642 Quarry Road Life Science Project

Initial Study / Mitigated Negative Declaration

City of San Carlos

600 Elm Street, San Carlos, CA 94070

November 2022

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642 Quarry Road Project
Draft Mitigated Negative Declaration

Project: 642 Quarry Road Project

Project Proponent: Presidio Bay Ventures
1160 Battery Street, Suite 100
San Francisco, CA 94111

Lead Agency: City of San Carlos

Availability of Documents: The Initial Study for this Mitigated Negative Declaration is available for review on the City's website at:
https://www.cityofsancarlos.org/Home/Components/FlexPlanningZoningProjects/PlanningZoningProjects/1467613/407

and at:

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Contact – Lisa Costa Sanders, Principal Planner

PROJECT DESCRIPTION

The City of San Carlos has received an application for the 642 Quarry Road Project (project), which would consist of the construction and operation of two new, 6-story life science buildings and a 10-level parking structure on a site that is currently developed with approximately 105,000 square feet of light industrial uses. The proposed buildings would total approximately 410,072 square feet of building space and 233,822 square feet of parking space. The prospective tenants are unknown at this time, the project is being designed to allow for the broadest potential demand ranging from 75% lab and 25% office to 25% lab and 75% office use for research and development.

The project site is located at 642 Quarry Road in the northern portion of the City of San Carlos, on a single parcel (Assessor Parcel Number 046-041-380). The project site is situated in the City's Harbor Industrial Area that has been transitioning from low-intensity commercial and industrial businesses to biotechnology, life sciences, and high-tech office land uses over the last decade. The project site is bordered by Old Country Road to the southwest, Quarry Road to the southeast, commercial development to the northeast and Belmont Creek to the northwest. The project site is surrounded by urban development including light industrial and commercial properties.

The project site has a General Plan and zoning designation of Planned Industrial and Light Industrial (IL), respectively. These General Plan and zoning designations generally include retail, service, office, R&D, and industrial uses. The project would require a rezoning from IL to PD (Planned Development) to allow for an increased Floor Area Ratio (FAR), increased building height, and provision of a childcare facility.

Construction of the project would commence in mid-2023 and last approximately 27 months, becoming operational in 2025. Construction would require the demolition and off-haul of the existing 105,000 square feet of building space at the site, as well as approximately 7,500 cubic yards of soil to accommodate the subterranean parking garage.

PROPOSED FINDINGS

The City of San Carlos has reviewed the attached Initial Study and determined that the Initial Study identifies potentially significant project effects, but:

1. Revisions to the project plans incorporated herein as mitigation would avoid or mitigate the effects to a point where no significant effects would occur; and
2. There is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment. Pursuant to California Environmental Quality Act (CEQA) Guidelines sections 15064(f)(3) and 15070(b), a Mitigated Negative Declaration has been prepared for consideration as the appropriate CEQA document for the project.

BASIS OF FINDINGS

Based on the environmental evaluation presented in the attached Initial Study, the project would not cause significant adverse effects related to: agricultural and forestry resources, aesthetics, air quality, biological resources, cultural resources, geology and soils, energy, greenhouse gas emissions, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities/service systems, and wildfire. With mitigation incorporated into the project, the project does not have impacts that are individually limited, but cumulatively considerable.

The environmental evaluation has determined that the project would have potentially significant impacts on biological resources and hazards and hazardous materials, as described below.

Mitigation Measures

The project could result in significant adverse effects related to hazards and hazardous materials. However, the project has been revised to include the mitigation measures listed below, which reduce these impacts to a less-than-significant level. With implementation of these mitigation measures, the project would not substantially degrade the quality of the environment, reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. Nor would the project cause substantial adverse effects on humans, either directly or indirectly.

Impact HAZ-1: VOCs of benzene, PCE, naphthalene, and TPHg (as TVH reported as hexane) present in soil vapors sampled from the site exceed the Environmental Screening Level for commercial uses. Soil vapors could intrude into the project development.

Staining on ground surface from chemicals and leaking drum observed at 151 K Old County Road could indicate soils with higher-than-expected/allowed contamination may be encountered during site redevelopment.

Mitigation Measure HAZ-1: Soil Management Plan (SMP). A SMP shall be prepared to address potential data gaps in subsurface characterization, procedures for handling and disposal of excess soil resulting from redevelopment construction, and contingency measures for unanticipated environmental conditions that may be encountered during site redevelopment. The SMP shall be submitted to the City Public Works Department and San Mateo County Department of Environmental Health for review.

Effectiveness: This measure would ensure potentially present soil contaminants are removed or remediated to below Environmental Screening Levels for commercial uses.

Implementation: by Applicant or its contractor

Timing: Prior to grading permit issuance/approval and construction activities.

Monitoring: The Applicant shall prepare the SMP and provide it to the City Public Works Department and the San Mateo County Environmental Health Services as part of the project entitlement process.

The applicant shall provide written verification to the City that the SMP is acceptable to San Mateo County Environmental Health Services prior to grading permit issuance.

Impact HAZ-2 Demolition, removal, and transport of hazardous materials stored on the property or building materials containing lead-based paint or asbestos containing materials, and any project soils containing elevated levels of soluble lead could result in airborne emissions of lead resulting in exposure of workers or the environment to a hazardous material.

Mitigation Measure HAZ-2: Hazardous Material and Debris Management. The Applicant or its Contractor shall develop and implement a hazardous material and debris management and disposal plan for the hazardous materials that are to be removed from the project site. The plan shall be designed to prevent releases of hazardous materials in quantities that could pose a risk to human health and the environment, as determined using appropriate BAAQMD, RWQCB, DTSC, and/or other appropriate agency screening thresholds.

The plan shall identify the receiving qualified landfill and present proof of waste acceptance. The plan shall specify measures to minimize airborne dust during building deconstruction and soil movement to protect construction workers and neighboring residents from exposure to hazardous material emissions. The plan shall address protection of worker exposure to airborne lead paint particulates through use of personal protective gear, clear identification of the location of hazardous materials, and removal by properly trained/certified workers, and proper cover and transport of hazardous materials, etc.

Effectiveness: This measure would ensure compliance with state and federal regulations regarding the handling and disposal of hazardous materials.

Implementation: by Applicant or its contractor

Timing: Prior to and during construction.

Monitoring: The hazardous waste management plan shall be submitted to the City Building Department or San Mateo County Environmental Health Services for review and approval prior to start of construction. The Applicant or its Contractor shall submit written documentation of landfill acceptance of hazardous waste and implementation of worker and residential protective measures taken during site deconstruction. Copies of all documentation shall be kept on file at the City Building Department.

RECORD OF PROCEEDINGS AND CUSTODIAN OF DOCUMENTS

The record, upon which all findings and determinations related to the approval of the project are based, includes the following:

1. The Mitigated Negative Declaration and all documents referenced in or relied upon by the Mitigated Negative Declaration.

2. All information (including written evidence and testimony) provided by City of San Carlos staff to the decision maker(s) relating to the Mitigated Negative Declaration, the approvals, and the Project.
3. All information (including written evidence and testimony) presented to the City of San Carlos by the environmental consultant who prepared the Mitigated Negative Declaration or incorporated into reports presented to the City of San Carlos.
4. All information (including written evidence and testimony) presented to the City of San Carlos from other public agencies and members of the public related to the Project or the Mitigated Negative Declaration.
5. All applications, letters, testimony, and presentations relating to the Project.
6. All other documents composing the record pursuant to Public Resources Code section 21167.6 I.

The City of San Carlos is the custodian of the documents and other materials that constitute the record of the proceedings upon which the City of San Carlos's decisions are based. The contact for this material is:

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642 QUARRY ROAD PROJECT INITIAL STUDY

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Chapter 1. Introduction

This Initial Study (IS) evaluates the potential environmental effects of constructing a new commercial and life science office building in the City of San Carlos (City) on a site that is currently developed with multiple structures serving commercial/industrial uses. This proposed activity constitutes a project under the California Environmental Quality Act (CEQA).

1.1 REGULATORY GUIDANCE

CEQA (Public Resources Code § 21000 et seq.) and the CEQA Guidelines (14 CCR §15000 et seq.) establish the City as the lead agency for the project. The lead agency is defined in CEQA Guidelines section 15367 as, "the public agency which has the principal responsibility for carrying out or approving a project." The lead agency is responsible for preparing the appropriate environmental review document under CEQA. The San Carlos City Council serves as the decision-making body for the City and is responsible for adopting the CEQA document and approving the project.

CEQA Guidelines section 15070 states a public agency shall prepare a proposed Negative Declaration or a Mitigated Negative Declaration when:

1. The Initial Study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or
2. The Initial Study identifies potentially significant effects, but:
    a. Revisions in the project plans made before a proposed Mitigated Negative Declaration and Initial Study are released for public review would avoid the effects or mitigate the effects to a point where no significant effects would occur, and
    b. There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

Pursuant to section 15070, the City has determined a Mitigated Negative Declaration is the appropriate environmental review document for the 642 Quarry Road Project.

To ensure that the mitigation measures and project revisions identified in a Mitigated Negative Declaration are implemented, CEQA Guidelines section 15097(a) requires the City to adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects.

1.2 LEAD AGENCY CONTACT INFORMATION

The lead agency for the project is the City of San Carlos. The contact person for the lead agency is:

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1.3 DOCUMENT PURPOSE AND ORGANIZATION

The purpose of this document is to evaluate the potential environmental effects of the 642 Quarry Road Project. This document is organized as follows:

- Chapter 1 – Introduction. This chapter introduces the project and describes the purpose and organization of this document.
- Chapter 2 – Project Description. This chapter describes the project location, objectives, and characteristics including the standard practices or best management practices that would be implemented as part of the project. It also identifies the required permits and approvals.
- Chapter 3 – Environmental Checklist and Responses. This chapter presents project setting information and responses to the CEQA-based environmental checklist questions for each resource topic for the impacts associated with the proposed project. Cited references and personal communications are identified at the end of each resource discussion. This chapter also contains the Mandatory Findings of Significance.
- Chapter 4 –Report Preparation. This chapter provides a list of those involved in the preparation of this document.
- Appendices – This section contains supporting technical documentation.

Chapter 2. Project Description

2.1 PROJECT LOCATION AND SITE DESCRIPTION

The project site is located at 642 Quarry Road in the northeastern portion of the City of San Carlos, California in San Mateo County along the San Francisco Peninsula (Figure 1 Project Location). The site includes the address of 151 Old County Road. Regional access to the project site is provided via United States Route 101 (Highway 101), which is an eight-lane freeway located east of the project site. Access to the project site from southbound Highway 101 is provided from the Harbor Avenue exit. Access to the project site from northbound Highway 101 is provided from Holly Street. Local access to the project site is provided by Holly Street, Industrial Road, Old County Road, Harbor Boulevard, and State Route 82 (El Camino Real). The Belmont Caltrain station is approximately one-half mile to the northwest of the project site on Old County Road.

The 205,036 square-foot (4.71 acres) project site consists of a single parcel (Assessor Parcel Number 046-041-380) almost entirely developed with buildings and paved parking surfaces (Figure 2 Project Vicinity). The existing site structures are comprised of 11 warehouse/retail/manufacturing/office buildings totaling approximately 104,391 square feet. These buildings have been divided into 17 individual tenant spaces involving auto and boat repair/painting, storage, stone cutting, countertop construction and storage, water filtration development, and offices (Appendix A, Sheet A2.1 Existing Floor Plans).

The project site is relatively flat with site grades varying from approximately Elevation 29.3 feet at the northwest corner to approximately Elevation 22.4 feet at the southeast corner of the site, respectively. A channelized section of Belmont Creek runs along the northwestern property boundary. Existing conditions at and in proximity of the project site are depicted in site photos (Figure 3 Existing Site Photos and Appendix A, Sheet A2 Existing Conditions).

The project site is situated at the northern city limit adjacent to Belmont Creek in the Harbor Industrial Area (HIA), and within the Northeast Side planning area of San Carlos. This area has been transitioning from low-intensity commercial and industrial businesses to biotechnology, life sciences, and high-tech office land uses over the last decade. The City of San Carlos 2030 General Plan designates the project site as Planned Industrial, a land use designation intended primarily for research and development, bio-tech, light industrial, flex, warehousing, and related uses. Uses in this land use designation generally include retail, service, office, R&D, and industrial uses. The project site is zoned Light Industrial (IL), which accommodates a diverse range of light industrial uses.

The project site is surrounded by urban development including light industrial and commercial properties (Figure 2). The project site is bordered by Old Country Road to the southwest, Quarry Road to the southeast, commercial development to the northeast and Belmont Creek to the northwest.

2.2 PROJECT CHARACTERISTICS

2.2.1 Project Buildings

The project proposes construction of a research and development (R&D) campus featuring two 6-story office/laboratory buildings and one 10-level parking structure, which includes one below grade level (Appendix A, Sheet A3 Conceptual Site Plan). The two office/lab buildings are 410,072 square feet and the parking structure is 233,822 square feet, while providing 50 percent site coverage (Appendix A, Sheet A1 Vicinity Map, Sheet Index, and Project Data).

The R&D building heights would be 100 feet to the top of the parapet and 113 feet to the top of the mechanical screen shielding rooftop equipment (Appendix A, Sheets A13 to A14.1 Building Elevations). The first floors of both the North Building and South Building would provide a main entrance lobby, restrooms, tenant lounge, and project amenities as described in Project Site Operations. First floors would also house operational functions (i.e., electric rooms, fire booster pump room, loading truck bays, trash enclosures). Office and laboratory space would be located on floors 1 through 6 (Appendix A, Sheets A10.1 to A12.2 Floor Plans).

The parking garage would be 89 feet at the top floor railing and 104 feet to the top of the elevator tower (Appendix A, Sheet A15 Parking Structure Elevation). Glass handrail pedestrian bridges from the parking garage to both the North Building and South Building would be provided from the parking structure level 4 (Appendix A, Sheet A16 Miscellaneous Elevations). The parking garage would extend approximately 10 feet below grade to provide a below ground level of parking. Each parking level would be 10.5 – 11.5 feet tall. The parking structure would provide 939 vehicle spaces and includes over 550 square feet of building area to provide tenants with a long-term bicycle storage area and a pet spa service.

The proposed buildings would be designed as Type 1B structural steel framed buildings with curtain wall glazing, glass fiber reinforced concrete (GFRC), and metal panels. Some sections of the building facades would utilize glazing with a glass reflectance of 15 percent or less for reduction of bird strike potential (Appendix B, Bird-Safe Glazing Treatments). The skin articulation and fenestration present exposed materials and large metal grid floor to ceiling windows. The 2-story GFRC colonnade base supports the upper four stories finished with clear glazing of a slight bluish tint to allow maximum transparency, while strengthening the visual connection from inside to outside. Primary and secondary vertical elements are defined to create a regular rhythm, while a finer application of staggered horizontal and vertical fins and bluish glass color would be provided on each façade to add visual interest and provide a distinctive campus experience.

Visual renderings of the proposed structures are shown in Appendix A, Sheet A7 View from Quarry Road Looking Southwest, Sheet A8 View of Central Open Space, and Sheet A9 View from Old County Road Looking Southeast.

An artistic element is proposed to be located on the northwestern-most corner of the parking structure on the elevator tower. The design would be reviewed with the City (Appendix A, Sheet A15 Parking Structure Elevation, Elevation 1).

It is anticipated that the project would have two monument signs at the main entrances to the campus off of Old County and Quarry Roads. Site and tenant signage would be installed in accordance with a Signage Program, subject to the requirements of Chapter 18.22 of the Carlos Municipal Code, and review and approval by the Planning Commission. The Master Signage Program package illustrates the anticipated locations, designs and areas of the signage. .

2.2.2 Project Operations

The development would employ approximately 1,400 people based on an occupancy rate of one employee per 300 square feet, which is a consistent with vehicle trip generation rates used by Institute of Traffic Engineers (ITE) in transportation modeling. This is a conservate estimate given that first floor uses do not house office and lab space as described above in New Buildings.

Private Tenant Uses. The project would provide a research and development (R&D) campus. Potential tenants could come from a range of sectors in this industry such as food tech (e.g., Impossible Foods), electric vehicle tech (e.g., Rivian), drone tech (e.g., Skydio), biotech or life science (e.g., Genentech), robotics (e.g., Tempo Automation), battery tech (e.g., Bloom Energy), or autonomous vehicles (e.g., Waymo or Cruise), among other tenants currently in the market. Any potential biotech tenants would be limited to Biosafety Level (BSL)-1, BSL-2, or BSL-3 operations, which are described as follows by the U.S. Department of Health and Human Services Centers for Disease Control and Prevention (CDC).

- BSL-1 is suitable for work involving well-characterized agents not known to consistently cause disease in immunocompetent adult humans, and present minimal potential hazard to laboratory personnel and the environment. Work is typically conducted on open bench tops using standard microbiological practices with no special primary or secondary barriers recommended. Facility requirements include a sink for hand washing and doors to separate working space from rest of facility.
- BSL-2 is suitable for work involving a broad spectrum of indigenous moderate-risk agents that are present in the community and associated with human disease of varying severity. BSL-2 differs from BSL-1 in that: 1) laboratory personnel have specific training in handling pathogenic agents and are supervised by scientists competent in handling infectious agents and associated procedures; 2) access to the laboratory is restricted when work is being conducted; 3) all procedures in which infectious aerosols or splashes may be created are conducted in a biological safety cabinet (BSC) or other physical containment equipment; 4) and autoclave or alternative decontamination method is used for proper disposals. Facility requirements include a readily available sink and eyewash station and self-closing doors.
- BSL-3 is applicable to clinical, diagnostic, teaching, research, or production facilities where work is performed with indigenous or exotic agents that may cause serious or potentially lethal disease through respiratory transmission. In addition to BSL-2, all procedures involving the manipulation of infectious materials must be conducted within BSCs or other physical containment devices. Facility requirements include a hands-free sink and eyewash available near the exit, exhaust air cannot be recirculated, the laboratory must have sustained directional airflow by drawing air into the laboratory from clean areas towards potentially contaminated areas, and the entrance to the lab is through two sets of self-closing and locking doors.

The proportion of accessory office use of a future tenant would depend on both its sector within the R&D industry and where the tenant is in its product cycle. Given that the prospective tenants are unknown at this time, the project is being designed to allow for the broadest potential demand ranging from 75% lab and 25% office to 25% lab and 75% office use.

The North Building first floor would provide 10,000 square feet of building amenities (yoga studio, fitness center, golf simulator/entertainment area, exhibition kitchen, and breakroom/lounge (Appendix A, Sheet A3 Conceptual Site Plan). Lockers and showers would be provided as part of the fitness center program.

Each building would have a rooftop terrace providing tenants with additional amenities of outdoor workspace, tv lounge, lounge seating, kitchen/wet bar, and planters. In addition, a lounge for the tenants would be provided on the first floor.

Childcare Facility. The South Building first floor would provide a 5,500 square-foot childcare facility that would be open to the public during weekday business hours (approximately 8:00 a.m. to 5:30 p.m.). The capacity for the childcare facility is anticipated to be up to 100 children, subject to final state licensing approvals. The childcare facility would have designated parking as described below in Site Access. The childcare facility would include an adjoining outdoor fenced play area as shown in Appendix A, Sheet L2 Landscape Concept Plan.

Outdoor Public Space. The project site outdoor area includes a corner plaza and a central open space with publicly accessible amenities, including a pickleball court, a bocce court, a community event space, a multi-purpose stage, a fenced dog park, space for outdoor games, and community botanical gardens. Space is also provided for food truck parking. In total, the project includes 46,005 square feet of landscaped areas at the ground level accessible to the public including a walking path along Belmont Creek (Appendix A, Sheet L2 Landscape Concept Plan).

2.2.3 Site Access, Parking, and Circulation

The project site would be accessed via a new driveway that would run through the site with connection points at Old County Road and Quarry Road. The road would be 26-feet-wide minimum and allow for two-way traffic off/into the site. Pedestrian access to the site and each building would be provided from Quarry Road and Old County Road sidewalks. Crosswalks would be provided to aid pedestrian safety. Pedestrian access to each building from the parking structure would also be provided by pedestrian bridges connecting from parking structure Level 4.

The project would include 5 surface parking spaces and 939 spaces in the parking structure. Access to the garage would be controlled by a ticket punch and arm gate. Of the total 944 parking spaces proposed, the project includes 17 spaces designated as Americans with Disability Act (ADA) accessible, 200 electric vehicle (EV) installed spaces, 120 EV capable spaces, and 93 carpool/vanpool spaces.

The parking garage structure would provide designated childcare parking stalls for the facility staff and patrons. Designated curbside parking stalls would also be provided just outside the main entrance to the facility along with a designated drop-off zone.

The project would provide 141 bicycle spaces: 94 short-term bicycle parking spaces (racks) would be provided at sidewalks along Old County Road and Quarry Road and 47 long-term bicycle parking spaces (enclosed bike racks) would be provided in the parking structure (Appendix A, Sheet 12.1 Parking Structure Floor Plans, Level 1 Plan).

The project design includes a corner plaza at Old County Road and Quarry Road. New sidewalks would be constructed along street frontages – 12-foot-wide along Old County Road and 8.5-foot-wide along Quarry Road (Appendix A, Sheet A3 Conceptual Site Plan).

2.2.4 Transportation Demand Management Plan

The Transportation Demand Management (TDM) Plan proposed for the project identifies measures to promote and encourage all alternative modes of transportation, including walking, bicycling, carpooling, vanpooling, telework, and public transit, by providing TDM infrastructure and physical amenities (parking for alternative transportation, public amenities, on-site facilities, etc.), programmatic measures (transit passes, incentive programs, vanpool subsidies, etc.), and tenant commuter programs. The TDM Plan estimates the identified measures would reduce the project's daily vehicle trip count by a minimum of 20% (Appendix C). The TDM Plan includes annual monitoring based on traffic counts and employee commute surveys to assess the rate of trip reduction occurring and whether the 20% trip reduction goal has been met. The project is also subject to the San Mateo County Congestion Management Program Land Use Implementation Policy. The applicant has submitted the C/CAG TDM checklist in accordance with this policy.

2.2.5 Landscaping Plan

The project landscape plan design provides a gathering space for building tenants, visitors, and the general public. Outdoor spaces accessible to the public include an approximately 7,900 square-foot corner plaza and 23,000 square-foot central open space with a walking paths and amenities as described in Project Operations above. A concrete seat wall and bench seating would be provided along the Old County Road and Quarry Road street frontages. The North

Building and South Building would each be constructed with rooftop terraces available to building tenants each designed with vegetation planters. See Appendix A, Sheets L2 and L3 Landscape Concept Plan.

Landscape improvements would include stormwater management best practices as set by regional and state water quality guidelines. On-site biofiltration basins with appropriate planting material and infiltrative soils would be installed to help manage on-site stormwater runoff.

The irrigation system for the project would be designed to utilize highly efficient, low water use equipment. All site planting would include appropriate irrigation and drainage structures.

The proposed planting plan consists of Brisbane box trees along the street frontages, spaced to accommodate fire aerial access, native and colorful trees along the creek path, and a total of 98 new deciduous and evergreen trees on the site ground level overall. See Appendix A, Sheets L9 and L10 Preliminary Planting Plan.

The public corner entry plaza is designed with adjacent planting areas that are exclusively California native plants along with faux turf at stepped seat walls. The rest of the site incorporates a plant palette of mostly California native or climate adapted low water use plants. Faux turf is proposed for the amphitheater at the central stage and high-use recreation zones. Roof deck terraces and site streetscape retaining walls are designed with screening shrubs and vines to soften the hardscape materials.

2.2.6 Belmont Creek Maintenance

Creek maintenance activities along a 367-foot reach of Belmont Creek are required by the City of San Carlos as a condition of approval for project development on land adjacent to Belmont Creek. Proposed creek maintenance activities include removal of trash, debris, and non-native invasive plant species. Invasive species would be removed on 0.04 acres of creek bank and the disturbed areas would be treated with erosion control measures and replanted with native species (Figure 4 Creek Maintenance Area). Revegetation monitoring and maintenance would occur over a 5-year period. The applicant would consult with regulatory agencies for necessary permits for work within the creek corridor.

2.2.7 Planned Development Zoning

The project proposes a rezoning from the Light Industrial (IL) zoning district to Planned Development (PD) to allow the following changes:

- *Floor Area Ratio (FAR)*. The current IL zoning has a maximum floor area ratio (FAR) of 1.0. A FAR of 3.13 is proposed including the covered parking structure. A FAR of 2.0 is proposed, excluding the parking spaces and circulation within the parking structure, equipment rooms that do not exceed two percent of the building's gross floor area; bay windows or other architectural projections; areas that qualify as usable open space; areas used for off-street parking spaces or loading spaces, driveways, ramps between floors of a multi-level parking garage, and maneuvering aisles that are located below the finish grade of the property.
- *Building Height*. The current IL zoning has a maximum building height of 75 feet. A maximum height of 120 feet is proposed, which would include the height of the mechanical screen, elevator tower, and stair tower to avoid the need for additional entitlements for setbacks and projections above the 75-foot height limit. The maximum height of up to 120 feet is requested to allow for the further development of the final design of the screening for rooftop mechanical equipment.

- *Childcare Use*. Childcare is not a permitted use within the current IL zoning district. The addition of an accessory childcare facility is proposed as a tenant amenity and would be available to the general public.
- *Community Benefits*. As part of the PD request, the applicant has submitted a community benefits package. This package has been reviewed by the Community Development Department and requires review and approval by the City Council as part of project entitlement. Proposed community benefits include:
  - Contributions to the Downtown Improvements funds
  - Contributions to the Northeast Infrastructure Improvement fund
  - Contributions to future Belmont Creek Restoration Project
  - On-site Childcare – credit for 50 childcare spaces
  - Contribution to Community Organizations

2.2.8 Utilities

The project would be served by the existing utility infrastructure on site that tie into Quarry Road; however, onsite improvements would be required to support the proposed development. Utilities at the site would include potable water service, sanitary sewer service, and electricity, and stormwater management. Table 2-1 summarizes the utility improvements proposed to facilitate the project. The Utilities Plan (Appendix A, Sheet C20) shows the proposed project's utility infrastructure and connections. The Stormwater Control Plan (Appendix A, Sheet C420) shows the proposed drainage controls.

Table 2-1. Utility Improvements

Utility	Proposed Improvement
Potable Water Supply	New 4-inch domestic water line along the project access road connecting North Building and South Building to the existing 8-inch water main in Quarry Road. New 2.5-inch domestic water lateral connecting the Parking Garage to the new 4-inch water line along the project access road.
Fire Water Supply	New 8-inch fire water line along the project access road connecting to the existing 20-inch water line in Old County Road and existing 8-inch water line on Quarry Road. Three new fire hydrants along the project access road one near each building and parking garage structure. New fire water connections from the 8-inch project fire water line to each building and parking structure.
Sanitary Sewer	New 10-inch line connecting the North Building, South Building, and Parking Garage to an upsized 10-inch main line within Quarry Road connecting to Industrial Road.
Storm Drainage	New 6-inch, 8-inch, 10-inch, and 12-inch lines connecting site bioretention features and area drains to a new 15-inch drain line for tie-in to the existing catch basin and 18-inch storm drain line in Quarry Road. A below ground storage tank of approximately 40,416 cubic feet may be installed to capture flood flows from a 100-year, 24-hour storm event.
Electricity	New transformers at the northwest corner of the North Building per specifications of PG&E. The transformers would be mounted on a concrete pad in termination cabinets and screened with vegetation and an access gate. An emergency power generator would be installed on the southeast corner of the site adjacent to the South Building

2.3 PROJECT CONSTRUCTION

Construction of the proposed project is anticipated to commence in mid-2023 and last approximately 27 months based on information provided by the Applicant. Construction activities would generally entail demolition of the existing site structures, hardscape, underground utility lines, and landscape trees; grading and excavation for building pads and underground parking structure (including off-haul of excavated material and dewatering of the excavated area), construction of building foundations and the concrete parking levels, construction of the upper-levels offices/laboratories, and interior and finishing work (e.g., architectural coatings and landscaping).

2.3.1 Construction Equipment and Staging

Construction equipment and materials staging would occur on the project site within a fenced perimeter to control access and provide security. Typical on-site equipment would include excavators, bulldozers backhoes, forklifts, and a water truck. Additional equipment would be brought in when needed such as concrete trucks, water trucks, semi-truck flat beds, cranes, etc.

Total work force personnel count on the project site would range from 15 at the preparation phase to 120 during the construction phase. Applicant would promote for construction personnel to utilize nearby public transit (SamTrans and CalTrain) and carpool to reduce the need for on and offsite construction parking. Parking for construction crews would occur on and offsite at locations to be finalized in a Construction Management Plan approved by the City Public Works Department prior to the start of construction activities. The plan would address haul routes, vehicle and equipment traffic, and pedestrian/bicycle safety issues.

The project could result in the export of approximately 7,427 cubic yards of soil. The applicant estimates a total of 825 truckloads to off-haul the soil. The grading operations are planned for approximately 15 days. An additional 100 trucks for deliveries are estimated to occur to and from the site for equipment mobilization and material deliveries.

2.3.2 Site Clearing and Earthwork

Site clearing and demolition entails removing existing structures, parking, hardscapes, trees, vegetation, and utilities occurring within the construction footprint.

Earthwork would consist of rough grading and building pad excavation, including a partially below grade basement level at the parking structure. In addition, grading activities would include fine grading for all site elements including hardscape, planting and site amenities. Shoring would consist of a soldier pile and wood lagging temporary shoring system to facilitate the partially below grade parking garage basement construction. Dewatering would consist of a passive dewatering system including sump pits inside the excavation and a perimeter French drain at the bottom of the excavation. The project includes one level of below grade parking and constructing the North and South Buildings up to 7 inches above the existing grade. The result is approximately 18,315 cubic yards of cut, 10,888 cubic yards of fill, and removal of 7,427 cubic yards of soil from the site.

2.4 REQUIRED PERMITS AND APPROVALS

2.4.1 City of San Carlos

The following approvals are required from the City of San Carlos:

- Planned Development Zoning

- Planned Development Permit
- Design Review
- Transportation Demand Management Plan Approval
- Development Agreement
- Tree Removal Permit
- Grading and Dirt Haul Certificate
- City Encroachment Permit
- Building Permit (construction & operation plan for staging and worker parking)
- Construction Management Plan including construction traffic control
- Sewer Discharge Permit for construction dewatering
- Waste Management Plan for construction and demolition debris

2.4.2 Responsible Agencies

The following agencies may have approval authority over the 642 Quarry Road Project and are considered responsible agencies under CEQA.

- *Regional Water Quality Control Board (RWQCB).* Site disturbance of greater than one acre requires approval of a Storm Water Pollution Prevention Plan (SWPPP) per the State's Construction General Permit. Waste Discharge Requirements may be required for maintenance activity below the Belmont Creek ordinary high water mark or within the Belmont Creek riparian zone.
- *California Department of Fish and Wildlife (CDFW).* Approval of a Section 1602 Lake and Streambed Alteration Agreement (LSAA) for the proposed demolition of existing pavement and structures located at or adjacent to the top of the Belmont Creek bank may be required. LSAA approval is required for creek maintenance activities within the creek bank.
- *US Army Corps of Engineers (USACE).* Authorization under a USACE Nationwide Permit may be required for maintenance activity below the Belmont Creek ordinary high water mark.

2.5 APPLICABLE STANDARD CONDIDTIONS OF APPROVAL

San Carlos utilizes Standard Conditions of Approval in order to address common construction and operation issues and ensure compliance with various requirements of regulatory agencies. Table 2-2 lists Conditions of Approval required by the City as standard specifications applied to projects to minimize the potential adverse effects on the surrounding community and the environment. These conditions would be included in all 642 Quarry Road project construction documents and are considered part of the project and not mitigation measures.

Table 2-2: Applicable Standard Conditions of Approval

Resource Area/Topic	Condition of Approval
Aesthetics	**Exterior Materials.** The colors and materials of the structure and improvements shall be in substantial compliance with those presented and described within the application materials. Any changes determined to be significant as determined by the Community Development Director shall be reviewed and approved by the Planning Commission.
Aesthetics	**Exterior Lighting Plan.** A final exterior lighting plan with specifications in conformance with the approved plans is subject to review and approval by the Planning Division prior to Building Permit issuance.

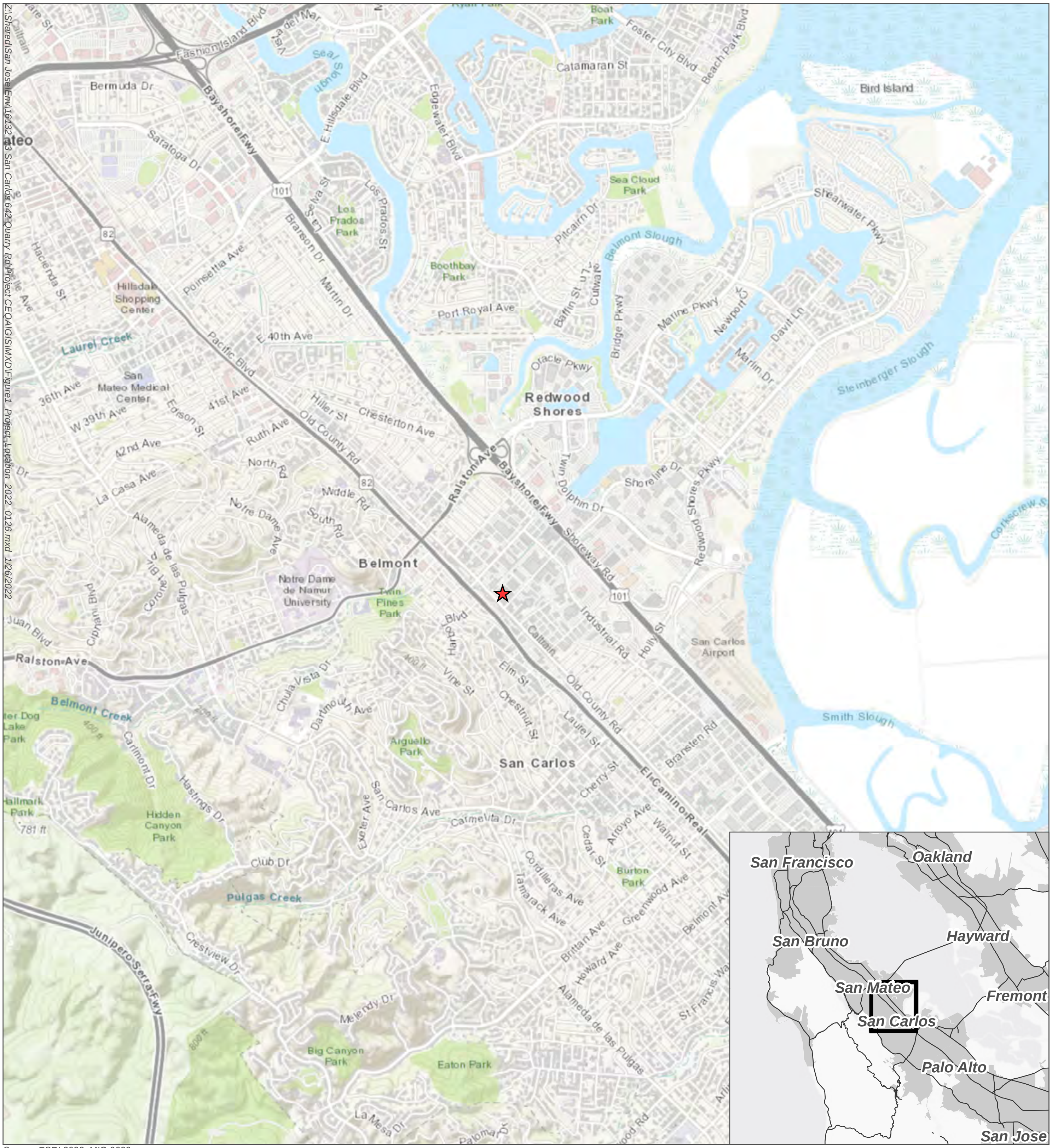
Table 2-2: Applicable Standard Conditions of Approval	
Resource Area/Topic	**Condition of Approval**
Aesthetics	**Signage.** New signs are subject to compliance with San Carlos Municipal Code Chapter 18.22. No signs have yet been approved as part of this project. Any signs that are visible from U.S. Highway 101 shall require approval by the Planning Commission.
Air Quality	**Dust Controls.** The project shall implement BAAQMD's Construction Fugitive Dust Best Management Practices and shall provide notes on the plans submitted to the Building Division for permits. 1) All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2) All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4) All vehicle speeds on unpaved roads shall be limited to 15 mph. 5) All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6) Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. 7) All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specification. All equipment shall be checked by a certified visible emissions evaluator. 8) Post a publicly visible sign with the telephone number and person to contact at the County Department of Public Works regarding dust complaints. The Department of Public Works or its contractor shall respond and take corrective action within 48 hours. The publicly visible sign shall also include the contact phone number for the Bay Area Air Quality Management District to ensure compliance with applicable regulations.
Biological Resources	**Protection of Trees.** The project proponent shall obtain a permit to remove any tree(s) protected under the City's Interim Protected Tree Ordinance, as determined by an arborist, and shall also prepare a tree protection plan that includes a map of the tree protection zone and is included in the construction drawings and bid package. Removed trees will be replaced in accordance with the ordinance at the discretion of the Community Development Director. If any removed trees are within the jurisdiction of California Department of Fish and Wildlife (CDFW), and CDFW issues a Lake and Streambed Agreement for the project, the tree replacement ratios shall comply with CDFW requirements.
Biological Resources	**Nesting Bird Surveys.** To ensure that project activities comply with the Migratory Bird Treaty Act and California Fish and Game Code, the following measures shall be implemented: a. To the extent feasible, construction activities should be scheduled to avoid the nesting season. If construction activities

Table 2-2: Applicable Standard Conditions of Approval	
Resource Area/Topic	**Condition of Approval**
	are scheduled to take place outside the nesting season, all impacts to nesting birds protected under the MBTA and California Fish and Game Code will be avoided. The nesting season for most birds in San Carlos extends from February 1 through August 31. b. If it is not possible to schedule construction activities between September 1 and January 31, then pre-construction surveys for nesting birds should be conducted by a qualified biologist to ensure that no nests will be disturbed during project implementation. These surveys shall be conducted no more than seven days prior to the initiation of construction activities. During this survey, the biologist will inspect all trees and other potential nesting habitats (e.g., shrubs, ruderal grasslands, and buildings) in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the biologist will determine the extent of a construction-free buffer zone to be established around the nest (typically 300 ft for raptors and 100 ft for other species, as recommended by the California Department of Fish and Wildlife), to ensure that no nests of species protected by the Migratory Bird Treaty Act and California Fish and Game Code will be disturbed during project implementation. c. If construction activities will not be initiated until after the start of the nesting season, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the Project be removed prior to the start of the nesting season (e.g., prior to February 1). This will preclude the initiation of nests in this vegetation and prevent the potential delay of the Project due to the presence of active nests in these substrates.
Cultural/ Archaeological Resources	**Archaeological Sensitivity Training.** In anticipation of discovery of unknown archaeological resources during construction, Archaeological Sensitivity Training shall be carried out by a qualified archaeologist for all personnel who will engage in ground disturbing activities on the site. The training shall be conducted at the start of construction and prior to ground disturbance. The training shall include suitable photographic materials showing the kinds of artifacts and evidence of prehistoric archaeological sites likely to be found in the area, as well as written and verbal descriptions for archaeological resources and signs of potential archaeological discovery. The training will also include written materials describing what to do in the event of a discovery, or suspected discovery of archaeological resource.
Cultural/ Archaeological Resources	**Protection of Archaeological Resources.** In the event archaeological resources are unearthed during ground-disturbing activities, all ground-disturbing activities within 100 feet of the find shall be halted so that the find can be evaluated. Ground moving activities shall not be allowed to continue until a qualified archaeologist has examined the newly discovered artifact(s) and has evaluated the area of the find. All archaeological resources unearthed by project construction activities shall be evaluated by a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards.

Table 2-2: Applicable Standard Conditions of Approval	
Resource Area/Topic	**Condition of Approval**
	All Native American artifacts (tribal finds) shall be considered as a significant Tribal Cultural Resource, pursuant to PRC 21074 until the lead agency has enough evidence to make a determination of significance. The City shall coordinate with the archaeologist to develop an appropriate treatment plan for the resources. The plan may include implementation of archaeological data recovery excavations to address treatment of the resource along with subsequent laboratory processing and analysis. If appropriate, the archaeologist may introduce archaeological monitoring on all or part of the site. An archaeological report will be written detailing all archaeological finds and submitted to the City and the Northwest Information Center.
Cultural/Tribal Resources	**Protection of Human Remains.** If human remains are unearthed during ground-disturbing activities, Section 7050.5(b) of the California Health and Safety code will be implemented. Section 7050.5(b) states: In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. The County Coroner, upon recognizing the remains as being of Native American origin, is responsible to contact the Native American Heritage Commission (NAHC) within 24 hours. The Commission has various powers and duties, including the appointment of a Most Likely Descendant (MLD) to the Project. The MLD, or in lieu of the MLD, the NAHC, has the responsibility to provide guidance as to the ultimate disposition of any Native American remains.
Geology/Paleontological Resources	**Protection of Paleontological Resources.** If paleontological resources are discovered during construction, ground-disturbing activities shall halt immediately until a qualified paleontologist can assess the significance of the discovery. Depending on determinations made by the paleontologist, work may either be allowed to continue once the discovery has been recorded, or if recommended by the paleontologist, recovery of the resource may be required, in which ground-disturbing activity within the area of the find will be temporarily halted until the resource is recovered. If treatment and salvage is required, recommendations shall be consistent with Society of Vertebrate Paleontology guidelines and current professional standards.
Hydrology/ Water Quality	**Stormwater Control Plan.** A stormwater and drainage control plan shall be prepared and implemented in compliance with the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), Provision C.3 of the County's Municipal Regional Stormwater NPDES Permit and any other required provisions of the City of Belmont Municipal Code. The plan shall specify best management practices for the control and prevention of

Table 2-2: Applicable Standard Conditions of Approval	
Resource Area/Topic	**Condition of Approval**
	stormwater pollution. The plan shall address both construction-phase and post-construction pollutant impacts from development. Construction-phase measures shall include: erosion control measures such as installing fiber rolls, silt fences, gravel bags, or other erosion control devices around and/or downslope of work areas and around storm drains prior to earthwork and before the onset of any anticipated storm events; monitoring and maintaining all erosion and sediment control devices; designating a location away from storm drains when refueling or maintaining equipment; scheduling grading and excavation during dry weather; and removing vegetation only when absolutely necessary. Post-construction drainage controls shall be specified to capture and treat stormwater onsite.
Hydrology/ Water Quality	**Creek Protection.** Best Management Practices (BMPs) shall be implemented to minimize impacts to Belmont Creek. a. Construction equipment will be washed before entering the property (including wheels, undercarriages, and bumpers). b. The location and boundaries of sensitive habitats (e.g., Belmont Creek and the top of bank line), and the limits of the 25-ft riparian setback within and directly adjacent to the project site will be shown on detailed construction plans. Printed copies will be distributed to personnel prior to implementing the project. c. Staging, access, and parking areas will be located outside of sensitive habitats and the riparian setback. d. No grading will occur during days when there is a 30 percent or greater chance of precipitation. e. All erosion controls (e.g., silt fences), if determined to be necessary, will be shown by the project designer on the project plans. f. The project site, adjacent areas, and staging areas will be maintained in an orderly condition, free and clear from debris and discarded materials. Personnel will not sweep, grade, or flush surplus materials, rubbish, debris, or dust onto sensitive habitats. Upon completion of work, all debris, unused materials, imported fill, and other construction-related materials will be removed from the project site. g. Stockpiled materials will be stored outside the riparian setback, and will be covered by plastic sheeting, tarps, or similar material that can be secured during wind and rain. These materials will be taken to a disposal site approved by the City immediately following grading activities. h. Fueling of equipment will be performed at least 25 ft outside of the riparian setback. i. No washing of vehicles will occur at the project site. j. Water conservation methods will ensure that water used on the project site does not create surface flows capable of carrying pollutants to the nearby creek channel. All personnel, including sub-contractors will be instructed on the practical methods of preventing leaks or over-use of watering.
Noise	**Construction Noise.** Construction Activities shall comply with the City's noise ordinance.

Table 2-2: Applicable Standard Conditions of Approval	
Resource Area/Topic	**Condition of Approval**
Transportation	**Transportation Demand Management (TDM).** The Transportation Demand Management Plan shall be implemented for the life of the project as presented to and approved by the Planning Commission. As new more efficient and effective TDM measures become available to reduce vehicle trips, these measures may be included or substituted to maintain the trip reduction levels described in the Plan. Any such substitutions shall be to the satisfaction of the Community Development Director. Any changes determined to be substantive or inconsistent with the TDM Plan by the Community Development Director shall require review and approval by the Planning Commission.
Transportation	**TDM Plan Implementation.** TDM implementation shall commence once occupancy of the building arrives at 70% (based on square-footage), or one year from the issuance of the Certificate of Occupancy, whichever is first. A report, documenting the TDM activities undertaken and their results, shall be submitted to the Director annually at the responsibility of the applicant. A five-year review shall evaluate the overall effectiveness of all of the TDM activities and may suggest new or modified activities or substitute activities to meet the program's objectives, per the Director's review and approval. The Director may impose reasonable changes to assure the program's objectives will be met. The applicant shall be required to pay for the costs associated with the City review of the annual and five-year review reports. The TDM measure of providing transit passes requires tenants to provide the transit passes to all employees.
Transportation	**C/CAG TDM.** The property owner shall ensure compliance with the San Mateo County Congestion Management Program Land Use Implementation Policy (C/CAG TDM Policy). Specifically, the property owner shall ensure that the measures identified in the approved C/CAG TDM Checklist appended to this application are implemented over the life of the project, and that the property owner and tenants acknowledge the requirement to participate in the periodic monitoring and reporting requirements identified in the C/CAG TDM Policy. Accordingly, it is recommended that the property owner and/or developer clearly identify these TDM provisions and responsibilities in any sales and/or lease or sublease transactions.
Transportation	If a Transportation Management Association (TMA) is established in San Carlos that can serve the project site, the property owner shall participate in the TMA. The level of financial contribution of the participants in the TMA shall be based on an equitable measure such as square footage (or similar metric) as agreed upon by the participants and the City.
Transportation	The owner and/or future tenants shall be responsible for supplying Planning Staff with the contact information for the Designated TDM Contact person.



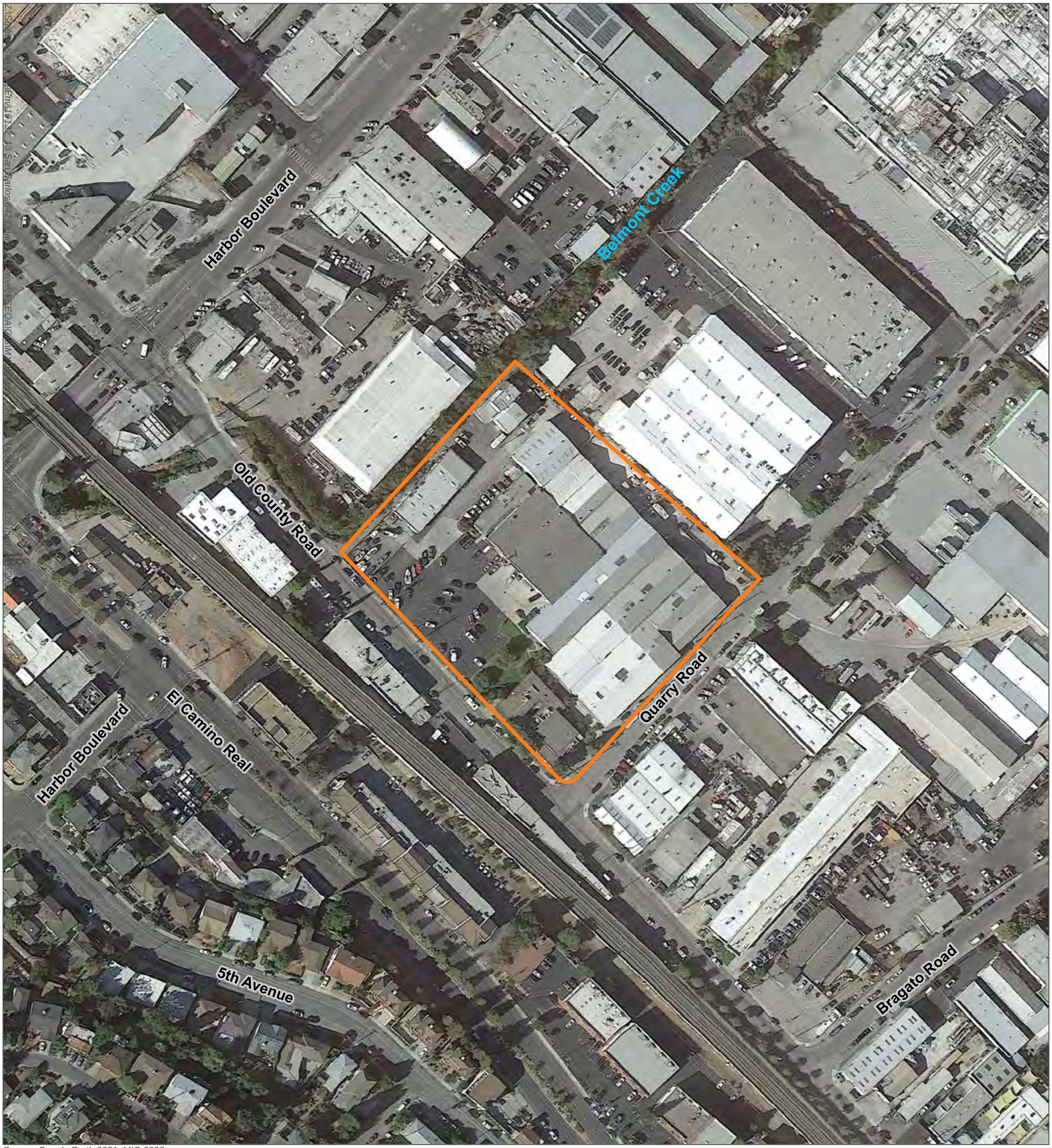
Source: ESRI 2022; MIG 2022

Miles 0 0.5 1 2

★ Project Location

Figure 1 Regional Location

San Carlos 642 Quarry Road Project



Source: Google Earth 2021; MIG 2022

Feet
0 150 300 600

Project Vicinity

Figure 2 Project Vicinity

San Carlos 642 Quarry Road Project

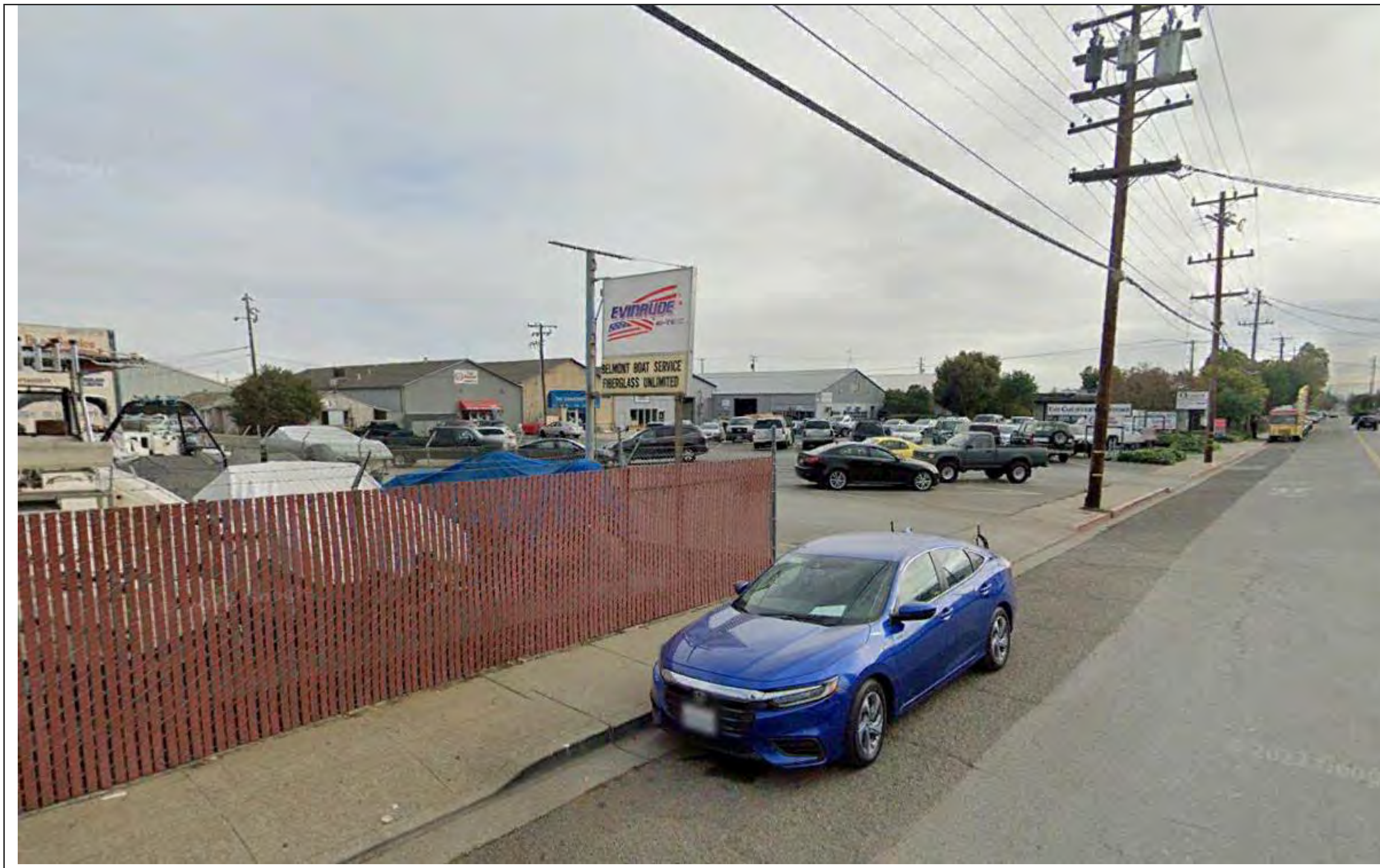


Photo 1. View of project site from Old County Road looking east.

