        | 3622964.85       | 102.98             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000619         | 506466.78        | 3622955.22       | 102.78             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000620         | 506443.93        | 3622945.33       | 102.41             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT3           | L0000621         | 506421.20        | 3622935.16       | 102.35             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000622         | 506398.48        | 3622924.98       | 102.22             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000623         | 506375.76        | 3622914.81       | 102.04             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000624         | 506353.03        | 3622904.63       | 101.96             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000625         | 506330.31        | 3622894.46       | 101.82             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000626         | 506307.59        | 3622884.28       | 101.87             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000627         | 506284.86        | 3622874.11       | 101.75             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000628         | 506262.14        | 3622863.93       | 101.81             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000629         | 506239.42        | 3622853.76       | 101.87             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000630         | 506217.34        | 3622842.27       | 101.82             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000631         | 506195.48        | 3622830.35       | 101.62             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000632         | 506173.63        | 3622818.43       | 101.50             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000633         | 506151.77        | 3622806.51       | 101.46             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000634         | 506129.91        | 3622794.58       | 101.39             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000635         | 506108.05        | 3622782.66       | 101.32             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000636         | 506086.23        | 3622770.67       | 101.26             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000637         | 506064.69        | 3622758.19       | 101.18             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000638         | 506043.15        | 3622745.71       | 101.14             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000639         | 506021.61        | 3622733.23       | 101.13             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000640         | 506000.06        | 3622720.74       | 101.18             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000641         | 505978.52        | 3622708.26       | 101.26             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000642         | 505956.98        | 3622695.78       | 101.36             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000643         | 505935.44        | 3622683.30       | 101.49             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000644         | 505913.89        | 3622670.81       | 101.66             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000645         | 505892.63        | 3622657.86       | 101.87             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT3           | L0000646         | 505871.39        | 3622644.87       | 102.07             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000647         | 505850.15        | 3622631.88       | 102.40             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000648         | 505828.91        | 3622618.89       | 102.82             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000649         | 505807.67        | 3622605.90       | 103.19             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000650         | 505786.43        | 3622592.92       | 103.53             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000651         | 505765.19        | 3622579.93       | 103.76             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000652         | 505743.94        | 3622566.94       | 103.96             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000653         | 505722.70        | 3622553.95       | 104.17             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000654         | 505701.46        | 3622540.96       | 104.43             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000655         | 505680.22        | 3622527.97       | 104.64             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000656         | 505658.98        | 3622514.99       | 104.76             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000657         | 505637.45        | 3622502.48       | 104.89             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000658         | 505615.83        | 3622490.13       | 105.14             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000659         | 505594.22        | 3622477.78       | 105.50             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000660         | 505572.52        | 3622465.67       | 105.88             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000661         | 505547.82        | 3622462.48       | 106.27             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000662         | 505523.13        | 3622459.30       | 106.94             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000663         | 505498.44        | 3622456.11       | 107.39             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000664         | 505473.75        | 3622452.92       | 107.75             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000665         | 505448.91        | 3622451.27       | 107.77             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000666         | 505424.05        | 3622449.81       | 108.41             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000667         | 505399.20        | 3622448.35       | 108.13             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000668         | 505374.35        | 3622446.89       | 107.52             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000669         | 505349.49        | 3622445.42       | 107.78             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000670         | 505324.64        | 3622443.96       | 108.01             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT3           | L0000671         | 505299.78        | 3622442.50       | 109.09             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000672         | 505274.93        | 3622441.04       | 110.20             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000673         | 505250.07        | 3622439.58       | 111.13             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000674         | 505225.22        | 3622438.11       | 111.98             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000675         | 505200.36        | 3622436.65       | 113.14             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000676         | 505175.53        | 3622434.82       | 113.70             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000677         | 505150.72        | 3622432.77       | 114.23             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000678         | 505125.91        | 3622430.71       | 114.69             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000679         | 505101.10        | 3622428.66       | 114.21             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000680         | 505076.28        | 3622426.61       | 115.00             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000681         | 505051.47        | 3622424.55       | 115.46             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000682         | 505026.66        | 3622422.50       | 117.53             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000683         | 505001.85        | 3622420.45       | 121.45             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000684         | 504977.03        | 3622418.39       | 121.57             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000685         | 504952.22        | 3622416.34       | 123.10             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000686         | 504927.35        | 3622417.54       | 125.18             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000687         | 504902.48        | 3622418.76       | 126.83             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000688         | 504877.62        | 3622419.97       | 128.08             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000689         | 504852.75        | 3622421.18       | 129.48             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000690         | 504827.88        | 3622422.40       | 130.97             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000691         | 504803.35        | 3622426.06       | 132.52             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000692         | 504779.08        | 3622431.61       | 134.65             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000693         | 504754.81        | 3622437.16       | 135.95             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000694         | 504730.53        | 3622442.71       | 136.89             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000695         | 504706.26        | 3622448.25       | 137.39             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT3           | L0000696         | 504682.83        | 3622456.56       | 137.67             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000697         | 504659.59        | 3622465.50       | 137.70             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000698         | 504636.36        | 3622474.44       | 136.36             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000699         | 504613.12        | 3622483.38       | 135.62             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT2           | L0000700         | 506673.17        | 3623036.28       | 104.92             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000701         | 506694.74        | 3623048.70       | 105.38             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000702         | 506716.32        | 3623061.13       | 106.06             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000703         | 506737.80        | 3623073.66       | 106.71             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000704         | 506752.59        | 3623093.69       | 107.16             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000705         | 506767.37        | 3623113.72       | 107.74             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000706         | 506782.16        | 3623133.75       | 108.40             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000707         | 506796.95        | 3623153.78       | 109.11             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000708         | 506809.70        | 3623174.78       | 110.05             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000709         | 506815.84        | 3623198.90       | 110.58             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000710         | 506821.99        | 3623223.03       | 110.82             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000711         | 506828.13        | 3623247.16       | 112.29             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000712         | 506834.27        | 3623271.29       | 113.71             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000713         | 506840.17        | 3623295.45       | 112.90             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000714         | 506840.00        | 3623320.34       | 112.68             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000715         | 506839.82        | 3623345.24       | 112.87             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000716         | 506839.65        | 3623370.14       | 114.11             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000717         | 506839.48        | 3623395.03       | 115.60             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000718         | 506839.31        | 3623419.93       | 115.38             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT2           | L0000719         | 506839.14        | 3623444.83       | 115.36             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000720         | 506838.97        | 3623469.73       | 114.72             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000721         | 506838.79        | 3623494.62       | 119.07             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000722         | 506838.62        | 3623519.52       | 119.70             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000723         | 506838.45        | 3623544.42       | 119.89             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000724         | 506838.28        | 3623569.31       | 115.87             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000725         | 506838.11        | 3623594.21       | 116.31             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000726         | 506837.94        | 3623619.11       | 116.57             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000727         | 506836.56        | 3623643.96       | 113.69             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000728         | 506834.80        | 3623668.79       | 115.36             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000729         | 506833.05        | 3623693.63       | 115.32             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000730         | 506831.30        | 3623718.47       | 116.42             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000731         | 506829.54        | 3623743.30       | 116.38             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000732         | 506827.79        | 3623768.14       | 117.28             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000733         | 506826.04        | 3623792.97       | 117.17             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000734         | 506824.28        | 3623817.81       | 117.88             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000735         | 506824.90        | 3623842.69       | 119.08             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000736         | 506825.61        | 3623867.58       | 120.72             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000737         | 506826.32        | 3623892.47       | 121.80             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000738         | 506827.04        | 3623917.36       | 122.63             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000739         | 506827.75        | 3623942.24       | 123.39             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000740         | 506828.46        | 3623967.13       | 124.02             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000741         | 506829.17        | 3623992.02       | 124.63             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000742         | 506829.88        | 3624016.91       | 126.20             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000743         | 506830.59        | 3624041.79       | 126.61             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT2           | L0000744         | 506831.30        | 3624066.68       | 127.28             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000745         | 506832.01        | 3624091.57       | 127.99             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000746         | 506832.72        | 3624116.46       | 129.25             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000747         | 506833.27        | 3624141.34       | 129.79             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000748         | 506832.82        | 3624166.24       | 130.85             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000749         | 506832.36        | 3624191.13       | 131.50             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000750         | 506831.91        | 3624216.02       | 131.87             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000751         | 506831.45        | 3624240.92       | 132.66             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000752         | 506831.00        | 3624265.81       | 134.14             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000753         | 506830.54        | 3624290.71       | 135.44             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000754         | 506830.08        | 3624315.60       | 137.20             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000755         | 506829.63        | 3624340.49       | 138.98             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000756         | 506829.17        | 3624365.39       | 140.06             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000757         | 506828.72        | 3624390.28       | 140.81             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000758         | 506828.26        | 3624415.17       | 141.39             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000759         | 506827.81        | 3624440.07       | 142.78             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000760         | 506827.35        | 3624464.96       | 144.03             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000761         | 506826.90        | 3624489.85       | 145.02             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P2HRD          | L0001789         | 508292.26        | 3623259.71       | 108.38             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001790         | 508284.63        | 3623254.05       | 108.30             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001791         | 508277.00        | 3623248.39       | 108.30             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001792         | 508269.37        | 3623242.73       | 108.30             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001793         | 508261.74        | 3623237.07       | 108.30             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |



# Source Pathway - Source Inputs

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| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P2HRD          | L0001794         | 508254.11        | 3623231.41       | 108.18             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001795         | 508246.48        | 3623225.75       | 108.05             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001796         | 508238.86        | 3623220.08       | 107.97             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001797         | 508231.23        | 3623214.42       | 107.94             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001798         | 508223.60        | 3623208.76       | 107.86             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001799         | 508215.97        | 3623203.10       | 107.80             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001800         | 508208.34        | 3623197.44       | 107.69             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001801         | 508200.71        | 3623191.78       | 107.62             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001802         | 508193.08        | 3623186.12       | 107.60             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001803         | 508185.45        | 3623180.46       | 107.57             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001804         | 508177.82        | 3623174.80       | 107.57             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001805         | 508170.19        | 3623169.13       | 107.52             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001806         | 508162.57        | 3623163.47       | 107.51             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001807         | 508154.94        | 3623157.81       | 107.54             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001808         | 508147.31        | 3623152.15       | 107.56             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001809         | 508139.68        | 3623146.49       | 107.61             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001810         | 508132.05        | 3623140.83       | 107.73             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001811         | 508124.42        | 3623135.17       | 107.76             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001812         | 508116.79        | 3623129.51       | 107.75             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001813         | 508109.37        | 3623123.58       | 107.69             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001814         | 508102.01        | 3623117.58       | 107.39             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001815         | 508094.64        | 3623111.57       | 106.98             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001816         | 508087.28        | 3623105.57       | 106.52             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001817         | 508079.92        | 3623099.57       | 105.64             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001818         | 508072.55        | 3623093.57       | 105.11             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |

# Source Pathway - Source Inputs

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| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P2HRD          | L0001819         | 508065.19        | 3623087.56       | 104.80             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001820         | 508057.83        | 3623081.56       | 104.74             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001821         | 508050.46        | 3623075.56       | 104.76             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001822         | 508043.10        | 3623069.56       | 104.87             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001823         | 508035.73        | 3623063.55       | 105.26             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001824         | 508028.37        | 3623057.55       | 105.46             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001825         | 508021.01        | 3623051.55       | 106.19             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001826         | 508013.64        | 3623045.55       | 106.47             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001827         | 508006.28        | 3623039.55       | 106.82             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001828         | 507998.92        | 3623033.54       | 107.05             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001829         | 507991.55        | 3623027.54       | 107.10             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001830         | 507985.10        | 3623021.83       | 107.13             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001831         | 507994.58        | 3623021.23       | 107.13             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001832         | 508004.06        | 3623020.62       | 107.06             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001833         | 508013.54        | 3623020.02       | 106.96             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001834         | 508023.02        | 3623019.41       | 106.96             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001835         | 508032.50        | 3623018.81       | 107.12             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001836         | 508041.98        | 3623018.21       | 107.31             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001837         | 508051.46        | 3623017.60       | 107.37             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001838         | 508060.94        | 3623017.00       | 107.45             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001839         | 508070.43        | 3623016.40       | 107.37             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001840         | 508079.91        | 3623015.79       | 107.43             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001841         | 508089.39        | 3623015.19       | 107.61             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001842         | 508098.87        | 3623014.58       | 107.74             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001843         | 508108.35        | 3623013.98       | 107.62             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P2HRD          | L0001844         | 508117.83        | 3623013.38       | 107.51             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001845         | 508127.31        | 3623012.77       | 107.55             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001846         | 508136.79        | 3623012.17       | 107.77             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001847         | 508146.27        | 3623011.56       | 108.00             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001848         | 508155.75        | 3623010.96       | 108.22             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001849         | 508165.23        | 3623010.36       | 108.25             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001850         | 508174.71        | 3623009.75       | 108.08             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001851         | 508184.19        | 3623009.15       | 108.05             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001852         | 508193.68        | 3623008.54       | 108.04             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001853         | 508203.16        | 3623007.94       | 108.00             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001854         | 508212.64        | 3623007.34       | 107.61             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001855         | 508222.12        | 3623006.73       | 107.50             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001856         | 508231.60        | 3623006.13       | 107.60             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001857         | 508241.08        | 3623005.53       | 107.77             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001858         | 508250.56        | 3623004.92       | 107.84             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001859         | 508260.04        | 3623004.32       | 107.83             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001860         | 508269.52        | 3623003.71       | 107.82             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001861         | 508279.00        | 3623003.11       | 107.81             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001862         | 508288.48        | 3623002.51       | 107.78             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001863         | 508297.96        | 3623001.90       | 107.54             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001864         | 508307.44        | 3623001.30       | 107.49             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001865         | 508316.93        | 3623000.69       | 107.46             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001866         | 508326.41        | 3623000.09       | 107.32             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001867         | 508335.51        | 3623000.53       | 107.44             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001868         | 508342.43        | 3623007.04       | 107.63             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P2HRD          | L0001869         | 508349.34        | 3623013.56       | 107.38             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001870         | 508356.26        | 3623020.07       | 107.43             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001871         | 508363.18        | 3623026.58       | 107.53             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001872         | 508370.09        | 3623033.10       | 107.63             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001873         | 508377.01        | 3623039.61       | 107.74             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001874         | 508383.92        | 3623046.12       | 107.81             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001875         | 508390.84        | 3623052.63       | 107.91             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001876         | 508397.76        | 3623059.15       | 108.08             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001877         | 508404.67        | 3623065.66       | 108.58             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001878         | 508411.59        | 3623072.17       | 108.21             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001879         | 508418.50        | 3623078.68       | 108.37             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001880         | 508425.42        | 3623085.20       | 108.63             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001881         | 508432.34        | 3623091.71       | 108.67             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001882         | 508439.25        | 3623098.22       | 108.46             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001883         | 508446.17        | 3623104.74       | 108.68             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001884         | 508453.09        | 3623111.25       | 108.84             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001885         | 508460.00        | 3623117.76       | 108.86             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001886         | 508466.92        | 3623124.27       | 109.41             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001887         | 508473.83        | 3623130.79       | 110.19             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001888         | 508480.75        | 3623137.30       | 110.26             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001889         | 508487.67        | 3623143.81       | 110.00             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001890         | 508494.58        | 3623150.33       | 109.31             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001891         | 508501.50        | 3623156.84       | 109.32             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001892         | 508508.42        | 3623163.35       | 109.28             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001893         | 508515.33        | 3623169.86       | 109.36             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P2HRD          | L0001894         | 508522.25        | 3623176.38       | 109.84             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001895         | 508529.16        | 3623182.89       | 109.86             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0001896         | 508536.08        | 3623189.40       | 109.95             | 3.19               | 0.00926             | 9.50               |                     | 4.42                          | 2.97                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| FCONV          | L0002171         | 508281.65        | 3623353.18       | 112.09             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002172         | 508283.10        | 3623352.07       | 112.12             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002173         | 508284.55        | 3623350.96       | 112.12             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002174         | 508286.01        | 3623349.85       | 112.08             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002175         | 508287.46        | 3623348.74       | 112.00             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002176         | 508288.91        | 3623347.63       | 111.83             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002177         | 508290.37        | 3623346.52       | 111.63             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002178         | 508291.82        | 3623345.41       | 111.47             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002179         | 508293.28        | 3623344.30       | 111.32             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002180         | 508294.73        | 3623343.19       | 111.14             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002181         | 508296.18        | 3623342.09       | 110.96             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002182         | 508297.64        | 3623340.98       | 110.80             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002183         | 508299.09        | 3623339.87       | 110.67             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002184         | 508300.55        | 3623338.76       | 110.56             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002185         | 508302.00        | 3623337.65       | 110.46             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002186         | 508303.45        | 3623336.54       | 110.38             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002187         | 508304.91        | 3623335.43       | 110.31             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002188         | 508306.36        | 3623334.32       | 110.22             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002189         | 508307.81        | 3623333.21       | 110.14             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002190         | 508309.27        | 3623332.10       | 110.07             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| FCONV          | L0002191         | 508310.72        | 3623330.99       | 110.01             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002192         | 508312.18        | 3623329.88       | 109.97             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0002198         | 508280.32        | 3623353.04       | 111.97             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002199         | 508279.09        | 3623351.69       | 111.85             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002200         | 508277.85        | 3623350.34       | 111.84             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002201         | 508276.62        | 3623348.99       | 111.80             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002202         | 508275.39        | 3623347.64       | 111.73             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002203         | 508274.16        | 3623346.28       | 111.63             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002204         | 508272.93        | 3623344.93       | 111.51             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002205         | 508271.70        | 3623343.58       | 111.46             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002206         | 508270.47        | 3623342.23       | 111.44             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002207         | 508269.23        | 3623340.88       | 111.48             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002208         | 508268.00        | 3623339.52       | 111.48             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002209         | 508266.77        | 3623338.17       | 111.45             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002210         | 508265.54        | 3623336.82       | 111.39             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002211         | 508264.31        | 3623335.47       | 111.29             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002212         | 508263.08        | 3623334.12       | 111.22             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002213         | 508261.84        | 3623332.76       | 111.22             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002214         | 508260.75        | 3623331.39       | 111.24             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002215         | 508261.54        | 3623329.74       | 111.17             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002216         | 508262.33        | 3623328.10       | 111.12             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002217         | 508263.12        | 3623326.45       | 111.07             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002218         | 508263.91        | 3623324.80       | 111.02             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0002219         | 508264.71        | 3623323.15       | 110.95             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002220         | 508265.50        | 3623321.50       | 110.83             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002221         | 508266.29        | 3623319.85       | 110.67             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002222         | 508267.08        | 3623318.20       | 110.47             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002223         | 508267.87        | 3623316.56       | 110.23             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002224         | 508268.66        | 3623314.91       | 109.95             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002225         | 508269.46        | 3623313.26       | 109.69             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002226         | 508270.25        | 3623311.61       | 109.52             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002227         | 508271.04        | 3623309.96       | 109.43             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002228         | 508271.83        | 3623308.31       | 109.43             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002229         | 508272.62        | 3623306.66       | 109.45             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002230         | 508273.42        | 3623305.02       | 109.49             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002231         | 508274.21        | 3623303.37       | 109.51             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002232         | 508275.00        | 3623301.72       | 109.51             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002233         | 508275.79        | 3623300.07       | 109.49             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002234         | 508276.58        | 3623298.42       | 109.47             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002235         | 508277.37        | 3623296.77       | 109.44             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002236         | 508278.17        | 3623295.13       | 109.40             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002237         | 508278.96        | 3623293.48       | 109.35             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002238         | 508279.75        | 3623291.83       | 109.30             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002239         | 508280.54        | 3623290.18       | 109.25             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002240         | 508281.33        | 3623288.53       | 109.20             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002241         | 508282.13        | 3623286.88       | 109.15             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002242         | 508282.92        | 3623285.23       | 109.10             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002243         | 508283.71        | 3623283.59       | 109.05             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0002244         | 508284.50        | 3623281.94       | 109.00             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002245         | 508285.29        | 3623280.29       | 108.93             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002246         | 508286.08        | 3623278.64       | 108.86             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002247         | 508286.88        | 3623276.99       | 108.77             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002248         | 508286.49        | 3623275.66       | 108.71             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002249         | 508284.99        | 3623274.62       | 108.69             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002250         | 508283.48        | 3623273.58       | 108.67             | 2.83               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002251         | 508281.98        | 3623272.54       | 108.67             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002252         | 508280.47        | 3623271.51       | 108.67             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002253         | 508278.96        | 3623270.47       | 108.66             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002254         | 508277.46        | 3623269.43       | 108.64             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002255         | 508275.95        | 3623268.39       | 108.61             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002256         | 508274.45        | 3623267.36       | 108.58             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002257         | 508272.94        | 3623266.32       | 108.54             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002258         | 508271.43        | 3623265.28       | 108.49             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002259         | 508269.93        | 3623264.24       | 108.38             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002260         | 508268.42        | 3623263.21       | 108.27             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002261         | 508266.92        | 3623262.17       | 108.20             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002262         | 508265.41        | 3623261.13       | 108.17             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002263         | 508263.90        | 3623260.09       | 108.15             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002264         | 508262.40        | 3623259.06       | 108.13             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002265         | 508260.89        | 3623258.02       | 108.13             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002266         | 508259.38        | 3623256.98       | 108.13             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002267         | 508257.88        | 3623255.94       | 108.11             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002268         | 508256.37        | 3623254.91       | 108.08             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |



# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0002269         | 508254.87        | 3623253.87       | 108.04             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002270         | 508253.36        | 3623252.83       | 107.99             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002271         | 508251.85        | 3623251.79       | 108.00             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002272         | 508250.35        | 3623250.76       | 108.01             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002273         | 508248.84        | 3623249.72       | 108.01             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002274         | 508247.34        | 3623248.68       | 108.01             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002275         | 508245.83        | 3623247.64       | 107.99             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002276         | 508244.32        | 3623246.61       | 107.98             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002277         | 508242.82        | 3623245.57       | 107.98             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002278         | 508241.31        | 3623244.53       | 107.99             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002279         | 508239.81        | 3623243.49       | 107.99             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002280         | 508238.30        | 3623242.46       | 107.99             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002281         | 508236.79        | 3623241.42       | 108.00             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002282         | 508235.29        | 3623240.38       | 108.00             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002283         | 508233.78        | 3623239.34       | 107.99             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002284         | 508232.28        | 3623238.31       | 107.99             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002285         | 508230.77        | 3623237.27       | 107.99             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002286         | 508229.26        | 3623236.23       | 107.99             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002287         | 508227.76        | 3623235.19       | 107.98             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002288         | 508226.25        | 3623234.16       | 107.98             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002289         | 508224.75        | 3623233.12       | 107.99             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002290         | 508223.24        | 3623232.08       | 107.99             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002291         | 508221.73        | 3623231.04       | 108.00             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002292         | 508220.23        | 3623230.01       | 108.02             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002293         | 508218.72        | 3623228.97       | 108.04             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0002294         | 508217.22        | 3623227.93       | 108.06             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002295         | 508215.71        | 3623226.89       | 108.09             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002296         | 508214.20        | 3623225.86       | 108.11             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002297         | 508212.70        | 3623224.82       | 108.14             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002298         | 508211.19        | 3623223.78       | 108.17             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002299         | 508209.69        | 3623222.74       | 108.18             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002300         | 508208.18        | 3623221.71       | 108.16             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002301         | 508206.67        | 3623220.67       | 108.09             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002302         | 508205.17        | 3623219.63       | 108.05             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002303         | 508203.66        | 3623218.59       | 108.03             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002304         | 508202.16        | 3623217.56       | 108.03             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002305         | 508200.65        | 3623216.52       | 108.04             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002306         | 508199.14        | 3623215.48       | 108.04             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002307         | 508197.64        | 3623214.44       | 108.03             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002308         | 508196.13        | 3623213.41       | 108.02             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002309         | 508194.63        | 3623212.37       | 108.00             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002310         | 508193.12        | 3623211.33       | 107.98             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002311         | 508191.61        | 3623210.29       | 107.99             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002312         | 508190.11        | 3623209.26       | 108.00             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002313         | 508188.60        | 3623208.22       | 108.01             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002314         | 508187.09        | 3623207.18       | 108.00             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002315         | 508185.59        | 3623206.14       | 107.99             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002316         | 508184.08        | 3623205.11       | 107.98             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002317         | 508182.58        | 3623204.07       | 107.98             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002318         | 508181.07        | 3623203.03       | 107.98             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0002319         | 508179.56        | 3623201.99       | 107.98             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002320         | 508178.06        | 3623200.96       | 107.99             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002321         | 508176.55        | 3623199.92       | 108.02             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002322         | 508175.05        | 3623198.88       | 108.04             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002323         | 508173.54        | 3623197.84       | 108.06             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002324         | 508172.03        | 3623196.81       | 108.06             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002325         | 508170.53        | 3623195.77       | 108.07             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002326         | 508169.02        | 3623194.73       | 108.06             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002327         | 508167.52        | 3623193.70       | 108.05             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002328         | 508166.01        | 3623192.66       | 108.05             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002329         | 508164.50        | 3623191.62       | 108.06             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002330         | 508163.00        | 3623190.58       | 108.07             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002331         | 508161.49        | 3623189.55       | 108.07             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002332         | 508159.99        | 3623188.51       | 108.06             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002333         | 508158.48        | 3623187.47       | 108.04             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002334         | 508156.97        | 3623186.43       | 108.01             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002335         | 508155.47        | 3623185.40       | 107.97             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002336         | 508153.96        | 3623184.36       | 107.93             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002337         | 508152.46        | 3623183.32       | 107.88             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002338         | 508150.95        | 3623182.28       | 107.82             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002339         | 508149.44        | 3623181.25       | 107.77             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002340         | 508147.94        | 3623180.21       | 107.70             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002341         | 508146.43        | 3623179.17       | 107.64             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002342         | 508144.93        | 3623178.13       | 107.58             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002343         | 508143.42        | 3623177.10       | 107.54             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0002344         | 508141.91        | 3623176.06       | 107.50             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002345         | 508140.41        | 3623175.02       | 107.47             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002346         | 508138.90        | 3623173.98       | 107.46             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002347         | 508137.40        | 3623172.95       | 107.44             | 2.84               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002348         | 508135.89        | 3623171.91       | 107.42             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002349         | 508134.38        | 3623170.87       | 107.40             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002350         | 508132.88        | 3623169.83       | 107.42             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002351         | 508131.37        | 3623168.80       | 107.48             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002352         | 508129.87        | 3623167.76       | 107.55             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002353         | 508128.36        | 3623166.72       | 107.61             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002354         | 508126.85        | 3623165.68       | 107.67             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002355         | 508125.35        | 3623164.65       | 107.72             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002356         | 508123.84        | 3623163.61       | 107.77             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002357         | 508122.34        | 3623162.57       | 107.78             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002358         | 508120.83        | 3623161.53       | 107.77             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002359         | 508119.32        | 3623160.50       | 107.74             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002360         | 508117.82        | 3623159.46       | 107.73             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002361         | 508116.31        | 3623158.42       | 107.74             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002362         | 508114.80        | 3623157.38       | 107.78             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002363         | 508113.30        | 3623156.35       | 107.84             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002364         | 508111.79        | 3623155.31       | 107.88             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002365         | 508110.29        | 3623154.27       | 107.92             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002366         | 508108.78        | 3623153.23       | 107.94             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002367         | 508107.27        | 3623152.20       | 107.94             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002368         | 508105.77        | 3623151.16       | 107.94             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0002369         | 508104.26        | 3623150.12       | 107.92             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002370         | 508102.76        | 3623149.08       | 107.87             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002371         | 508101.25        | 3623148.05       | 107.81             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002372         | 508099.74        | 3623147.01       | 107.76             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002373         | 508098.24        | 3623145.97       | 107.72             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002374         | 508096.73        | 3623144.93       | 107.71             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002375         | 508095.23        | 3623143.90       | 107.71             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002376         | 508093.72        | 3623142.86       | 107.72             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002377         | 508092.21        | 3623141.82       | 107.73             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002378         | 508090.71        | 3623140.78       | 107.76             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002379         | 508089.20        | 3623139.75       | 107.80             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002380         | 508087.70        | 3623138.71       | 107.75             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002381         | 508086.19        | 3623137.67       | 107.67             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002382         | 508084.68        | 3623136.63       | 107.60             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002383         | 508083.18        | 3623135.60       | 107.53             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002384         | 508081.67        | 3623134.56       | 107.47             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002385         | 508080.17        | 3623133.52       | 107.41             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002386         | 508078.66        | 3623132.48       | 107.37             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002387         | 508077.15        | 3623131.45       | 107.33             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002388         | 508075.65        | 3623130.41       | 107.31             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002389         | 508074.14        | 3623129.37       | 107.30             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002390         | 508072.64        | 3623128.33       | 107.30             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002391         | 508071.13        | 3623127.30       | 107.30             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002392         | 508069.62        | 3623126.26       | 107.30             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002393         | 508068.12        | 3623125.22       | 107.30             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0002394         | 508066.61        | 3623124.18       | 107.29             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002395         | 508066.69        | 3623123.29       | 107.28             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002396         | 508068.36        | 3623122.54       | 107.26             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002397         | 508070.03        | 3623121.79       | 107.25             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002398         | 508071.70        | 3623121.03       | 107.24             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002399         | 508073.36        | 3623120.28       | 107.24             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002400         | 508075.03        | 3623119.53       | 107.24             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002401         | 508076.70        | 3623118.78       | 107.25             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002402         | 508078.37        | 3623118.03       | 107.26             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002403         | 508080.03        | 3623117.28       | 107.28             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002404         | 508081.70        | 3623116.52       | 107.29             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002405         | 508083.37        | 3623115.77       | 107.28             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002406         | 508085.03        | 3623115.02       | 107.26             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002407         | 508086.70        | 3623114.27       | 107.23             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002408         | 508088.37        | 3623113.52       | 107.18             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002409         | 508090.04        | 3623112.77       | 107.13             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002410         | 508091.70        | 3623112.01       | 107.06             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002411         | 508093.37        | 3623111.26       | 106.99             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002412         | 508095.04        | 3623110.51       | 106.91             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002413         | 508096.70        | 3623109.76       | 106.81             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002414         | 508098.37        | 3623109.01       | 106.69             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002415         | 508100.04        | 3623108.26       | 106.50             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002416         | 508101.71        | 3623107.50       | 106.30             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002417         | 508103.37        | 3623106.75       | 106.11             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002418         | 508105.04        | 3623106.00       | 105.93             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0002419         | 508106.71        | 3623105.25       | 105.76             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002420         | 508108.37        | 3623104.50       | 105.62             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002421         | 508110.04        | 3623103.75       | 105.48             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002422         | 508111.71        | 3623102.99       | 105.36             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002423         | 508113.38        | 3623102.24       | 105.24             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002424         | 508115.04        | 3623101.49       | 105.13             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002425         | 508116.71        | 3623100.74       | 105.03             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002426         | 508118.38        | 3623099.99       | 104.94             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002427         | 508120.04        | 3623099.24       | 104.86             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002428         | 508121.71        | 3623098.48       | 104.77             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002429         | 508123.38        | 3623097.73       | 104.78             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002430         | 508125.05        | 3623096.98       | 104.79             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002431         | 508126.71        | 3623096.23       | 104.80             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002432         | 508128.38        | 3623095.48       | 104.82             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002433         | 508130.05        | 3623094.72       | 104.85             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002434         | 508131.71        | 3623093.97       | 104.88             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002435         | 508133.38        | 3623093.22       | 104.93             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002436         | 508135.05        | 3623092.47       | 104.99             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002437         | 508136.72        | 3623091.72       | 105.06             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002438         | 508138.38        | 3623090.97       | 105.14             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002439         | 508140.05        | 3623090.21       | 105.22             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002440         | 508141.72        | 3623089.46       | 105.32             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002441         | 508143.38        | 3623088.71       | 105.46             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002442         | 508145.05        | 3623087.96       | 105.64             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002443         | 508146.72        | 3623087.21       | 105.87             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0002444         | 508148.39        | 3623086.46       | 106.09             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002445         | 508150.05        | 3623085.70       | 106.31             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002446         | 508151.72        | 3623084.95       | 106.53             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002447         | 508153.39        | 3623084.20       | 106.75             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002448         | 508155.05        | 3623083.45       | 106.96             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002449         | 508156.72        | 3623082.70       | 107.16             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002450         | 508158.39        | 3623081.95       | 107.36             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002451         | 508160.06        | 3623081.19       | 107.59             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002452         | 508161.72        | 3623080.44       | 107.81             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002453         | 508163.39        | 3623079.69       | 108.02             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002454         | 508165.06        | 3623078.94       | 108.23             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002455         | 508166.72        | 3623078.19       | 108.43             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002456         | 508168.39        | 3623077.44       | 108.51             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002457         | 508170.06        | 3623076.68       | 108.55             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002458         | 508171.73        | 3623075.93       | 108.58             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002459         | 508173.39        | 3623075.18       | 108.61             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002460         | 508175.06        | 3623074.43       | 108.63             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002461         | 508176.73        | 3623073.68       | 108.64             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002462         | 508178.39        | 3623072.93       | 108.63             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002463         | 508180.06        | 3623072.17       | 108.62             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002464         | 508181.73        | 3623071.42       | 108.59             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002465         | 508183.40        | 3623070.67       | 108.55             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002466         | 508185.06        | 3623069.92       | 108.54             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002467         | 508186.73        | 3623069.17       | 108.55             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002468         | 508188.40        | 3623068.42       | 108.56             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |



# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0002469         | 508190.07        | 3623067.66       | 108.56             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002470         | 508191.73        | 3623066.91       | 108.56             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002471         | 508193.40        | 3623066.16       | 108.58             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002472         | 508195.07        | 3623065.41       | 108.62             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002473         | 508196.73        | 3623064.66       | 108.66             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002474         | 508198.40        | 3623063.90       | 108.70             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002475         | 508200.07        | 3623063.15       | 108.73             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002476         | 508201.74        | 3623062.40       | 108.75             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002477         | 508203.40        | 3623061.65       | 108.74             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002478         | 508205.07        | 3623060.90       | 108.73             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002479         | 508206.74        | 3623060.15       | 108.70             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002480         | 508208.40        | 3623059.39       | 108.67             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002481         | 508210.07        | 3623058.64       | 108.62             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002482         | 508211.74        | 3623057.89       | 108.62             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002483         | 508213.41        | 3623057.14       | 108.63             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002484         | 508215.07        | 3623056.39       | 108.64             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002485         | 508216.74        | 3623055.64       | 108.65             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002486         | 508218.41        | 3623054.88       | 108.65             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002487         | 508220.07        | 3623054.13       | 108.67             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002488         | 508221.74        | 3623053.38       | 108.69             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002489         | 508223.41        | 3623052.63       | 108.68             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002490         | 508225.08        | 3623051.88       | 108.67             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002491         | 508226.74        | 3623051.13       | 108.63             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002492         | 508228.41        | 3623050.37       | 108.55             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002493         | 508230.08        | 3623049.62       | 108.42             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0002494         | 508231.74        | 3623048.87       | 108.27             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002495         | 508233.41        | 3623048.12       | 108.10             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002496         | 508235.08        | 3623047.37       | 107.90             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002497         | 508236.75        | 3623046.62       | 107.79             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002498         | 508238.41        | 3623045.86       | 107.77             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002499         | 508240.08        | 3623045.11       | 107.76             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002500         | 508241.75        | 3623044.36       | 107.75             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002501         | 508243.41        | 3623043.61       | 107.75             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002502         | 508245.08        | 3623042.86       | 107.76             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002503         | 508246.75        | 3623042.11       | 107.79             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002504         | 508248.42        | 3623041.35       | 107.83             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002505         | 508250.08        | 3623040.60       | 107.86             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002506         | 508251.75        | 3623039.85       | 107.90             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002507         | 508253.42        | 3623039.10       | 107.94             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002508         | 508255.08        | 3623038.35       | 107.97             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002509         | 508256.75        | 3623037.59       | 107.99             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002510         | 508258.42        | 3623036.84       | 108.01             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002511         | 508260.09        | 3623036.09       | 108.02             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002512         | 508261.75        | 3623035.34       | 108.02             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002513         | 508263.42        | 3623034.59       | 108.03             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002514         | 508265.09        | 3623033.84       | 108.03             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002515         | 508266.75        | 3623033.08       | 108.03             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002516         | 508268.42        | 3623032.33       | 108.04             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002517         | 508270.09        | 3623031.58       | 108.04             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002518         | 508271.76        | 3623030.83       | 108.05             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0002519         | 508273.42        | 3623030.08       | 108.07             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002520         | 508275.09        | 3623029.33       | 108.09             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002521         | 508276.76        | 3623028.57       | 108.11             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002522         | 508278.42        | 3623027.82       | 108.13             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002523         | 508280.09        | 3623027.07       | 108.15             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002524         | 508281.76        | 3623026.32       | 108.14             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002525         | 508283.43        | 3623025.57       | 108.13             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002526         | 508285.09        | 3623024.82       | 108.12             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002527         | 508286.76        | 3623024.06       | 108.10             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002528         | 508288.43        | 3623023.31       | 108.09             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002529         | 508290.09        | 3623022.56       | 108.05             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002530         | 508291.76        | 3623021.81       | 108.03             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002531         | 508293.43        | 3623021.06       | 108.00             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002532         | 508295.10        | 3623020.31       | 107.99             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002533         | 508296.76        | 3623019.55       | 107.98             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002534         | 508298.43        | 3623018.80       | 107.94             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002535         | 508300.10        | 3623018.05       | 107.88             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002536         | 508301.77        | 3623017.30       | 107.82             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002537         | 508303.43        | 3623016.55       | 107.75             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002538         | 508305.10        | 3623015.80       | 107.68             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002539         | 508306.77        | 3623015.04       | 107.64             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002540         | 508308.43        | 3623014.29       | 107.64             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002541         | 508310.10        | 3623013.54       | 107.64             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002542         | 508311.77        | 3623012.79       | 107.65             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002543         | 508313.44        | 3623012.04       | 107.68             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0002544         | 508315.10        | 3623011.28       | 107.67             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002545         | 508316.77        | 3623010.53       | 107.61             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002546         | 508318.44        | 3623009.78       | 107.55             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002547         | 508320.10        | 3623009.03       | 107.49             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002548         | 508321.77        | 3623008.28       | 107.42             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002549         | 508323.44        | 3623007.53       | 107.37             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002550         | 508325.11        | 3623006.77       | 107.36             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002551         | 508326.77        | 3623006.02       | 107.35             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002552         | 508328.44        | 3623005.27       | 107.34             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002553         | 508330.11        | 3623004.52       | 107.33             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002554         | 508331.77        | 3623003.77       | 107.32             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0002555         | 508333.44        | 3623003.02       | 107.38             | 2.85               | 0.00279             | 1.83               |                     | 0.85                          | 0.66                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| RSTACK1        | L0002622         | 508310.03        | 3623329.25       | 109.97             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002623         | 508309.20        | 3623327.62       | 109.93             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002624         | 508308.38        | 3623325.99       | 109.87             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002625         | 508307.56        | 3623324.35       | 109.81             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002626         | 508306.73        | 3623322.72       | 109.91             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002627         | 508305.91        | 3623321.09       | 110.00             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002628         | 508305.09        | 3623319.45       | 110.09             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002629         | 508304.27        | 3623317.82       | 110.19             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002630         | 508303.44        | 3623316.19       | 110.30             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002631         | 508302.62        | 3623314.56       | 110.41             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002632         | 508301.80        | 3623312.92       | 110.37             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| RSTACK1        | L0002633         | 508300.97        | 3623311.29       | 110.28             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| RSTACK2        | L0002650         | 508311.81        | 3623329.89       | 109.97             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002651         | 508312.89        | 3623328.41       | 109.94             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002652         | 508313.97        | 3623326.94       | 109.92             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002653         | 508315.05        | 3623325.46       | 109.90             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002654         | 508316.13        | 3623323.98       | 109.91             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002655         | 508317.21        | 3623322.51       | 109.97             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002656         | 508318.29        | 3623321.03       | 110.01             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002657         | 508319.37        | 3623319.55       | 110.03             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002658         | 508320.45        | 3623318.08       | 110.03             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002659         | 508321.53        | 3623316.60       | 110.02             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002660         | 508322.61        | 3623315.13       | 109.98             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002661         | 508323.69        | 3623313.65       | 109.93             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002662         | 508324.77        | 3623312.17       | 109.85             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002663         | 508325.85        | 3623310.70       | 109.77             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002664         | 508326.93        | 3623309.22       | 109.69             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |

# Source Pathway

AERMOD

## Building Downwash Information

Option not in use

## Emission Rate Units for Output

### For Concentration

|                           |                 |
|---------------------------|-----------------|
| Unit Factor:              | 1E6             |
| Emission Unit Label:      | GRAMS/SEC       |
| Concentration Unit Label: | MICROGRAMS/M**3 |

## Variable Emissions

# Source Pathway

AERMOD

## Hour-of-Day / Day-of-Week Emission Rate Variation

Scenario: Scenario 1

| Source ID:      |     | FCONV      |       |      |      |      |      |      |      |
|-----------------|-----|------------|-------|------|------|------|------|------|------|
| <b>Weekdays</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
|                 | Day | 13 - 18    | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |     | MCONV      |       |      |      |      |      |      |      |
| <b>Weekdays</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
|                 | Day | 13 - 18    | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |     | P2AEXTRACT |       |      |      |      |      |      |      |
| <b>Weekdays</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
|                 | Day | 13 - 18    | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |     | P2BEXTRACT |       |      |      |      |      |      |      |
| <b>Weekdays</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
|                 | Day | 13 - 18    | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |

# Source Pathway

AERMOD

Scenario: Scenario 1

| Source ID:      |         | P2BEXTACT  |      |      |      |      |      |
|-----------------|---------|------------|------|------|------|------|------|
|                 |         | 19 - 24    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |         | P2CEXTRACT |      |      |      |      |      |
| <b>Weekdays</b> |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 | 1.00       | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |         | P2HRD      |      |      |      |      |      |
| <b>Weekdays</b> |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 | 1.00       | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |         | PROCESS    |      |      |      |      |      |
| <b>Weekdays</b> |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 | 1.00       | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |            |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |



# Source Pathway

AERMOD

## Scenario: Scenario 1

| Source ID:      |         | PROCESS |      |      |      |      |      |      |
|-----------------|---------|---------|------|------|------|------|------|------|
| <b>Sunday</b>   |         |         |      |      |      |      |      |      |
| Hour            | 1 - 6   |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |         | RSTACK2 |      |      |      |      |      |      |
| <b>Weekdays</b> |         |         |      |      |      |      |      |      |
| Hour            | 1 - 6   |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |         | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 |         | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 | 19 - 24 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |         |      |      |      |      |      |      |
| Hour            | 1 - 6   |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |         |      |      |      |      |      |      |
| Hour            | 1 - 6   |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |         | RSTACK1 |      |      |      |      |      |      |
| <b>Weekdays</b> |         |         |      |      |      |      |      |      |
| Hour            | 1 - 6   |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |         | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 |         | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 | 19 - 24 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |         |      |      |      |      |      |      |
| Hour            | 1 - 6   |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |         |      |      |      |      |      |      |
| Hour            | 1 - 6   |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## Scenario: Scenario 2

| Source ID:      |         | HRT1 |      |      |      |      |      |      |
|-----------------|---------|------|------|------|------|------|------|------|
| <b>Weekdays</b> |         |      |      |      |      |      |      |      |
| Hour            | 1 - 6   |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |      | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 |      | 1.00 | 0.50 | 1.00 | 1.00 | 0.00 | 0.00 |
|                 | 19 - 24 |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |      |      |      |      |      |      |      |
| Hour            | 1 - 6   |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |      |      |      |      |      |      |      |
| Hour            | 1 - 6   |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# Source Pathway

AERMOD

Scenario: Scenario 2

| Source ID: |  | HRT1    |      |      |      |      |      |      |
|------------|--|---------|------|------|------|------|------|------|
|            |  | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID: |  | HRT2    |      |      |      |      |      |      |
| Weekdays   |  |         |      |      |      |      |      |      |
| Hour       |  | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of         |  | 7 - 12  | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Day        |  | 13 - 18 | 1.00 | 0.50 | 1.00 | 1.00 | 0.00 | 0.00 |
|            |  | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Saturday   |  |         |      |      |      |      |      |      |
| Hour       |  | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of         |  | 7 - 12  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day        |  | 13 - 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            |  | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sunday     |  |         |      |      |      |      |      |      |
| Hour       |  | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of         |  | 7 - 12  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day        |  | 13 - 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            |  | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID: |  | HRT3    |      |      |      |      |      |      |
| Weekdays   |  |         |      |      |      |      |      |      |
| Hour       |  | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of         |  | 7 - 12  | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Day        |  | 13 - 18 | 1.00 | 0.50 | 1.00 | 1.00 | 0.00 | 0.00 |
|            |  | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Saturday   |  |         |      |      |      |      |      |      |
| Hour       |  | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of         |  | 7 - 12  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day        |  | 13 - 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            |  | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sunday     |  |         |      |      |      |      |      |      |
| Hour       |  | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of         |  | 7 - 12  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day        |  | 13 - 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|            |  | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# Receptor Pathway

AERMOD

## Receptor Networks

Note: Terrain Elevations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)  
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

### Uniform Cartesian Grid

| Receptor Network ID | Grid Origin X Coordinate [m] | Grid Origin Y Coordinate [m] | No. of X-Axis Receptors | No. of Y-Axis Receptors | Spacing for X-Axis [m] | Spacing for Y-Axis [m] |
|---------------------|------------------------------|------------------------------|-------------------------|-------------------------|------------------------|------------------------|
| UCART1              | 504500.00                    | 3621700.00                   | 55                      | 30                      | 100.00                 | 100.00                 |

## Discrete Receptors

### Discrete Cartesian Receptors

| Record Number | X-Coordinate [m] | Y-Coordinate [m] | Group Name (Optional) | Terrain Elevations | Flagpole Heights [m] (Optional) |
|---------------|------------------|------------------|-----------------------|--------------------|---------------------------------|
| 1             | 507580.81        | 3622577.05       |                       | 101.29             |                                 |
| 2             | 507634.55        | 3622614.60       |                       | 101.74             |                                 |
| 3             | 507681.66        | 3622633.00       |                       | 103.37             |                                 |
| 4             | 507723.62        | 3622649.19       |                       | 103.54             |                                 |
| 5             | 507783.24        | 3622669.80       |                       | 103.49             |                                 |
| 6             | 507839.92        | 3622670.54       |                       | 104.03             |                                 |
| 7             | 507898.81        | 3622678.64       |                       | 104.29             |                                 |
| 8             | 507988.61        | 3622701.46       |                       | 106.91             |                                 |
| 9             | 508100.50        | 3622721.33       |                       | 107.75             |                                 |
| 10            | 508252.14        | 3622738.26       |                       | 111.47             |                                 |
| 11            | 508274.96        | 3622762.55       |                       | 111.53             |                                 |
| 12            | 508270.54        | 3622789.05       |                       | 111.43             |                                 |
| 13            | 508272.75        | 3622822.91       |                       | 109.73             |                                 |
| 14            | 508282.32        | 3622851.62       |                       | 109.37             |                                 |
| 15            | 508302.19        | 3622882.54       |                       | 107.33             |                                 |
| 16            | 508325.01        | 3622917.14       |                       | 107.30             |                                 |
| 17            | 508348.57        | 3622925.23       |                       | 108.65             |                                 |
| 18            | 508374.33        | 3622925.23       |                       | 109.95             |                                 |
| 19            | 508389.79        | 3622921.55       |                       | 109.97             |                                 |
| 20            | 508410.40        | 3622914.19       |                       | 110.32             |                                 |
| 21            | 508429.54        | 3622906.09       |                       | 110.35             |                                 |
| 22            | 508450.89        | 3622892.84       |                       | 110.08             |                                 |
| 23            | 508463.40        | 3622878.86       |                       | 110.24             |                                 |
| 24            | 508474.44        | 3622867.08       |                       | 111.65             |                                 |
| 25            | 508490.64        | 3622854.57       |                       | 112.54             |                                 |
| 26            | 508539.96        | 3622846.47       |                       | 114.28             |                                 |

# Receptor Pathway

AERMOD

|    |           |            |        |
|----|-----------|------------|--------|
| 27 | 508572.35 | 3622891.37 | 115.79 |
| 28 | 508636.39 | 3622918.61 | 116.62 |
| 29 | 508794.57 | 3623262.05 | 113.43 |
| 30 | 508842.91 | 3623256.49 | 114.27 |
| 31 | 508873.61 | 3623236.24 | 116.16 |
| 32 | 509004.19 | 3623442.79 | 116.36 |
| 33 | 509022.69 | 3623510.97 | 116.18 |
| 34 | 509011.39 | 3623529.06 | 115.41 |
| 35 | 509090.50 | 3623601.26 | 115.51 |
| 36 | 509168.48 | 3623726.89 | 116.23 |
| 37 | 509315.56 | 3623943.46 | 115.94 |
| 38 | 508880.25 | 3624121.01 | 125.53 |
| 39 | 508844.97 | 3624057.24 | 118.77 |
| 40 | 508783.91 | 3624009.75 | 119.90 |
| 41 | 508746.82 | 3623951.85 | 118.60 |
| 42 | 508670.83 | 3623903.91 | 120.76 |
| 43 | 508594.85 | 3623863.20 | 127.80 |
| 44 | 508569.14 | 3623802.34 | 125.38 |
| 45 | 508562.36 | 3623740.37 | 118.33 |
| 46 | 508335.05 | 3623519.25 | 130.80 |
| 47 | 507959.93 | 3623225.12 | 123.76 |
| 48 | 507937.33 | 3623204.57 | 119.13 |
| 49 | 507912.67 | 3623191.01 | 118.90 |
| 50 | 507896.64 | 3623185.67 | 118.67 |
| 51 | 507881.85 | 3623175.81 | 118.28 |
| 52 | 507868.29 | 3623170.05 | 117.88 |
| 53 | 507849.80 | 3623163.07 | 117.24 |
| 54 | 507838.29 | 3623158.14 | 116.71 |
| 55 | 507823.09 | 3623151.15 | 116.36 |
| 56 | 507807.88 | 3623144.99 | 115.87 |
| 57 | 507793.09 | 3623136.36 | 115.20 |
| 58 | 507779.53 | 3623126.49 | 114.85 |
| 59 | 507763.91 | 3623121.56 | 114.28 |
| 60 | 507751.58 | 3623114.99 | 113.94 |
| 61 | 507723.23 | 3623084.17 | 109.22 |
| 62 | 507707.61 | 3623074.31 | 111.26 |
| 63 | 507696.93 | 3623064.03 | 112.76 |
| 64 | 507682.55 | 3623054.58 | 113.58 |

# Receptor Pathway

AERMOD

|     |           |            |        |
|-----|-----------|------------|--------|
| 65  | 507668.99 | 3623044.72 | 114.67 |
| 66  | 507657.89 | 3623031.16 | 115.30 |
| 67  | 507645.56 | 3623022.12 | 116.36 |
| 68  | 507629.54 | 3623009.38 | 117.67 |
| 69  | 507616.80 | 3623002.39 | 118.44 |
| 70  | 507593.79 | 3622984.31 | 119.48 |
| 71  | 507571.59 | 3622976.09 | 119.80 |
| 72  | 507563.79 | 3622959.66 | 120.10 |
| 73  | 507550.64 | 3622947.74 | 117.71 |
| 74  | 507530.91 | 3622934.18 | 114.78 |
| 75  | 507506.67 | 3622924.73 | 114.64 |
| 76  | 507457.77 | 3622924.31 | 115.68 |
| 77  | 507453.66 | 3622897.60 | 115.51 |
| 78  | 507423.25 | 3622884.87 | 113.22 |
| 79  | 507408.04 | 3622879.11 | 112.64 |
| 80  | 507391.20 | 3622869.66 | 112.46 |
| 81  | 507374.35 | 3622863.09 | 112.33 |
| 82  | 507359.96 | 3622858.57 | 112.41 |
| 83  | 507345.99 | 3622855.28 | 112.74 |
| 84  | 507330.79 | 3622849.11 | 113.16 |
| 85  | 507317.64 | 3622846.65 | 113.46 |
| 86  | 507304.49 | 3622841.72 | 113.88 |
| 87  | 507288.05 | 3622839.25 | 114.25 |
| 88  | 507269.15 | 3622837.61 | 114.43 |
| 89  | 507252.71 | 3622836.79 | 114.65 |
| 90  | 507235.86 | 3622834.32 | 114.80 |
| 91  | 507222.71 | 3622833.50 | 114.60 |
| 92  | 507207.92 | 3622832.27 | 114.39 |
| 93  | 507191.07 | 3622831.03 | 113.90 |
| 94  | 507120.39 | 3622850.35 | 114.80 |
| 95  | 507101.90 | 3622847.47 | 115.13 |
| 96  | 507087.93 | 3622849.11 | 114.69 |
| 97  | 507077.24 | 3622850.76 | 114.83 |
| 98  | 507067.79 | 3622853.63 | 115.09 |
| 99  | 507057.52 | 3622855.28 | 115.22 |
| 100 | 507047.65 | 3622856.51 | 115.20 |
| 101 | 507036.56 | 3622858.15 | 115.27 |
| 102 | 507026.70 | 3622861.03 | 115.35 |

# Receptor Pathway

AERMOD

|     |           |            |        |
|-----|-----------|------------|--------|
| 103 | 507015.19 | 3622863.09 | 115.31 |
| 104 | 507004.92 | 3622865.55 | 115.14 |
| 105 | 506995.88 | 3622865.14 | 115.09 |
| 106 | 506983.96 | 3622868.02 | 115.05 |
| 107 | 506975.74 | 3622868.43 | 115.05 |
| 108 | 506965.47 | 3622871.72 | 115.05 |
| 109 | 506955.19 | 3622875.00 | 114.87 |
| 110 | 506943.28 | 3622875.41 | 114.71 |
| 111 | 506930.54 | 3622880.76 | 114.57 |
| 112 | 506907.94 | 3622889.80 | 114.40 |
| 113 | 506892.32 | 3622907.06 | 114.68 |
| 114 | 506852.87 | 3623197.59 | 115.42 |
| 115 | 506861.09 | 3623235.80 | 115.69 |
| 116 | 506864.38 | 3623257.99 | 115.82 |
| 117 | 506868.08 | 3623296.62 | 113.65 |
| 118 | 506882.46 | 3623517.70 | 124.02 |
| 119 | 506876.71 | 3623532.91 | 124.05 |
| 120 | 506877.53 | 3623567.43 | 122.25 |
| 121 | 506896.96 | 3623639.34 | 123.44 |
| 122 | 506886.73 | 3623659.81 | 123.47 |
| 123 | 506883.58 | 3623681.85 | 123.53 |
| 124 | 506878.07 | 3623706.26 | 123.67 |
| 125 | 506882.01 | 3623729.09 | 123.89 |
| 126 | 506882.01 | 3623751.92 | 124.10 |
| 127 | 506888.30 | 3623773.17 | 124.32 |
| 128 | 506894.60 | 3623794.43 | 125.10 |
| 129 | 506904.05 | 3623815.68 | 126.24 |
| 130 | 506919.01 | 3623836.94 | 127.19 |
| 131 | 506930.82 | 3623854.26 | 127.88 |
| 132 | 506941.05 | 3623877.87 | 128.23 |
| 133 | 506947.35 | 3623893.62 | 126.57 |
| 134 | 506856.86 | 3623962.53 | 122.85 |
| 135 | 506856.29 | 3624303.98 | 135.49 |
| 136 | 506805.89 | 3624199.89 | 131.96 |
| 137 | 506808.57 | 3624149.04 | 129.97 |
| 138 | 506801.88 | 3624080.78 | 127.11 |
| 139 | 506805.89 | 3624047.99 | 126.16 |
| 140 | 506803.89 | 3623987.76 | 124.70 |

# Receptor Pathway

AERMOD

|     |           |            |        |
|-----|-----------|------------|--------|
| 141 | 506791.17 | 3623955.64 | 124.15 |
| 142 | 506777.79 | 3623863.96 | 121.98 |
| 143 | 506756.37 | 3623821.13 | 121.93 |
| 144 | 506754.37 | 3623803.07 | 121.61 |
| 145 | 506767.75 | 3623780.98 | 121.25 |
| 146 | 506781.80 | 3623746.85 | 118.86 |
| 147 | 506795.19 | 3623704.03 | 117.07 |
| 148 | 506795.86 | 3623691.31 | 116.78 |
| 149 | 506797.86 | 3623681.27 | 116.53 |
| 150 | 506799.87 | 3623667.22 | 116.28 |
| 151 | 506801.88 | 3623651.83 | 116.11 |
| 152 | 506797.19 | 3623631.08 | 115.67 |
| 153 | 506791.84 | 3623576.21 | 115.16 |
| 154 | 506798.53 | 3623554.80 | 115.03 |
| 155 | 506797.86 | 3623535.39 | 114.83 |
| 156 | 506797.19 | 3623513.98 | 114.52 |
| 157 | 506797.86 | 3623489.89 | 114.17 |
| 158 | 506798.53 | 3623466.46 | 113.85 |
| 159 | 506797.86 | 3623443.71 | 113.50 |
| 160 | 506810.58 | 3623403.56 | 113.12 |
| 161 | 506815.26 | 3623374.78 | 112.62 |
| 162 | 506140.72 | 3622834.08 | 101.86 |
| 163 | 506097.89 | 3622814.01 | 102.79 |
| 164 | 506056.40 | 3622790.58 | 102.54 |
| 165 | 506010.90 | 3622766.49 | 102.41 |
| 166 | 505964.72 | 3622742.40 | 102.26 |
| 167 | 505905.84 | 3622704.93 | 102.45 |
| 168 | 505842.26 | 3622664.78 | 102.62 |
| 169 | 505800.77 | 3622637.34 | 103.73 |
| 170 | 505252.04 | 3622475.40 | 112.05 |
| 171 | 505410.76 | 3622390.74 | 106.51 |
| 172 | 505493.57 | 3622420.16 | 107.30 |
| 173 | 505605.81 | 3622446.32 | 104.98 |
| 174 | 505652.67 | 3622475.74 | 104.20 |
| 175 | 505758.36 | 3622541.12 | 103.87 |
| 176 | 505824.83 | 3622587.97 | 102.13 |
| 177 | 505873.87 | 3622621.75 | 101.92 |
| 178 | 505962.13 | 3622634.83 | 100.14 |

# Receptor Pathway

AERMOD

|     |           |            |        |
|-----|-----------|------------|--------|
| 179 | 506647.54 | 3622965.00 | 104.50 |
| 180 | 506771.23 | 3622894.35 | 103.82 |
| 181 | 506778.84 | 3622941.54 | 105.58 |
| 182 | 506744.71 | 3622957.61 | 105.59 |
| 183 | 506696.52 | 3623003.12 | 106.26 |
| 184 | 506759.43 | 3623036.59 | 107.52 |
| 185 | 506799.59 | 3623087.46 | 109.15 |
| 186 | 506825.03 | 3623132.30 | 109.97 |
| 187 | 506884.60 | 3623439.52 | 117.86 |
| 188 | 506885.59 | 3624060.64 | 125.65 |
| 189 | 506865.33 | 3624127.94 | 129.39 |
| 190 | 506807.16 | 3623335.84 | 111.82 |
| 191 | 506662.43 | 3623064.93 | 105.91 |
| 192 | 506611.20 | 3623040.95 | 104.80 |
| 193 | 506564.33 | 3623018.06 | 104.87 |
| 194 | 506375.75 | 3622947.21 | 102.45 |
| 195 | 506333.24 | 3622925.40 | 103.07 |
| 196 | 506282.01 | 3622899.24 | 103.08 |
| 197 | 506247.13 | 3622880.71 | 103.27 |
| 198 | 505744.44 | 3622604.96 | 104.62 |
| 199 | 505710.97 | 3622588.89 | 104.92 |
| 200 | 505680.85 | 3622576.17 | 105.66 |
| 201 | 505658.75 | 3622556.76 | 105.78 |
| 202 | 505633.32 | 3622540.02 | 105.84 |
| 203 | 505590.47 | 3622507.89 | 106.09 |
| 204 | 505534.24 | 3622493.83 | 107.37 |
| 205 | 505471.98 | 3622482.45 | 107.97 |
| 206 | 505392.99 | 3622480.45 | 108.76 |
| 207 | 505309.98 | 3622472.41 | 109.66 |
| 208 | 504871.97 | 3622447.16 | 128.92 |
| 209 | 505117.07 | 3622465.66 | 116.19 |
| 210 | 504958.41 | 3622477.71 | 130.50 |
| 211 | 508353.65 | 3622554.75 | 117.19 |
| 212 | 506457.68 | 3623382.05 | 110.89 |
| 213 | 506367.01 | 3624009.61 | 164.05 |

## Plant Boundary Receptors



# Meteorology Pathway

AERMOD

## Met Input Data

### Surface Met Data

Filename: 722907.SFC  
Format Type: Default AERMET format

### Profile Met Data

Filename: 722907.PFL  
Format Type: Default AERMET format

### Wind Speed



Wind Speeds are Vector Mean (Not Scalar Means)

### Wind Direction

Rotation Adjustment [deg]:

### Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 118.00 [m]

### Meteorological Station Data

| Stations  | Station No. | Year | X Coordinate [m] | Y Coordinate [m] | Station Name |
|-----------|-------------|------|------------------|------------------|--------------|
| Surface   |             | 2009 |                  |                  |              |
| Upper Air |             | 2009 |                  |                  |              |

## Data Period

### Data Period to Process

Start Date: 1/1/2009 Start Hour: 1 End Date: 1/2/2014 End Hour: 24











## Wind Speed Categories

| Stability Category | Wind Speed [m/s] | Stability Category | Wind Speed [m/s] |
|--------------------|------------------|--------------------|------------------|
| A                  | 1.54             | D                  | 8.23             |
| B                  | 3.09             | E                  | 10.8             |
| C                  | 5.14             | F                  | No Upper Bound   |

# Output Pathway

AERMOD

## Tabular Printed Outputs

| Short Term Averaging Period | RECTABLE<br>Highest Values Table  |   |   |   |   |   |   |   |   |   | MAXTABLE<br>Maximum Values Table | DAYTABLE<br>Daily Values Table |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|----------------------------------|--------------------------------|
|                             | 1st   | 2nd   | 3rd   | 4th   | 5th   | 6th   | 7th   | 8th   | 9th   | 10th  |                                  |                                |
| 1                           |  |  |  |  |  |  |  |  |  |  |                                  | No                             |

## Contour Plot Files (PLOTFILE)

Path for PLOTFILES: SIR02\_PHASE2\_AERMOD.AD

| Averaging Period | Source Group ID | High Value | File Name    |
|------------------|-----------------|------------|--------------|
| 1                | ALL             | 1st        | 01H1GALL.PLT |
| Period           | ALL             | N/A        | PE00GALL.PLT |

Cottonwood Sand Mine Phase 2 Emissions Inventory

HARP Project Summary Report 11/5

\*\*\*PROJECT INFORMATION\*\*\*

HARP Version: 21081

Project Name: SIR02\_PHASE2\_HARP

HARP Database: NA

\*\*\*EMISSION INVENTORY\*\*\*

No. of Pollutants:156

No. of Background Pollutants:0

Emissions

| SrcID   | StkID | ProID | PolID | PolAbbrev          | Multi | Annual Ems<br>(lbs/yr) | MaxHr Ems<br>(lbs/hr) | MWAF |
|---------|-------|-------|-------|--------------------|-------|------------------------|-----------------------|------|
| HRT1    | 0     |       | 0     | 9901 DieselExhPM   | 1     | 2.879370434            | 0.001764861           | 1    |
| HRT2    | 0     |       | 0     | 9901 DieselExhPM   | 1     | 0.359481568            | 0.000220338           | 1    |
| HRT3    | 0     |       | 0     | 9901 DieselExhPM   | 1     | 2.883311481            | 0.001767276           | 1    |
| PROCESS | 0     |       | 0     | 9901 DieselExhPM   | 1     | 28.81914942            | 0.011481733           | 1    |
| PROCESS | 0     |       | 0     | 7429905 Aluminum   | 1     | 36.55913337            | 0.014419958           | 1    |
| PROCESS | 0     |       | 0     | 7440382 Arsenic    | 1     | 0.053620062            | 2.11E-05              | 1    |
| PROCESS | 0     |       | 0     | 7440393 Barium     | 1     | 0.548387001            | 0.000216299           | 1    |
| PROCESS | 0     |       | 0     | 7440417 Beryllium  | 1     | 0.002437276            | 9.61E-07              | 1    |
| PROCESS | 0     |       | 0     | 7440439 Cadmium    | 1     | 0.002437276            | 9.61E-07              | 1    |
| PROCESS | 0     |       | 0     | 18540299 Cr(VI)    | 1     | 0                      | 0                     | 1    |
| PROCESS | 0     |       | 0     | 7440473 Chromium   | 1     | 0.068243716            | 2.69E-05              | 1    |
| PROCESS | 0     |       | 0     | 7440484 Cobalt     | 1     | 0.026810031            | 1.06E-05              | 1    |
| PROCESS | 0     |       | 0     | 7440508 Copper     | 1     | 0.090179196            | 3.56E-05              | 1    |
| PROCESS | 0     |       | 0     | 7439921 Lead       | 1     | 0.121863778            | 4.81E-05              | 1    |
| PROCESS | 0     |       | 0     | 7439965 Manganese  | 1     | 1.291756046            | 0.000509505           | 1    |
| PROCESS | 0     |       | 0     | 7439976 Mercury    | 1     | 0                      | 0                     | 1    |
| PROCESS | 0     |       | 0     | 7440020 Nickel     | 1     | 0.068243716            | 2.69E-05              | 1    |
| PROCESS | 0     |       | 0     | 7782492 Selenium   | 1     | 0.002437276            | 9.61E-07              | 1    |
| PROCESS | 0     |       | 0     | 1175 Silica, Cryst | 1     | 243.7275558            | 0.096133052           | 1    |
| PROCESS | 0     |       | 0     | 7440666 Zinc       | 1     | 0.24129028             | 9.52E-05              | 1    |
| RSTACK1 | 0     |       | 0     | 9901 DieselExhPM   | 1     | 0                      | 0                     | 1    |
| RSTACK1 | 0     |       | 0     | 7429905 Aluminum   | 1     | 3.5532                 | 0.001415618           | 1    |
| RSTACK1 | 0     |       | 0     | 7440382 Arsenic    | 1     | 0.00497448             | 1.98E-06              | 1    |
| RSTACK1 | 0     |       | 0     | 7440393 Barium     | 1     | 0.0343476              | 1.37E-05              | 1    |
| RSTACK1 | 0     |       | 0     | 7440417 Beryllium  | 1     | 0.00023688             | 9.44E-08              | 1    |
| RSTACK1 | 0     |       | 0     | 7440439 Cadmium    | 1     | 0.00023688             | 9.44E-08              | 1    |
| RSTACK1 | 0     |       | 0     | 18540299 Cr(VI)    | 1     | 0                      | 0                     | 1    |
| RSTACK1 | 0     |       | 0     | 7440473 Chromium   | 1     | 0.005922               | 2.36E-06              | 1    |
| RSTACK1 | 0     |       | 0     | 7440484 Cobalt     | 1     | 0                      | 0                     | 1    |
| RSTACK1 | 0     |       | 0     | 7440508 Copper     | 1     | 0.0094752              | 3.77E-06              | 1    |
| RSTACK1 | 0     |       | 0     | 7439921 Lead       | 1     | 0.0071064              | 2.83E-06              | 1    |
| RSTACK1 | 0     |       | 0     | 7439965 Manganese  | 1     | 0.1160712              | 4.62E-05              | 1    |
| RSTACK1 | 0     |       | 0     | 7439976 Mercury    | 1     | 0                      | 0                     | 1    |
| RSTACK1 | 0     |       | 0     | 7440020 Nickel     | 1     | 0.00450072             | 1.79E-06              | 1    |
| RSTACK1 | 0     |       | 0     | 7782492 Selenium   | 1     | 0.00023688             | 9.44E-08              | 1    |
| RSTACK1 | 0     |       | 0     | 1175 Silica, Cryst | 1     | 23.688                 | 0.00943745            | 1    |
| RSTACK1 | 0     |       | 0     | 7440666 Zinc       | 1     | 0.02653056             | 1.06E-05              | 1    |