Photo 2. View of project site from corner of Old County Road and Quarry Road looking north.

Figure 3 Existing Site Photos

San Carlos 642 Quarry Road Project

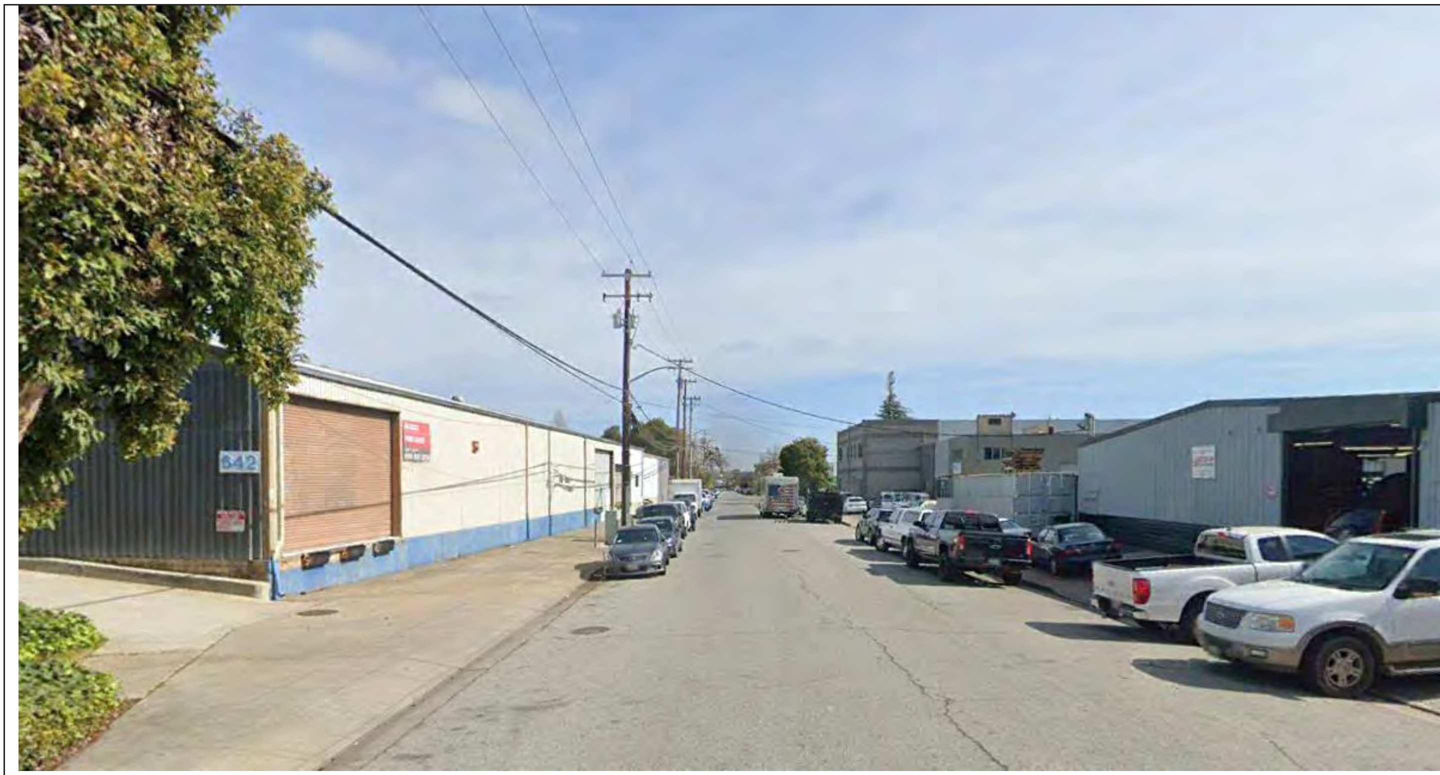


Photo 3. View of project site (left side of street) from Quarry Road looking northeast.

Photo 4. View of project site (right side of street) from Quarry Road looking southwest.

Photo 5. View of Belmont Creek and property development (right side of creek) looking northeast.

Photo 6. View of Belmont Creek and property development (left side of creek) looking southwest.

Figure 3 Existing Site Photos

San Carlos 642 Quarry Road Project

MIG

Sources San Mateo County Imagery 2018, WRA | Prepared By: njander, 10/12/2022

*The limits of the Study Area around Belmont Creek are based on the legal description and official property survey for 642 Quarry Road.

Figure 4 Proposed Creek Maintenance Area

San Carlos 642 Quarry Road Project

M I G

Chapter 3. Environmental Analysis and Findings

1. **Project Title:**

   642 Quarry Road Life Science Project

2. **Lead Agency Name and Address:**

   City of San Carlos; 600 Elm Street, San Carlos, CA 94070

3. **Contact Person and Phone Number:**

   Lisa Costa Sanders, Principal Planner (650) 802-4207

4. **Project Location:**

   642 Quarry Road, San Carlos, CA

5. **Project Sponsor's Name and Address:**

   Logan Daniels, Presidio Bay Ventures
   1160 Battery Street, Suite 100, San Francisco, CA 94111

6. **General Plan Designation:**

   Planned Industrial

7. **Zoning:**

   Light Industrial (IL)

8. **Description of the Project:**

   The proposed project consists of developing two 6-story office/laboratory buildings and one 10-level parking structure providing 410,072 square feet of building space and 933 vehicle parking spaces. The Applicant is requesting rezoning the parcel from Light Industrial to a Planned Development zoning classification to allow increased floor to area ratio (FAR) and building height, flexibility in office to lab space ratio, and inclusion of an on-site childcare facility. See Chapter 2, Project Description for additional detail.

9. **Surrounding Land Uses and Setting:**

   The project site is located in an industrial district predominantly surrounded by commercial and industrial uses including warehouses and storage facilities. Residential uses are located west of El Camino Real and north of O'Neill Avenue. The Caltrain rail line runs parallel to El Camino Real and Old County Road west of the property.

10. **Other Public Agencies Whose Approval is Required:**

    The project may require permits from CDFW (Lake and Streambed Alteration Agreement) and the RWQCB (Waste Discharge Requirements).

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

    The City of San Carlos has not received any requests from a Native American tribe traditionally and culturally affiliated with the project area. Thus, no consultation has been conducted.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Greenhouse Gas Emissions	☐	Public Services
☐	Agricultural and Forestry Resources	☒	Hazards and Hazardous Materials	☐	Recreation
☐	Air Quality	☐	Hydrology/Water Quality	☐	Transportation
☐	Biological Resources	☐	Land Use/Planning	☐	Tribal Cultural Resources
☐	Cultural Resources	☐	Mineral Resources	☐	Utilities/Service Systems
☐	Energy	☐	Noise	☐	Wildfire
☐	Geology/Soils	☐	Population/Housing	☐	Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed Project COULD have a significant effect on the environment, there WILL NOT be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

Signature **Date** 11/16/22

Printed Name: Lisa Costa Sanders **Title:** Principal Planner

Agency: City of San Carlos

3.1 AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
*Would the project:**				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
*Except as provided in Public Resources Code section 21099				

3.1.1 Environmental Setting

Scenic Views

San Carlos has varied topography, which ranges from land at sea level in the eastern portion of the city to the hills in the western portion of the city that have elevations of up to 900 feet. The hillsides and ridgelines that comprise the city's diverse landscape provide a rich array of scenic resources and afford numerous vantage points from which scenic vistas can be enjoyed. Views of the surrounding hills, San Francisco Bay, and the East Bay hills can be accessed in many areas west of Alameda de las Pulgas including City parks and open space and existing residential neighborhoods (San Carlos 2009). Thus, the project site is a component of the views of San Francisco Bay from the San Carlos and Belmont hills.

From the lower portions of San Carlos, scenic views of the Santa Cruz Mountains to the southwest are present but limited due to the flat topography. Views of the mountain range are partially obstructed from the street-level view by urban development, mature trees, and intervening hillsides to the southwest.

The San Carlos General Plan does not identify any official scenic vistas. The nearest State scenic highway to the project site is Interstate 280 (I-280), approximately 2.7 miles west of the project site (Caltrans 2021). The project site is not visible from I-280.

Visual Character of Site and Surrounding Area

The project site is located in a highly urbanized setting in the northeast portion of the City. Prominent visual features of the regional landscape are described below, along with the visual and aesthetic character of the project site.

The project site is located on the eastern side of Old County Road with Industrial Road located further to the east. Both roads are designated as arterial streets that run in a north-south orientation in San Carlos with two and four lanes respectively.

The project site is currently developed with warehouse, retail, and manufacturing structures with low-growing groundcover along the site entrance and parking lot curbs; mature trees line the site entrance from Quarry Road and are present on the southwest boundary facing Old County Road. Belmont Creek flows along the northern boundary of the project site through an engineered channel.

The project site is surrounded by properties with general commercial/industrial uses: 1421 Old County Road to the north, 610 Quarry Road to the east, and 633–647 Quarry Road to the south. Adjacent properties are currently used as (1) an auto repair shop, (2) a newspaper publisher and electronics manufacturer, and (3) auto repair shops and offices respectively. All adjacent lots have open-air parking. In terms of landscaping, all adjacent lots have sparse landscaping along their frontage except for 1421 Old County Road, which has a dense line of trees along the Belmont Creek bank and the frontage of Old County Road.

The project site and immediately adjacent properties are characterized by industrial-style single-story buildings with corrugated metal panels (Appendix A, Sheet A2 Existing Conditions). The details of each building façade are as listed in Table 3-1.

Table 3-1. Appearance of Existing Buildings

Building Location	Exterior Building Appearance
151 Old County Road	Buildings without suite designation: Light gray façade and corrugated metal • 151A: White and red brick façade • 151D: Gray corrugated metal with red entryway awning • 151F: Beige façade with blue entryway awning • 151G: Light gray paneled façade • 151H: Gray-blue corrugated metal with blue window frames • 151J: Cream Yellow façade with blue accents • 151K: Cream Yellow façade with blue accents
1410 Old County Road	Redwood tone porch, light green frontage, and gray roof
1421 Old County Road	Mismatched colors with beige, blue, gray, black, and green frontages
1438 Old County Road	White with blue accents
610 Quarry Road	White with red brick accents
633 Quarry Road	Dark and light gray stone
639 Quarry Road	Dark and light gray pebble wash
642 Quarry Road	Beige corrugated metal with blue accents • 642A: Dark gray and light beige corrugated metal with blue accents • 642B: Light gray vertical paneled façade • 642C-D: Dark gray corrugated metal with orange accents • 642E: Dark gray corrugated metal • 642F: Dark gray corrugated metal • 642G: Beige corrugated metal with blue accents
647 Quarry Road	Light gray corrugated metal with dark gray accents
643–645 Quarry Road	Gray corrugated metal with red accents

Other projects north of the project site (i.e., 601 and 608 Harbor Boulevard) are being proposed for redevelopment as a life sciences building and multi-family apartment units respectively.

Light Sources

Existing light sources on and near the site include exterior building lights and streetlights along Quarry Road. There are no sources of substantial daytime glare near the project site; the exteriors of the buildings near the project site consist mostly of concrete and other non-reflective materials. The commercial building located at 633 Quarry Road (south of the project site) may produce some daytime glare as its northern façade is lined with windows, though this is not directed to the project site. There are no existing land uses near the project site considered sensitive to spill light (e.g., residential uses).

3.1.2 Regulatory Setting

San Carlos 2030 General Plan

The San Carlos 2030 General Plan was adopted in 2009. The following relevant aesthetics-related policies are from the General Plan's Land Use Element.

- **Policy LU-8.1:** Require all development to feature high quality design that enhances the visual character of San Carlos.
- **Policy LU-8.2:** Ensure that new development is sensitive to the character of adjacent structures and the immediate neighborhood.
- **Policy LU-8.3:** Encourage design features and amenities in new development and redevelopment, including, but not limited to interconnected street layout; clustering of buildings; landscaping on each lot; visual buffers; facilitation of pedestrian activity; and distinctiveness and variety in architectural design.
- **Policy LU-8.4:** Promote pedestrian-scaled design through site planning, building design, finish details and landscaping for all types of development by requiring height and locational transitions between buildings of varied levels that are sensitive to the interrelationships of surrounding uses and structures, especially residential.
- **Policy LU-8.5:** Optimize architectural quality by encouraging the use of quality materials, particularly as accents and authentic detailing, such as balconies and window trims.
- **Policy LU-8.8:** Encourage design of convenient pedestrian walkways with shade and minimal tripping hazards, preferably with landscape buffers between roadways and walkways.
- **Policy LU-8.9:** Encourage the design of attractive outdoor pedestrian spaces that encourage impromptu public gathering places with features such as plazas, interior walkways and paseos, ornamental gates, trellises, lighting, trees and landscaping, seating and fountains.
- **Policy LU-8.10:** On all sides of buildings, require the incorporation of quality architectural design elements for all building façades and stepping back upper floors in order to reduce bulk and mass and to break up monotonous wall lines.
- **Policy LU-8.11:** Discourage abrupt changes in building scale. A gradual transition between low-rise to mid-rise buildings should be achieved by using the low-rise buildings at the edge of the project site. Consider the relationship of buildings to the street, to one another and to adjacent structures and land uses, especially single-family residential.
- **Policy LU-8.13:** Require parking areas associated with development to be located and designed to minimize visual impact to the greatest extent feasible. This may include locating parking behind buildings street frontage, below grade, or screening through the use of natural landscaping.

- **Policy LU-8.15:** Require the undergrounding of all utilities, or a deferred improvement agreement, in conjunction with new construction and encourage the undergrounding of existing utilities where feasible.
- **Policy LU-8.16:** Require high quality signage through design, use of materials and colors compatible with and complementary to the architectural character of the building(s) and surrounding.
- **Policy LU-8.17:** Require telecommunications and utility facilities to be sensitively placed, shielded, screened or lessened from view to the greatest extent possible through design review.
- **Policy LU-8.20:** Require all new residential multi- family residential, commercial and industrial projects subject to design review by the appropriate decision-making body for compliance with site planning, architecture, signing and landscaping criteria prior to approval.
- **Policy LU-9.9:** Encourage the design of development to minimize the obstruction of significant views of the San Francisco Bay, the western hills, or other significant natural vistas to the greatest extent possible.

San Carlos Municipal Code

Title 18 of the San Carlos Municipal Code, the San Carlos Zoning Ordinance, establishes districts for basic land uses including open space, public, residential, commercial, and industrial uses, and setting special regulations for design standards and other specific concerns. The City of San Carlos Zoning Ordinance also describes procedures for processing discretionary approvals. The following sections of the San Carlos Zoning Ordinance may be applicable to the proposed project:

Zoning code for the existing zoning designation of the site (Light Industrial) establishes a maximum height of 75 feet, minimum front setbacks of 10 feet, minimum street side setback of 5 feet, and maximum FAR of 1.0 for sites larger than one acre. Under the project proposed rezoning to the Planned Development district, Municipal Code section 18.10.040 allows the minimum lot area, yard requirements, building heights, and other physical development standards to be set as prescribed by the Planned Development plan.

Section 18.15.070 of the Municipal Code establishes regulations for lighting and illumination that apply to all new development including night lighting of exterior doors, maximum height of lighting standards, shielding of lighting fixtures to reduce offsite glare, shielding of operations to prevent adverse emissions of light or glare to other properties, and placement of lighting to prevent adverse interference with operation and enjoyment of surrounding properties.

Section 18.29 of the Municipal Code establishes design review procedures to ensure that new development supports the General Plan's goal of creating distinctive neighborhoods and districts with a diversity of building types that provide continuity in scale and character and harmonious appearance of buildings and sites. Design review ensures new uses will be compatible with the surrounding area and provide standards related to scale, massing, site plan, exterior design, landscaping, lighting, signage, and parking to ensure a project provides an attractive and comfortable environment for occupants, visitors, and the general community.

3.1.3 Discussion

Would the proposed project:

a) Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. The proposed project is located within an urban developed area. It is not located in a scenic area, nor is it considered part of an officially designated scenic vista. However, the San Carlos General Plan states that views of the San Francisco Bay can be accessed in many areas west of Alameda de las Pulgas, including City parks and open space and existing residential neighborhoods (San Carlos 2009). Thus, the project site is a component of the views of San Francisco Bay from the San Carlos and Belmont hills.

While the building may be a discernable feature in the vista of the San Carlos lowlands from various vantage points in the residential neighborhoods west of El Camino and San Carlos hills, it would not block views of San Francisco Bay or the East Bay foothills because of the difference between the viewpoint and project site elevations and because of the intervening distance. The project would have a less than significant impact on scenic views from the San Carlos and Belmont hills of the San Francisco Bay, the Bay shoreline, and eastern foothills.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. The nearest State Scenic Highway to the project site is I-280, approximately 2.4 miles to the west of the project site and has no direct views of the project site. Development of the proposed project would not damage scenic resources within a State Scenic Highway. No impact would occur.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant Impact. Development of the proposed project would represent a change to the existing visual character of the project site from the varied appearance of multiple single-story (approx. 25 feet tall) commercia/industrial warehouse-style building structures and associated parking areas (see site photos in Figure 3 and Appendix A, Sheet A2 Existing Conditions) to a site developed with two 6-story R&D office buildings with blue tint glazing facades and a 10-level parking garage (see architectural renderings in Appendix A, Sheets A7 to A9).

The height of the two R&D buildings would be 100 feet to the top of the parapet and 113 feet to the top of the mechanical screen, while the parking garage would be 104 feet to the top of the elevator tower (Appendix A, Sheets A13 to A16 Building Elevations). These buildings exceed the maximum height limit of 75 feet per the City's Zoning Code for Light Industrial Zones by up to 38 feet. The proposed rezoning of the project site to Planned Development (PD) would allow a maximum building height of 100 feet, not including the mechanical screen (see Project Description section 2.2.7) – an exceedance of 25 feet above the current IL zoning district limit.

The proposed campus development would have the largest buildings in the immediate vicinity with a roofline (top of parapet) roughly 75 feet taller than the existing warehouse structures in the Harbor Industrial Area and roughly 35 feet taller than new development being considered by the City of Belmont at 601 and 608 Harbor Boulevard immediately north of the project site. The Belmont HIA pre-zoning designation for this area has a building height limit of 65 feet. The proposed building at 601 Harbor Boulevard would be 65 feet tall to the top of the roof eave and the proposed five-story building at 608 Harbor Boulevard would be 56 feet, 6 inches to the roofline and 65 feet tall to top of parapet.

The proposed rezoning to PD would allow an increased building mass with a FAR increased from a maximum of 1.0 to 2.0 excluding the parking spaces and circulation within the parking structure, as well as the spaces documented on the FAR Exclusion diagram (DES plan sheets A3.1 through A3.4). This proposal allows for higher intensity use of the project site that exceeds current development standards and existing conditions in the Harbor Industrial Area. This development densification in the Harbor Industrial Area is consistent with the City's support of large-scale office developments to serve bio-tech uses expressed in the Economic Development Plan - East Side Area (see Land Use section 3.11) and with the City's general vision for this area anticipated in the Northeast Specific Plan planning effort underway.

The buildings have been designed to be consistent with the City's General Plan Land Use policies governing aesthetics as identified above in section 3.1.2) and would be subject to Design Review requirements per Municipal Code Chapter 18.29 (see section 3.1.2), which would ensure consistency with applicable development regulations (e.g., compatible with neighboring development). Implementation of the Design Review requirements would further support the General Plan's goals. The proposed project would not conflict with applicable regulations governing scenic quality nor would it substantially degrade the visual quality of the site or its surroundings.

The proposed building design was inspired by the industrial context and its buildings in east San Carlos, where the use of exposed materials and floor-to-ceiling windows in articulation and fenestration recalls the simple and bold structures of industrial architecture. Renderings of the building exterior of the building (Appendix A, Sheets A7 – A9) show that the building would have modern architecture consisting of exposed materials and large metal grid floor-to-ceiling windows with a two-story glass fiber reinforced concrete (GFRC) colonnade base. The body of the building is designed to have a light airy feel that floats above its 2-story GFRC base. The design incorporates blue-tinted clear glass to allow for maximum transparency and provide visual connection between the interior and exterior. Primary and secondary vertical elements are defined to create a regular rhythm, while a finer application of staggered horizontal and vertical fins and bluish glass color would be provided on each façade to add visual interest and provide a distinctive campus experience. The ground level colonnade and balconies provide relief in the building's massing while creating a purposeful space for pedestrians and tenants. These modern architectural building elements would be consistent with other, recent developments south of the project site within the nearby East Side Innovation District.

The proposed project would include landscaping in and around the site and on the proposed buildings' roof decks (Appendix A, Sheets L2 and L3). A landscaped pedestrian pathway would be located along Belmont Creek. Landscaping on the roof decks would provide internal screening and act as dividers between lounge spaces and workspaces. At ground level, the proposed planting palette includes landscape trees, small accent trees, shrubs, groundcover, bioretention areas, and a native botanical garden. A total of 39,552 square feet of landscaping would be provided where 20,504 square feet is required. A total of 111 new trees proposed in the plan would line the property perimeter as well as provide shade for the various open-air amenities within the campus (Appendix A, Sheet L9 Preliminary Planting Plan).

The project would remove 19 landscape trees located at the property corner near Quarry Road and Old County Road (Appendix A, Sheet L1 Tree Removal Plan; Figure 3, Photo 2). Of the 19 trees, 16 are in poor health or have significant defects and, therefore, have low suitability for preservation; these trees may possess characteristics that are undesirable in its landscape setting (HortScience 2021). Overall, the landscape trees proposed for project removal do not appreciably contribute aesthetic qualities to the project site and their removal would not result in reduced visual character of the site or project surroundings. The proposed landscaping would provide a total of 111 new trees, which exceeds the requirement of 21 trees (1 tree for every 5,000 square feet of lot coverage for industrial districts; Municipal Code section 18.18.070[C][4]) and improve the site's scenic quality.

The project would be consistent with the General Plan designation of Planned Industrial and the proposed rezoning to Planned Development. Thus, the project would be consistent with the overall urban character of the surrounding area.

The design of the proposed project includes features to enhance the visual character of the project site as required by the General Plan's Land Use Element policies through the clustering of buildings, use of landscaping, visual buffers, facilitation of pedestrian activity, and distinctiveness and variety in architectural design. The project would be subject to City Design Review, which would ensure consistency with applicable development regulations (e.g., compatible with neighboring development). As a result, the project's impact on the visual character of the site and public views would be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than Significant. Based on project compliance with design review requirements and the additional measures incorporated into the project to reduce glare, the project impacts on nighttime light and daytime glare would be less than significant.

Nighttime Lighting

The proposed project would replace existing light sources associated with the existing commercial/industrial structures (i.e., exterior building lights, security lights, and parking lot lights) with new sources of interior and exterior lighting (Appendix A, Sheets L12 and L14 Lighting Plan). The proposed project includes exterior lighting in the form of:

- Pole-top lights and directional lights along the internal circulation pathway;
- Recessed wall lights and directional lights around the proposed multi-purpose/community event stage;
- Bollard LEDs along the boardwalk connecting Belmont Creek to the central open space;
- Cluster column lights for the proposed bocce and pickleball courts;
- Catenary pendant lights, LED tapelights, and recessed wall lights around outdoor amenities for tenants (i.e., outdoor kitchen, bar, and fitness areas);
- Pedestrian light fixtures along the frontages of Quarry Road and Old County Road; and
- Small-scale in-grade luminaires and bollard LEDs around the corner plaza.

The source, intensity, and type of exterior lighting for the project site would be typical for orientation and safety needs and would be consistent with City standards and regulations. The illumination proposed would be low-level, and the other exterior lights (e.g., building and light poles) would be shielded to reduce light spill or glare. Exterior lights for safety, security, and landscaping and building illumination would not create substantial spill light. The project would incorporate design features that would inhibit light transmission from exterior building sources, such as directing sources of light in upward and downward directions (i.e., not laterally to the external environment), shielding those sources, and complying with City regulations.

Interior lighting would be controlled via occupancy sensors and daylighting sensors to reduce the light levels to a minimum level during off-work hours and when the spaces are not occupied. Building tenants would be required to install occupancy sensors wherever possible as part of landlord requirements for building efficiency. Night lighting proposed within the parking garage would be contained within the structure and not directed to the outside environment.

Daytime Glare

The buildings would be designed with materials that introduce a potential new source of daytime glare. The proposed glazing materials would have an anti-reflective coating to reduce the amount of glare reflected off the building windows to a reflectivity rate of 15 percent or less. Solar reflection from the project buildings was evaluated by RWDI (2022) based on location specific solar climate data under a clear sky assumption. The evaluation considered two types of reflection:

- Glancing Reflections – Glancing reflections occur when light strikes glass at a high angle of incidence (AOI). These reflections tend to be more intense because any glass becomes more reflective as the AOI increases. However, while they are more intense, for a planar building (such as the proposed Project), glancing reflections will never be abnormally intense (i.e., exceed what the sun naturally creates). They also tend to be brief and take up a smaller portion of an observer's field-of-view.
- Normal Reflections – Normal reflections are those that occur when light strikes the glass at low AOIs, and the reflected fraction remains essentially the same as what is quoted by manufacturers. While these reflections will be the least intense (particularly for the glazing used in the proposed Project), noticeable reflections can still occur if they emanate from a large, continuous area of glass that makes up a large fraction of an observer's field of view.

RDWI concluded that the glazed facade design is not expected to create reflection effects that are atypical or unusual for an urban context. The northeast and northwest elevations are unlikely sources of normal reflections given the local sun path. The southeast facades have the potential to create visual reflections on Old County Road, El Camino Real, Quarry Road, the Caltrain tracks and the residences west of the site. The potential for reflection effects is not expected to be atypical of what is seen of many buildings in an urban context and in the case of the residences to the west, reflections would only be possible for those properties at or below the elevation of the roofs of the project and depending on the location of the property relative to the project, reflections would not be expected to persist for the entire time the southwest facade is exposed to sunlight. Reflections are not expected to present a significant risk to drivers or the train line, and the low reflectivity of the selected glass type reduces the risk (RDWI 2022).

3.1.4 References

California Department of Transportation (Caltrans). 2021. "California State Scenic Highway System Map." Accessed on December 14, 2021, at https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa.

City of San Carlos. 2009. San Carlos General Plan: Envision 2030. Adopted October 12, 2009.

______. 2021. San Carlos Municipal Code Title 18: Zoning. Revised 3/21.

HortScience Bartlett Consulting (HortScience). 2021. Preliminary Arborist Report. 642 Quarry Road, San Carlos, CA. Prepared for Presidio Bay Ventures, 1160 Battery Street, Suite 100, San Francisco, CA 94111. November 18, 2021.

RWDI. 2022. 642 Quarry Solar Reflection Design Review. August 24, 2020. Prepared for Logan Daniels, Presidio Bay and 642 Quarry Owner, LLC.

3.2 AGRICULTURAL AND FOREST RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:*				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
*In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				

3.2.1 Environmental Setting

The project site is located in the Harbor Industrial Area of City of San Carlos that has been transitioning from low-intensity commercial and industrial businesses to biotechnology, life sciences, and high-tech office land uses over the last decade. The existing site structures comprise 11 warehouse/retail/ manufacturing/office buildings divided into 17 individual tenant spaces involving auto and boat repair/painting, storage, stone cutting, countertop construction and storage, water filtration development, and offices. The property is surrounded by commercial, mixed use, and light industrial, and residential land uses. The California Department of Conservation's Farmland Mapping and Monitoring Program identifies the site as Urban and Built-up Land (CDOC 2019).

3.2.2 Discussion

Would the proposed project:

a) **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

b) **Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

c) **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**

d) **Result in the loss of forest land or conversion of forest land to non-forest use?**

e) **Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

No Impact (Responses a – e). There are no forest lands or agricultural lands on or near the proposed project site, which is currently developed as a surface parking lot and surrounded by urban land uses. The project would not convert or cause the conversion of any farmland or forest land to a non-agricultural/non-forest use. The proposed project would not impact Prime Farmland, Unique Farmland, Farmland of Statewide Importance, forest land, or land under a Williamson Act contract. Thus, the project would not result in impacts to any agricultural or forestry resources. No impact would occur.

3.2.3 References

California Department of Conservation (CDOC). 2019. Farmland Mapping and Monitoring Program. San Mateo County Important Farmland 2018. Published September 2019.

3.3 AIR QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:*				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐
*Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.				

3.3.1 Environmental Setting

Air quality is a function of pollutant emissions and topographic and meteorological influences. Physical atmospheric conditions such as air temperature, wind speed and topography influence air quality.

Criteria Air Pollutants

Federal, state, and local governments control air quality through the implementation of laws, ordinances, regulations, and standards. The federal and state governments have established ambient air quality standards for “criteria” pollutants considered harmful to the environment and public health. National Ambient Air Quality Standards (NAAQS) have been established for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), fine particulate matter (particles 2.5 microns in diameter and smaller, or $PM_{2.5}$), inhalable coarse particulate matter (particles 10 microns in diameter and smaller, or PM_{10}), and sulfur dioxide (SO_2). California Ambient Air Quality Standards (CAAQS) are more stringent than the national standards for the pollutants listed above and include the following additional pollutants: hydrogen sulfide (H_2S), sulfates (SO_X), and vinyl chloride. In addition to these criteria pollutants, the federal and state governments have classified certain pollutants as hazardous air pollutants (HAPs) or toxic air contaminants (TACs), such as asbestos and diesel particulate matter (DPM).

San Francisco Bay Area Air Basin

The proposed project is located in the San Francisco Bay Area Air Basin (SFBAAB), an area of non-attainment for both the 1-hour and 8-hour state ozone standards, and the national 24-hour $PM_{2.5}$ standard. The SFBAAB is comprised of nine counties: all of Alameda, Contra Costa, Santa Clara, San Francisco, San Mateo, Marin, Napa, and the southern portions of Solano and Sonoma. In San Mateo County, $PM_{2.5}$ exceeds the national standard only on about one day each year (BAAQMD 2017a).

The San Francisco Bay area Is generally characterized by a Mediterranean climate with warm, dry summers and cool, damp winters. During the summer daytime high temperatures near the coast are primarily in the mid-60s, whereas areas farther inland are typically in the high-80s to low-90s. Nighttime low temperatures on average are in the mid-40s along the coast and low to mid-30s inland.

The Mediterranean climate is seen along most of the West Coast of North America and is primarily due to a (typically dominating) high-pressure system, located off the west coast of North America, over the Pacific Ocean. During the summer and fall months the high-pressure ridge is at its strongest and therefore provides a more stable atmosphere. Warm temperatures and a stable atmosphere associated with the high-pressure ridge provide favorable conditions for the formation of photochemical pollutants (e.g., O_3) and secondary particulates (e.g., nitrogen oxides (NO_x) and SO_2).

Varying topography and limited atmospheric mixing throughout the SFBAAB restrict air movement resulting in reduced dispersion and higher concentrations of air pollutants. The SFBAAB is most susceptible to air pollution during the summer when cool marine air flowing through the Golden Gate can become trapped under a layer of warmer air (a phenomenon known as an inversion) and is prevented from escaping the valleys and bays created by the Coast Ranges.

Sensitive Receptors

A sensitive receptor is defined by the Bay Area Air Quality Management District (BAAQMD) as a facility or land use that include members of the population that are particularly sensitive to the effects of air pollution, such as children, seniors, or people with illnesses (BAAQMD 2017b) These typically include residences, hospitals, and schools. The sensitive receptors within 1,000 feet of the project site include:

- Single-family residences west of the project site on 5th Ave, 6th Ave, and Sunnyslope Ave, the closest of which is approximately 410 feet from the project site.
- San Mateo Gymnastics in Belmont and Pump it Up of Belmont Kids Birthdays & More, north of the project site on Elmer Street, approximately 770 from the project site.

In addition to the existing, sensitive receptors described above, this Initial Study also considers the potential for sensitive receptors to be at the following locations in the future.

- Potential future residential receptors that would be part of the project being proposed north of the project site at 608 Harbor Road in the City of Belmont, approximately 490 feet from of the project site.
- Children at the childcare facility that is be proposed for the first floor of the project's southern building. These receptors would only be operational sensitive receptors.

3.3.2 Regulatory Setting

CARB In-Use Off-Road Diesel Vehicle Regulation

On July 26, 2007, CARB adopted a regulation to reduce DPM and NO_x emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. This regulation applies to all off-road diesel vehicles over 25 horsepower (hp) used in California and most two-engine vehicles (except on-road two-engine sweepers), which are subject to the Regulation for In-Use Off-Road Diesel Fueled Fleets (Off-Road regulation). Additionally, vehicles that are rented or leased (rental or leased fleets) are included in this regulation. This regulation:

- Imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles;

- Requires all off-road diesel vehicles over 25-horsepower be reported to CARB (using the Diesel Off-Road Online Report System DOORs) and labeled;
- Restricts the adding of older vehicles into fleets; and,
- Requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies, VDECS (i.e., exhaust retrofits).

CARB In-Use Off-Road Diesel Vehicle Regulation

CARB's In-Use Heavy-Duty Diesel-Fueled regulation (also known as the Truck and Bus Regulation) is intended to reduce emission of NO_x, PM, and other criteria pollutants generated from existing on-road diesel vehicles operating in California. The regulation applies to nearly all diesel fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds that are privately or federally owned, and for privately and publicly owned school buses. Heavier trucks and buses with a GVWR greater than 26,000 pounds must comply with a schedule by engine model year or owners can report to show compliance with more flexible options. Fleets complying with the heavier trucks and buses schedule must install the best available PM filter on 1996 model year and newer engines and replace the vehicle 8 years later. Trucks with 1995 model year and older engines had to be replaced starting 2015. Replacements with a 2010 model year or newer engines meet the final requirements, but owners can also replace the equipment with used trucks that have a future compliance date (as specified in regulation). By 2023, all trucks and buses must have at least 2010 model year engines with few exceptions.

Bay Area Air Quality Management District

The BAAQMD is the agency primarily responsible for maintaining air quality and regulating emissions of criteria and toxic air pollutants within the SFBAAB. The BAAQMD carries out this responsibility by preparing, adopting, and implementing plans, regulations, and rules that are designed to achieve attainment of state and national air quality standards.

The BAAQMD is the agency primarily responsible for maintaining air quality and regulating emissions of criteria and toxic air pollutants within the SFBAAB. The BAAQMD carries out this responsibility by preparing, adopting, and implementing plans, regulations, and rules that are designed to achieve attainment of state and national air quality standards. The BAAQMD currently has 13 regulations containing more than 100 rules that control and limit emissions from sources of pollutants. Table 3-2 summarizes the major BAAQMD rules and regulations that may apply to the proposed project.

Table 3-2. Potentially Applicable BAAQMD Rules and Regulations

Regulation	Rule	Description
1- General Provisions and Definitions	1- General Provisions and Definitions	301 – Public Nuisance: Establishes that no person shall discharge quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number or person or the public; or which endangers the comfort, repose, health or safety of any such person or the public.
2- Permits	2- New Source Review	Provides for the review of new and modified sources of pollutants; requires use of Best Available Control Technology and emissions offsets to achieve no net increase in nonattainment pollutants; implements Prevention of Significant Deterioration review for attainment pollutants.

Table 3-2. Potentially Applicable BAAQMD Rules and Regulations		
Regulation	**Rule**	**Description**
2 – Permits	5 – New Source Review of Toxic Air Contaminants	Provides for the review of new and modified sources of toxic air contaminants; requires use of Best Available Control Technology for sources that have a risk above certain thresholds and limits total project risks to 10.0 in a million cancer risk, 1.0 chronic hazard index, and 1.0 acute hazard index.
6 – Particulate Matter	1 – General Requirements	Limits visible particulate matter emissions.
6 – Particulate Matter	6 – Prohibition of Trackout	Limits the quantity of particulate matter through control of trackout of solid materials on paved public roads from construction sites that are greater than one acre in size.
8 – Organic Compounds	3 – Architectural Coatings	Sets forth VOC limitations and requirements for architectural coatings. Flat, non-flat, and non-flat – high glass coatings are required to meet standards of 50, 100, and 150 grams of VOC per liter (g/L), respectively. Traffic marking coatings are required to meet a standard of 100 g/L.
7- Odorous substances	Odorous Substances	Establishes general limitations on odorous substances and specific emission limitations on certain odorous compounds, such as ammonia.
9 – Inorganic Gaseous Pollutants	8 – Nox and CO from Stationary Internal Combustion Engines	Limits emissions of NOx and CO from stationary internal gas combustion engines more than 50 brake horsepower.
11 – Hazardous Pollutants	2 – Asbestos Demolition, Renovation, and Manufacturing	Controls emissions of asbestos to the atmosphere during demolition.
14 – Mobile Source Emissions Reduction Measures	1 – Commuter Benefits Program	Requires employers with 50 or more full-time employees in the Bay Area to provide commuter benefits to their employees.
Source: BAAQMD, 2019.		

On April 29, 2017, the BAAQMD adopted its Spare the Air-Cool the Climate 2017 Clean Air Plan (Clean Air Plan). The 2017 Clean Air Plan updates the most recent Bay Area ozone plan, the 2010 Clean Air Plan, in fulfillment of state ozone planning requirements. The Plan focuses on the three following goals:

- Attain all state and national air quality standards;
- Eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants; and
- Reduce Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050.

The plan includes 85 distinct control measures to help the region reduce air pollutants and has a long-term strategic vision which forecasts what a clean air Bay Area will look like in the year 2050. The control measures aggressively target the largest source of GHG, ozone pollutants, and particulate matter emissions – transportation. The 2017 Clean Air Plan includes more incentives for electric vehicle infrastructure, off-road electrification projects such as Caltrain and shore power at ports, and reducing emissions from trucks, school buses, marine vessels, locomotives and off-road equipment (BAAQMD 2017c).

3.3.3 Discussion

Would the proposed project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The proposed project would not conflict with nor obstruct implementation of the Bay Area Air Quality Management District (BAAQMD) 2017 Clean Air Plan (BAAQMD 2017c). The 2017 Clean Air Plan includes increases in regional construction, area, mobile, and stationary source activities, and operations in its emission inventories and plans for achieving attainment of air quality standards. Chapter 5 of the Clean Air Plan contains the BAAQMD's strategy for achieving the plan's climate and air quality goals. This control strategy is the backbone of the Clean Air Plan.

The proposed project, which would consist of the construction and operation of a life sciences building, would not conflict with or obstruct implementation of the BAAQMD 2017 Clean Air Plan. The 2017 Clean Air Plan includes 85 control measures that are grouped into nine categories. Most of these control measures would not apply to the project, because they are implemented at the local and regional local by municipal governments and/or the BAAQMD. Table 3-3 summarizes the project's consistency with potentially applicable control strategies from the 2017 Clean Air Plan (BAAQMD 2017c).

Table 3-3. BAAQMD 2017 Clean Air Plan Control Measures Consistency

Regulation		Description
Transportation Control Measures	TR1: Clean Air Teleworking Initiative	Consistent. The project would comply with the requirements of the City of San Carlos Municipal Code, including Chapter 18.25, Transportation Demand Management. The project is required to achieve a trip generation reduction of 20 percent and would follow a TDM plan that includes teleworking. See Appendix C for the applicant's TDM plan.
	TR2: Trip Reduction Programs	Consistent. The project would comply with the requirements of the City of San Carlo's Municipal Code, including Chapter 18.25, Transportation Demand Management. The project is required to achieve a trip generation reduction of 20 percent and would follow a TDM plan that includes teleworking (see Appendix C).
	TR9: Bicycle and Pedestrian Access and Facilities	Consistent. The project would provide approximately 141 spaces for bicycle parking.
Building Control Measures	BL1: Green Buildings	Consistent. The project would be designed to consistent with the City's Reach Code specifications for an all-electric building; future tenants at the project site may use natural gas for research purposes, but this natural gas would not be used for building or water heating.
	BL4: Urban Heat Island Mitigation	Consistent. The project would be subject to the 2019 Title 24 Building Code, which would require the proposed buildings to have roofs that meet the aged solar reflectance and thermal emittance requirements specified in CalGreen Code section 140.3(a)(1)(A)(ii).

Table 3-3. BAAQMD 2017 Clean Air Plan Control Measures Consistency		
Regulation		**Description**
Waste Management Control Measures	WA4: Recycling and Waste Reduction	Consistent. The project would divert construction waste, consistent with or beyond that required by the CalGreen Code.

As shown in Table 3-3, the project would be consistent with applicable control measures contained in the 2017 Clean Air Plan. No impact would occur.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less Than Significant Impact. The proposed project would generate both short-term construction emissions and long-term operational emissions. The project's potential construction emissions were estimated using emissions factors and information obtained from a combination of EMFAC2021, OFFROAD2021, U.S. EPA Tier IV Final emission factors, and CalEEMod version 2022.1, as well as project-specific information obtained from the project applicant regarding construction phasing/duration, the types of equipment that would be used for the project and cut/fill metrics for excavation activities. The project's potential operational emissions were estimated using CalEEMod version 2022.1. As described in more detail below, the proposed project would not generate short-term or long-term emissions that exceed BAAQMD-recommended criteria air pollutant thresholds.

Construction Emissions

The proposed project involves the deconstruction and off-haul of approximately 40,000 square feet of existing building space at the project site, and the construction of two new laboratory and office buildings and an associated, separated parking structure. As described in section 2.3, construction activities are anticipated to begin in mid-2023 and last approximately 24 months. The primary construction phases associated with the project would include demolition; rough grade in (with excavation); foundations, vertical structure development, site work (including paving), and off-site improvements. Construction emissions would be generated on-site during the use of heavy-duty, off-road construction equipment (e.g., excavators, graders, forklifts, etc.) and off-site during worker, vendor (construction material delivery), and soil hauling trips.

As noted previously, the project's potential construction emissions were estimated using several sources for emissions factors including EMFAC2021, OFFROAD2021,1 U.S. EPA Tier IV Final emission factors as provided for in CARB's Carl Moyer Guidelines, and CalEEMod version 2022.1. The construction phasing and general types of equipment were provided by the applicant. In general, the off-road equipment profile is based on CalEEMod defaults, with modifications made to reflect unique pieces of equipment that would be required for project construction (e.g., drill rig for piles, tower crane, etc.). Haul truck trips were estimates based on cut/fill estimates provided by the applicant and the default haul trip capacity account for in

[1] OFFROAD2021 is CARB's database of off-road diesel vehicles and equipment information (e.g., population, age, activity levels, emission rates) and associated emissions levels for different geographic regions (e.g., at the air basin, air district, county, or statewide level). OFFROAD2021 is composed of 18 primary industrial categories, one of which is "Construction and Mining." The equipment associated with each industrial category is broken down into sub-classifications based on equipment type and horsepower bin. For example, under the "Construction and Mining" category, there are several types of construction equipment listed (e.g., bore/drill rigs, excavators, graders) broken down by engine horsepower ranges (e.g., 75 hp to 100 hp, 100 hp to 175 hp).

CaEEMod (i.e., 16 cubic yards).[2] Vendor and worker trips were based on CalEEMod default values / rates. See Appendix D for detailed information on construction phasing, off-road construction equipment types and operating characteristics, and hauling, vendor, and worker trips.

This project applicant has indicated that, as a project design feature, all heavy-duty off-road construction equipment with a horsepower rating of 50 brake-horsepower or more would meet U.S. EPA Tier IV emissions standards (Appendix A, Sheet C10 Grading Plan). As a conservative practice, off-road construction emissions were analyzed for two scenarios, as defined below.

- Scenario 1 (OFFROAD2021 Average County-wide Fleet Emissions)
- Scenario 2 (Tier IV Equipment)

Table 3-4 and Table 3-5 present the proposed project's construction emissions under emissions Scenario 1 and Scenario 2, respectively.

Table 3-4. Estimated Project Construction Criteria Air Pollutant Emissions (Scenario 1)

Year[(B)]	Pollutant Emissions (Average Pounds per Day)[(A)]						
	ROG	NOx	CO	PM_{10}		$PM_{2.5}$	
				Dust[(C)]	Exhaust	Dust[(C)]	Exhaust
Year 1	3.2	15.6	11.5	--[(C)]	0.4	--[(C)]	0.3
Year 2	35.7	21.8	16.8	--[(C)]	0.5	--[(C)]	0.5
BAAQMD CEQA Threshold	**54**	**54**	**--**	**BMPs**	**82**	**BMPs**	**82**
Potentially Significant Impact?	**No**	**No**	**No**	**No[(C)]**	**No**	**No[(C)]**	**No**

Source: BAAQMD 2017b and MIG 2022. See Appendix D.

(A) Average daily emissions assume 264 active construction days for both Year 1 and Year 2. Note that in actuality, the mass emissions estimates for Year 2 include 13 months of emissions and therefore dividing by one year's worth of time reflects a conservative estimate of potential project emissions (i.e., because more emissions would be divided by less time, resulting in higher average daily emissions).

(B) Emissions estimates are based on cumulative time of construction (i.e., one year – 365 days – that may be split across multiple calendar years). Year 1 includes emissions from 2023 and 2024, while Year 2 includes emissions from 2024 and 2025; see footnote (A), above), for total active construction days for each year of construction analysis.

(C) For all projects, the BAAQMD recommends implementing eight basic construction best management practices (BMPs) to control fugitive dust from construction activities. As described in this section, the proposed project would be required to implement the BAAQMD's fugitive dust BMPs as a COA, rendering this impact less than significant.

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[2] The construction emissions estimates contained in this Initial Study are based on initial off haul estimates of approximately 35,000 cubic yards of soil. Current project estimates reduce off haul to approximately 7,000 cubic yards of soil. Thus, the emissions estimates are greater than what the project would generate, because they account for more truck activity (used to export the material from the site) than would be required for the project. Therefore, the construction emissions estimates provide a conservate (i.e., likely to overstate) assessment of potential impacts.

Table 3-5. Estimated Project Construction Criteria Air Pollutant Emissions (Scenario 2)							
Year (A)	Pollutant Emissions (Average Pounds per Day)(C)						
	ROG	NOx	CO	PM_{10}		$PM_{2.5}$	
				Dust(B)	Exhaust	Dust(B)	Exhaust
Year 1	3.3	12.2	20.5	--(B)	0.2	--(B)	0.2
Year 2	36.0	17.8	35.2	--(B)	0.3	--(B)	0.3
BAAQMD CEQA Threshold	**54**	**54**	**--**	**BMPs**	**82**	**BMPs**	**82**
Potentially Significant Impact?	**No**	**No**	**No**	**No(C)**	**No**	**No(C)**	**No**

Source: BAAQMD 2017b and MIG 2022. See Appendix D.

(A) Average daily emissions assume 264 active construction days for both Year 1 and Year 2. Note that in actuality, the mass emissions estimates for Year 2 include 13 months of emissions and therefore dividing by one year's worth of time reflects a conservative estimate of potential project emissions (i.e., because more emissions would be divided by less time, resulting in higher average daily emissions).

(B) Emissions estimates are based on cumulative time of construction (i.e., one year – 365 days – that may be split across multiple calendar years). Year 1 includes emissions from 2023 and 2024, while Year 2 includes emissions from 2024 and 2025; see footnote (A), above), for total active construction days for each year of construction analysis.

(C) For all projects, the BAAQMD recommends implementing eight basic construction BMPs to control fugitive dust from construction activities. As described in this section, the proposed project would be required to implement the BAAQMD's fugitive dust BMPs as a COA, rendering this impact less than significant.

As shown in Table 3-4 and Table 3-5, construction emissions associated with the proposed project would be below all BAAQMD significance thresholds for criteria air pollutant emissions under Scenarios 1 and 2; however, as indicated in the BAAQMD's *CEQA Guidelines*, fugitive dust emissions are considered potentially significant, regardless of the quantity of PM_{10} or $PM_{2.5}$ emitted, unless the BAAQMD's eight, recommended fugitive dust BMPs are implemented during construction activities (BAAQMD 2017b, pg. 8-4).

The City of San Carlos requires the implementation of the BAAQMD's eight, recommended fugitive dust BMPs during construction activities as a condition of project approval. The dust control measures are listed Table 2-2, Air Quality: Dust Controls.

It should be further noted that the emissions shown in Table 3-5 for Scenario 2 are generally lower than those in Table 3-4 (i.e., for Scenario 1). Therefore, the project applicant's commitment to utilizing Tier IV equipment would further reduce the magnitude of an already less-than-significant impact, and the specific use of Tier IV equipment would not be required to mitigate a potentially significant impact with regard to construction criteria air pollutant emissions.

Operational Emissions

Upon completion of construction activities, the proposed project would generate emissions of regulated air pollutants from:

- **Mobile Sources.** The proposed land use would generate emissions from vehicle traveling to and from the project site.
- **"Area" Sources.** The proposed land use would generate emissions from small area sources, including landscaping equipment, and the use of consumer products (e.g., paints, cleaners, and fertilizers) that result in the evaporation of chemicals into the atmosphere during product use.
- **Energy Use and Consumption.** The proposed land use would generate emissions from the combustion of natural gas in water and space heating equipment.

- **Diesel Back-up Generators.** The proposed project would include three (3), 1,250-kilowatt (kW) diesel back-up generators to power the proposed structures in the event of power loss.
- **Laboratory Use.** The proposed project could generate fugitive emissions of ROG through laboratory research activities undertaken by future tenants.

The proposed project's operational emissions were estimated using CalEEMod version 2020.4.0, with the exception of ROG emissions from laboratory use, which were estimated using average emission factors for a Type II (General Biology) laboratory obtained from a Health Risk Assessment prepared by Yorke Engineering for the University of California, Davis (Yorke 2018). The emissions estimates are based on the project's first year of operation (presumed to be 2025), using default data assumptions contained in CalEEMod, with the following project-specific modifications:

- **Trip Generation.** Operational weekday trip generation rates were adjusted to reflect the trip generation prepared by Hexagon Transportation Consultants (Hexagon 2022). The default weekend trip generation rates were also adjusted to be consistent with TDM requirements. Based on Hexagon's trip generation estimates, the life sciences building would generate approximately 3,713 total daily vehicle trips per weekday. Based on CalEEMod estimates, the proposed project is estimated to generate approximately 9,818,168 annual VMT.
- **Stationary Source.** Three 1,250 kW diesel back-up generators were added to the model. These generators were modeled as meeting U.S. EPA Tier IV emissions standards.[3]

The proposed project's estimated operational emissions are presented in Table 3-6. As shown in Table 3-6, operational criteria air pollutant emissions associated with the proposed project would be below the BAAQMD regional thresholds. Therefore, operation of the proposed project would not generate operational-related emissions that exceed BAAQMD thresholds, and this impact would be less than significant.

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[3] The project applicant provided information on the type of proposed generators – three (3) Kohler KD-1,250 model generators. The cut sheet for the Kohler KD-1,250 generator indicates it is Tier II EPA-Certified; however, pursuant to BAAQMD Regulation 2, Rule 2, Section 301, the BAAQMD's "Best Available Control Technology" regulation, diesel backup generators with a brake horsepower rating of 1,000 or more are required to use engines that meet the EPA Tier 4 emissions standards. Alternatively, older engines (e.g., Tier 2) can be retrofitted with a diesel particulate filter to meet the particulate matter emissions limits, a selective catalytic reduction system to meet the NOx emission limits, and/or an oxidation catalyst or catalyzed diesel particulate filter to meet the non-methane hydrocarbon and particulate matter emission limits (BAAQMD 2021). Therefore, although the applicant has indicated Tier II engines are proposed, Tier IV engines have been modeled to reflect compliance with BAAQMD rules and regulations.

Table 3-6. Estimated Project Operational Criteria Air Pollutant Emissions					
Source	**Pollutant Emissions (Tons per Year)**				
	ROG	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Mobile Sources	1.41	1.21	12.4	1.36	0.25
Area Sources	2.52	0.03	3.07	<0.01	0.01
Energy Demand	0.01	0.10	0.08	0.01	0.01
Stationary Sources	0.01	0.05	0.53	<0.01	<0.01
Laboratory Emissions	1.51	0.00	0.00	0.00	0.00
TOTAL(B)					
BAAQMD CEQA Threshold	**10**	**10**	**--**	**15**	**10**
Potentially Significant Impact?	**No**	**No**	**No**	**No**	**No**
Source	**Pollutant Emissions (Average Pounds per Day)**				
	ROG	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Mobile Sources	7.74	6.62	68.0	7.46	1.39
Area Sources	13.8	0.14	16.8	0.02	0.03
Energy Demand	0.03	0.55	0.46	0.04	0.04
Stationary Sources	0.06	0.29	2.89	0.04	0.01
Laboratory Emissions	8.29	0.00	0.00	0.00	0.00
TOTAL(B)	29.92	7.60	88.2	7.54	1.47
BAAQMD CEQA Threshold	**54**	**54**	**--**	**82**	**54**
Potentially Significant Impact?	**No**	**No**	**No**	**No**	**No**

BAAQMD 2017b and MIG 2022. See Appendix D.

(A) <0.0 does not mean zero; rather, it means less than 0.05, but greater than zero.
(B) Totals may not equal due to rounding.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. As described in section 3.3.1, sensitive residential receptors are generally located west of the project site, across El Camino Real. Additional sensitive receptor locations, include potential, future residents at 608 Harbor Blvd, and childcare receptors at the project site (located in the northeast corner of the Southern Building). Construction and operational emissions would have the potential to expose sensitive receptors to TACs; therefore, construction and operational and health risk assessments (HRAs) were prepared for the project. The analysis below identifies health risk estimates and discusses health risk considerations with regard to the activities proposed by the project. See Appendix D for details on the parameters used in the air dispersion modeling and methodology employed for estimating potential health risks.

Construction Health Risk Assessment

Project-related construction activities would emit $PM_{2.5}$ from equipment exhaust. Nearly all the project's $PM_{2.5}$ emissions from equipment exhaust would be diesel particulate matter (DPM), a TAC. Accordingly, a HRA was prepared to assess potential risks associated with sensitive receptor exposure to DPM during project construction activities, as estimated using CalEEMod (see Table 3-4). The construction HRA evaluated DPM emissions associated with on- and off-road diesel fuel trucks and equipment.[4] Gasoline-fuel vehicles emit various TACs in much smaller quantities and health toxicity compared to DPM. Thus, gasoline fueled emission sources were not included in the HRA.

The proposed project would involve different construction activities occurring at different intensities over an approximately 25-month period, beginning in 2023. Receptors would be exposed to varying concentrations of pollutants throughout the construction period. Health risks were assessed according to the recommendations in the BAAQMD's Health Risk Assessment Modeling Protocol as well as the Office of Environmental Health Hazard Assessment's Air Toxics Hot Spots Program Guidance Manual (OEHHA 2015; BAAQMD 2020). Consistent with BAAQMD guidance, construction DPM concentration levels were estimated at 1.5 meters above the ground using AERMOD. These concentrations were used to derive the individual excess cancer risk and non-carcinogenic health hazard index for sensitive receptors that could be exposed to DPM. Refer to Appendix D for detailed CalEEMod and AERMOD[5] modeling assumptions, output files, and HRA calculations.

Individual Carcinogenic Risk from Exposure to Construction DPM

The predicted locations of the annual point of maximum impact (PMI) and the maximum exposed individual receptor (MEIR) for DPM exposure, under emissions Scenario 1, are shown in Figure 5 Construction Health Risk Assessment: MEIR and PMI. The predicted PMI is located south of the project site, on the southern side of Quarry Road. Since the PMI for DPM exposure is located on land that is not occupied by a receptor on a permanent basis, lifetime excess cancer risks and chronic non-cancer health hazards, which are based on exposure to annual average pollutant concentrations, were not estimated for the modeled PMI location. Accordingly, health risks were assessed at the modeled residential MEIR location. For both years, the MEIR for DPM exposure is located at a single-family residential building at 1595 5th Ave in the City of Belmont. The HRA evaluated worst-case carcinogenic and non-carcinogenic risks to child (3rd trimester, 0-2 years, and 2-16 years) and adult (16-30 years and 30-70 years) receptors. Table 3-7 summarizes the results of the construction HRA and presents the results for emissions Scenario 1 (OFFROAD 2021) and Scenario 2 (Tier IV).

As shown in Table 3-7 the calculated risks are greatest for child receptors; in particular, child receptors that are in their third trimester (i.e., in the mother's womb) at the start of construction activities. The calculated excess individual cancer risk for this subset of the population under Scenario 1 and Scenario 2 would be approximately 6.1 and 3.6, respectively, both of which are below the BAAQMD-recommended significance threshold value of 10 excess cancers per million population (see Appendix D for all health risk assessment results). At the same DPM concentrations for Scenario 1 (i.e., the scenario with the higher of the two risks), risks to children ages 2-16 would be approximately one tenth the BAAQMD-recommended significance threshold, and risks to adult receptors would be less than one one-hundredth of the BAAQMD-recommended threshold. The magnitude of the project's predicted cancer risks at sensitive residential receptors is partly a function of the latest OEHHA and BAAQMD-guidance on HRAs, which account for increased susceptibility from exposure to TACs in early life stages but is primarily a function of the anticipated construction activities, equipment usage, and the close

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[4] As noted previously, the construction emissions estimates account for more truck hauling activity than what would be required for the project. Thus, the construction health risk values contained in this analysis provide a conservative (i.e., likely to overstate) assessment of potential impacts.

[5] The AERMOD dispersion model is an EPA-approved and BAAQMD-recommended model for simulating the dispersion of pollutant emissions and estimating ground level concentrations of pollutants at specified receptor locations.

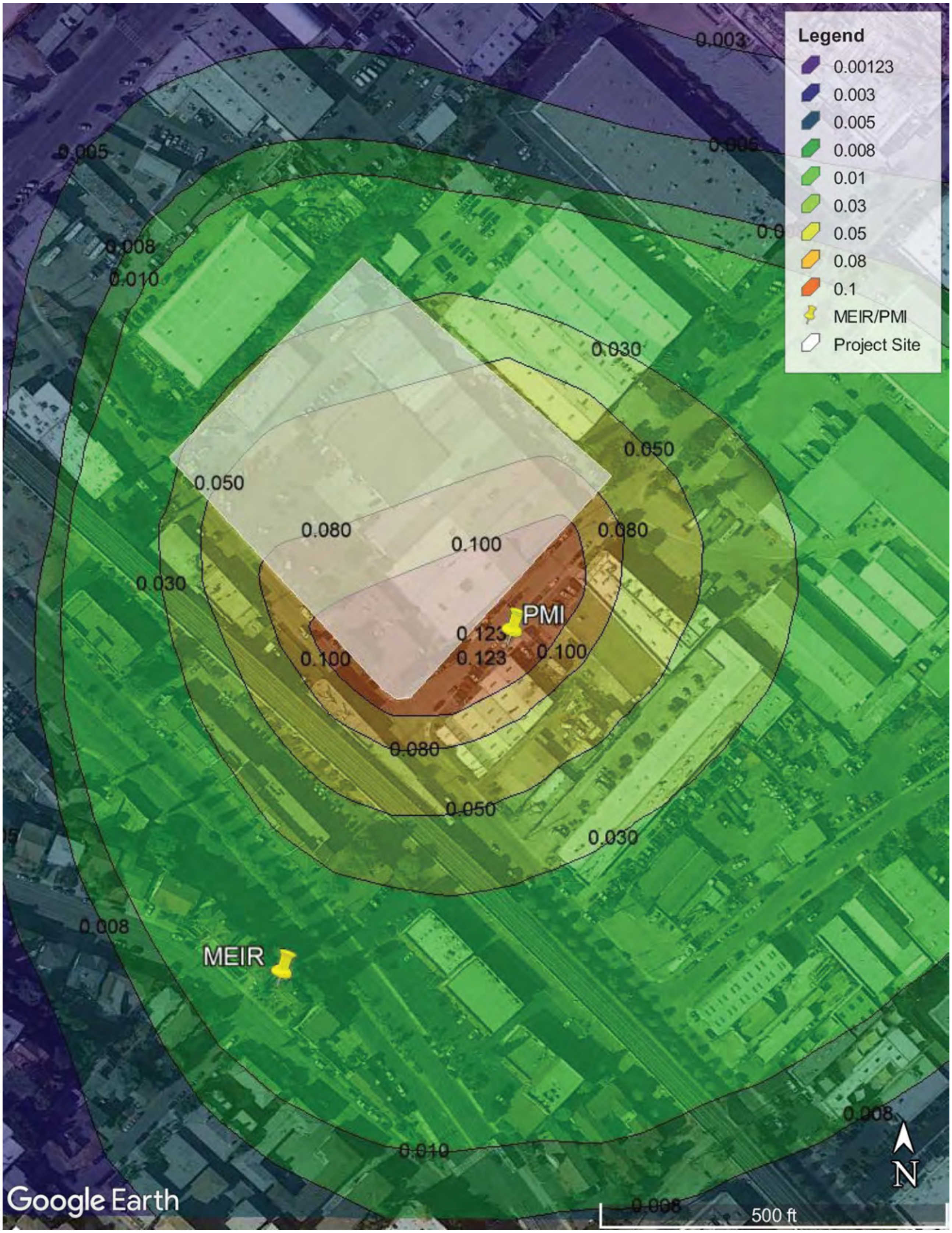

Figure 5 Construction Health Risk Assessment: MEIR and PMI (ug/m^3)

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proximity of the receptors to the proposed construction activities (i.e., adjacent to the project site).

Since the proposed project would not expose any receptors to cancer health risks in excess of the BAAQMD's recommended threshold, under either scenarios, this impact would be less than significant.

Table 3-7. Maximum Increased Cancer Risk from Project Construction DPM Emissions

Receptor and Duration of Risk		Health Risk Increase at MEIR(A)	
		Scenario 1	**Scenario 2**
Residential Child Receptor	Year 1	2.6	1.4
	Year 2	3.5	2.2
	Total Incremental Health Risk Increase	6.0	3.6
	BAAQMD Significance Threshold	10	10
	Significant Impact?	**No**	**No**
Residential Adult Receptor	Year 1	<0.1	<0.1
	Year 2	0.1	<0.1
	Total Incremental Health Risk Increase	0.1	0.1
	BAAQMD Significance Threshold	10	10
	Significant Impact?	**No**	**No**

MIG 2022. See Appendix D
(A) Maximum exposed residential receptor located at 564649.00 m E and 4152382.00 m N.

<u>Non-Carcinogenic Health Hazard from Exposure to Construction DPM</u>

The maximum annual average DPM concentration at any receptor location under either scenario would be approximately 0.0212 $\mu g/m^3$, which would occur at the MEIR associated with Year 2 construction activities (see Figure 4). Based on the chronic inhalation REL for DPM (5 $\mu g/m^3$), the calculated chronic hazard quotient during the maximum exposure to DPM concentration would be 0.003, which is below the BAAQMD's non-cancer hazard index threshold value of 1.0. The proposed project, therefore, would not result in significant non-carcinogenic health risks to receptors from DPM exposure. This impact would be less than significant.

Operational Health Risk Assessment

Once operational, the proposed project would generate TAC emissions from operation of the emergency diesel back-up generators (i.e., in the form of DPM) and possibly from laboratory / research activities.

There are no known tenants for the project at this time. As described in section 2.2.2 of the Project Description, project could accommodate various types of research and development projects, such as food tech (e.g., Impossible Foods), electric vehicle tech (e.g., Rivian), drone tech (e.g., Skydio), biotech or life science (e.g., Genentech), robotics (e.g., Tempo Automation), battery tech (e.g., Bloom Energy), or autonomous vehicles (e.g., Waymo or Cruise), among other tenants currently in the market. The ROG emissions estimates associated with laboratory operations, as described under response b) and shown in Table 3-6, are appropriate for use for this project, because they reflect one, overall, averaged emission profile (i.e., for ROG) associated with potential operational activities at the site. This is in contrast to estimating specific health risks, because each TAC has the ability to affect receptors in different ways.

Receptor exposure to TAC emissions can result in cancerogenic and non-cancerogenic risks, and some TACs have different temporal intervals over which risks can be considered (i.e., acute, 8-hour, and chronic risks). Further, some TACs are more potent than others, meaning that a receptor could be exposed to a large amount of one TAC and a small amount of another but still have the same risk estimate for both TACs.

CEQA Guidelines section 15145 sets forth that, "if, after a thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact." Trying to estimate specific health risk estimates for a project, such as the one being proposed, that does not have a known tenant / proposed activity is not appropriate nor possible because of the varying types and quantities of TAC emissions that could be emitted by the different tenants and the specific manner that those TACs could affect receptors. For example, the types and quantity of TACs that could be emitted by a biotech or life science tenant, which could be similar to Type II Laboratory, like those evaluated by Yorke Engineering at UC Davis (Yorke 2018), would be very different than those that could be emitted by robotics or battery tech tenants. Further, the emissions from the afore mentioned uses would also be different than food tech and/or autonomous vehicle development. These uses are only examples / the types of uses that could be accommodated by the project site, but the project site could also be utilized for another research and development use that is not currently known. Thus, the speculation for the proposed project is not that such tenants could be accommodated by the project, but rather the quantity and profile of TAC emissions associated with the future tenant's use of the site and their specific operations.

Future tenants would be required to comply with all applicable BAAQMD rules and regulations, including Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants, which pertains to new and modified sources of air pollution (e.g., vents on top of the rooves of the proposed buildings that lead from fume hoods). These rules require stationary source operators to apply for and demonstrate compliance with various emissions and exposure requirements, including the requirements that TAC emissions associated with a project not exceed a cancer risk greater than 10.0 in a million, a chronic hazard index of 1.0, or an acute hazard index of 1.0 (BAAQMD Regulation 2, Rule 5, Section 302.1). These standards, as well as any throughput limits and/or operation of emission control devices, would be enforceable conditions of any BAAQMD permit issued for future tenants at the site and, therefore, are not included as mitigation measures. The BAAQMD's review and issuance of a permit to operate for future tenants at the project site would, if such a permit is necessary for future tenants, also ensure the project does not cause or contribute to any existing or project air quality violation or result in TAC emissions from the batching process that could pose a risk to human health. This analysis, therefore, focuses on the TAC emissions estimates associated with the project that are known at this time (i.e., those from emergency back-up generator operation).

Similar to diesel fuel combustion in heavy-duty off-road construction equipment, DPM would also be generated through operation of the emergency diesel back-up generators. Consistent with the operational emissions estimates prepared for the generators (see response b)), the operational health risk assessment assumed the generators would be in operation for 50 hours per year. Table 3-8 below summarizes potential increases in cancer risk associated with the project's operational TAC emissions that are known at the time of this document's preparation.

As shown in Table 3-8, potential health risks associated with known operational sources would be approximately 0.1 excess cancers per million population, which is approximately one one-hundredth of the BAAQMD's threshold. The maximally exposed childcare receptor would be located in the northwesternmost corner of the outdoor play area, and the operational MEIR shares two locations.[6] The first MEIR is located at the apartments at 1608 5th Ave in the City of Belmont and the second MEIR is located at the residence at 1595 5th Ave in the City of Belmont. It should be noted that these locations may change depending on the types of activities undertaken by future tenants at the project site, because of the types and quantities of emissions that could be released from the exhaust fans on top of the North Building and South Building. However, overall operational health risks would remain below the BAAQMD thresholds of significance, because of BAAQMD permit requirements and conditions. This impact would be less than significant.

Table 3-8. Increased Cancer Risk from Known Project Operational TAC Emissions

Receptor		Health Risk Increases
Project Site Childcare Receptor[(A)]	Total Incremental Health Risk Increase	<0.1
	BAAQMD Significance Threshold	10
	Significant Impact?	**No**
Residential Receptor[(B)]	Total Incremental Health Risk Increase	0.1
	BAAQMD Significance Threshold	10
	Significant Impact?	**No**

MIG 2022. See Appendix D

(A) Maximum exposed childcare receptor located at 564629.05 m E and 4152459.77 m N.
(B) Maximum exposed residential receptor has two locations; 564574.00 m E and 4152182.00 m N, and 564549.00 m E and 4152232.00 m N.

Non-Carcinogenic Health Hazard from Exposure to Operational DPM

The maximum annual average DPM concentration at any receptor location during operation of the project would be approximately 0.00026 μg/m^3, which would occur at the childcare receptor location (see Figure 6 Operational Health Risk Assessment: MEIR, Childcare Receptor, and PMI). Based on the chronic inhalation REL for DPM (5 μg/m^3), the calculated chronic hazard quotient during the maximum exposure to DPM concentration would be 0.00005, which is below the BAAQMD's non-cancer hazard index threshold value of 1.0. The proposed project, therefore, would not result in significant non-carcinogenic health risks to receptors from DPM exposure. This impact would be less than significant.

Cumulative Health Risk Assessment

The proposed project would be a source of TAC emissions (and therefore risks) and would be located in proximity of existing sources of TACs, including those from stationary sources, roadway (mobile) sources, and rail sources. Receptor exposure to existing sources of TACs and those proposed by the project would result in cumulative risks for receptors. The BAAQMD maintains an online geographic information system (GIS) from which stationary source data in 1,000 feet of the project site and MEIR were obtained. Roadway and rail source data were obtained from GIS raster files provided by the BAAQMD. In addition, two other projects are being proposed in proximity of the project site that would have the potential to expose receptors to TAC concentrations, a project at 601 Harbor Boulevard and another at 608 Harbor Boulevard. The specific timing of these projects, as well as emissions characteristics of them, are not currently known. Therefore, as a conservative practice, it is assumed that each project would result in risks of 9.9 excess cancers per million for receptors. In reality, these risks are anticipated to be much lower than 9.9 for receptors assess for this project.

[6] The MEIR shares two locations, because the pollutant concentrations are the same at the two locations.

Table 3-9, below, presents cancer risks from existing sources of TACs, other projects occurring in proximity of the proposed project, the proposed project's known and currently proposed TAC sources, and compares the cumulative risks for off-site residential receptors against BAAQMD thresholds of significance. Table 3-10 presents cumulative risks for childcare receptors at the site.

Table 3-9. Cumulative Cancer Risk: Residential Receptor

Risk Source	Cancer Risk
Stationary Sources	6.8
Roadway Sources	14.8
Rail Sources	14.9
Other Project Sources (601 and 608 Harbor)	19.8
Project Construction + Operation	3.7[(A)]
Total Incremental Health Risk Increase	60.0
BAAQMD Significance Threshold	100
Significant Impact?	**No**
BAAQMD 2022	

Table 3-10. Cumulative Cancer Risk: Childcare Receptor

Risk Source	Cancer Risk
Stationary Sources	0.5
Roadway Sources	16.4
Rail Sources	40.0
Other Project Sources (601 and 608 Harbor)	19.8
Project Operation	<0.1
Total Incremental Health Risk Increase	76.8
BAAQMD Significance Threshold	100
Significant Impact?	**No**
BAAQMD 2022.	

As shown in Table 3-9 and Table 3-10, the proposed project would not result in risks that exceed significant cumulative cancer risks.

Criteria Air Pollutant Exposure

As described in section 3.3.1, both the U.S. EPA and CARB regulate common air pollutants on the basis of human health and/or environmental criteria, with the most commonly regulated air pollutants including NOx, PM, CO, etc., which can cause adverse human health effects. As shown in Table 3-4, Table 3-5, and Table 3-6, the potential emissions of NOx, CO, and PM associated with development activities would not exceed the BAAQMD-recommended regional thresholds or exacerbate air quality conditions in the region. This impact would be less than significant.

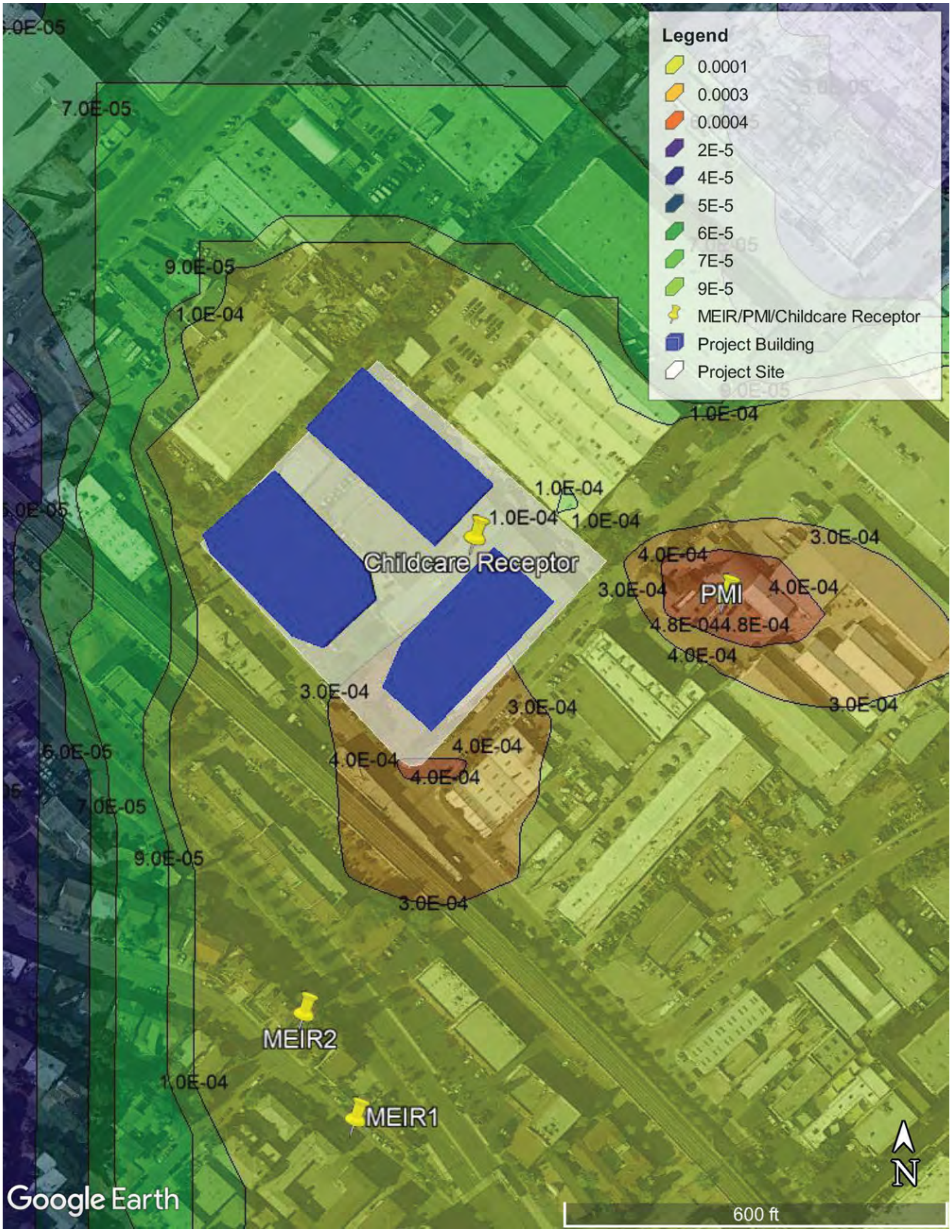

Figure 6 Operational Health Risk Assessment: MEIR and PMI (ug/m^3)

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Carbon Monoxide Hotspots

A CO hotspot is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically near high volume intersections. The BAAQMD developed a screening threshold in 2010 which states that any project involving an intersection experiencing 44,000 vehicles per hour would require detailed analysis (BAAQMD, 2017 pg. 3-4). The proposed project would add approximately 3,713 net new vehicle trips to the roadway system per day, with a total of 483 and 460 net new trips during the AM and PM peak hours, respectively (Hexagon 2022). Existing roadway volumes, and the net increase in traffic volumes associated with the project, are low enough such that the BAAQMD screening threshold would not be exceeded. The proposed project would not cause intersection volumes to exceed any hourly (44,000) screening vehicle volumes maintained by the BAAQMD and, therefore, would not result in significant CO concentrations. This impact would be less than significant.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. Construction of the project would generate typical odors associated with construction activities, such as vehicle exhaust odors. The odors generated by the project would be intermittent and localized in nature and would disperse quickly. During operation, any potentially odorous emissions that may be released due to research and development activities (e.g., those conveyed to the roof exhaust ports via fume hoods) would have ample time to disperse given their release height and proximity to receptors (or lack thereof) around the building. In addition, exhaust emissions from operation of the emergency back-up generators would be temporary (used only for testing, maintenance, and in the event of an emergency); they would not be run as part of normal operation and the emissions would also disperse quickly given the speed at which they would be emitted. There are no other anticipated odor emissions associated with project operation. Therefore, the project would not create emissions or odors that adversely affect a substantial number of people. This impact would be less than significant.

3.3.4 References

Bay Area Air Quality Management District (BAAQMD). 2017a. “Air Quality Standards and Attainment Status”. BAAQMD, Research & Data, Air Quality Standards & Attainment Status. January 5, 2017. Accessed on December 29, 2021 at http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status.

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______2019. Current Rules. BAAQMD. August 9, 2019. Accessed February 8, 2022. <http://www.baaqmd.gov/rules-and-compliance/current-rules>

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______2021. Revised BACT Guidelines for Diesel Backup Generators > 1000 BHP Frequently Asked Questions (FAQs). March 17, 2021

______. Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans. April 2022. Web. Accessed July 2022. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en

Hexagon Transportation Consultants (Hexagon) 2022. 642 Quarry Road (San Carlos) Traffic Study. November 14, 2022.

Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Guidance Manual. February 2015. https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

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3.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.4.1 Environmental Setting

The Study Area is generally surrounded by dense urban development including commercial and residential properties. The Study Area is bordered by Old Country Road to the southwest, Quarry Road to the southeast, commercial development to the northeast and Belmont Creek to the northwest. The Study Area consists primarily of developed and landscaped land cover. The Study Area has been developed since at least 1956 (NETR 2021). The Study Area is relatively flat, ranging from 23 to 30 feet elevation.

Existing Land Cover Types, Vegetation Communities, and Habitats

<u>Developed</u>

The majority of the project site is developed. Developed areas consist of a several commercial buildings, parking lots, and landscaping. Landscaping within the project site consists of Acacia sp., common fig (*Ficus carica*) and several other planted ornamental trees.

Perennial Stream

A total of 367 linear feet of perennial stream (Belmont Creek) is present along the northwestern boundary of the project site. The banks of the creek are earthen and the bed of the creek is generally unvegetated. The banks are dominated by dense woody and herbaceous vegetation. Dominant vegetation includes arroyo willow (*Salix lasiolepis*), Himalayan blackberry (*Rubus armeniacus*), sweet fennel (*Foeniculum vulgare*), narrow leaf cattail (*Typha angustifolia*) and giant horsetail (*Equisetum telmateia*). Several sections of the creek are armored with slabs of concrete. Belmont Creek was mapped to the Ordinary High Water Mark and Top of Bank (Figure 4). The OHWM was mapped on the end of vegetation and the beginning of a wetted channel, erosion and scour on the banks, and vertical elevation breaks in obligate wetland vegetation patches along the creek banks.

Riparian

The banks of Belmont Creek support riparian vegetation at this location. The northwestern bank has stands of willow trees with an understory of Himalayan blackberry growing above the OHWM of the creek. At the northeast corner of the property, the trees on the northwest bank and canopy cover from trees on the southwest bank extend beyond the creek top of bank. This extent of riparian edge beyond top of bank is shown on Figure 4. Riparian vegetation is present on the southeast bank of the creek, characterized by low-growing arroyo willow and giant horsetail. The majority of riparian vegetation on the southeast bank does not form a canopy or dripline, except as noted and mapped at the northeast corner of the property line.

Special-Status Species and Sensitive Habitats

Special-Status Plant Species

Seventy-two special-status plant species have been documented within the San Mateo and eight surrounding USGS quadrangles. These species were evaluated for their potential to occur onsite or within the vicinity of the site. Within the remainder of the project site all are either unlikely or have no potential to occur within the project site for one or more of the following reasons:

- The project site has been intensively altered from a natural state thereby eliminating the seedbank or diminishing establishment of the special-status plant(s);
- The project site does not contain hydrologic conditions (e.g., mesic uplands, coastal salt marshes, marshes and swamps) necessary to support the special-status plant(s);
- The project site does not contain edaphic (soil) conditions (e.g., serpentine substrate) necessary to support the special-status plant(s);
- The project site does not contain vegetation communities (e.g., chaparral, coastal dunes, coastal salt marshes) associated with the special-status plant(s).

Based on a lack of suitable habitat and developed and disturbed state of Belmont Creek, none of the 22 special-status plant species have the potential to occur on the project site. No special-status plant species were observed during the site visit.

Special-Status and Sensitive Wildlife Species with Potential to Occur

No special-status wildlife species were observed during the site visit. Sixty-nine special-status wildlife species have been documented within the San Mateo and eight surrounding USGS quadrangles. These species were evaluated for their potential to occur onsite or within the vicinity of the site. No special-status species were determined to have a moderate or high potential to occur within the Study Area. However, native nesting birds with baseline legal protections may occur within the Study Area.

Native nesting birds, including non-listed species, are afforded baseline protections by the Migratory Bird Treaty Act (MBTA) and California State Fish and Game Code (CFGC) Section 3503, 3503.5. Birds may nest in natural and developed areas (existing buildings and trees and vegetation) within the Study Area.

Special-status and Sensitive Wildlife Species Unlikely to Occur

California red-legged frog (Rana draytonii), Federal Threatened Species, CDFW Species of Special Concern. California red-legged frog is documented to occur west of Highway 280, approximately 3.5 miles from the Study Area (CDFW 2022). The Study Area is separated from the nearest documented occurrences by dense urban development, including Highway 280. Belmont Creek is culverted in several sections, including an approximately 1,000-foot stretch upstream of the Study Area. Given the distance from documented occurrences and several barriers to dispersal, this species is unlikely to occur in the Study Area.

San Francisco garter snake (Thamnophis sirtalis tetrataenia), Federal Endangered, State Endangered, CDFW Fully Protected Species. The San Francisco garter snake is known to occur around Crystal Springs Reservoir which lies approximately 3.5 miles west of the Study Area. The Study Area is separated from the nearest known habitat by dense urban development, including Highway 280. Belmont Creek is culverted in several sections, including an approximately 1,000-foot stretch upstream of the Study Area. Given the distance from documented occurrences and several barriers to dispersal, this species is unlikely to occur in the Study Area.

Steelhead - Central California Coast DPS (Oncorhynchus mykiss irideus), Federal Threatened. Steelhead were not documented within Belmont Creek during sampling in 1981 and the creek was noted as highly disturbed (Leidy et. al. 2005). Belmont Creek is culverted in several sections, including an approximately 1,000-foot stretch and a 3,000-foot stretch upstream of the Study Area. In addition, the dam at Water Dog Lake upstream of the Study Area serves as a complete barrier to dispersal, limiting suitable upstream habitat. As such, this species is unlikely to occur within the Study Area.

Roosting Bats. Sections 4150-4155 of the California Fish and Game Code protects non-game mammals, including bats. Bats are classified as a non-game mammal and are protected under California Fish and Game Code, in addition to being protected if they are a listed species (e.g., CSSC, CFP, state or federal threatened, or state or federal endangered). No suitable roost habitat (e.g., crevices, cavities) is present on any of the existing buildings or trees along Belmont Creek.

3.4.2 Regulatory Setting

Federal Regulations

U.S. Migratory Bird Treaty Act

The U.S. Migratory Bird Treaty Act (MBTA; 16 USC §§ 703 et seq., Title 50 Code of Federal Regulations [CFR] Part 10) states it is "unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill; attempt to take, capture or kill; possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or in part, of any such bird or any part, nest or egg thereof…" In short, under MBTA it is illegal to disturb a nest that is in active use, since this could result in killing a bird, destroying a nest, or destroying an egg. The USFWS enforces MBTA. The MBTA does not protect some birds that are non-native or humanintroduced or that belong to families that are not covered by any of the conventions implemented by MBTA.

Clean Water Act

The Clean Water Act (CWA) is the primary federal law regulating water quality. The implementation of the CWA is the responsibility of the U.S. Environmental Protection Agency (EPA). However, the EPA depends on other agencies, such as the individual states and the U.S. Army Corps of Engineers (USACE), to assist in implementing the CWA. The objective of the CWA is to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Section 404 and 401 of the CWA apply to activities that would impact waters of the U.S. The USACE enforces Section 404 of the CWA, and the California State Water Resources Control Board enforces Section 401.

Section 404

As part of its mandate under Section 404 of the CWA, the EPA regulates the discharge of dredged or fill material into “waters of the United States” (U.S.). “Waters of the U.S.” include territorial seas, tidal waters, and non-tidal waters in addition to wetlands and drainages that support wetland vegetation, exhibit ponding or scouring, show obvious signs of channeling, or have discernible banks and high-water marks. Wetlands are defined as those areas “that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3(b)). The discharge of dredged or fill material into waters of the U.S. is prohibited under the CWA except when in compliance with Section 404 of the CWA. Enforcement authority for Section 404 was given to the USACE, which it accomplishes under Its regulatory branch. The EPA has veto authority over the USACE’s administration of the Section 404 program and may override a USACE decision with respect to permitting.

Substantial impacts to waters of the U.S. may require an Individual Permit. Projects that only minimally affect waters of the U.S. may meet the conditions of one of the existing Nationwide Permits, provided that such permits’ other respective conditions are satisfied. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions (see below).

Section 401

Any applicant for a federal permit to impact waters of the U.S. under Section 404 of the CWA, including Nationwide Permits where pre-construction notification is required, must also provide to the USACE a certification or waiver from the State of California. The “401 Certification” is provided by the State Water Resources Control Board through the local Regional Water Quality Control Board (RWQCB).

The RWQCB issues and enforces permits for discharge of treated water, landfills, storm-water runoff, filling of any surface waters or wetlands, dredging, agricultural activities and wastewater recycling. The RWQCB recommends the “401 Certification” application be made at the same time that any applications are provided to other agencies, such as the USACE, USFWS, or NOAA Fisheries. The application is not final until completion of environmental review under CEQA. The application to the RWQCB is similar to the pre-construction notification that is required by the USACE. It must include a description of the habitat that is being impacted, a description of how the impact is proposed to be minimized and proposed mitigation measures with goals, schedules, and performance standards. Mitigation must include a replacement of functions and values, and replacement of wetland at a minimum ratio of 2:1, or twice as many acres of wetlands provided as are removed. The RWQCB looks for mitigation that is on site and in-kind, with functions and values as good as or better than the water-based habitat that is being removed.

State Regulations

<u>Fully Protected Species and Species of Special Concern</u>

The classification of California fully protected (CFP) species was the CDFW's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The Fish and Game Code sections (§5515 for fish, §5050 for amphibian and reptiles, §3511 for birds, §4700 for mammals) deal with CFP species and state that these species "…may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species" (CDFW Fish and Game Commission 1998). "Take" of these species may be authorized for necessary scientific research. This language makes the CFP designation the strongest and most restrictive regarding the "take" of these species. In 2003, the code sections dealing with CFP species were amended to allow the CDFW to authorize take resulting from recovery activities for state-listed species.

California species of special concern (CSSC) are broadly defined as animals not listed under FESA or CESA, but which are nonetheless of concern to CDFW because they are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by CDFW, land managers, consulting biologists, and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA, and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although these species generally have no special legal status, they are given special consideration under CEQA during project review.

<u>California Migratory Bird Protection Act</u>

Fish & Game Code section 3513 states that federal authorization of take or possession is no longer lawful under the state Fish & Game Code if the federal rules or regulations are inconsistent with state law. The California Migratory Bird Protection Act (MBPA) was passed in September 2019 to provide a level of protection to migratory birds in California consistent with the U.S. MBTA prior to the 2017 rule change limiting protection of migratory birds under the U.S. MBTA to purposeful actions (i.e., directly and knowingly removing a nest to construct a project, hunting, and poaching). Thus, under the MBPA, protections for migratory birds in California are consistent with rules and regulations adopted by the United States Secretary of the Interior under the U.S. MBTA before January 1, 2017. The MBPA reverts to existing provisions of the U.S. MBTA on January 20, 2025.

<u>Nesting Birds</u>

Nesting birds, including raptors, are protected under California Fish and Game Code section 3503, which reads, "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." In addition, under California Fish and Game Code section 3503.5, "it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto". Passerines and non-passerine land birds are further protected under California Fish and Game Code 3513. As such, CDFW typically recommends surveys for nesting birds that could potentially be directly (e.g., actual removal of trees/vegetation) or indirectly (e.g., noise disturbance) impacted by project-related activities. Disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by CDFW.

Non-Game Mammals

Sections 4150-4155 of the California Fish and Game Code protects non-game mammals, including bats. Section 4150 states “A mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a nongame mammal. A non-game mammal may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission”. The non-game mammals that may be taken or possessed are primarily those that cause crop or property damage. Bats are classified as a non-game mammal and are protected under California Fish and Game Code, in addition to being protected if they are a listed species (e.g., CSSC, CFP, state or federal threatened, or state or federal endangered).

Sensitive Vegetation Communities

Sensitive vegetation communities are natural communities and habitats that are either unique in constituent components, of relatively limited distribution in the region, or are of particularly high wildlife value. These communities may or may not necessarily contain special-status species. Sensitive natural communities are usually identified in local or regional plans, policies, or regulations, or by the CDFW (i.e., CNDDB) or the USFWS. The CNDDB identifies a number of natural communities as rare, which are given the highest inventory priority (Holland 1986; CDFW 2016). Impacts to sensitive natural communities and habitats must be considered and evaluated under CEQA (CCR: Title 14, Div. 6, Chap. 3, Appendix G).

Local

San Carlos 2030 General Plan

- **Policy EM-1.1** Ensure that potential impacts to biological resources and sensitive habitat are carefully evaluated when considering development project applications.
- **Policy EM-1.5** Promote the preservation of native species, habitat and vegetation types and overall natural diversity.
- **Policy EM-2.1** Preserve and enhance riparian areas.
- **Policy EM-2.5** Promote the establishment of native vegetation and the removal of nonnative invasive plants in riparian areas.
- **Policy EM-4.2** Support an open space system that is diverse in uses and opportunities and includes natural function/wildlife habitat as well as passive and appropriate active recreation.

San Carlos Municipal Code

All “Protected Trees” in the City of San Carlos require a permit before pruning 25% or more of the tree and or removal of the tree per Municipal Code section 18.18.070 (revised July 2022; City of San Carlos 2022). All trees under the categories of “Significant” and “Heritage” are considered a Protected Tree. Trimming of a protected tree is allowed without such a permit. Pruning" means the removal of one-fourth or more than one-fourth (25%) of the crown or existing foliage of the tree or one-fourth or more than one-fourth (25%) of the root system. "Trimming" means the cutting or removal of a portion of a tree which removes less than one-fourth (25%) of the crown or existing foliage of a tree, removes less than one-fourth (25%) of the root system, and does not kill the tree.

A "Significant tree" means any tree that is 11 inches in diameter (or more) outside of bark, measured at 54 inches above natural grade. The following trees are not classified as significant or heritage trees regardless of size: Bailey, Green or Black Acacia: *Acacia baileyana*, *A. decurrens* or *A. melanoxylon*; Tree of Heaven: *Ailianthus altissima*; Fruit trees of any kind; Monterey Pine: *Pinus radiata*; Eucalyptus genera; and Monocot trees including palms and palm relatives.

A "Heritage Tree" is defined as an indigenous tree having a certain diameter measured at 54 inches above natural grade as identified below:

- California buckeye (*Aesculus californica*), single/multi stem 9" diameter or greater
- pacific madrone (*Arbutus menziesii*), single/multi stem 9" diameter or greater
- coast live oak (*Quercus agrifolia*), single/multi stem 9" diameter or greater
- valley oak (*Quercus lobata*), single/multi stem 9" diameter or greater
- blue oak (*Quercus douglassii*), single/multi stem 9" diameter or greater
- interior live oak (*Quercus wislizenii*), single/multi stem 9" diameter or greater
- coast redwood (*Sequoia sempervirens*), single/multi stem 15" diameter or greater
- California bay laurel (*Umbellularia californica),* single/multi stem 11" diameter or greater

The intent and purpose of this tree protection code is to promote the preservation and development of a healthy, diverse tree canopy cover, which is highly valued by the community and vital to the character and health of the City. The replacement tree(s) for significant tree removals shall be at a 1:1 ratio at a size determined by the City Arborist. Heritage trees should be replaced with a species from the heritage tree list unless proven unsuitable at a given location per an ISA-certified arborist or City Arborist.

3.4.3 Discussion

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less than Significant Impact. The project's potential impacts on special-status species and nesting birds are discussed below.

Special-status Species

For the purposes of this CEQA document, special-status species include those plant and animals listed, proposed for listing or candidates for listing as threatened or endangered by USFWS or NOAA under the FESA; those listed or proposed for listing as rare, threatened or endangered by CDFW under the CESA; animals designated as Fully Protected or Species of Special Concern by the CDFW; and plants listed as Rank 1A, 1B, 2, 3 and 4 of the California Native Plant Society Inventory of Rare and Endangered Plants (CNPS Inventory).

<u>Special-Status Plants</u>

A list of special-status plants with some potential for occurrence in the project vicinity was compiled using the CNPS Inventory of Rare and Endangered Plants (CNPS 2022) and CNDDB records (CNDDB 2022) and reviewed for their potential to occur on the project site. Based on an analysis of the documented habitat requirements and occurrence records associated with these species, all were determined to be absent from the project site. These species were considered absent from the project site due to its mostly developed or disturbed habitat conditions. Thus, the project would have no impact on special status plants.

<u>Special-Status Animals</u>

The special-status animal species that were considered for their potential to occur on the project site include the Central California Coast steelhead and California red-legged frog both federally listed as Threatened and the San Francisco garter snake listed as a California Species of Special Concern. All of these species were determined to have no potential to occur on the project site. Thus, the project would have no impact on special status animals.

Additionally, there is no USFWS-designated critical habitat on or near the project site (USFWS, 2022). Thus, the project would have no impact on critical habitat.

Nesting Birds

All migratory bird species and their nests are protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. Project activities must comply with the provisions of the MBTA and California Fish and Game Code (i.e., avoid take of protected nesting birds). Project-related impacts to nesting birds would be considered significant under CEQA.

Construction disturbance during the avian breeding season (February 1 through September 15, for most species) could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly by causing the abandonment of nests. In addition, noise and increased construction activity could temporarily alter foraging behavior, potentially resulting in the abandonment of nest sites. The City of San Carlos requires protection of nesting birds through avoidance during the nesting season as a standard condition of approval (see Table 2-2, Biological Resources: Nesting Bird Surveys). With this requirement, the impact is less than significant, and no additional mitigation is required.

> **b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

Less than Significant.

Project Demolition and Construction Activity

Demolition and removal of existing structures and pavement on the property would occur prior to project construction. Proposed demolition involves removing buildings constructed within 10 feet of Belmont Creek and pavement which occurs along the creek top of bank (Figure 3, Photos 5 and 6). Subsequent site grading for project construction may also encroach on the creek bank. Demolition and construction activities could result in debris entering the creek bank or channel and destabilization of the bank slope.

Creek protection measures would be implemented to prevent sediment and debris from entering the creek during demolition. Creek protection measures during demolition would include installing a silt fence and fiber rolls to catch demolition debris and prevent and sediment from entering the creek. The City requires creek protection measures and storm drainage controls as standard conditions of project approval (see Table 2-2, Hydrology/Water Quality: Stormwater Control Plan and Creek Protection). With these protective measures in place, the impact of project demolition activities on regulated creek habitat would be less than significant.

Demolition activity or placement of protective fencing below the top of bank would require approval by CDFW. Therefore, the City of San Carlos would require coordination with CDFW as a project condition of approval. A draft condition of approval is presented as follows:

> <u>Belmont Creek Protection Measures – Draft Condition of Approval</u>
>
> The applicant shall implement creek protection measures during project activities to prevent demolition and construction debris from entering the Belmont Creek channel.

Project applicant shall consult with CDFW to ensure potential impacts wetland and riparian habitat values from project demolition and construction activities are addressed through compliance with Fish and Game Code.

Creek Maintenance Activity

As described in Project Description section 2.2.6., creek maintenance is required by the City of San Carlos as a condition of approval for land development adjacent to Belmont Creek. The 642 Quarry Road property fronts a 367-foot reach of Belmont Creek along its northwestern property line. The project proposed creek maintenance includes removal of trash, debris, and non-native invasive plant species, including the removal of 506 square feet of English ivy (*Hedera helix*), 175 square feet of Himalayan blackberry, and 1,123 square feet of fennel (Figure 4) below the top of bank. The disturbed areas would be treated with erosion control measures (natural erosion control fabric) and replanted with native species. Revegetation monitoring and maintenance would occur over a 5-year period. The applicant would consult with regulatory agencies for necessary permits for work within the creek corridor.

WRA completed a Biological Resources and Permitting recommendations memo for the project (WRA 2021). No formal delineation of Waters of the U.S. and state was performed as part of this analysis; however, the approximate extent of these regulated habitats was mapped as shown in Figure 4. Based on the approximate locations of regulated habitats in Belmont Creek where proposed maintenance plan activities would occur, these activities would occur in the jurisdiction of the California Department of Fish and Wildlife and Regional Water Quality Control Board's jurisdiction (i.e., riparian habitat).

Maintenance activities could result in temporary impacts to the regulated habitat within the Belmont Creek riparian corridor. Such temporary impacts may include trampling of native riparian vegetation, removal of native vegetation, erosion and sedimentation in the creek channel, and inadvertent solvent spills from mechanized equipment. However, the disturbance would be short-term, small in scale, and would be beneficial for the creek. The impact would be less than significant. The City would require a condition of approval pertaining to required creek maintenance activities to ensure compliance with regulatory agency requirements. A draft condition of approval is presented as follows:

<u>Belmont Creek Maintenance – Draft Condition of Approval</u>

The applicant is responsible for maintaining the Belmont Creek reach within the project property boundary in accordance with San Carlos Municipal Code section 15.24.060 (Maintaining Public Nuisances Prohibited). In light of the deferred creek maintenance existing at the project property, the applicant shall prepare a Creek Maintenance Plan to be approved by the City of San Carlos and seek all necessary permits from regulatory agencies to implement the plan. The plan will (1) address trash and debris removal; non-native/invasive plant removal and re-vegetation of disturbed areas with native plant species; and implementation of erosion control measures as needed along creek banks; (2) identify maintenance actions, methods, management objectives and indicators of success in achieving such objectives following the initial creek maintenance activities; (3) include a map showing jurisdictional habitats (i.e., top of bank and outer limits of the edge of riparian habitat), best management practices (BMPs) to protect creek and riparian habitat; and (4) specify a maintenance and monitoring period for a minimum of 5 years or as required by the permits and require annual reporting to the City and permitting agencies that discusses monitoring methods and results, progress in meeting success criteria, and recommended maintenance actions. The applicant shall demonstrate to the City that appropriate permit applications and associated fees have been submitted to the permitting agencies prior to City issuance of building permits for the 642 Quarry Road project. Creek maintenance activities as described in the Creek

Maintenance Plan and/or permits shall be implemented in the first dry season following issuance of permits from the RWQCB and CDFW, except for annual monitoring and as-needed maintenance required after implementation of initial creek maintenance activities. Removal of trash and debris using hand tools that does not disturb the creek banks or vegetation may be implemented earlier, as these activities do not require permits.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant. Project development would take place on an existing developed parcel and would not have any direct impact on state or federally protected wetlands. As described above in response b), indirect impacts to the creek resulting from creek maintenance activities would be minimal and subject to regulatory permitting. With these requirements in place, the indirect impacts to wetlands associated with creek maintenance activities would be less than significant and no additional mitigation is required.

Runoff may contain harmful pollutants like trash, chemicals, and dirt/sediment which may adversely affect water quality in the creek. Project construction and creek maintenance activities could cause the indirect degradation of surface or ground water quality in Belmont Creek due to erosion and transport of fine sediments or unintentional release of contaminants. Storm drainage controls during project construction and post-development are required through compliance with County stormwater regulations as discussed in Hydrology section 3.10. The City of San Carlos requires drainage controls to reduce indirect impacts to creeks as a standard condition of approval (see Table 2 2, Hydrology/ Water Quality: Stormwater Control Plan and Creek Protection). Storm drainage from the project site would not have an adverse direct or indirect effect on creek wetland values.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant Impact.

Wildlife Movement

Proposed development will occur on an existing developed parcel. With exception of Belmont Creek, which borders the northwest portion of the site, the site is surrounded by existing development. While some urban adapted birds occasionally nest on the site and native mammals may move across the site, once the development is completed, native wildlife would be able to continue to do so. The riparian habitat along Belmont Creek and the creek, which are adjacent to the site, serve as a movement corridor for common wildlife species, providing vegetative cover and foraging opportunities. Common, urban-adapted species such as raccoons and striped skunks may use the vegetation along the creek to move along the riparian corridor. Small mammals, such as mice, will use this vegetation as cover to move along the riparian corridor. Although the creek is culverted for approximately 0.25 mile just west of El Camino Real west of the site, small numbers of resident native and non-native fish may occasionally move along the creek, between the site and the Bay.

The proposed project would remove existing pavement and structures developed immediately adjacent to the top of the creek bank (Figure 3, Photo 5 and 6). New project buildings would be set back 25 feet from the top of creek bank resulting in an expanded wildlife corridor width. As a result, the project would not adversely impact terrestrial or aquatic wildlife movement. Furthermore, the proposed removal of invasive plants and planting with native species required for creek maintenance as a condition of project approval would increase food, cover, and shade along the creek providing benefit to aquatic and wildlife species movement. Thus, the project would not result in any physical barriers to terrestrial wildlife movement or impede the use of native nursery sites, and any common, urban-adapted species that currently move through the project site or occasionally nest on the site would continue to be able to do so following project construction. Thus, construction of the project and implementation of creek maintenance would result in a less than significant impact on wildlife movement (also see Bird Collisions below).

Bird Collisions

The project involves construction of two 6-story buildings with a glass façade and one 10-level parking structure. Glass windows and facades have the potential to cause injury or mortality to birds when birds collide with these surfaces. Birds do not perceive glass as an obstruction in the same way that humans do. As a result, they may collide with glass walls or windows if the glass reflects the sky or nearby vegetation and is not perceived as an obstruction, when transparent glass appears to be a clear pathway, or when vegetation behind transparent glass (such as behind glass railings) appears unobstructed. Collision risks are low for infill projects that are isolated from natural habitats, but risks can be greater in areas near open space areas, parks, riparian habitats, and other aquatic habitats that attract birds (i.e., location-related hazards). Development projects near avian habitat on their own do not immediately increase collision risks to birds. There are a wide variety of design elements that increase the avian collision risks. Design elements that increase risks include proximity to natural habitats, amount and type of glass used on the building façade, size of the building, and type of landscaping and location of vegetation around and on the building (i.e., feature-related hazards). Additionally, exterior night lighting, has some potential to disorient birds flying at night, especially during inclement weather when they may be flying at lower altitudes. This lighting may disorient birds flying near buildings causing them to collide with buildings. The most common bird strike zone is from the ground to 60 feet, and then again at 500 feet for skyscrapers (SF Planning Department 2011).

Currently, no natural habitat is present in the developed portion of the project site and bird activity is low. However, vegetation along Belmont Creek, which borders the site to the northwest does attract a variety of urban-adapted bird species. Based on a review of the project plan sheets and renderings (Appendix A), several features on the buildings and landscaping were considered to have a potential to contribute to bird collisions with the buildings. These features included the proposed glass facades on a majority of all sides of the proposed two R&D buildings; glass railings on walkways that connect the R&D buildings with the parking structure, and glass railings along the balconies of the two R&D buildings. Proposed lighting would include a variety of exterior night lighting fixtures in the areas between the buildings, on the roof decks, along the perimeters of the buildings (i.e., along Quarry Road and Old County Road), and along Belmont Creek. Additionally, the project incorporates landscaping with trees, grasses and shrubs around the building and adjacent to Belmont Creek. While this landscaping is minimal and would not have a high habitat value to birds, it would attract common urban-adapted birds that are resident in the area and increase bird activity to some degree, compared with existing conditions. Therefore, following construction of the project, birds using the on-site habitats and flying between habitats on the site and Belmont Creek have some potential to collide with the new buildings. While there is potential for birds to collide with the buildings on the site, the number of birds is expected to be low.

For the reasons discussed above, there is no significant cumulative impact from bird collisions from development within this immediate geographic vicinity (i.e., the portions of Belmont and San Carlos bounded by U.S. 101 and El Camino Real). This area is largely developed, with little vegetation (most of it non-native, which does not support high-quality resources for native birds) and very limited open space areas such as parks. As a result, the birds occurring in this area are primarily the same regionally common, widespread, urban-adapted species that occur in the project vicinity. No suitable habitat for rarer species that may occur in Belmont Creek adjacent to the site, is present elsewhere in this considered geographic vicinity. Bird collision impacts associated with the 642 Quarry Road project would not cumulatively impact enough individuals of any one species, or enough species, to result have a substantial effect on regional bird populations or communities. For this reason, the impact is considered less than significant.

The City of San Carlos requires minimization of bird-building collision risks as a standard condition of approval (see Table 2-2, Biological Resources: Bird-Safe Design). The project has incorporated bird-safe glazing treatments on several façade treatments (Appendix B) to address and minimize the potential for bird collisions with the buildings. With the incorporation of bird-safe glazing into the project design, the impact of collision risks is less than significant, and no additional mitigation is required. These treatments are identified below and would be required as a condition of project approval. A draft condition of approval is presented as follows:

<u>Bird-Safe Glazing – Draft Condition of Approval</u>

The 642 Quarry Road project shall implement bird-safe glazing as shown in Initial Study Appendix B.