Cottonwood Sand Mine Phase 2 Emissions Inventory

|            |   |   |                    |   |             |             |   |
|------------|---|---|--------------------|---|-------------|-------------|---|
| RSTACK2    | 0 | 0 | 9901 DieselExhPM   | 1 | 0           | 0           | 1 |
| RSTACK2    | 0 | 0 | 7429905 Aluminum   | 1 | 3.5532      | 0.001415618 | 1 |
| RSTACK2    | 0 | 0 | 7440382 Arsenic    | 1 | 0.00497448  | 1.98E-06    | 1 |
| RSTACK2    | 0 | 0 | 7440393 Barium     | 1 | 0.0343476   | 1.37E-05    | 1 |
| RSTACK2    | 0 | 0 | 7440417 Beryllium  | 1 | 0.00023688  | 9.44E-08    | 1 |
| RSTACK2    | 0 | 0 | 7440439 Cadmium    | 1 | 0.00023688  | 9.44E-08    | 1 |
| RSTACK2    | 0 | 0 | 18540299 Cr(VI)    | 1 | 0           | 0           | 1 |
| RSTACK2    | 0 | 0 | 7440473 Chromium   | 1 | 0.005922    | 2.36E-06    | 1 |
| RSTACK2    | 0 | 0 | 7440484 Cobalt     | 1 | 0           | 0           | 1 |
| RSTACK2    | 0 | 0 | 7440508 Copper     | 1 | 0.0094752   | 3.77E-06    | 1 |
| RSTACK2    | 0 | 0 | 7439921 Lead       | 1 | 0.0071064   | 2.83E-06    | 1 |
| RSTACK2    | 0 | 0 | 7439965 Manganese  | 1 | 0.1160712   | 4.62E-05    | 1 |
| RSTACK2    | 0 | 0 | 7439976 Mercury    | 1 | 0           | 0           | 1 |
| RSTACK2    | 0 | 0 | 7440020 Nickel     | 1 | 0.00450072  | 1.79E-06    | 1 |
| RSTACK2    | 0 | 0 | 7782492 Selenium   | 1 | 0.00023688  | 9.44E-08    | 1 |
| RSTACK2    | 0 | 0 | 1175 Silica, Cryst | 1 | 23.688      | 0.00943745  | 1 |
| RSTACK2    | 0 | 0 | 7440666 Zinc       | 1 | 0.02653056  | 1.06E-05    | 1 |
| FCONV      | 0 | 0 | 9901 DieselExhPM   | 1 | 0           | 0           | 1 |
| FCONV      | 0 | 0 | 7429905 Aluminum   | 1 | 0.6768      | 0.000269641 | 1 |
| FCONV      | 0 | 0 | 7440382 Arsenic    | 1 | 0.00020304  | 8.09E-08    | 1 |
| FCONV      | 0 | 0 | 7440393 Barium     | 1 | 0.0054144   | 2.16E-06    | 1 |
| FCONV      | 0 | 0 | 7440417 Beryllium  | 1 | 3.38E-05    | 1.35E-08    | 1 |
| FCONV      | 0 | 0 | 7440439 Cadmium    | 1 | 3.38E-05    | 1.35E-08    | 1 |
| FCONV      | 0 | 0 | 18540299 Cr(VI)    | 1 | 0           | 0           | 1 |
| FCONV      | 0 | 0 | 7440473 Chromium   | 1 | 0.00115056  | 4.58E-07    | 1 |
| FCONV      | 0 | 0 | 7440484 Cobalt     | 1 | 0           | 0           | 1 |
| FCONV      | 0 | 0 | 7440508 Copper     | 1 | 0.00243648  | 9.71E-07    | 1 |
| FCONV      | 0 | 0 | 7439921 Lead       | 1 | 0.00064296  | 2.56E-07    | 1 |
| FCONV      | 0 | 0 | 7439965 Manganese  | 1 | 0.0106596   | 4.25E-06    | 1 |
| FCONV      | 0 | 0 | 7439976 Mercury    | 1 | 0           | 0           | 1 |
| FCONV      | 0 | 0 | 7440020 Nickel     | 1 | 0.0006768   | 2.70E-07    | 1 |
| FCONV      | 0 | 0 | 7782492 Selenium   | 1 | 3.38E-05    | 1.35E-08    | 1 |
| FCONV      | 0 | 0 | 1175 Silica, Cryst | 1 | 3.384       | 0.001348207 | 1 |
| FCONV      | 0 | 0 | 7440666 Zinc       | 1 | 0.0028764   | 1.15E-06    | 1 |
| MCONV      | 0 | 0 | 9901 DieselExhPM   | 1 | 0           | 0           | 1 |
| MCONV      | 0 | 0 | 7429905 Aluminum   | 1 | 4.7376      | 0.00188749  | 1 |
| MCONV      | 0 | 0 | 7440382 Arsenic    | 1 | 0.00142128  | 5.66E-07    | 1 |
| MCONV      | 0 | 0 | 7440393 Barium     | 1 | 0.0379008   | 1.51E-05    | 1 |
| MCONV      | 0 | 0 | 7440417 Beryllium  | 1 | 0.00023688  | 9.44E-08    | 1 |
| MCONV      | 0 | 0 | 7440439 Cadmium    | 1 | 0.00023688  | 9.44E-08    | 1 |
| MCONV      | 0 | 0 | 18540299 Cr(VI)    | 1 | 0           | 0           | 1 |
| MCONV      | 0 | 0 | 7440473 Chromium   | 1 | 0.00805392  | 3.21E-06    | 1 |
| MCONV      | 0 | 0 | 7440484 Cobalt     | 1 | 0           | 0           | 1 |
| MCONV      | 0 | 0 | 7440508 Copper     | 1 | 0.01705536  | 6.79E-06    | 1 |
| MCONV      | 0 | 0 | 7439921 Lead       | 1 | 0.00450072  | 1.79E-06    | 1 |
| MCONV      | 0 | 0 | 7439965 Manganese  | 1 | 0.0746172   | 2.97E-05    | 1 |
| MCONV      | 0 | 0 | 7439976 Mercury    | 1 | 0           | 0           | 1 |
| MCONV      | 0 | 0 | 7440020 Nickel     | 1 | 0.0047376   | 1.89E-06    | 1 |
| MCONV      | 0 | 0 | 7782492 Selenium   | 1 | 0.00023688  | 9.44E-08    | 1 |
| MCONV      | 0 | 0 | 1175 Silica, Cryst | 1 | 23.688      | 0.00943745  | 1 |
| MCONV      | 0 | 0 | 7440666 Zinc       | 1 | 0.0201348   | 8.02E-06    | 1 |
| P2AEXTRACT | 0 | 0 | 9901 DieselExhPM   | 1 | 30.62979095 | 0.012203104 | 1 |
| P2AEXTRACT | 0 | 0 | 7429905 Aluminum   | 1 | 106.0726955 | 0.042260038 | 1 |

Cottonwood Sand Mine Phase 2 Emissions Inventory

|            |   |   |                    |   |             |             |   |
|------------|---|---|--------------------|---|-------------|-------------|---|
| P2AEXTRACT | 0 | 0 | 7440382 Arsenic    | 1 | 0.031821809 | 1.27E-05    | 1 |
| P2AEXTRACT | 0 | 0 | 7440393 Barium     | 1 | 0.848581564 | 0.00033808  | 1 |
| P2AEXTRACT | 0 | 0 | 7440417 Beryllium  | 1 | 0.005303635 | 2.11E-06    | 1 |
| P2AEXTRACT | 0 | 0 | 7440439 Cadmium    | 1 | 0.005303635 | 2.11E-06    | 1 |
| P2AEXTRACT | 0 | 0 | 18540299 Cr(VI)    | 1 | 0           | 0           | 1 |
| P2AEXTRACT | 0 | 0 | 7440473 Chromium   | 1 | 0.180323582 | 7.18E-05    | 1 |
| P2AEXTRACT | 0 | 0 | 7440484 Cobalt     | 1 | 0           | 0           | 1 |
| P2AEXTRACT | 0 | 0 | 7440508 Copper     | 1 | 0.381861704 | 0.000152    | 1 |
| P2AEXTRACT | 0 | 0 | 7439921 Lead       | 1 | 0.100769061 | 4.01E-05    | 1 |
| P2AEXTRACT | 0 | 0 | 7439965 Manganese  | 1 | 1.670644953 | 0.000665596 | 1 |
| P2AEXTRACT | 0 | 0 | 7439976 Mercury    | 1 | 0           | 0           | 1 |
| P2AEXTRACT | 0 | 0 | 7440020 Nickel     | 1 | 0.106072695 | 4.23E-05    | 1 |
| P2AEXTRACT | 0 | 0 | 7782492 Selenium   | 1 | 0.005303635 | 2.11E-06    | 1 |
| P2AEXTRACT | 0 | 0 | 1175 Silica, Cryst | 1 | 530.3634773 | 0.21130019  | 1 |
| P2AEXTRACT | 0 | 0 | 7440666 Zinc       | 1 | 0.450808956 | 0.000179605 | 1 |
| P2BEXTRACT | 0 | 0 | 9901 DieselExhPM   | 1 | 30.62979095 | 0.012203104 | 1 |
| P2BEXTRACT | 0 | 0 | 7429905 Aluminum   | 1 | 106.0726955 | 0.042260038 | 1 |
| P2BEXTRACT | 0 | 0 | 7440382 Arsenic    | 1 | 0.031821809 | 1.27E-05    | 1 |
| P2BEXTRACT | 0 | 0 | 7440393 Barium     | 1 | 0.848581564 | 0.00033808  | 1 |
| P2BEXTRACT | 0 | 0 | 7440417 Beryllium  | 1 | 0.005303635 | 2.11E-06    | 1 |
| P2BEXTRACT | 0 | 0 | 7440439 Cadmium    | 1 | 0.005303635 | 2.11E-06    | 1 |
| P2BEXTRACT | 0 | 0 | 18540299 Cr(VI)    | 1 | 0           | 0           | 1 |
| P2BEXTRACT | 0 | 0 | 7440473 Chromium   | 1 | 0.180323582 | 7.18E-05    | 1 |
| P2BEXTRACT | 0 | 0 | 7440484 Cobalt     | 1 | 0           | 0           | 1 |
| P2BEXTRACT | 0 | 0 | 7440508 Copper     | 1 | 0.381861704 | 0.000152    | 1 |
| P2BEXTRACT | 0 | 0 | 7439921 Lead       | 1 | 0.100769061 | 4.01E-05    | 1 |
| P2BEXTRACT | 0 | 0 | 7439965 Manganese  | 1 | 1.670644953 | 0.000665596 | 1 |
| P2BEXTRACT | 0 | 0 | 7439976 Mercury    | 1 | 0           | 0           | 1 |
| P2BEXTRACT | 0 | 0 | 7440020 Nickel     | 1 | 0.106072695 | 4.23E-05    | 1 |
| P2BEXTRACT | 0 | 0 | 7782492 Selenium   | 1 | 0.005303635 | 2.11E-06    | 1 |
| P2BEXTRACT | 0 | 0 | 1175 Silica, Cryst | 1 | 530.3634773 | 0.21130019  | 1 |
| P2BEXTRACT | 0 | 0 | 7440666 Zinc       | 1 | 0.450808956 | 0.000179605 | 1 |
| P2CEXTRACT | 0 | 0 | 9901 DieselExhPM   | 1 | 30.62979095 | 0.012203104 | 1 |
| P2CEXTRACT | 0 | 0 | 7429905 Aluminum   | 1 | 106.0726955 | 0.042260038 | 1 |
| P2CEXTRACT | 0 | 0 | 7440382 Arsenic    | 1 | 0.031821809 | 1.27E-05    | 1 |
| P2CEXTRACT | 0 | 0 | 7440393 Barium     | 1 | 0.848581564 | 0.00033808  | 1 |
| P2CEXTRACT | 0 | 0 | 7440417 Beryllium  | 1 | 0.005303635 | 2.11E-06    | 1 |
| P2CEXTRACT | 0 | 0 | 7440439 Cadmium    | 1 | 0.005303635 | 2.11E-06    | 1 |
| P2CEXTRACT | 0 | 0 | 18540299 Cr(VI)    | 1 | 0           | 0           | 1 |
| P2CEXTRACT | 0 | 0 | 7440473 Chromium   | 1 | 0.180323582 | 7.18E-05    | 1 |
| P2CEXTRACT | 0 | 0 | 7440484 Cobalt     | 1 | 0           | 0           | 1 |
| P2CEXTRACT | 0 | 0 | 7440508 Copper     | 1 | 0.381861704 | 0.000152    | 1 |
| P2CEXTRACT | 0 | 0 | 7439921 Lead       | 1 | 0.100769061 | 4.01E-05    | 1 |
| P2CEXTRACT | 0 | 0 | 7439965 Manganese  | 1 | 1.670644953 | 0.000665596 | 1 |
| P2CEXTRACT | 0 | 0 | 7439976 Mercury    | 1 | 0           | 0           | 1 |
| P2CEXTRACT | 0 | 0 | 7440020 Nickel     | 1 | 0.106072695 | 4.23E-05    | 1 |
| P2CEXTRACT | 0 | 0 | 7782492 Selenium   | 1 | 0.005303635 | 2.11E-06    | 1 |
| P2CEXTRACT | 0 | 0 | 1175 Silica, Cryst | 1 | 530.3634773 | 0.21130019  | 1 |
| P2CEXTRACT | 0 | 0 | 7440666 Zinc       | 1 | 0.450808956 | 0.000179605 | 1 |
| P2HRD      | 0 | 0 | 9901 DieselExhPM   | 1 | 22.674552   | 0.009033686 | 1 |
| P2HRD      | 0 | 0 | 7429905 Aluminum   | 1 | 22.73617073 | 0.009058235 | 1 |
| P2HRD      | 0 | 0 | 7440382 Arsenic    | 1 | 0.031830639 | 1.27E-05    | 1 |
| P2HRD      | 0 | 0 | 7440393 Barium     | 1 | 0.219782984 | 8.76E-05    | 1 |

Cottonwood Sand Mine Phase 2 Emissions Inventory

|       |   |   |                    |   |             |             |   |
|-------|---|---|--------------------|---|-------------|-------------|---|
| P2HRD | 0 | 0 | 7440417 Beryllium  | 1 | 0.001515745 | 6.04E-07    | 1 |
| P2HRD | 0 | 0 | 7440439 Cadmium    | 1 | 0.001515745 | 6.04E-07    | 1 |
| P2HRD | 0 | 0 | 18540299 Cr(VI)    | 1 | 0           | 0           | 1 |
| P2HRD | 0 | 0 | 7440473 Chromium   | 1 | 0.037893618 | 1.51E-05    | 1 |
| P2HRD | 0 | 0 | 7440484 Cobalt     | 1 | 0           | 0           | 1 |
| P2HRD | 0 | 0 | 7440508 Copper     | 1 | 0.060629789 | 2.42E-05    | 1 |
| P2HRD | 0 | 0 | 7439921 Lead       | 1 | 0.045472341 | 1.81E-05    | 1 |
| P2HRD | 0 | 0 | 7439965 Manganese  | 1 | 0.742714911 | 0.000295902 | 1 |
| P2HRD | 0 | 0 | 7439976 Mercury    | 1 | 0           | 0           | 1 |
| P2HRD | 0 | 0 | 7440020 Nickel     | 1 | 0.02879915  | 1.15E-05    | 1 |
| P2HRD | 0 | 0 | 7782492 Selenium   | 1 | 0.001515745 | 6.04E-07    | 1 |
| P2HRD | 0 | 0 | 1175 Silica, Cryst | 1 | 151.5744715 | 0.060388236 | 1 |
| P2HRD | 0 | 0 | 7440666 Zinc       | 1 | 0.169763408 | 6.76E-05    | 1 |

PROJECT TITLE:

**Cottonwood Sand Mine Phase 2  
Acute Hazard Index**

COMMENTS:

Maximum Hazard Index

SOURCES:

**12**

RECEPTORS:

**1863**

OUTPUT TYPE:

MAX:

COMPANY NAME:

**HELIX Environmental  
Planning**

DATE:

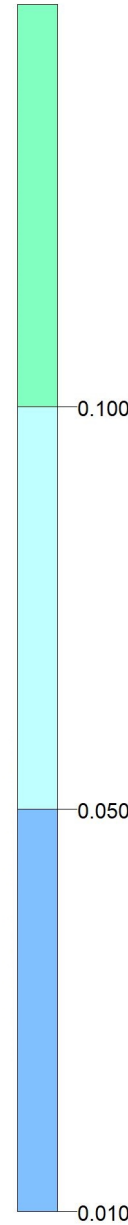
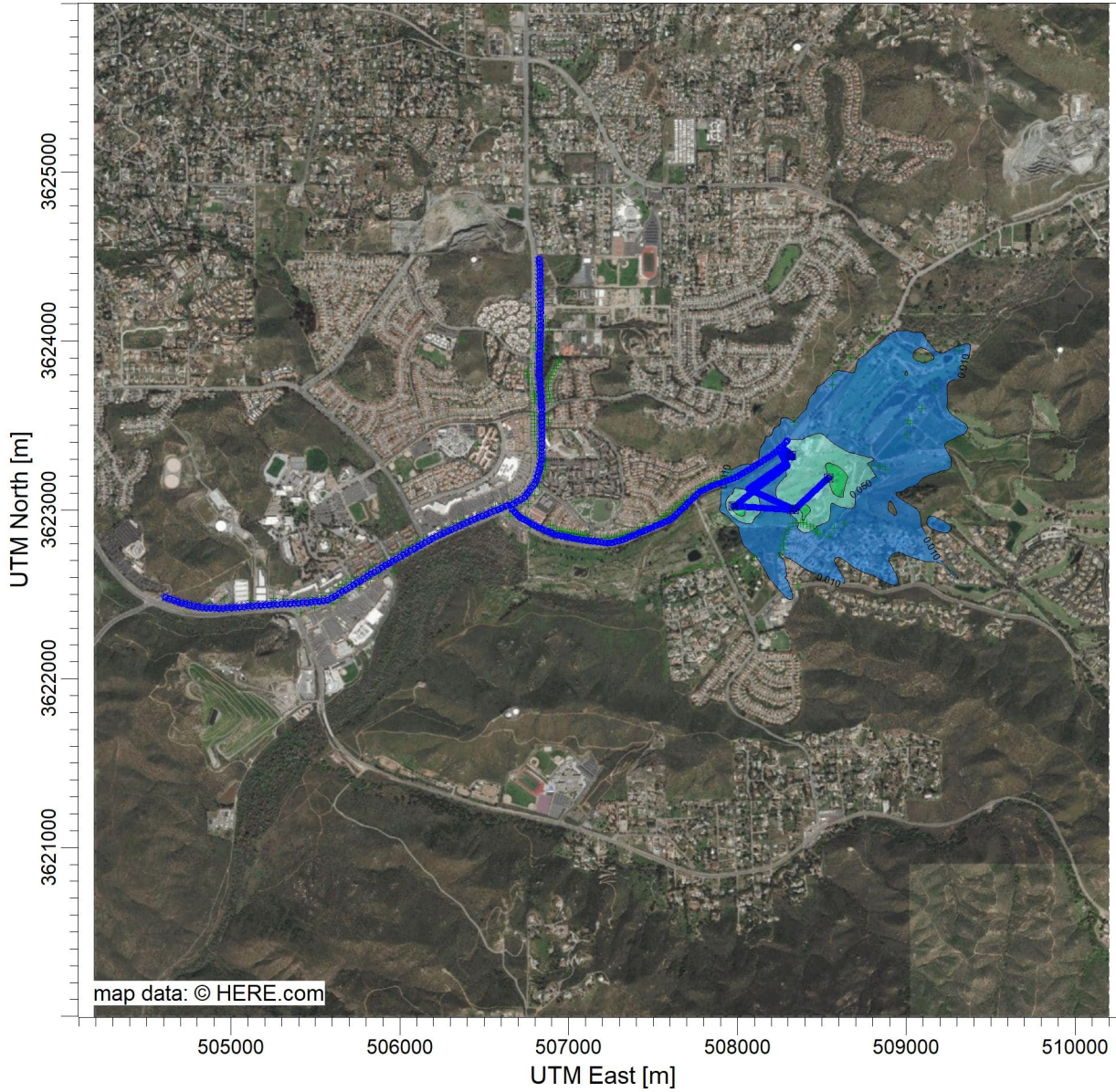
**11/5/2021**

SCALE:

1:40,910

0  1 km

PROJECT NO.:



PROJECT TITLE:

**Cottonwood Sand Mine Phase 2  
Residential Cancer Risk**

COMMENTS:

Risk in chances per million

SOURCES:

**12**

RECEPTORS:

**1863**

OUTPUT TYPE:

MAX:

COMPANY NAME:

**HELIX Environmental  
Planning**

DATE:

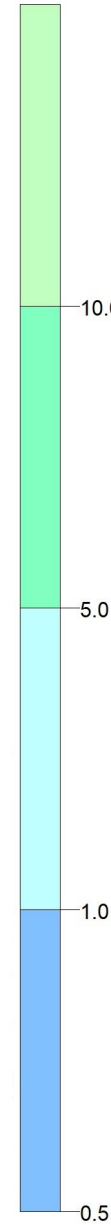
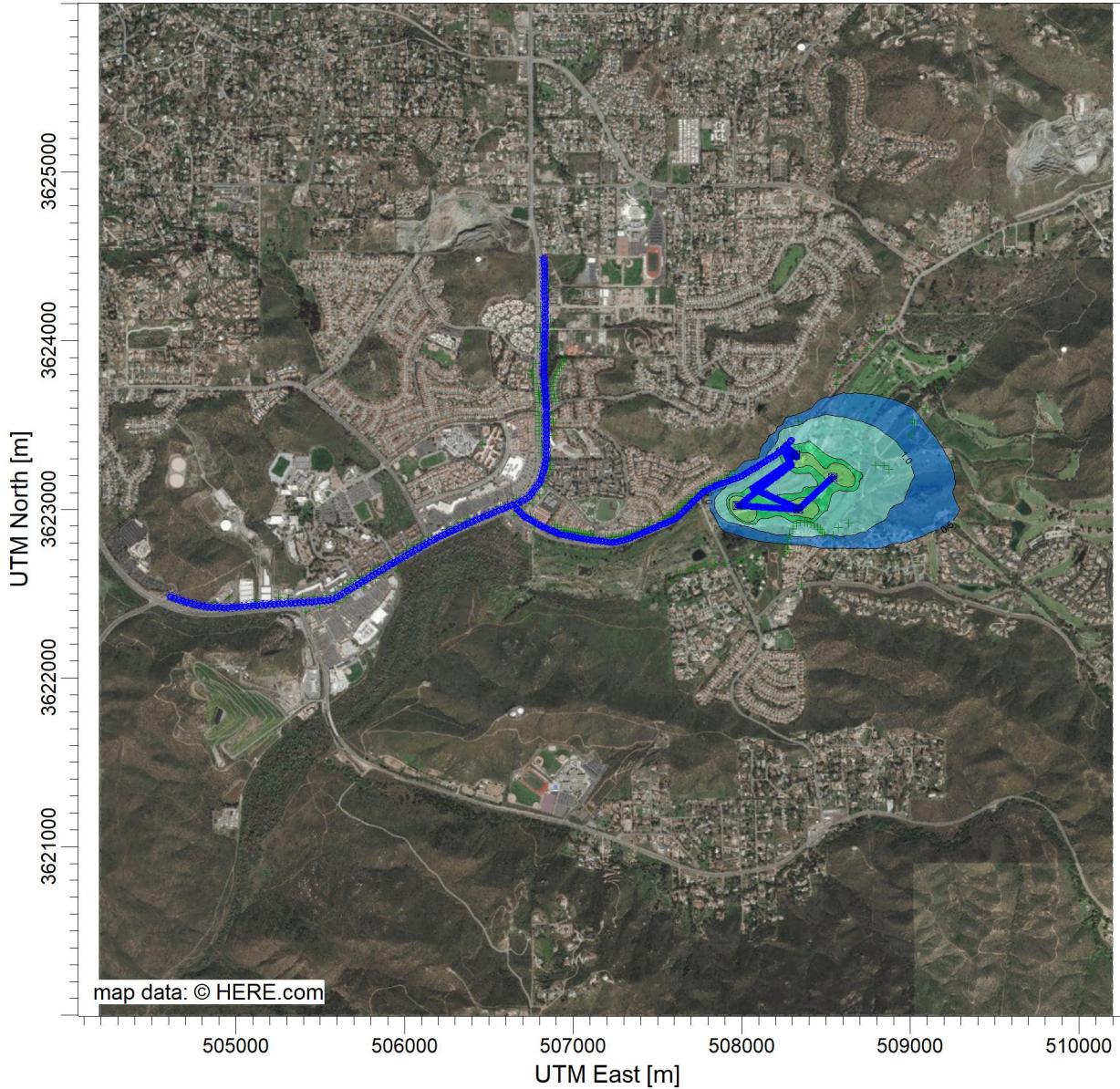
**11/5/2021**

SCALE:

1:40,910

0  1 km

PROJECT NO.:





PROJECT TITLE:

**Cottonwood Sand Mine Phase 2  
Residential Chronic Hazard Index**

COMMENTS:

Maximum Hazard Index

SOURCES:

**12**

RECEPTORS:

**1863**

OUTPUT TYPE:

MAX:

COMPANY NAME:

**HELIX Environmental  
Planning**

DATE:

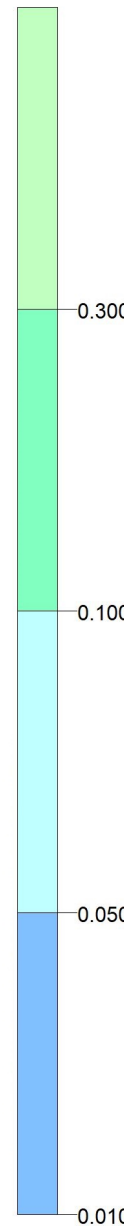
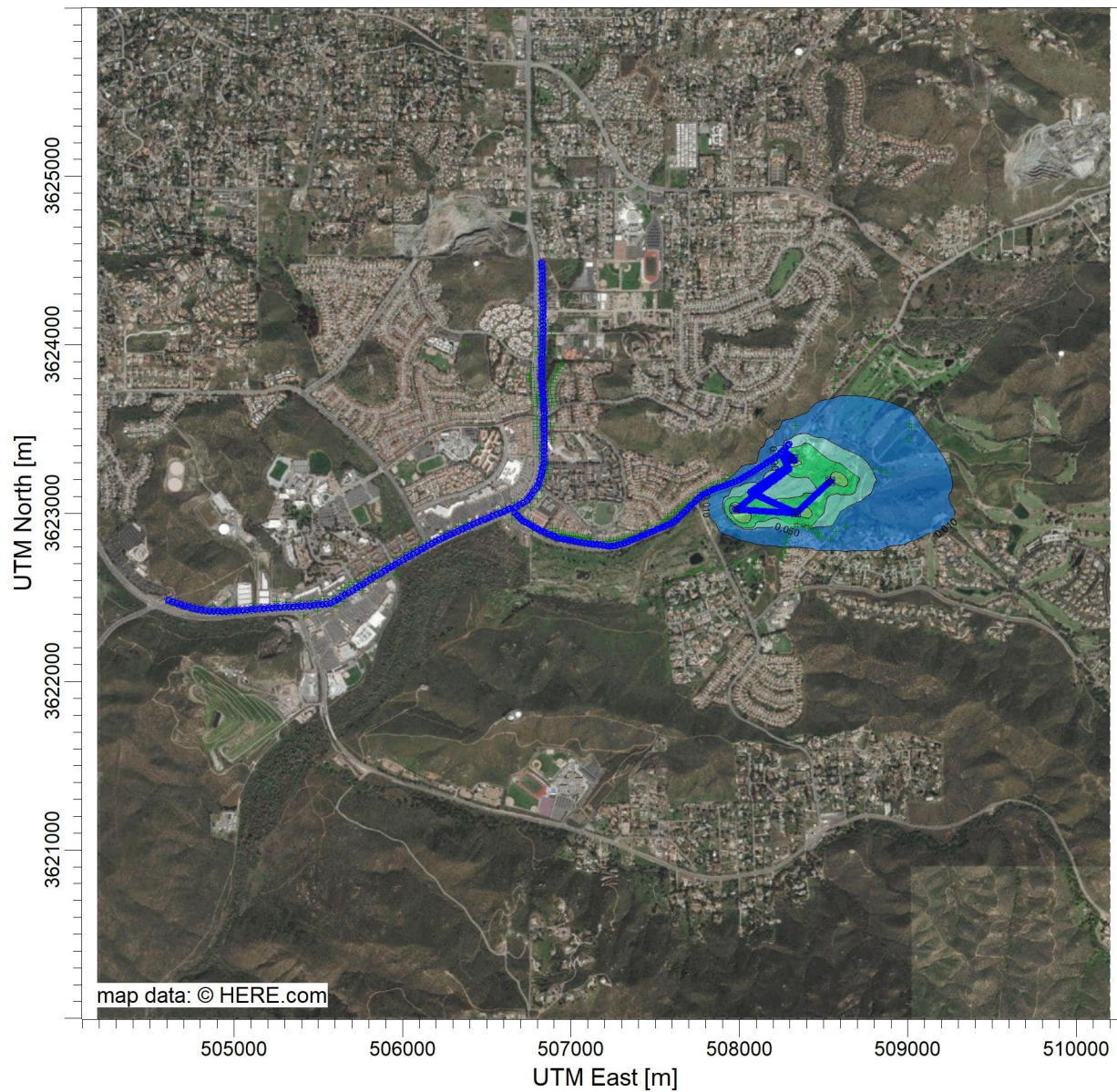
**11/5/2021**

SCALE:

1:40,910

0  1 km

PROJECT NO.:



PROJECT TITLE:

**Cottonwood Sand Mine Phase 2  
Off-Site Worker Cancer Risk**

COMMENTS:

Risk in chances per million

SOURCES:

**12**

RECEPTORS:

**1863**

OUTPUT TYPE:

MAX:

COMPANY NAME:

**HELIX Environmental  
Planning**

DATE:

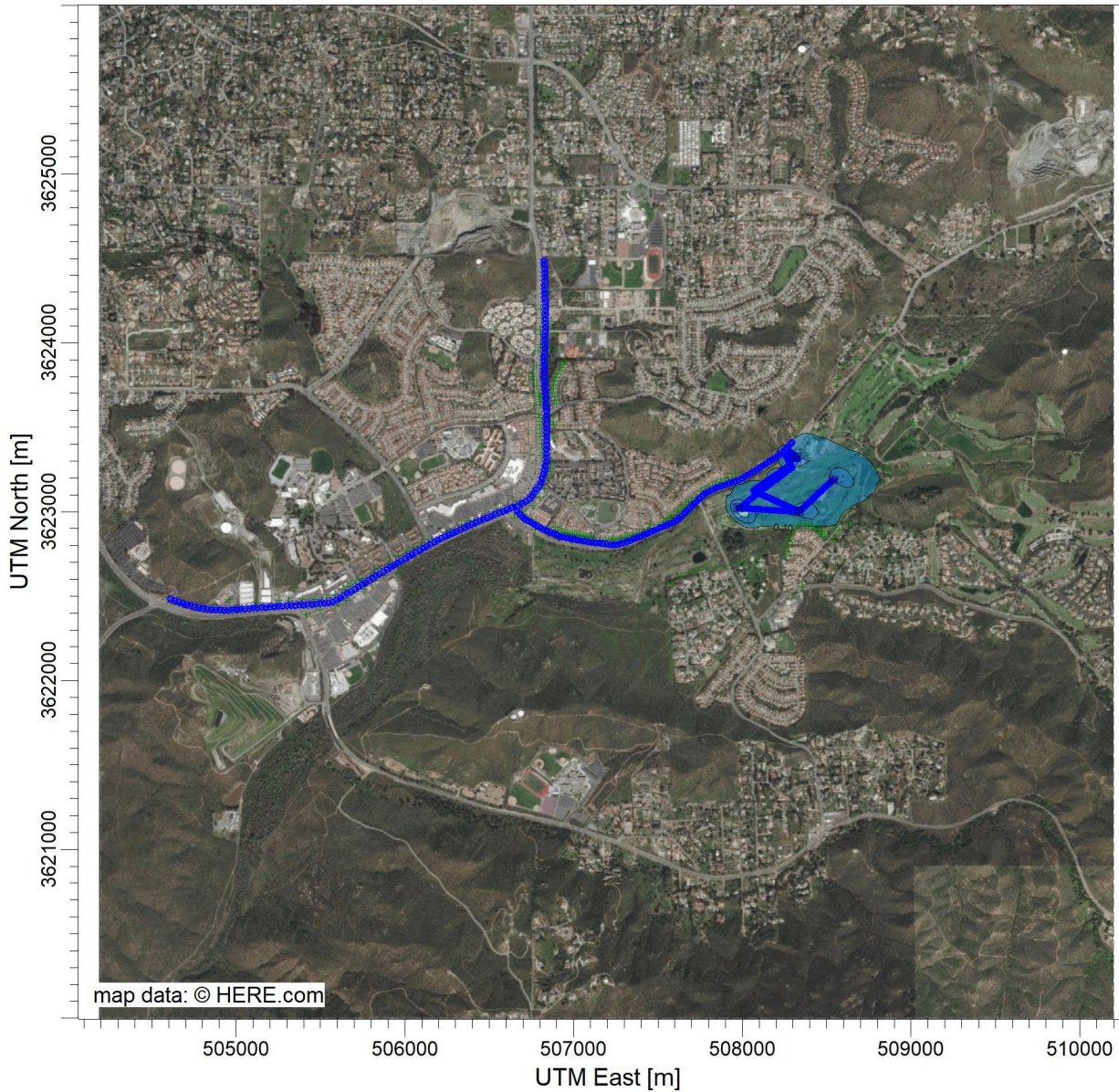
**11/5/2021**

SCALE:

1:40,910

0  1 km

PROJECT NO.:



PROJECT TITLE:

**Cottonwood Sand Mine Phase 2  
Off-Site Worker Chronic Hazard Index**

COMMENTS:

Maximum Hazard Index

SOURCES:

**12**

RECEPTORS:

**1863**

OUTPUT TYPE:

MAX:

COMPANY NAME:

**HELIX Environmental  
Planning**

DATE:

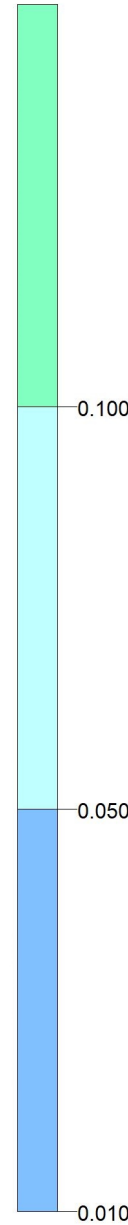
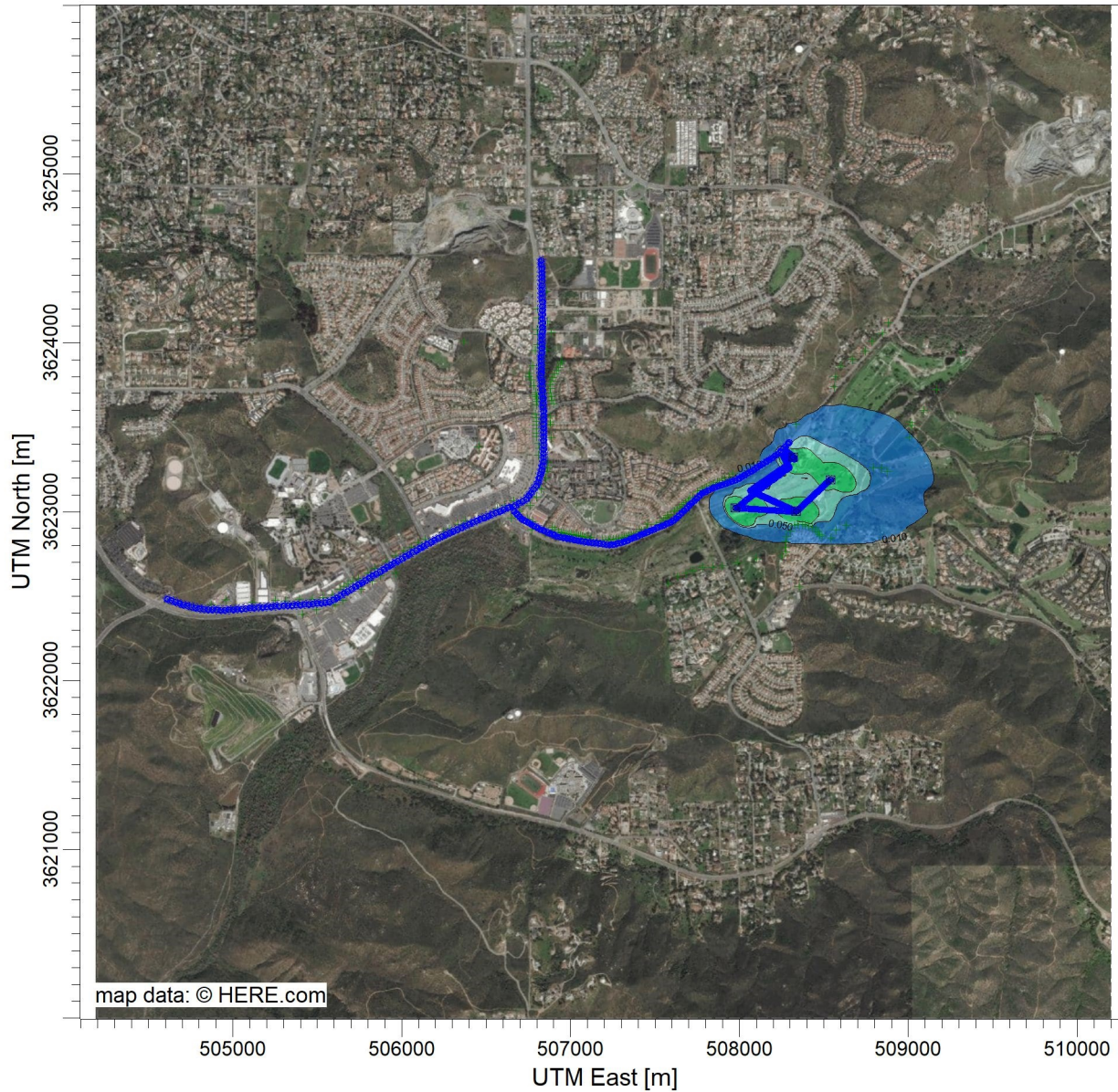
**11/5/2021**

SCALE:

1:40,910

0  1 km

PROJECT NO.:



PROJECT TITLE:

**Cottonwood Sand Mine Phase 2  
Residential Cancer Burden**

COMMENTS:

70-year 1 in 1million risk area

SOURCES:

**12**

RECEPTORS:

**1863**

OUTPUT TYPE:

MAX:

COMPANY NAME:

**HELIX Environmental  
Planning**

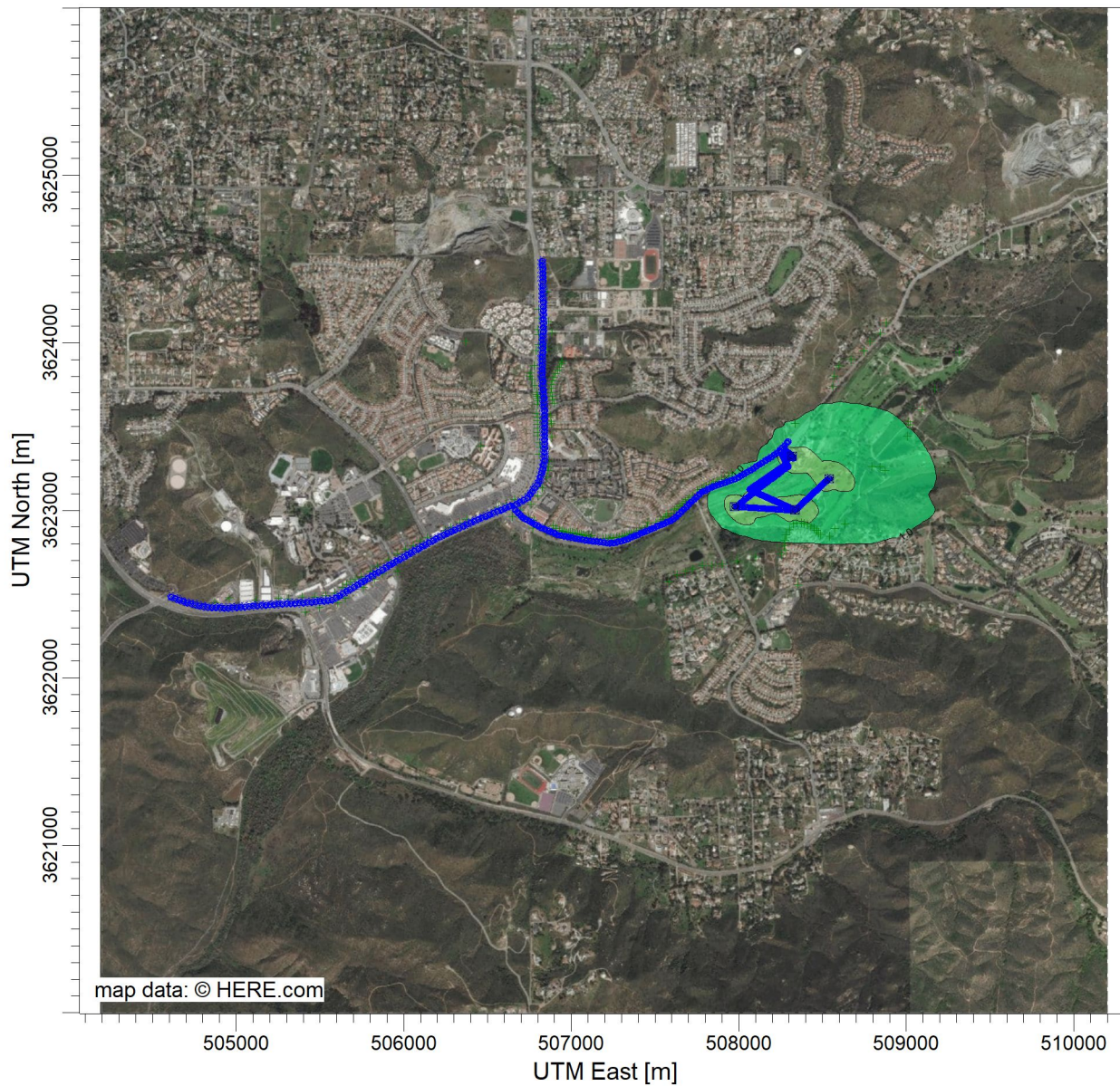
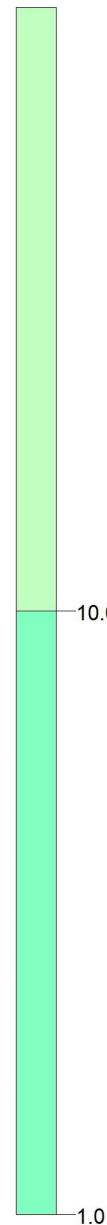
DATE:

**11/5/2021**

SCALE: 1:40,910

0  1 km

PROJECT NO.:



# Control Pathway

AERMOD

## Dispersion Options

|  |  |
|--|--|
| <b>Titles</b><br>SIR02 Cottonwood Sand Mine Phase 2 AERMOD   |  |
| <b>Dispersion Options</b><br><input checked="" type="checkbox"/> Regulatory Default <input type="checkbox"/> Non-Default Options | <b>Dispersion Coefficient</b><br>Rural   |
|  | <b>Output Type</b><br><input checked="" type="checkbox"/> Concentration<br><input type="checkbox"/> Total Deposition (Dry & Wet)<br><input type="checkbox"/> Dry Deposition<br><input type="checkbox"/> Wet Deposition |
|  | <b>Plume Depletion</b><br><input type="checkbox"/> Dry Removal<br><input type="checkbox"/> Wet Removal   |
|  | <b>Output Warnings</b><br><input type="checkbox"/> No Output Warnings<br><input type="checkbox"/> Non-fatal Warnings for Non-sequential Met Data   |

## Pollutant / Averaging Time / Terrain Options

|  |   |
|--|---|
| <b>Pollutant Type</b><br>OTHER - MULTIPLE  | <b>Exponential Decay</b><br>Option not available  |
| <b>Averaging Time Options</b><br>Hours <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 6 <input type="checkbox"/> 8 <input type="checkbox"/> 12 <input type="checkbox"/> 24<br><input type="checkbox"/> Month <input checked="" type="checkbox"/> Period <input type="checkbox"/> Annual | <b>Terrain Height Options</b><br><input type="checkbox"/> Flat <input checked="" type="checkbox"/> Elevated      SO: Meters<br>RE: Meters<br>TG: Meters |
| <b>Flagpole Receptors</b><br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br>Default Height = 1.20 m  |   |

## Optional Files



Re-Start File



Init File



Multi-Year Analyses



Event Input File



Error Listing File

### Detailed Error Listing File

Filename: SIR02\_Phase3\_AERMOD.err

# Source Pathway - Source Inputs

AERMOD

## Volume Sources

| Source Type | Source ID  | X Coordinate [m]     | Y Coordinate [m] | Base Elevation (Optional) | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dim. [m] | Initial Vertical Dim. [m] |
|-------------|------------|----------------------|------------------|---------------------------|--------------------|---------------------|--------------------|---------------------|--------------------------|---------------------------|
| VOLUME      | P3AEXTRACT | 509074.23            | 3623831.28       | 114.14                    | 3.00               | 1.00000             | 50.00              | Surface-Based       | 11.63                    | 1.05                      |
|             |            | Phase 3-A Extraction |                  |                           |                    |                     |                    |                     |                          |                           |
| VOLUME      | PROCESS    | 508317.38            | 3623323.54       | 109.92                    | 3.00               | 1.00000             | 50.00              | Surface-Based       | 11.63                    | 1.19                      |
|             |            | Processing Area      |                  |                           |                    |                     |                    |                     |                          |                           |
| VOLUME      | P3BEXTACT  | 508802.23            | 3623733.33       | 113.36                    | 3.00               | 1.00000             | 50.00              | Surface-Based       | 11.63                    | 1.19                      |
|             |            | Phase 3-B Extraction |                  |                           |                    |                     |                    |                     |                          |                           |
| VOLUME      | P3CEXTRACT | 508663.16            | 3623533.51       | 110.67                    | 3.00               | 1.00000             | 50.00              | Surface-Based       | 11.63                    | 1.19                      |
|             |            | Phase 3-C Extraction |                  |                           |                    |                     |                    |                     |                          |                           |
| VOLUME      | P3DEXTRACT | 508438.18            | 3623408.46       | 110.01                    | 3.00               | 1.00000             | 50.00              | Surface-Based       | 11.63                    | 1.19                      |
|             |            | Phase 3-D Extraction |                  |                           |                    |                     |                    |                     |                          |                           |

# Source Pathway - Source Inputs

AERMOD

## Line Volume Sources

Source Type: LINE VOLUME

Source: FCONV (Final Conveyor)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 1.83               | 1.00000              |                     | 508280.92                   | 3623353.74                  | 112.41             | 10.73              |
|                    |                      |                     | 508313.10                   | 3623329.17                  | 109.91             | 10.73              |

Source Type: LINE VOLUME

Source: HRT1 (Haul Route 1 Willow Glen)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 21.24              | 1.00000              |                     | 508295.91                   | 3623410.45                  | 116.37             | 2.55               |
|                    |                      |                     | 508224.91                   | 3623337.84                  | 112.76             | 2.55               |
|                    |                      |                     | 508079.69                   | 3623244.25                  | 111.69             | 2.55               |
|                    |                      |                     | 507992.56                   | 3623192.62                  | 110.61             | 2.55               |
|                    |                      |                     | 507842.50                   | 3623139.37                  | 111.46             | 2.55               |
|                    |                      |                     | 507777.96                   | 3623107.10                  | 111.18             | 2.55               |
|                    |                      |                     | 507736.01                   | 3623068.37                  | 108.25             | 2.55               |
|                    |                      |                     | 507627.90                   | 3622961.88                  | 107.44             | 2.55               |
|                    |                      |                     | 507595.63                   | 3622937.67                  | 107.02             | 2.55               |
|                    |                      |                     | 507318.10                   | 3622821.50                  | 109.93             | 2.55               |
|                    |                      |                     | 507243.87                   | 3622802.14                  | 107.83             | 2.55               |
|                    |                      |                     | 507084.13                   | 3622821.50                  | 113.74             | 2.55               |
|                    |                      |                     | 506919.55                   | 3622853.77                  | 113.66             | 2.55               |
|                    |                      |                     | 506819.51                   | 3622897.34                  | 105.79             | 2.55               |
|                    |                      |                     | 506709.79                   | 3622957.04                  | 104.94             | 2.55               |
|                    |                      |                     | 506661.38                   | 3623007.06                  | 105.54             | 2.55               |



# Source Pathway - Source Inputs

AERMOD

Source Type: LINE VOLUME

Source: HRT2 (Haul Route 2 Jamacha N)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 24.90              | 1.00000              |                     | 506662.38                   | 3623030.07                  | 104.77             | 2.55               |
|                    |                      |                     | 506737.60                   | 3623073.38                  | 106.64             | 2.55               |
|                    |                      |                     | 506808.26                   | 3623169.12                  | 109.72             | 2.55               |
|                    |                      |                     | 506840.17                   | 3623294.48                  | 113.20             | 2.55               |
|                    |                      |                     | 506837.89                   | 3623625.00                  | 116.39             | 2.55               |
|                    |                      |                     | 506824.22                   | 3623818.75                  | 118.01             | 2.55               |
|                    |                      |                     | 506833.34                   | 3624137.87                  | 129.51             | 2.55               |
|                    |                      |                     | 506826.50                   | 3624511.70                  | 146.39             | 2.55               |

Source Type: LINE VOLUME

Source: HRT3 (Haul Route 3 Jamacha SW)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 24.90              | 1.00000              |                     | 506638.96                   | 3623027.47                  | 104.28             | 2.55               |
|                    |                      |                     | 506454.47                   | 3622950.05                  | 102.55             | 2.55               |
|                    |                      |                     | 506233.73                   | 3622851.22                  | 101.74             | 2.55               |
|                    |                      |                     | 506088.77                   | 3622772.15                  | 101.33             | 2.55               |
|                    |                      |                     | 505912.52                   | 3622670.02                  | 101.71             | 2.55               |
|                    |                      |                     | 505653.89                   | 3622511.88                  | 104.82             | 2.55               |
|                    |                      |                     | 505573.18                   | 3622465.75                  | 106.06             | 2.55               |
|                    |                      |                     | 505471.05                   | 3622452.57                  | 107.71             | 2.55               |
|                    |                      |                     | 505191.01                   | 3622436.10                  | 113.50             | 2.55               |
|                    |                      |                     | 504952.15                   | 3622416.33                  | 123.16             | 2.55               |
|                    |                      |                     | 504817.08                   | 3622422.92                  | 131.63             | 2.55               |
|                    |                      |                     | 504701.77                   | 3622449.28                  | 137.29             | 2.55               |
|                    |                      |                     | 504594.70                   | 3622490.46                  | 133.87             | 2.55               |

# Source Pathway - Source Inputs

AERMOD

**Source Type:** LINE VOLUME

**Source:** MCONV (Main Conveyor)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 1.83               | 1.00000              |                     | 508280.93                   | 3623353.72                  | 112.41             | 0.00               |
|                    |                      |                     | 508260.69                   | 3623331.50                  | 111.28             | 0.00               |
|                    |                      |                     | 508287.26                   | 3623276.19                  | 108.57             | 0.00               |
|                    |                      |                     | 508426.32                   | 3623291.13                  | 108.90             | 0.00               |
|                    |                      |                     | 508637.71                   | 3623429.09                  | 111.29             | 0.00               |
|                    |                      |                     | 508854.88                   | 3623704.34                  | 112.16             | 0.00               |

**Source Type:** LINE VOLUME

**Source:** P3HRD (Haul Road Phase 3)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 9.50               | 1.00000              |                     | 508373.81                   | 3623308.88                  | 109.30             | 3.19               |
|                    |                      |                     | 508450.70                   | 3623325.44                  | 107.95             | 3.19               |
|                    |                      |                     | 508666.04                   | 3623532.22                  | 110.64             | 3.19               |
|                    |                      |                     | 508807.02                   | 3623731.76                  | 113.48             | 3.19               |
|                    |                      |                     | 509071.14                   | 3623836.89                  | 114.04             | 3.19               |

**Source Type:** LINE VOLUME

**Source:** RSTACK1 (Radial Stacker 1)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 1.83               | 1.00000              |                     | 508310.44                   | 3623330.07                  | 110.04             | 8.29               |
|                    |                      |                     | 508300.25                   | 3623309.85                  | 109.92             | 8.29               |

**Source Type:** LINE VOLUME

**Source:** RSTACK2 (Radial Stacker 2)

| Length of Side [m] | Emission Rate [g/ s] | Building Height [m] | X Coordinate for Points [m] | Y Coordinate for points [m] | Base Elevation [m] | Release Height [m] |
|--------------------|----------------------|---------------------|-----------------------------|-----------------------------|--------------------|--------------------|
| 1.83               | 1.00000              |                     | 508311.27                   | 3623330.63                  | 110.03             | 10.27              |
|                    |                      |                     | 508327.81                   | 3623308.01                  | 109.55             | 10.27              |

# Source Pathway - Source Inputs

AERMOD

## Volume Sources Generated from Line Sources

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT1           | L0000524         | 508288.48        | 3623402.85       | 116.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000525         | 508273.64        | 3623387.67       | 116.60             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000526         | 508258.79        | 3623372.48       | 115.77             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000527         | 508243.94        | 3623357.29       | 113.95             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000528         | 508229.09        | 3623342.11       | 112.91             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000529         | 508212.08        | 3623329.56       | 113.15             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000530         | 508194.22        | 3623318.06       | 113.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000531         | 508176.37        | 3623306.55       | 113.63             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000532         | 508158.52        | 3623295.05       | 113.85             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000533         | 508140.66        | 3623283.54       | 113.24             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000534         | 508122.81        | 3623272.04       | 113.19             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000535         | 508104.96        | 3623260.53       | 113.09             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000536         | 508087.10        | 3623249.02       | 112.68             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000537         | 508069.00        | 3623237.92       | 112.51             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000538         | 508050.73        | 3623227.09       | 112.32             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000539         | 508032.46        | 3623216.26       | 112.33             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000540         | 508014.19        | 3623205.43       | 112.27             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000541         | 507995.91        | 3623194.60       | 112.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000542         | 507976.22        | 3623186.82       | 113.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000543         | 507956.20        | 3623179.71       | 113.53             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000544         | 507936.18        | 3623172.61       | 112.66             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000545         | 507916.16        | 3623165.51       | 112.44             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000546         | 507896.15        | 3623158.40       | 112.47             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000547         | 507876.13        | 3623151.30       | 111.94             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT1           | L0000548         | 507856.11        | 3623144.20       | 112.06             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000549         | 507836.42        | 3623136.33       | 111.94             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000550         | 507817.42        | 3623126.83       | 111.14             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000551         | 507798.43        | 3623117.33       | 110.57             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000552         | 507779.43        | 3623107.83       | 110.64             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000553         | 507763.56        | 3623093.81       | 109.41             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000554         | 507747.95        | 3623079.40       | 108.67             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000555         | 507732.46        | 3623064.88       | 108.21             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000556         | 507717.33        | 3623049.97       | 107.98             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000557         | 507702.19        | 3623035.06       | 107.75             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000558         | 507687.06        | 3623020.16       | 107.66             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000559         | 507671.93        | 3623005.25       | 107.41             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000560         | 507656.80        | 3622990.35       | 107.29             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000561         | 507641.67        | 3622975.44       | 107.27             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000562         | 507626.37        | 3622960.73       | 107.27             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000563         | 507609.38        | 3622947.99       | 107.33             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000564         | 507591.89        | 3622936.11       | 107.51             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000565         | 507572.30        | 3622927.91       | 108.74             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000566         | 507552.70        | 3622919.71       | 109.91             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000567         | 507533.11        | 3622911.51       | 110.14             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000568         | 507513.52        | 3622903.30       | 110.64             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000569         | 507493.93        | 3622895.10       | 111.16             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000570         | 507474.33        | 3622886.90       | 111.27             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000571         | 507454.74        | 3622878.70       | 110.61             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000572         | 507435.15        | 3622870.50       | 110.72             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT1           | L0000573         | 507415.55        | 3622862.30       | 110.81             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000574         | 507395.96        | 3622854.09       | 110.53             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000575         | 507376.37        | 3622845.89       | 110.77             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000576         | 507356.78        | 3622837.69       | 110.73             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000577         | 507337.18        | 3622829.49       | 110.66             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000578         | 507317.57        | 3622821.36       | 110.13             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000579         | 507297.01        | 3622816.00       | 110.47             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000580         | 507276.46        | 3622810.64       | 110.76             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000581         | 507255.91        | 3622805.28       | 109.76             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000582         | 507235.14        | 3622803.19       | 109.55             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000583         | 507214.05        | 3622805.75       | 111.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000584         | 507192.97        | 3622808.31       | 113.12             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000585         | 507171.88        | 3622810.86       | 114.04             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000586         | 507150.79        | 3622813.42       | 107.99             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000587         | 507129.71        | 3622815.97       | 108.59             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000588         | 507108.62        | 3622818.53       | 114.66             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000589         | 507087.54        | 3622821.09       | 114.33             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000590         | 507066.66        | 3622824.93       | 113.71             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000591         | 507045.81        | 3622829.01       | 114.46             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000592         | 507024.97        | 3622833.10       | 113.96             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000593         | 507004.13        | 3622837.19       | 114.02             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000594         | 506983.28        | 3622841.27       | 114.81             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000595         | 506962.44        | 3622845.36       | 113.90             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000596         | 506941.60        | 3622849.45       | 114.45             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000597         | 506920.75        | 3622853.53       | 114.31             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT1           | L0000598         | 506901.20        | 3622861.76       | 115.01             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000599         | 506881.73        | 3622870.24       | 113.75             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000600         | 506862.25        | 3622878.72       | 114.15             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000601         | 506842.78        | 3622887.20       | 109.05             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000602         | 506823.31        | 3622895.68       | 105.83             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000603         | 506804.49        | 3622905.51       | 105.66             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000604         | 506785.83        | 3622915.66       | 105.57             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000605         | 506767.18        | 3622925.81       | 105.31             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000606         | 506748.52        | 3622935.96       | 104.24             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000607         | 506729.86        | 3622946.11       | 105.72             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000608         | 506711.21        | 3622956.26       | 104.92             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000609         | 506696.14        | 3622971.14       | 106.11             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000610         | 506681.37        | 3622986.40       | 106.50             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |
|                | L0000611         | 506666.60        | 3623001.67       | 105.91             | 2.55               | 0.01136             | 21.24              |                     | 9.88                          | 2.37                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT3           | L0000612         | 506627.48        | 3623022.66       | 104.21             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000613         | 506604.53        | 3623013.02       | 104.26             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000614         | 506581.57        | 3623003.39       | 104.07             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000615         | 506558.61        | 3622993.75       | 103.82             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000616         | 506535.65        | 3622984.12       | 103.44             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000617         | 506512.69        | 3622974.49       | 103.18             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000618         | 506489.74        | 3622964.85       | 102.98             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000619         | 506466.78        | 3622955.22       | 102.78             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000620         | 506443.93        | 3622945.33       | 102.41             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT3           | L0000621         | 506421.20        | 3622935.16       | 102.35             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000622         | 506398.48        | 3622924.98       | 102.22             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000623         | 506375.76        | 3622914.81       | 102.04             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000624         | 506353.03        | 3622904.63       | 101.96             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000625         | 506330.31        | 3622894.46       | 101.82             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000626         | 506307.59        | 3622884.28       | 101.87             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000627         | 506284.86        | 3622874.11       | 101.75             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000628         | 506262.14        | 3622863.93       | 101.81             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000629         | 506239.42        | 3622853.76       | 101.87             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000630         | 506217.34        | 3622842.27       | 101.82             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000631         | 506195.48        | 3622830.35       | 101.62             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000632         | 506173.63        | 3622818.43       | 101.50             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000633         | 506151.77        | 3622806.51       | 101.46             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000634         | 506129.91        | 3622794.58       | 101.39             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000635         | 506108.05        | 3622782.66       | 101.32             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000636         | 506086.23        | 3622770.67       | 101.26             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000637         | 506064.69        | 3622758.19       | 101.18             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000638         | 506043.15        | 3622745.71       | 101.14             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000639         | 506021.61        | 3622733.23       | 101.13             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000640         | 506000.06        | 3622720.74       | 101.18             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000641         | 505978.52        | 3622708.26       | 101.26             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000642         | 505956.98        | 3622695.78       | 101.36             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000643         | 505935.44        | 3622683.30       | 101.49             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000644         | 505913.89        | 3622670.81       | 101.66             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000645         | 505892.63        | 3622657.86       | 101.87             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT3           | L0000646         | 505871.39        | 3622644.87       | 102.07             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000647         | 505850.15        | 3622631.88       | 102.40             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000648         | 505828.91        | 3622618.89       | 102.82             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000649         | 505807.67        | 3622605.90       | 103.19             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000650         | 505786.43        | 3622592.92       | 103.53             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000651         | 505765.19        | 3622579.93       | 103.76             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000652         | 505743.94        | 3622566.94       | 103.96             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000653         | 505722.70        | 3622553.95       | 104.17             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000654         | 505701.46        | 3622540.96       | 104.43             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000655         | 505680.22        | 3622527.97       | 104.64             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000656         | 505658.98        | 3622514.99       | 104.76             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000657         | 505637.45        | 3622502.48       | 104.89             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000658         | 505615.83        | 3622490.13       | 105.14             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000659         | 505594.22        | 3622477.78       | 105.50             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000660         | 505572.52        | 3622465.67       | 105.88             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000661         | 505547.82        | 3622462.48       | 106.27             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000662         | 505523.13        | 3622459.30       | 106.94             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000663         | 505498.44        | 3622456.11       | 107.39             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000664         | 505473.75        | 3622452.92       | 107.75             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000665         | 505448.91        | 3622451.27       | 107.77             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000666         | 505424.05        | 3622449.81       | 108.41             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000667         | 505399.20        | 3622448.35       | 108.13             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000668         | 505374.35        | 3622446.89       | 107.52             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000669         | 505349.49        | 3622445.42       | 107.78             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000670         | 505324.64        | 3622443.96       | 108.01             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |



# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT3           | L0000671         | 505299.78        | 3622442.50       | 109.09             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000672         | 505274.93        | 3622441.04       | 110.20             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000673         | 505250.07        | 3622439.58       | 111.13             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000674         | 505225.22        | 3622438.11       | 111.98             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000675         | 505200.36        | 3622436.65       | 113.14             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000676         | 505175.53        | 3622434.82       | 113.70             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000677         | 505150.72        | 3622432.77       | 114.23             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000678         | 505125.91        | 3622430.71       | 114.69             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000679         | 505101.10        | 3622428.66       | 114.21             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000680         | 505076.28        | 3622426.61       | 115.00             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000681         | 505051.47        | 3622424.55       | 115.46             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000682         | 505026.66        | 3622422.50       | 117.53             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000683         | 505001.85        | 3622420.45       | 121.45             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000684         | 504977.03        | 3622418.39       | 121.57             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000685         | 504952.22        | 3622416.34       | 123.10             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000686         | 504927.35        | 3622417.54       | 125.18             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000687         | 504902.48        | 3622418.76       | 126.83             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000688         | 504877.62        | 3622419.97       | 128.08             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000689         | 504852.75        | 3622421.18       | 129.48             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000690         | 504827.88        | 3622422.40       | 130.97             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000691         | 504803.35        | 3622426.06       | 132.52             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000692         | 504779.08        | 3622431.61       | 134.65             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000693         | 504754.81        | 3622437.16       | 135.95             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000694         | 504730.53        | 3622442.71       | 136.89             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000695         | 504706.26        | 3622448.25       | 137.39             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT3           | L0000696         | 504682.83        | 3622456.56       | 137.67             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000697         | 504659.59        | 3622465.50       | 137.70             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000698         | 504636.36        | 3622474.44       | 136.36             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000699         | 504613.12        | 3622483.38       | 135.62             | 2.55               | 0.01136             | 24.90              |                     | 11.58                         | 2.37                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT2           | L0000700         | 506673.17        | 3623036.28       | 104.92             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000701         | 506694.74        | 3623048.70       | 105.38             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000702         | 506716.32        | 3623061.13       | 106.06             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000703         | 506737.80        | 3623073.66       | 106.71             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000704         | 506752.59        | 3623093.69       | 107.16             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000705         | 506767.37        | 3623113.72       | 107.74             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000706         | 506782.16        | 3623133.75       | 108.40             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000707         | 506796.95        | 3623153.78       | 109.11             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000708         | 506809.70        | 3623174.78       | 110.05             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000709         | 506815.84        | 3623198.90       | 110.58             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000710         | 506821.99        | 3623223.03       | 110.82             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000711         | 506828.13        | 3623247.16       | 112.29             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000712         | 506834.27        | 3623271.29       | 113.71             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000713         | 506840.17        | 3623295.45       | 112.90             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000714         | 506840.00        | 3623320.34       | 112.68             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000715         | 506839.82        | 3623345.24       | 112.87             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000716         | 506839.65        | 3623370.14       | 114.11             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000717         | 506839.48        | 3623395.03       | 115.60             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000718         | 506839.31        | 3623419.93       | 115.38             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT2           | L0000719         | 506839.14        | 3623444.83       | 115.36             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000720         | 506838.97        | 3623469.73       | 114.72             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000721         | 506838.79        | 3623494.62       | 119.07             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000722         | 506838.62        | 3623519.52       | 119.70             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000723         | 506838.45        | 3623544.42       | 119.89             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000724         | 506838.28        | 3623569.31       | 115.87             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000725         | 506838.11        | 3623594.21       | 116.31             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000726         | 506837.94        | 3623619.11       | 116.57             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000727         | 506836.56        | 3623643.96       | 113.69             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000728         | 506834.80        | 3623668.79       | 115.36             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000729         | 506833.05        | 3623693.63       | 115.32             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000730         | 506831.30        | 3623718.47       | 116.42             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000731         | 506829.54        | 3623743.30       | 116.38             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000732         | 506827.79        | 3623768.14       | 117.28             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000733         | 506826.04        | 3623792.97       | 117.17             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000734         | 506824.28        | 3623817.81       | 117.88             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000735         | 506824.90        | 3623842.69       | 119.08             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000736         | 506825.61        | 3623867.58       | 120.72             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000737         | 506826.32        | 3623892.47       | 121.80             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000738         | 506827.04        | 3623917.36       | 122.63             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000739         | 506827.75        | 3623942.24       | 123.39             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000740         | 506828.46        | 3623967.13       | 124.02             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000741         | 506829.17        | 3623992.02       | 124.63             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000742         | 506829.88        | 3624016.91       | 126.20             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000743         | 506830.59        | 3624041.79       | 126.61             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| HRT2           | L0000744         | 506831.30        | 3624066.68       | 127.28             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000745         | 506832.01        | 3624091.57       | 127.99             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000746         | 506832.72        | 3624116.46       | 129.25             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000747         | 506833.27        | 3624141.34       | 129.79             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000748         | 506832.82        | 3624166.24       | 130.85             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000749         | 506832.36        | 3624191.13       | 131.50             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000750         | 506831.91        | 3624216.02       | 131.87             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000751         | 506831.45        | 3624240.92       | 132.66             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000752         | 506831.00        | 3624265.81       | 134.14             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000753         | 506830.54        | 3624290.71       | 135.44             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000754         | 506830.08        | 3624315.60       | 137.20             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000755         | 506829.63        | 3624340.49       | 138.98             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000756         | 506829.17        | 3624365.39       | 140.06             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000757         | 506828.72        | 3624390.28       | 140.81             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000758         | 506828.26        | 3624415.17       | 141.39             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000759         | 506827.81        | 3624440.07       | 142.78             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000760         | 506827.35        | 3624464.96       | 144.03             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |
|                | L0000761         | 506826.90        | 3624489.85       | 145.02             | 2.55               | 0.01613             | 24.90              |                     | 11.58                         | 2.37                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| FCONV          | L0002171         | 508281.65        | 3623353.18       | 112.09             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002172         | 508283.10        | 3623352.07       | 112.12             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002173         | 508284.55        | 3623350.96       | 112.12             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002174         | 508286.01        | 3623349.85       | 112.08             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002175         | 508287.46        | 3623348.74       | 112.00             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |

# Source Pathway - Source Inputs

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| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| FCONV          | L0002176         | 508288.91        | 3623347.63       | 111.83             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002177         | 508290.37        | 3623346.52       | 111.63             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002178         | 508291.82        | 3623345.41       | 111.47             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002179         | 508293.28        | 3623344.30       | 111.32             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002180         | 508294.73        | 3623343.19       | 111.14             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002181         | 508296.18        | 3623342.09       | 110.96             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002182         | 508297.64        | 3623340.98       | 110.80             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002183         | 508299.09        | 3623339.87       | 110.67             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002184         | 508300.55        | 3623338.76       | 110.56             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002185         | 508302.00        | 3623337.65       | 110.46             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002186         | 508303.45        | 3623336.54       | 110.38             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002187         | 508304.91        | 3623335.43       | 110.31             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002188         | 508306.36        | 3623334.32       | 110.22             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002189         | 508307.81        | 3623333.21       | 110.14             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002190         | 508309.27        | 3623332.10       | 110.07             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002191         | 508310.72        | 3623330.99       | 110.01             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
|                | L0002192         | 508312.18        | 3623329.88       | 109.97             | 10.73              | 0.04545             | 1.83               |                     | 0.85                          | 3.74                           |
| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
| RSTACK1        | L0002622         | 508310.03        | 3623329.25       | 109.97             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002623         | 508309.20        | 3623327.62       | 109.93             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002624         | 508308.38        | 3623325.99       | 109.87             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002625         | 508307.56        | 3623324.35       | 109.81             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002626         | 508306.73        | 3623322.72       | 109.91             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002627         | 508305.91        | 3623321.09       | 110.00             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |

# Source Pathway - Source Inputs

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| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| RSTACK1        | L0002628         | 508305.09        | 3623319.45       | 110.09             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002629         | 508304.27        | 3623317.82       | 110.19             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002630         | 508303.44        | 3623316.19       | 110.30             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002631         | 508302.62        | 3623314.56       | 110.41             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002632         | 508301.80        | 3623312.92       | 110.37             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |
|                | L0002633         | 508300.97        | 3623311.29       | 110.28             | 8.29               | 0.08333             | 1.83               |                     | 0.85                          | 3.52                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| RSTACK2        | L0002650         | 508311.81        | 3623329.89       | 109.97             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002651         | 508312.89        | 3623328.41       | 109.94             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002652         | 508313.97        | 3623326.94       | 109.92             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002653         | 508315.05        | 3623325.46       | 109.90             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002654         | 508316.13        | 3623323.98       | 109.91             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002655         | 508317.21        | 3623322.51       | 109.97             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002656         | 508318.29        | 3623321.03       | 110.01             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002657         | 508319.37        | 3623319.55       | 110.03             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002658         | 508320.45        | 3623318.08       | 110.03             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002659         | 508321.53        | 3623316.60       | 110.02             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002660         | 508322.61        | 3623315.13       | 109.98             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002661         | 508323.69        | 3623313.65       | 109.93             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002662         | 508324.77        | 3623312.17       | 109.85             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002663         | 508325.85        | 3623310.70       | 109.77             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |
|                | L0002664         | 508326.93        | 3623309.22       | 109.69             | 10.27              | 0.06667             | 1.83               |                     | 0.85                          | 3.59                           |

# Source Pathway - Source Inputs

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| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011575         | 508280.32        | 3623353.04       | 111.97             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011576         | 508279.09        | 3623351.69       | 111.85             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011577         | 508277.85        | 3623350.34       | 111.84             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011578         | 508276.62        | 3623348.99       | 111.80             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011579         | 508275.39        | 3623347.64       | 111.73             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011580         | 508274.16        | 3623346.28       | 111.63             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011581         | 508272.93        | 3623344.93       | 111.51             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011582         | 508271.70        | 3623343.58       | 111.46             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011583         | 508270.47        | 3623342.23       | 111.44             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011584         | 508269.23        | 3623340.88       | 111.48             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011585         | 508268.00        | 3623339.52       | 111.48             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011586         | 508266.77        | 3623338.17       | 111.45             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011587         | 508265.54        | 3623336.82       | 111.39             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011588         | 508264.31        | 3623335.47       | 111.29             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011589         | 508263.08        | 3623334.12       | 111.22             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011590         | 508261.84        | 3623332.76       | 111.22             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011591         | 508260.75        | 3623331.39       | 111.24             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011592         | 508261.54        | 3623329.74       | 111.17             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011593         | 508262.33        | 3623328.10       | 111.12             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011594         | 508263.12        | 3623326.45       | 111.07             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011595         | 508263.91        | 3623324.80       | 111.02             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011596         | 508264.71        | 3623323.15       | 110.95             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011597         | 508265.50        | 3623321.50       | 110.83             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011598         | 508266.29        | 3623319.85       | 110.67             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011599         | 508267.08        | 3623318.20       | 110.47             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

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| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011600         | 508267.87        | 3623316.56       | 110.23             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011601         | 508268.66        | 3623314.91       | 109.95             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011602         | 508269.46        | 3623313.26       | 109.69             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011603         | 508270.25        | 3623311.61       | 109.52             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011604         | 508271.04        | 3623309.96       | 109.43             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011605         | 508271.83        | 3623308.31       | 109.43             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011606         | 508272.62        | 3623306.66       | 109.45             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011607         | 508273.42        | 3623305.02       | 109.49             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011608         | 508274.21        | 3623303.37       | 109.51             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011609         | 508275.00        | 3623301.72       | 109.51             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011610         | 508275.79        | 3623300.07       | 109.49             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011611         | 508276.58        | 3623298.42       | 109.47             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011612         | 508277.37        | 3623296.77       | 109.44             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011613         | 508278.17        | 3623295.13       | 109.40             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011614         | 508278.96        | 3623293.48       | 109.35             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011615         | 508279.75        | 3623291.83       | 109.30             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011616         | 508280.54        | 3623290.18       | 109.25             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011617         | 508281.33        | 3623288.53       | 109.20             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011618         | 508282.13        | 3623286.88       | 109.15             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011619         | 508282.92        | 3623285.23       | 109.10             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011620         | 508283.71        | 3623283.59       | 109.05             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011621         | 508284.50        | 3623281.94       | 109.00             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011622         | 508285.29        | 3623280.29       | 108.93             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011623         | 508286.08        | 3623278.64       | 108.86             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011624         | 508286.88        | 3623276.99       | 108.77             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |



# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011625         | 508288.19        | 3623276.29       | 108.72             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011626         | 508290.01        | 3623276.48       | 108.79             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011627         | 508291.83        | 3623276.68       | 108.85             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011628         | 508293.65        | 3623276.87       | 108.92             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011629         | 508295.47        | 3623277.07       | 108.99             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011630         | 508297.28        | 3623277.26       | 109.05             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011631         | 508299.10        | 3623277.46       | 109.02             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011632         | 508300.92        | 3623277.65       | 109.00             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011633         | 508302.74        | 3623277.85       | 108.97             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011634         | 508304.56        | 3623278.04       | 108.93             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011635         | 508306.38        | 3623278.24       | 108.91             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011636         | 508308.19        | 3623278.43       | 108.90             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011637         | 508310.01        | 3623278.63       | 108.89             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011638         | 508311.83        | 3623278.83       | 108.89             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011639         | 508313.65        | 3623279.02       | 108.88             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011640         | 508315.47        | 3623279.22       | 108.85             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011641         | 508317.29        | 3623279.41       | 108.82             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011642         | 508319.10        | 3623279.61       | 108.79             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011643         | 508320.92        | 3623279.80       | 108.76             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011644         | 508322.74        | 3623280.00       | 108.73             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011645         | 508324.56        | 3623280.19       | 108.75             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011646         | 508326.38        | 3623280.39       | 108.77             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011647         | 508328.20        | 3623280.58       | 108.79             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011648         | 508330.01        | 3623280.78       | 108.80             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011649         | 508331.83        | 3623280.97       | 108.83             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011650         | 508333.65        | 3623281.17       | 108.90             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011651         | 508335.47        | 3623281.37       | 108.98             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011652         | 508337.29        | 3623281.56       | 109.06             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011653         | 508339.11        | 3623281.76       | 109.14             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011654         | 508340.92        | 3623281.95       | 109.18             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011655         | 508342.74        | 3623282.15       | 109.16             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011656         | 508344.56        | 3623282.34       | 109.15             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011657         | 508346.38        | 3623282.54       | 109.13             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011658         | 508348.20        | 3623282.73       | 109.11             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011659         | 508350.02        | 3623282.93       | 109.12             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011660         | 508351.83        | 3623283.12       | 109.14             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011661         | 508353.65        | 3623283.32       | 109.17             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011662         | 508355.47        | 3623283.51       | 109.20             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011663         | 508357.29        | 3623283.71       | 109.23             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011664         | 508359.11        | 3623283.91       | 109.24             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011665         | 508360.93        | 3623284.10       | 109.25             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011666         | 508362.74        | 3623284.30       | 109.26             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011667         | 508364.56        | 3623284.49       | 109.27             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011668         | 508366.38        | 3623284.69       | 109.28             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011669         | 508368.20        | 3623284.88       | 109.27             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011670         | 508370.02        | 3623285.08       | 109.27             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011671         | 508371.84        | 3623285.27       | 109.27             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011672         | 508373.65        | 3623285.47       | 109.27             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011673         | 508375.47        | 3623285.66       | 109.26             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011674         | 508377.29        | 3623285.86       | 109.21             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011675         | 508379.11        | 3623286.05       | 109.16             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011676         | 508380.93        | 3623286.25       | 109.11             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011677         | 508382.75        | 3623286.45       | 109.06             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011678         | 508384.56        | 3623286.64       | 109.06             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011679         | 508386.38        | 3623286.84       | 109.10             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011680         | 508388.20        | 3623287.03       | 109.14             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011681         | 508390.02        | 3623287.23       | 109.19             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011682         | 508391.84        | 3623287.42       | 109.23             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011683         | 508393.66        | 3623287.62       | 109.26             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011684         | 508395.47        | 3623287.81       | 109.29             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011685         | 508397.29        | 3623288.01       | 109.31             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011686         | 508399.11        | 3623288.20       | 109.34             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011687         | 508400.93        | 3623288.40       | 109.36             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011688         | 508402.75        | 3623288.59       | 109.36             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011689         | 508404.57        | 3623288.79       | 109.37             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011690         | 508406.38        | 3623288.99       | 109.37             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011691         | 508408.20        | 3623289.18       | 109.37             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011692         | 508410.02        | 3623289.38       | 109.40             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011693         | 508411.84        | 3623289.57       | 109.48             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011694         | 508413.66        | 3623289.77       | 109.58             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011695         | 508415.48        | 3623289.96       | 109.68             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011696         | 508417.29        | 3623290.16       | 109.80             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011697         | 508419.11        | 3623290.35       | 109.75             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011698         | 508420.93        | 3623290.55       | 109.51             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011699         | 508422.75        | 3623290.74       | 109.26             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011700         | 508424.57        | 3623290.94       | 109.01             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011701         | 508426.38        | 3623291.16       | 108.77             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011702         | 508427.91        | 3623292.16       | 108.64             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011703         | 508429.44        | 3623293.16       | 108.52             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011704         | 508430.97        | 3623294.16       | 108.40             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011705         | 508432.50        | 3623295.16       | 108.29             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011706         | 508434.03        | 3623296.16       | 108.18             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011707         | 508435.56        | 3623297.16       | 108.07             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011708         | 508437.10        | 3623298.16       | 107.90             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011709         | 508438.63        | 3623299.16       | 107.72             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011710         | 508440.16        | 3623300.16       | 107.52             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011711         | 508441.69        | 3623301.16       | 107.31             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011712         | 508443.22        | 3623302.16       | 107.09             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011713         | 508444.75        | 3623303.16       | 106.90             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011714         | 508446.28        | 3623304.16       | 106.79             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011715         | 508447.82        | 3623305.16       | 106.69             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011716         | 508449.35        | 3623306.16       | 106.56             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011717         | 508450.88        | 3623307.16       | 106.40             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011718         | 508452.41        | 3623308.15       | 106.21             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011719         | 508453.94        | 3623309.15       | 106.12             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011720         | 508455.47        | 3623310.15       | 106.10             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011721         | 508457.01        | 3623311.15       | 106.06             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011722         | 508458.54        | 3623312.15       | 106.01             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011723         | 508460.07        | 3623313.15       | 105.93             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011724         | 508461.60        | 3623314.15       | 105.84             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011725         | 508463.13        | 3623315.15       | 105.88             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011726         | 508464.66        | 3623316.15       | 105.91             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011727         | 508466.19        | 3623317.15       | 105.93             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011728         | 508467.73        | 3623318.15       | 105.95             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011729         | 508469.26        | 3623319.15       | 105.96             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011730         | 508470.79        | 3623320.15       | 105.99             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011731         | 508472.32        | 3623321.15       | 106.06             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011732         | 508473.85        | 3623322.15       | 106.11             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011733         | 508475.38        | 3623323.15       | 106.13             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011734         | 508476.91        | 3623324.15       | 106.11             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011735         | 508478.45        | 3623325.15       | 106.11             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011736         | 508479.98        | 3623326.15       | 106.27             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011737         | 508481.51        | 3623327.15       | 106.51             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011738         | 508483.04        | 3623328.14       | 106.71             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011739         | 508484.57        | 3623329.14       | 106.89             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011740         | 508486.10        | 3623330.14       | 107.05             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011741         | 508487.64        | 3623331.14       | 107.19             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011742         | 508489.17        | 3623332.14       | 107.66             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011743         | 508490.70        | 3623333.14       | 108.17             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011744         | 508492.23        | 3623334.14       | 108.73             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011745         | 508493.76        | 3623335.14       | 109.28             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011746         | 508495.29        | 3623336.14       | 109.65             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011747         | 508496.82        | 3623337.14       | 109.80             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011748         | 508498.36        | 3623338.14       | 109.66             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011749         | 508499.89        | 3623339.14       | 109.59             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011750         | 508501.42        | 3623340.14       | 109.58             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011751         | 508502.95        | 3623341.14       | 109.64             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011752         | 508504.48        | 3623342.14       | 109.76             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011753         | 508506.01        | 3623343.14       | 109.82             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011754         | 508507.54        | 3623344.14       | 109.86             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011755         | 508509.08        | 3623345.14       | 109.92             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011756         | 508510.61        | 3623346.14       | 109.96             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011757         | 508512.14        | 3623347.14       | 110.03             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011758         | 508513.67        | 3623348.14       | 110.12             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011759         | 508515.20        | 3623349.13       | 110.02             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011760         | 508516.73        | 3623350.13       | 109.93             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011761         | 508518.27        | 3623351.13       | 109.85             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011762         | 508519.80        | 3623352.13       | 109.79             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011763         | 508521.33        | 3623353.13       | 109.74             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011764         | 508522.86        | 3623354.13       | 109.69             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011765         | 508524.39        | 3623355.13       | 109.65             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011766         | 508525.92        | 3623356.13       | 109.58             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011767         | 508527.45        | 3623357.13       | 109.51             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011768         | 508528.99        | 3623358.13       | 109.44             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011769         | 508530.52        | 3623359.13       | 109.39             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011770         | 508532.05        | 3623360.13       | 109.36             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011771         | 508533.58        | 3623361.13       | 109.33             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011772         | 508535.11        | 3623362.13       | 109.32             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011773         | 508536.64        | 3623363.13       | 109.32             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011774         | 508538.17        | 3623364.13       | 109.33             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011775         | 508539.71        | 3623365.13       | 109.34             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011776         | 508541.24        | 3623366.13       | 109.36             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011777         | 508542.77        | 3623367.13       | 109.38             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011778         | 508544.30        | 3623368.13       | 109.40             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011779         | 508545.83        | 3623369.13       | 109.43             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011780         | 508547.36        | 3623370.12       | 109.45             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011781         | 508548.90        | 3623371.12       | 109.48             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011782         | 508550.43        | 3623372.12       | 109.52             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011783         | 508551.96        | 3623373.12       | 109.56             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011784         | 508553.49        | 3623374.12       | 109.61             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011785         | 508555.02        | 3623375.12       | 109.66             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011786         | 508556.55        | 3623376.12       | 109.71             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011787         | 508558.08        | 3623377.12       | 109.79             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011788         | 508559.62        | 3623378.12       | 109.89             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011789         | 508561.15        | 3623379.12       | 109.96             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011790         | 508562.68        | 3623380.12       | 110.02             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011791         | 508564.21        | 3623381.12       | 110.07             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011792         | 508565.74        | 3623382.12       | 110.10             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011793         | 508567.27        | 3623383.12       | 110.08             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011794         | 508568.80        | 3623384.12       | 110.08             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011795         | 508570.34        | 3623385.12       | 110.08             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011796         | 508571.87        | 3623386.12       | 110.10             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011797         | 508573.40        | 3623387.12       | 110.16             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011798         | 508574.93        | 3623388.12       | 110.23             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011799         | 508576.46        | 3623389.12       | 110.30             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011800         | 508577.99        | 3623390.11       | 110.37             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011801         | 508579.52        | 3623391.11       | 110.44             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011802         | 508581.06        | 3623392.11       | 110.51             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011803         | 508582.59        | 3623393.11       | 110.58             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011804         | 508584.12        | 3623394.11       | 110.62             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011805         | 508585.65        | 3623395.11       | 110.64             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011806         | 508587.18        | 3623396.11       | 110.64             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011807         | 508588.71        | 3623397.11       | 110.63             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011808         | 508590.25        | 3623398.11       | 110.62             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011809         | 508591.78        | 3623399.11       | 110.63             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011810         | 508593.31        | 3623400.11       | 110.73             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011811         | 508594.84        | 3623401.11       | 110.84             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011812         | 508596.37        | 3623402.11       | 110.96             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011813         | 508597.90        | 3623403.11       | 111.08             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011814         | 508599.43        | 3623404.11       | 111.22             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011815         | 508600.97        | 3623405.11       | 111.31             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011816         | 508602.50        | 3623406.11       | 111.32             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011817         | 508604.03        | 3623407.11       | 111.32             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011818         | 508605.56        | 3623408.11       | 111.30             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011819         | 508607.09        | 3623409.11       | 111.28             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011820         | 508608.62        | 3623410.11       | 111.28             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011821         | 508610.15        | 3623411.10       | 111.29             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011822         | 508611.69        | 3623412.10       | 111.31             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011823         | 508613.22        | 3623413.10       | 111.34             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011824         | 508614.75        | 3623414.10       | 111.36             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |



# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011825         | 508616.28        | 3623415.10       | 111.39             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011826         | 508617.81        | 3623416.10       | 111.42             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011827         | 508619.34        | 3623417.10       | 111.44             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011828         | 508620.88        | 3623418.10       | 111.47             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011829         | 508622.41        | 3623419.10       | 111.49             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011830         | 508623.94        | 3623420.10       | 111.50             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011831         | 508625.47        | 3623421.10       | 111.51             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011832         | 508627.00        | 3623422.10       | 111.51             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011833         | 508628.53        | 3623423.10       | 111.50             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011834         | 508630.06        | 3623424.10       | 111.50             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011835         | 508631.60        | 3623425.10       | 111.50             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011836         | 508633.13        | 3623426.10       | 111.50             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011837         | 508634.66        | 3623427.10       | 111.52             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011838         | 508636.19        | 3623428.10       | 111.37             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011839         | 508637.72        | 3623429.10       | 111.19             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011840         | 508638.85        | 3623430.54       | 111.09             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011841         | 508639.98        | 3623431.97       | 111.00             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011842         | 508641.12        | 3623433.41       | 110.91             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011843         | 508642.25        | 3623434.84       | 110.84             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011844         | 508643.38        | 3623436.28       | 110.79             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011845         | 508644.51        | 3623437.71       | 110.77             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011846         | 508645.65        | 3623439.15       | 110.81             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011847         | 508646.78        | 3623440.59       | 110.81             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011848         | 508647.91        | 3623442.02       | 110.79             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011849         | 508649.05        | 3623443.46       | 110.74             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011850         | 508650.18        | 3623444.89       | 110.65             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011851         | 508651.31        | 3623446.33       | 110.54             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011852         | 508652.44        | 3623447.76       | 110.42             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011853         | 508653.58        | 3623449.20       | 110.46             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011854         | 508654.71        | 3623450.64       | 110.50             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011855         | 508655.84        | 3623452.07       | 110.51             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011856         | 508656.98        | 3623453.51       | 110.51             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011857         | 508658.11        | 3623454.94       | 110.48             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011858         | 508659.24        | 3623456.38       | 110.44             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011859         | 508660.37        | 3623457.81       | 110.37             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011860         | 508661.51        | 3623459.25       | 110.34             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011861         | 508662.64        | 3623460.69       | 110.39             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011862         | 508663.77        | 3623462.12       | 110.42             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011863         | 508664.91        | 3623463.56       | 110.43             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011864         | 508666.04        | 3623464.99       | 110.44             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011865         | 508667.17        | 3623466.43       | 110.44             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011866         | 508668.30        | 3623467.86       | 110.42             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011867         | 508669.44        | 3623469.30       | 110.41             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011868         | 508670.57        | 3623470.74       | 110.42             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011869         | 508671.70        | 3623472.17       | 110.44             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011870         | 508672.83        | 3623473.61       | 110.45             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011871         | 508673.97        | 3623475.04       | 110.47             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011872         | 508675.10        | 3623476.48       | 110.49             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011873         | 508676.23        | 3623477.91       | 110.51             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011874         | 508677.37        | 3623479.35       | 110.54             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011875         | 508678.50        | 3623480.79       | 110.57             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011876         | 508679.63        | 3623482.22       | 110.59             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011877         | 508680.76        | 3623483.66       | 110.62             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011878         | 508681.90        | 3623485.09       | 110.64             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011879         | 508683.03        | 3623486.53       | 110.67             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011880         | 508684.16        | 3623487.96       | 110.69             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011881         | 508685.30        | 3623489.40       | 110.68             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011882         | 508686.43        | 3623490.84       | 110.57             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011883         | 508687.56        | 3623492.27       | 110.48             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011884         | 508688.69        | 3623493.71       | 110.44             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011885         | 508689.83        | 3623495.14       | 110.43             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011886         | 508690.96        | 3623496.58       | 110.46             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011887         | 508692.09        | 3623498.01       | 110.53             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011888         | 508693.23        | 3623499.45       | 110.64             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011889         | 508694.36        | 3623500.89       | 110.78             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011890         | 508695.49        | 3623502.32       | 110.91             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011891         | 508696.62        | 3623503.76       | 110.91             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011892         | 508697.76        | 3623505.19       | 110.90             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011893         | 508698.89        | 3623506.63       | 110.88             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011894         | 508700.02        | 3623508.06       | 110.87             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011895         | 508701.15        | 3623509.50       | 110.86             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011896         | 508702.29        | 3623510.94       | 110.84             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011897         | 508703.42        | 3623512.37       | 110.85             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011898         | 508704.55        | 3623513.81       | 110.87             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011899         | 508705.69        | 3623515.24       | 110.89             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011900         | 508706.82        | 3623516.68       | 110.91             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011901         | 508707.95        | 3623518.11       | 110.92             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011902         | 508709.08        | 3623519.55       | 110.93             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011903         | 508710.22        | 3623520.99       | 110.94             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011904         | 508711.35        | 3623522.42       | 110.94             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011905         | 508712.48        | 3623523.86       | 110.95             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011906         | 508713.62        | 3623525.29       | 110.94             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011907         | 508714.75        | 3623526.73       | 110.93             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011908         | 508715.88        | 3623528.16       | 110.92             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011909         | 508717.01        | 3623529.60       | 110.91             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011910         | 508718.15        | 3623531.04       | 110.89             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011911         | 508719.28        | 3623532.47       | 110.87             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011912         | 508720.41        | 3623533.91       | 110.87             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011913         | 508721.55        | 3623535.34       | 110.88             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011914         | 508722.68        | 3623536.78       | 110.88             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011915         | 508723.81        | 3623538.21       | 110.89             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011916         | 508724.94        | 3623539.65       | 110.89             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011917         | 508726.08        | 3623541.09       | 110.89             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011918         | 508727.21        | 3623542.52       | 110.88             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011919         | 508728.34        | 3623543.96       | 110.90             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011920         | 508729.48        | 3623545.39       | 110.94             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011921         | 508730.61        | 3623546.83       | 110.99             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011922         | 508731.74        | 3623548.26       | 111.01             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011923         | 508732.87        | 3623549.70       | 111.03             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011924         | 508734.01        | 3623551.14       | 111.03             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011925         | 508735.14        | 3623552.57       | 111.02             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011926         | 508736.27        | 3623554.01       | 111.03             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011927         | 508737.40        | 3623555.44       | 111.05             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011928         | 508738.54        | 3623556.88       | 111.09             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011929         | 508739.67        | 3623558.31       | 111.12             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011930         | 508740.80        | 3623559.75       | 111.13             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011931         | 508741.94        | 3623561.19       | 111.14             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011932         | 508743.07        | 3623562.62       | 111.14             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011933         | 508744.20        | 3623564.06       | 111.14             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011934         | 508745.33        | 3623565.49       | 111.15             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011935         | 508746.47        | 3623566.93       | 111.17             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011936         | 508747.60        | 3623568.36       | 111.18             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011937         | 508748.73        | 3623569.80       | 111.19             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011938         | 508749.87        | 3623571.24       | 111.20             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011939         | 508751.00        | 3623572.67       | 111.20             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011940         | 508752.13        | 3623574.11       | 111.21             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011941         | 508753.26        | 3623575.54       | 111.21             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011942         | 508754.40        | 3623576.98       | 111.22             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011943         | 508755.53        | 3623578.41       | 111.23             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011944         | 508756.66        | 3623579.85       | 111.24             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011945         | 508757.80        | 3623581.29       | 111.25             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011946         | 508758.93        | 3623582.72       | 111.27             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011947         | 508760.06        | 3623584.16       | 111.29             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011948         | 508761.19        | 3623585.59       | 111.32             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011949         | 508762.33        | 3623587.03       | 111.35             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011950         | 508763.46        | 3623588.46       | 111.38             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011951         | 508764.59        | 3623589.90       | 111.42             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011952         | 508765.72        | 3623591.34       | 111.45             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011953         | 508766.86        | 3623592.77       | 111.45             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011954         | 508767.99        | 3623594.21       | 111.44             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011955         | 508769.12        | 3623595.64       | 111.44             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011956         | 508770.26        | 3623597.08       | 111.44             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011957         | 508771.39        | 3623598.51       | 111.44             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011958         | 508772.52        | 3623599.95       | 111.45             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011959         | 508773.65        | 3623601.39       | 111.46             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011960         | 508774.79        | 3623602.82       | 111.46             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011961         | 508775.92        | 3623604.26       | 111.46             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011962         | 508777.05        | 3623605.69       | 111.45             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011963         | 508778.19        | 3623607.13       | 111.43             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011964         | 508779.32        | 3623608.56       | 111.42             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011965         | 508780.45        | 3623610.00       | 111.40             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011966         | 508781.58        | 3623611.44       | 111.38             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011967         | 508782.72        | 3623612.87       | 111.39             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011968         | 508783.85        | 3623614.31       | 111.45             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011969         | 508784.98        | 3623615.74       | 111.49             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011970         | 508786.12        | 3623617.18       | 111.53             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011971         | 508787.25        | 3623618.61       | 111.56             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011972         | 508788.38        | 3623620.05       | 111.58             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011973         | 508789.51        | 3623621.49       | 111.59             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011974         | 508790.65        | 3623622.92       | 111.59             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0011975         | 508791.78        | 3623624.36       | 111.56             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011976         | 508792.91        | 3623625.79       | 111.55             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011977         | 508794.05        | 3623627.23       | 111.53             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011978         | 508795.18        | 3623628.66       | 111.53             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011979         | 508796.31        | 3623630.10       | 111.53             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011980         | 508797.44        | 3623631.54       | 111.54             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011981         | 508798.58        | 3623632.97       | 111.56             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011982         | 508799.71        | 3623634.41       | 111.60             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011983         | 508800.84        | 3623635.84       | 111.61             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011984         | 508801.97        | 3623637.28       | 111.62             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011985         | 508803.11        | 3623638.71       | 111.62             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011986         | 508804.24        | 3623640.15       | 111.62             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011987         | 508805.37        | 3623641.59       | 111.62             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011988         | 508806.51        | 3623643.02       | 111.61             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011989         | 508807.64        | 3623644.46       | 111.61             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011990         | 508808.77        | 3623645.89       | 111.62             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011991         | 508809.90        | 3623647.33       | 111.64             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011992         | 508811.04        | 3623648.76       | 111.66             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011993         | 508812.17        | 3623650.20       | 111.67             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011994         | 508813.30        | 3623651.64       | 111.69             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011995         | 508814.44        | 3623653.07       | 111.71             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011996         | 508815.57        | 3623654.51       | 111.71             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011997         | 508816.70        | 3623655.94       | 111.71             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011998         | 508817.83        | 3623657.38       | 111.71             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0011999         | 508818.97        | 3623658.81       | 111.71             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimension [m] | Initial Vertical Dimension [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0012000         | 508820.10        | 3623660.25       | 111.71             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012001         | 508821.23        | 3623661.69       | 111.71             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012002         | 508822.37        | 3623663.12       | 111.71             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012003         | 508823.50        | 3623664.56       | 111.72             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012004         | 508824.63        | 3623665.99       | 111.72             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012005         | 508825.76        | 3623667.43       | 111.73             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012006         | 508826.90        | 3623668.86       | 111.73             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012007         | 508828.03        | 3623670.30       | 111.74             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012008         | 508829.16        | 3623671.74       | 111.75             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012009         | 508830.29        | 3623673.17       | 111.75             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012010         | 508831.43        | 3623674.61       | 111.76             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012011         | 508832.56        | 3623676.04       | 111.77             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012012         | 508833.69        | 3623677.48       | 111.78             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012013         | 508834.83        | 3623678.91       | 111.79             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012014         | 508835.96        | 3623680.35       | 111.80             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012015         | 508837.09        | 3623681.79       | 111.82             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012016         | 508838.22        | 3623683.22       | 111.84             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012017         | 508839.36        | 3623684.66       | 111.86             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012018         | 508840.49        | 3623686.09       | 111.88             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012019         | 508841.62        | 3623687.53       | 111.90             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012020         | 508842.76        | 3623688.96       | 111.93             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012021         | 508843.89        | 3623690.40       | 111.96             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012022         | 508845.02        | 3623691.84       | 111.98             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012023         | 508846.15        | 3623693.27       | 112.01             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012024         | 508847.29        | 3623694.71       | 112.04             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |



# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| MCONV          | L0012025         | 508848.42        | 3623696.14       | 112.07             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012026         | 508849.55        | 3623697.58       | 112.09             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012027         | 508850.69        | 3623699.01       | 112.11             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012028         | 508851.82        | 3623700.45       | 112.13             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012029         | 508852.95        | 3623701.88       | 112.15             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |
|                | L0012030         | 508854.08        | 3623703.32       | 112.17             | 0.00               | 0.00219             | 1.83               |                     | 0.85                          | 0.66                           |