- The project design shall incorporate bird-safe glazing on a portion of the first 60 feet of Building 1 (North Building) and 2 (South Building). The bird safe glazing will be incorporated on the Belmont Creek side, and northeast and southeast sides of Building 1 (North Building); and on the northwest and southwest sides of Building 2 (South Building).
- Bird-safe glazing shall be incorporated on the glass railings on the two walkways that connect the Buildings 1 and 2 to the parking structure.
- Balcony glass railings on buildings shall incorporate glass that has a reflectance of 15 percent or less to ensure that birds are able to see large planters on the balconies.
- The double-glazed glass curtain wall of the elevator shaft shall have a reflectance of 15 percent or less to allow divider screens and elevator guiderails to be visible to birds. This treatment would occur on the first 60 feet from the ground.

The City of San Carlos requires an exterior lighting plan as a standard condition of approval (see Table 2-2, Aesthetics, Exterior Lighting Plan) to minimize the effects of light pollution as discussed in Aesthetics response d). A lighting plan that includes shielding fixtures to avoid upwards illumination and minimization of interior and exterior building illumination would reduce the risk of bird collision at night to a less than significant level. These requirements are further identified as an expansion of the exterior lighting plan condition of approval as discussed below.

Artificial Lighting on Wildlife in Belmont Creek

As noted in the bird collision discussion above, the development includes exterior night lighting fixtures in the areas between the buildings, on the roof decks, along the perimeters of the buildings (i.e., along Quarry Road and Old County Road), and along Belmont Creek. Artificial lighting located adjacent to a creek can potentially impact wildlife in several ways. Many animals can be sensitive to light cues, which influence their physiology and influence their behaviors, particularly during the breeding season (de Molenaar et al. 2006). Photoperiod (the relative amount of light and dark in a 24-hour period) is an essential cue triggering physiological processes such as growth, metabolism, development, breeding behavior, and molting in birds, mammals, and many other taxa, suggesting that increases in ambient light may interfere with these processes across for a variety of taxa and result in impacts on wildlife populations (Beier 2006; de Molenaar et al. 2006). Lighting may impact mammals and birds by increasing the nocturnal activity of predators such as owls, and other mammalian predators (Negro et al 2000, Longcore and Rich 2004, DeCandido and Allen 2006, Beier 2006). Additionally, artificial lighting located adjacent to habitat areas may reduce the quality of the habitat, as it may inhibit the use of these areas by small mammals and birds. As noted above, artificial lighting is also known to affect the behavior or migrating birds and can attract and disorient birds flying at night to the point that they collide with nearby buildings.

While the project site is developed and artificial lighting is present, the existing buildings on the project site and on the surrounding parcels shield the creek from the existing lighting. Thus, the amount of artificial lighting and the potential impacts of such lighting would increase compared to existing conditions.

The City requires an Exterior Lighting Plan as a standard condition of approval for aesthetic controls (see Table 2-2, Aesthetics: Exterior Lighting Plan). Requiring shielded lights and avoidance of uplighting would further reduce the effect of nighttime lighting on wildlife. Night lighting controls would minimize potential impacts on wildlife that may occupy Belmont Creek. With implementation of this nighttime controls, the impact of artificial lighting on wildlife is less than significant, and no additional mitigation is required. To ensure the Exterior Lighting Plan addresses the effects of nighttime lighting on wildlife, the City would require a condition of approval. A draft condition of approval is presented as follows:

<u>Nighttime Lighting Wildlife Protection – Draft Condition of Approval</u>

Exterior lighting along Belmont Creek shall be minimized to the amount that is needed for pedestrian safety. Minimization of lighting shall include:

- Avoid the use of lighting that produces uplighting, unshielded lighting, and upwards light spillage.
- Shield lighting to cast light down.
- Install window coverings (e.g., window blinds) on the northwest side of Building 1 that blocks light in rooms that must be illuminated at night.
- Avoid lighting that produces red wavelengths (i.e., red and white light).

Minimization measures that should be considered include:

- Consider utilizing motion-detecting light sensors on exterior light fixtures adjacent to Belmont Creek.
- Consider a building lights-out program between dusk and dawn.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant. The project would remove 19 trees located at the corner of Old County Road and Quarry Road and 3 trees located along the eastern property line (Sheet L1 Tree Removal Plan). Trees proposed for removal are non-native trees with the exception of two coast live oaks (#188 and #193). Of the total 22 trees to be removed, 10 are considered significant trees and 2 are significant trees as defined by San Carlos Municipal Code 18.18.070. The two coast live oaks meet the qualification for designation as both a significant tree and a heritage tree. These 12 trees are designated as protected trees under the Municipal Code 18.18.070. Accordingly, removal of these trees requires a Tree Removal Permit and replacement in accordance with municipal code requirements.

Two significant trees (#189 and #192) occurring just outside the eastern property line are not proposed for removal and could be impacted by project construction. Under Municipal Code 18.18.070, construction adjacent to a protected tree requires submittal of a tree protection plan to minimize impacts associated with grading, excavation, demolition, and construction. Such compliance would reduce any potential impacts due to conflicts with the City's tree preservation ordinance to less than significant.

As a standard condition of approval, the City requires a project proponent to obtain a permit to remove any tree(s) protected under the City's Protected Tree Ordinance, as determined by an arborist, and prepare a tree protection plan that includes a map of the tree protection zone and is included in the construction drawings and bid package (see Table 2-2, Biological Resources: Protection of Trees). Removal of protected trees would be replaced in accordance with the ordinance at a ratio of 1:1. If any removed trees are within the jurisdiction of California Department of Fish and Wildlife (CDFW), and CDFW issues a Lake and Streambed Agreement for the project, the tree replacement ratios shall comply with CDFW requirements.

Compliance with the municipal code and condition of approval would reduce any potential impacts due to conflicts with the City's tree preservation ordinance to less than significant.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The project site is not located within an area covered by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the project would not conflict with any such plans.

3.4.4 References

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3.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

3.5.1 Environmental Setting

Prehistoric

The first known human inhabitants of the San Carlos area were the Ohlone, who were named Costanoans by the Spanish. Costanoan now refers to the name of their linguistic group. The Ohlone occupied a large territory in the South Bay, including the project site. This ethnographic group settled in large permanent groupings of households, forming large villages and tribal territories known as ‘tribelets’ – small independent groups of usually related families occupying a specific territory and speaking the same language or dialect.

More specifically, a concentration of Ohlone is believed to have lived in the Carmelita area of San Carlos, which lies in part of the city’s Planning Area. Native American archaeological sites tend to be located near waterways, as well as along ridge tops, mid-slope hill terraces, alluvial flats, the base of hills, and where two vegetation communities meet. San Francisco Peninsula’s proximity to both bay and marine resources led to the rapid rise in Native American tribe and tribelet populations. Due to urbanization in San Carlos and San Mateo County, archaeological data is largely missing. However, prehistoric archeological deposits have been recorded near the banks of the Pulgas Creek consisting of mammal bone and chert flakes. A midden site on the banks of the Pulgas Creek was recorded in 1990 and consisted of stone flakes and a possible hammerstone. A majority of this site was destroyed during the construction of San Carlos Avenue and nearby residential development (Levy 1987).

Historic

The first Europeans to reach the San Francisco area were Spanish explorers in 1769 as part of the Portolá expedition. In 1774, the de Anza expedition had set out to convert the Native American tribes to Christianity, resulting in the establishment of (among others) Mission San Francisco de Asis, (Mission Dolores) founded in 1776, and Mission Santa Clara de Asis, founded in 1777. The El Camino Real – which runs through San Carlos, parallel to Old County Road – became a heavily traveled route between Mission Dolores and Mission Santa Clara in addition to other missions along the route. This route led to the establishment of inns and roadhouses to serve travelers along the way. In this historic period, the Ohlone people were subjugated and absorbed into the mission system, resulting in the loss of their freedom of movement, their culture, and customs (Library of Congress 2022).

During the Mexican rule of California (1822 through 1848), large tracts of land were issued to private individuals, usually cattle ranchers and hide and tallow traders. What is now San Carlos was part of a land grant issued in 1835, the “Rancho de las Pulgas” (Ranch of the Fleas), which was the largest land grant in the peninsula at 35,420 acres. What was to eventually become San Carlos was bought out of the land grant by an American, Timothy Phelps, as a dairy farm in the 1850s. In 1885 he made plans to develop a town, Phelpsville, but was unsuccessful. He then sold the land in 1887 in order to make way for further development. Three additional attempts were made to develop a town. In 1888 the San Carlos land company tried to subdivide and sell the land once owned by Phelps. Later, in 1907, the San Carlos Park Syndicate attempted to call the area ‘Oak Park’ and engaged on an elaborate sales campaign. Finally, in 1917, Frederick Drake of the Mercantile Trust installed gas and electricity to the area as well as improving the existing water infrastructure. By 1918, the first school was built, and population slowly grew. In 1925 the residents voted for incorporation, and San Carlos was officially born. Drake continued to promote the town and coined the motto "The City of Good Living" (BLM 2022; San Carlos 2017; Levy 1987).

Modern

At the time of incorporation in 1925, San Carlos had only 600 inhabitants. It wasn’t until the Second World War and post-war economic boom, that the City experienced a significant population increase. In 1940 it grew to 3,520 residents, and in 1950 it had a population of 14,371. It was in that post war boom when the City had an industrial boom. It wasn’t until 1952, that Industrial Road was conceived; when the Industrial Committee of the San Carlos Chamber of Commerce advocated for its construction to deal with traffic circulation problems on Brittan Avenue, which connected El Camino Real and Old County Road over Southern Pacific railroad tracks. At 5:00 PM every working day the street was jammed with cars as workers “poured out” of the industrial plants east of the railroad, as recorded by the San Mateo Times. Today the city is a predominantly residential settlement of 28,406 people, with its business and industrial area in the vicinity of the project site (San Carlos 2006; US Census 2010; Shoecraft 2020).

Historic Environment

The National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR) contain buildings, structures, sites, and objects considered to be of historic significance on the National or State level, respectively. Generally speaking, to be considered eligible for inclusion, buildings, structures and objects need to be 50 years or older. The CRHR allows a greater degree of flexibility in the age criteria, and some resources can be considered historically significance before meeting the age guidelines. Additionally, the City of San Carlos maintains a listing of 52 properties that are of historical significance known as the Historical Resources Inventory. These properties are considered significant on a local level.

Both the NRHP and the CRHR contain two buildings of historic significance in the City of San Carlos: the Nathanial Brittan Party House, and the Southern Pacific Depot. However, neither of the properties are located near the project site. No resources listed on the City of San Carlos’s Historical Resources Inventory are within the project site (California State Parks 2022; National Park Service 2022).

3.5.2 Regulatory Setting

California Environmental Quality Act

Pursuant to CEQA, a historical resource is a resource listed in, or eligible for listing in, the California Register of Historical Resources (CRHR). In addition, resources included in a local register of historic resources or identified as significant in a local survey conducted in accordance with state guidelines are also considered historic resources under CEQA, unless a preponderance of the facts demonstrates otherwise. Per CEQA, the fact that a resource is not listed in or determined eligible for listing in the CRHR or is not included in a local register or survey shall not preclude a Lead Agency, as defined by CEQA, from determining that the resource may be a historic resource as defined in California Public Resources Code (PRC) section 5024.1.

CEQA applies to archaeological resources when (1) the archaeological resource satisfies the definition of a historical resource or (2) the archaeological resource satisfies the definition of a "unique archaeological resource." A unique archaeological resource is an archaeological artifact, object, or site that has a high probability of meeting any of the following criteria:

1. The archaeological resource contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
2. The archaeological resource has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. The archaeological resource is directly associated with a scientifically recognized important prehistoric or historic event or person.

Health and Safety Code, Sections 7050 and 7052

Health and Safety Code section 7050.5 declares that, in the event of the discovery of human remains outside a dedicated cemetery, all ground disturbances must cease, and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

Penal Code Section 622.5

Penal Code section 622.5 provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands but specifically excludes the landowner.

Government Code Section 6254(r)

Government Code explicitly authorizes public agencies to withhold information from the public relating to Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission.

Government Code Section 6250 et. seq.

Records housed in the Information Centers of the California Historical Resources Information System (CHRIS) are exempt from the California Public Records Act.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from federal and tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any Native American tribe claiming affiliation.

Native American Heritage Commission, Public Resources Code Sections 5097.9 – 5097.991

Section 5097.91 of the Public Resources Code (PRC) established the Native American Heritage Commission (NAHC), whose duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of

Native Americans on private lands. Under section 5097.9 of the PRC, a state policy of noninterference with the free expression or exercise of Native American religion was articulated along with a prohibition of severe or irreparable damage to Native American sanctified cemeteries, places of worship, religious or ceremonial sites or sacred shrines located on public property. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner. Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

California Native American Graves Protection and Repatriation Act of 2001

Codified in the California Health and Safety Code sections 8010–8030, the California Native American Graves Protection Act (NAGPRA) is consistent with the federal NAGPRA. Intended to "provide a seamless and consistent state policy to ensure that all California Indian human remains and cultural items be treated with dignity and respect," the California NAGPRA also encourages and provides a mechanism for the return of remains and cultural items to lineal descendants. Section 8025 established a Repatriation Oversight Commission to oversee this process. The act also provides a process for non–federally recognized tribes to file claims with agencies and museums for repatriation of human remains and cultural items.

San Carlos 2030 General Plan

The San Carlos 2030 General Plan was adopted in 2009. The following relevant archaeological resources policies are from the General Plan's Land Use Element.

- **Policy LU-12.1:** Evaluate historical and cultural resources early in the development review process through consultation with interested parties.
- **Policy LU-12.5:** Treat with respect and dignity any human remains discovered during implementation of public and private projects within the city and fully comply with the California Native American Graves Protection and Repatriation Act and other appropriate laws.

3.5.3 Discussion

Would the project:

a) **Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?**

No Impact. Pursuant to §15064.5, historical resources are generally resources listed or determined to be eligible by the Register of Historical Resources on the state or local level. Resources include objects, buildings, structures, sites, areas, places, records, or manuscripts that are determined to be historically significant (i.e., associated with historical events or persons, embodies distinctive creative or artistic characteristics or methods, or has yielded/may be likely to yield information in prehistory or history) unless the preponderance of evidence demonstrates that the resource is not historically or culturally significant.

MIG conducted a California Historical Resources Information System (CHRIS) search for the project area located on the San Mateo USGS 7.5' quad through the Northwest Information Center (NWIC) in Rohnert Park. The CHRIS records search area is defined as the study area with an additional 0.25-mile radius (or buffer area) around the study area. The search was completed on March 4, 2022 (NWIC File No.: 21-1226).

Findings from the CHRIS search are summarized in Table 3-11 below. No cultural resources were identified within the project area; three resources were identified within a one-quarter mile radius. The project site does not contain any historic resources listed on neither the California Register of Historical Resources (CRHR) nor the National Register of Historic Places (NRHP).

Table 3-11. CHRIS Historic Resources in the Project Vicinity			
Resources	**CHRIS Number**	**Name of Resource**	**Approximate Distance from Project Site**
Within project area	None	-	-
Within ¼-mile radius	P-41-001878	Firehouse (875 O'Neill Avenue)	0.25 mile
	P-41-002361	Waltermire Historic District	0.25 mile
	P-41-002495	700 Harbor Boulevard	0.1 mile

Under CEQA, the National Register of Historic Places' (NRHP) 50-year threshold is used as a guideline to determine if a structure has potential to be considered historically significant. According to the applicant, the existing structures were originally built between 1946 and 1963. As the structures would have a maximum age of 76 years and a minimum age of 59 years, they are potentially eligible for listing in both the National Register of Historic Places and California Register of Historical Resources. However, there is no evidence of the existing structures having significant connections to important people or events in history. Furthermore, the existing structures are commercial retail buildings with no primary significance in terms of architectural value or design.

The existing structures are, therefore, not considered significant resources under CEQA, and demolition of said existing structures would not impact a historic resource pursuant to §15064.5. The project site is located in a built-up, industrial area that does not contain historical resources. No buildings or structures in the vicinity eligible for the CRHR or NRHP would have their eligibility affected by the proposed project. As a result, there would be no impact to historic resources.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than Significant Impact. MIG conducted a Sacred Lands File (SLF) search through the Native American Heritage Commission (NAHC). The search was initiated on January 31, 2022 and was returned with a statement of positive search results on March 23, 2022 and direction to contact tribal representatives who may have knowledge of cultural resources in the project area (NAHC 2022).

Tribal representatives were contacted by email on March 6, 2022 based on a current NAHC contact list. Though tribal correspondence occurred prior to receiving the NAHC's contact list, the tribes contacted matched that of the contact list received with the SLF search results on March 23, 2022. The following tribes were contacted:

- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Costanoan Rumsen Carmel Tribe
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the SF Bay Area
- Ohlone Indian Tribe
- Wuksache Indian Tribe/Eshom Valley Band.

The emails to tribal representatives requested pertinent information regarding cultural resources in the project vicinity, and included a description of the project, and maps showing the project location, project vicinity, and project boundary. No response was received from any of the contacted tribes. Due diligence has been completed by contacting all the tribal representatives identified by the NAHC for the proposed project.

From the CHRIS search (NWIC File No.: 21-1226) mentioned in (a), cultural reports in the project area overlapping with the project site are summarized in Table 3-12 below.

Table 3-12 Cultural Reports within the Project Area

Report Number	Year	Title	Report Type
S-011396	1989	Technical Report of Cultural Resources Studies for the Proposed WTG-WEST, Inc., Los Angeles to San Francisco and Sacramento, California: Fiber Optic Cable Project	Archaeological, Field study
S-017993	1995	Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project	Archaeological, Architectural/Historical, Field study
S-017993	1995	Proposed Mojave Northward Expansion Project: Appendix A - Native American Consultation	Other research
S-017993	1995	Proposed Mojave Northward Expansion Project: Appendix B - Looping Segments - Class 1	Other research
S-017993	1995	Proposed Mojave Northward Expansion Project: Appendix C -Monitoring and Emergency Discovery Plan	Archaeological, Management/ Planning
S-017993	1995	Proposed Mojave Northward Expansion Project: Appendix D - General Construction Information	Other research
S-017993	1995	Proposed Mojave Northward Expansion Project: Appendix E - Archaeological Site Records	Architectural/ Historical, Management/ Planning
S-017993	1995	Proposed Mojave Northward Expansion Project: Appendix F - Historic Features Evaluation Forms	Architectural/Historical, Evaluation
S-017993	1995	Proposed Mojave Northward Expansion Project: Appendix G - Railroad Crossing Evaluation Forms	Archaeological, Field study
S-017993	1995	Proposed Mojave Northward Expansion Project: Appendix H - Crossing Diagrams and Plan View Maps	Other research
S-017993	1995	Proposed Mojave Northward Expansion Project: Appendix I - Railroad Depot NRHP Nomination Forms and Related Records	Architectural/Historical, Evaluation
S-017993	1995	Proposed Mojave Northward Expansion Project: Appendix J - Looping Segment and Compressor Station Site Records	Other research
S-017993	1995	Proposed Mojave Northward Expansion Project: Appendix K - Historic Site Records / Isolate Forms	Archaeological, Architectural/Historical
S-017993	1995	Proposed Mojave Northward Expansion Project: Appendix L - Photodocumentation	Other research
S-017993	1995	Proposed Mojave Northward Expansion Project: Appendix M - Curricula Vitae of Key Preparers	Other research
S-038684	2008	A Cultural Resources Study for the San Mateo County SMART Corridors Project, San Mateo County, California	Archaeological, Management/Planning, Other research

S-038684	2009	Smart Corridors Geoarchaeological Sensitivity Research (letter report)	Archaeological, Field study, Management/ Planning
S-048738	2011	California High-Speed Train Project, Environmental Impact Report/Environmental Impact Statement, San Francisco to San Jose Section, Archaeological Survey Report, Technical Report [Draft]	Archaeological, Excavation, Field study
S-048738	2011	California High-Speed Train Project, Environmental Impact Report/Environmental Impact Statement, San Francisco to San Jose Section, Historic Architectural Survey Report, Technical Report [Draft]	Architectural/Historical, Field study

An additional 16 reports were identified by the NWIC as being within a quarter-mile radius of the project site. Reports S-011396 and S-038684 were retained for specific information on the project site.

- S-011396. This report consisted of a widespread survey for a fiber optic telecommunications cable corridor project between Los Angeles, San Francisco, and Sacramento, where the only cultural resource (Southern Pacific Depot) is one mile south of the 642 Quarry Road project site. No prehistoric cultural material was noted anywhere on the field survey on and around the project site.
- S-038684. Report S-038684 is a wider ranging report for the San Mateo County Smart Corridors Project for traffic control improvements to U.S. 101, where each discrete area of the report was analyzed for archaeological sensitivity. The project site is located adjacent to sites (locations: 66, 67, 68.1, 68.2, 69) that were surveyed for cultural resources, but none were located.

Although the NAHC indicated positive results, with no information provided by tribal representatives and based on reviews of other cultural resource studies conducted in the project area, there is no indication that archaeological resources exist on the project site. Thus, project impact is considered less than significant.

Nevertheless, to prevent potential damage or destruction to archaeological deposits unknown to construction crews, the City requires cultural resources training of personnel engaged in ground disturbing activity as a project condition of approval (Table 2-2, Cultural Resources: Archaeological Sensitivity Training). In the case that unknown resources are unearthed during earthmoving activities associated with the project site (e.g., site preparation, grading, excavation, etc.), the City requires protection of archaeological resources by stopping work within 100 feet of the find so that it can be evaluated and coordinating with an archaeologist to develop an appropriate treatment plan as a condition of approval (see Table 2-2, Cultural Resources: Protection of Archaeological Resources).

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant Impact. The project is not located on, within, or near a known historic or modern period cemetery. The potential for historic or modern human remains being present is extremely unlikely. Human remains associated with pre-contact Native American archaeological deposits have the potential to exist in soils below the project site. Due to the depth of excavation required for the project, if present, human remains would likely be disturbed by project activity.

The City's General Plan Land Use Element Policy 12.5 provides for the treatment of any human remains discovered during implementation of public and private projects within the city and ensure that they fully comply with the California Native American Graves Protection and Repatriation Act and other appropriate laws. Additionally, the City requires protection of human remains and contacting the Native American Heritage Commission if the remains are of Native American origin should human remains be unearthed during earthmoving activities associated with the proposed project (see Table 2-2: Cultural/Tribal Resources: Protection of Human Remains).

3.5.4 References

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3.6 ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

3.6.1 Environmental Setting

Energy consumption is closely tied to the issues of air quality and greenhouse gas (GHG) emissions, as the burning of fossil fuels and natural gas for energy has a negative impact on both, and petroleum and natural gas currently supply most of the energy consumed in California.

In general, California's per capita energy consumption is relatively low, in part due to mild weather that reduces energy demand for heating and cooling, and in part due to the government's proactive energy-efficiency programs and standards. According to the California Energy Commission, Californians consumed about 279,510 gigawatt hours (GWh) of electricity and 12,331 million therms of natural gas in 2020 (CEC 2021a and CEC 2021b). The CEC estimates that by 2030, California's electricity consumption will reach between 326,026 GWh and 354,209 GWh with an annual growth rate of 0.99 to 1.59 percent (CEC 2017), and natural gas consumption is expected to reach between 13,207 million and 14,190 million BTU with an annual growth rate of 0.25 to 0.77 percent (CEC 2017).

In 2020, total electricity use in San Mateo County was 4,168 million kilowatt hours (kWh), including 2,516 million kWh of consumption for non-residential land uses (CEC 2021a). Natural gas consumption was 200 million therms in 2020, including 82 million therms from non-residential uses (CEC 2021b).

Energy conservation refers to efforts made to reduce energy consumption to preserve resources for the future and reduce pollution. It may involve diversifying energy sources to include renewable energy, such as solar power, wind power, wave power, geothermal power, and tidal power, as well as the adoption of technologies that improve energy efficiency and adoption of green building practices. Energy conservation can be achieved through increases in efficiency in conjunction with decreased energy consumption and/or reduced consumption from conventional energy sources.

3.6.2 Regulatory Setting

Since increased energy efficiency is closely tied to the State's efforts to reduce GHG emissions and address global climate change, the regulations, policies, and action plans aimed at reducing GHG emissions also promote increased energy efficiency and the transition to renewable energy sources. The U.S. EPA and the State address climate change through numerous pieces of legislation, regulations, planning, policy-making, education, and implementation programs aimed at reducing energy consumption and the production of GHG.

CARB Low Carbon Fuel Standard Regulation

CARB initially approved the Low Carbon Fuel Standard (LCFS) regulation in 2009, identifying it as one of the nine discrete early action measures in its original 2008 Scoping Plan to reduce California's GHG emissions. Originally, the LCFS regulation required at least a 10% percent reduction in the carbon intensity of California's transportation fuels by 2020 (compared to a 2010 baseline). On September 27, 2018, CARB approved changes to the LCFS regulation that require a 20% reduction in carbon intensity by 2030. These regulatory changes exceed the assumption in CARB's 2017 Climate Change Scoping Plan, which targeted an 18% reduction in transportation fuel carbon intensity by 2030 as one of the primary measures for achieving the state's GHG 2030 target.

Renewable Portfolio Standard Program

In 2002, California established its Renewables Portfolio Standard (RPS) Program, with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent of retail sales by 2017. The *2003 Integrated Energy Policy Report* recommended accelerating that goal to 20 percent by 2010, and the *2004 Energy Report Update* further recommended increasing the target to 33 percent by 2020. The state's *Energy Action Plan* also supported this goal. In 2006 under Senate Bill 107, California's 20 percent by 2010 RPS goal was codified. The legislation required retail sellers of electricity to increase renewable energy purchases by at least one percent each year with a target of 20 percent renewables by 2010. Publicly owned utilities set their own RPS goals, recognizing the intent of the legislature to attain the 20 percent by 2010 target.

On November 17, 2008, Governor Schwarzenegger signed Executive Order S-14-08 requiring "[a]ll retail sellers of electricity shall serve 33 percent of their load with renewable energy by 2020." The following year, Executive Order S-21-09 directed the California Air Resources Board, under its AB 32 authority, to enact regulations to achieve the goal of 33 percent renewables by 2020.

In October 2015, Governor Brown signed Senate Bill 350 to codify ambitious climate and clean energy goals. One key provision of SB 350 is for retail sellers and publicly owned utilities to procure "half of the state's electricity from renewable sources by 2030."

The State's RPS program was further strengthened by the passage of SB 100 in 2018. SB 100 revised the State's RPS Program to require retail sellers of electricity to serve 50% and 60% of the total kilowatt-hours sold to retail end-use customers be served by renewable energy sources by 2026 and 2030, respectively, and requires 100% of all electricity supplied come from renewable sources by 2045.

Title 24 Energy Standards and City of San Carlos Reach Codes

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The CalGreen Code contains both mandatory and voluntary measures. For non-residential land uses there are 39 mandatory measures including, but not limited to, exterior light pollution reduction, wastewater reduction by 20 percent, and commissioning of Projects over 10,000 square feet. On January 25, 2021, the San Carlos City Council adopted Reach Codes, which expand upon the energy efficiency requirements contained in the CalGreen Code. The City's Reach Codes were approved by the CEC and went into effect on May 12, 2021 (San Carlos 2021).

San Carlos Climate Mitigation and Adaptation Plan

On September 27, 2021, San Carlos adopted the Climate Mitigation and Adaptation Plan (CMAP) to reduce GHG emissions. The CMAP has goals which include reducing energy use, transitioning to carbon-free energy sources, promoting energy resilience, promoting development which reduces VMT, and using low-carbon transportation. It identifies strategies and actions to reduce energy consumption.

3.6.3 Discussion

Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact. Construction activities associated with the proposed project would require the use of heavy-duty, off-road equipment and construction-related vehicle trips that would combust fuel, primarily diesel and gasoline. Heavy-duty construction equipment would be required to comply with CARB's airborne toxic control measures, which restrict heavy-duty diesel vehicle idling to five minutes. It is estimated that construction activities (i.e., over the entire duration of construction activities) would consume approximately 31,619 gallons of diesel fuel to power on-site, off-road heavy-duty construction equipment. Worker, vendor, and haul truck trips during construction activities are anticipated to consume 71,550 gallons of diesel, 12,312 gallons of gasoline, and 2,313 kWh of electricity.[7] See Appendix C for fuel consumption calculations, which are based on a fuel consumption factor contained in the CARB *Carl Moyer Program Guidelines (2017 Revisions)* and fuel consumption rates for on-road vehicles derived from EMFAC2021 V1.0.2 data. Petroleum and electricity use during construction would be temporary and needed to conduct development activities; therefore, it would not be wasteful or inefficient.

Once operational, the project would function as a new research and development building and consume energy in the form of electricity, which would be used to power building systems, appliances, and lighting throughout the site, and in the form of petroleum (gasoline and diesel), which would be used to power trucks used for warehousing purposes. Future tenants of the project site may also require the use of natural gas for research purposes; however, the building would not use natural gas in any building system (e.g., water and space heating).

Employee and visitor trips to the site would also consume gasoline and diesel, and some of those trips could consume electricity (if the vehicle in question is electric or a plug-in electric hybrid). As estimated in CalEEMod, the structures proposed by the project are anticipated to consume approximately 10,951,248 kWh[8] per year for onsite building operation and lighting and approximately 2,195,065 kBtu per year for research purposes.[9] Operational vehicle trips are anticipated to consume approximately 26,475 gallons of diesel, 348,280 gallons of gasoline, and 169,936 kWh on an annual basis. These operational energy consumption estimates are considered conservative, as they reflect gross consumption estimates. In reality, the physical change to the environment would be less, as the project would replace existing buildings that have energy consumption associated with their use. As described below, operation of the proposed project would not use energy in a wasteful, inefficient, or unnecessary manner.

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[7] As identified In Air Quality section 3.3.3, the construction analysis accounts for more truck hauling activity than what is anticipated for the project. Therefore, the amount of diesel fuel consumed by project construction is anticipated to be lower than what is stated herein this Initial Study.
[8] This operational electricity estimate reflects the energy demand initially accounted for in CalEEMod through natural gas consumption (i.e., the Title 24 natural gas estimates were converted to a comparable electricity estimate to demonstrate project consistency with the City's Reach Code).
[9] These natural gas estimates are based on default non-Title 24 natural gas estimates generated by CalEEMod.

The proposed project would be subject to the energy standards contained in the CalGreen Code and in the City's Reach Code. Specifically, the City's Reach Code sets forth that non-residential Projects are required to:

- Be all electric and meet or exceed 2019 Building Energy Efficiency Standards;
- Install a solar photovoltaic (PV) system sized to 2 Watts per square foot of the building footprint; and
- Include the following types and amounts of parking spaces for office buildings:
    - 30% EV capable spaces
    - 10% Level 1 EV-ready spaces
    - 10% spaces with Level 2 EV charging stations installed.

Although the proposed project would increase energy demand at the site compared to existing conditions, it would do so in an efficient manner. The proposed project would exceed the 2019 Title 24 Building Code requirements, which are approximately 30 percent more efficient than the 2016 CalGreen Code requirements for non-residential development and install a solar PV system in accordance with the City's Reach Code. The PV system would help reduce peak and base energy demand on the electrical grid. Further, the electricity generated by on-site renewable sources would supplement Peninsula Clean Energy's renewable energy portfolio, which is expected to be 100%-GHG free by the time the project becomes operational in 2025. Therefore, even the electricity that is consumed from off-site sources would be greener than most of the electricity supplied within the rest of the state. The proposed project would also implement numerous green features to help reduce the amount of single-occupancy vehicle trips to and from the site. The project would comply with the San Carlos' Transportation Demand Management (TDM) policy, which requires a 20% trip reduction. To achieve this, the project would follow a TDM Plan. It would provide approximately 141 bicycle spaces: 94 short-term bicycle parking spaces (racks) would be provided at sidewalks along Old County Road and Quarry Road and 47 long-term bicycle parking spaces (enclosed lockers) would be provided in the parking structure. The proposed project would also provide 195 electric vehicle (EV) installed spaces, 120 EV capable spaces, and 99 carpool/vanpool spaces. The number of EV charging spaces would exceed that required by the 2019 CalGreen Code standards. Further, the project's building envelope, and heating, ventilation, and air condition (HVAC) systems, would also exceed the 2019 CalGreen Code standards, as would the plumbing fixtures (low flow), and 75% of construction and demolition waste would be diverted (more than the 50% required by CalGreen), and the building materials utilized for the project would have their GHG life-cycle emissions disclosed. Excluding natural gas from building systems, sourcing electricity from renewable sources, and providing EV parking / carpool spaces / non-vehicular infrastructure would help reduce reliance on fossil fuels.

The forms and quantity of energy the proposed project would consume are essential to successful and safe use of a research and development project. As such, the proposed project's energy consumption would not be wasteful, inefficient, or unnecessary. This impact would be less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. The proposed project would not conflict with nor obstruct a state or local plan adopted for the purposes of increasing the amount of renewable energy or energy efficiency. As discussed under response a), the proposed project would be constructed to exceed latest CalGreen Code requirements, which would make it more energy efficient than many of the buildings currently in operation in the City and would comply with the City's recently adopted Reach Code. Furthermore, the proposed project would not conflict with the City's CMAP, since many of the actions in the CMAP consist of items the City will pursue (see Section 3.8, Greenhouse Gas Emissions) and do not apply to the project. No impact would occur.

3.6.4 References

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3.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? *Note: Refer to Division of Mines and Geology Special Publication 42.*	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

3.7.1 Environmental Setting

A Preliminary Geotechnical Investigation was prepared for the project by Rollo and Ridley, Inc. (Rollo and Ridley), dated June 23, 2021; an additional Geotechnical Investigation Report was prepared on November 24, 2021, to further discuss findings from geophysical surveys and engineering analyses to develop conclusion and recommendations for the project.

The preliminary report findings are based on a review of preliminary drawings titled “Feasibility Study” by DES Architects + Engineers, publicly available geotechnical reports and subsurface data, an on-site field investigation. Additional conclusions and recommendations were based on discussions with the project representatives, review of architectural drawings titled “Planning

Submittal" by DES Architects + Engineers dated October 15, 2021, and on-site field investigations and engineering analysis. The firm also used their experience with other projects in the vicinity of the property to develop the report.

The final report was peer reviewed by Cornerstone Earth Group, Inc. and found to meet the current standard of practice with appropriate recommendations. (Cornerstone Earth Group 2022)

Regional Geology

The project site and the surrounding parts of San Carlos are located on the San Francisco Peninsula, which is set within the larger Coast Ranges Geomorphic Province. This province is characterized by northwest-southeast trending mountain ranges that stretch from the Oregon border on the north to Point Conception on the south. In the San Francisco Bay area, most of the Coast Ranges are underlain by the tectonically complex, Jurassic- to Cretaceous-age sedimentary and metamorphic bedrock of the Franciscan Complex. Based on geologic mapping by the US Geological Survey (USGS), the project site is underlain by Franciscan Complex sedimentary bedrock from the Cretaceous geological period. The site is underlaid by rocks from the Early Cretaceous and/or Late Jurassic period and touches the border of land underlain by Franciscan Complex sedimentary rocks from the Cretaceous period (Rollo and Ridley 2021).

Site Conditions

The project site is relatively flat with site grades varying from approximately elevation 29.3 feet at the northwest corner to approximately Elevation 22.4 feet at the southeast corner of the site. These elevations were shown on a preliminary survey prepared by BKF Engineers dated June 4, 2021. Based on historical creek maps, Belmont Creek adjacent to the site once flowed across the site but was engineered to divert creek flow along the northern edge of the property. The former creek channel that ran diagonally across the site and a willow grove that bordered the site to the south was then filled in to make the current lot and adjacent street (Rollo and Ridley 2021).

Groundwater

Unstabilized groundwater readings were recorded at depths ranging from approximately 5- to 12.5-feet below existing ground surfaces during the time of investigation. Readings are considered unstabilized as the San Mateo County Environmental Health Services Division (SMCEHS) drilling permit required the borings be backfilled immediately after drilling, which did not allow for groundwater to stabilize in the borehole. Recorded groundwater depths, however, correspond to Elevation 14.4 feet – Elevation 19.6 feet.

Groundwater depths are likely to correlate to the flow rates and depths of water flowing in the current Belmont Creek alignment as well as groundwater flowing through the soil in the former creek alignment that runs diagonally across the site. Groundwater levels beneath the site are likely to fluctuate according to the season as well as tidal fluctuations due to creek flow into San Francisco Bay (Rollo and Ridley 2021).

Subsurface Conditions

Borings indicate that the site is underlain by fill, alluvial soil layers, and bedrock. The fill varies in thickness and was found to be up to 10 feet thick, with the potential to be thicker in the location of the former creek alignment. The coarse-grained portions of fill consist of loose to dense clayey sand with varying amounts of gravel, silty sand with clay, sand with gravel, and silty sand; the fine-grained portions of the fill consist of medium-stiff to very stiff clay with sand, sandy clay and clayey silt.

Alluvial deposits consist of stiff to hard sandy clay, silty clay, and very dense clayey sand with varying amounts of gravel. The Atterberg limits test indicate that the sandy clay and clay with sand layers have a low-to-moderate expansion potential.

Bedrock was encountered at depths ranging from 2- to 20.5-feet below the ground surface and was predominantly sandstone. Some interbeds of shale and chert were observed as well. Residual bedrock (bedrock that has weathered to have soil properties) was also encountered in some of the borings at shallower depths. The residual bedrock consists of hard sandy clay with gravel and very dense clayey sand with gravel, with the gravel being sandstone fragments (angular gravel).

Bedrock properties were observed to have properties varying from intensely to moderate fractured, moderately hard to hard, friable to strong, and deeply weathered and lightly weathered. Rollo and Ridley expect the bedrock to become less fractured, harder, stronger, and less weathered with depth (Rollo and Ridley 2021).

Faulting and Seismicity

The San Francisco Bay Area contains numerous active faults and is considered seismically active. Numerous small earthquakes occur every year in the San Francisco Bay Region, and larger earthquakes have been recorded and can be expected to occur in the future. The major active faults in the area are the San Andreas, Hayward, and San Gregorio Faults that are approximately 6 km to the west, 24 km to the northeast, and 19 km to the west away from the site respectively.

Two faults striking northwest to southeast are located near the site. The Belmont Hill Fault is located approximately 2,000 feet west of the site, and the Angelo Fault is located approximately 800 feet to the northeast (Pampeyan 1994). Other faults near the site are the San Andreas (6 km to the west) and Monte Vista-Shannon (9 km to the south).

The 2014 Working Group on California Earthquake Probabilities (WGCEP) at the U.S. Geologic Survey (USGS) has predicted a 72 percent chance of a magnitude 6.7 or greater earthquake occurring in the San Francisco Bay Area in 30 years (for the period 2014-2043). At 33 percent, the Hayward and Rodgers Creek faults have the highest probability of a magnitude 6.7 or greater earthquake occurring between 2014-2043; the San Andreas fault has a probability of 22 percent; the San Gregorio Fault has a probability of 6 percent.

During a major earthquake on a segment of one of the nearby faults, strong to very strong shaking is expected to occur at the site. Very strong shaking during an earthquake can result in ground failure such as that associated with fault rupture, soil liquefaction, lateral spreading, differential compaction and earthquake induced landsliding. The results of the field investigation conducted by Rollo and Ridley were used to evaluate the potential of the above ground failure conditions occurring at the project site (Rollo and Ridley 2021).

Fault Rupture

The site is not within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act and no known active or potentially active faults exist on the site. The Rollo and Ridley report concludes that the risk of fault offset at the site from a known active fault is low, and that the risk of fault rupture (surface faulting) and consequent secondary ground failure from an unknown fault is very low (Rollo and Ridley 2021).

Soil Liquefaction

Liquefaction is a transformation of soil from a solid to a liquefied state during which saturated soil temporarily loses strength resulting from the buildup of excess pore water pressure, especially during earthquake-induced cyclic loading. Soil susceptible to liquefaction includes loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits.

According to the Map of Seismic Hazard Zones for the San Mateo County Quadrangle released by the State of California Division of Mines and Geology, the site is within an area on the map where liquefaction associated permanent ground displacement may occur. The map indicates that the site is in an area "where historic occurrence of liquefaction or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements." Liquefaction can result in a temporary loss of strength, lateral spreading, and densification of soil, all of which can cause ground settlement and foundation failure.

Rollo and Ridley's (2021) field investigation and analyses indicate that the soil below the water table has sufficient fines content and density to resist liquefaction during a seismic event on a nearby fault. Their report concludes that the project site has a low potential for liquefaction and corresponding loss of bearing capacity. It should be noted however, that pockets of liquefiable soil could be encountered within the alignment of the former creek when additional field investigation is performed at the site. However, since the proposed buildings will be supported by foundations on residual bedrock and bedrock, any pockets of liquefactions that may occur will have little impact on the buildings.

Lateral Spreading

Lateral spreading is a phenomenon in which surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. Upon reaching mobilization, the surficial blocks are transported downslope or in the direction of a free face by earthquake and gravitational forces. Because global liquefaction is not anticipated and the site is relatively flat, Rollo and Ridley's (2021) analysis concludes that the potential for lateral spreading at the site is low.

Differential Compaction (also known as Seismically Induced/Cyclic Densification)

Differential compaction is a phenomenon in which non-saturated, cohesionless soil is compacted by earthquake vibrations, causing differential settlement. The Rollo and Ridley report (2021) indicates that approximately ½- to 1-inch of settlement from differential compaction is anticipated and may occur after a major earthquake.

Earthquake-induced Landsliding

Due to the relatively flat nature of the site, the Rollo and Ridley report (2021) concludes that the potential for earthquake induced landsliding within the footprint of the proposed improvements is low; however, erosion or landsliding from water scour may occur in the Belmont Creek engineered channel.

3.7.2 Regulatory Setting

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act regulates development in California near known active faults due to hazards associated with surface fault ruptures. There are no Alquist-Priolo earthquake fault zones on the Project site (Rollo and Ridley 2021).

Seismic Hazard Mapping Act

The Seismic Hazard Mapping Act was passed in 1990 following the Loma Prieta earthquake to reduce threats to public health and safety and to minimize property damage caused by earthquakes. The act directs the U.S. Department of Conservation to identify and map areas prone to the earthquake hazards of liquefaction, earthquake-induced landslides, and amplified ground shaking. The act requires site-specific geotechnical investigations to identify potential seismic hazards and formulate mitigation measures prior to permitting most developments designed for human occupancy within the Zones of Required Investigation.

California Building Code

The 2019 California Building Codes (CBC) covers grading and other geotechnical issues, building specifications, and non-building structures.

California Public Resources Code

Section 5097 of the Public Resources Code specifies the procedures to be followed in the event of the unexpected discovery of historic, archaeological, and paleontological resources, including human remains, historic or prehistoric resources, paleontological resources on nonfederal land. The disposition of Native American burials falls within the jurisdiction of the California Native American Heritage Commission (NAHC). Section 5097.5 of the Code states the following:

> *No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.*

San Carlos Municipal Code

The City of San Carlos Municipal Code contains the following sections, which may be applicable to the proposed project:

<u>12.08.165 Grading—Seasonal prohibitions</u>. Grading shall be prohibited during the rainy season as defined in the Municipal Regional Permit, unless the City Engineer or his/her designee finds that the land disturbance is relatively minor and that erosion can be easily controlled, or is a necessary and integral part of an interim plan for previously initiated project phases, or is necessary to prevent an imminent threat to public safety as determined by the City Engineer or his/her designee.

<u>12.08.180 Grading—Drainage restrictions</u>. No grading shall be conducted in such a manner as to alter the established gradient of natural drainage channels in such a manner as to cause excessive erosion or flooding

<u>12.08.190 Grading—Slopes and banks</u>

A. The exposed or finished banks or slopes of any fill or excavation shall be uniformly graded, and no such slope, bank or inclined graded surface shall exceed a vertical height of thirty feet unless intercepting drains or terraces are provided. Such drains or terraces shall be permanently lined or protected with approved materials, and accumulating surface waters shall be conducted to an approved point of discharge. Berms shall be provided to prevent overflow from any such terrace or intercepting drain.

B. All exposed or finished banks or slopes of any fill or excavation having a slope steeper than three horizontal to one vertical shall be protected from erosion by approved planting, cribbing, walls or terracing, or a combination thereof. Other unprotected graded surfaces exceeding five thousand square feet in area shall be planted, paved or built upon, or shall be provided with berms and approved drainage facilities adequate to prevent erosion and to conduct the accumulation or runoff of surface waters to an approved place of discharge (San Carlos 2021).

3.7.3 Discussion

Consistent with the California Supreme Court decision in *California Building Industry Association v. Bay Area Air Quality Management District* (62 Cal. 4th 369; 2015), the impact discussion presented below focuses on the project's effect on geology and soils rather than the effect of geologic hazards and site conditions upon the proposed project. The project is evaluated to determine whether it would create or exacerbate soil or geologic conditions identified in each of the above significance threshold criteria.

Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other significant evidence of a known fault?

No Impact. The site is not within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act and no known active or potentially active faults exist on the site. In a seismically active area, the remote possibility exists for future faulting in areas where no faults previously existed; however, the Rollo and Ridley report concludes that the risk of fault offset at the site from a known active fault is low, and that the risk of fault rupture (surface faulting) and consequent secondary ground failure from an unknown fault is very low. No impact would occur.

ii) Strong seismic ground shaking?

Less than Significant Impact. The project site is located in the San Francisco Bay Area, which is considered one of the most seismically active regions in the United States. During a major earthquake on a segment of a nearby fault, strong to very strong shaking is expected to occur at the site. The 2014 Working Group on California Earthquake Probabilities (WGCEP) at the U.S. Geologic Survey (USGS) has predicted a 72 percent chance of a magnitude 6.7 or greater earthquake occurring in the San Francisco Bay Area in 30 years (for the period 2014-2043).

The project would not create potential for or exacerbate existing conditions related to seismic ground shaking. The proposed project would be designed and constructed in accordance with the current California Building Code requirements for seismic safety. This impact would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Liquefaction occurs when loose, saturated sandy soils lose strength and flow like a liquid during earthquake shaking. Liquefaction can damage foundations, disrupt utility service, and cause damage to roadways.

According to the geotechnical study, the project site is within an area where liquefaction associated permanent ground displacement may occur and that pockets of liquefiable soil could be encountered within the alignment of the former creek. Further analysis found that the soil below the water table has sufficient fines content and density to resist liquefaction during a seismic event on a nearby fault. Global liquefaction is not anticipated. The project would not create potential for or exacerbate existing conditions related to seismic ground-failure including liquefaction. This impact would be less than significant.

iv) Landslides?

No Impact. The project site is relatively flat and has low potential for earthquake induced landsliding within the footprint of the proposed improvements. No landsliding impact would occur.

b) Result in significant soil erosion or the loss of topsoil?

Less than Significant Impact. The project would not cause erosion or loss of topsoil in the long term because the project site would be covered with the new buildings, paved areas, and landscaping following construction, and no bare soils would be present. However, project construction would require grading or soil exposure that could result in temporary erosion and/or loss of topsoil if not controlled.

The project would require the preparation of a Storm Water Pollution Prevention Plan (SWPPP) to prevent stormwater pollution during construction. After construction, the project site would be improved (i.e., repaved but also feature more permeable space for groundwater filtration) and would not leave surface soils susceptible to erosion or loss. Implementation of the site-specific SWPPP during construction and restoration of the site post-construction would prevent significant soil erosion or loss of topsoil. The impact is considered less than significant. Refer to Hydrology and Water Quality in section 3.10 for details. In addition, the project would comply with San Carlos Municipal Code sections 12.08.165 (Grading—Seasonal prohibitions), 12.08.180 (Grading—Drainage restrictions), and 12.08.190 (Grading—Slopes and Banks). Compliance with these plans and regulations would prevent erosion and loss of topsoil during construction activities. This impact would be less than significant.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less than Significant Impact. The project site has relatively flat topography and is absent of significant slopes on or near the project site. The project site is not located in a geologic unit that is unstable or would become unstable as a result of the project. Thus, the potential for on- or off-site landslides is considered low.

Lateral spreading is a phenomenon in which surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. Upon reaching mobilization, the surficial blocks are transported downslope or in the direction of a free face by earthquake and gravitational forces. Because global liquefaction is not anticipated and the site is relatively flat, the potential for lateral spreading at the site is low.

Subsidence is the sinking of the Earth's surface in response to geologic or man-induced causes. The principal causes are mining, withdrawal of groundwater or oil, karst formations, oxidation of organic soils, and thawing of permafrost. The proposed project does not currently involve groundwater extraction; however, the geotechnical report noted that dewatering could be required during excavation depending on the depth of proposed improvements. The report suggests that dewatering can be performed using dewatering wells installed along the perimeter of any interior excavations.

Liquefaction is a transformation of soil from a solid to a liquefied state during which saturated soil temporarily loses strength resulting from the buildup of excess pore water pressure, especially during earthquake-induced cyclic loading. The geotechnical report indicates that the soil below the water table has sufficient fines content and density to resist liquefaction during a seismic event on a nearby fault, concluding that the project site has a low potential for liquefaction and corresponding loss of bearing capacity.

The geotechnical report makes specific recommendations for foundation support, waterproofing, engineering considerations for Belmont Creek, and seismic design. Recommendations include fortifying bedrock support with shallow spread footings and drilled, cast-in-place concrete piers, designing with appropriate first-floor slab elevation based on anticipated flood levels, incorporating seismic design in accordance with the provisions of interim 2019 California

Building Code and SCE 7-16, and overall designing with flexibility based on varying site conditions.

With the implementation of the measures stated in the report, geotechnical conditions of the site would be adequately addressed, and the project would not exacerbate existing conditions related to unstable geologic units on the site. The proposed project shall be designed and constructed in accordance with the current California Building Code and the site-specific geotechnical report, resulting in less than significant impacts.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less than Significant Impact. Laboratory tests conducted by Rollo and Ridley found that the soil has a low to moderate expansion potential but the possibility of pockets of high expansive soil at the site remains. If found, these conditions would be addressed through standard industry practices such as:

- Moisture conditioning and providing select, non-expansive fill below interior and exterior slabs (and pavements);
- Supporting foundations below the zone of severe moisture change;
- Lime treatment or other soil stabilization techniques (winterization) to reduce the soil's expansion potential;
- Avoid grading of the site during the rainy season (between November and April)

The project would not create potential for or exacerbate existing conditions related to expansive soil. This impact would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed project would not require the construction or use of septic tanks or alternative wastewater disposal systems. Wastewater generated by the proposed project would be conveyed to the existing municipal sanitary sewer system that is maintained and operated by the City of San Carlos Public Works Department. Therefore, no impact related to septic tanks or alternative wastewater disposal systems would occur.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact. There are no known paleontological resources or unique geologic features at the project site. Should the project encounter previously undisturbed paleontological resources, protective measures required as a condition of approval (see Table 2-2, Geology: Protection of Paleontological Resources) would be applied to address potential impacts during project construction. This impact would be less than significant.

3.7.4 References

City of San Carlos. 2009. San Carlos 2030 General Plan General Plan. Adopted October 12, 2009.

______. 2021. San Carlos Municipal Code Chapter 12.08 Grading and Excavations. Accessed February 8, 2022. https://www.codepublishing.com/CA/SanCarlos/#!/SanCarlos12/SanCarlos1208.html#12.08.160

Cornerstone Earth Group, Inc. 2022. Geotechnical Peer Review 642 Quarry Road San Carlos, California. July 1, 2022.

Rollo and Ridley, Inc. 2021. Preliminary Geotechnical Investigation 642 Quarry Road San Carlos, California. June 23, 2021

Rollo and Ridley, Inc. 2021. Geotechnical Investigation, 642 Quarry Road, San Carlos, California. November 4, 2021

3.8 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.8.1 Environmental Setting

Gases that trap heat in the atmosphere and affect regulation of the Earth's temperature are known as greenhouse gases (GHGs). Many chemical compounds found in the earth's atmosphere exhibit the GHG property. GHGs allow sunlight to enter the atmosphere freely. When sunlight strikes the earth's surface, it is either absorbed or reflected back toward space. Earth that has absorbed sunlight warms up and emits infrared radiation toward space. GHGs absorb this infrared radiation and "trap" the energy in the earth's atmosphere. Entrapment of too much infrared radiation produces an effect commonly referred to as "Global Warming", although the term "Global Climate Change" is preferred because effects are not just limited to higher global temperatures.

GHGs that contribute to climate regulation are a different type of pollutant than criteria or hazardous air pollutants because climate regulation is global in scale, both in terms of causes and effects. Some GHGs are emitted to the atmosphere naturally by biological and geological processes such as evaporation (water vapor), aerobic respiration (carbon dioxide), and off-gassing from low oxygen environments such as swamps or exposed permafrost (methane); however, GHG emissions from human activities such as fuel combustion (e.g., carbon dioxide) and refrigerants use (e.g., hydrofluorocarbons) significantly contribute to overall GHG concentrations in the atmosphere, climate regulation, and global climate change.

Human production of GHG has increased steadily since pre-industrial times (approximately pre-1880) and atmospheric carbon dioxide concentrations have increased from a pre-industrial value of 280 parts per million (ppm) in the early 1800's to 420 ppm in May 2022 (NOAA, 2022). The effects of increased GHG concentrations in the atmosphere include increasing temperature, shifts in precipitation patterns and amounts, reduced ice and snow cover, sea level rise, and acidification of oceans. These effects in turn will impact food and water supplies, infrastructure, ecosystems, and overall public health and welfare.

The 1997 United Nations' Kyoto Protocol international treaty set targets for reductions in emissions of four specific GHGs – carbon dioxide, methane, nitrous oxide, and sulfur hexafluoride – and two groups of gases – hydrofluorocarbons and perfluorocarbons. These GHGs are the primary GHGs emitted into the atmosphere by human activities. The six common GHGs are described below.

- *Carbon Dioxide (CO_2).* CO_2 is released to the atmosphere when fossil fuels (oil, gasoline, diesel, natural gas, and coal), solid waste, and wood or wood products are burned.

- *Methane (CH_4)*. CH_4 is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from the decomposition of organic waste in municipal solid waste landfills and the raising of livestock.
- *Nitrous oxide (N_2O)*. N_2O is emitted during agricultural and industrial activities, as well as during combustion of solid waste and fossil fuels.
- *Sulfur hexafluoride (SF_6)*. SF_6 is commonly used as an electrical insulator in high voltage electrical transmission and distribution equipment such as circuit breakers, substations, and transmission switchgear. Releases of SF_6 occur during maintenance and servicing as well as from leaks of electrical equipment.
- *Hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs)*. HFCs and PFCs are generated in a variety of industrial processes.

GHG emissions from human activities contribute to overall GHG concentrations in the atmosphere and the corresponding effects of global climate change (e.g., rising temperatures, increased severe weather events such as drought and flooding). GHGs can remain in the atmosphere long after they are emitted. The potential for a GHG to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is CO_2, which has a GWP of one. By comparison, CH_4 has a GWP of 25, which means that one molecule of CH_4 has 25 times the effect on global warming as one molecule of CO_2. Multiplying the estimated emissions for non-CO_2 GHGs by their GWP determines their carbon dioxide equivalent (CO_2e), which enables a project's combined global warming potential to be expressed in terms of mass CO_2 emissions. GHG emissions are often discussed in terms of Metric Tons of CO_2e, or $MTCO_2e$.

3.8.2 Regulatory Setting

California Global Warming Solutions Act (AB32) and Related Legislation

California Air Resources Board (CARB) is the lead agency for implementing Assembly Bill (AB) 32, the California Global Warming Solutions Act adopted by the Legislature in 2006. AB 32 requires the CARB to prepare a Scoping Plan containing the main strategies that will be used to achieve reductions in GHG emissions in California.

Executive Order B-30-15, 2030 Carbon Target and Adaptation, issued by Governor Brown in April 2015, sets a target of reducing GHG emissions by 40 percent below 1990 levels in 2030. By directing state agencies to take measures consistent with their existing authority to reduce GHG emissions, this order establishes coherence between the 2020 and 2050 GHG reduction goals set by AB 32 and seeks to align California with the scientifically established GHG emissions levels needed to limit global warming below two degrees Celsius.

To reinforce the goals established through Executive Order B-30-15, Governor Brown went on to sign SB 32 and AB 197 on September 8, 2016. SB-32 made the GHG reduction target to reduce GHG emissions by 40 percent below 1990 levels by 2030 a requirement as opposed to a goal. AB 197 gives the Legislature additional authority over CARB to ensure the most successful strategies for lowering emissions are implemented, and requires CARB to, "protect the state's most impacted and disadvantaged communities …[and] consider the social costs of the emissions of greenhouse gases."

2017 Scoping Plan

On December 14, 2017, CARB adopted the second update to the Scoping Plan, the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan Update; CARB 2017). The primary objective of the 2017 Scoping Plan Update is to identify the measures needed to achieve the mid-term GHG reduction target for 2030 (i.e., reduce emissions by 40 percent below 1990 levels by 2030), as established under Executive Order B-30-15 and SB 32. The 2017 Scoping Plan Update identifies an increasing need for coordination among state, regional, and local governments to achieve the GHG emissions reductions that can be gained from local land use planning and decisions. It notes emission reduction targets set by more than one hundred local jurisdictions in the state could result in emissions reductions of up to 45 $MMTCO_2E$ and 83 $MMTCO_2E$ by 2020 and 2050, respectively. To achieve these goals, the *2017 Scoping Plan Update* includes a recommended plan-level efficiency threshold of six metric tons or less per capita by 2030 and no more than two metric tons by 2050.

Plan Bay Area 2050

In January 2009, California SB 375 went into effect known as the Sustainable Communities and Climate Protection Act. The objective of SB 375 is to better integrate regional planning of transportation, land use, and housing to reduce greenhouse gas emissions and other air pollutants. SB 375 tasks CARB to set GHG reduction targets for each of California's 18 regional Metropolitan Planning Organizations (MPOs). Each MPO is required to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP). The SCS is a growth strategy in combination with transportation policies that will show how the MPO will meet its GHG reduction target. If the SCS cannot meet the reduction goal, an Alternative Planning Strategy may be adopted that meets the goal through alternative development, infrastructure, and transportation measures or policies.

Plan Bay Area was the integrated long-range transportation, land-use, and housing plan developed for the Bay Area pursuant to SB 375 that was adopted by the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC) in 2013. An update to Plan Bay Area, titled Plan Bay Area 2040, was jointly approved by the ABAG Executive Board and by MTC in 2017. Plan Bay Area and Plan Bay Area 2040 identified Priority Development Areas, which were transit-oriented infill development opportunities in areas where future growth would not increase urban sprawl.

On October 1, 2021, MTC and AMBAG released *Plan Bay Area 2050* which focused on the elements of Housing, Economy, Transportation, and Environment. Across these elements, there were a total of 35 strategies, which are long-term policies or investments, and 80 implementation actions, which contain advocacy and legislation, initiatives, and planning and research. *Plan Bay Area 2050* projected that it would achieve a 20% reduction in GHG emissions from cars and light duty trucks by 2035 if all of its strategies were implemented, which would meet SB 375's GHG target.

2017 Clean Air Plan

As discussed in Air Quality section 3.3, the BAAQMD's 2017 Clean Air Plan is a multi-pollutant plan focused on protecting public health and the climate (BAAQMD 2017a). The 2017 Clean Air Plan lays the groundwork for a long-term effort to reduce Bay Area GHG emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, consistent with GHG reduction targets adopted by the state of California. As opposed to focusing solely on the nearer 2030 GHG reduction target, the 2017 Clean Air Plan makes a concerted effort to imagine and plan for a successful and sustainable Bay Area in the year 2050. In 2050, the Bay Area is envisioned as a region where:

- Energy efficient buildings are heated, cooled, and powered by renewable energy;
- The transportation network has been redeveloped with an emphasis on non-vehicular modes of transportation and mass-transit;
- The electricity grid is powered by 100 percent renewable energy; and
- Bay Area residents have adopted lower-carbon intensive lifestyles (e.g., purchasing low-carbon goods in addition to recycling and putting organic waste to productive use).

The *2017 Clean Air Plan* includes a comprehensive, multipollutant control strategy that is broken up into 85 distinct measures and categorized based on the same economic sector framework used by CARB for the AB 32 Scoping Plan Update.[10] The accumulation of all 85 control measures being implemented support the three overarching goals of the plan. These goals are:

- Attain all state and national air quality standards;
- Eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants; and
- Reduce Bay Area GHG Emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.

San Carlos Climate Mitigation and Action Plan

In October 2009, the San Carlos adopted the City of San Carlos Climate Action Plan (2009 CAP). This plan established a 2005 baseline for GHG emissions and set a goal of reducing GHG emissions by 15% below 2005 levels by 2020 and included measures on energy, solid waste management, transportation, and land use. San Carlos updated the CAP in September 2021 by adopting the Climate Mitigation and Adaptation Plan (CMAP).

The CMAP set a goal of reducing GHG emissions 40% below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, or equivalently of reducing GHG emissions 49 percent below 2005 levels by 2030 and 83 percent below 2005 levels by 2050. The CMAP consists of an emissions inventory, a climate change vulnerability assessment, 33 GHG reduction strategies, 12 climate adaptation strategies, and implementation and monitoring through 2050.

The GHG reduction strategies in the CMAP contain a combination of education and outreach programs, financial subsidies, and mandates across the sectors of energy, transportation and land use, off-road, waste, water and wastewater. These strategies aimed to accomplish the plan's goals of reducing energy use, transitioning to carbon-free energy sources, promoting energy resilience, promoting sustainable development that reduces VMT, transitioning to low-carbon transportation, supporting pollution-free outdoor equipment, becoming a zero-waste community, and reducing community-wide water use. The CMAP projected that with existing and planned government actions and the implementation of CMAP's strategies, San Carlos would meet the 2030 and 2050 emissions targets and be consistent with the state's AB 32 and SB 32 GHG reduction goals (San Carlos 2021).

3.8.3 Discussion

Global climate change is the result of GHG emissions worldwide; individual projects do not generate enough GHG emissions to influence global climate change. Thus, the analysis of GHG emissions is by nature a cumulative analysis focused on whether an individual project's contribution to global climate change is cumulatively considerable.

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Conflict with an applicable, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

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[10] The sectors included in the AB 32 Scoping Plan Update are: stationary (industrial) sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants.

Less Than Significant Impact (Responses a – b). The proposed project would generate GHG emissions from both short-term construction and long-term operational activities. Construction activities would generate GHG emissions primarily from equipment fuel combustion as well as worker, vendor, and haul trips to and from the project site during demolition, grading/excavation, foundation construction, vertical building development, etc. Construction activities would cease to emit GHGs upon completion, unlike operational emissions that continue year after year until the commercial building constructed as part of project closes or ceases operation. Once operational, the proposed project would generate GHG emissions from the area, energy, stationary, and mobile sources described in section 3.3.3, as well as electricity consumption, minor natural gas use, refrigerants, water use and wastewater generation, and solid waste generation.

On April 20, 2022, the BAAQMD adopted new thresholds of significance for GHG emissions that address emissions through the Year 2030. For project-level assessments, the BAAQMD's updated GHG thresholds provide two options for assessing the significance of a project's GHG emissions, as presented below.

A. Projects must include, at a minimum, the following project design elements:
   1. Buildings
      a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
      b. The project will not result in any wasteful, inefficient, or unnecessary electrical usage as determined by the analysis required under CEQA section 21100(b)(3) and section 15126.2(b) of the State CEQA Guidelines.
   2. Transportation
      a. Achieve compliance with electric vehicle (EV) requirements in the most recently adopted version of CALGreen Tier 2.
      b. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
         i. Residential projects: 15 percent below the existing VMT per capita
         ii. Office projects: 15 percent below the existing VMT per employee
         iii. Retail projects: no net increase in existing VMT

B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines section 15183.5(b).

The following analysis discusses project consistency with the BAAQMD's two GHG threshold significance options.

Project Consistency with BAAQMD GHG Threshold Criteria A: Project Design

The proposed project would be consistent with the criteria provided for under BAAQMD GHG threshold Option A, item 1, related to building energy efficiency. As described in section 3.6.3, the proposed project would comply with the City's Reach Code. The building would use electricity to power all building systems and appliances. Some natural gas may be needed for research / experiments; however, this natural gas use would be limited to those functions and used in laboratory equipment rather than appliances and would be brought in through natural gas containers. In addition, the project would not result in any wasteful, inefficient, or unnecessary electrical usage. The project would exceed the 2019 CalGreen Code standards in terms of its building envelope, heating, ventilation, and air condition (HVAC) system, and low flow plumbing fixtures. The onsite photovoltaic (PV) system would also supply the project with locally generated electricity, reducing the amount of electricity that could be lost within the grid during transmission. The project would be designed to reduce wasteful and inefficient electricity use and would only use electricity, as necessary, for building operation and tenant activities. Therefore, the project would be consistent with Option A, criteria 1a and 1b.

The proposed project would also be consistent with the criteria provided for under BAAQMD GHG threshold Option A, item 2, related to transportation and EV charging infrastructure. The 2019 CalGreen Code Tier 2 voluntary standards stipulate that, for projects containing 201 parking space or more, that 20 percent of the parking spaces must be EV charging stations. The proposed project would provide approximately 938 parking spaces, with 195 of those spaces being EV installed and other 120 spaces being EV capable (meaning that future charging stations could be installed easily, as the electrical infrastructure would be there to support the installation of those stations) (CalGreen Code Table A5.106.5.3.2). Providing 195 EV charging stations exceeds the 2019 CalGreen Code Tier 2 standards by approximately seven (7) spaces.[11] Therefore, the project would be consistent with Option A, criteria 2a. In addition, as detailed in the VMT analysis prepare for the project by Hexagon Transportation Consultants, the project would be consistent with the San Carlos VMT policy, because it is within one-half mile of El Camino Real). Thus, the project would be consistent with a locally adopted Senate Bill 743 target and Option A, criteria 2b.

The proposed project would be consistent with both the criteria provided in BAAQMD GHG threshold A.

Project Consistency with BAAQMD GHG Threshold Criteria B: GHG Reduction Strategy

An analysis of the proposed project's consistency with applicable measures in the City's CMAP is provided in Table 3-13.

Table 3-13. Project Consistency with the City of San Carlos's CMAP

Applicable Measures	Consistency Analysis
Energy	
Strategy 6: Rooftop Solar. Continue to support and increase participation in rooftop and onsite solar energy systems in the community and at City facilities.	Consistent. The Project would install a solar PV system consistent with the City's Reach Code.
Transportation and Land Use	
Strategy 12 Active Transportation. Prioritize bicycling and walking as safe, practical, and attractive travel options citywide, as directed by the Bicycle and Pedestrian Master Plan.	Consistent. The project would provide 141 bicycle parking spaces. Ninety-four (94) of them would be provided at sidewalks along Old County Road and Quarry Road and 47 long-term bicycle parking spaces (enclosed lockers) would be provided in the parking structure.
Strategy 14 Public Curbs. Assess opportunities in the downtown, mixed-use, office, and commercial areas to designate public curbs for passenger pick-up/drop-off in support of ridesharing.	Consistent. The project would have an internal drive isle, which would facilitate passenger pick-up/drop-off.
Strategy 16: Public Spaces. Create and maintain accessible public spaces, including the full spectrum of the public realm: sidewalks, alleys,	Consistent. The project provide community event space in the middle of the project site, near the multi-purpose stage. The project would also feature a bocce court, pickleball court, and a dog

[11] Twenty percent of 938 spaces is approximately 188 spaces. Therefore, providing 195 spaces exceeds 188 spaces by 7.

Table 3-13. Project Consistency with the City of San Carlos's CMAP	
Applicable Measures	**Consistency Analysis**
pedestrian paseos, pedestrian and bicycle paths, plazas, squares, and public gathering spaces.	park. Further, the site would provide a childcare facility.
Strategy 17: Vehicle Miles Traveled. Reduce community-wide transportation-related emissions per resident and employee, with an emphasis on reductions from existing and new development in the city's core commercial, office, and industrial areas, including development on the east side.	Consistent. The project would follow San Carlos' Transportation Demand Management (TDM) policy, which requires a 20% trip reduction for the Project, by following a TDM Plan. The project would also be consistent with the City's VMT policy, because it is located within half-a-mile of El Camino Real.
Strategy 18: Electric Vehicles. Support residents and business owners to transition to electric and plug-in hybrid vehicles	Consistent. The project would include 195 EV parking spaces with charging stations, and another 120 spaces would be EV capable.
Off-Road	
Strategy 23: Clean-fuel Construction and Landscaping. Encourage hybrid and clean-fuel construction and landscaping equipment citywide.	Consistent. The project applicant has indicated that construction would use Tier 4 equipment.
Waste	
Strategy 27: Construction and Demolition Waste. Increase the amount of waste recycled during construction and demolition of buildings.	Consistent. The project would divert construction waste, consistent with CalGreen Code requirements and City Municipal Code Chapter 8.05.
Adaptation and Resilience	
Strategy 37: Heat Island Effect. Minimize the urban heat island effect	Consistent. The project would be subject to the 2019 Title 24 Building Code, which would require the proposed buildings to have roofs that meet the aged solar reflectance and thermal emittance requirements specified in CalGreen Code section 140.3(a)(1)(A)(ii).
Source: San Carlos, 2021a	

As shown in Table 3-13, the proposed project would be consistent with the City's CMAP and therefore not conflict with it. Accordingly, the Project meets the significance criteria maintained by the BAAQMD and the project is eligible for GHG emission streamlined review under Guidelines section 15183.5(b). Therefore, the proposed project would be consistent with BAAQMD GHG threshold B.

Project Consistency with BAAQMD GHG Thresholds: Discussion

As demonstrated above, the proposed project would be consistent with both of the BAAQMD's new project-level GHG thresholds, which address emissions through Year 2030. The project's building design and transportation amenities / operating characteristics would be consistent with BAAQMD Option A, and the project would also be consistent with the City's CMAP, a qualified GHG emission reduction strategy, which satisfies the requirements under BAAQMD Option B. Consistency is only needed to be provided with one of the BAAQMD GHG threshold options in other to demonstrate that the project would have a less-than-significant GHG impact. That the project meets the criteria for both options further affirms the project's GHG emissions would be less than significant.

As described below, the project would also not conflict with the CARB 2017 Climate Change Scoping Plan, ABAG/MTC Plan Bay Area 2050, or BAAQMD 2017 Clean Air Plan.

<u>CARB 2017 Climate Change Scoping Plan</u>

Nearly all of the specific measures identified in the 2017 Climate Change Scoping Plan would be implemented at the state level, with CARB and/or another state or regional agency having the primary responsibility for achieving required GHG reductions. The proposed project, therefore, would not directly conflict with any of the specific measures identified in the 2017 Climate Change Scoping Plan.

<u>SB 375 and Plan Bay Area 2050</u>

The proposed project would be consistent with the relevant strategies in Plan Bay Area 2050 by following a TDM Plan and demonstrating consistency with the City's VMT policy. The implementation of the TDM plan would require the project to reduce project-related VMT by at least 20%. This requirement would be tracked and enforced as a condition of approval (see Table 2-2 and discussion in Transportation section 3.17.2). Accordingly, the proposed project would support one of the primary goals of Plan Bay Area 2050, which is to reduce per capita mobile source emissions from light duty vehicles by 19% by 2035. It should be further noted that the EV parking infrastructure would help encourage future tenant employees to drive electric (or partial electric) vehicles.

<u>BAAQMD 2017 Clean Air Plan</u>

The project would not conflict with or obstruct implementation of the BAAQMD's *2017 Clean Air Plan* (BAAQMD 2017b). The *2017 Clean Air Plan* includes GHG emissions from construction and operational GHG emissions sources in its emissions inventories and plans for achieving Clean Air Plan goals. As discussed in Air Quality section 3.3.3, the proposed project would not conflict with applicable control measures contained in the *2017 Clean Air Plan*. In addition, as described under response a), above, the proposed project would be consistent with both BAAQMD project-level GHG threshold options that can be used to demonstrate progress toward the State's 2030 and 2045 GHG emission reduction goals. Accordingly, the proposed project would not conflict with the *2017 Clean Air Plan*.

GHG Emissions Conclusion. The proposed project's GHG emissions would result in a net increase in GHG emissions; however, based on the preceeding analysis, the project would be consistent with both BAAQMD project-level GHG threhsold options and would not conflict, obstruct, or otherwise interfere with the implementation of a plan, policy, or regulation for the purposes of reducing GHG emissions. This impact would be less than significant.

3.8.4 References

Association of Bay Area Governments and Metropolitan Transportation Commission. 2021. *Plan Bay Area 2050 Forecasting and Modeling Report.* October 2021. Accessed January 25, 2022 at https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_Forecasting_Modeling_Report_October_2021.pdf.

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3.9 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

3.9.1 Environmental Setting

The project site is located at the north corner of Old County Road and Quarry Road within a mixed commercial and industrial area. The site is currently developed with 11 warehouse/retail/manufacturing structures totaling 104,391 square feet on a 205,036-square foot lot. The buildings are divided into 17 individual tenant spaces involving auto and boat repair/painting, storage, stone cutting, countertop construction and storage, water filtration development, and offices. Surrounding properties are utilized for commercial and light industrial use.

PES Environmental, Inc. (PES) prepared a Phase I Environmental Site Assessment to compile and evaluate available information to assess for Recognized Environmental Conditions (RECs) associated with the site. A REC as defined in the ASTM International guidelines (ASTM E1527-13) is the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment (PES 2021).

Based on PES site observations, current hazardous material use and storage consists of various chemicals and waste materials related to boat and vehicle repair, service, and painting; chemicals used during the mixing and preparation of fiberglass; bench-scale laboratory supplies in a testing lab; cleaning supplies and solvents; lubricants; and petroleum hydrocarbon-based fuels and oils. Housekeeping practices for hazardous materials and wastes associated with the several of the automotive repair facilities and in a tenant storage area utilized for hazardous materials storage and fiberglass preparation were substandard, and many liquid chemicals were observed stored on the ground without secondary containment or fire-proof storage cabinets in numerous tenant-occupied spaces. Staining, indicative of releases to the ground surface, was also observed in several areas. In the storage area for Fiberglass Unlimited (151 K Old County Road), a small leak (approximately 100 mL) from a chemical product storage drum (containing resin solution) was observed leaking onto the ground surface.

A limited subsurface environmental investigation was conducted between June 3 and June 8, 2021 and included the collection and laboratory analysis of soil matrix and/or groundwater samples at 14 locations and soil vapor samples at 17 locations. Groundwater sample results did not reveal significant impacts from petroleum hydrocarbons or chlorinated VOCs, and no VOCs were identified at concentrations above their respective commercial vapor intrusion Environmental Screening Level (ESL) values. Soil vapor samples results revealed VOCs of benzene, PCE, naphthalene, and total volatile hydrocarbons at concentrations just above their respective ESL values for commercial land use.

Additional findings from the subsurface investigation revealed that:

- The on-site boat repair facility and hydraulically upgradient areas from the subject property did not reveal material or significant impacts to groundwater or soil vapor samples;
- Chlorinated VOCs (primarily PCE and trichloroethene [TCE]) identified in the subsurface at neighboring 641 Quarry Road do not appear to have migrated beneath to the subject property;
- The historic release of petroleum hydrocarbons from a former underground gasoline storage tank at 610 Quarry Road does not appear to have significantly affected soil vapor beneath the subject property or indicate the presence of potentially material contamination that may have migrated across the property boundary;
- The absence of elevated TPH-related compounds or VOCs (such as BTEX compounds, typically associated with gasoline releases) in soil and groundwater samples and lithologic observations from soil cores that indicate a 0.75-foot-thick zone of discolored soil observed between 2 and 3 feet below ground surface suggest that elevated TVH detection in the soil vapor sample is resultant from a weathered, degraded petroleum hydrocarbon source.

Sites that are listed on hazardous materials release and/or storage databases and are located closest to the subject property are 641 Quarry Road (Circuits Facility) and 615 Harbor Boulevard (New Mode Cleaners), which are located hydraulically cross-gradient from the project site. Releases from these facilities appear unlikely to have affected the subject property.

610 Quarry Road (Matagrano) is located hydraulically cross-gradient from the project site and was previously discovered to have soil and groundwater that was contaminated with elevated concentrations of gasoline and petroleum hydrocarbon related compounds. Remedial actions and subsequent monitoring of the property resulted in case closure from San Mateo County in 2014.

PES identified the following RECs in connection with the subject property:

- Detected concentrations of VOCs in one or more soil vapor sample slightly exceeded the July 2019 RWQCB ESLs for vapor intrusion concerns at commercial/industrial sites for the VOCs benzene, PCE, naphthalene, and TPHg (as TVH reported as hexane). The source or sources of VOCs in soil vapor are currently unknown but may be associated with historical or current light industrial use of the site.

- Observation of staining on the ground surface (indicative of releases to the ground surface) and a leaking 55-gallon drum at 151 K Old County Road.

3.9.2 Regulatory Setting

ASTM International Guidelines

The ASTM International guidelines for Phase I ESA (ASTM E1527-13) comply with the U.S. Environmental Protection Agency's All Appropriate Inquiries (AAI) rule adopted in November 2013.

Resource Conservation Recovery Act

The 1976 Resource Conservation Recovery Act (RCRA) (42 U.S.C. §6901 et seq.) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from cradle to grave. This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The RCRA was amended in 1986 to allow the EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. Most of the compliance monitoring responsibility under the RCRA is delegated to the states and local authorities.

Hazardous Materials Transportation Act

The 1975 Hazardous Materials Transportation Act (HMTA) (49 U.S.C. §5101 et seq.) is the principal Federal law governing the transportation of hazardous materials. The HMTA sets regulations for procedures and policies, material designations and labeling, packaging requirements, and operational rules to guide the safe transportation of hazardous materials. The HMTA preempts state and local governmental requirements that are inconsistent with the statute unless that requirement affords an equal or greater level of protection to the public than the HMTA requirement.

International Fire Code

The International Fire Code (IFC; 2021) is a model code that contains regulations to safeguard life and property from fires and explosion hazards. The IFC covers general precautions, emergency planning and preparedness, fire department access and water supplies, automatic sprinkler systems, fire alarm systems, special hazards, and the storage and use of hazardous materials. The IFC has been adopted for use as a base code standard by many jurisdictions in the United States.

California Code of Regulations Title 22

California Code of Regulations (CCR) Title 22 (Social Security) Division 4.5 (Environmental Health Standards for the Management of Hazardous Waste regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. CCR Title 22 Division 4.5 identifies wastes that are subject to regulation as hazardous waste, sets standards for generators and transporters of hazardous waste and owners and operators of hazardous waste transfer, treatment, storage, and disposal facilities; establishes the hazardous waste permit program; contains requirements pertaining to specific types of hazardous wastes; and more. The Department of Toxic Substances Control (DTSC) implements most chapters under this division.

California Code of Regulations Title 27

California Code of Regulations (CCR) Title 27 (Environmental Protection) contains the current regulations of CalRecycle and the State Water Resources Control Board pertaining to waste disposal on land. CCR Title 27 regulates the treatment, storage, and disposal of solid wastes by establishing criteria for waste management units, facilities, and disposal sites; setting documentation and reporting procedures for regulatory tiers, permits, waste discharge requirements (WDRs), and plans; and setting standards for special treatment, storage, and disposal units.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program)

San Mateo County Environmental Health Services (EHS) is designated by the State Secretary for Environmental Protection as the Certified Unified Program Agency (CUPA) for San Mateo County (San Mateo County EHS 2022). San Mateo County EHS oversees a business' use of hazardous materials. Each business located at a multi-tenant property or building is required to obtain a Certified Unified Program Agency (CUPA) permit if it generates any amount of hazardous waste identified or listed in Chapter 11 of Division 4.5 of the California Code of Regulations. A business must submit a Hazardous Materials Business Plan (HMBP) if their hazardous materials storage for each product or waste is at or above 55 gallons, 500 pounds, or 200 cubic feet (1,000 cubic feet for inert gases and other specified gases) at any time during the year. The business is required to submit a HMBP to the EHS portal or the California Environmental Reporting System (CERS) within 30 days of storing a hazardous material at or above one or more of the reporting thresholds referenced in the California Health and Safety Code Division 20 Chapter 6.95 section 25507 (San Mateo County EHS 2020).

Hazardous Biological Materials

The U.S. Health and Human Services (HHS) Centers for Disease Control and Prevention (CDC) and U.S. Department of Agriculture USDA implemented regulations that govern the possession, use and transfer of certain biological agents and toxins, defined as select agents (42 CFR 73, 7 CFR Part 331, and 9 CFR 121). Research facilities that apply to possess, use, or transfer these agents must demonstrate the capabilities for handling select agents in accordance with the appropriate biosafety level. These facilities are subject to periodic CDC and USDA inspections. The CDC Biosafety in Microbiological and Biomedical Laboratories (BMBL) manual provides guidance on lab safety serves as the cornerstone of biosafety practice in the United States. Though it is an advisory document it identifies best practices for the safe conduct of work in biomedical and clinical laboratories from a biosafety perspective.

The Occupational Safety and Health Administration (OSHA) promulgated 29 CFR 1910.1030, Occupational Exposure to Bloodborne Pathogens (Standard). This Standard applies to research laboratories in addition to clinical areas and outlines the requirements for working with human blood, body fluids, tissues, and other potentially infectious materials. The Standard provides regulatory guidance concerning facility requirements, safe work practices, medical surveillance, personal protection, first aid procedures, and worker training. In addition, it provides standards for packaging and handling of materials containing bloodborne pathogens during transport to protect both, employees and the public. OSHA is responsible for certifying the installation and relocation of biosafety cabinets and conducts annual inspections.

3.9.3 Discussion

Would the project:

a) **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

Less Than Significant Impact. Hazardous materials include substances that are flammable, corrosive, explosive, radioactive, infectious, thermally unstable, and poisonous.

Project Construction

Construction activities at the project site would involve the short-term use of hazardous materials, such as petroleum-based fuels for maintenance and construction equipment, wet concrete and asphalt, paint, and other hazardous construction materials. Compliance with applicable regulations would ensure that the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during project construction. This impact would be less than significant.

As noted above in the environmental setting, soil vapor samples from the site exhibited VOC concentrations at above their respective ESL values for commercial land use. Soil testing would be done for soil that would be excavated and off-hauled during grading/excavation activities as required by receiving facilities to confirm suitability of soil for disposal. This impact would be less than significant.

Project Operations

The proposed life science building would include research and laboratory uses that would likely include the routine transport, use, storage, and disposal of hazardous materials associated with these uses. The scope and types of hazardous materials that would be utilized within the operations of these buildings would depend on the tenant and its sector of the research and development field. The type of hazardous materials requiring handling, storage, or disposal by a prospective tenant would be identified at the time an individual tenant's permit is proposed.

All hazardous substances associated with project operation would be used, transported, stored, and disposed of in conformance with applicable regulations, including:

- The Resource Conservation Recovery Act, which provides the "cradle to grave" regulation of hazardous wastes;
- The Comprehensive Environmental Response, Compensation, and Liability Act, which regulates closed and abandoned hazardous waste sites;
- The Hazardous Materials Transportation Act, which governs hazardous materials transportation on US roadways;
- The International Fire Code, which creates procedures and mechanisms to ensure the safe handling and storage of hazardous materials;
- California Code of Regulations Title 22, which regulates the generation, transportation, treatment, storage, and disposal of hazardous waste; and
- The California Code of Regulations Title 27, which regulates the treatment, storage, and disposal of solid wastes.

<u>Hazardous Materials Storage and Generation</u>

Prospective project tenants must submit an HMBP if their hazardous materials storage meets minimum thresholds of 55 gallons, 500 pounds, or 200 cubic feet at any time during the area. HMBP contains an emergency response plan and an employee training plan. All employees working on site must be trained in hazardous materials safety and emergency procedures upon hire, and annually thereafter. Employee training records must be maintained for a minimum of three years. It is the responsibility of the permitted business, whether it is the property management company or the tenant, to provide basic hazardous materials safety and emergency procedures information to all employees based on site-specific hazardous materials and emergency procedures.

Prospective project tenants who produce hazardous waste are subject to basic generator requirements. Per San Mateo County EHS (2020), these requirements include but are not limited to:

- Obtaining a federal or state Environmental Protection Agency (EPA) identification number. Each business that routinely generates hazardous waste is required to obtain a permanent EPA identification number. If the property management company can act on behalf of affiliated businesses, one EPA identification number can be obtained.
- Container management: hazardous waste must be accumulated in tanks or containers that are in good condition, closed when not adding or removing hazardous waste, labeled with a completed hazardous waste label, inspected during the accumulation period, and disposed of within the allowable time limit.
- Employee training: the generator must ensure all hazardous waste handlers are familiar with hazardous waste management requirements and emergency response procedures. Project operations may also involve the use of small amounts of hazardous materials for cleaning and maintenance purposes, such as cleansers, degreasers, pesticides, and fertilizers.

San Mateo County EHS CUPA inspectors conduct initial and periodic inspections of business to evaluate compliance with the HMBP and/or Hazardous Waste Generator Program requirements. The CUPA inspector typically conducts an unannounced inspection at the facility to observe hazardous materials storage and handling activities and/or hazardous waste generation activities and storage locations, container management, emergency equipment and response procedures, hazardous waste disposal records, and employee training plans and records.

Compliance with applicable regulations would ensure that the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. As a result, the impact is less than significant.

<u>Biohazard Materials</u>

The proposed project would provide laboratory space potentially serving three biosafety levels (BSL), which define proper laboratory techniques, safety equipment, and design, depending on the types of agents being studied (National Institute of Allergy and Infectious Diseases; NIAID 2022):

- BSL-1 labs are used to study agents not known to consistently cause disease in healthy adults. They follow basic safety procedures and require no special equipment or design features.
- BSL-2 labs are used to study moderate-risk agents that pose a danger if accidentally inhaled, swallowed, or exposed to the skin. Safety measures include the use of gloves and eyewear as well as handwashing sinks and waste decontamination facilities.
- BSL-3 labs are used to study agents that can be transmitted through the air and cause potentially lethal infection. Researchers perform lab manipulations in a gas-tight enclosure. Other safety features include clothing decontamination, sealed windows, and specialized ventilation systems.

The principal hazardous characteristics of an agent are its capability to infect and cause disease in a susceptible human or animal host, its virulence as measured by the severity of disease, and the availability of preventive measures and effective treatments for the disease. The World Health Organization (WHO) recommended agent risk group classification for laboratory use that describes four general risk groups based on these principal characteristics and the route of transmission of the natural disease. The four groups address the risk to both the laboratory worker and the community. The National Institute of Health (NIH) Guidelines, which govern NIH facilities, established a comparable classification and assigned human etiological agents into four risk groups on the basis of hazard as identified in Table 3-14. The risk levels correlate with but do not equate to biosafety levels. The actual risk of a given scenario is influenced not only by the agent being handled, but also by the procedure being performed and the competency of the laboratory personnel engaging in the laboratory activity (WHO 2020). Laboratory biosafety level criteria established by the HHS is presented in Appendix E. A summary of biosafety level criteria is presented in Appendix E, Table 1.

Other hazardous characteristics of an agent include probable routes of transmission of laboratory infection, infective dose, stability in the environment, host range, and its endemic nature. Risk assessment is the basis for the safeguards developed by the CDC, the NIH, and the microbiological and biomedical community to protect the health of laboratory workers and the public from the risks associated with the use of hazardous biological agents in laboratories (HHS 2020).

Table 3-14. Classification of Infectious Microorganisms by Risk Group

Risk Group Classification	NIH Guidelines	World Health Organization
Risk Group 1	Agents not associated with disease in healthy adult humans. This group includes a list of animal viral etiologic agents in common use. These agents represent no or little risk to an individual and no or little risk to the community.	(No or low individual and community risk) A microorganism unlikely to cause human or animal disease.
Risk Group 2	Agents associated with human disease that is rarely serious and for which preventive or therapeutic interventions are often available. These agents represent a moderate risk to an individual but a low risk to the community.	(Moderate individual risk; low community risk) A pathogen that can cause human or animal disease but is unlikely to be a serious hazard to laboratory workers, the community, livestock or the environment. Laboratory exposures may cause serious infection, but effective treatment and preventive measures are available and the risk of spread of infection is limited.
Risk Group 3	Agents associated with serious or lethal human disease for which preventive or therapeutic interventions may be available. These agents represent a high individual risk but low community risk.	(High individual risk; low community risk) A pathogen that usually causes serious human or animal disease but does not ordinarily spread from one infected individual to another. Effective treatment and preventive measures are available.
Risk Group 4	Agents likely to cause serious or lethal human disease for which preventive or therapeutic interventions are not usually available. These agents represent a high individual risk and high community risk.	(High individual and community risk) A pathogen that usually causes serious human or animal disease and can be readily transmitted from one individual to another, directly or indirectly. Effective treatment and preventive measures are not usually available.
HHS 2022; NIH 2019; WHO 2020		

Following current standard practices and procedures for microbiological and biomedical laboratories is required by regulatory agencies and a condition of operations for business licensing. Compliance with National Institute of Health Guidelines and Biosafety Levels established by the Centers for Disease Prevention and Control (CDC) would provide adequate protection to laboratory workers and the public through safety equipment (primary barriers and personal protective equipment), facility design and construction (secondary barriers), and availability of effective treatments. As a result, the potential project operations (BSL-1, BSL-2, and BSL-3) do not pose a significant safety risk to the community; the public safety risk is less than significant.

The project site's Planned Development Ordinance would prohibit BSL-4 and require a Conditional Use Permit from the City Planning Commission for BSL-3. The City of San Carlos would require a condition of approval to ensure that future tenants of the proposed buildings comply with safety regulations. A draft condition of approval is presented as follows:

> Biosafety Operations – Draft Condition of Approval
>
> Life Science operations shall not exceed Biosafety Level 3 as defined by the Centers for Disease Control and Prevention (CDC) and shall not exceed Risk Group 3 as defined by the National Institutes of Health (NIH) Guidelines and the World Health Organization (WHO). Life Science uses shall follow current standard practices and procedures for microbiological and biomedical laboratories as required by regulatory agencies including, but not limited to, the United States Environmental Protection Agency, Department of Toxic Substances Control, CDC, NIH, and Occupational Safety and Health Administration (OSHA). San Mateo County Health Environmental Health Services (EHS) implements several regulatory programs that future tenants may be subject to regarding hazardous materials storage, hazardous waste generation, and medical waste generation. The three hazardous materials programs overseen by EHS that may be applicable to future tenants include the Hazardous Materials Business Plan (HMBP) and Hazardous Waste Generator Program under EHS's Certified Unified Program Agency (CUPA), and the Medical Waste Program. Operators shall demonstrate compliance with applicable federal, state, and local requirements to the City and submit Tenant Improvement (TI) plans that document appropriate building facilities, design, and equipment, and the use of approved safety procedures.

Compliance with applicable regulations would ensure that potential use of biological hazardous materials at the project site would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. As a result, the impact is less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. Potential hazards to the public or the environment through the accidental release of hazardous materials into the environment during project construction and operation are discussed below.

Project Construction

Construction activities at the project site would involve the short-term use of hazardous materials, such as petroleum-based fuels for maintenance and construction equipment, wet concrete and asphalt, paint, and other hazardous construction materials. All spills or leaks of petroleum products during construction are required to be immediately contained, the hazardous material identified, and the material remediated in compliance with applicable State and local regulations. All contaminated waste is required to be collected and disposed of at an appropriately licensed disposal or treatment facility. Furthermore, strict adherence to all emergency response plan requirements set forth by the San Mateo County Environmental Health Department (San Mateo County Health 2022) would be required throughout the duration of construction. Therefore, substantial hazards to the public or the environment arising from the accidental release of hazardous materials during project construction would not occur.

Project Operation

As discussed above under response a), operation of the project may involve the use, storage and/or disposal of hazardous materials associated with operational activities, including laboratory use, cleaning, and landscape maintenance. The specific chemicals and their quantities are not known at this time, as it would depend on the tenant(s) who eventually occupy the building. Although compliance with applicable regulations would make it unlikely, project operation could result in the accidental release of one or more of these materials into the environment.

The tenant(s) of the project building would be required to prepare and implement a hazardous materials business plan (HMBP) for hazardous materials routinely used and stored at the site. San Mateo County Health Department is the Certified Unified Program Agency (CUPA) for San Mateo County, including the City of San Carlos, and is responsible for enforcing Chapter 6.95 of the Health and Safety Code. As the CUPA, San Mateo County Health is required to regulate HMBPs and chemical inventory, hazardous waste and tiered permitting, underground storage tanks, and risk-management plans (San Mateo County Health 2022).

The HMBP is required to contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of on development sites. The HMBP also contains an emergency response plan, which describes the procedures for mitigating a hazardous release, procedures, and equipment for minimizing the potential damage of a hazardous materials release, and provisions for immediate notification of the California Emergency Management Agency and other emergency response personnel, such as the San Carlos Fire Department. Implementation of the emergency response plan facilitates rapid response in the event of an accidental spill or release, thereby reducing potential adverse impacts.

Furthermore, San Mateo County Health is required to conduct ongoing routine inspections to ensure compliance with existing laws and regulations; to identify safety hazards that could cause or contribute to an accidental spill or release; and to suggest preventative measures to minimize the risk of a spill or release of hazardous substances (San Mateo County Health, 2022). Compliance with these regulations would ensure that the risk of accidents and spills is minimized to the maximum extent practicable during the operation of the proposed project. This impact would be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or hazardous waste within one-quarter mile of an existing or proposed school?

Less than Significant Impact. There are no schools within one-quarter mile of the project site. The schools closest to the project site are Little Hands Pre-School and SC Art Academy, both of which are located approximately 0.3 miles northwest of the project site. The closest day care is one mile away. The potential for the project to emit hazardous materials through routine handling or upset conditions is discussed above in response to checklist questions a) and b). The effects were found to be less than significant.

The project proposes a 4,000 square foot-childcare facility in the South Building and a health risk assessment addressing the potential risks of hazardous air emissions has been prepared. Refer to Air Quality section 3.3.3 discussion of Initial Study checklist question c) regarding exposure of sensitive receptors to substantial pollutant concentrations. The impacts associated with toxic air contaminants are less than significant.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less Than Significant Impact with Mitigation Incorporated. The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5.

Based on findings of the Phase 1 ESA, concentrations of arsenic exceed the RWQCB's ESLs for shallow commercial soils but were within expected naturally occurring background concentrations for the San Francisco Bay Area. Organochlorine Pesticides were also detected but were well below regulatory screening levels for commercial land use. Groundwater sample results did not reveal significant impacts from petroleum hydrocarbons or chlorinated VOCs, and no VOCs were identified at concentrations above their respective commercial vapor intrusion ESL values. These conditions are not considered a hazard to the public or the environment and project construction or its operations would not result in increased risk of hazard related to these materials.

The Phase I ESA concluded that there are two noteworthy RECs in connection with the project site: (1) presence of VOCs in soil vapor above the July 2019 ESL, and (2) staining on ground surface from chemicals and leaking drum observed at 151 K Old County Road. As recommended in the Phase 1 ESA, a Soil Management Plan (SMP) should be prepared to address potential data gaps in subsurface characterization, handling, and disposal of excess soil resulting from redevelopment construction, and contingency measures for unanticipated environmental conditions that may be encountered during site redevelopment. Preparation of a SMP is required in Mitigation Measure HAZ-1. With implementation of this measure the impact would be less than significant.

Housekeeping practices for hazardous materials and wastes in several tenant spaces are currently substandard. Several tenants have numerous containers of hazardous materials were unlabeled at the time of the site inspection and do not appear to have appropriate permits or documentation from an environmental regulatory agency (e.g., San Mateo County CUPA). Demolition, removal, and transport of hazardous materials stored on the property or building materials containing lead-based paint or asbestos containing materials, and any project soils containing elevated levels of soluble lead could result in airborne emissions resulting in exposure of workers or the environment to a hazardous material. Preparation of a Hazardous Material and Debris Management Plan is required in Mitigation Measure HAZ-2. With implementation of this measure, the impact would be less than significant.

Impact HAZ-1: VOCs of benzene, PCE, naphthalene, and TPHg (as TVH reported as hexane) present in soil vapors sampled from the site exceed the Environmental Screening Level for commercial uses. Soil vapors could intrude into the project development. Staining on ground surface from chemicals and leaking drum observed at 151 K Old County Road could indicate soils with higher-than-expected/allowed contamination may be encountered during site redevelopment.

Mitigation Measure HAZ-1: Soil Management Plan (SMP). A SMP shall be prepared to address potential data gaps in subsurface characterization, procedures for handling and disposal of excess soil resulting from redevelopment construction, and contingency measures for unanticipated environmental conditions that may be encountered during site redevelopment. The SMP shall include recommendations for management of groundwater if contaminants are encountered. The SMP shall be submitted to the City Public Works Department and San Mateo County Department of Environmental Health for review.

Effectiveness: This measure would ensure potentially present soil contaminants are removed or remediated to below Environmental Screening Levels for commercial uses.

Implementation: by Applicant or its contractor

Timing: Prior to grading permit issuance/approval and construction activities.

Monitoring: The Applicant shall prepare the SMP and provide it to the City Public Works Department and the San Mateo County Environmental Health Services as part of the project entitlement process.

The applicant shall provide written verification to the City that the SMP is acceptable to San Mateo County Environmental Health Services prior to grading permit issuance.

Impact HAZ-2 Demolition, removal, and transport of hazardous materials stored on the property or building materials containing lead-based paint or asbestos containing materials, and any project soils containing elevated levels of soluble lead could result in airborne emissions of lead resulting in exposure of workers or the environment to a hazardous material.

Mitigation Measure HAZ-2: Hazardous Material and Debris Management. The Applicant or its Contractor shall develop and implement a hazardous material and debris management and disposal plan for the hazardous materials that are to be removed from the project site. The plan shall be designed to prevent releases of hazardous materials in quantities that could pose a risk to human health and the environment, as determined using appropriate BAAQMD, RWQCB, DTSC, and/or other appropriate agency screening thresholds.

The plan shall identify the receiving qualified landfill and present proof of waste acceptance. The plan shall specify measures to minimize airborne dust during building deconstruction and soil movement to protect construction workers and neighboring residents from exposure to hazardous material emissions. The plan shall address protection of worker exposure to airborne lead paint particulates through use of personal protective gear, clear identification of the location of hazardous materials, and removal by properly trained/certified workers, and proper cover and transport of hazardous materials, etc.

Effectiveness: This measure would ensure compliance with state and federal regulations regarding the handling and disposal of hazardous materials.

Implementation: by Applicant or its contractor

Timing: Prior to and during construction.

Monitoring: The hazardous waste management plan shall be submitted to the City Public Works Department or San Mateo County Environmental Health Services for review and approval prior to start of construction. The Applicant or its Contractor shall submit written documentation of landfill acceptance of hazardous waste and implementation of worker and residential protective measures taken during site deconstruction. Copies of all documentation shall be kept on file at the City Public Works Department.

e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?**

Less than Significant Impact. The San Carlos Airport, located approximately one mile southeast of the project site, is a general-aviation airport. The project site is located in the San Carlos Airport Land Use Compatibility Plan (ALUCP) area in Zone 6 (traffic pattern zone). Manufacturing, research and development land uses are identified as compatible land uses in this zone. As such, the project’s proposed research and development land use is consistent with the ALUCP designation of compatible uses.

Under the ALUCP, the project site has an allowable height of 155 feet. As discussed in Land Use section 3.11.3, the proposed buildings would be six stories and the maximum project building height including rooftop equipment would be less than 155 feet. The proposed project would not subject people working at the project site or within the project buildings to substantial safety hazards or excessive noise and the proposed building would not create a hazard to air navigation (C/CAG 2015). This impact would be less than significant.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The City of San Carlos has established emergency preparedness procedures to respond to a variety of natural and man-made disasters that could affect the community. In the event of an emergency, the City would respond according to the Standardized Emergency Management System (SEMS) developed by the State. The SEMS system establishes a hierarchy of response, with local government as the first responders. If San Carlos does not have sufficient resources to respond to a disaster, the County of San Mateo would lend resources. San Carlos established an Emergency Operations Center program in 1987. San Mateo County Sheriff's Office of Emergency Services (OES) is responsible for coordinating emergency response in the county. The OES operates under a Joint Powers Agreement with the 20 incorporated cities in the county (OES 2014).

The proposed project would not interfere with the City's emergency response plan or emergency evacuation plan. The proposed project would not block roads and would not impede emergency access to surrounding properties or neighborhoods. The project would follow all of the City's construction best management practices, which include that vehicle parking and storage occur in a designated, on-site area. The project site plans include plans emergency vehicle access. No impact would occur.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland 's?

No Impact. The project site is developed with existing commercial/light industrial structures and associated paved parking lot. The site is surrounded by built-out urban uses and is not mapped in a Fire Hazard Severity Zone by the California Department of Forestry and Fire Prevention. The proposed project would not subject people or structures to wildfire hazards. No impact would occur.

3.9.4 References

City/County Association of Governments of San Mateo County (C/CAG). 2015. Comprehensive Airport Land Use Compatibility Plan for the Environs of San Carlos Airport. Adopted October 2015.

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3.10 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) Impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

3.10.1 Environmental Setting

The 642 Quarry Road project site is situated in eastern San Carlos adjacent to an engineered channel of Belmont Creek (Figure 1). Site topography is relatively flat with surface elevations ranging from Elevation 29.3 feet at the northwest corner to Elevation 22.4 feet at the southeast corner of the site.

Surface water resources in the Belmont Creek watershed include coastal waters, streams, and ponds. Belmont Creek originates in the hills west of the site and flows from west to east, discharging into the San Francisco Bay (City of Belmont 2017). Belmont Creek's beneficial uses include warm freshwater habitat, wildlife habitat, body contact recreation, and noncontact recreation.

Regional and Local Hydrogeology

San Carlos is within the Santa Clara Valley Groundwater Basin, San Mateo Plain Subbasin, lying between the Santa Cruz Mountains to the west and the San Francisco Bay mudflats and alluvial deposits to the east.

Regional topographic groundwater gradients determined from nearby groundwater monitoring data indicate groundwater flows generally towards the northeast. Groundwater gradients on the site are oriented to the northeast except where gradients conform to the previous Belmont Creek channel to the southeast. Groundwater was observed at depths of seven feet below ground surface (bgs) at and near the project site. Some borings in the north did not encounter saturated soil due to the shallow bedrock (GRIBI 2019).

Published regional geologic mapping by the U.S. Geological Survey (Pampeyan, 1994; Brabb et al., 1998) shows the site and surrounding area as underlain by Jurassic and Cretaceous bedrock of the Franciscan Complex, Holocene alluvium of Belmont Creek, and stream channel deposits in the artificial stream. Soils in the site vicinity are classified into four Hydrologic Soil Group (HSG) A-D based on their runoff potential. Most of the watershed is composed of HSG class D with high runoff potential (<50% sand and >40% clay), along with some areas with HSG B (10 - 20% clay and 50 - 90% sand) and C soils (20 - 40% clay and <50% sand) with moderately low to moderately high runoff potential, respectively (USDA 2009; WRECO 2014).

The County of San Mateo published a San Mateo Plain Groundwater Basin Assessment in 2018, which evaluated the hydrogeologic and groundwater conditions within the basin (EKI Environment and Water, et al. 2018). As indicated in the Assessment, the groundwater flow within the Basin is from west-southwest to east-northeast, from the Santa Cruz Mountains out to San Francisco Bay. The San Mateo Sub-basin includes the Santa Clara Formation and Quaternary alluvium. The latter is the primary aquifer in the region. Various alluvial fans exist in the San Mateo sub-basin due to historical stream channels. Creeks, including Belmont Creek, meandered from the Santa Cruz Mountains into the bay, forming laterally discontinuous layers of gravel sand and silt material. The identification of aquifer units is difficult due to the heterogeneous mixture of interbedded fine- and coarse-grained material. Groundwater gradients indicate flow is generally northeast towards the Bay. The sedimentary rocks are mildly to heavily faulted and fractured. The heavily fractured rock allows for substantial infiltration of water during rain events, leading to erosion and sediment aggradation at Belmont Creek.

Rollo and Ridley conducted a geotechnical investigation at the site (Rollo and Ridley 2021), and PES Environmental conducted an environmental investigation at the site (PES Environmental 2021a). Based on the borings, depth to bedrock varies across the site from 2 feet below ground surface (bgs) to as deep as 20.5 feet bgs, corresponding to approximate Elevations 27.1 feet and 6.3 feet. Bedrock was shallowest in the northeast corner of the site. Bedrock consists of moderately weathered, crushed to moderately fractured sandstone and shale of the Franciscan Complex geologic unit. Franciscan Complex bedrock is exposed along the creek bank near the north corner of the site.

Belmont Creek flowed diagonally across the site prior to being channeled around 1939. The material overlying bedrock is generally comprised of alluvial deposits and artificial fill. The alluvial deposits consist of stiff to hard sandy clay, silty clay and very dense clayey sand with varying amounts of gravel. The artificial fill generally consists of medium dense sand and gravel with varying amounts of fines, concrete and asphalt fragments, for the coarse-grained portions; and medium stiff to very stiff clay with sand, sandy clay and clayey silt for the fine-grained portions.

Groundwater levels were recorded at depths ranging from approximately 5 to 12.5 feet bgs during the geotechnical investigation, corresponding to Elevations 14.4 to 19.6 feet. Rollo and

Ridley (2021) recommended a design groundwater elevation of Elevation 28.4 feet to match the predicted flood level recommended by BKF Engineers.

Belmont Creek

Historically, Belmont Creek meandered through an open meadow with substantial floodplain area, which likely attenuated peak flows downstream. Creekside development over time, such as bank armoring and culverting, reduced the creek's ability to adjust to modified hydraulic conditions. Between 1915 and 1939, Belmont Creek was culverted from O'Neill Avenue at 6th Avenue to El Camino Real at Harbor Boulevard and beneath US 101. Between 1947 and 1956, Belmont Creek was rerouted to Belmont Slough and the 90-degree-angle bend downstream of Old County Road was constructed. Consequently, the Belmont Creek reach adjacent to the project site experiences aggradation and presents steep side slopes (Langan 2022a).