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P3HRD          | L0013370         | 508378.45        | 3623309.88       | 109.15             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013371         | 508387.74        | 3623311.88       | 109.09             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013372         | 508397.03        | 3623313.88       | 109.23             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013373         | 508406.31        | 3623315.88       | 109.41             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013374         | 508415.60        | 3623317.88       | 109.62             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013375         | 508424.89        | 3623319.88       | 110.02             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013376         | 508434.17        | 3623321.88       | 110.31             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013377         | 508443.46        | 3623323.88       | 109.92             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013378         | 508452.21        | 3623326.89       | 108.34             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013379         | 508459.06        | 3623333.47       | 107.44             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013380         | 508465.92        | 3623340.05       | 106.78             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013381         | 508472.77        | 3623346.63       | 106.25             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013382         | 508479.62        | 3623353.21       | 106.09             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013383         | 508486.47        | 3623359.79       | 106.08             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013384         | 508493.33        | 3623366.37       | 106.04             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013385         | 508500.18        | 3623372.95       | 106.26             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013386         | 508507.03        | 3623379.53       | 106.55             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P3HRD          | L0013387         | 508513.88        | 3623386.11       | 106.91             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013388         | 508520.74        | 3623392.69       | 107.78             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013389         | 508527.59        | 3623399.27       | 108.37             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013390         | 508534.44        | 3623405.85       | 108.91             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013391         | 508541.29        | 3623412.43       | 109.87             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013392         | 508548.15        | 3623419.01       | 110.63             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013393         | 508555.00        | 3623425.59       | 110.53             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013394         | 508561.85        | 3623432.17       | 110.30             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013395         | 508568.70        | 3623438.75       | 110.25             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013396         | 508575.56        | 3623445.33       | 110.14             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013397         | 508582.41        | 3623451.91       | 110.17             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013398         | 508589.26        | 3623458.49       | 110.18             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013399         | 508596.11        | 3623465.07       | 110.22             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013400         | 508602.97        | 3623471.65       | 110.48             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013401         | 508609.82        | 3623478.23       | 110.61             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013402         | 508616.67        | 3623484.81       | 110.65             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013403         | 508623.52        | 3623491.39       | 110.76             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013404         | 508630.38        | 3623497.97       | 110.83             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013405         | 508637.23        | 3623504.55       | 110.90             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013406         | 508644.08        | 3623511.13       | 110.75             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013407         | 508650.93        | 3623517.71       | 110.64             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013408         | 508657.79        | 3623524.29       | 110.73             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013409         | 508664.64        | 3623530.87       | 110.67             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013410         | 508670.40        | 3623538.38       | 110.05             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013411         | 508675.88        | 3623546.14       | 109.99             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P3HRD          | L0013412         | 508681.36        | 3623553.90       | 110.13             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013413         | 508686.85        | 3623561.66       | 110.26             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013414         | 508692.33        | 3623569.42       | 110.79             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013415         | 508697.81        | 3623577.18       | 110.88             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013416         | 508703.29        | 3623584.94       | 110.92             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013417         | 508708.77        | 3623592.70       | 110.98             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013418         | 508714.25        | 3623600.46       | 111.06             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013419         | 508719.73        | 3623608.21       | 111.15             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013420         | 508725.22        | 3623615.97       | 111.17             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013421         | 508730.70        | 3623623.73       | 111.17             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013422         | 508736.18        | 3623631.49       | 111.26             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013423         | 508741.66        | 3623639.25       | 111.32             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013424         | 508747.14        | 3623647.01       | 111.43             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013425         | 508752.62        | 3623654.77       | 111.55             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013426         | 508758.10        | 3623662.53       | 111.65             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013427         | 508763.59        | 3623670.29       | 111.87             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013428         | 508769.07        | 3623678.05       | 112.05             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013429         | 508774.55        | 3623685.80       | 112.24             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013430         | 508780.03        | 3623693.56       | 112.32             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013431         | 508785.51        | 3623701.32       | 112.40             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013432         | 508790.99        | 3623709.08       | 112.69             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013433         | 508796.48        | 3623716.84       | 113.12             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013434         | 508801.96        | 3623724.60       | 113.25             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013435         | 508807.70        | 3623732.03       | 113.49             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013436         | 508816.52        | 3623735.55       | 113.48             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P3HRD          | L0013437         | 508825.35        | 3623739.06       | 113.00             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013438         | 508834.18        | 3623742.57       | 112.78             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013439         | 508843.00        | 3623746.09       | 113.21             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013440         | 508851.83        | 3623749.60       | 113.24             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013441         | 508860.66        | 3623753.11       | 113.28             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013442         | 508869.48        | 3623756.62       | 113.13             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013443         | 508878.31        | 3623760.14       | 113.01             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013444         | 508887.13        | 3623763.65       | 113.29             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013445         | 508895.96        | 3623767.16       | 113.13             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013446         | 508904.79        | 3623770.68       | 113.43             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013447         | 508913.61        | 3623774.19       | 113.65             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013448         | 508922.44        | 3623777.70       | 113.89             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013449         | 508931.27        | 3623781.22       | 113.81             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013450         | 508940.09        | 3623784.73       | 113.20             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013451         | 508948.92        | 3623788.24       | 113.16             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013452         | 508957.75        | 3623791.76       | 113.14             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013453         | 508966.57        | 3623795.27       | 113.19             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013454         | 508975.40        | 3623798.78       | 112.87             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013455         | 508984.23        | 3623802.29       | 112.52             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013456         | 508993.05        | 3623805.81       | 112.49             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013457         | 509001.88        | 3623809.32       | 112.45             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013458         | 509010.71        | 3623812.83       | 112.56             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013459         | 509019.53        | 3623816.35       | 112.69             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013460         | 509028.36        | 3623819.86       | 112.89             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013461         | 509037.19        | 3623823.37       | 113.31             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |

# Source Pathway - Source Inputs

AERMOD

| Line Source ID | Volume Source ID | X Coordinate [m] | Y Coordinate [m] | Base Elevation [m] | Release Height [m] | Emission Rate [g/s] | Length of Side [m] | Building Height [m] | Initial Lateral Dimencion [m] | Initial Vertical Dimencion [m] |
|----------------|------------------|------------------|------------------|--------------------|--------------------|---------------------|--------------------|---------------------|-------------------------------|--------------------------------|
| P3HRD          | L0013462         | 509046.01        | 3623826.89       | 113.59             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013463         | 509054.84        | 3623830.40       | 113.81             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |
|                | L0013464         | 509063.67        | 3623833.91       | 114.02             | 3.19               | 0.01053             | 9.50               |                     | 4.42                          | 2.97                           |

# Source Pathway

AERMOD

## Building Downwash Information

Option not in use

## Emission Rate Units for Output

### For Concentration

|                           |                 |
|---------------------------|-----------------|
| Unit Factor:              | 1E6             |
| Emission Unit Label:      | GRAMS/SEC       |
| Concentration Unit Label: | MICROGRAMS/M**3 |

## Variable Emissions

# Source Pathway

AERMOD

## Hour-of-Day / Day-of-Week Emission Rate Variation

Scenario: Scenario 1

| Source ID:      |     | FCONV      |       |      |      |      |      |      |      |
|-----------------|-----|------------|-------|------|------|------|------|------|------|
| <b>Weekdays</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
|                 | Day | 13 - 18    | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |     | MCONV      |       |      |      |      |      |      |      |
| <b>Weekdays</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
|                 | Day | 13 - 18    | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |     | P3AEXTRACT |       |      |      |      |      |      |      |
| <b>Weekdays</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
|                 | Day | 13 - 18    | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day | 13 - 18    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |     | 19 - 24    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |     | P3BEXTRACT |       |      |      |      |      |      |      |
| <b>Weekdays</b> |     | Hour       | 1 - 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of  | 7 - 12     | 0.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
|                 | Day | 13 - 18    | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |

# Source Pathway

AERMOD

Scenario: Scenario 1

| Source ID:      |      | P3BEXTACT  |  |      |      |      |      |      |      |
|-----------------|------|------------|--|------|------|------|------|------|------|
|                 |      | 19 - 24    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |      |            |  |      |      |      |      |      |      |
|                 | Hour | 1 - 6      |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of   | 7 - 12     |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day  | 13 - 18    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |      | 19 - 24    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |      |            |  |      |      |      |      |      |      |
|                 | Hour | 1 - 6      |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of   | 7 - 12     |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day  | 13 - 18    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |      | 19 - 24    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |      | P3CEXTRACT |  |      |      |      |      |      |      |
| <b>Weekdays</b> |      |            |  |      |      |      |      |      |      |
|                 | Hour | 1 - 6      |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of   | 7 - 12     |  | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
|                 | Day  | 13 - 18    |  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 |      | 19 - 24    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |      |            |  |      |      |      |      |      |      |
|                 | Hour | 1 - 6      |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of   | 7 - 12     |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day  | 13 - 18    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |      | 19 - 24    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |      |            |  |      |      |      |      |      |      |
|                 | Hour | 1 - 6      |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of   | 7 - 12     |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day  | 13 - 18    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |      | 19 - 24    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |      | P3HRD      |  |      |      |      |      |      |      |
| <b>Weekdays</b> |      |            |  |      |      |      |      |      |      |
|                 | Hour | 1 - 6      |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of   | 7 - 12     |  | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
|                 | Day  | 13 - 18    |  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 |      | 19 - 24    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |      |            |  |      |      |      |      |      |      |
|                 | Hour | 1 - 6      |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of   | 7 - 12     |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day  | 13 - 18    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |      | 19 - 24    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |      |            |  |      |      |      |      |      |      |
|                 | Hour | 1 - 6      |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of   | 7 - 12     |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day  | 13 - 18    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |      | 19 - 24    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |      | PROCESS    |  |      |      |      |      |      |      |
| <b>Weekdays</b> |      |            |  |      |      |      |      |      |      |
|                 | Hour | 1 - 6      |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of   | 7 - 12     |  | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
|                 | Day  | 13 - 18    |  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 |      | 19 - 24    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |      |            |  |      |      |      |      |      |      |
|                 | Hour | 1 - 6      |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | of   | 7 - 12     |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | Day  | 13 - 18    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 |      | 19 - 24    |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |



# Source Pathway

AERMOD

Scenario: Scenario 1

| Source ID:      |         | PROCESS    |      |      |      |      |      |      |
|-----------------|---------|------------|------|------|------|------|------|------|
| <b>Sunday</b>   |         |            |      |      |      |      |      |      |
| Hour            | 1 - 6   |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |         | RSTACK2    |      |      |      |      |      |      |
| <b>Weekdays</b> |         |            |      |      |      |      |      |      |
| Hour            | 1 - 6   |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |            | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 |            | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 | 19 - 24 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |            |      |      |      |      |      |      |
| Hour            | 1 - 6   |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |            |      |      |      |      |      |      |
| Hour            | 1 - 6   |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |         | RSTACK1    |      |      |      |      |      |      |
| <b>Weekdays</b> |         |            |      |      |      |      |      |      |
| Hour            | 1 - 6   |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |            | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 |            | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 | 19 - 24 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |            |      |      |      |      |      |      |
| Hour            | 1 - 6   |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |            |      |      |      |      |      |      |
| Hour            | 1 - 6   |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |         | P3DEXTRACT |      |      |      |      |      |      |
| <b>Weekdays</b> |         |            |      |      |      |      |      |      |
| Hour            | 1 - 6   |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |            | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 |            | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
|                 | 19 - 24 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |            |      |      |      |      |      |      |
| Hour            | 1 - 6   |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |            |      |      |      |      |      |      |
| Hour            | 1 - 6   |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 |            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# Source Pathway

AERMOD

Scenario: Scenario 2

| Source ID:      |         | HRT1 |      |      |      |      |      |
|-----------------|---------|------|------|------|------|------|------|
| <b>Weekdays</b> |         |      |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 | 1.00 | 1.00 | 1.00 | 0.50 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |      |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |      |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |         | HRT2 |      |      |      |      |      |
| <b>Weekdays</b> |         |      |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 | 1.00 | 1.00 | 1.00 | 0.50 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |      |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |      |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Source ID:      |         | HRT3 |      |      |      |      |      |
| <b>Weekdays</b> |         |      |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Day             | 13 - 18 | 1.00 | 1.00 | 1.00 | 0.50 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Saturday</b> |         |      |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| <b>Sunday</b>   |         |      |      |      |      |      |      |
| Hour            | 1 - 6   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| of              | 7 - 12  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Day             | 13 - 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 19 - 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# Receptor Pathway

AERMOD

## Receptor Networks

Note: Terrain Elevations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)  
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

### Uniform Cartesian Grid

| Receptor Network ID | Grid Origin X Coordinate [m] | Grid Origin Y Coordinate [m] | No. of X-Axis Receptors | No. of Y-Axis Receptors | Spacing for X-Axis [m] | Spacing for Y-Axis [m] |
|---------------------|------------------------------|------------------------------|-------------------------|-------------------------|------------------------|------------------------|
| UCART1              | 504500.00                    | 3621700.00                   | 55                      | 30                      | 100.00                 | 100.00                 |

## Discrete Receptors

### Discrete Cartesian Receptors

| Record Number | X-Coordinate [m] | Y-Coordinate [m] | Group Name (Optional) | Terrain Elevations | Flagpole Heights [m] (Optional) |
|---------------|------------------|------------------|-----------------------|--------------------|---------------------------------|
| 1             | 507580.81        | 3622577.05       |                       | 101.29             |                                 |
| 2             | 507634.55        | 3622614.60       |                       | 101.74             |                                 |
| 3             | 507681.66        | 3622633.00       |                       | 103.37             |                                 |
| 4             | 507723.62        | 3622649.19       |                       | 103.54             |                                 |
| 5             | 507783.24        | 3622669.80       |                       | 103.49             |                                 |
| 6             | 507839.92        | 3622670.54       |                       | 104.03             |                                 |
| 7             | 507898.81        | 3622678.64       |                       | 104.29             |                                 |
| 8             | 507988.61        | 3622701.46       |                       | 106.91             |                                 |
| 9             | 508100.50        | 3622721.33       |                       | 107.75             |                                 |
| 10            | 508252.14        | 3622738.26       |                       | 111.47             |                                 |
| 11            | 508274.96        | 3622762.55       |                       | 111.53             |                                 |
| 12            | 508270.54        | 3622789.05       |                       | 111.43             |                                 |
| 13            | 508272.75        | 3622822.91       |                       | 109.73             |                                 |
| 14            | 508282.32        | 3622851.62       |                       | 109.37             |                                 |
| 15            | 508302.19        | 3622882.54       |                       | 107.33             |                                 |
| 16            | 508325.01        | 3622917.14       |                       | 107.30             |                                 |
| 17            | 508348.57        | 3622925.23       |                       | 108.65             |                                 |
| 18            | 508374.33        | 3622925.23       |                       | 109.95             |                                 |
| 19            | 508389.79        | 3622921.55       |                       | 109.97             |                                 |
| 20            | 508410.40        | 3622914.19       |                       | 110.32             |                                 |
| 21            | 508429.54        | 3622906.09       |                       | 110.35             |                                 |
| 22            | 508450.89        | 3622892.84       |                       | 110.08             |                                 |
| 23            | 508463.40        | 3622878.86       |                       | 110.24             |                                 |
| 24            | 508474.44        | 3622867.08       |                       | 111.65             |                                 |
| 25            | 508490.64        | 3622854.57       |                       | 112.54             |                                 |
| 26            | 508539.96        | 3622846.47       |                       | 114.28             |                                 |

# Receptor Pathway

AERMOD

|    |           |            |        |
|----|-----------|------------|--------|
| 27 | 508572.35 | 3622891.37 | 115.79 |
| 28 | 508636.39 | 3622918.61 | 116.62 |
| 29 | 508794.57 | 3623262.05 | 113.43 |
| 30 | 508842.91 | 3623256.49 | 114.27 |
| 31 | 508873.61 | 3623236.24 | 116.16 |
| 32 | 509004.19 | 3623442.79 | 116.36 |
| 33 | 509022.69 | 3623510.97 | 116.18 |
| 34 | 509011.39 | 3623529.06 | 115.41 |
| 35 | 509090.50 | 3623601.26 | 115.51 |
| 36 | 509168.48 | 3623726.89 | 116.23 |
| 37 | 509315.56 | 3623943.46 | 115.94 |
| 38 | 508880.25 | 3624121.01 | 125.53 |
| 39 | 508844.97 | 3624057.24 | 118.77 |
| 40 | 508783.91 | 3624009.75 | 119.90 |
| 41 | 508746.82 | 3623951.85 | 118.60 |
| 42 | 508670.83 | 3623903.91 | 120.76 |
| 43 | 508594.85 | 3623863.20 | 127.80 |
| 44 | 508569.14 | 3623802.34 | 125.38 |
| 45 | 508562.36 | 3623740.37 | 118.33 |
| 46 | 508335.05 | 3623519.25 | 130.80 |
| 47 | 507959.93 | 3623225.12 | 123.76 |
| 48 | 507937.33 | 3623204.57 | 119.13 |
| 49 | 507912.67 | 3623191.01 | 118.90 |
| 50 | 507896.64 | 3623185.67 | 118.67 |
| 51 | 507881.85 | 3623175.81 | 118.28 |
| 52 | 507868.29 | 3623170.05 | 117.88 |
| 53 | 507849.80 | 3623163.07 | 117.24 |
| 54 | 507838.29 | 3623158.14 | 116.71 |
| 55 | 507823.09 | 3623151.15 | 116.36 |
| 56 | 507807.88 | 3623144.99 | 115.87 |
| 57 | 507793.09 | 3623136.36 | 115.20 |
| 58 | 507779.53 | 3623126.49 | 114.85 |
| 59 | 507763.91 | 3623121.56 | 114.28 |
| 60 | 507751.58 | 3623114.99 | 113.94 |
| 61 | 507723.23 | 3623084.17 | 109.22 |
| 62 | 507707.61 | 3623074.31 | 111.26 |
| 63 | 507696.93 | 3623064.03 | 112.76 |
| 64 | 507682.55 | 3623054.58 | 113.58 |

# Receptor Pathway

AERMOD

|     |           |            |        |
|-----|-----------|------------|--------|
| 65  | 507668.99 | 3623044.72 | 114.67 |
| 66  | 507657.89 | 3623031.16 | 115.30 |
| 67  | 507645.56 | 3623022.12 | 116.36 |
| 68  | 507629.54 | 3623009.38 | 117.67 |
| 69  | 507616.80 | 3623002.39 | 118.44 |
| 70  | 507593.79 | 3622984.31 | 119.48 |
| 71  | 507571.59 | 3622976.09 | 119.80 |
| 72  | 507563.79 | 3622959.66 | 120.10 |
| 73  | 507550.64 | 3622947.74 | 117.71 |
| 74  | 507530.91 | 3622934.18 | 114.78 |
| 75  | 507506.67 | 3622924.73 | 114.64 |
| 76  | 507457.77 | 3622924.31 | 115.68 |
| 77  | 507453.66 | 3622897.60 | 115.51 |
| 78  | 507423.25 | 3622884.87 | 113.22 |
| 79  | 507408.04 | 3622879.11 | 112.64 |
| 80  | 507391.20 | 3622869.66 | 112.46 |
| 81  | 507374.35 | 3622863.09 | 112.33 |
| 82  | 507359.96 | 3622858.57 | 112.41 |
| 83  | 507345.99 | 3622855.28 | 112.74 |
| 84  | 507330.79 | 3622849.11 | 113.16 |
| 85  | 507317.64 | 3622846.65 | 113.46 |
| 86  | 507304.49 | 3622841.72 | 113.88 |
| 87  | 507288.05 | 3622839.25 | 114.25 |
| 88  | 507269.15 | 3622837.61 | 114.43 |
| 89  | 507252.71 | 3622836.79 | 114.65 |
| 90  | 507235.86 | 3622834.32 | 114.80 |
| 91  | 507222.71 | 3622833.50 | 114.60 |
| 92  | 507207.92 | 3622832.27 | 114.39 |
| 93  | 507191.07 | 3622831.03 | 113.90 |
| 94  | 507120.39 | 3622850.35 | 114.80 |
| 95  | 507101.90 | 3622847.47 | 115.13 |
| 96  | 507087.93 | 3622849.11 | 114.69 |
| 97  | 507077.24 | 3622850.76 | 114.83 |
| 98  | 507067.79 | 3622853.63 | 115.09 |
| 99  | 507057.52 | 3622855.28 | 115.22 |
| 100 | 507047.65 | 3622856.51 | 115.20 |
| 101 | 507036.56 | 3622858.15 | 115.27 |
| 102 | 507026.70 | 3622861.03 | 115.35 |

# Receptor Pathway

AERMOD

|     |           |            |        |
|-----|-----------|------------|--------|
| 103 | 507015.19 | 3622863.09 | 115.31 |
| 104 | 507004.92 | 3622865.55 | 115.14 |
| 105 | 506995.88 | 3622865.14 | 115.09 |
| 106 | 506983.96 | 3622868.02 | 115.05 |
| 107 | 506975.74 | 3622868.43 | 115.05 |
| 108 | 506965.47 | 3622871.72 | 115.05 |
| 109 | 506955.19 | 3622875.00 | 114.87 |
| 110 | 506943.28 | 3622875.41 | 114.71 |
| 111 | 506930.54 | 3622880.76 | 114.57 |
| 112 | 506907.94 | 3622889.80 | 114.40 |
| 113 | 506892.32 | 3622907.06 | 114.68 |
| 114 | 506852.87 | 3623197.59 | 115.42 |
| 115 | 506861.09 | 3623235.80 | 115.69 |
| 116 | 506864.38 | 3623257.99 | 115.82 |
| 117 | 506868.08 | 3623296.62 | 113.65 |
| 118 | 506882.46 | 3623517.70 | 124.02 |
| 119 | 506876.71 | 3623532.91 | 124.05 |
| 120 | 506877.53 | 3623567.43 | 122.25 |
| 121 | 506896.96 | 3623639.34 | 123.44 |
| 122 | 506886.73 | 3623659.81 | 123.47 |
| 123 | 506883.58 | 3623681.85 | 123.53 |
| 124 | 506878.07 | 3623706.26 | 123.67 |
| 125 | 506882.01 | 3623729.09 | 123.89 |
| 126 | 506882.01 | 3623751.92 | 124.10 |
| 127 | 506888.30 | 3623773.17 | 124.32 |
| 128 | 506894.60 | 3623794.43 | 125.10 |
| 129 | 506904.05 | 3623815.68 | 126.24 |
| 130 | 506919.01 | 3623836.94 | 127.19 |
| 131 | 506930.82 | 3623854.26 | 127.88 |
| 132 | 506941.05 | 3623877.87 | 128.23 |
| 133 | 506947.35 | 3623893.62 | 126.57 |
| 134 | 506856.86 | 3623962.53 | 122.85 |
| 135 | 506856.29 | 3624303.98 | 135.49 |
| 136 | 506805.89 | 3624199.89 | 131.96 |
| 137 | 506808.57 | 3624149.04 | 129.97 |
| 138 | 506801.88 | 3624080.78 | 127.11 |
| 139 | 506805.89 | 3624047.99 | 126.16 |
| 140 | 506803.89 | 3623987.76 | 124.70 |

# Receptor Pathway

AERMOD

|     |           |            |        |
|-----|-----------|------------|--------|
| 141 | 506791.17 | 3623955.64 | 124.15 |
| 142 | 506777.79 | 3623863.96 | 121.98 |
| 143 | 506756.37 | 3623821.13 | 121.93 |
| 144 | 506754.37 | 3623803.07 | 121.61 |
| 145 | 506767.75 | 3623780.98 | 121.25 |
| 146 | 506781.80 | 3623746.85 | 118.86 |
| 147 | 506795.19 | 3623704.03 | 117.07 |
| 148 | 506795.86 | 3623691.31 | 116.78 |
| 149 | 506797.86 | 3623681.27 | 116.53 |
| 150 | 506799.87 | 3623667.22 | 116.28 |
| 151 | 506801.88 | 3623651.83 | 116.11 |
| 152 | 506797.19 | 3623631.08 | 115.67 |
| 153 | 506791.84 | 3623576.21 | 115.16 |
| 154 | 506798.53 | 3623554.80 | 115.03 |
| 155 | 506797.86 | 3623535.39 | 114.83 |
| 156 | 506797.19 | 3623513.98 | 114.52 |
| 157 | 506797.86 | 3623489.89 | 114.17 |
| 158 | 506798.53 | 3623466.46 | 113.85 |
| 159 | 506797.86 | 3623443.71 | 113.50 |
| 160 | 506810.58 | 3623403.56 | 113.12 |
| 161 | 506815.26 | 3623374.78 | 112.62 |
| 162 | 506140.72 | 3622834.08 | 101.86 |
| 163 | 506097.89 | 3622814.01 | 102.79 |
| 164 | 506056.40 | 3622790.58 | 102.54 |
| 165 | 506010.90 | 3622766.49 | 102.41 |
| 166 | 505964.72 | 3622742.40 | 102.26 |
| 167 | 505905.84 | 3622704.93 | 102.45 |
| 168 | 505842.26 | 3622664.78 | 102.62 |
| 169 | 505800.77 | 3622637.34 | 103.73 |
| 170 | 505252.04 | 3622475.40 | 112.05 |
| 171 | 505410.76 | 3622390.74 | 106.51 |
| 172 | 505493.57 | 3622420.16 | 107.30 |
| 173 | 505605.81 | 3622446.32 | 104.98 |
| 174 | 505652.67 | 3622475.74 | 104.20 |
| 175 | 505758.36 | 3622541.12 | 103.87 |
| 176 | 505824.83 | 3622587.97 | 102.13 |
| 177 | 505873.87 | 3622621.75 | 101.92 |
| 178 | 505962.13 | 3622634.83 | 100.14 |

# Receptor Pathway

AERMOD

|     |           |            |        |
|-----|-----------|------------|--------|
| 179 | 506647.54 | 3622965.00 | 104.50 |
| 180 | 506771.23 | 3622894.35 | 103.82 |
| 181 | 506778.84 | 3622941.54 | 105.58 |
| 182 | 506744.71 | 3622957.61 | 105.59 |
| 183 | 506696.52 | 3623003.12 | 106.26 |
| 184 | 506759.43 | 3623036.59 | 107.52 |
| 185 | 506799.59 | 3623087.46 | 109.15 |
| 186 | 506825.03 | 3623132.30 | 109.97 |
| 187 | 506884.60 | 3623439.52 | 117.86 |
| 188 | 506885.59 | 3624060.64 | 125.65 |
| 189 | 506865.33 | 3624127.94 | 129.39 |
| 190 | 506807.16 | 3623335.84 | 111.82 |
| 191 | 506662.43 | 3623064.93 | 105.91 |
| 192 | 506611.20 | 3623040.95 | 104.80 |
| 193 | 506564.33 | 3623018.06 | 104.87 |
| 194 | 506375.75 | 3622947.21 | 102.45 |
| 195 | 506333.24 | 3622925.40 | 103.07 |
| 196 | 506282.01 | 3622899.24 | 103.08 |
| 197 | 506247.13 | 3622880.71 | 103.27 |
| 198 | 505744.44 | 3622604.96 | 104.62 |
| 199 | 505710.97 | 3622588.89 | 104.92 |
| 200 | 505680.85 | 3622576.17 | 105.66 |
| 201 | 505658.75 | 3622556.76 | 105.78 |
| 202 | 505633.32 | 3622540.02 | 105.84 |
| 203 | 505590.47 | 3622507.89 | 106.09 |
| 204 | 505534.24 | 3622493.83 | 107.37 |
| 205 | 505471.98 | 3622482.45 | 107.97 |
| 206 | 505392.99 | 3622480.45 | 108.76 |
| 207 | 505309.98 | 3622472.41 | 109.66 |
| 208 | 504871.97 | 3622447.16 | 128.92 |
| 209 | 505117.07 | 3622465.66 | 116.19 |
| 210 | 504958.41 | 3622477.71 | 130.50 |
| 211 | 508353.65 | 3622554.75 | 117.19 |
| 212 | 506457.68 | 3623382.05 | 110.89 |
| 213 | 506367.01 | 3624009.61 | 164.05 |

## Plant Boundary Receptors



# Meteorology Pathway

AERMOD

## Met Input Data

### Surface Met Data

Filename: 722907.SFC  
Format Type: Default AERMET format

### Profile Met Data

Filename: 722907.PFL  
Format Type: Default AERMET format

### Wind Speed



Wind Speeds are Vector Mean (Not Scalar Means)

### Wind Direction

Rotation Adjustment [deg]:

### Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 118.00 [m]

### Meteorological Station Data

| Stations  | Station No. | Year | X Coordinate [m] | Y Coordinate [m] | Station Name |
|-----------|-------------|------|------------------|------------------|--------------|
| Surface   |             | 2009 |                  |                  |              |
| Upper Air |             | 2009 |                  |                  |              |

## Data Period

### Data Period to Process

Start Date: 1/1/2009 Start Hour: 1 End Date: 1/2/2014 End Hour: 24











## Wind Speed Categories

| Stability Category | Wind Speed [m/s] | Stability Category | Wind Speed [m/s] |
|--------------------|------------------|--------------------|------------------|
| A                  | 1.54             | D                  | 8.23             |
| B                  | 3.09             | E                  | 10.8             |
| C                  | 5.14             | F                  | No Upper Bound   |

# Output Pathway

AERMOD

## Tabular Printed Outputs

| Short Term Averaging Period | RECTABLE<br>Highest Values Table  |   |   |   |   |   |   |   |   |   | MAXTABLE<br>Maximum Values Table | DAYTABLE<br>Daily Values Table |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|----------------------------------|--------------------------------|
|                             | 1st   | 2nd   | 3rd   | 4th   | 5th   | 6th   | 7th   | 8th   | 9th   | 10th  |                                  |                                |
| 1                           |  |  |  |  |  |  |  |  |  |  |                                  | No                             |

## Contour Plot Files (PLOTFILE)

Path for PLOTFILES: SIR02\_PHASE3\_AERMOD.AD

| Averaging Period | Source Group ID | High Value | File Name    |
|------------------|-----------------|------------|--------------|
| 1                | ALL             | 1st        | 01H1GALL.PLT |
| Period           | ALL             | N/A        | PE00GALL.PLT |

HARP Project Summary Report

\*\*\*PROJECT INFORMATION\*\*\*

HARP Version: 21081

Project Name: SIR02\_PHASE3\_HARP

HARP Database: NA

\*\*\*EMISSION INVENTORY\*\*\*

No. of Pollutants:173

No. of Background Pollutants:0

Emissions

| ScrID   | StkID | ProID | PolID | PolAbbrev          | Multi | Annual Em<br>(lbs/yr) | MaxHr Em:<br>(lbs/hr) | MWAF |
|---------|-------|-------|-------|--------------------|-------|-----------------------|-----------------------|------|
| HRT1    | 0     |       | 0     | 9901 DieselExhPM   | 1     | 2.87937               | 0.001765              | 1    |
| HRT2    | 0     |       | 0     | 9901 DieselExhPM   | 1     | 0.359482              | 0.00022               | 1    |
| HRT3    | 0     |       | 0     | 9901 DieselExhPM   | 1     | 2.883311              | 0.001767              | 1    |
| PROCESS | 0     |       | 0     | 9901 DieselExhPM   | 1     | 28.81915              | 0.011482              | 1    |
| PROCESS | 0     |       | 0     | 7429905 Aluminum   | 1     | 36.55913              | 0.01442               | 1    |
| PROCESS | 0     |       | 0     | 7440382 Arsenic    | 1     | 0.05362               | 2.11E-05              | 1    |
| PROCESS | 0     |       | 0     | 7440393 Barium     | 1     | 0.548387              | 0.000216              | 1    |
| PROCESS | 0     |       | 0     | 7440417 Beryllium  | 1     | 0.002437              | 9.61E-07              | 1    |
| PROCESS | 0     |       | 0     | 7440439 Cadmium    | 1     | 0.002437              | 9.61E-07              | 1    |
| PROCESS | 0     |       | 0     | 18540299 Cr(VI)    | 1     | 0                     | 0                     | 1    |
| PROCESS | 0     |       | 0     | 7440473 Chromium   | 1     | 0.068244              | 2.69E-05              | 1    |
| PROCESS | 0     |       | 0     | 7440484 Cobalt     | 1     | 0.02681               | 1.06E-05              | 1    |
| PROCESS | 0     |       | 0     | 7440508 Copper     | 1     | 0.090179              | 3.56E-05              | 1    |
| PROCESS | 0     |       | 0     | 7439921 Lead       | 1     | 0.121864              | 4.81E-05              | 1    |
| PROCESS | 0     |       | 0     | 7439965 Manganese  | 1     | 1.291756              | 0.00051               | 1    |
| PROCESS | 0     |       | 0     | 7439976 Mercury    | 1     | 0                     | 0                     | 1    |
| PROCESS | 0     |       | 0     | 7440020 Nickel     | 1     | 0.068244              | 2.69E-05              | 1    |
| PROCESS | 0     |       | 0     | 7782492 Selenium   | 1     | 0.002437              | 9.61E-07              | 1    |
| PROCESS | 0     |       | 0     | 1175 Silica, Cryst | 1     | 243.7276              | 0.096133              | 1    |
| PROCESS | 0     |       | 0     | 7440666 Zinc       | 1     | 0.24129               | 9.52E-05              | 1    |
| RSTACK1 | 0     |       | 0     | 9901 DieselExhPM   | 1     | 0                     | 0                     | 1    |
| RSTACK1 | 0     |       | 0     | 7429905 Aluminum   | 1     | 3.5532                | 0.001416              | 1    |
| RSTACK1 | 0     |       | 0     | 7440382 Arsenic    | 1     | 0.004974              | 1.98E-06              | 1    |
| RSTACK1 | 0     |       | 0     | 7440393 Barium     | 1     | 0.034348              | 1.37E-05              | 1    |
| RSTACK1 | 0     |       | 0     | 7440417 Beryllium  | 1     | 0.000237              | 9.44E-08              | 1    |
| RSTACK1 | 0     |       | 0     | 7440439 Cadmium    | 1     | 0.000237              | 9.44E-08              | 1    |
| RSTACK1 | 0     |       | 0     | 18540299 Cr(VI)    | 1     | 0                     | 0                     | 1    |
| RSTACK1 | 0     |       | 0     | 7440473 Chromium   | 1     | 0.005922              | 2.36E-06              | 1    |
| RSTACK1 | 0     |       | 0     | 7440484 Cobalt     | 1     | 0                     | 0                     | 1    |
| RSTACK1 | 0     |       | 0     | 7440508 Copper     | 1     | 0.009475              | 3.77E-06              | 1    |
| RSTACK1 | 0     |       | 0     | 7439921 Lead       | 1     | 0.007106              | 2.83E-06              | 1    |
| RSTACK1 | 0     |       | 0     | 7439965 Manganese  | 1     | 0.116071              | 4.62E-05              | 1    |
| RSTACK1 | 0     |       | 0     | 7439976 Mercury    | 1     | 0                     | 0                     | 1    |

HARP Project Summary Report

|         |   |   |                    |   |          |          |   |
|---------|---|---|--------------------|---|----------|----------|---|
| RSTACK1 | 0 | 0 | 7440020 Nickel     | 1 | 0.004501 | 1.79E-06 | 1 |
| RSTACK1 | 0 | 0 | 7782492 Selenium   | 1 | 0.000237 | 9.44E-08 | 1 |
| RSTACK1 | 0 | 0 | 1175 Silica, Cryst | 1 | 23.688   | 0.009437 | 1 |
| RSTACK1 | 0 | 0 | 7440666 Zinc       | 1 | 0.026531 | 1.06E-05 | 1 |
| RSTACK2 | 0 | 0 | 9901 DieselExhPM   | 1 | 0        | 0        | 1 |
| RSTACK2 | 0 | 0 | 7429905 Aluminum   | 1 | 3.5532   | 0.001416 | 1 |
| RSTACK2 | 0 | 0 | 7440382 Arsenic    | 1 | 0.004974 | 1.98E-06 | 1 |
| RSTACK2 | 0 | 0 | 7440393 Barium     | 1 | 0.034348 | 1.37E-05 | 1 |
| RSTACK2 | 0 | 0 | 7440417 Beryllium  | 1 | 0.000237 | 9.44E-08 | 1 |
| RSTACK2 | 0 | 0 | 7440439 Cadmium    | 1 | 0.000237 | 9.44E-08 | 1 |
| RSTACK2 | 0 | 0 | 18540299 Cr(VI)    | 1 | 0        | 0        | 1 |
| RSTACK2 | 0 | 0 | 7440473 Chromium   | 1 | 0.005922 | 2.36E-06 | 1 |
| RSTACK2 | 0 | 0 | 7440484 Cobalt     | 1 | 0        | 0        | 1 |
| RSTACK2 | 0 | 0 | 7440508 Copper     | 1 | 0.009475 | 3.77E-06 | 1 |
| RSTACK2 | 0 | 0 | 7439921 Lead       | 1 | 0.007106 | 2.83E-06 | 1 |
| RSTACK2 | 0 | 0 | 7439965 Manganese  | 1 | 0.116071 | 4.62E-05 | 1 |
| RSTACK2 | 0 | 0 | 7439976 Mercury    | 1 | 0        | 0        | 1 |
| RSTACK2 | 0 | 0 | 7440020 Nickel     | 1 | 0.004501 | 1.79E-06 | 1 |
| RSTACK2 | 0 | 0 | 7782492 Selenium   | 1 | 0.000237 | 9.44E-08 | 1 |
| RSTACK2 | 0 | 0 | 1175 Silica, Cryst | 1 | 23.688   | 0.009437 | 1 |
| RSTACK2 | 0 | 0 | 7440666 Zinc       | 1 | 0.026531 | 1.06E-05 | 1 |
| FCONV   | 0 | 0 | 9901 DieselExhPM   | 1 | 0        | 0        | 1 |
| FCONV   | 0 | 0 | 7429905 Aluminum   | 1 | 0.6768   | 0.00027  | 1 |
| FCONV   | 0 | 0 | 7440382 Arsenic    | 1 | 0.000203 | 8.09E-08 | 1 |
| FCONV   | 0 | 0 | 7440393 Barium     | 1 | 0.005414 | 2.16E-06 | 1 |
| FCONV   | 0 | 0 | 7440417 Beryllium  | 1 | 3.38E-05 | 1.35E-08 | 1 |
| FCONV   | 0 | 0 | 7440439 Cadmium    | 1 | 3.38E-05 | 1.35E-08 | 1 |
| FCONV   | 0 | 0 | 18540299 Cr(VI)    | 1 | 0        | 0        | 1 |
| FCONV   | 0 | 0 | 7440473 Chromium   | 1 | 0.001151 | 4.58E-07 | 1 |
| FCONV   | 0 | 0 | 7440484 Cobalt     | 1 | 0        | 0        | 1 |
| FCONV   | 0 | 0 | 7440508 Copper     | 1 | 0.002436 | 9.71E-07 | 1 |
| FCONV   | 0 | 0 | 7439921 Lead       | 1 | 0.000643 | 2.56E-07 | 1 |
| FCONV   | 0 | 0 | 7439965 Manganese  | 1 | 0.01066  | 4.25E-06 | 1 |
| FCONV   | 0 | 0 | 7439976 Mercury    | 1 | 0        | 0        | 1 |
| FCONV   | 0 | 0 | 7440020 Nickel     | 1 | 0.000677 | 2.70E-07 | 1 |
| FCONV   | 0 | 0 | 7782492 Selenium   | 1 | 3.38E-05 | 1.35E-08 | 1 |
| FCONV   | 0 | 0 | 1175 Silica, Cryst | 1 | 3.384    | 0.001348 | 1 |
| FCONV   | 0 | 0 | 7440666 Zinc       | 1 | 0.002876 | 1.15E-06 | 1 |
| MCONV   | 0 | 0 | 9901 DieselExhPM   | 1 | 0        | 0        | 1 |
| MCONV   | 0 | 0 | 7429905 Aluminum   | 1 | 4.7376   | 0.001887 | 1 |
| MCONV   | 0 | 0 | 7440382 Arsenic    | 1 | 0.001421 | 5.66E-07 | 1 |
| MCONV   | 0 | 0 | 7440393 Barium     | 1 | 0.037901 | 1.51E-05 | 1 |
| MCONV   | 0 | 0 | 7440417 Beryllium  | 1 | 0.000237 | 9.44E-08 | 1 |
| MCONV   | 0 | 0 | 7440439 Cadmium    | 1 | 0.000237 | 9.44E-08 | 1 |
| MCONV   | 0 | 0 | 18540299 Cr(VI)    | 1 | 0        | 0        | 1 |
| MCONV   | 0 | 0 | 7440473 Chromium   | 1 | 0.008054 | 3.21E-06 | 1 |
| MCONV   | 0 | 0 | 7440484 Cobalt     | 1 | 0        | 0        | 1 |

HARP Project Summary Report

|            |   |   |                    |   |          |          |   |
|------------|---|---|--------------------|---|----------|----------|---|
| MCONV      | 0 | 0 | 7440508 Copper     | 1 | 0.017055 | 6.79E-06 | 1 |
| MCONV      | 0 | 0 | 7439921 Lead       | 1 | 0.004501 | 1.79E-06 | 1 |
| MCONV      | 0 | 0 | 7439965 Manganese  | 1 | 0.074617 | 2.97E-05 | 1 |
| MCONV      | 0 | 0 | 7439976 Mercury    | 1 | 0        | 0        | 1 |
| MCONV      | 0 | 0 | 7440020 Nickel     | 1 | 0.004738 | 1.89E-06 | 1 |
| MCONV      | 0 | 0 | 7782492 Selenium   | 1 | 0.000237 | 9.44E-08 | 1 |
| MCONV      | 0 | 0 | 1175 Silica, Cryst | 1 | 23.688   | 0.009437 | 1 |
| MCONV      | 0 | 0 | 7440666 Zinc       | 1 | 0.020135 | 8.02E-06 | 1 |
| P3AEXTRACT | 0 | 0 | 9901 DieselExhPM   | 1 | 30.62979 | 0.012203 | 1 |
| P3AEXTRACT | 0 | 0 | 7429905 Aluminum   | 1 | 106.0727 | 0.04226  | 1 |
| P3AEXTRACT | 0 | 0 | 7440382 Arsenic    | 1 | 0.031822 | 1.27E-05 | 1 |
| P3AEXTRACT | 0 | 0 | 7440393 Barium     | 1 | 0.848582 | 0.000338 | 1 |
| P3AEXTRACT | 0 | 0 | 7440417 Beryllium  | 1 | 0.005304 | 2.11E-06 | 1 |
| P3AEXTRACT | 0 | 0 | 7440439 Cadmium    | 1 | 0.005304 | 2.11E-06 | 1 |
| P3AEXTRACT | 0 | 0 | 18540299 Cr(VI)    | 1 | 0        | 0        | 1 |
| P3AEXTRACT | 0 | 0 | 7440473 Chromium   | 1 | 0.180324 | 7.18E-05 | 1 |
| P3AEXTRACT | 0 | 0 | 7440484 Cobalt     | 1 | 0        | 0        | 1 |
| P3AEXTRACT | 0 | 0 | 7440508 Copper     | 1 | 0.381862 | 0.000152 | 1 |
| P3AEXTRACT | 0 | 0 | 7439921 Lead       | 1 | 0.100769 | 4.01E-05 | 1 |
| P3AEXTRACT | 0 | 0 | 7439965 Manganese  | 1 | 1.670645 | 0.000666 | 1 |
| P3AEXTRACT | 0 | 0 | 7439976 Mercury    | 1 | 0        | 0        | 1 |
| P3AEXTRACT | 0 | 0 | 7440020 Nickel     | 1 | 0.106073 | 4.23E-05 | 1 |
| P3AEXTRACT | 0 | 0 | 7782492 Selenium   | 1 | 0.005304 | 2.11E-06 | 1 |
| P3AEXTRACT | 0 | 0 | 1175 Silica, Cryst | 1 | 530.3635 | 0.2113   | 1 |
| P3AEXTRACT | 0 | 0 | 7440666 Zinc       | 1 | 0.450809 | 0.00018  | 1 |
| P3BEXTRACT | 0 | 0 | 9901 DieselExhPM   | 1 | 30.62979 | 0.012203 | 1 |
| P3BEXTRACT | 0 | 0 | 7429905 Aluminum   | 1 | 106.0727 | 0.04226  | 1 |
| P3BEXTRACT | 0 | 0 | 7440382 Arsenic    | 1 | 0.031822 | 1.27E-05 | 1 |
| P3BEXTRACT | 0 | 0 | 7440393 Barium     | 1 | 0.848582 | 0.000338 | 1 |
| P3BEXTRACT | 0 | 0 | 7440417 Beryllium  | 1 | 0.005304 | 2.11E-06 | 1 |
| P3BEXTRACT | 0 | 0 | 7440439 Cadmium    | 1 | 0.005304 | 2.11E-06 | 1 |
| P3BEXTRACT | 0 | 0 | 18540299 Cr(VI)    | 1 | 0        | 0        | 1 |
| P3BEXTRACT | 0 | 0 | 7440473 Chromium   | 1 | 0.180324 | 7.18E-05 | 1 |
| P3BEXTRACT | 0 | 0 | 7440484 Cobalt     | 1 | 0        | 0        | 1 |
| P3BEXTRACT | 0 | 0 | 7440508 Copper     | 1 | 0.381862 | 0.000152 | 1 |
| P3BEXTRACT | 0 | 0 | 7439921 Lead       | 1 | 0.100769 | 4.01E-05 | 1 |
| P3BEXTRACT | 0 | 0 | 7439965 Manganese  | 1 | 1.670645 | 0.000666 | 1 |
| P3BEXTRACT | 0 | 0 | 7439976 Mercury    | 1 | 0        | 0        | 1 |
| P3BEXTRACT | 0 | 0 | 7440020 Nickel     | 1 | 0.106073 | 4.23E-05 | 1 |
| P3BEXTRACT | 0 | 0 | 7782492 Selenium   | 1 | 0.005304 | 2.11E-06 | 1 |
| P3BEXTRACT | 0 | 0 | 1175 Silica, Cryst | 1 | 530.3635 | 0.2113   | 1 |
| P3BEXTRACT | 0 | 0 | 7440666 Zinc       | 1 | 0.450809 | 0.00018  | 1 |
| P3CEXTRACT | 0 | 0 | 9901 DieselExhPM   | 1 | 30.62979 | 0.012203 | 1 |
| P3CEXTRACT | 0 | 0 | 7429905 Aluminum   | 1 | 106.0727 | 0.04226  | 1 |
| P3CEXTRACT | 0 | 0 | 7440382 Arsenic    | 1 | 0.031822 | 1.27E-05 | 1 |
| P3CEXTRACT | 0 | 0 | 7440393 Barium     | 1 | 0.848582 | 0.000338 | 1 |
| P3CEXTRACT | 0 | 0 | 7440417 Beryllium  | 1 | 0.005304 | 2.11E-06 | 1 |

HARP Project Summary Report

|            |   |   |                    |   |          |          |   |
|------------|---|---|--------------------|---|----------|----------|---|
| P3CEXTRACT | 0 | 0 | 7440439 Cadmium    | 1 | 0.005304 | 2.11E-06 | 1 |
| P3CEXTRACT | 0 | 0 | 18540299 Cr(VI)    | 1 | 0        | 0        | 1 |
| P3CEXTRACT | 0 | 0 | 7440473 Chromium   | 1 | 0.180324 | 7.18E-05 | 1 |
| P3CEXTRACT | 0 | 0 | 7440484 Cobalt     | 1 | 0        | 0        | 1 |
| P3CEXTRACT | 0 | 0 | 7440508 Copper     | 1 | 0.381862 | 0.000152 | 1 |
| P3CEXTRACT | 0 | 0 | 7439921 Lead       | 1 | 0.100769 | 4.01E-05 | 1 |
| P3CEXTRACT | 0 | 0 | 7439965 Manganese  | 1 | 1.670645 | 0.000666 | 1 |
| P3CEXTRACT | 0 | 0 | 7439976 Mercury    | 1 | 0        | 0        | 1 |
| P3CEXTRACT | 0 | 0 | 7440020 Nickel     | 1 | 0.106073 | 4.23E-05 | 1 |
| P3CEXTRACT | 0 | 0 | 7782492 Selenium   | 1 | 0.005304 | 2.11E-06 | 1 |
| P3CEXTRACT | 0 | 0 | 1175 Silica, Cryst | 1 | 530.3635 | 0.2113   | 1 |
| P3CEXTRACT | 0 | 0 | 7440666 Zinc       | 1 | 0.450809 | 0.00018  | 1 |
| P3DEXTRACT | 0 | 0 | 9901 DieselExhPM   | 1 | 22.97234 | 0.009152 | 1 |
| P3DEXTRACT | 0 | 0 | 7429905 Aluminum   | 1 | 79.55452 | 0.031695 | 1 |
| P3DEXTRACT | 0 | 0 | 7440382 Arsenic    | 1 | 0.023866 | 9.51E-06 | 1 |
| P3DEXTRACT | 0 | 0 | 7440393 Barium     | 1 | 0.636436 | 0.000254 | 1 |
| P3DEXTRACT | 0 | 0 | 7440417 Beryllium  | 1 | 0.003978 | 1.58E-06 | 1 |
| P3DEXTRACT | 0 | 0 | 7440439 Cadmium    | 1 | 0.003978 | 1.58E-06 | 1 |
| P3DEXTRACT | 0 | 0 | 18540299 Cr(VI)    | 1 | 0        | 0        | 1 |
| P3DEXTRACT | 0 | 0 | 7440473 Chromium   | 1 | 0.135243 | 5.39E-05 | 1 |
| P3DEXTRACT | 0 | 0 | 7440484 Cobalt     | 1 | 0        | 0        | 1 |
| P3DEXTRACT | 0 | 0 | 7440508 Copper     | 1 | 0.286396 | 0.000114 | 1 |
| P3DEXTRACT | 0 | 0 | 7439921 Lead       | 1 | 0.075577 | 3.01E-05 | 1 |
| P3DEXTRACT | 0 | 0 | 7439965 Manganese  | 1 | 1.252984 | 0.000499 | 1 |
| P3DEXTRACT | 0 | 0 | 7439976 Mercury    | 1 | 0        | 0        | 1 |
| P3DEXTRACT | 0 | 0 | 7440020 Nickel     | 1 | 0.079555 | 3.17E-05 | 1 |
| P3DEXTRACT | 0 | 0 | 7782492 Selenium   | 1 | 0.003978 | 1.58E-06 | 1 |
| P3DEXTRACT | 0 | 0 | 1175 Silica, Cryst | 1 | 397.7726 | 0.158475 | 1 |
| P3DEXTRACT | 0 | 0 | 7440666 Zinc       | 1 | 0.338107 | 0.000135 | 1 |
| P3HRD      | 0 | 0 | 9901 DieselExhPM   | 1 | 22.67455 | 0.009034 | 1 |
| P3HRD      | 0 | 0 | 7429905 Aluminum   | 1 | 22.73617 | 0.009058 | 1 |
| P3HRD      | 0 | 0 | 7440382 Arsenic    | 1 | 0.031831 | 1.27E-05 | 1 |
| P3HRD      | 0 | 0 | 7440393 Barium     | 1 | 0.219783 | 8.76E-05 | 1 |
| P3HRD      | 0 | 0 | 7440417 Beryllium  | 1 | 0.001516 | 6.04E-07 | 1 |
| P3HRD      | 0 | 0 | 7440439 Cadmium    | 1 | 0.001516 | 6.04E-07 | 1 |
| P3HRD      | 0 | 0 | 18540299 Cr(VI)    | 1 | 0        | 0        | 1 |
| P3HRD      | 0 | 0 | 7440473 Chromium   | 1 | 0.037894 | 1.51E-05 | 1 |
| P3HRD      | 0 | 0 | 7440484 Cobalt     | 1 | 0        | 0        | 1 |
| P3HRD      | 0 | 0 | 7440508 Copper     | 1 | 0.06063  | 2.42E-05 | 1 |
| P3HRD      | 0 | 0 | 7439921 Lead       | 1 | 0.045472 | 1.81E-05 | 1 |
| P3HRD      | 0 | 0 | 7439965 Manganese  | 1 | 0.742715 | 0.000296 | 1 |
| P3HRD      | 0 | 0 | 7439976 Mercury    | 1 | 0        | 0        | 1 |
| P3HRD      | 0 | 0 | 7440020 Nickel     | 1 | 0.028799 | 1.15E-05 | 1 |
| P3HRD      | 0 | 0 | 7782492 Selenium   | 1 | 0.001516 | 6.04E-07 | 1 |
| P3HRD      | 0 | 0 | 1175 Silica, Cryst | 1 | 151.5745 | 0.060388 | 1 |
| P3HRD      | 0 | 0 | 7440666 Zinc       | 1 | 0.169763 | 6.76E-05 | 1 |

PROJECT TITLE:

**Cottonwood Sand Mine Phase 3  
Acute Hazard Index**

COMMENTS:

Maximum Hazard Index

SOURCES:

**13**

RECEPTORS:

**1863**

OUTPUT TYPE:

**Concentration**

MAX:

0.100

COMPANY NAME:

**HELIX Environmental  
Planning**

DATE:

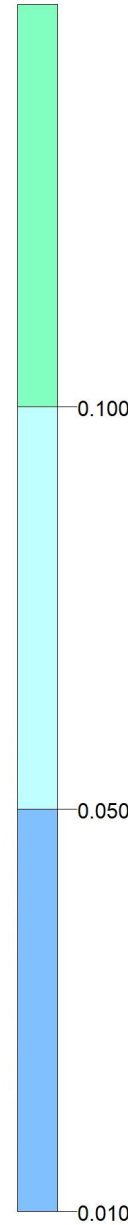
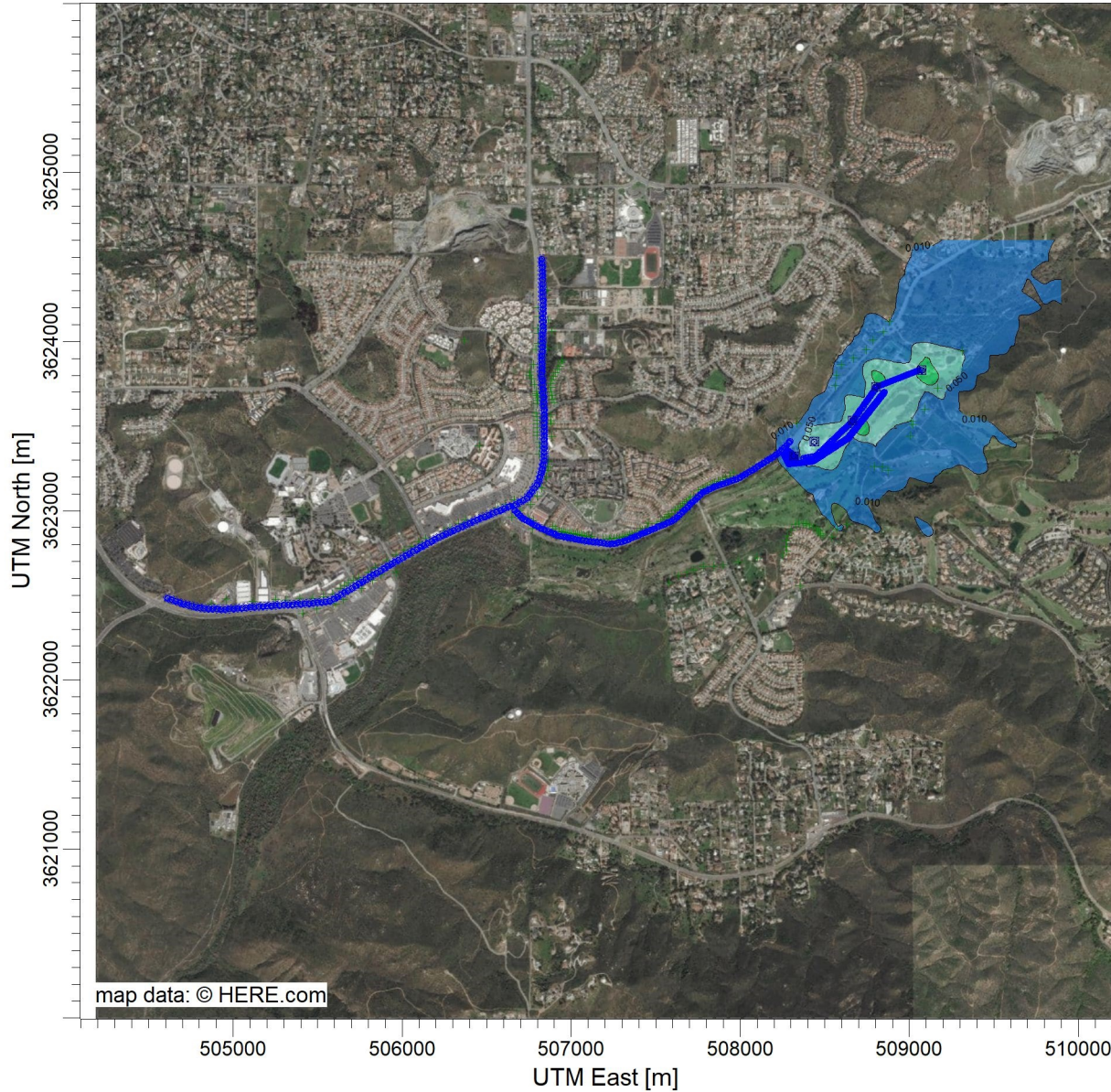
**11/5/2021**

SCALE:

1:40,910

0  1 km

PROJECT NO.:



PROJECT TITLE:

**Cottonwood Sand Mine Phase 3  
Residential Cancer Risk**

COMMENTS:

Risk in chances per million

SOURCES:

**13**

RECEPTORS:

**1863**

OUTPUT TYPE:

MAX:

COMPANY NAME:

**HELIX Environmental  
Planning**

DATE:

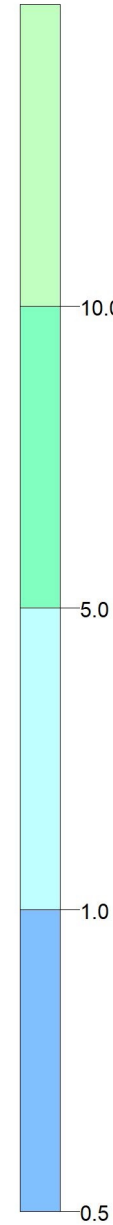
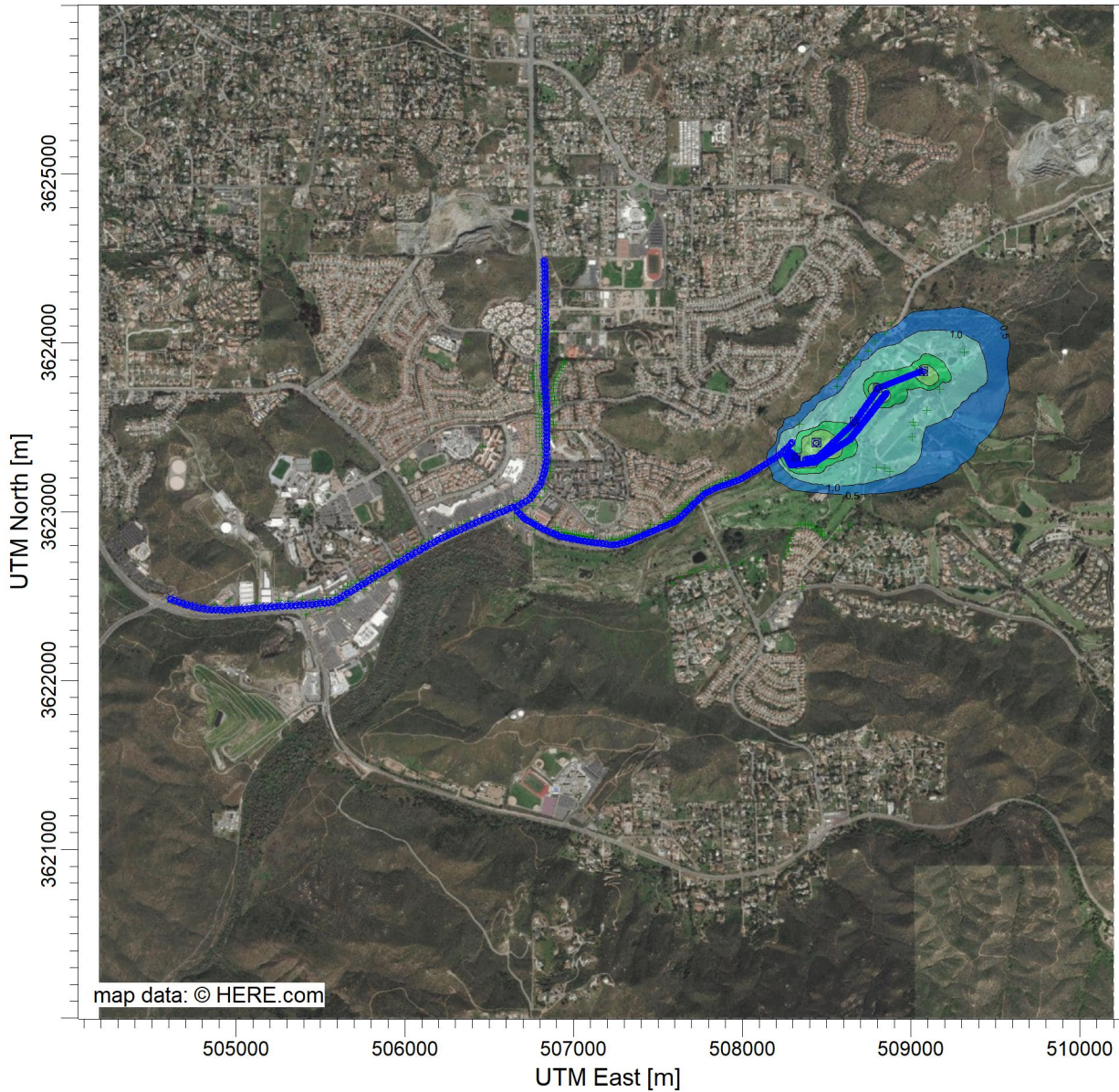
**11/5/2021**

SCALE:

1:40,910

0  1 km

PROJECT NO.:





PROJECT TITLE:

**Cottonwood Sand Mine Phase 3  
Residential Chronic Hazard Index**

COMMENTS:

Maximum Hazard Index

SOURCES:

**13**

RECEPTORS:

**1863**

OUTPUT TYPE:

MAX:

COMPANY NAME:

**HELIX Environmental  
Planning**

DATE:

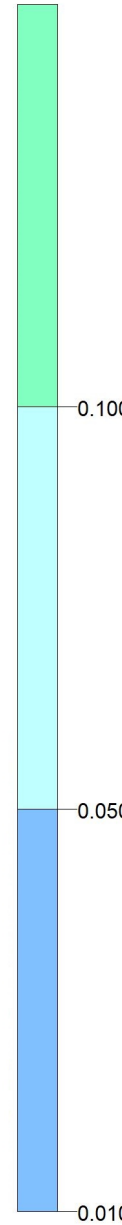
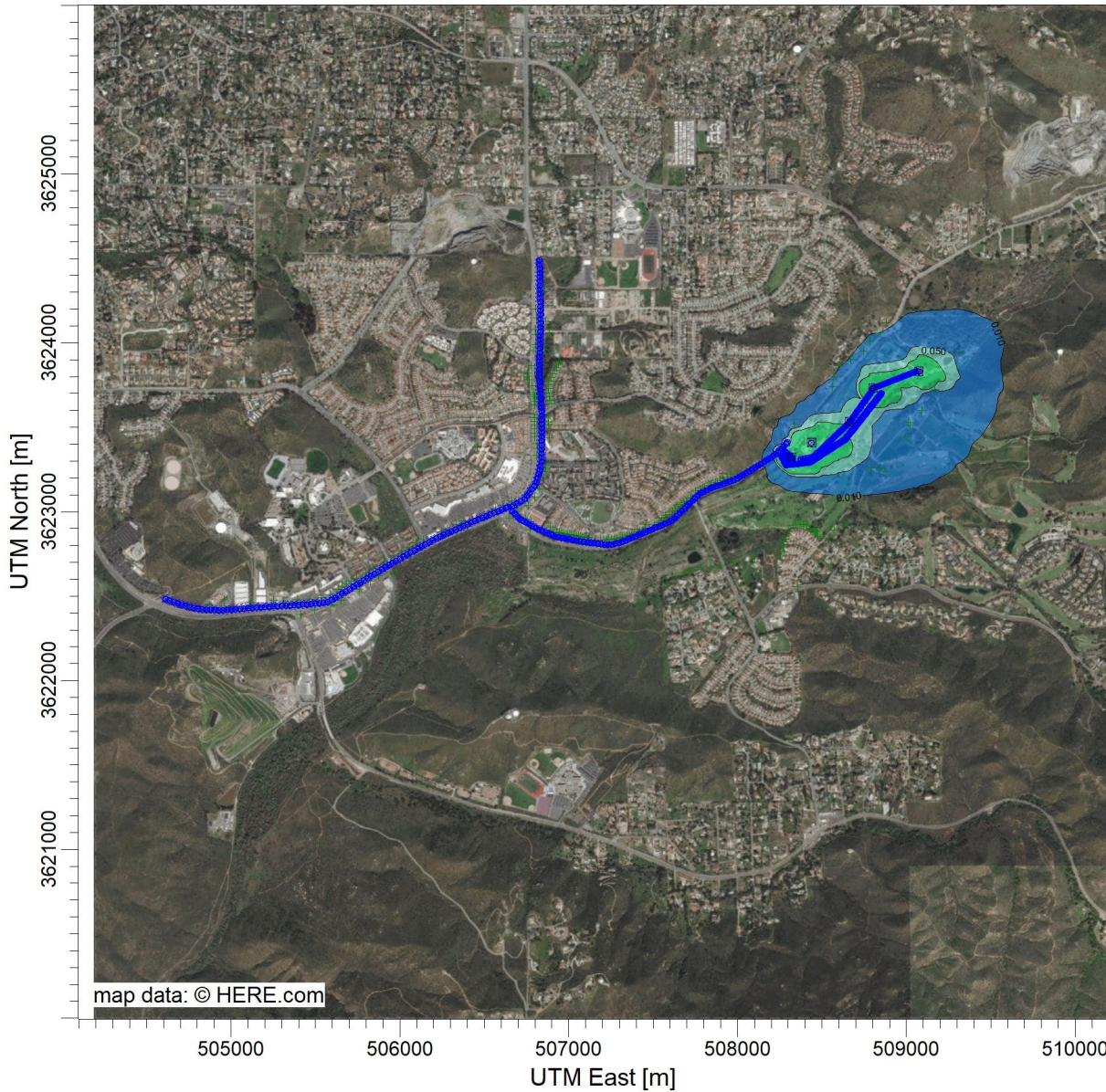
**11/5/2021**

SCALE:

1:40,910

0  1 km

PROJECT NO.:



PROJECT TITLE:

**Cottonwood Sand Mine Phase 3  
Off-Site Worker Cancer Risk**

COMMENTS:

Risk in chances per million

SOURCES:

**13**

RECEPTORS:

**1863**

OUTPUT TYPE:

MAX:

COMPANY NAME:

**HELIX Environmental  
Planning**

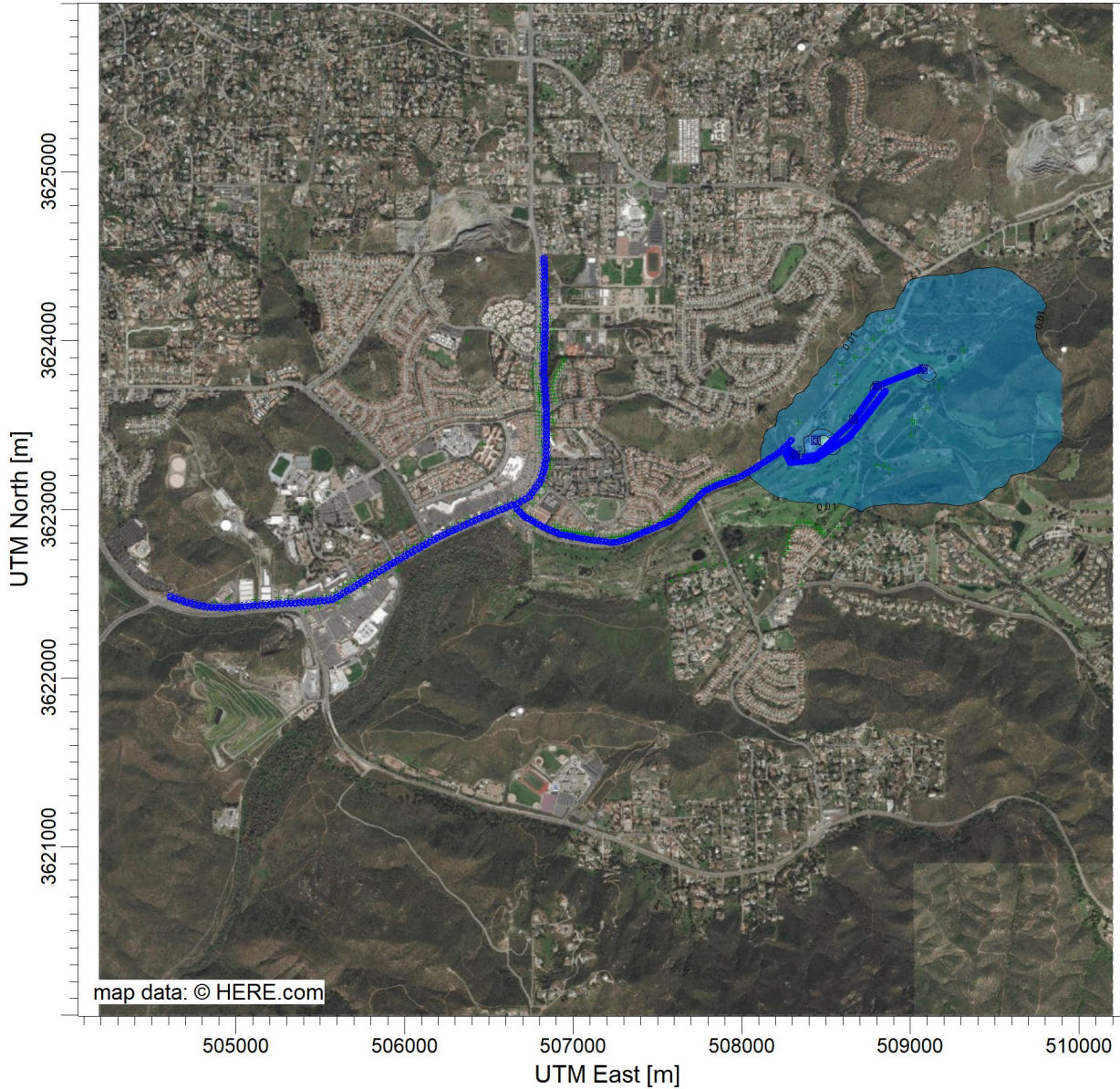
DATE:

**11/5/2021**

SCALE: 1:40,910

0 1 km

PROJECT NO.:



PROJECT TITLE:

**Cottonwood Sand Mine Phase 3  
Off-Site Worker Chronic Hazard Index**

COMMENTS:

Maximum Hazard Index

SOURCES:

**13**

RECEPTORS:

**1863**

OUTPUT TYPE:

MAX:

COMPANY NAME:

**HELIX Environmental  
Planning**

DATE:

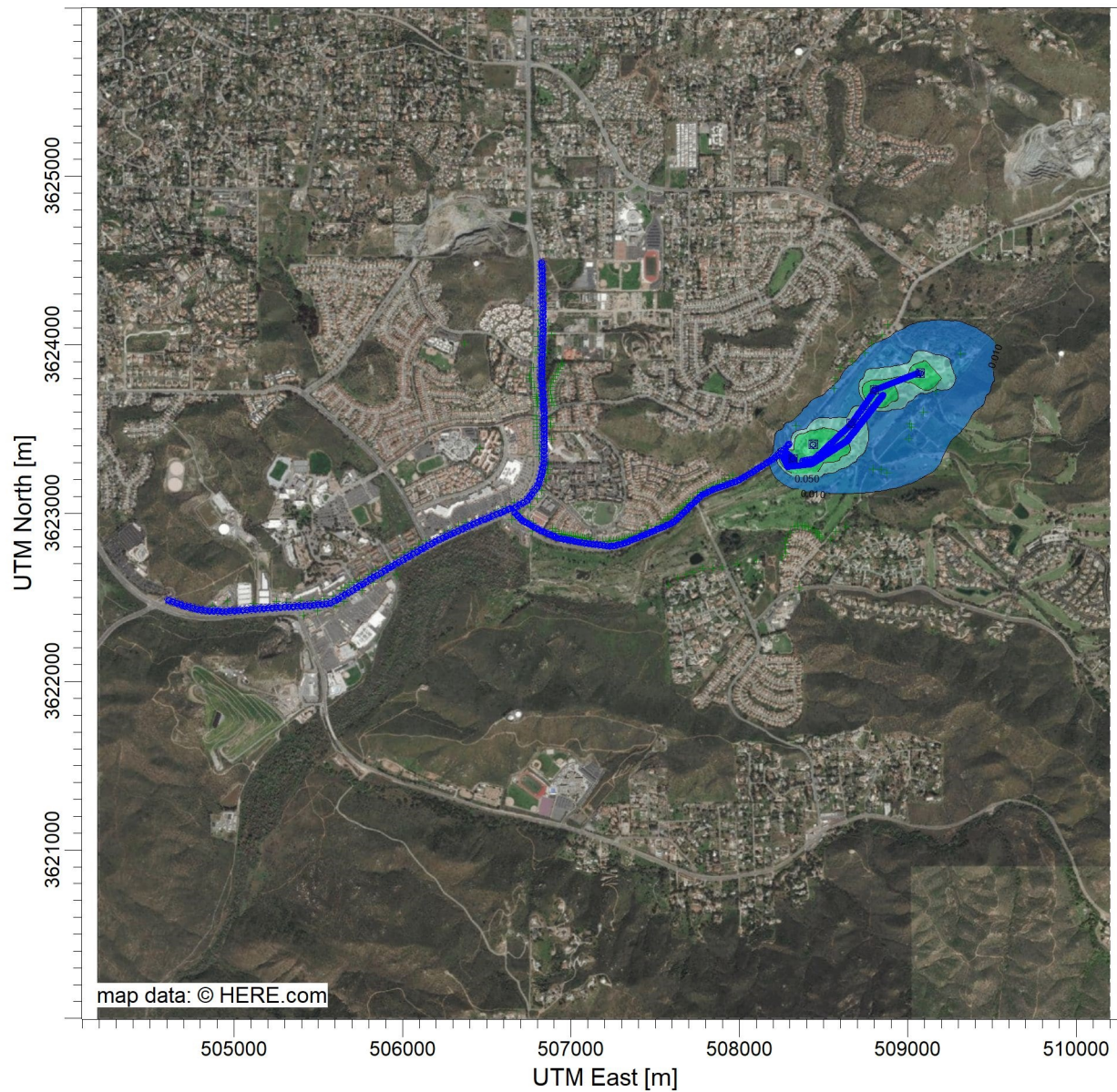
**11/5/2021**

SCALE:

1:40,910

0  1 km





















PROJECT NO.:



# Output Pathway

AERMOD

## Tabular Printed Outputs

| Short Term Averaging Period | RECTABLE<br>Highest Values Table  |   |   |   |   |   |   |   |   |   | MAXTABLE<br>Maximum Values Table | DAYTABLE<br>Daily Values Table |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|----------------------------------|--------------------------------|
|                             | 1st   | 2nd   | 3rd   | 4th   | 5th   | 6th   | 7th   | 8th   | 9th   | 10th  |                                  |                                |
| 1                           |  |  |  |  |  |  |  |  |  |  |                                  | No                             |
| MONTH                       |  |  |  |  |  |  |  |  |  |  |                                  | No                             |

## Contour Plot Files (PLOTFILE)

Path for PLOTFILES: SIR02\_PHASE2\_LEAD.AD

| Averaging Period | Source Group ID | High Value | File Name    |
|------------------|-----------------|------------|--------------|
| Month            | ALL             | 1st        | MOH1GALL.PLT |

# Results Summary

SIR02 Cottonwood Sand Mine Phase 2 AERMOD

## LEAD - Concentration - Source Group: ALL

| Averaging Period | Rank | Peak    | Units  | X (m)     | Y (m)      | ZELEV (m) | ZFLAG (m) | ZHILL (m) | Peak Date, Start Hour |
|------------------|------|---------|--------|-----------|------------|-----------|-----------|-----------|-----------------------|
| MONTH            | 1ST  | 0.01379 | ug/m^3 | 508000.00 | 3623000.00 | 106.80    | 1.20      | 301.10    | 7/31/2012, 24         |

# Sensitive Receptor Summary

SIR02 Cottonwood Sand Mine Phase 2 AERMOD

**LEAD - Concentration - Source Group: ALL**

| Averaging Period | Rank | Peak    | Units  | Receptor ID | X (m)     | Y (m)      | ZELEV (m) | ZFLAG (m) | ZHILL (m) | Peak Date, Start Hour |
|------------------|------|---------|--------|-------------|-----------|------------|-----------|-----------|-----------|-----------------------|
| MONTH            | 1ST  | 0.00004 | ug/m^3 | 1           | 507580.81 | 3622577.05 | 102.51    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00005 | ug/m^3 | 1           | 507634.55 | 3622614.60 | 102.49    | 1.20      | 295.61    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00005 | ug/m^3 | 1           | 507681.66 | 3622633.00 | 103.89    | 1.20      | 295.61    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00006 | ug/m^3 | 1           | 507723.62 | 3622649.19 | 103.07    | 1.20      | 301.12    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00007 | ug/m^3 | 1           | 507783.24 | 3622669.80 | 103.45    | 1.20      | 301.12    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00008 | ug/m^3 | 1           | 507839.92 | 3622670.54 | 104.04    | 1.20      | 301.12    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00009 | ug/m^3 | 1           | 507898.81 | 3622678.64 | 103.98    | 1.20      | 301.12    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00017 | ug/m^3 | 1           | 507988.61 | 3622701.46 | 106.79    | 1.20      | 301.12    | 12/31/2013, 24        |
| MONTH            | 1ST  | 0.00020 | ug/m^3 | 1           | 508100.50 | 3622721.33 | 107.89    | 1.20      | 301.12    | 12/31/2013, 24        |
| MONTH            | 1ST  | 0.00042 | ug/m^3 | 1           | 508252.14 | 3622738.26 | 111.32    | 1.20      | 301.12    | 12/31/2013, 24        |
| MONTH            | 1ST  | 0.00053 | ug/m^3 | 1           | 508274.96 | 3622762.55 | 111.10    | 1.20      | 301.12    | 12/31/2013, 24        |
| MONTH            | 1ST  | 0.00059 | ug/m^3 | 1           | 508270.54 | 3622789.05 | 110.11    | 1.20      | 301.12    | 12/31/2013, 24        |
| MONTH            | 1ST  | 0.00070 | ug/m^3 | 1           | 508272.75 | 3622822.91 | 110.16    | 1.20      | 301.12    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00099 | ug/m^3 | 1           | 508282.32 | 3622851.62 | 109.11    | 1.20      | 301.12    | 7/31/2012, 24         |
| MONTH            | 1ST  | 0.00131 | ug/m^3 | 1           | 508302.19 | 3622882.54 | 108.95    | 1.20      | 301.12    | 7/31/2012, 24         |
| MONTH            | 1ST  | 0.00169 | ug/m^3 | 1           | 508325.01 | 3622917.14 | 107.51    | 1.20      | 301.12    | 7/31/2012, 24         |
| MONTH            | 1ST  | 0.00192 | ug/m^3 | 1           | 508348.57 | 3622925.23 | 108.38    | 1.20      | 301.12    | 12/31/2013, 24        |
| MONTH            | 1ST  | 0.00254 | ug/m^3 | 1           | 508374.33 | 3622925.23 | 109.50    | 1.20      | 301.12    | 9/30/2012, 24         |
| MONTH            | 1ST  | 0.00276 | ug/m^3 | 1           | 508389.79 | 3622921.55 | 109.94    | 1.20      | 301.12    | 9/30/2012, 24         |
| MONTH            | 1ST  | 0.00261 | ug/m^3 | 1           | 508410.40 | 3622914.19 | 110.65    | 1.20      | 301.12    | 9/30/2012, 24         |

# Sensitive Receptor Summary

SIR02 Cottonwood Sand Mine Phase 2 AERMOD

**LEAD - Concentration - Source Group: ALL**

| Averaging Period | Rank | Peak    | Units  | Receptor ID | X (m)     | Y (m)      | ZELEV (m) | ZFLAG (m) | ZHILL (m) | Peak Date, Start Hour |
|------------------|------|---------|--------|-------------|-----------|------------|-----------|-----------|-----------|-----------------------|
| MONTH            | 1ST  | 0.00236 | ug/m^3 | 1           | 508429.54 | 3622906.09 | 111.04    | 1.20      | 301.12    | 9/30/2012, 24         |
| MONTH            | 1ST  | 0.00207 | ug/m^3 | 1           | 508450.89 | 3622892.84 | 110.49    | 1.20      | 301.12    | 9/30/2012, 24         |
| MONTH            | 1ST  | 0.00181 | ug/m^3 | 1           | 508463.40 | 3622878.86 | 110.40    | 1.20      | 301.12    | 9/30/2012, 24         |
| MONTH            | 1ST  | 0.00162 | ug/m^3 | 1           | 508474.44 | 3622867.08 | 110.74    | 1.20      | 301.12    | 9/30/2012, 24         |
| MONTH            | 1ST  | 0.00137 | ug/m^3 | 1           | 508490.64 | 3622854.57 | 111.86    | 1.20      | 301.12    | 9/30/2012, 24         |
| MONTH            | 1ST  | 0.00109 | ug/m^3 | 1           | 508539.96 | 3622846.47 | 114.30    | 1.20      | 301.12    | 9/30/2012, 24         |
| MONTH            | 1ST  | 0.00157 | ug/m^3 | 1           | 508572.35 | 3622891.37 | 115.96    | 1.20      | 301.12    | 7/31/2012, 24         |
| MONTH            | 1ST  | 0.00150 | ug/m^3 | 1           | 508636.39 | 3622918.61 | 116.66    | 1.20      | 301.12    | 9/30/2012, 24         |
| MONTH            | 1ST  | 0.00087 | ug/m^3 | 1           | 508794.57 | 3623262.05 | 113.59    | 1.20      | 301.12    | 7/31/2012, 24         |
| MONTH            | 1ST  | 0.00073 | ug/m^3 | 1           | 508842.91 | 3623256.49 | 114.36    | 1.20      | 301.12    | 7/31/2012, 24         |
| MONTH            | 1ST  | 0.00072 | ug/m^3 | 1           | 508873.61 | 3623236.24 | 115.92    | 1.20      | 301.12    | 9/30/2012, 24         |
| MONTH            | 1ST  | 0.00019 | ug/m^3 | 1           | 509004.19 | 3623442.79 | 116.30    | 1.20      | 304.85    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00017 | ug/m^3 | 1           | 509022.69 | 3623510.97 | 116.19    | 1.20      | 304.85    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00016 | ug/m^3 | 1           | 509011.39 | 3623529.06 | 115.34    | 1.20      | 304.85    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00012 | ug/m^3 | 1           | 509090.50 | 3623601.26 | 115.60    | 1.20      | 304.85    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00009 | ug/m^3 | 1           | 509168.48 | 3623726.89 | 116.13    | 1.20      | 304.85    | 12/31/2013, 24        |
| MONTH            | 1ST  | 0.00006 | ug/m^3 | 1           | 509315.56 | 3623943.46 | 115.85    | 1.20      | 304.85    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00008 | ug/m^3 | 1           | 508880.25 | 3624121.01 | 124.37    | 1.20      | 304.85    | 7/31/2012, 24         |
| MONTH            | 1ST  | 0.00011 | ug/m^3 | 1           | 508844.97 | 3624057.24 | 118.44    | 1.20      | 304.85    | 7/31/2012, 24         |
| MONTH            | 1ST  | 0.00012 | ug/m^3 | 1           | 508783.91 | 3624009.75 | 119.84    | 1.20      | 304.85    | 8/31/2012, 24         |
| MONTH            | 1ST  | 0.00013 | ug/m^3 | 1           | 508746.82 | 3623951.85 | 118.43    | 1.20      | 304.85    | 8/31/2012, 24         |

# Sensitive Receptor Summary

SIR02 Cottonwood Sand Mine Phase 2 AERMOD

LEAD - Concentration - Source Group: ALL

| Averaging Period | Rank | Peak    | Units  | Receptor ID | X (m)     | Y (m)      | ZELEV (m) | ZFLAG (m) | ZHILL (m) | Peak Date, Start Hour |
|------------------|------|---------|--------|-------------|-----------|------------|-----------|-----------|-----------|-----------------------|
| MONTH            | 1ST  | 0.00015 | ug/m^3 | 1           | 508670.83 | 3623903.91 | 120.56    | 1.20      | 304.85    | 8/31/2012, 24         |
| MONTH            | 1ST  | 0.00012 | ug/m^3 | 1           | 508594.85 | 3623863.20 | 126.25    | 1.20      | 304.85    | 7/31/2012, 24         |
| MONTH            | 1ST  | 0.00016 | ug/m^3 | 1           | 508569.14 | 3623802.34 | 124.61    | 1.20      | 304.85    | 7/31/2012, 24         |
| MONTH            | 1ST  | 0.00024 | ug/m^3 | 1           | 508562.36 | 3623740.37 | 118.04    | 1.20      | 304.85    | 7/31/2012, 24         |
| MONTH            | 1ST  | 0.00026 | ug/m^3 | 1           | 508335.05 | 3623519.25 | 130.52    | 1.20      | 220.75    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00024 | ug/m^3 | 1           | 507959.93 | 3623225.12 | 123.68    | 1.20      | 220.75    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00028 | ug/m^3 | 1           | 507937.33 | 3623204.57 | 119.23    | 1.20      | 220.75    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00026 | ug/m^3 | 1           | 507912.67 | 3623191.01 | 118.83    | 1.20      | 220.75    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00028 | ug/m^3 | 1           | 507896.64 | 3623185.67 | 117.70    | 1.20      | 220.75    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00032 | ug/m^3 | 1           | 507881.85 | 3623175.81 | 116.83    | 1.20      | 220.75    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00035 | ug/m^3 | 1           | 507868.29 | 3623170.05 | 117.22    | 1.20      | 220.75    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00034 | ug/m^3 | 1           | 507849.80 | 3623163.07 | 117.08    | 1.20      | 220.75    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00032 | ug/m^3 | 1           | 507838.29 | 3623158.14 | 116.46    | 1.20      | 220.75    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00030 | ug/m^3 | 1           | 507823.09 | 3623151.15 | 114.77    | 1.20      | 220.75    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00028 | ug/m^3 | 1           | 507807.88 | 3623144.99 | 114.45    | 1.20      | 220.75    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00024 | ug/m^3 | 1           | 507793.09 | 3623136.36 | 115.21    | 1.20      | 220.75    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00023 | ug/m^3 | 1           | 507779.53 | 3623126.49 | 114.44    | 1.20      | 220.75    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00021 | ug/m^3 | 1           | 507763.91 | 3623121.56 | 113.35    | 1.20      | 220.75    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00018 | ug/m^3 | 1           | 507751.58 | 3623114.99 | 112.96    | 1.20      | 220.75    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00015 | ug/m^3 | 1           | 507723.23 | 3623084.17 | 110.21    | 1.20      | 220.75    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00014 | ug/m^3 | 1           | 507707.61 | 3623074.31 | 110.47    | 1.20      | 220.75    | 12/31/2012, 24        |



# Sensitive Receptor Summary

SIR02 Cottonwood Sand Mine Phase 2 AERMOD

LEAD - Concentration - Source Group: ALL

| Averaging Period | Rank | Peak    | Units  | Receptor ID | X (m)     | Y (m)      | ZELEV (m) | ZFLAG (m) | ZHILL (m) | Peak Date, Start Hour |
|------------------|------|---------|--------|-------------|-----------|------------|-----------|-----------|-----------|-----------------------|
| MONTH            | 1ST  | 0.00013 | ug/m^3 | 1           | 507696.93 | 3623064.03 | 111.71    | 1.20      | 220.75    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00012 | ug/m^3 | 1           | 507682.55 | 3623054.58 | 112.30    | 1.20      | 220.40    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00012 | ug/m^3 | 1           | 507668.99 | 3623044.72 | 113.94    | 1.20      | 218.95    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00011 | ug/m^3 | 1           | 507657.89 | 3623031.16 | 114.33    | 1.20      | 216.21    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00011 | ug/m^3 | 1           | 507645.56 | 3623022.12 | 114.62    | 1.20      | 211.75    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00010 | ug/m^3 | 1           | 507629.54 | 3623009.38 | 116.68    | 1.20      | 211.75    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00009 | ug/m^3 | 1           | 507616.80 | 3623002.39 | 117.68    | 1.20      | 211.75    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00007 | ug/m^3 | 1           | 507593.79 | 3622984.31 | 118.40    | 1.20      | 211.75    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00006 | ug/m^3 | 1           | 507571.59 | 3622976.09 | 119.94    | 1.20      | 211.75    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00006 | ug/m^3 | 1           | 507563.79 | 3622959.66 | 118.68    | 1.20      | 211.75    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00005 | ug/m^3 | 1           | 507550.64 | 3622947.74 | 117.42    | 1.20      | 211.75    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00006 | ug/m^3 | 1           | 507530.91 | 3622934.18 | 113.56    | 1.20      | 211.75    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00005 | ug/m^3 | 1           | 507506.67 | 3622924.73 | 114.42    | 1.20      | 211.75    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00005 | ug/m^3 | 1           | 507457.77 | 3622924.31 | 115.78    | 1.20      | 211.75    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00005 | ug/m^3 | 1           | 507453.66 | 3622897.60 | 114.18    | 1.20      | 211.75    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00005 | ug/m^3 | 1           | 507423.25 | 3622884.87 | 113.00    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00005 | ug/m^3 | 1           | 507408.04 | 3622879.11 | 112.21    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00005 | ug/m^3 | 1           | 507391.20 | 3622869.66 | 111.54    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00005 | ug/m^3 | 1           | 507374.35 | 3622863.09 | 112.24    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00005 | ug/m^3 | 1           | 507359.96 | 3622858.57 | 112.43    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00004 | ug/m^3 | 1           | 507345.99 | 3622855.28 | 112.76    | 1.20      | 249.45    | 5/31/2012, 24         |

# Sensitive Receptor Summary

SIR02 Cottonwood Sand Mine Phase 2 AERMOD

LEAD - Concentration - Source Group: ALL

| Averaging Period | Rank | Peak    | Units  | Receptor ID | X (m)     | Y (m)      | ZELEV (m) | ZFLAG (m) | ZHILL (m) | Peak Date, Start Hour |
|------------------|------|---------|--------|-------------|-----------|------------|-----------|-----------|-----------|-----------------------|
| MONTH            | 1ST  | 0.00004 | ug/m^3 | 1           | 507330.79 | 3622849.11 | 112.84    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00004 | ug/m^3 | 1           | 507317.64 | 3622846.65 | 112.81    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00004 | ug/m^3 | 1           | 507304.49 | 3622841.72 | 112.93    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00004 | ug/m^3 | 1           | 507288.05 | 3622839.25 | 113.60    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 507269.15 | 3622837.61 | 114.32    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 507252.71 | 3622836.79 | 114.59    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 507235.86 | 3622834.32 | 114.60    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 507222.71 | 3622833.50 | 114.48    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 507207.92 | 3622832.27 | 114.25    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 507191.07 | 3622831.03 | 114.01    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 507120.39 | 3622850.35 | 114.70    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 507101.90 | 3622847.47 | 114.78    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 507087.93 | 3622849.11 | 114.71    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 507077.24 | 3622850.76 | 114.97    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 507067.79 | 3622853.63 | 115.24    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 507057.52 | 3622855.28 | 115.32    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 507047.65 | 3622856.51 | 115.34    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 507036.56 | 3622858.15 | 115.36    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 507026.70 | 3622861.03 | 115.32    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 507015.19 | 3622863.09 | 115.25    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 507004.92 | 3622865.55 | 115.14    | 1.20      | 249.45    | 5/31/2012, 24         |

# Sensitive Receptor Summary

SIR02 Cottonwood Sand Mine Phase 2 AERMOD

LEAD - Concentration - Source Group: ALL

| Averaging Period | Rank | Peak    | Units  | Receptor ID | X (m)     | Y (m)      | ZELEV (m) | ZFLAG (m) | ZHILL (m) | Peak Date, Start Hour |
|------------------|------|---------|--------|-------------|-----------|------------|-----------|-----------|-----------|-----------------------|
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506995.88 | 3622865.14 | 115.09    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506983.96 | 3622868.02 | 114.96    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506975.74 | 3622868.43 | 114.90    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506965.47 | 3622871.72 | 114.76    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506955.19 | 3622875.00 | 114.66    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506943.28 | 3622875.41 | 114.65    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506930.54 | 3622880.76 | 114.59    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506907.94 | 3622889.80 | 114.73    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506892.32 | 3622907.06 | 114.69    | 1.20      | 249.45    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506852.87 | 3623197.59 | 115.35    | 1.20      | 211.75    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506861.09 | 3623235.80 | 115.51    | 1.20      | 211.75    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506864.38 | 3623257.99 | 115.64    | 1.20      | 211.75    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506868.08 | 3623296.62 | 115.15    | 1.20      | 247.21    | 5/31/2012, 24         |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506882.46 | 3623517.70 | 124.08    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506876.71 | 3623532.91 | 123.99    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506877.53 | 3623567.43 | 122.29    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506896.96 | 3623639.34 | 123.44    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506886.73 | 3623659.81 | 123.75    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506883.58 | 3623681.85 | 123.61    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506878.07 | 3623706.26 | 123.67    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506882.01 | 3623729.09 | 123.86    | 1.20      | 247.21    | 11/30/2013, 24        |

# Sensitive Receptor Summary

SIR02 Cottonwood Sand Mine Phase 2 AERMOD

LEAD - Concentration - Source Group: ALL

| Averaging Period | Rank | Peak    | Units  | Receptor ID | X (m)     | Y (m)      | ZELEV (m) | ZFLAG (m) | ZHILL (m) | Peak Date, Start Hour |
|------------------|------|---------|--------|-------------|-----------|------------|-----------|-----------|-----------|-----------------------|
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506882.01 | 3623751.92 | 124.09    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506888.30 | 3623773.17 | 124.22    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506894.60 | 3623794.43 | 124.98    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506904.05 | 3623815.68 | 125.82    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506919.01 | 3623836.94 | 127.27    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506930.82 | 3623854.26 | 127.64    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506941.05 | 3623877.87 | 127.13    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506947.35 | 3623893.62 | 125.78    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506856.86 | 3623962.53 | 123.05    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506856.29 | 3624303.98 | 135.64    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506805.89 | 3624199.89 | 131.95    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506808.57 | 3624149.04 | 129.87    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506801.88 | 3624080.78 | 127.43    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506805.89 | 3624047.99 | 126.10    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506803.89 | 3623987.76 | 124.75    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506791.17 | 3623955.64 | 125.05    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506777.79 | 3623863.96 | 121.96    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506756.37 | 3623821.13 | 121.75    | 1.20      | 247.21    | 12/31/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506754.37 | 3623803.07 | 121.53    | 1.20      | 247.21    | 12/31/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506767.75 | 3623780.98 | 120.48    | 1.20      | 247.21    | 12/31/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506781.80 | 3623746.85 | 118.86    | 1.20      | 247.21    | 12/31/2013, 24        |

# Sensitive Receptor Summary

SIR02 Cottonwood Sand Mine Phase 2 AERMOD

LEAD - Concentration - Source Group: ALL

| Averaging Period | Rank | Peak    | Units  | Receptor ID | X (m)     | Y (m)      | ZELEV (m) | ZFLAG (m) | ZHILL (m) | Peak Date, Start Hour |
|------------------|------|---------|--------|-------------|-----------|------------|-----------|-----------|-----------|-----------------------|
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506795.19 | 3623704.03 | 117.11    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506795.86 | 3623691.31 | 116.91    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506797.86 | 3623681.27 | 116.69    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506799.87 | 3623667.22 | 116.52    | 1.20      | 247.21    | 11/30/2013, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506801.88 | 3623651.83 | 116.32    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506797.19 | 3623631.08 | 116.39    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506791.84 | 3623576.21 | 115.40    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506798.53 | 3623554.80 | 115.28    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506797.86 | 3623535.39 | 114.92    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506797.19 | 3623513.98 | 114.61    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506797.86 | 3623489.89 | 114.31    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506798.53 | 3623466.46 | 113.99    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00003 | ug/m^3 | 1           | 506797.86 | 3623443.71 | 113.65    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506810.58 | 3623403.56 | 113.29    | 1.20      | 247.21    | 12/31/2013, 24        |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506815.26 | 3623374.78 | 112.77    | 1.20      | 247.21    | 12/31/2013, 24        |
| MONTH            | 1ST  | 0.00001 | ug/m^3 | 1           | 506140.72 | 3622834.08 | 102.05    | 1.20      | 249.45    | 9/30/2012, 24         |
| MONTH            | 1ST  | 0.00001 | ug/m^3 | 1           | 506097.89 | 3622814.01 | 102.74    | 1.20      | 249.45    | 9/30/2012, 24         |
| MONTH            | 1ST  | 0.00001 | ug/m^3 | 1           | 506056.40 | 3622790.58 | 102.24    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00001 | ug/m^3 | 1           | 506010.90 | 3622766.49 | 102.31    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00001 | ug/m^3 | 1           | 505964.72 | 3622742.40 | 102.14    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00001 | ug/m^3 | 1           | 505905.84 | 3622704.93 | 102.25    | 1.20      | 249.45    | 6/30/2012, 24         |

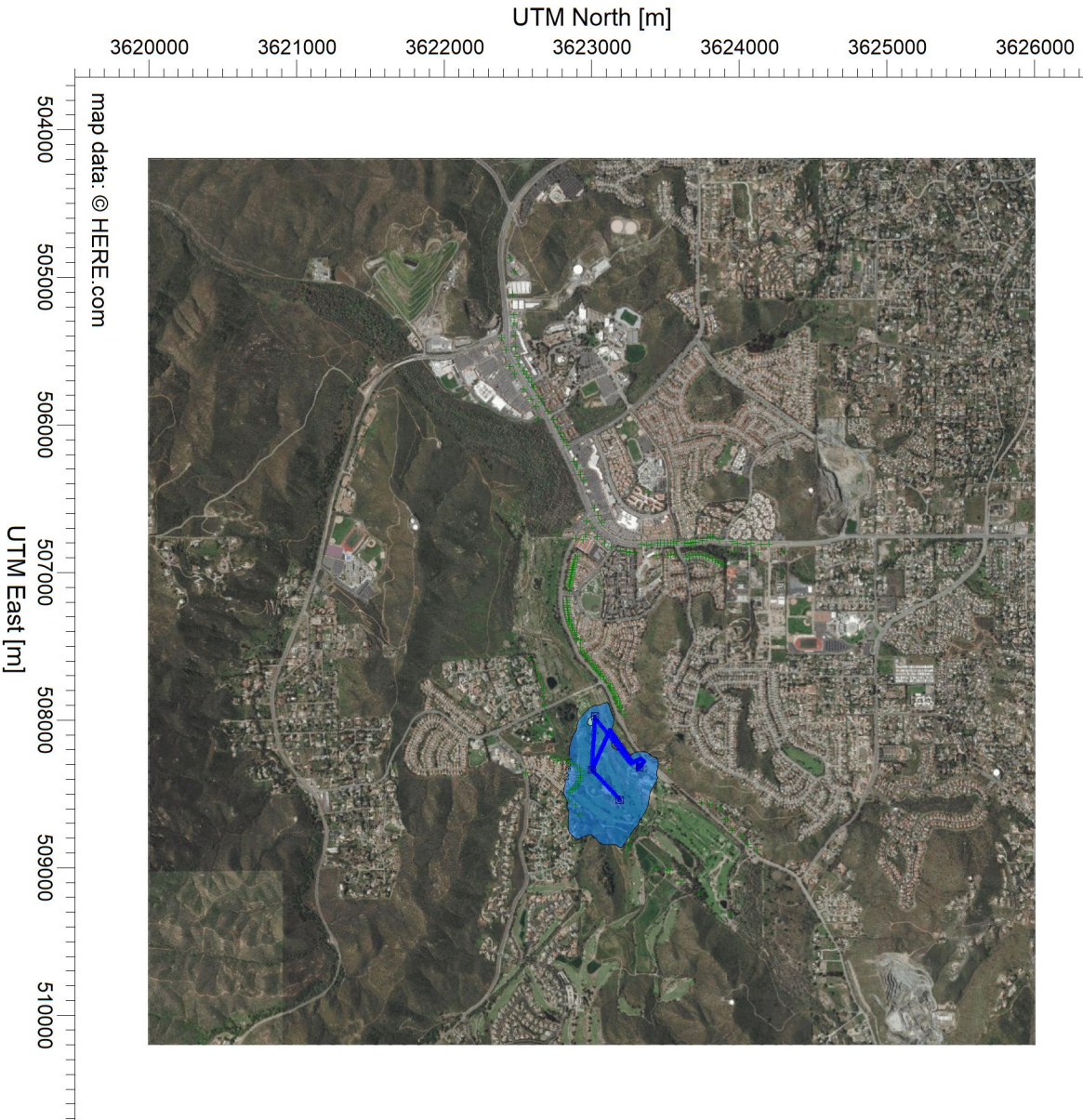
# Sensitive Receptor Summary

SIR02 Cottonwood Sand Mine Phase 2 AERMOD

**LEAD - Concentration - Source Group: ALL**

| Averaging Period | Rank | Peak    | Units  | Receptor ID | X (m)     | Y (m)      | ZELEV (m) | ZFLAG (m) | ZHILL (m) | Peak Date, Start Hour |
|------------------|------|---------|--------|-------------|-----------|------------|-----------|-----------|-----------|-----------------------|
| MONTH            | 1ST  | 0.00001 | ug/m^3 | 1           | 505842.26 | 3622664.78 | 102.58    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00001 | ug/m^3 | 1           | 505800.77 | 3622637.34 | 103.62    | 1.20      | 249.45    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00001 | ug/m^3 | 1           | 505252.04 | 3622475.40 | 112.09    | 1.20      | 228.97    | 6/30/2012, 24         |
| MONTH            | 1ST  | 0.00018 | ug/m^3 | 1           | 508353.65 | 3622554.75 | 116.53    | 1.20      | 301.12    | 12/31/2013, 24        |
| MONTH            | 1ST  | 0.00002 | ug/m^3 | 1           | 506457.68 | 3623382.05 | 110.48    | 1.20      | 247.21    | 12/31/2012, 24        |
| MONTH            | 1ST  | 0.00001 | ug/m^3 | 1           | 506367.01 | 3624009.61 | 163.47    | 1.20      | 247.21    | 11/30/2013, 24        |

PROJECT TITLE:  
**Cottonwood Sand Mine Phase 2**  
**30-day Lead Concentration**



PLOT FILE OF HIGH 1ST HIGH MONTH VALUES FOR SOURCE GROUP: ALL ug/m<sup>3</sup>

Max: 1.4E-02 [ug/m<sup>3</sup>] at (508000.00, 3623000.00)



|               |                                     |
|---------------|-------------------------------------|
| COMMENTS:     |                                     |
| SOURCES:      | <b>9</b>                            |
| RECEPTORS:    | <b>1863</b>                         |
| OUTPUT TYPE:  | <b>Concentration</b>                |
| MAX:          | <b>1.4E-02 ug/m<sup>3</sup></b>     |
| COMPANY NAME: | <b>HELIX Environmental Planning</b> |
| DATE:         | <b>11/5/2021</b>                    |
| SCALE:        | <b>1:47,619</b>                     |
|               |                                     |
| PROJECT NO.:  |                                     |