Belmont Creek has been subject to historical flooding due to insufficient carrying capacity in the constructed channel in the lower watershed. The City of Belmont has dredged the portion of Belmont Creek between El Camino Real and Old County Road five times between 2012 and 2019 in an effort to increase creek capacity. Severe erosion and upstream bank failures causing downstream sediment deposition is another source of the flooding between Old County Road and US-101 (City of Belmont 2019). The City of Belmont, in conjunction with the County of San Mateo, is implementing the Belmont Creek Restoration project at Twin Pines Park in an effort to restore the banks of Belmont Creek by June 2024 (California Natural Resources Agency 2022).

On 6 September 2022, Langan performed site reconnaissance of Belmont Creek. The portion of Belmont Creek that borders the site is unlined. Vegetation and roots were observed throughout the creek bed. The creek's width and depth varied along the path between the boundaries of the properties. Based on the observations, it appears Belmont Creek interacts with the underlying aquifer unit in the southwest boundary of 601 Harbor Boulevard, behaving as both a gaining and losing stream. In gaining streams, groundwater level elevations are above surface water levels and groundwater seeps into the stream. In losing streams, surface water level elevations are above the groundwater level and stream water moves into groundwater systems. This segment of the creek presented variation in width between approximately 2 and 10 feet and in depth between 2 inches and 1 foot. The portion of the creek flowing in the southwest-northeast direction between 601 Harbor Boulevard and 642 Quarry Road was deeper (up to 2 feet deep) and presented very slow flow which appeared almost stagnant (Langan 2022a).

3.10.2 Regulatory Setting

In addition to CEQA, other federal and state laws apply to the hydrology and water quality associated with the proposed project. Each of these laws is identified and discussed below

Federal Clean Water Act

The Clean Water Act (CWA) is the primary federal legislation governing water quality and forms the basis for several state and local laws throughout the nation. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Important and applicable sections of the Act are:

- Section 303 of the federal Clean Water Act requires states to develop water quality standards to protect the beneficial uses of receiving waters. In accordance with California's Porter/Cologne Act, the Regional Water Quality Control Boards (RWQCBs) of the State Water Resources Control Board (SWRCB) are required to develop water quality objectives that ensure their region meets the requirements of Section 303 of the Clean Water Act.
- Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), which is a permitting system for the discharge of any pollutant (except for dredge or fill

material) into waters of the U.S. In California, this permit program is administered by the RWQCBs, and is discussed in detail below.

National Pollutant Discharge Elimination System

The CWA has nationally regulated the discharge of pollutants to the waters of the U.S. from any point source since 1972. In 1987, amendments to the CWA added section 402(p), which established a framework for regulating nonpoint source storm water discharges under the NPDES. The NPDES General Construction Permit (GCP) requirements apply to clearing, grading, and disturbances to the ground such as excavation. Construction activities on one or more acres are subject to a series of permitting requirements contained in the NPDES GCP. The GCP includes requirements for training, inspections, record keeping, and, for projects of certain risk levels, monitoring. The general purpose of the requirements is to minimize the discharge of pollutants and to protect beneficial uses and receiving waters from the adverse effects of construction-related storm water discharges.

The GCP requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes Best Management Practices (BMPs) to be implemented during Project construction. The project sponsor is also required to submit a Notice of Intent (NOI) with the State Water Resources Control Board Division of Water Quality. The NOI includes general information on the types of construction activities that would occur on the site.

Porter-Cologne Water Quality Control Act

The State's Porter-Cologne Water Quality Control Act, as revised in December 2007 (California Water Code sections 13000-14290), provides for protection of the quality of all waters in the State of California for use and enjoyment by the people of California. It further provides that all activities that may affect the quality of waters of the state shall be regulated to obtain the highest water quality that is reasonable, considering all demands being made and to be made on those waters. The Act also establishes provisions for a statewide program for the control of water quality, recognizing that waters of the state are increasingly influenced by interbasin water development projects and other statewide considerations, and that factors such as precipitation, topography, population, recreation, agriculture, industry, and economic development vary regionally within the State. The statewide program for water quality control is administered on a local level by a Regional Water Quality Control Board (RWQCB)

The City of San Carlos is under the jurisdiction of the San Francisco Bay RWQCB. As mentioned above, activities that disturb one or more acres of soil (including all construction disturbance) are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 99-08-DWQ). Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling or excavation but does not include regular maintenance activities. The Construction General Permit requires the development and implementation of a SWPPP. The SWPPP must list BMPs the discharger will use to protect storm water runoff and the placement of those BMPs. Furthermore, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP.

San Mateo Countywide Water Pollution Control Prevention Program

The City of San Carlos participates in the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), a partnership of the City/County Association of Governments (C/CAG), each incorporated city and town in the county, and the County of San Mateo, which share a common National Pollutant Discharge Elimination System (NPDES) permit. The Federal Clean

Water Act and the California Porter-Cologne Water Quality Control Act require that large urban areas discharging stormwater into the San Francisco Bay or the Pacific Ocean have an NPDES permit to prevent harmful pollutants from being dumped or washed by stormwater runoff, into the stormwater system, then discharged into local waterbodies.

The Municipal Regional Stormwater NPDES Permit (MRP) outlines the State's requirements for municipal agencies in San Mateo County to address the water quality and flow-related impacts of stormwater runoff. Some of these requirements are implemented directly by municipalities while others are addressed by the SMCWPPP on behalf of all the municipalities. This is a comprehensive permit that requires activities related to construction sites, industrial sites, illegal discharges and illicit connections, new development, and municipal operations. The permit also requires a public education program, implementing targeted pollutant reduction strategies, and a monitoring program to help characterize local water quality conditions and to begin evaluating the overall effectiveness of the permit's implementation.

The MRP issued by the San Francisco Bay RWQCB (Order No. R2-2015.0049) for San Mateo County includes the City of San Carlos under its coverage. Under Provision C.3 of the MRP, new development and redevelopment projects are required to implement appropriate source control, site design, and stormwater treatment measures. The San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) is a partnership of each incorporated city and town within San Mateo County, San Mateo County, and the C/CAG, which all share the MRP. The SMCWPPP requires submittal of the C.3 and C.6 Development Review Checklist for new development and redevelopment projects to ensure that the appropriate construction best management practices (BMPs), source control measures, low impact development (LID) site design measures, and stormwater treatment measures will be implemented.

San Carlos 2030 General Plan

The San Carlos 2030 General Plan was adopted in 2009. The following policies from the General Plan's Environmental Management Element and the Community Safety and Services Element are relevant to hydrology and water quality.

- **Policy EM-5.1:** Reduce the discharge of toxic materials into the city's sanitary sewer and stormwater collection system by promoting the use of Best Management Practices (BMPs).
- **Policy EM-5.2:** Promote the use of less toxic household and commercial cleaning materials.
- **Policy EM-5.3:** Promote the conservation and efficient use of water in new and existing residences and by commercial and industrial consumers.
- **Policy EM-5.5:** Recycled water distribution system (purple pipe) should be used for landscaping and other non-potable water uses for residential, commercial and industrial customers, where technically and financially feasible.
- **Policy EM-5.7:** Encourage site designs that manage the quantity and quality of storm water run-off.
- **Policy EM-5.10:** Require the evaluation of potential groundwater depletion that could occur from new development through dewatering.
- **Policy CSS-2.1** Improve and maintain City storm drainage infrastructure in a manner that reduces flood hazards.
- **Policy CSS-2.4** Minimize impervious surfaces to reduce stormwater runoff and increase flood protection.
- **Policy CSS-2.12** Incorporate stormwater drainage systems in development projects to effectively control the rate and amount of runoff, so as to prevent increases in downstream flooding potential.

San Carlos Municipal Code

Chapter 13.14 of the San Carlos Municipal Code, Stormwater Management and Discharge Control, establishes requirements to protect and enhance the water quality of the City's watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Clean Water Act. Chapter 13.14 enforces the tenets of the Clean Water Act by:

1. Eliminating non-stormwater discharges to the municipal separate storm sewer;
2. Controlling the discharge to municipal separate storm sewers from spills, dumping or disposal of materials other than stormwater;
3. Reducing pollutants in stormwater discharges to the maximum extent practicable.

Chapter 13.14 sets minimum standards for the reduction of pollutants in stormwater; these requirements include standards for parking lots and similar structures, best management practices for new developments and redevelopments, and compliance with best management practices guidelines or requirements that have been adopted by the City for a specific activity, operation, or facility.

Chapter 15.56. of the San Carlos Municipal Code sets forth construction requirements for development that would minimize flood hazard risks, including anchoring, elevation, and flood-proofing, and standards for utilities, subdivisions, residential, and non-residential construction. Non-residential structures can either be elevated above the base flood elevation or be floodproofed below the base flood level. Compliance with section 15.56.120 requires a development permit approval from the Floodplain Administrator for the City of San Carlos (i.e., the Building Official) that provides plans drawn to scale showing the nature, location, dimensions, and elevation of the area in question; the location and elevation of existing or proposed structures, fill, storage of material, and drainage facilities; and floodproofing provisions.

3.10.3 Discussion

Would the project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. The proposed project would have a significant environmental impact if it would violate water quality standards and waste discharge requirements set out in Municipal Permit Order No. R9-2015-0049, NPDES Permit No. CAS612008, issued by the San Francisco Bay RWQCB. Potential impacts to water quality during the construction and operation phases of the proposed project are discussed below.

Project Construction

<u>Stormwater Controls</u>

Demolition, excavation, grading, and other construction activities associated with the proposed project have the potential to impact water quality through increasing the amount of silt, debris, and pollutants carried in runoff. The use of fuels, solvents, paints, and other types of hazardous materials during construction may present a risk to surface water quality. The refueling and parking of construction vehicles and other equipment on-site during construction may result in oil, grease, or related pollutant leaks and spills that may discharge into the storm drain system and/or channel on the southern and eastern sides of the project site.

To minimize these potential impacts, the proposed project would be required to comply with the NPDES GCP as well as prepare a SWPPP that requires the incorporation of BMPs to control sedimentation, erosion, and hazardous materials contamination of runoff during construction. The SWRCB mandates that projects that disturb one or more acres must obtain coverage under the Statewide GCP. The project would disturb the entire site, which is approximately 2.4 acres in size and, therefore, would be subject to these requirements.

Project development is required to comply with C.6 provisions of the MRP requiring implementation of storm drainage controls. Project plans must attach the San Mateo Countywide SWPPP's construction BMPs plan sheet for implementation by the project contractor. Stormwater controls for the 642 Quarry Road project are shown in the project's Stormwater Control Plan (Appendix A, Sheet C40).

In addition, the project must comply with the City of San Carlos' existing regulatory requirements, including Chapter 13.14, Stormwater Management and Discharge Control, which is intended to reduce pollutants in stormwater discharges to the maximum extent practicable.

<u>Construction Dewatering</u>

Site excavations of 10 to 15 feet deep for the parking structure basement may encounter shallow groundwater conditions observed at 7 feet below the ground surface in some site borings. Intercepted groundwater would be captured and discharged to the City's storm drain system. Construction dewatering is regulated under state requirements for stormwater pollution previous and control. Discharge to creeks and sewer systems requires permits by the San Francisco Bay RWQCB to ensure discharges meet water quality requirements prior to disposal.

PES (2021) identified Recognized Environmental Conditions (RECs) in their Environmental Phase I Environmental Assessment report resulting from industrial use of the property (see Hazards section 3.9.3). A subsurface hydrology evaluation performed by Langan (2002a; 2002b) evaluated the effects of construction dewatering drawdown on the potential movement of potential contaminants within the site vicinity from two nearby sites through use of particle tracking. Putnam Honda is 0.25 miles southeast of the site and within a bedrock outcrop. The hydraulic conductivity of the bedrock is too low to mobilize the contaminants. The particles, representing contamination, did not move beyond 5 feet in the model over a 6-month period (the estimated time length for dewatering and building construction) or during the postconstruction simulation (Figure 8, Figure 9). Former Baron-Blakeslee (Purex) is 0.23 miles northwest of 601 Harbor Boulevard Project. Over a 6-month period, the site particles moved 40 feet towards the bay and does not appear to be affected by the drawdown at 642 Quarry Road. During the post-construction time period, the site particles traveled northwest to the bay boundary in the model, also seemingly unaffected by the drawdown (Figure 8, Figure 9). The particles for both sites never joined Belmont Creek. Therefore, based on the model results, contamination migration to Belmont Creek during or post-construction is not expected.

Chemicals of potential concern may be encountered in groundwater, and groundwater dewatering activities should include a protocol to properly store, characterize, and dispose of groundwater pumped from excavations during construction activities. A Soil Management Plan required in Mitigation Measure HAZ-1 (Hazards section 3.9.3) would include recommendations for groundwater generated as needed if soil contaminants are encountered. It is anticipated that groundwater generated during construction dewatering would be discharged to the sanitary sewer under a Silicon Valley Clean Water Discretionary Groundwater Discharge Permit or under a RWQCB NPDES storm drain system discharge permit.

Groundwater extracted during construction should be tested to characterize its chemistry and evaluate if pre-treatment is required prior to discharge. In similar projects, the dewatering contractor is responsible for designing, installing, and operating the pre-treatment system (if needed) to meet the water quality criteria established in the permit.

Adherence to applicable water quality regulations, including the active implementation of construction stormwater BMPs, and compliance with the NPDES stormwater discharge requirements and City of San Carlos Municipal Code would ensure that water quality standards are not violated during construction. Therefore, potential impacts to water quality during project construction would be less than significant.

Project Operation

Although the project would reduce the amount of impervious surfaces and stormwater runoff from the project site, the proposed project could still impact water quality during the operational phase of the project. Runoff from parking and roadway surfaces typically contain oils, grease, fuel, antifreeze, by products of combustion (such as lead, cadmium, nickel, and other metals), as well as fertilizers, herbicides, pesticides, and other pollutants. Precipitation at the beginning of the rainy season may result in initial stormwater runoff (first flush) with high pollutant concentrations.

Stormwater runoff water quality is regulated locally by the SMCWPPP, which includes the C.3 provisions set by the San Francisco Bay RWQCB's MRP. The MRP was amended in 2015 and includes stricter requirements for incorporating post-construction stormwater control/LID measures into new development and redevelopment projects. Because the proposed project would replace 10,000 square feet or more of impervious surface, it is considered a "regulated project." In order to comply with Provision C.3 of the MRP, the project would be required to include appropriate source control, site design, and storm water treatment measures to address both soluble and insoluble storm water runoff pollutant discharges and prevent increases in runoff flows.

The project proposes would comply with applicable C.3 provisions and has proportioned the site into 15 Drainage Management Areas (DMAs) as shown in the Stormwater Control Plan (Appendix A, Sheet C40). These DMAs would generally direct stormwater runoff to bioretention areas and planters around the perimeter of the site where water would flow through vegetation before discharge to the City's storm drain line at Quarry Road.

Project conformance with NPDES permit requirements and required permit approvals by the City of San Carlos would ensure that implementation of the proposed project would result in a less than significant impact to water quality.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than Significant Impact.

Groundwater Supplies

Implementation of the proposed project would not result in an increase in demand for groundwater compared to existing conditions. The site is within the Mid-Peninsula Water District (MPWD) where groundwater is not considered a good source for irrigation or municipal water use due to the high content of chloride, sulfate, and total dissolved solids. MPWD does not use groundwater supplies to meet project potable water supply demand. Since the proposed project would not develop or increase the use of groundwater supplies, project operations would not impact groundwater supplies.

Groundwater Recharge

The proposed project would reduce the amount of impervious surface area at the project site compared to existing conditions. The 4.7-acre site is 90% impervious (184,896 square feet; 4.2 acres) in the existing condition and would be 78% impervious (160,534 square feet; 3.7 acres) in the proposed condition (Appendix A, Sheet C40). As such, the project would decrease the amount of impervious surface area, or increase the amount of pervious area, at the site by approximately 0.5 acres (24,362 square feet) compared to existing conditions. Given that the proposed project would not increase impervious surface area on the project site, the project would not substantially interfere with groundwater recharge rates. The impact is less than significant.

Groundwater Management

The project would not conflict with the implementation of the San Mateo Plain Subbasin's Groundwater Sustainability Plan. Construction activities would not result in an exceedance of any sustainability metrics set forth in the Plan. The project would have minimal impact on groundwater levels and would not degrade water quality, diminish surface water flow, increase rates of subsidence, or otherwise negatively affect groundwater sustainability.

Groundwater Flow Dynamics and Potential Effects on Belmont Creek Water Levels

Luhdorff and Scalmini Consulting Engineers (LSCE) prepared a CEQA Hydrology and Water Quality Evaluation for the 642 Quarry Road project dated 22 March 2022 (LSCE 2022a). The LSCE evaluation qualitatively assessed potential hydrogeologic issues related to dewatering at the 642 Quarry Road project. Langan Engineering (2022a) prepared a subsurface hydrology assessment for the 642 Quarry Road project site in response to the LSCE review. Langan (2022a) reviewed geologic and hydrogeologic data from the project site and vicinity and developed a conceptual model of the hydrogeologic conditions to simulate dewatering of the site during project construction activity and post-construction project effects on the groundwater and Belmont Creek. LSCE (2022b) provided peer review of the Langan study and Langan responded to peer review comments (2002b). LSCE concurred with Langan's response to peer review comments (2022c).

The simulation results for the baseline scenario show Belmont Creek budget zone 1 northwest of the 642 Quarry Road site (Figure 7 Creek Model Budget Zones) gains water due to interaction with groundwater with a total gain for the creek of 3.63 gallons per minute (gpm; Table 3-15). In budget zone 2, the creek bed is underlain with weathered bedrock, which is expected to present lower interaction than the surrounding alluvium to the north and northwest of the project sites. The section of the creek in budget zone 2 gained 0.05 gpm under baseline conditions.

Table 3-15. Groundwater Simulation Results, Flow Rates

Simulation	Baseline (gallons/minute)	642 Quarry Road Construction (gallons/minute)	Post-Construction (gallons/minute)
Zone 1 – Stream Lost	0.00	0.03	0.00
Zone 1 – Stream Gain	3.63	3.53	3.30
Zone 1 – Stream Total Gain	**3.63**	**3.50**	**3.30**
Zone 2 – Stream Lost	0	0.38	0
Zone 2 – Stream Gain	0.05	0	0.02
Zone 2 – Stream Total Gain	**0.05**	**-0.38**	**0.02**
Change in Stream Gain	NA	**-0.56**	**-0.36**
Excavation Dewatering Pumping Rate	NA	**0.80**	NA

Notes:
Negative flow rates for stream gain corresponds to stream lost
NA – Not applicable
Source: Langan 2022b, Table 2

Construction Dewatering

The simulation results for construction dewatering of 642 Quarry Road show drawdown in the vicinity of the site (Figure 8 Project Drawdown Contours). Construction dewatering changes flow patterns with respect to the baseline scenario, and the pumping rate needed to sustain dewatering was modeled as 0.8 gpm (Table 3-15). The low pumping rate is attributed to the low hydraulic conductivity of the weathered bedrock. A portion of the dewatering would affect the stream gains modeled in the baseline scenario, and Belmont Creek would lose an additional 0.56 gpm during construction.

The proposed excavation is 14.6 feet below planned future grade (Elevation 29.4 ft), which is equivalent to Elevation 14.8 feet. During the dry season, the groundwater levels would likely be close to the bottom of the planned excavation, which would require minimal dewatering. The dewatering methods may include pumping from sumps rather than wells. In the dry season, the area affected by drawdown would be smaller (i.e., less impacts to groundwater and the creek). Langan (2022b) concluded dewatering during construction would be temporary and the effects on the creek would be short-term and not significant in comparison to the baseline-modeled conditions (Table 3-15). Therefore, the impact of construction dewatering on groundwater and creek flow levels is less than significant.

Post-Construction

The simulation results for post-construction conditions with both projects built show a slight change in flow patterns with respect to the baseline scenario. The impermeable structures influence flow around the building basements. Given the impermeable structures, some groundwater flow would be diverted away from the creek, and 0.36 gpm would not be included in the creek surface water flow gains in the vicinity of the new structures (Table 3-15). The modeled changes in groundwater elevation were less than one foot, and changes were constrained to the vicinity of the sites (Figure 9 Post Construction Drawdown Contours). Due to the low hydraulic conductivity of the bedrock, the model results show that the effect of the impermeable structures on the creek flow is minimal with respect to the baseline conditions. Therefore, the impact of groundwater displacement from subsurface building construction is less than significant.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or off-site;

Less Than Significant Impact. Project implementation does not involve direct alterations to existing streams, rivers, or drainage patterns. Creek maintenance work required as a condition of project approval would cause minor soil disturbance of creek banks from removal of invasive vegetation as described in Biology section 3.4.3. Creek maintenance would implement erosion control methods in accordance with a Creek Maintenance Plan to ensure potential for erosion and siltation impacts from maintenance activities is controlled. The impact is less than significant. City ordinances ensure no significant erosion or sedimentation during construction-related activities (San Carlos Municipal Code 12.08).

The project would not substantially alter the drainage pattern of the site or area. Currently, the interior of the site's existing drainage patterns direct stormwater from the interior to the site toward storm drains directed toward Old County Road and Quarry Road. Under the proposed project, stormwater would be directed to on-site stormwater retention features and then to the outfall located at the southwest corner of the site. Stormwater run-off from the site would be

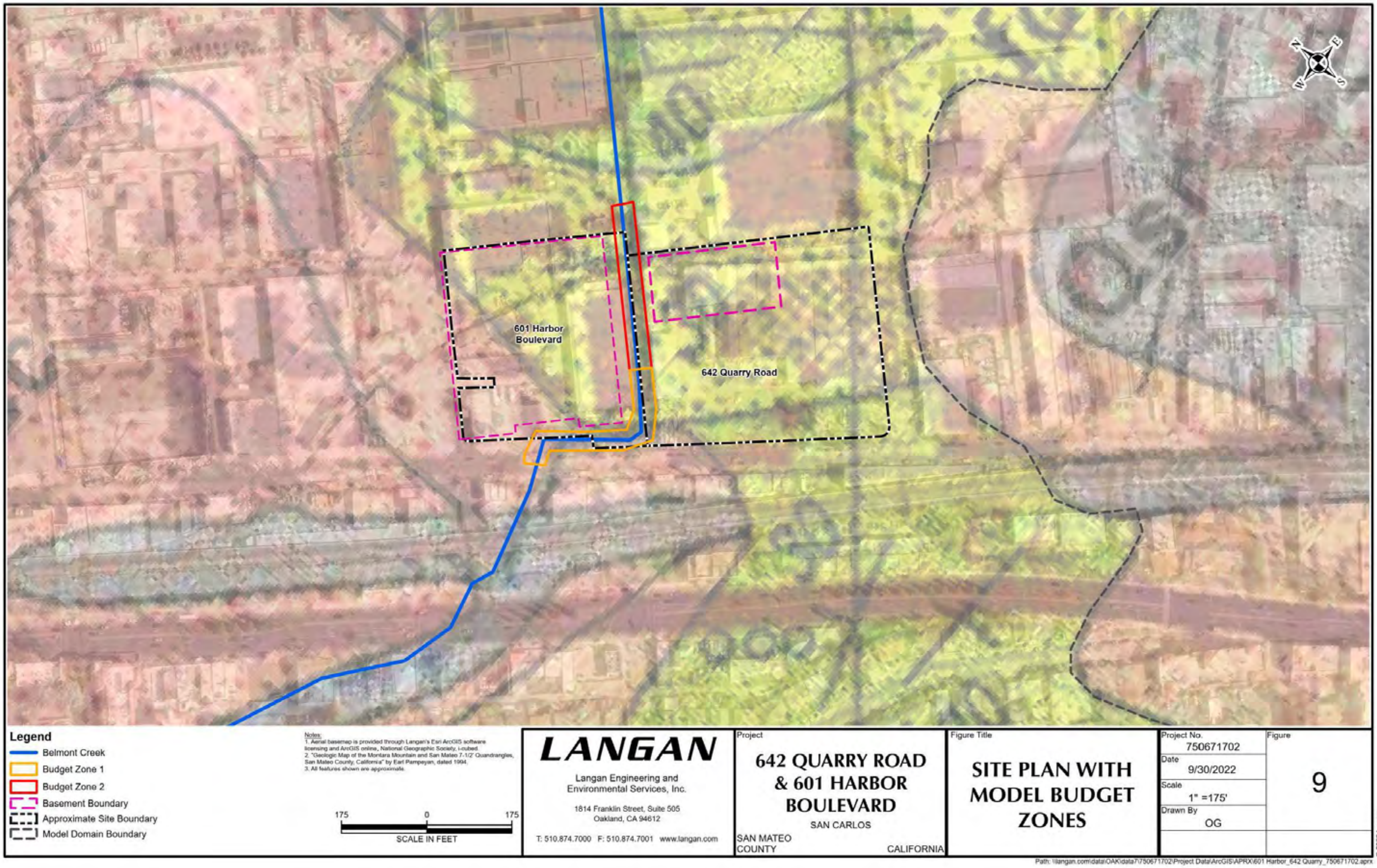

Figure 7 Creek Model Budget Zones

642 Quarry Road Project

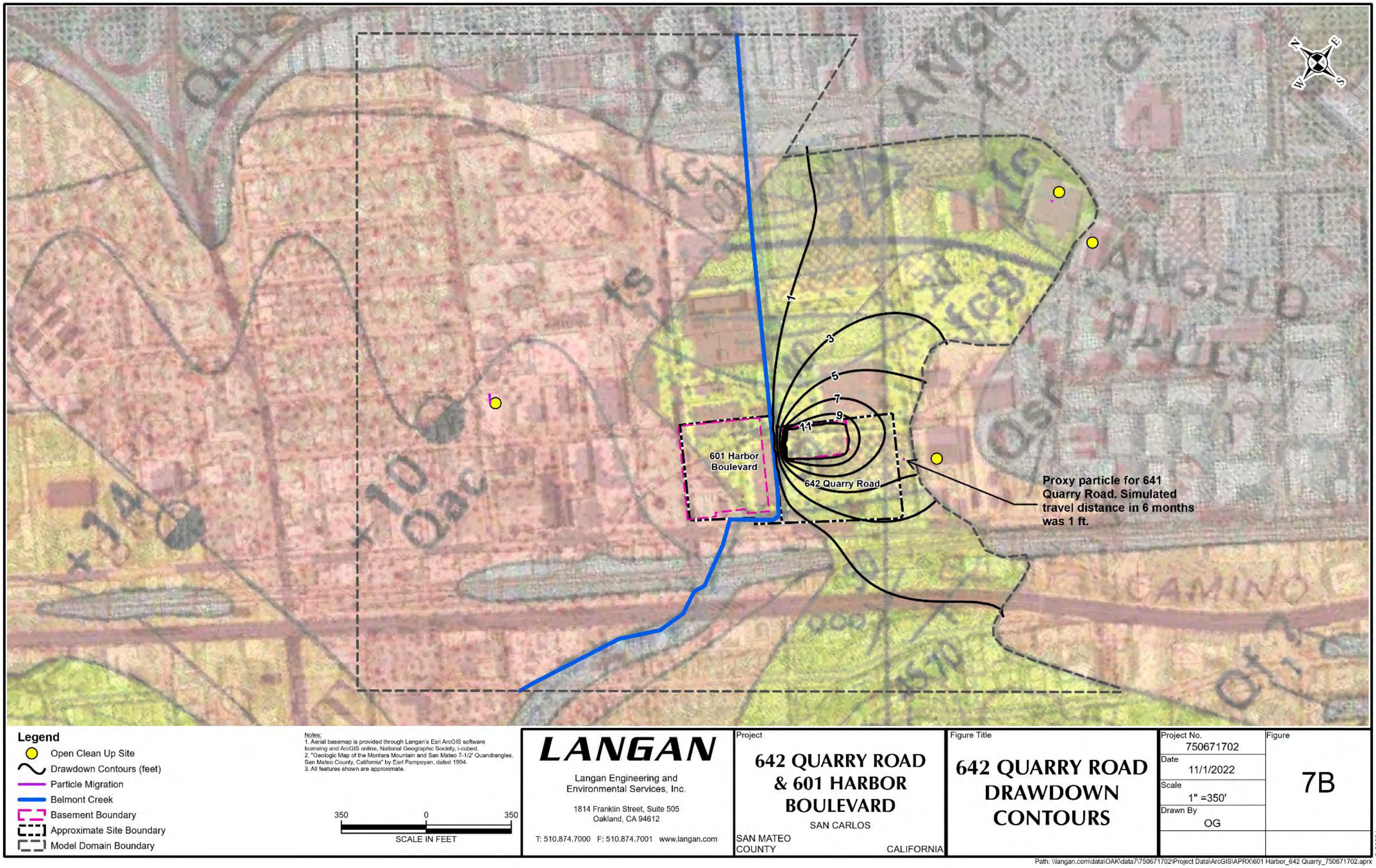

Figure 8 Project Drawdown Contours

642 Quarry Road Project

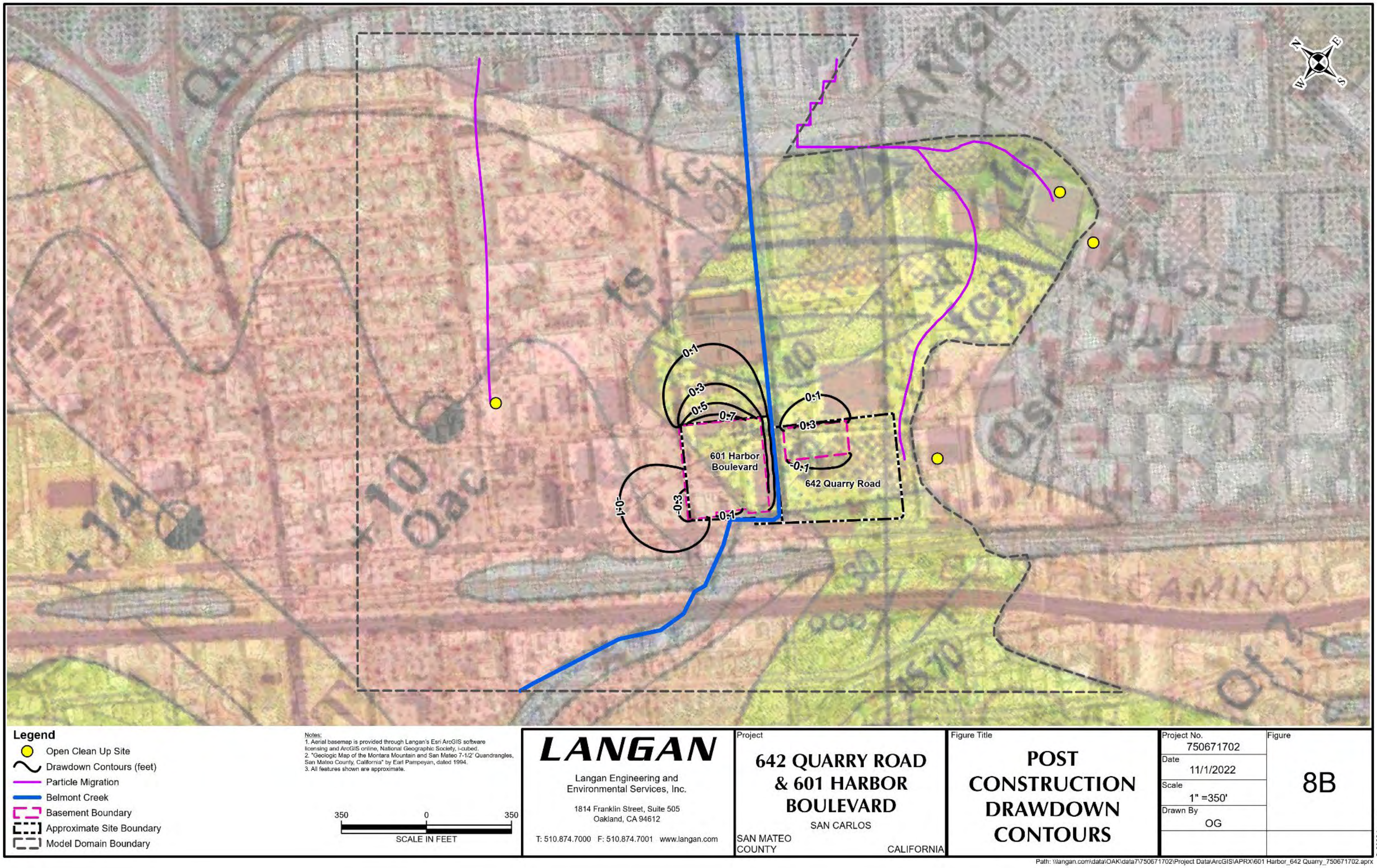

Figure 9 Post Construction Drawdown Contours

642 Quarry Road Project

directed to a series of bioretention swales that allow for the cleansing and infiltration of stormwater before reaching out the outfall from the site 15-inch collection line to the storm drain line at Quarry Road (Appendix A, Sheet C30 Erosion Control Plan and Sheet C40 Stormwater Control Plan). The project would result in a reduction of impervious surface area by 0.5 acres (24,362 square feet; Appendix A, Sheet C40).

The proposed project would not cause erosion or siltation over the long term because the project site would be covered with the new building, paved areas, and landscaping. No bare soils would be present. However, project construction would require grading and soil exposure that could result in temporary erosion and/or siltation if not controlled. As stated previously in response a) above, the project would be required to comply with existing regulations and implement BMPs to prevent erosion and saltation. Compliance with these provisions would prevent erosion and siltation on- or off-site during construction activities. This impact would be less than significant.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;

Less Than Significant Impact (Responses ii – iii). The project would not add new impervious surfaces and therefore would not create new sources of additional runoff or sources of polluted runoff. The project would reduce impervious surface area at the site by approximately 0.5 acres compared to existing conditions. The project includes source control and site design measures to prevent pollutants from entering stormwater and help retain storm water on site. As a result, the project is expected to result in a decrease in pollutants entering stormwater and in the volume of stormwater exiting the site compared to existing conditions. Therefore, the project would not increase the rate or amount of surface runoff or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. This impact would be less than significant.

As discussed in response a) above, groundwater extracted during construction may contain chemical contaminants from industrial uses. It is anticipated that groundwater generated during construction dewatering would be tested and treated as necessary under the requirements of a RWQCB National Pollutant Discharge Elimination Permit (NPDES) storm drain system discharge permit. The dewatering contractor would be responsible for designing, installing, and operating the pre-treatment system (if needed) to meet the water quality criteria established in the permit. As such, construction groundwater discharges would not be a substantial source of polluted runoff. The impact is less than significant.

The projected sea level rise range is 2.4 – 3.4 feet with a 66% probability of occurrence in San Francisco for the year 2100 (Langan 2022a). The rise in sea level could raise water levels at Belmont Creek and intensify the flooding issues at Belmont Creek between El Camino Real and US-101. The City of Belmont's current Twin Pines Park Belmont Creek Restoration project, previously mentioned, has the potential to alleviate much of the downstream flooding issues (Langan 2022a). Modeling by Langan shows groundwater levels would increase a maximum of 0.3 feet on the northwest side of the 601 Harbor Boulevard property due to post-construction conditions of both the 601 Harbor Boulevard and 642 Quarry Road properties (Figure 9). Alongside the creek, groundwater levels were modeled at 0.1 feet below pre-construction levels (Figure 9). Given the minor change in groundwater level post development, the impermeable basements proposed for the properties are not expected to increase surface water levels and exacerbate flooding issues caused by rising sea levels. Therefore, the project's contribution to flooding associated with sea level rise is less than significant.

iv) Impede or redirect flood flows?

Less Than Significant Impact. The 642 Quarry Road project site is within the 500-year flood plain (City of San Carlos 2009; Figure 8-5 Flood Plain Map). Project development would result in flood water being diverted around project buildings resulting in the redirection of flood waters. The ground floors of the two research/office buildings would be constructed at grade with not basement levels and the parking garage would have a partial basement level. The proposed project would install a storm drainage storage pipe (40,416 cubic feet), equal to the existing volume of storage on the site that is lost due to the new building construction. The lost ponding volumes are based on the level of ponding due to a 100-yr storm in the existing condition vs. proposed condition (BKF 2022).

BKF Engineers (2022) submitted a Belmont Creek Flood Evaluation to the City of San Carlos. As part of the evaluation, BKF Engineers prepared a surface water hydraulic model to determine the effect of the 642 Quarry Road Project development on flooding at the Creek.

Based on flood modeling using the HEC-RAS model, produced by the Belmont Creek Watershed Management Plan project, the existing site experiences flooding generated by runoff from Old County Road north of the site. The project would prevent flood water from draining from Old County Road onto the 642 Quarry property, resulting in raised hydraulic grade line in the street from the current flooding condition. On-site precipitation would be contained and conveyed via underground storm drainpipe system that would connect into the public storm drain system.

The BKF evaluation determined the proposed construction at 642 Quarry Road Project has insignificant impact (surface water level change less than 0.1 feet) to the Creek and surrounding areas within the Harbor Industrial Area during 10-year and 100-year storm events. Furthermore, modeling of street ponding surrounding the 642 Quarry Road project when combined with proposed development on the adjacent parcel at 601 Harbor Boulevard shows an increase in water surface elevations of less than 0.5 feet. As a result, any rise in street flood level resulting from prevention of public flood water draining onto the 642 Quarry would be less than one foot of additional depth, compliant with City municipal code section 15.56.100 A.4. There is no information to suggest that the project would redirect flood waters to other properties.

<u>Belmont Creek Flooding Potential</u>

Due to potential flood risk, Belmont Creek's interconnectivity with groundwater is of critical importance to the cities of San Carlos and Belmont. In Table 3-15, Baseline conditions are compared to 642 Quarry Road Construction and Post-Construction conditions. Since water levels in sections of Belmont Creek adjacent to the property are only inches above the streambed in summer months, dewatering may cause segments of Belmont Creek to temporarily dry during construction. Given the minimal post-construction effects on groundwater levels modeled by Langan (2022a), surface water levels are expected to recover after dewatering. Because the model predicts there is an overall loss in stream levels to groundwater during construction (-0.56 gpm change) and postconstruction (-0.36 gpm change), the project is not expected to aggravate flood issues or reduce water quality caused by sediment mobilization.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less Than Significant Impact. The Federal Emergency Management Agency (FEMA) prepares Flood Insurance Rate Maps (FIRMs), which identify 100-year and 500-year flood zones. The 100-year Flood Zone in San Carlos includes much of the area east of Highway 101 and areas along Belmont Creek but does not encompass the project site. The FEMA) map for the subject property area shows the subject property is not within a Special Flood Hazard Area (1%). However, the subject property is mapped as a 0.2%-annual-chance-flood (500-year flood) area (FEMA 2021). San Carlos General Plan Land Use, Environmental Management, and Community Safety and Services Policies and Municipal Code Chapter 15.56 minimize flood-related risks including potential release of pollutants. As described above in section c) the project would not substantially contribute to flooding. The project would not create risk of releasing pollutants due to project inundation. The impact is less than significant.

The State of California maps zones of high risk for tsunami inundation for coastal areas. According to the San Mateo Tsunami Hazard Area Map from March 23, 2021, no regions in the project area are at risk for tsunami inundation (CDOC 2021). There is no impact related to tsunami.

Seiches are defined as wave-like oscillatory movements in enclosed or semi-enclosed bodies of water caused by sustained high winds or an earthquake. The project site is 0.5 miles west of the San Francisco Bay; however, as it is not within the inundation zone for the Bay seiche energy should be decreased upon reaching the developed portions and wetlands which act as a buffer east of the project site. There is no impact related to seiche.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The project would comply with all applicable regulations to protect water quality as discussed in response a) above. The project would not impact ground water management as discussed in response b) above. Therefore, the project would not obstruct implementation of a water quality control plan or groundwater management plan. No impact would occur.

3.10.4 References

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3.11 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

3.11.1 Environmental Setting

The project site is located in the Harbor Industrial Area in the Northeast Side planning area of San Carlos. The site is currently occupied by multiple light industrial and commercial office structures and associated parking lot areas. The existing site uses include auto and boat repair/painting, storage, stone cutting, countertop construction and storage, water filtration development, and offices (Appendix A, Sheet A2.1). The project site is surrounded by urban development including light industrial and commercial properties. The area is transitioning from low-intensity commercial and industrial businesses to biotechnology, life sciences, and high-tech office land uses over the last decade. Belmont creek borders the project site to the northwest.

3.11.2 Regulatory Setting

San Carlos 2030 General Plan

The San Carlos 2030 General Plan designates the project site as Planned Industrial, a land use designation intended primarily for research and development, bio-tech, light industrial, flex, warehousing, and related uses. Uses in this land use designation generally include retail, service, office, R&D, and industrial uses.

General Plan policies relevant to the land use planning are presented below. Additional General Plan land use policies pertaining to other environmental resources are presented in their respective discussion sections. For example, General Plan land use policies related to aesthetics are presented in section 3.1.2, policies related to natural resources are presented in section 3.4.2, and transportation are presented in section 3.17.1.

- **Policy LU-1.11** Preserve existing open space by supporting urban infill.
- **Policy LU-1.12** Promote the development of publicly accessible urban trails throughout the city to provide access to the natural environment and facilitate nonmotorized transportation options.
- **Policy LU-3.10** Encourage the creation of safe, walkable environments that include elements such as wide, smooth sidewalks, good lighting, safe crosswalks, clear signage, curb bulb-outs, curb cuts, street furniture and trees and traffic-calming measures which allow people of all ages and abilities to exercise and safely access public transportation, community centers and schools and goods and services.
- **Policy LU-3.12** Increase the ability for workers in the East Side to walk or ride a bike to retail and service uses by supporting ancillary uses, such as retail and restaurants, in industrial areas.
- **Policy LU-5.2** Implement the City’s adopted Economic Development Plan, which is updated annually as it relates to supporting the local economy.

- **Policy LU-5.3** Support and encourage businesses and land uses that contribute to the City's financial viability.
- **Policy LU-5.6** Strive for a balanced ratio of jobs and housing units.
- **Policy LU-5.7** Support high-wage industries that provide quality jobs for workers at all education levels.
- **Policy LU-5.11** Continue to require developers to pay their fair share of the capital cost of public facilities through appropriate development impact and utility connection fees.
- **Policy LU-5.13** Consider use of multiple level parking facilities to provide increased space where available land is limited.
- **Policy LU-5.15** Promote economic revitalization on underutilized parcels designated for higher intensity land uses.
- **Policy LU-6.1** Support commercial/industrial activity and businesses on the East Side.
- **Policy LU-6.2** Prohibit the conversion of property designated for industrial/commercial land on the East Side to non-industrial/commercial uses. ·Ensure proposed new uses in the East Side do not introduce land use conflicts that would adversely impact industrial/ commercial activities.
- **Policy LU-6.3** Support the expansion of key growth industries while maintaining the overall diversity of land uses within East Side employment areas.
- **Policy LU-6.6** Encourage new development on the East Side to feature high quality architecture that reinforces the character of the area.
- **Policy LU-6.7** Maintain and strengthen industrial uses in the inner core of the East Side area.
- **Policy LU-7.5** Consider the inclusion of public art as part of development projects.
- **Policy LU-8.18** Encourage "green building" practices in new development and redevelopment, such as those that make a building more energy efficient and reduces its effect on human health and the environment through better siting, design, construction, maintenance and operation.

San Carlos Municipal Code

The City's Zoning Code is contained as Title 18 of the Municipal Code. The project site currently has a zoning designation of IL (Light Industrial; Municipal Code Chapter 18.07). This zoning designation is intended to accommodate a diverse range of light industrial uses including general service, research and development, biotechnology, warehousing, and service commercial uses. It includes industrial complexes, flex space, and industrial buildings for single and multiple users, warehouses, wholesale, commercial recreation, and other related uses. Small-scale retail and ancillary office uses are also permitted. The IL zoning designation has a maximum building height of 75 feet, a maximum floor area ratio (FAR) of 1.0 and requires a 5-foot setback on front and side lot lines or 10-foot setback along an arterial.

The project proposes rezoning the property from Light Industrial (IL) to Planned Development (PD). Per Municipal Code Chapter 18.10, the purpose of the PD zoning district is to allow development to occur under a plan that responds to site conditions in order to:

- Provide flexibility by allowing diversification in regulations such as building relationships, setbacks, height limitations, floor area ratio (FAR), lot sizes, types of structures, parking, landscaping, and the amount and location of open space.
- Ensure substantial compliance with and implement the land use and density policies of the General Plan and any applicable specific plan.
- Provide for efficient and cost-effective public facilities and services.
- Allow for creative development projects that incorporate design features that provide greater amenities than would likely result from conventionally planned development.

- Protect public health, safety, and general welfare without unduly inhibiting developers attempting to secure the advantages of modern, large-scale site planning for residential, commercial, or industrial purposes.

In a PD zoning district, the minimum lot area, yard requirements, building heights, and other physical development standards applicable to the affected properties are prescribed by the approved PD plan. Each PD plan establishes its own development standards that, at a minimum, address the following: land use; circulation of traffic; landscaping; architecture; specific density; minimum building site; minimum lot dimensions; maximum lot coverage by buildings and structures; minimum yards; maximum building or structure heights; maximum height of fences and walls; signs; off-street parking; and other items as deemed appropriate by the Planning Commission and City Council.

San Carlos Airport Land Use Compatibility Plan

San Carlos Airport is located on the east side of Highway 101 roughly one mile southeast of the 642 Quarry Road project site. The project is located in the San Carlos Airport Land Use Compatibility Plan (ALUCP) area. According to the ALUCP Exhibit E-5, the project site is located within Zone 6, the traffic pattern zone. Under the ALUCP, the project site has a maximum compatible building height elevation of 155 feet above sea level (C/CAG 2015, Exhibit 4-4). The maximum building height is determined not to be a “hazard to air navigation” by the Federal Aviation Administration.

Climate Mitigation and Adaptation Plan

On September 27, 2021, San Carlos adopted the Climate Mitigation and Adaptation Plan (CMAP). The CMAP details the City’s strategy for reducing city-wide GHG emissions through 2030 and 2050 and identifies 12 climate adaptation and resiliency strategies for preparing the city for the adverse effects anticipated under a changing climate. The following reflects adaptation strategies that may be applicable to the proposed project:

- **Strategy 36: Open Space Preservation.** Preserve existing open space by supporting urban infill.
- **Strategy 37: Heat Island Effect.** Minimize the urban heat island effect.

3.11.3 Discussion

Would the project:

a) Physically divide an established community?

No Impact. The development of the proposed project would occur on a site that is currently developed with a self-storage facility. The project would not alter existing roadway patterns and would not introduce any new major roadways or other physical features that would create new barriers in existing residential neighborhoods or other communities. As such, the project would not physically divide an established community. No impact would occur.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less than Significant Impact. The proposed project would not conflict with any land use plan, policy, or regulation adopted for the purposes of avoiding or mitigating an environmental effect.

San Carlos 2030 General Plan

The General Plan Guidelines published by the State Office of Planning and Research defines consistency as, “An action, program, or project is consistent with the General Plan if, considering all its aspects, it would further the objectives and policies of the General Plan and not obstruct their attainment.” The proposed project is in general agreement with the policy language and furtherance of the policy intent and would not conflict with applicable General Plan policies that were adopted for the purposes of avoiding or mitigating an environmental effect. The project is consistent with land use policies identified above that support urban infill with a walkable environment, development of the East Side area with commercial/industrial uses, supporting high-wage industries, provision of multiple-level parking facilities, economic revitalization, and contribution of towards a jobs/housing balance.

San Carlos Municipal Code

<u>Building Height and FAR</u>

The proposed project would involve rezoning the project property from the IL zoning district to a PD district. The proposed PD plan would vary from the development standards specified in the current IL zoning district. The project proposes a PD with a maximum building height of 120 feet, which exceeds the maximum building height of 75 feet for the IL District. The proposed development would also have a FAR of 3.13 including the covered parking structure and a FAR of 2.0 excluding the parking spaces and circulation within the parking structure, which exceeds the maximum FAR of 1.0 for the IL District. Therefore, the project Applicant is proposing to rezone the site to Planned Unit Development (PD) to allow for the proposed building height and FAR which exceeds the height and FAR limitations of the current zoning.

<u>Parking</u>

San Carlos Municipal Code section 18.20.040, Required Parking Spaces, requires one vehicular parking space for every 300 square feet of office space and one vehicular parking space for every 800 square feet of laboratory space. The Municipal Code allows for a 20% reduction in required parking spaces by meeting requirements of the Transportation Demand Management Plan. In total, the project is required to provide 938 vehicular parking spaces (Appendix A, Sheet A1).

The proposed project includes 938 vehicular parking spaces. Of the 938 parking spaces provided, 22 spaces would be accessible (ADA) stalls, 195 spaces would be for 315 spaces would be electric vehicle (EV) parking, and 99 spaces would be for carpool/vanpool parking, all of which exceed the requirements contained within Municipal Code section 18.20.100.C, Parking Area Design and Development Standards. The amount of parking provided by the project is consistent with the parking requirements of the San Carlos Municipal Code section 18.20.040.

In addition, per Municipal Code section 18.20.080, Bicycle Parking, the proposed project includes 94 short-term and 47 long-term, secured bicycle parking spaces. All long-term bicycle parking spaces would be located inside the parking garage.

San Carlos Climate Mitigation and Adaptation Plan

As described in Greenhouse Gas Emissions section 3.8, the proposed project would be consistent with applicable strategies in the CMAP that have been adopted for the purposes of reducing GHG emissions. The proposed project would also be consistent with Strategies 36 and 37, as described below.

- **Strategy 36: Open Space Preservation.** The proposed project consists of infill development. The new life science buildings would be constructed on a site that is currently occupied by a light industrial and commercial uses. It would not increase urban sprawl or reduce open space. The project would provide more pervious surfaces than is currently within the site. Impervious surfaces would be reduced from 184,896 square feet to 160,534 square feet.

- **Strategy 37: Heat Island Effect.** The proposed project would result in a greater amount of greenspace at and in proximity of the project site. The project would result in more tree cover and would include building elements that would reflect sunlight,[12] reducing the amount of area that could absorb the sun's energy and then reemit it in the form of heat (i.e., the process that contributes to the heat island effect). The project provides more pervious surfaces than currently found on the site.

The proposed project would be consistent with the City's CMAP and would not conflict with a strategy that was adopted for the purposes of avoiding or mitigating an environmental impact.

San Carlos Airport Land Use Compatibility Plan

According to the ALUCP, the project site is within Safety Zone 6, the traffic pattern zone. Office and R&D uses are identified as compatible uses in this zone. Therefore, the project would be consistent with the permitted land uses in the ALUCP. The height limit for the project site per San Mateo County and FAA regulations is 155 feet. The topography at the project site is nearly flat, with site grades varying from approximately Elevation 29.3 feet at the northwest corner to approximately Elevation 22.4 feet at the southeast corner of the site. The maximum building height and roof screen is 142 feet above sea level (North Building). The maximum roof-mounted equipment height is 147.2 feet above sea level (North Building). The maximum project building height including rooftop equipment would be less than 155 feet and as such, the proposed project is consistent with the ALUCP.

3.11.4 References

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[12] Although sunlight would be reflected, it would not be significant for the reasons discussed in Aesthetics section 3.1.3.

3.12 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local -general plan, specific plan or other land use plan?	☐	☐	☐	☒

3.12.1 Environmental Setting

The project site is located in the City of San Carlos at an existing, surface parking lot surrounded by light industrial, warehousing, and retail land uses. There are no mines or known mineral resources in the City of San Carlos (San Carlos, 2009).

3.12.2 Discussion

Would the proposed project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact (Responses a – b). No locally important mineral resources are designated in the City of San Carlos (San Carlos, 2009). The project site has no potential for use in resource recovery and therefore, would have no impact on the availability of mineral resources.

3.12.3 References

City of San Carlos. 2009. San Carlos General Plan: Envision 2030. Adopted October 12, 2009.

3.13 NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

3.13.1 Environmental Setting

Noise may be defined as loud, unpleasant, or unwanted sound. The frequency (pitch), amplitude (intensity or loudness), and duration of noise all contribute to the effect on a listener, or receptor, and whether the receptor perceives the noise as objectionable, disturbing, or annoying.

The Decibel Scale (dB)

The decibel scale (dB) is a unit of measurement that indicates the relative amplitude of a sound. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a tenfold increase in acoustic energy, while 20 dBs is 100 times more intense, 30 dBs is 1,000 more intense, and so on. In general, there is a relationship between the subjective noisiness, or loudness of a sound, and its amplitude, or intensity, with each 10 dB increase in sound level perceived as approximately a doubling of loudness.

Sound Characterization

There are several methods of characterizing sound. The most common method is the “A-weighted sound level,” or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is typically most sensitive. Thus, most environmental measurements are reported in dBA, meaning decibels on the A-scale.

Human hearing matches the logarithmic A-weighted scale, so that a sound of 60 dBA is perceived as twice as loud as a sound of 50 dBA. In a quiet environment, an increase of 3 dB is usually perceptible, however, in a complex noise environment such as along a busy street, a noise increase of less than 3 dB is usually not perceptible, and an increase of 5 dB is usually perceptible. Normal human speech is in the range from 50 to 65 dBA. Generally, as environmental noise exceeds 50 dBA, it becomes intrusive and above 65 dBA noise becomes excessive. Nighttime activities, including sleep, are more sensitive to noise and are considered affected over a range of 40 to 55 dBA. Table 3-16 lists typical outdoor and indoor noise levels in terms of dBA.

Table 3-16. Typical Outdoor and Indoor Noise Levels		
Common Outdoor Activities	**Noise Level (dBA)**	**Common Indoor Activities**
	-110-	Rock Band
Jet flyover at 1,000 feet		
	-100-	
Gas lawn mower at 3 feet		
	-90-	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	-80-	Garbage disposal at 3 feet
Noise urban area, daytime		
Gas lawnmower, 100 feet	-70-	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	-60-	
		Large business office
Quiet urban daytime	-50	Dishwasher next room
Quite urban nighttime	-40-	Theater, large conference room (background)
Quiet suburban nighttime		
	-30-	Library
Quite rural nighttime		Bedroom at night
	-20-	
		Broadcast/recording studio
	-10-	
Lowest threshold of human hearing	-0-	Lowest threshold of human hearing
Source: Caltrans 2013		

Sound levels are typically not steady and can vary over a short time period. The equivalent noise level (Leq) is used to represent the average character of the sound over a period of time. The Leq represents the level of steady noise that would have the same acoustical energy as the sum of the time-varying noise measured over a given time period. Leq is useful for evaluating shorter time periods over the course of a day. The most common Leq averaging period is hourly, but Leq can describe any series of noise events over a given time period.

Variable noise levels are values that are exceeded for a portion of the measured time period. Thus, L01 is the level exceeded one percent of the time and L90 is the level exceeded 90 percent of the time. The L90 value usually corresponds to the background sound level at the measurement location.

Noise exposure over the course of an entire day is described by the day/night average sound level, or Ldn, and the community noise equivalent level, or CNEL. Both descriptors represent the 24-hour noise impact on a community. For Ldn, the 24-hour day is divided into a 15-hour daytime period (7 AM to 10 PM) and a nine-hour nighttime period (10 PM to 7 AM) and a 10 dB "penalty" is added to measure nighttime noise levels when calculating the 24-hour average noise level. For example, a 45 dBA nighttime sound level would contribute as much to the overall day-night average as a 55 dBA daytime sound level. The CNEL descriptor is similar to Ldn, except that it includes an additional 5 dBA penalty beyond the 10 dBA for sound events that occur during the evening time period (7 PM to 10 PM). The artificial penalties imposed during Ldn and CNEL calculations are intended to account for a receptor's increased sensitivity to sound levels during quieter nighttime periods.

Sound Propagation

The energy contained in a sound pressure wave dissipates and is absorbed by the surrounding environment as the sound wave spreads out and travels away from the noise generating source. Theoretically, the sound level of a point source attenuates, or decreases, by 6 dB with each doubling of distance from a point source. Sound levels are also affected by certain environmental factors, such as ground cover (asphalt vs. grass or trees), atmospheric absorption, and attenuation by barriers. Outdoor noise is also attenuated by the building envelope so that sound levels inside a residence are from 10 to 20 dB less than outside, depending mainly on whether windows are open for ventilation or not.

When more than one point source contributes to the sound pressure level at a receiver point, the overall sound level is determined by combining the contributions of each source. Decibels, however, are logarithmic units and cannot be directly added or subtracted together. Under the dB scale, a doubling of sound energy corresponds to a 3 dB increase in noise levels. For example, if one noise source produces a sound power level of 70 dB, two of the same sources would not produce 140 dB – rather, they would combine to produce 73 dB.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear can discern 1-dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people can begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness.

Noise Effects

Noise effects on human beings are generally categorized as:

- Subjective effects of annoyance, nuisance, and/or dissatisfaction
- Interference with activities such as speech, sleep, learning, or relaxing
- Physiological effects such as startling and hearing loss

Most environmental noise levels produce subjective or interference effects; physiological effects are usually limited to high noise environments such as industrial manufacturing facilities or airports.

Predicting the subjective and interference effects of noise is difficult due to the wide variation in individual thresholds of annoyance and past experiences with noise; however, an accepted method to determine a person's subjective reaction to a new noise source is to compare it to the existing environment without the noise source, or the "ambient" noise environment. In general, the more a new noise source exceeds the ambient noise level, the more likely it is to be considered annoying and to disturb normal activities.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness that would almost certainly cause an adverse response from community noise receptors.

Existing Noise Environment

The primary sources of noise in San Carlos include vehicles, commercial uses, and activities associated with neighborhoods and schools. The primary source of noise at the project site is from traffic on surrounding roadways – primarily from Old County Road, El Camino Real, and the Caltrain rail line to the west of the project site – and from adjacent properties, which produce noise from activities in parking lots, movement of various materials, and stationary sources (e.g., heating, ventilation, and air conditioning (HVAC) equipment). The project is also located in the San Carlos Airport Land Use Compatibility Plan (ALUCP) area (C/CAG, 2015) and may receive periodic noise from flights associated with the airport. According to the ALUCP, the project site is not within a primary flight path, but is within Zone 6, the traffic pattern zone. Office and R&D uses are identified as compatible uses in this zone. There are no private airstrips near the project site; no private airstrips or heliports are in the cities of San Carlos, Redwood City, or Belmont.

The City's General Plan EIR indicates that the segment of Old County Rd, north of Holly St (i.e., adjacent to the project site), was estimated to have an Ldn of 63 dBA back in 2009, which was anticipated to increase to 65 dBA Ldn in 2030 under General Plan buildout conditions.

Recent ambient noise monitoring was conducted as part of the environmental documentation being prepared for a project proposed at 601 Harbor Blvd, in the City of Belmont, approximately 375 feet north of the project site. One of the ambient noise measurements collected in September 2021 was located in the residential community approximately 475 feet west of the project site. That measurement indicates daytime noise levels in the community west of the project site are approximately 61.6 dBA (ICF, 2021). Another measurement made for that project, near the southeastern corner of the Harbor Blvd / Old County Rd intersection indicates that daytime noise levels at that location are approximately 65.8 dBA. Harbor Blvd is anticipated to have a higher roadway volume than Quarry Rd and therefore slightly higher noise levels. However, in general, the 65.8 dBA measurement is considered to be representative of noise levels at 642 Quarry Road.

Ambient noise monitoring was also conducted in 2017 as part of the City of Belmont's EIR for their General Plan Update and Belmont Village Specific Plan. The measurement BVSP-2 was located approximately 60 feet west of the El Camino Real median and had a 24-hour noise level of approximately 72 dBA Ldn (Belmont, 2017).[13] The residences located along 5th Ave are approximately 120 feet from the El Camino Real median; therefore, 24-hour noise levels at the 5th Ave residences are approximately 69 dBA Ldn.

Sensitive Receptors

Noise sensitive receptors are areas where unwanted sound or increases in sound may have an adverse effect on people or land uses. Residential areas, hospitals, schools, and parks are examples of noise receptors that could be sensitive to changes in existing environmental noise levels. Noise sensitive receptors within 1,000 feet of the project site include:

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[13] Noise measurements collected at BVSP-2 for approximately five days, from 2/19/17 to 2/23/27. The 24-hour noise level measurement referenced herein reflects the lowest 24-hour level measurement across those five days.

- Potential future residential receptors that would be part of the project being proposed north of the project site at 608 Harbor Road in the City of Belmont, approximately 490 feet from of the project site.
- Single-family residences west of the project site on 5th Ave, 6th Ave, and Sunnyslope Ave, the closest of which is approximately 410 feet from the project site.

There are no schools within 1,000 feet of the project site. The proposed daycare facility located in the South Building would be shielded from the majority of the project's noise sources, which are located on top of the buildings.

3.13.2 Regulatory Setting

California Green Building Standards Code

The California Green Building Standards Code is Part 11 to the California Building Standards Code. Chapter 5, Nonresidential Mandatory Standards, Section 5.507 establishes the following requirements for nonresidential development that may be applicable to the proposed project.

- Section 5.507.4.1.1 sets forth that buildings exposed to a noise level of 65 dBA L_{eq} (1-hour) during any hour of operation shall have exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composting sound transmission class (STC) rating of at least 45 (or an outdoor indoor transmission class [OITC] of 35), with exterior windows of a minimum STC of 40.
- Section 5.507.4.2 sets forth that wall and roof assemblies for buildings exposed to a 65 dBA L_{eq} pursuant to Section 5.507.4.1.1 shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed 50 dBA L_{eq} in occupied areas during any hour of operation. This requirement shall be documented by an acoustical analysis documenting interior sound levels prepared by personnel approved by the architect or engineer of record.

City of San Carlos Municipal Code

The City of San Carlos Municipal Code Chapter 9.30 discusses noise control regulations. Chapter 9.30.070 Section B specifies that construction activities are exempt from noted regulations when limited to Monday through Friday between 8:00 AM and 6:00 PM, and Saturday and Sunday between 9:00 AM and 5:00 PM. No construction noise-related activities are permitted on holidays listed in the Municipal Code. All gasoline-powered construction equipment is required to be equipped with an operating muffler or baffling system as originally provided by the manufacturer, and no modification to the systems is permitted (the Building Official shall have the authority to grant exceptions in specific cases).

City of San Carlos General Plan

The City of San Carlos General Plan provides guidance for the control of noise to protect residents, workers, and visitors from potentially adverse noise impacts. Its primary goal is to regulate long-term noise impacts to preserve acceptable noise environments for all types of land uses. Figure 9-1 in the City's General Plan Noise Element provides land use and noise compatibility standards for various land uses in the City. For commercial land uses, noise levels up to 70 dBA Ldn are considered "Normally Acceptable." Single-family residential land uses are considered "Normally Acceptable" up to 50 dBA Ldn and "Conditionally Acceptable" up to 75 dBA Ldn, and multifamily residential land uses are considered "Normally Acceptable" up to 65 dBA Ldn and "Conditionally Acceptable" up to 75 dBA Ldn.

The General Plan Noise Element also includes the following policies that may be applicable to the proposed project:

- **Policy NOI-1.1:** Use the Noise and Land Use Compatibility Standards shown in Figure 9-1, in the noise level performance standards in Table 9-1 and the projected future noise contours for the General Plan shown in Figure 9-3 and detailed in Table 9-2, as a guide for future planning and development decisions.
- **Policy NOI-1.2:** Minimize noise impacts on noise-sensitive land uses. Noise-sensitive land uses include residential uses, retirement homes, hotel/motels, schools, libraries, community centers, places of public assembly, daycare facilities, churches, and hospitals.
- **Policy NOI-1.3:** Limit noise impacts on noise-sensitive land uses to noise level standards as indicated in Table 9-1.
- **Policy NOI-1.8:** During all phases of construction activity, reasonable noise reduction measures shall be utilized to minimize the exposure of neighboring properties to excessive noise levels.
    a. Construction activities shall comply with the City's noise ordinance.
- **Policy NOI-1.12:** Ensure consistency with the noise compatibility policies and criteria contained in the San Carlos Airport Land Use Plan.
- **Action NOI-1.4:** Require the evaluation of mitigation measures for projects that would cause the following criteria to be exceeded or would cause a significant adverse community response:
    a. Cause the Ldn at noise-sensitive uses to increase by 3 dB or more and exceed the "normally acceptable" level.
    b. Cause the Ldn at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable."
    c. Cause noise levels to exceed the limits in Table 9-1.

Table 9-1 of the City's General Plan is presented below in Table 3-17. Only land uses relevant to the proposed project are shown.

Table 3-17. San Carlos General Plan Non-Transportation Noise Standards

Land Use Receiving the Noise	Hourly Noise-Level Descriptor	Exterior Noise-Level Standard in Any Hour (dBA)		Interior Noise-Level Standard in Any Hour (dBA)	
		Daytime (7AM – 10PM)	Nighttime (10PM – 7AM)	Daytime (7AM – 10PM)	Nighttime (10PM – 7AM)
Residential	Leq	55	45	40	30
	Lmax	70	60	55	45

Source: City of San Carlos 2009, Table 9-1

Notes:

1. The Residential standards shall apply to all residentially zoned properties.
2. Each of the noise levels specified above shall be lowered by 5 dBA for tonal noises characterized by a whine, screech, or hum, noise consisting primarily of speech or music, or reoccurring impulsive noises.
3. In situations where the existing noise level exceeds the noise levels indicated in the above table, any new noise source must include mitigation that reduces the noise level of the noise source to the existing level.
4. The exterior noise standards are measured at any point on the receiving property where there is, or could be in the future, frequent human use and quiet would be beneficial.
5. These standards do not apply to temporary sources such as construction activities.

City of Belmont General Plan

Table 7-3 of the City of Belmont General Plan, which is recreated below as Table 3-18 in this Initial Study, contains noise criteria and guidelines for stationary sources. Daytime noise levels (occurring from 8 AM to sunset on weekdays, or 10 AM to sunset on Saturday, Sunday, and holidays) are limited to 50 dBA Leq and 70 dBA Lmax. Nighttime noise levels are limited to 45 dBA Leq and 65 dBA Lmax.

Table 3-18. Belmont General Plan Noise Standards for Stationary Noise Sources

Sound Level	Daytime(A)(B)	Nighttime(A)(C)
Hourly Equivalent Sound Level (Leq), dBA	50	45
Maximum Sound Level (Lmax), dBA	70	65

Source: City of Belmont 2017, Table 7-3
Notes:
(A) Sound level measurements shall be made at a point on the receiving property nearest where the sound source at issue generates the highest sound level
(B) Daytime is the period from 8 AM to sunset, Monday through Friday, and from 10 AM to sunset, Saturday, Sunday, and Holidays.
(C) Nighttime is the period outside of the daytime hours above.

3.13.3 Discussion

Would the project result in:

a) **Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?**

Less than Significant Impact. Construction and operation of the proposed project would not result in a temporary or permanent increase in ambient noise levels in the vicinity of the project site that are in excess of standards established in the City's General Plan or Noise Ordinance, nor would it conflict with other applicable local, state, or federal standards.

Short-term, Temporary Construction Noise Levels

As described in Section 2.3.7, construction of the proposed project is anticipated to take approximately 25 months. During this time, heavy-duty off-road equipment (e.g., bulldozers, backhoes, loaders, etc.) would be required during demolition, grading and excavation, and development of the proposed research and development building. These activities could temporarily increase noise levels at adjacent properties. Typical noise levels that could be generated by equipment at the site are presented below in Table 3-19.

Table 3-19. Typical Construction Equipment Noise Levels

Equipment	Noise Level at 50 feet (Lmax)(A)	Percent Usage Factor(B)	Predicted Equipment Noise Levels (Leq)(C)					
			50 Feet	100 Feet	150 Feet	200 Feet	250 Feet	300 Feet
Backhoe	80	40	76	70	66	64	62	60
Bulldozer	85	40	81	75	71	69	67	65
Crane	85	16	77	71	67	65	63	61
Excavator	85	40	81	75	71	69	67	65
Pneumatic tools	85	50	82	76	72	70	68	66
Delivery Truck	85	40	81	75	71	69	67	65
Vibratory Roller	80	20	73	67	63	61	59	57

Sources: Caltrans, 2013; FHWA, 2010
(A) L_{max} noise levels based on manufacturer's specifications.
(B) Usage factor refers to the amount (percent) of time the equipment produces noise over the time period

Table 3-19. Typical Construction Equipment Noise Levels								
Equipment	Noise Level at 50 feet (Lmax)(A)	Percent Usage Factor(B)	Predicted Equipment Noise Levels (Leq)(C)					
			50 Feet	100 Feet	150 Feet	200 Feet	250 Feet	300 Feet
(C) Estimate does not account for any atmospheric or ground attenuation factors. Calculated noise levels based on Caltrans, 2009: L_{eq} (hourly) = L_{max} at 50 feet – 20log (D/50) + 10log (UF), where: L_{max} = reference L_{max} from manufacturer or other source; D = distance of interest; UF = usage fraction or fraction of time period of interest equipment is in use.								

As shown in Table 3-19, the worst case Leq and Lmax construction equipment noise levels associated with the project are predicted to be approximately 82 and 85 dBA, respectively, at 50 feet. When two or more pieces of equipment are operating in close proximity, construction noise levels could be approximately 85 dBA Leq and 88 dBA Lmax at a distance of 50 feet. These are considered to be worst-case noise levels, as the actual magnitude of the project's temporary and periodic increase in ambient noise levels would depend on the nature of the construction activity (e.g., demolishing the existing buildings, grading / excavation, etc.) and the distance between the construction activity and receptor areas.

At a distance of 410 feet (i.e., the distance from the closest residential receptor location to the project site), construction noise from a bulldozer (i.e., one of the loudest pieces of equipment that would operate at the site) would be approximately 64 dBA Leq. If two bulldozers were operating concurrently at the project boundary, noise levels could approach 67 dBA Leq.

In general, noise levels associated with construction are anticipated to be much lower than 67 dBA Leq at residential locations to the east of the project site (and possibly to the north of the project site if the residential dwelling units proposed at 608 Harbor Blvd become inhabited before the proposed project is finished), because:

1. The 67 dBA noise level estimate reflects two pieces of equipment operating at the property boundary. In actuality, equipment would primarily operate further into the site (i.e., to the east) away from residential receptor locations. A greater amount of distance between the equipment and the receptor would result in lower noise levels due to atmospheric attenuation. For example, two bulldozers operating at a distance of 660 feet (i.e., the approximate distance from the residential receptors to the approximate center of the project site) would generate noise levels of approximately 63 dBA Leq, which is only approximately 1 dBA higher than the existing noise environment, based on a short-term measurement collected in the Belmont community to the west as part of the environmental documentation being prepared for the project being proposed at 601 Harbor Blvd (ICF, 2021). A project noise level that is 1 dBA higher than the existing ambient would result in an approximately 4 dBA increase in overall noise levels, which would likely be imperceptible to the human ear (see "Sound Characterization" under Section 3.13.1). This particularly true in a complex noise environment, such as that near the project site with industrial sources, vehicles on El Camino Real, Caltrain operating between the project site and receptor locations, etc.. Further, noise levels would be even lower at the residential project site being proposed at 608 Harbor Blvd, since it is further away than the receptors to the west.
2. As project construction ensues, some pieces of equipment (e.g., excavators) may operate below grade, as the area for the structure is excavated. When equipment is below grade, the earthen walls of the excavated area and/or soil stockpile could serve as barriers between the source of noise and receptor locations.
3. There are existing buildings and a sound wall on the west side of Old County Rd, which would also serve as barriers and help inhibit the transmission of noise from the project site to receptor locations west of the project site.

Construction noise would be intermittent, occurring only when equipment is in operation. Consistent with San Carlos Municipal Code Section 9.30.070-B, construction activities at the site would only occur between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday, and between 9:00 a.m. and 5:00 p.m. on Saturdays and Sundays. Construction activities would not occur on holidays. The timeframes in which construction noise is exempt avoid noise-sensitive nighttime hours. The noise generated from project construction would be prolonged but temporary (construction would last approximately 25 months) and would not produce the same sound levels every day. Construction activities would occur within the permissible timeframes identified in the City's Municipal Code, would not substantially increase the ambient noise environment at sensitive receptor locations, and would not conflict with any applicable standards. The proposed project would be consistent with General Plan Policy NOI-1.8.

Land Use Compatibility

Figure 9-1 in the City's General Plan Noise Element provides land use and noise compatibility standards for various land uses in the City. For commercial land uses, noise levels up to 70 dBA Ldn are considered "Normally Acceptable." As described under "Existing Noise Environment"," sound levels at the project site are approximately 65 Ldn, which is below the "Normally Acceptable" land use compatibility standard of 70 dBA Ldn. The project, therefore, would be located in a noise environment that is appropriate for its designated use, and is consistent with General Plan Policy NOI-1.1.

The proposed project's land use and location is also consistent with the San Carlos Airport Land Use Plan. Therefore, the project would be consistent with General Plan Policy NOI-1.12.

Long-term, Operational Noise Levels

Once constructed, the proposed project would generate noise from daily activities typical of a research and development building, including on- and off-site vehicle trips and stationary sources (e.g., chillers, exhaust fans, air handling units, etc.).

The proposed project's on-site noise sources would include:

- Three 1,250 kW generators proposed on the east side of the South Building
- Automobile activities in the parking garage (e.g., car horns, doors slamming, cares starting, etc.).
- Stationary sources on the top of the North Building and South Building, including:
    - Air Handling Units
    - Chillers
    - Chiller Towers
    - Heat Pumps
    - Exhaust Fans

It is anticipated that these types of noise (e.g., operation of vehicles, fans operating for various purposes – such as heating, ventilation, and air conditioning (HVAC), etc.) would be similar in nature to those that currently exist at the site, but that the proposed project would relocate these sources and increase the number of sources operating.

The operational noise analysis utilized noise level data provided by the project applicant for the equipment proposed for the top of each building, as well as trip generation information prepared for the project by Hexagon Transportation Consultants. Operational noise levels were estimated at sensitive receptor locations to the north of the project site (i.e., for the potential, future residential receptors at 608 Harbor Blvd) and to the west of the site (i.e., for residences located along 5th Ave). Please see Appendix F for specific information regarding reference noise levels for the various sources as well as the methodology employed to estimate the project's operational noise levels at those locations. The following analyzes project consistency with

General Plan Policy NOI-1.3 and General Plan Action NOI-1.4. Since the City's standards address noise specifically from non-transportation noise sources, as well as cumulative noise from project (e.g., stationary and transportation noise sources), these issues are discussed separately.

Hourly Project Daytime and Nighttime Operational Noise from Stationary Sources

Table 9-1 of the City's General Plan, recreated above as Table 3-17 and referred to in General Plan Policy NOI-1.3, sets forth noise level standards for non-transportation-related noise sources. As shown in Table 3-17, the City of San Carlos maintains daytime and nighttime average noise level standards of 55 dBA and 45 dBA, respectively, for non-transportation-related noise sources at receiving residential land uses. As provided for in footnote 3 of Table 3-17, however, "In situations where the existing noise level exceeds the noise levels indicated in [Table 3-17], any new noise source must include mitigation that reduces the noise level of the noise source to the existing level." As described under "Existing Noise Environment" in Section 3.13.1, the existing ambient daytime noise environment in the Belmont community west of the project site is approximately 62 dBA, and the existing ambient daytime noise environment north of the project site near potential future residential receptors at 608 Harbor Blvd is approximately 66 dBA. Both of these noise levels exceed the San Carlos' General Plan daytime standard of 55 dBA; thus, the 62 dBA and 66 dBA noise measurement data are used as the daytime standard for this analysis, consistent with that allowed for in the City's General Plan.

As described previously, operation of the proposed project would generate noise from stationary sources, including emergency backup generators, and various pieces of equipment on top of the rooves of the North Building and South Building.[14] Table 3-20 and Table 3-21 below summarize the daytime and nighttime noise levels associated with the proposed project, respectively, and compare them against existing ambient noise levels, which serve as the noise level standards for the project.

Table 3-20. Project Operational Noise Levels (Daytime; Hourly)

Receptor Location	Noise Levels (Leq; dBA)		Project Exceed Ambient?
	Project(A)	Existing Ambient(B)	
Single Family Residential Receptors (5th Ave)	59.1	61.6	No
Multifamily Residential Receptors (608 Harbor Blvd)	57.0	65.8	No

Source: MIG 2022, see Appendix F
Notes:
(A) As provided for in Appendix F, daytime hourly noise levels assume operation of all rooftop equipment for the entire hour.
(B) Data obtained from the Technical Noise Study prepared by ICF for the project proposed at 601 Harbor Blvd (ICF 2021).

[14] Given the location of the diesel generators, on the eastern side of the South Building, noise levels associated with the operation of these pieces of equipment were not included in the analysis. The shielding provided by the South Building and parking garage would sufficiently block the noise from receptor locations to the west and north, respectively, such that the operation of these pieces of equipment would not noticeably contribute to ambient noise levels at sensitive receptor locations.

Table 3-21. Project Operational Noise Levels (Nighttime; Hourly)			
Receptor Location	**Noise Levels (Leq; dBA)**		**Project Exceed Ambient?**
	Project(A)	**Existing Ambient(B)**	
Single Family Residential Receptors (5th Ave)	56.1	58.0	No
Multifamily Residential Receptors (608 Harbor Blvd)	54.0	58.0	No

Source: MIG 2022, see Appendix F
Notes:
(A) As provided for in Appendix F, nighttime hourly noise levels assume operation of all rooftop equipment for 30 minutes in the given hour.
(B) Actual nighttime noise levels not available; however, if an Ldn is calculated using the daytime noise level measurements (62 dBA and 66 dBA; see Table 3-20), along with these assumed nighttime values, 24-hour noise level measurements would be approximately 65.3 and 66.9 dBA Ldn for the residential receptors at 5th Ave and 608 Harbor Blvd, respectively. As described under "Existing Ambient Noise Environment," 24-hour ambient noise levels at 5th Ave are estimated to be approximately 69 dBA Ldn. The use of 58.0 dBA for the nighttime measurement is considered appropriate and conservative, given that the Ldn values calculated from the daytime and assumed nighttime noise levels (65.3 and 66.9 dBA Ldn) are less than that observed at BVSP-2 (i.e., the 69 dBA Ldn metric). Either daytime or nighttime noise levels would have to be increased at 5th Ave and 608 Harbor Blvd in order to reach a calculated value of 69 dBA Ldn.

As shown in Table 3-20 and Table 3-21, the noise levels associated with the proposed project would not exceed the existing daytime and nighttime ambient noise levels. Therefore, stationary noise levels associated with the proposed project would be consistent with General Plan Policy NOI-1.3.

<u>24-hour Project Operational Noise Levels</u>

Action NOI-1.4 of the City's General Plan sets forth criteria for evaluating the significance of changes in 24-hour noise levels associated with the implementation of projects. As described under "Existing Ambient Noise Environment," 24-hour noise level measurements collected in 2017 at BVSP-2 indicate that the existing ambient noise environment at the 5th Ave residences is approximately 69 dBA Ldn, which is considered to be "Conditionally Acceptable." A 24-hour noise level reading of 69 dBA Ldn is also considered "Conditionally Acceptable" for multifamily residential land uses, such as the potential residential receptors that could be located at 608 Harbor Blvd should that project be approved. Thus, based on the criteria identified in General Plan Action NOI-1.4, a significant impact would occur if the project would increase long-term 24-hour noise levels by 3 dBA Ldn or more. Table 3-22, below, summarizes 24-hour noise levels associated with the project and the extent to which the proposed project could change the existing ambient noise environment at sensitive receptor locations in proximity of the project site.

As shown in Table 3-22, the proposed project would not increase the ambient noise environment by more than 3 dBA Leq at any sensitive receptor location. Therefore, the project would be consistent with General Plan Action NOI-1.4.

Table 3-22. Project Operational Noise Levels (24-Hour)					
Receptor Location	**Noise Levels (Ldn)**				**More than 3 dBA Ldn?**
	Project(A)	**Existing Ambient(B)**	**Project + Ambient**	**Change**	
Single Family Residential Receptors (5th Ave)	63.1	69.0	70.0	+1.0	No
Multifamily Residential Receptors (608 Harbor Blvd)	61.0	69.0	69.6	+0.6	No

Source: MIG 2022, see Appendix E
Notes:
(A) The 24-hour project noise levels at 608 Harbor Blvd include noise generated from operation of automobiles in the parking garage. Parking garage noise is not included in the project noise levels for 5th Avenue, because the North Building would be located between the parking garage and those receptors, effectively blocking noise from the parking garage at that receptor location.
(B) Based on measurement BVSP-2 collected in 2017 as part of the EIR prepared for the Belmont General Plan and Belmont Village Specific Plan. Applying the 69.0 dBA Ldn noise level to 608 Harbor Blvd is considered conservative, because the daytime noise level measurements collected by ICF in 2021 indicate that daytime noise levels are higher than those in the Belmont community to the west of the project site. Thus, in actuality, 24-hour noise levels are likely higher and the incremental increase in ambient noise levels would be less than that which is stated.

Increases in Vehicle Noise

Caltrans considers a doubling of total traffic volume to result in a three dBA increase in traffic-related noise levels (Caltrans, 2013). If the proposed project would not result in a doubling of traffic volumes on the local roadway system, it would not result in a substantial permanent increase in traffic-related noise levels. Although the proposed project would increase traffic volumes along Old County Road and Quarry Road, it would not be at a rate that doubles the current volume. The project, therefore, would not result in a substantial, permanent increase in noise levels in proximity of the proposed project.

Other General Plan Policy Considerations and Conclusion

Policy NOI-1.2 contained in the City's General Plan Noise Element requires projects to minimize noise impacts on noise-sensitive land uses, including residential uses. As discussed above, construction noise associated with the proposed project would not substantially increase noise levels at residential receptor locations. Various factors, such as shielding provided by existing buildings / walls on the west side of Old County Rd, equipment operating below grade during excavation activities, and compliance with the City's permissible construction hours as identified in in the Municipal Code would help minimize noise impacts during construction. Further, the project would not result in a result in substantial, permanent increase in noise levels, nor would it conflict with applicable noise standards.

The noise level standards maintained by the City of Belmont are slightly lower than those in the City of San Carlos; however, as detailed in the operational analysis above, the existing ambient noise levels at receptor locations are in excess of the standards maintained by the City of San Carlos and City of Belmont. Thus, it is neither practical nor necessary for project noise sources to be reduced so far below the existing ambient environment to avoid a significant impact. As detailed in Table 3-20 through Table 3-22, operational project noise levels would be below existing daytime and nighttime ambient noise levels, and the project would not cause a significant increase (i.e., more than 3.0 dBA Ldn) in long-term noise levels. The project would be consistent with applicable noise level standards and would not result in a significant short- or long-term noise impact. This impact would be less than significant.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. Vibration is the movement of particles within a medium or object such as the ground or a building. As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency. Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared, in inches per second (in/sec). PPV represents the maximum instantaneous positive or negative peak of a vibration signal and is most appropriate for evaluating the potential for building damage. Human response to groundborne vibration is subjective and varies from person to person. Caltrans' Transportation and *Construction Vibration Guidance Manual* provides a summary of vibration criteria that have been reported by researchers, organizations, and governmental agencies (Caltrans, 2018). Chapters six and seven of this manual summarize vibration detection and annoyance criteria from various agencies and provide criteria for evaluating potential vibration impacts on buildings and humans from transportation and construction projects. These thresholds are summarized in Table 3-23 and Table 3-24.

Table 3-23. Caltrans' Vibration Criteria for Building Damage

Structural Integrity	Maximum PPV (in/sec)	
	Transient	Continuous
Extremely fragile buildings, ruins, monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some older buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial and commercial structures	2.00	0.50
Source: Caltrans, 2018		

Table 3-24. Caltrans' Vibration Criteria for Human Response

Human Response	Maximum PPV (in/sec)	
	Transient	Continuous
Barely perceptible	0.035	0.012
Distinctly perceptible	0.24	0.035
Strongly perceptible	0.90	0.10
Severely perceptible	2.00	0.40
Source: Caltrans, 2018		

Development of the proposed project would not require rock blasting, or pile driving, but could require use a vibratory roller, large bulldozer, and loaded trucks. Construction activities that use vibratory rollers and bulldozers would be mobile and not operate at the same location for a prolonged period of time; therefore, the transient criteria is used. The nearest commercial land use adjacent to the project site is to the east (i.e., the building housing the SF Chronical and/or CellLink). To evaluate potential impacts, the Modern Industrial and Commercial Structures criteria is used. As shown in Table 3-25, the operation of a vibratory roller could generate groundborne vibration of approximately 0.098 in/sec PPV at a distance of 50 feet. Based on the criteria summarized in Table 3-23, this would not cause damage to any structures.

Table 3-25. Groundborne Vibration Estimates				
Equipment	**Reference PPV at 25 feet (inches/second)**	**Reference Lv at 25 feet (dBV)**	**Estimated PPV at 50 feet (inches/second)**	**Estimated Lv at 50 feet (dBV)**
Auger Drill Rig	0.089	87.0	0.042	78.0
Vibratory roller	0.21	94.0	0.098	85.0
Large bulldozer	0.089	87.0	0.042	78.0
Small bulldozer	0.003	58.0	0.014	49.0
Loaded truck	0.076	86.0	0.035	77.0
Jackhammer	0.035	79.0	0.016	70.0

Source: Caltrans 2018; FTA 2006

Notes: Estimated PPV calculated as: PPV(D)= PPVref*(25/D)^1.1 where PPV(D)= Estimated PPV @ Distance, PPVref=Reference PPV @ 25 feet, D=Distance from equipment to receiver, and 1.1=ground attenuation rate

Estimated Lv calculated as: Lv(D)=Lv(25 feet)-30log(D/25) where Lv(D)=velocity level in decibels, and v=RMS velocity amplitude @ 25 feet

Although some construction activities may generate groundborne vibration that is slightly perceptible (i.e., between barely perceptible and distinctly perceptible thresholds for transient sources shown in Table 3-24), this impact would be less than significant for a number of reasons. First, the majority of equipment that have the potential to generate groundborne vibration would be mobile, meaning that they would not operate at the same location and expose a potential receptor to vibration for a prolonged amount of time. The one exception to this would be the auger drill rig, which may be used in the same location (e.g., near the parking garage site), for up to about a month to a month-and-a-half. Second, equipment is unlikely to operate near the property boundary on a frequent basis. Instead, the equipment would likely be used on the interior of the site where the majority of development would occur. Third, the receptors at the commercial property would be transient, meaning that they would not be subject to vibration on a frequent basis or continuously while they are at the site. Finally, equipment operation that could generate groundborne vibration would be short-term, since most activities that would have the potential to generate perceptible groundborne vibration would occur during demolition, grading and excavation, and foundation construction which are only anticipated to last approximately a few of months. As such, the proposed project would not generate excessive groundborne vibration or groundborne noise levels. This impact would be less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Less than Significant Impact. The project site is approximately 0.8 miles from the runway of the San Carlos Airport. As a result, arriving and departing aircraft contribute to the ambient noise in the vicinity of the proposed project. The majority of air traffic is due to general aviation aircraft, with the airport also housing a small number of helicopters. According to the General Plan, the project site is outside of the 55 CNEL contour. While single-event noise from over-flights could momentarily elevate noise levels at the project site, the 55 dBA CNEL noise levels attributed to airport noise are notably lower than the existing ambient noise level at the site (approximately 65 dBA Ldn; see “Existing Noise Environment”). The proposed project would not expose people working at the project site to excessing noise levels. This impact would be less than significant.

3.13.4 References

California Department of Transportation (Caltrans) 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol.* Sacramento, California. September 2013.

______2018. *Transportation and Construction Vibration Guidance Manual*. Sacramento, California. April 2018.

City/County Association of Governments of San Mateo County (C/CAG) 2015. *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Carlos Airport,* Exhibits 4-3, *San Carlos Airport Safety Zones*, on page 4-16 and 4-4, *San Carlos Airport Part 77 Airspace Protection Surfaces* on page 4-31, and Table 2-4, *Safety Compatibility Criteria on* p. 4-25. Adopted October 2015.

City of Belmont 2017. 2035 General Plan Noise Element. Adopted November 14, 2017.

City of San Carlos (San Carlos) 2009. 2030 General Plan Noise Element. Adopted October 12, 2009.

ICF. 2021. Noise Technical Report 1421 Old County Road Project. November 2021.

U.S. Federal Transit Administration (FTA) 2006. *Transit Noise and Vibration Assessment*. FTA-VA-90-1003-06. Washington, DC. May 2006.

3.14 POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Induce a substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1 Environmental Setting

The project site is located in the Harbor Industrial Area of the City of San Carlos and is currently developed with warehouse/retail/ manufacturing/office buildings providing tenant spaces for businesses involving auto and boat repair/painting, storage, stone cutting, countertop construction and storage, water filtration development, and offices.

According to the US Census Bureau, the City of San Carlos has a population of approximately 30,722, including 11,223 households (U.S. Census Bureau 2020). The City's population is projected to reach 35,245 by the year 2040 (MTC/ABAG 2017). The proposed project is intended to provide office and research space for life sciences within the City of San Carlos.

3.14.2 Regulatory Setting

Plan Bay Area 2050

Plan bay Area 2050, adopted in 2021, is the Metropolitan Transportation Commission's (MTC) and Association of Bay Area Government's (ABAG) regional, long-range planning document for the San Francisco Bay Area. *Plan Bay Area 2050* outlines strategies for growth and investment through the year 2050, while simultaneously striving to meet and exceed federal and state requirements. *Plan Bay Area 2050* does not fund projects or change local policies, rather, it includes actions for future investment in infrastructure, housing, public transportation systems, and resilient environments, and lays out public policies necessary to realize a future growth pattern for housing and jobs. *Plan Bay Area 2040*, adopted in 2017, was the previous iteration of Plan Bay Area, and included employment and household projections through 2040.

3.14.3 Discussion

Would the project:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less than Significant Impact. The project does not include any residential development that would directly increase population growth. The proposed project would involve the development and operation of a new life science building whose future tenants could provide jobs for approximately 1,400 employees. As discussed in Land Use section 3.11.3, the proposed project's development intensity (FAR of 3.13 including the covered parking structure) would be inconsistent with its existing zoning designation (1.0 FAR). Excluding the above grade parking from the FAR calculations would result in a FAR of 2.0, which facilitate additional employment growth beyond that presently planned for the site under current zoning. The proposed FAR exceeds the development intensity of the current Light Industrial zone district but would be consistent with the proposed rezoning to a Planned Development district. The proposed FAR is within the General Plan projections for future development.

The proposed project is anticipated to employ approximately 1,400 employees. While the existing land use at the site supports some employment, the majority of employees at the site would be new under the proposed project. According to estimates provided in *Plan Bay Area 2040*, the City of San Carlos is estimated to generate approximately 2,800 new jobs between 2010 and 2040; the proposed project, therefore represents approximately 50 percent of that total (MTC/ABAG 2017). The City's 2030 General Plan EIR (DCE 2009) projects a jobs increase of roughly 9,000 employees between 2008 and 2030; the proposed project represents approximately 15 percent of that growth.

It is unlikely future population growth in the City alone would be able to meet the expected job growth generated by the project; however, the project also would not induce population growth beyond that which has already been planned for. The project is expected to draw employees from within the City, as well as the surrounding cities and the greater San Francisco Bay Area region. For context, *Plan Bay Area 2050* estimates that the San Francisco Bay Area region as a whole will add 1.4 million new jobs from 2015 to 2050 (MTC/ABAG 2021). In comparison to regional job growth estimates, the project would amount to a small percentage in new job growth. Further, given many of the recent development projects in San Carlos have consisted of redeveloping sites that already provide employment (i.e., the redevelopment of other project sites incrementally increases employment on those sites in a nominal way). The new employment associated with the proposed project would be within the forecasted employment growth in San Carlos identified by the City's 2030 General Plan and by ABAG. The proposed project's potential impact on growth from new employment would be less than significant.

The proposed project also does not include the construction of infrastructure or roads which could indirectly induce additional population growth. This impact would be less than significant.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The project site does not contain any residential units and would not displace housing or people. Therefore, the project would not displace any people or necessitate the construction of replacement housing elsewhere. No impact would occur.

3.14.4 References

Design Community & Environment (DCE). 2009. San Carlos 2030 General Plan EIR. Public Review Draft. June 25.

Metropolitan Transportation Commission / Association of Bay Area Governments (MTC/ABAG). 2017. *Plan Bay Area 2040 Land Use Modeling Report.* July 2017. Accessed January 25, 2022 at http://2040.planbayarea.org/files/2020-02/Land_Use_Modeling_PBA2040_Supplemental%20Report_7-2017.pdf.

______. 2021. *Plan Bay Area 2050 Forecasting and Modeling Report.* October 2021. Accessed January 25, 2022 at https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_Forecasting_Modeling_Report_October_2021.pdf.

U.S. Census Bureau. 2021. QuickFacts, San Carlos city, California; United States. Accessed January 10, 2022 at https://www.census.gov/quickfacts/fact/table/sancarloscitycalifornia,US/PST045221.

3.15 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☒	☐
iv) Parks?	☐	☐	☒	☐
v) Other public facilities?	☐	☐	☒	☐

3.15.1 Environmental Setting

Public service providers in San Carlos that would serve the proposed project include the following:

- Redwood City-San Carlos Fire Departments (RC-SCFD), a joint powers and governmental agency, provides fire and emergency response services to the cities of San Carlos and Redwood City. The closest San Carlos fire station to the project site is located at 525 Laurel Street approximately 0.8 miles southeast of the project site.
- The San Carlos Police Bureau, a division of the San Mateo County Sheriff's Office, provides police protection services in the City.
- The project site is within the boundaries of the San Carlos School District and the Sequoia Union High School District. The schools closest to the project site are Central Middle School, located approximately 1.5 miles south of the project site, and Arundel Elementary School, located approximately 1.7 miles south of the project site.
- The San Mateo County library district governs and administers 12 community libraries. The closest library to the project site is the San Carlos Library located at 610 Elm Street approximately 1.2 miles south of the project site.
- The City of San Carlos Department of Parks and Recreation owns and manages 16 parks. The closest park to the project site is Laureola Park located approximately 0.7 miles southeast of the project site (Google Maps 2022).

3.15.2 Discussion

Would the project:

a) **Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

   i) **Fire protection?**

   ii) **Police?**

   iii) **Schools?**

   iv) **Parks?**

   v) **Other public facilities?**

Less than Significant Impact (Responses i – v). The proposed project would have a significant environmental impact if it would exceed the ability of fire and emergency medical responders and law enforcement to adequately serve the project site, thereby requiring construction of new facilities or modification of existing facilities, the construction of which could cause significant environmental impacts.

At capacity, the proposed project could result in approximately 1,400 new employees in the City. Accordingly, the proposed project would generate additional jobs in San Carlos beyond what currently exists at the site. Although the relationship is not directly proportional, more intense uses of land typically result in the increased potential for fire and emergency incidents. Therefore, the proposed project could create an increased demand for fire and police protection services.

Fire service delivery in San Mateo County is borderless and therefore other fire departments service other cities as needed. San Carlos Fire Station 13, located at 525 Laurel Street, is the closest fire station to the project site, located 0.8 miles to the southeast. Fire Station 13 is owned by the City of San Carlos and operated by the Redwood City Fire Department under a contractual agreement between the City of Redwood City and the City of San Carlos. The proposed project could potentially increase the number and frequency of calls for service by the RC-SCFD from the addition of transient population on the project site; however, because the project site would be located less than one mile from Fire Station 13, response times for many calls from the project site would be expected to fall within the RC-SCFD's response time goals.

Although the proposed project would increase the number of persons and level of activity on the project site, it is reasonable to expect that the proposed project would not result in a meaningful increase in the amount of crime in the project vicinity. As such, the effect that the proposed project would have on police response times is considered to be minimal.

In addition, increases in demand for services would be offset through payment of development fees and annual taxes, a portion of which go toward ongoing provision of and improvements to public services. Therefore, considering the project's proximity to Fire Station 13 and the surrounding light industrial and commercial land uses, constructing new or expanded public facilities would not be necessary to maintain acceptable service ratios, response times, or other performance objectives for fire and police protection services. Proposed project impacts related to fire and police protection services would be less than significant.

The proposed project involves light industrial research laboratory and office development; it does not propose residential dwelling units, nor would it result in population growth beyond that already planned for (see Population and Housing section 3.14.3). Therefore, the proposed project would not impact schools, libraries, or other public facilities. This impact would be less than significant.

3.15.3 References

Google Maps. 2022. Accessed on October 20, 2022.

3.16 RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

3.16.1 Environmental Setting

The City of San Carlos Department of Parks and Recreation is responsible for the maintenance of the City's 16 parks within the city limit (San Carlos 2009). The City of San Carlos has adopted a parkland dedication standard of 2.5 acres of parkland for every 1,000 residents. There are a total of approximately 62.5 acres of existing traditional developed parkland in San Carlos, or approximately 2.09 acres per 1,000 residents, based on an existing population of 29,860 people in 2018. Laureola Park in San Carlos, and Twin Pines Park in Belmont are the closest parks to the project site, located 0.7 miles from the project site.

Regional park facilities operated by the Midpeninsula Open Space District (MROSD) and San Mateo County Parks could be used by residents of the project site. The closest MROSD parks to San Carlos are Pulgas Ridge Open Space, Purisima Creek Redwoods, and Teague Hill. San Mateo County Parks manages five regional parks. The largest is the 467-acre Edgewood Preserve, located approximately three miles south of San Carlos. The California Department of Fish and Wildlife runs Bair Island, a 1,985-acre Ecological Preserve within the Don Edwards National Wildlife Refuge, located adjacent to the San Carlos in the wetlands of San Francisco Bay. Open space within San Carlos includes Bic Canyon Park, Eaton Park, and land designated as open space in the General Plan.

3.16.2 Discussion

Would the project:

a) **Increase the use of existing neighborhood or regional parks or other recreational facilities such that significant physical deterioration of the facility would occur or be accelerated?**

b) **Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

Less than Significant Impact (Responses a – b). There are no parks or recreational facilities within the immediate vicinity of the project site; the closest recreational facilities are Laureola Park and Twin Pines Park, approximately 0.7 miles from the project site. Because there are no parks or recreational facilities in the immediate vicinity of the project site, employees of the proposed project would not likely visit or use any of the recreational facilities. The project also includes on-site recreational amenities for tenant use.

The proposed project involves industrial research lab and office development; it does not propose residential dwelling units, nor would it result in population growth beyond that already planned for (see Section 3.14). The project, therefore, would not induce population growth that would necessitate the construction of new parkland or recreational facilities. The proposed project would not increase the use of existing neighborhood or regional parks such that significant physical deterioration would occur, nor would it require the construction or expansion of recreational facilities that could have an adverse physical effect on the environment. This impact would be less than significant.

3.16.3 References

City of San Carlos, 2009. San Carlos General Plan: Envision 2030. Adopted October 12, 2009.

3.17 TRANSPORTATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☐	☒
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3(b), which pertains to vehicle miles travelled?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☐	☒

3.17.1 Regulatory Setting

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) serves as the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area. The MTC is responsible for updating the regional transportation plan at least every four years to reflect new funding forecasts and adjust to new growth issues. Plan Bay Area 2050 is the current version of the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), adopted in 2017. Plan Bay Area 2050 is an updated version of Plan Bay Area, the region's integrated transportation and land use plan adopted in 2021. The Plan Bay Area 2050 Final Plan features a transportation project list that individually lists the projects and programs included by strategy, scope, area, and open period.

San Mateo County Congestion Management Program

The City/County Association of Governments of San Mateo County (C/CAG), as the Congestion Management Agency for San Mateo County, is required to prepare and adopt a Congestion Management Program (CMP) on a biennial basis. The purpose of the CMP is to identify strategies to respond to future transportation needs, develop procedures to alleviate and control congestion, and promote countywide solutions. The CMP is required to be consistent with the Metropolitan Transportation Commission (MTC) planning process that includes regional goals, policies, and projects for the Regional Transportation Improvement Program (RTIP).

Per C/CAG TDM policy (C/CAG 2022), any new development project anticipated to generate at least 100 average daily trips is subject to the TDM Policy and must complete a TDM Checklist and implement associated measures to mitigate traffic impacts.

Applicants shall select all "Required" TDM measures and enough "Additional Recommended" measures within the Checklist to meet the minimum targeted trip reduction requirement. For all project types, except two, the minimum trip reduction requirement is 35% below baseline ADT for the project site. Transit-Oriented Development (TOD) projects within 0.5 miles of MTC-defined "high-quality transit" and small multi-family residential projects have a minimum 25% trip reduction.

The TDM Checklist categorizes development projects according to their proximity to "high quality" transit, defined as a transit station or stop featuring maximum 15-minute service frequency (headways) during weekday peak hours between 6-10 a.m. and 3-7 p.m. Some measures will only be required of projects meeting one of the above three geographic criteria. The categories are:

1. Transit-Oriented Development (TOD) – project located within 0.5 miles of "high quality" transit.
2. Transit Proximate – project located between 0.5 – 3 miles of "high quality" transit.
3. Non-Transit Proximate – project located more than 3 miles from "high quality" transit.

If approved by the local jurisdiction, the project is to be conditioned upon approval of both implementation of the selected measures in the TDM Checklist and on-going monitoring and reporting requirements. Two years after initial occupancy the tenant, property owner or other responsible party will self-certify that the TDM Measures chosen during project approval and included in the entitlement by the jurisdiction, are being implemented. Every two years thereafter for the initial six years, the tenant/property owner will again self-certify that required TDM measures continue to be implemented and will also survey their employees. Thereafter this review will occur triennially until post-occupancy year 20.

San Carlos General Plan 2030

The San Carlos 2030 General Plan was adopted in 2009. The following relevant transportation policies are from the General Plan's Circulation and Scenic Highways Element.

- **Policy CSH-2.2:** Provide for adequate pedestrian and bicycle facilities as viable transportation alternatives in San Carlos.
- **Policy CSH-3.1:** Strive to reduce base-line and development-related traffic by 20 percent through public-private partnership efforts
- **Policy CSH-3.3:** Support the incorporation of Transportation Demand Measures in new development to reduce traffic impacts.
- **Policy CSH-3.11**: New developments and businesses shall be required to provide adequate loading, unloading and delivery areas, and/or shall be required to conduct such activities during nonbusiness/peak hours.
- **Policy CSH-6.1:** Bicycling and walking facilities should be incorporated into all new development projects to the maximum extent feasible.
- **Policy CSH-6.3:** Encourage developers to consider alternatives to at-grade parking for new development.
- **Policy CHS-7.1** Trails and paths intended for general circulation shall provide reasonably direct and convenient routes of travel for potential users.

San Carlos Municipal Code

<u>18.20 Parking and Loading</u>

Section 18.20.040 Required Parking Spaces provides the number of required on-site parking spaces by Land Use Classification. The project site is of Industrial Land Use, where offices are required to have 1 parking space per 300 sq ft of office; where research and development laboratories are required to have 1 parking space per 800 sq ft of laboratory.

Section 18.20.050 Parking Reductions includes provisions for reducing the number of required parking spaces. Subsection 18.20.050(A) allows a twenty percent reduction of the normally required number of spaces for projects subject to Transportation Demand Management (see Municipal Code section 18.25 below).

Section 18.20.080 Bicycle Parking provides the number of short-term and long-term parking required by land use as follows.

- Short-term: At least ten percent of the number of required automobile parking spaces.
- Long-term: Minimum ratio of one space per twenty vehicle spaces.

<u>18.25 Transportation Demand Management (TDM)</u>

Section 18.25 Transportation Demand Management (TDM) requirements apply to the 642 Quarry Road project as a new nonresidential development of 10,000 square feet or more.

Section 18.25.030 Performance Requirements provides all projects subject to the TDM requirements must incorporate measures to meet vehicle trip generation rates that are 20 percent lower than the standard rates as established in the most recent edition of the Institute of Transportation Engineers (ITE) trip generation manual. (Ord. 1438 § 4 (Exh. A(part)), 2011)).

Section 18.25.040 Trip Reduction Measures identifies the measures which can be implemented to achieve the required minimum vehicle trip generation reduction. These measures support alternate modes of transportation through ride-sharing; access to transit, pedestrian, and bicycle connections; showers and clothes lockers; paid parking; transit passes; shuttles; compressed or flextime work weeks; telecommuting; and site amenities to reduce off-site trips (e.g., banking ATMs, food service, exercise facilities, and childcare).

San Carlos Climate Action Plan

The City's Climate Action Plan, adopted in 2009, aims to achieve "a 15-percent reduction of emission levels by 2020 and a 35-percent reduction by 2030 based on 2005 emission levels. Strategy 60 requires TDM programs and monitoring programs to track effectiveness."

San Francisco Bay Area Commuter Benefits Program

Air District Regulation 14, Rule 1, also known as the Bay Area Commuter Benefits Program, requires employers with 50 or more full-time employees to register and offer commuter benefits to their employees. The purpose of this rule is to improve air quality, reduce emissions of greenhouse gases and other air pollutants, and decrease traffic congestion in the San Francisco Bay Area by encouraging employees to commute to work by transit and different alternative commute modes, including telework.

3.17.2 Discussion

Would the project:

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

No Impact. The proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. The project design new includes pedestrian and bicycle facilities and landscape amenities along the street frontage that are consistent with General Plan policies to encourage alternate modes of transportation. These facilities and amenities include trees in public realm improvements, bench seating, trash/recycling receptacles, bike share and bike racks, concrete seat walls, active recreation and flexible open spaces, shade structures, public plazas, and community botanical gardens (Appendix A, Sheet L2, Landscape Plan).

The additional traffic that would be generated by the proposed project is consistent with City's General Plan LOS standards, since all intersections in proximity of the project site are anticipated to operate at an acceptable level of service during the AM and PM peak hours (Hexagon 2022b). As such, the project does not conflict with City standards regarding roadway circulation.

In addition, both vehicular parking and bicycle parking provided by the project would be consistent with the City's General Plan policies and Municipal Code Sections as listed above.

Pursuant to Section 18.20.040, the project's 75/25 model for building use (75% office use, 25% laboratory use), and an additional 17 parking spaces for an on-site daycare (assuming 1 parking space per daycare employee), the project would provide parking spaces for a total of 938 cars for a total of 410,072 square feet. This meets the City's parking standards for the proposed land use at the site after the TDM bonus reduction of 20% is applied. The proposed project would also provide 94 short-term and 47 long-term bicycle parking spots, which meets the City's minimum requirements of 94 short-term and 47 long-term bicycle parking spots.

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3(b), which pertains to vehicle miles travelled?

Less Than Significant Impact. Vehicle miles traveled (VMT) associated with land use projects is the metric for assessing transportation impacts under CEQA. VMT is the total miles of travel by personal motorized vehicles that a project is expected to generate in a day. VMT measures the full distance of personal motorized vehicle-trips with one end within the project. Per CEQA Guidelines section 15064.3, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. The MTC and C/CAG both define "high quality" transit as a transit station or stop featuring maximum 15-minute service frequency during weekday peak hours between 6-10 a.m. and 3-7 p.m. (C/CAG 2022).

The project site is within one-half mile of El Camino Real and three SamTrans bus routes (El Camino Real at 5th Avenue, Harbor Avenue, and Ralston Avenue). The project site is also one-half mile of the Belmont Caltrain station at Old County Road and Ralston Avenue and less than one mile from the San Carlos Caltrain station at Old County Road and McCue Avenue (Hexagon 2022b).

Based on the project site's location within 0.2 miles from the ECR bus stop located at the intersection of El Camino Real and Harbor Boulevard, the project falls within the Transit Oriented Development (TOD) category. The project is therefore determined to have a less than significant transportation impact.

In conformance with the City's Transportation Management Plan Ordinance (Municipal Code 18.25), the project applicant prepared a TDM Plan (TDM Specialists 2021) for the project to reduce VMT. The plan would promote and encourage all alternative modes of transportation, including walking, bicycling, carpooling, vanpooling, telework, and public transit, by providing TDM infrastructure and physical amenities (parking for alternative transportation, public amenities, on-stie facilities, etc.), programmatic measures (transit passes, incentive programs, vanpool subsidies, etc.), and tenant commuter programs. The project is estimated to generate 3,713 daily vehicle trips (Hexagon 2022a) assuming a TDM Plan reduction of 20 percent of office and laboratory use trips required by City Municipal Code 18.25 (Hexagon 2020a). A 25 percent reduction in office and laboratory use trips in accordance with the C/CAG TDM Checklist for a non-residential land use large project would reduce the vehicle trips to 3,137 (Hexagon 2022b). Table 3-26 summarizes C/CAG-applicable measures to be implemented in the project TDM Plan (Appendix C) and how the planned TDM measures would result in a 34 percent trip reduction exceeding the City's 20 percent trip reduction requirement and the 25 percent C/CAG TDM Checklist. As a result, the project VMT is consistent with City Municipal Code requirements.

Table 3-26. Proposed C/CAG Trip Reduction Measures and Impact

Required Measures	Vehicle Trip Reduction Impact (%)
Parking Management for Ridesharing	1.00
TDM Management & Administration	17.00

Shuttles, Transit, and Ridesharing	13.00
Active Transportation	3.00
Total	**34.00**

In addition to the TDM Plan the City of San Carlos will identify additional requirements as a condition of approval. A draft condition of approval is presented as follows:

Additional TDM Plan Requirements – Draft Condition of Approval

The TDM Plan shall implement the following elements:

1. The project Applicant will designate an on-site Transportation Coordinator that will be responsible for implementation of the TDM Plan, including providing relevant TDM trip reduction and program information to all employees on site, and arranging for annual monitoring and employee surveys.
2. The project Applicant and the Project's Transportation Coordinator will be responsible for ensuring that the TDM Plan is implemented each year and an annual monitoring report is submitted to the City of San Carlos.
3. The TDM Plan annual monitoring will be prepared by an independent consultant per City of San Carlos Municipal Code Section 18.25.080. Regular monitoring will be necessary to ensure that the implemented TDM measures are effective and achieve the 20 percent trip reduction requirement. An independent consultant may include an outsourced Transportation Coordinator.
4. Consistent with common traffic engineering data collection practices, vehicle trip counts will be monitored annually. The counts will include daily, and peak hour traffic counts conducted between 7:00 a.m. and 9:00 a.m. and between 4:00 p.m. and 6:00 p.m. on three consecutive days per year on typical weekdays (Tuesday, Wednesday, or Thursday) during the fall when school is in session. Mechanical tube counts or video counts may be used. The peak 60-minute period will be calculated for both the a.m. and p.m. peak period.
5. An annual employee survey will be conducted by an independent consultant, or an outsourced Transportation Coordinator to determine employee transportation mode choice (e.g., drive alone, carpool, bus, train, bike, telework, etc.). The summarized results from the employee survey will provide quantitative data (e.g., mode split) and qualitative data (e.g., employee perception of alternative transportation programs).
6. The site Transportation Coordinator will obtain traffic count data, implement the annual employee commuter surveys, and document all findings in a TDM monitoring report. The Transportation Coordinator shall submit the annual monitoring report of TDM implementation to the City of San Carlos.
7. The City of San Carlos will review the TDM Plan monitoring data to assess whether the goal of a 20 percent trip reduction is being met. This will be assessed by comparing the driveway counts to the trip targets of this TDM plan report. If the City of San Carlos determines that the 20 percent trip reduction goal is not being achieved, additional TDM measures may be implemented. Modifications to the TDM Plan may include additional programs or substitute activities for achieving vehicle trip reductions. The annual TDM monitoring report will describe any planned modifications to the TDM program such that the 20 percent trip reduction is maintained or achieved by the following monitoring cycle.

If the 20-perent trip reduction goal is not met based on a five-year review of TDM monitoring reports, the City may impose reasonable changes to assure the program's objectives will be met.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The proposed project would not increase hazards due to a geometric design feature or incompatible uses. The project would create a new through driveway that connects Old County Road and Quarry Road with adequate site distance on both sides of the trip.

The proposed project also has delivery entrances and exits separate from public entrances and exits, which would decrease hazards. The new site access points and associated project vehicle trips are consistent with the designated land use and would not introduce a design safety hazard. No impact would occur.

d) Result in inadequate emergency access?

No Impact. The proposed project would have a through driveway that connects Old County Road to Quarry Road that would also serve as the fire access route. The driveway road would be 26 feet wide minimum and allow for two-way traffic off/into the site. There would be red painted curbs along the frontage of both roads and parts of the driveway to restrict public parking and allow for fire aerial apparatus access. Thus, emergency vehicles would have access throughout the project site. No impact would occur.

3.17.3 References

City/County Association of Governments of San Mateo County (C/CAG). 2022. Transportation Demand Management Policy Implementation Guide. Prepared by Advanced Mobility Group. Version 11, April 19. P

City of San Carlos. 2022. San Carlos Municipal Code Title 18: Zoning. Revised 1/22.

Hexagon Transportation Consultants (Hexagon). 2022a. 642 Quarry Road (San Carlos) Trip Generation 2022.05.10".

______. 2022b. Transportation Study for the Proposed 642 Quarry Road Project in San Carlos, California. November 14, 2022.

TDM Specialists, Inc. 2021. "Preliminary Transportation Demand Management Plan (Transportation Action Plan)".

3.18 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resources, defined in Public Resources Code section 21074 as either a site, feature, place cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	☐	☐	☒	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	☐	☐	☒	☐

3.18.1 Regulatory Setting

Assembly Bill (AB) 52 requires the CEQA lead agency consult with a California Native American Tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if the Tribe requests, in writing, to be informed by the lead agency through formal notification of the proposed projects in the area. The consultation is required before the determination of whether a negative declaration, mitigated negative declaration, or EIR is required. In addition, AB 52 includes time limits for certain responses regarding consultation. AB 52 also adds “tribal cultural resources” (TCRs) to the specific cultural resources protected under CEQA. CEQA Section 21084.3 has been added, which states that “public agencies shall, when feasible, avoid damaging effects to any tribal cultural resources.” Information shared by tribes as a result of AB 52 consultation shall be documented in a confidential file, as necessary, and made part of a lead agencies administrative record. In response to AB 52, City of San Carlos has not received any request from any Tribes in the geographic area with which it is traditionally and culturally affiliated with or otherwise to be notified about projects in the City of San Carlos.

A TCR is defined under AB 52 as a site, feature, place, cultural landscape that is geographically defined in terms of size and scope, sacred place, and object with cultural value to a California Native American tribe that are either included or eligible for inclusion in the California Register of Historic Resources or included a local register of historical resources, or if the City of San Carlos, acting as the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a TCR.

3.18.2 Discussion

Would the project:

a) Cause a substantial adverse change in the significance of a tribal cultural resources, defined in Public Resources Code section 21074 as either a site, feature, place cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe?

Less Than Significant (Responses i – ii). As discussed under criteria (b) and (c) in Section 3.5, Cultural Resources, there are no known archeological resources, ethnographic sites or Native American remains located on the project site. No tribal resource concerns were raised in response to the tribal outreach efforts conducted for the CEQA review of this project.

As discussed under criteria (b) and (c) in Section 3.5, ground-disturbing activities associated with development under the proposed project could have the potential to uncover and damage or destroy unknown resources, including tribal cultural resources, in sub-surface soils. As a standard condition of project approval, the city requires protection of undiscovered archaeological resources and human remains which may be unearthed during ground-disturbing activities (see Table 2-1). These conditions reinforce compliance with State and federal regulations. With implementation of this measure, the project impact on tribal cultural resources is less than significant. These conditions reinforce compliance with State and federal regulations, as well as introduce protections for Native American objects that have potential to be considered tribal cultural resources but are not otherwise considered significant under CEQA. With implementation of these conditions, the impact is less than significant.

3.18.3 References

Native American Heritage Commission (NAHC). 2022. Unpublished letter containing search results from Sacred Lands File search. Kept on file at NAHC and with MIG. Inc.

Northwestern Information Center (NWIC). 2020. Report number 21-0581. Unpublished confidential report containing search results from site specific survey. Kept on file at NWIC and with MIG. Inc.

3.19 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

3.19.1 Environmental Setting

Water

Water service to the project site is provided by the Mid-Peninsula Water District (MPWD). MPWD supplies water to consumers within San Carlos, Redwood City, and parts of the unincorporated County of San Mateo. Within the system there are ten storage tanks in which a combined total of 11,360,000 gallons of water are stored (MPWD 2022). MPWD operates in accordance with the 2020 Urban Water Management Plan which estimates projected future water demand in five-year increments, between the years 2025 and 2045 (MPWD 2021).

Wastewater

The San Carlos Public Works Department provides wastewater collection and treatment service for San Carlos. Sanitary wastewater generated on the project site would be treated by Silicon Valley Clean Water (SVCW) at the Wastewater Treatment Facility located in the Redwood Shores area of Redwood City. The treatment plant processes all wastewater delivered to the plant from member agencies service areas. SVCW 2020 Capital Improvement Program (CIP) Update identifies projects to improve its treatment plant and conveyance system including remote pump stations, transmission sewer pipelines (e.g., influent force main, Belmont force main, tunnel and gravity sewer), and effluent outfall. Future treatment for nutrients is also included (SVCW 2020). The treatment plant has capacity to treat 29.5 million gallons per day (mgd) and currently receives approximately 20 mgd from residential and commercial customers in the SVCW service area.

Stormwater Drainage

The City of San Carlos provides stormwater drainage service to the project site. The City maintains approximately 27 miles of stormwater drainage channels and 680 stormwater drainage inlets. Developers and property owners are responsible for extending the existing stormwater drainage system onto a property and tying into the City's stormwater infrastructure when new development occurs.

Solid Waste

Solid waste and recyclables are collected within the city by a provider contracted through the South Bayside Waste Management Authority (SBWMA). Solid waste generated in San Carlos is re initially taken to the Shoreway Recycling and Disposal Center (SRDC) and then transported to Corinda Los Trancos Landfill (Ox Mountain) near Half Moon Bay. The landfill, owned and operated by Browning Ferris Industries, is expected to reach capacity in 2034 (CalRecycle 2022a). In 2019, the landfill received 608,086 tons of solid waste of which 22,566 tons were from San Carlos (CalRecycle 2022b).

Electricity

Electricity would be provided to the project site by Peninsula Clean Energy (PCE) and Pacific Gas and Electric (PG&E). PCE is San Mateo County's Community Choice Aggregate (CCA), a community-controlled, not-for-profit joint powers agency. PCE procures sources of electricity throughout San Mateo County, while PG&E manages and maintains the electrical infrastructure used to supply consumers with electricity.

3.19.2 Regulatory Setting

Assembly Bill 939

The California Integrated Waste Management Act of 1989, or AB 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans, and mandated that local jurisdictions divert from the landfill at least 50 percent of solid waste generated beginning January 1, 2000, and divert at least 75 percent by 2010. Projects that would have an adverse effect on waste diversion goals are required to include waste diversion mitigation measures.

Assembly Bill 341

AB 341 (2011) sets forth the requirements of the statewide mandatory commercial recycling program for businesses that generate four or more cubic yards of commercial solid waste per week and multi-family dwellings with five or more units in California. AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020.

Assembly Bill 1826

AB 1826 (2014) sets forth the requirements of the statewide mandatory commercial organics recycling program for businesses and multi-family dwellings with five or more units that generate two or more cubic yards of commercial solid waste per week. AB 1826 sets a statewide goal for 50 percent reduction in organic waste disposal by the year 2020.

Senate Bill 1383

SB 1383 (2016) establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The bill grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that at least 20 percent of currently disposed edible food is recovered for human consumption by 2025. On January 1, 2022, CalRecycle's regulations to meet the organic waste reduction targets for 2025 took effect and became enforceable.

California Green Building Standards Code Compliance for Construction, Waste Reduction, Disposal and Recycling

In January 2010, the State of California adopted the California Green Building Standards Code ("CALGreen"), establishing mandatory green building standards for all buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resources efficiency, and indoor environmental quality. These standards include the following mandatory set of measures, as well as more rigorous voluntary guidelines, for new construction projects to achieve specific green building performance levels:

- Reducing indoor water use by 20 percent;
- Reducing wastewater by 20 percent;
- Recycling and/or salvaging 65 percent of nonhazardous construction and demolition ("C&D") debris, or meeting the local construction and demolition waste management ordinance, whichever is more stringent (see San Carlos-specific CALGreen building code requirements below); and
- Providing readily accessible areas for recycling by occupants.

San Carlos Climate Mitigation and Adaptation Plan

The San Carlos CMAP includes a goal to transform San Carlos into a zero-waste community. The CMAP includes waste reduction strategies geared toward City operations and public events, waste haulers, and construction contractors, and actions that encourage community material reuse and repairs programs, compostable food service ware, increased composting, improved recycling, and sustainable food consumption. CMAP strategies aimed at reducing construction and demolition waste include:

- Incentivize the recycling of construction debris by working with regional partners.
- Research and consider providing financial incentives to encourage the recycling of construction debris.
- Determine how certain construction materials may be donated and reused to help those in need by working with local community-based organizations and construction companies.

San Carlos Municipal Code

Chapter 8.05 of the San Carlos Municipal Code, the Recycling and Diversion of Construction and Demolition Debris Ordinance, requires projects that qualify for coverage under CALGreen that generate waste comprised of mixed debris, including both structural debris (e.g., wood, metal, wallboard) and inert materials (dirt, asphalt, brick, and/or cinderblock), to divert at least 60 percent of all generated tonnage. All project applicants are required to submit a properly completed waste management plan (WMP) to the City Department of Planning and Building's WMP Compliance Official, as a portion of the building or demolition permit process. The completed WMP must indicate, at minimum, all of the following:

- The estimated volume or weight of project construction and demolition debris, by materials type, to be generated;
- The maximum volume or weight of such materials that can feasibly be diverted via reuse or recycling;

- The vendor or facility that the applicant proposes to use to collect or receive that material; and
- The estimated volume or weight of construction and demolition debris that will be land filled.

Project contractors are required to keep records in tonnage or in other measurements approved by the WMP Compliance Official. Project applicants must also pay and administrative fee and submit a deposit for each estimated ton of construction and/or demolition debris that equals no less than one thousand dollars (the deposit). The deposit is returned to the project applicant upon proof to the satisfaction of the WMP Compliance Official that no less than the required percentages of the waste tonnage of construction and demolition debris generated by the project have been diverted from landfills and have been recycled or reused or stored for later reuse or recycling.

3.19.3 Discussion

Would the project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?

Less than Significant Impact. The project site is in a developed area served by existing utility infrastructure; however, onsite improvements would be required to support the proposed structure. All existing on-site utilities (gas and storm drainpipes) within the project site are to be removed; all existing/future utilities would be relocated and installed underground.

The project's proposed onsite improvements would require new connections to existing facilities and construct new on-site storm water treatment and retention facilities, as described below. Installation of these new connections and construction of on-site improvements could result in short-term environmental effects during construction. However, there would be no impacts over the long-term and best management practices (BMPs) would avoid significant impacts during construction. Therefore, the project impact of construction new utility facilities is less than significant. Additionally, the proposed on-site stormwater treatment and retention facilities would have long-term beneficial effects to the environment by reducing the amount of water runoff and pollutants exiting the site.

Water Supply

The project requires new potable water connections for building and tenant use, landscape irrigation, as well as for amenities associated with the building. Implementation of the proposed project would require the following installations / improvements to the water connections at and in proximity of the site as described below:

- New 4-inch domestic water connection from North Building to the existing 20-inch water main in Old County Road.
- New 4-inch domestic water connection from South Building to the existing 8-inch water main in Quarry Road.
- New 2.5-inch domestic water lateral connecting the Parking Garage to the existing 8-inch water main in Quarry Road.

Sanitary Sewer Service

Implementation of the proposed project would require installation of a new 12-inch sanitary sewer line connecting the North, South, and Parking Garage buildings to sewer main in Quarry Road. The existing sewer main in Quarry Road is a 6-inch line. The 6-inch line is potentially over capacity and additional loads from the project would increase demand on the lines (BKF 2021). Modeling of the sewer system capacity to assess the City's ability to serve the project was performed by Mott MacDonald (2022). Modeling results showed upsizing the Quarry Road sewer main from a 6-inch line to 10-inch line from the project site to its connection at a 27-inch main in Industrial Road was required to remove surcharging and provide self-cleaning flow velocity greater than 2 feet/second. No other new or expanded wastewater facilities would be required for the project. The existing wastewater treatment facility that serves the site has sufficient capacity to serve the project, and no new or expanded wastewater treatment facilities are required (see response c).

Stormwater Management

The project would construct new on-site stormwater drainage features, consistent with the C.3 provisions set by the San Francisco Bay RWQCB's MRP (see Hydrology section 3.10.3). Stormwater run-off from the site would be directed to a series of drainage management areas/bioretention swales that allow for the cleansing and infiltration of stormwater. The project would feature 7 bioretention drainage management areas around the southern, eastern, and central areas of the site for stormwater treatment (Appendix A, Sheet C40 Stormwater Control Plan).

The project would also require new 6-inch, 8-inch, 10-inch, and 12-inch lines along the internal project access road to connect bioretention features and area drains to a 15-inch drain line for tie-in to a catch basin and an existing 18-inch storm drain line in Quarry Road near the northeastern corner of the project site. The project does not require new or expanded off-site stormwater drainage facilities.

Electricity and Telecommunications Facilities

The project would be served by existing electric power, telephone, and internet services. No natural gas service would be provided to the project site.

The proposed building would have an emergency standby power system. New transformers would be installed along the North Building frontage per specifications of PGE. The proposed project would include three 1,250-kilowatt (kW) diesel back-up generators on the southeast corner of the site adjacent to the South Building to power the proposed structures in the event of power loss. The proposed building would comply with the City's electric building requirement in accordance with the San Carlos Municipal Code Section 15.04.080 and 15.04.125 (i.e., no natural gas use). Refer to Air Quality section 3.3 and Noise section 3.13 for details on the generator. Offsite existing electric power and telecommunications facilities would not need to be relocated or expanded to serve the project.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less Than Significant Impact. The proposed water demand for the project is estimated to result in an incremental increase above existing site use by 73,400 gallons per day (or 27 million gallons per year. A Water Supply Assessment (WSA) was prepared by EKI Environment & Water (2022) to evaluate whether MPWD has sufficient water supply to meet the current and planned water demands within its service area, including the demands of the 642 Quarry Road Project, during normal, single dry, and multiple dry water years over a 20-year time horizon. The information contained in the WSA is based primarily on MPWD's 2020 Urban Water Management Plans (UWMP), except where updated with relevant water demand and supply reliability and other information provided by the MPWD, California Department of Water Resources (DWR), the San Francisco Public Utilities Commission (SFPUC), and the Bay Area Water Supply and Conservation Agency (BAWSCA).

The WSA concluded that MPWD's contractual Individual Supply Guarantee (ISG) allocation of 3.891 MGD from SFPUC is sufficient to meet projected future demands within its service area. MPWD's future demands, inclusive of the 642 Quarry Road Project and two additional new development projects (1301 Shoreway Road and 601 Harbor Boulevard in Belmont), are projected to reach, at most, 82% of the MPWD's contractual ISG allocation in hydrologically normal years through 2045. Further, supply shortfalls that are currently projected during dry years are anticipated to occur irrespective of the three new development projects. MPWD will address projected shortfalls through implementation of MPWD's Water Shortage Contingency Plan. In addition, WPWD, BAWSCA, and SFPUC are pursuing the development of additional water supplies to improve MPWD supply reliability. Therefore, the WSA found that MPWD's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection would meet the projected water demand associated with the proposed project, in addition to MPWD's existing and planned future uses, with the implementation of its Water Shortage Contingency Plan during dry years. The project impact on water supplies is less than significant.

c) **Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

Less Than Significant Impact. As described in response a) above, the City's planned upsizing of the 6-inch line to a 10-inch line in Quarry Road would ensure the City has adequate conveyance capacity to serve the project. The SVCW treatment plant has capacity to treat 29.5 mgd and currently receives approximately 20 mgd from residential and commercial customers in its service area. The proposed project would generate 73,400 gallons per day (0.07 mgd). Accordingly, the treatment plant has adequate capacity to treat project-generated wastewater. This impact would be less than significant.

d) **Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?**

e) **Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?**

Less Than Significant Impact. (Responses d – e). The proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. The project would comply with all applicable Federal, State, and local management and reduction statutes and regulations related to solid waste. Potential impacts related to solid waste would be less than significant during project construction and operation, as discussed below.

Construction Waste

Solid waste generated by construction of the proposed project would largely consist of demolition waste and construction debris. In compliance with the California Green Building Standards Code (Part 11, Title 24, known as "CalGreen"), the project Applicant would be required to prepare a waste management plan for on-site sorting of construction debris and submit the plan to the City of San Carlos for approval. The City Municipal Code includes construction waste diversion and recycling requirements through Municipal Code Chapter 8.05, Recycling and Diversion of Construction and Demolition Debris. Chapter 8.05 requires covered projects generating waste comprised of mixed debris, including both structural debris (e.g., wood, metal, wallboard) and inert materials (dirt, asphalt, brick, and/or cinderblock), to divert at least 60 percent of all generated tonnage. Compliance with these regulations would prevent significant solid waste impacts during project construction.

Operational Waste

There are several possible waste streams for a life science building. Where a tenant has yet to be identified, this analysis takes into consideration biohazards, chemical wastes, sanitary wastes, and isotopes.

Biohazards would be collected and stored in red canisters and/or bags. Chemical wastes would be sorted and collected based on volume and type. Sanitary wastes from sinks and drains would be collected in a lab waste piping before being discharged into the sanitary waste system. Finally, isotope waste would be regulated by the state and site; the tenant must apply and pass an inspection to be licensed to generate the above types of wastes. All above types of wastes would be manifested and disposed of through a qualified disposal company.

For other types of solid wastes (regular trash, compost, and recycling), the project proposes compactors to collect and manage the waste.

The proposed project would include areas for storage of solid waste and recyclable materials for pick up by Recology. The proposed project would not impair the City of San Carlos' compliance with AB 341, SB 1018, or SB 1383. Compliance with these regulations would prevent significant solid waste impacts during project operation.

3.19.4 References

BKF Engineers. 2021. Technical Memorandum. Subject: 642 Quarry Road – Sanitary Sewer Capacity Analysis. To City of San Carlos Public Works / Engineering. December 10.

CalRecycle. 2022a. SWIS Facility/Site Activity Details: Corinda Los Trancos Landfill (Ox Mtn) (41-AA-0002). Accessed June 28, 2022 at https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/3223.

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Mott MacDonald. 2022. Memorandum. Subject: Task Order #10 642 Quarry Road Development Modelling and Analysis. From Brian Moore, Mario Cordillo, Renee Crawford to Grace Le, City of San Carlos. June 13.

Silicon Valley Clean Water (SVCW). 2020. Capital Improvement Program 2020 Update FY20-21 to FY29-30. Accessed January 31 at https://svcw.org/wp-content/uploads/2020/08/2020-SVCW-CIP-Update.pdf.

3.20 WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Is the project located near state responsibility areas or lands classified as very high fire hazard severity zones?	☐ Yes		☒ No	
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.20.1 Environmental Setting

The project site is located within the City of San Carlos. According to 2020 mapping data from the California Department of Forestry and Fire Protection, the project site is not within a State Responsible Area or a Fire Hazard Severity Zone (FHSZ) (i.e., a mapped area that designates zones – based on factors such as fuel, slope, and fire weather – with varying degrees of fire hazards) (CalFire 2022).

3.20.2 Discussion

Would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact (Responses a – d). The project site is in an urban area and not within or near a FHSZ. The proposed project would result in the construction of a new life science building; it would not affect wildfire hazards in the area. No impact would occur.

3.20.3 References

California Department of Forestry and Fire Protection (CalFire) 2022. Fire and Resource Assessment Program, California Fire Hazard Severity Zone Viewer, https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414, updated January 13, 2020. Accessed on February 9, 2022.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the efforts of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

3.21.1 Discussion

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant. As described above, the project site is in an urbanized, extensively developed area of San Carlos. It is entirely built out with commercial development and associated surface parking; the project site is almost entirely hardscaped with the exception of one tree. There are no sensitive natural communities, no areas of sensitive habitat, and no areas of critical habitat occurring at the project site. Additionally, there are no buildings currently listed or eligible for listing on the California Register of Historical Resources, no recorded archaeological sites, and no known paleontological resources located on the project site. Therefore, implementation of the proposed project would result in a less-than-significant impact to the environment and wildlife on the project site.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the efforts of past projects, the effects of other current projects, and the effects of probable future projects)?

Less Than Significant Impact. As described in the environmental checklist, the impacts of the proposed project would be less than significant. The proposed project would not be expected to contribute to significant cumulative impacts when considered along with other impacts or other reasonably foreseeable projects or when considered with the overall buildout under the City's General Plan.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact. As discussed previously, the proposed project would not result in a significant impact, thus the proposed project's environmental effects would be less than significant.

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Chapter 4. References

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Luhdorff & Scalmanini, Consulting Engineers
Groundwater Modeling Peer Review
Eddy Teasdale, P.G., CH.G – Principal Hydrogeologist

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642 Quarry Road Project IS/MND
Appendix A: Project Drawings

VICINITY MAP

LIST OF ABBREVIATIONS

BS	BOTTOM OF STAIR
BW	BOTTOM OF WALL
CIP	CAST IN PLACE
CL	CENTERLINE
CONC	CONCRETE
CONT	CONTINUOUS
DBH	DIAMETER AT BREAST HT
DG	DECOMPOSED GRANITE
(E)	EXISTING
EQ	EQUAL
FF	FINISH FLOOR
FG	FINISHED GRADE
FOB	FACE OF BUILDING
FOW	FACE OF WALL
FP	FINISH PAVING
GB	GRADE BREAK
HT	HEIGHT
MAX	MAXIMUM
MIN	MINIMUM
(N)	NEW
NTS	NOT TO SCALE
OC	ON CENTER
PA	PLANTING AREA
PL	PROPERTY LINE
ROW	RIGHT OF WAY
SAD	SEE ARCHITECTURAL DRAWINGS
SCD	SEE CIVIL ENGINEERING DRAWINGS
SED	SEE ELECTRICAL ENGINEERING DRAWINGS
SD	STORM DRAIN
SPD	SEE PLUMBING DRAWINGS
SPECS	SPECIFICATIONS
SSD	SEE STRUCTURAL ENGINEERING DRAWINGS
SST	STAINLESS STEEL
TC	TOP OF CURB
TF	TOP OF FENCE
THLD	THRESHOLD
TP	TOP OF PLANTER
TR	TOP OF RAMP
TS	TOP OF STAIR
TW	TOP OF WALL
TYP	TYPICAL
BIO	BIORETENTION
BLDG	BUILDING
BMP	BEST MANAGEMENT PRACTICE
BW	BACK OF WAK
B/W	BOTTOM OF WALL
CB	CATCH BASIN
COM	COMMUNICATIONS
DI	DRAIN INLET
DMA	DRAINAGE MANAGEMENT AREA
EX	EXISTING
FF	FINISH FLOOR
FG	FINISH GRADE
FW	FIRE WATER
HP	HIGH POINT
INV	INVERT
L	LOW POINT
OH	OVERHEAD
PL	PROPERTY LINE
PR	PROPOSED
R	RADIUS
RIM	MANHOLE RIM ELEVATION
SD	STORM DRAIN
SS	SANITARY SEWER
SDMH	STORM DRAIN MANHOLE
SSMH	SANITARTY SEWER MANHOLE
SW	SIDEWALK
TC	TOP OF CURB
TEL	TELECOMMUNICATIONS
TW	TOP OF WALL
W	WATER

SITE DATA

A.	ZONING DESIGNATION	LIGHT INDUSTRIAL		
B.	PARCEL NO.	APN NO. 046041380		
C.	SITE AREA	205,036 SF (4.7 AC)		
D.	OCCUPANCY	GROUP B (BUSINESS)		
E.	CONSTRUCTION TYPE	TYPE 1-B		
F.	FAR	EXISTING		0.39
		PROPOSED		2.0
G.	BUILDING AREA	(E) BUILDING (TO BE DEMOLISHED)		80,038 SF
		(N) BUILDING 1		215,022 SF
		AMENITIES (INCLUDED IN B1)	10,000 SF	
		(N) BUILDING 2		192,650 SF
		CHILDCARE (INCLUDED IN B2)	4,000 SF	
		(N) MANAGEMENT OFFICE IN PARKING GARAGE		2,400 SF
		TOTAL NEW BUILDING AREA		410,072 SF
H.	LOT COVERAGE	EXISTING		98,500 SF (48%)
		PROPOSED		103,023 SF (50%)
I.	LANDSCAPE AREA	REQUIRED		20,504 SF (10%)
		PROPOSED		
		GROUND LEVEL		38,869 SF
		ROOF DECK		683 SF
		TOTAL LANDSCAPE AREA		39,552 SF (19%)
J.	BUILDING HEIGHT	(E) BUILDING (TO BE DEMOLISHED)	2 STORIES (27 FT)	
		(N) BUILDING 1	6 STORIES (113 FT TO T.O. ELEV TOWER)	
		(N) BUILDING 2	6 STORIES (113 FT TO T.O. ELEV TOWER)	
		(N) PARKING STRUCTURE	B+S+8 LEVELS (104 FT TO T.O. ELEV TOWER)	
K.	PARKING REQUIRED	NEW BUILDINGS	OFFICE 1/300 LAB 1/800 CHILDCARE 17	
		OFFICE (75) / LAB (25)	1,172 CARS	
			938 CARS W/TDM BONUS 20%	
		EV INSTALLED*	57 CARS	
		CLEAN AIR VEHICLE*	76 CARS	
		OFFICE (50) / LAB (50)	958 CARS	
			767 CARS W/TDM BONUS 20%	
		EV INSTALLED*	47 CARS	
		CLEAN AIR VEHICLE*	62 CARS	
		OFFICE (25) / LAB (75)	744 CARS	
			596 CARS W/TDM BONUS 20%	
		EV INSTALLED*	36 CARS	
		CLEAN AIR VEHICLE*	48 CARS	
	*NOTE:	*PER CALGREEN REQUIREMENTS		
		PARKING NUMBERS DESIGNED TO THE 75% OFFICE / 25% LAB		
L.	PARKING PROVIDED	SURFACE		5 CARS
		ADA PARKING	2 CARS	
		PARKING GARAGE		933 CARS
		ADA PARKING	20 CARS	
		EV INSTALLED	195 CARS	
		EV CAPABLE	120 CARS	
		CARPOOL/VANPOOL	99 CARS	
		TOTAL PARKING PROVIDED		938 CARS
M.	BICYCLE PARKING REQUIRED	SHORT TERM		94 BIKES
		LONG TERM		47 BIKES
N.	BICYCLE PARKING PROVIDED	SHORT TERM		94 BIKES
		LONG TERM		47 BIKES

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SHEET INDEX

ARCHITECTURAL

A0	COVER SHEET
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A1.1	PROJECT DESCRIPTION
A2	EXISTING CONDITIONS
A2.1	EXISTING FLOOR PLANS
A3	CONCEPTUAL SITE PLAN
A3.1-3.2	NORTH BUILDING FAR EXCLUSION DIAGRAMS
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L6	PRELIMINARY LANDSCAPE SECTIONS
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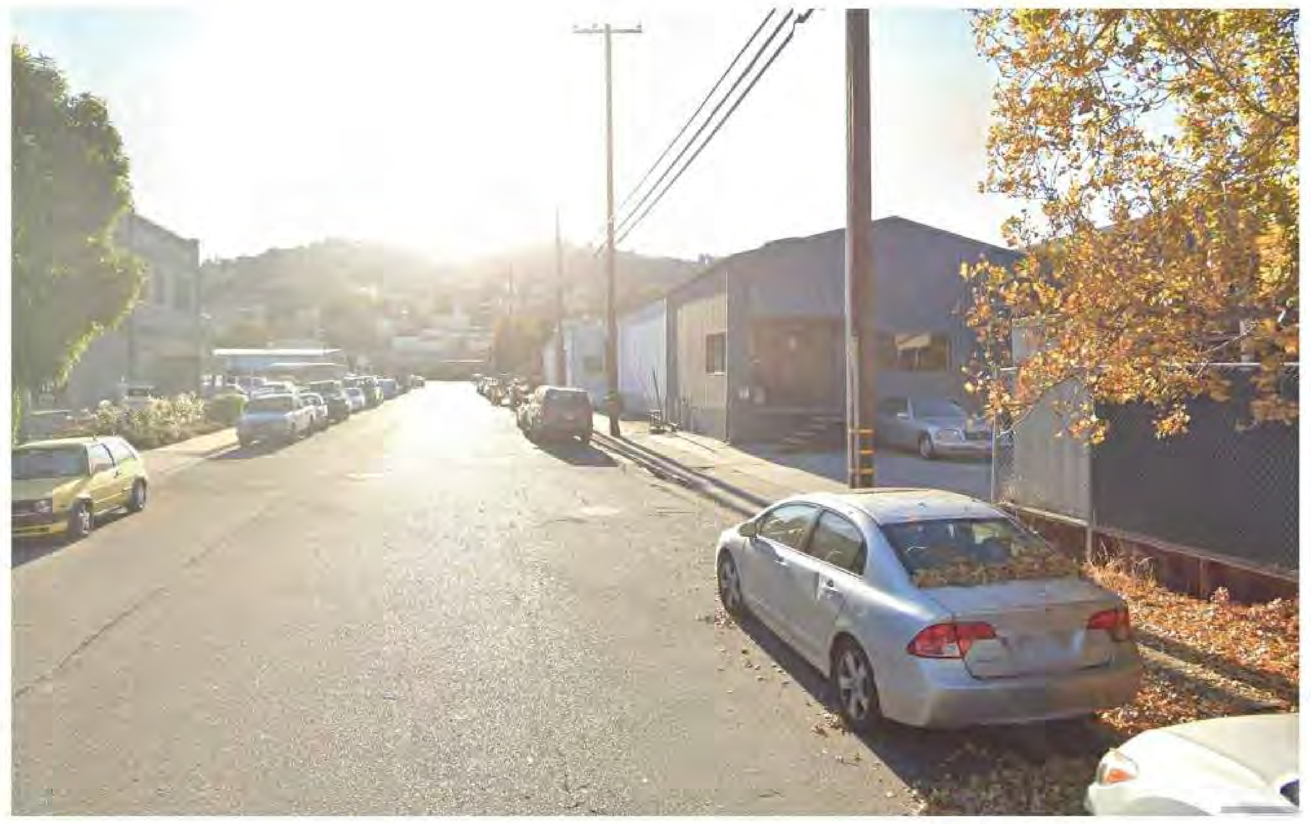
C40	STORMWATER CONTROL PLAN
C50	FIRE ACCESS PLAN
C60	EASEMENT PLAN

1 FROM OLD COUNTY ROAD

2 FROM QUARRY ROAD



3 FROM QUARRY ROAD

4 FROM OLD COUNTY ROAD

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Existing Conditions

642 QUARRY ROAD

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A2

Project Number: 10294.001

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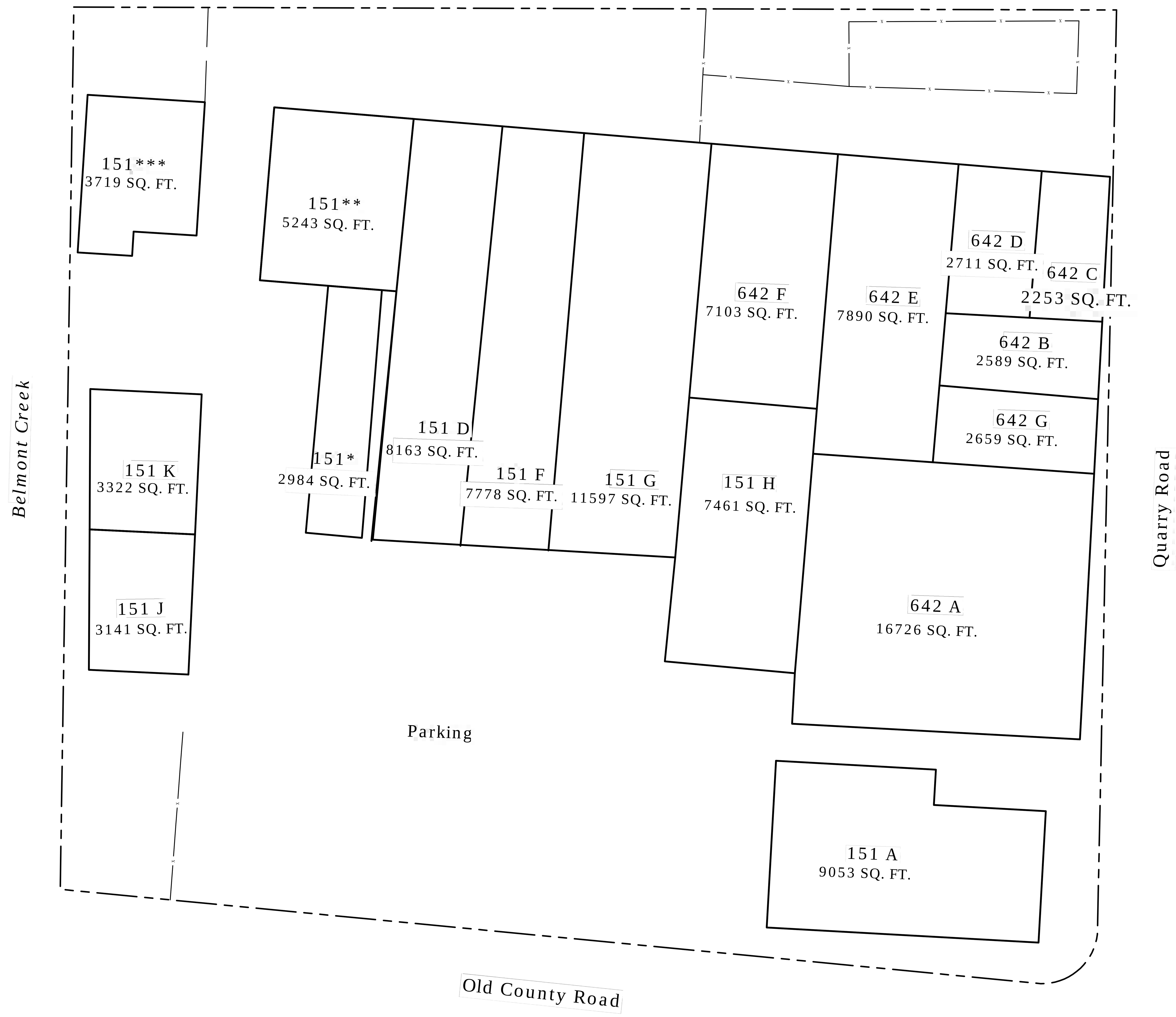
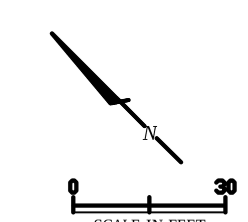


LEGEND

Approximate Property Boundary

Fence

Address	Area (sq. ft.)	Use
151 A Old County Road	9,053	Office
151 D Old County Road	8,163	Retail
151 F Old County Road	7,778	Retail/Warehouse/Manufacturing
151 G Old County Road	11,597	Retail/Warehouse/Manufacturing
151 H Old County Road	7,461	Manufacturing
151 J Old County Road	3,141	Retail
151 K Old County Road	3,321	Manufacturing
151 Old County Road***	3,719	Warehouse
151 Old County Road**	5,243	Warehouse
151 Old County Road*	2,984	Retail
642 A Quarry Road	16,726	Warehouse
642 B Quarry Road	2,589	Warehouse
642 C Quarry Road	2,253	Warehouse
642 D Quarry Road	2,711	Warehouse
642 E Quarry Road	7,890	Retail
642 F Quarry Road	7,103	Manufacturing
642 G Quarry Road	2,659	Retail



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Existing Floor Plans

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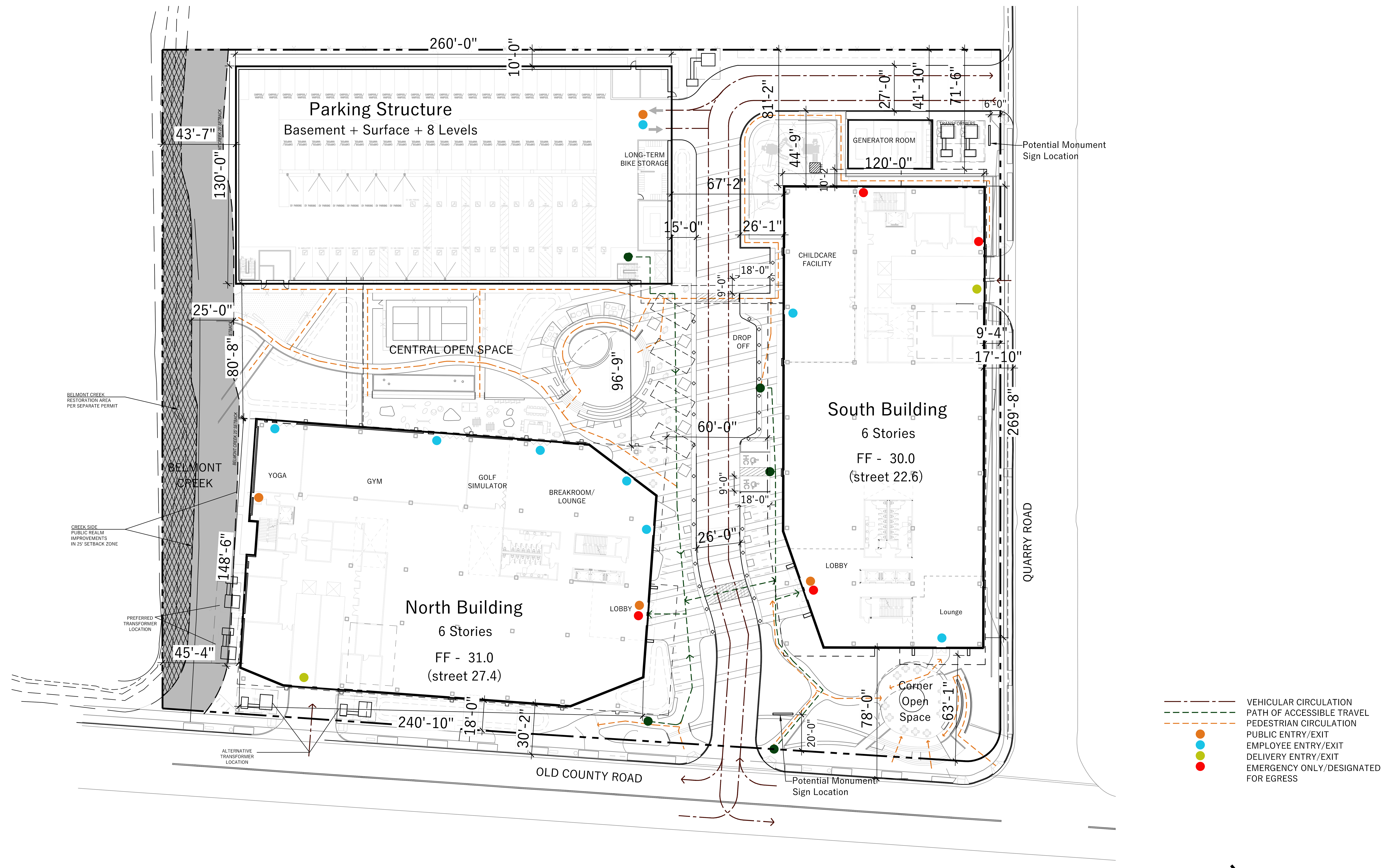
A2.1

Project Number: 1029



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Conceptual Site Plan

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A3

Project Number: 10294.001

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View from Quarry Road - Looking Southwest

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A7

Project Number: 10294.001

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View of Central Open Space

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A8

Project Number: 10294.001

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View from Old County - Looking Southeast

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A9

Project Number: 10294.001

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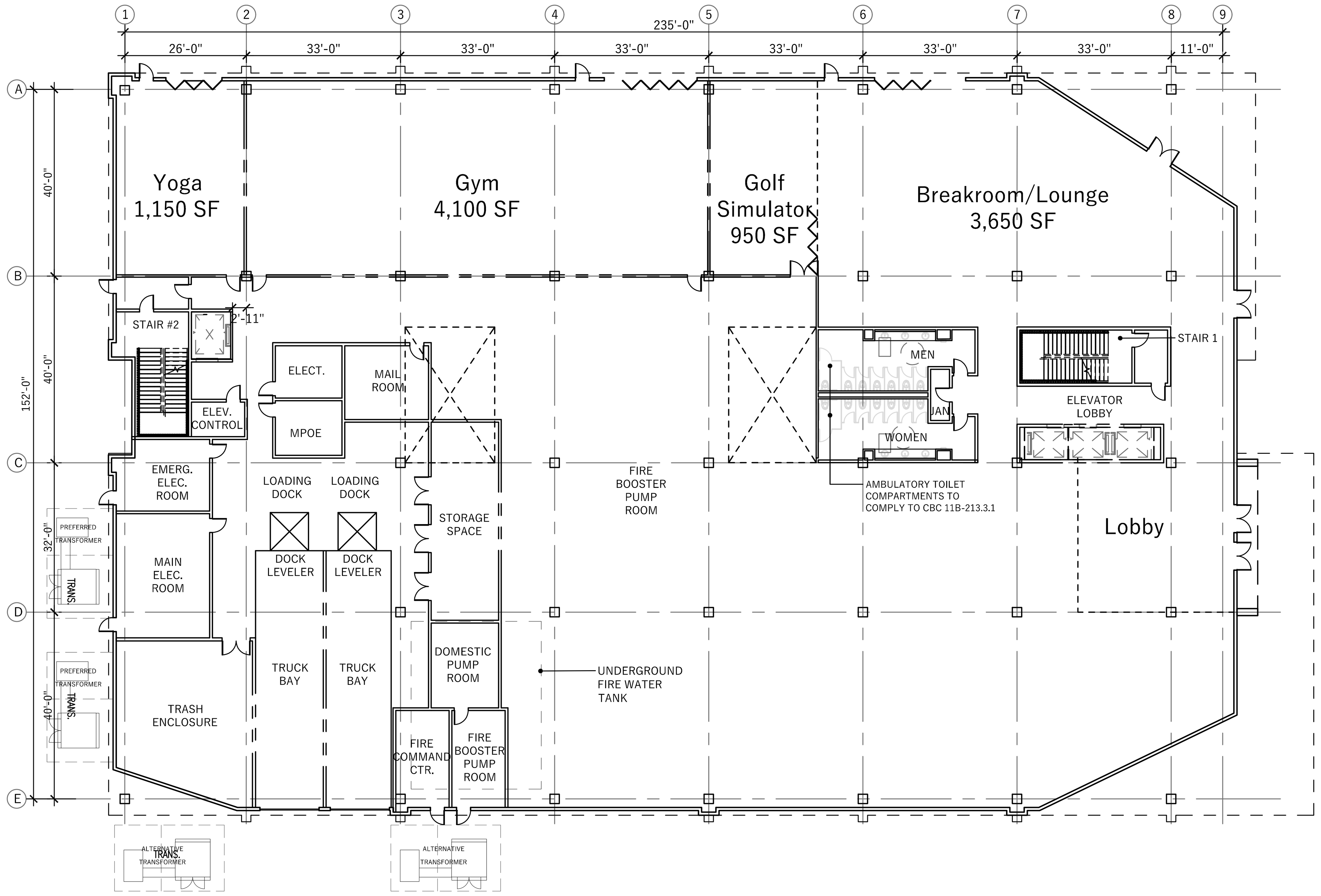
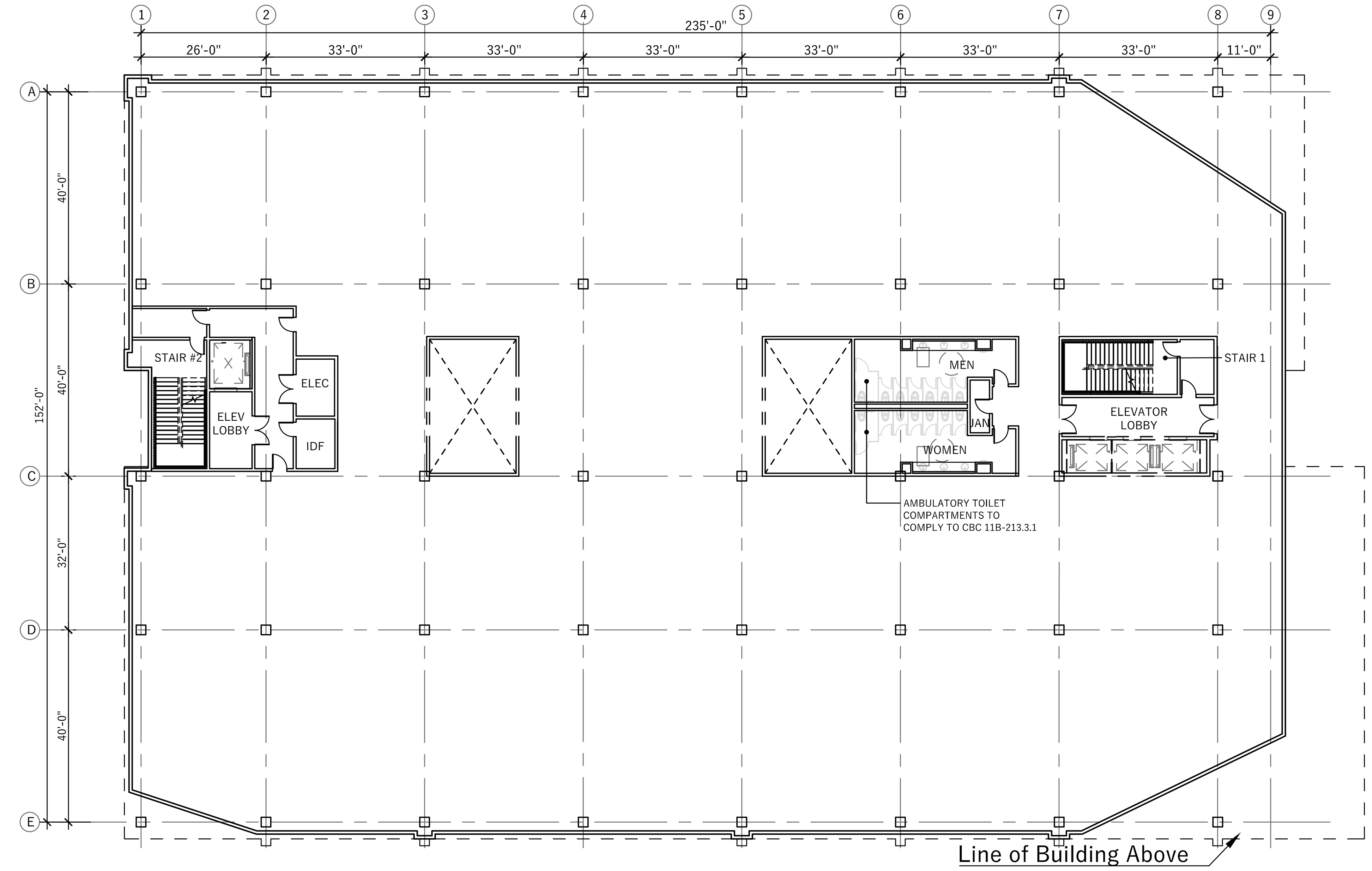


1 North Building - 1st Floor Plan
1" = 20'-0"



2 North Building - 2nd Floor Plan
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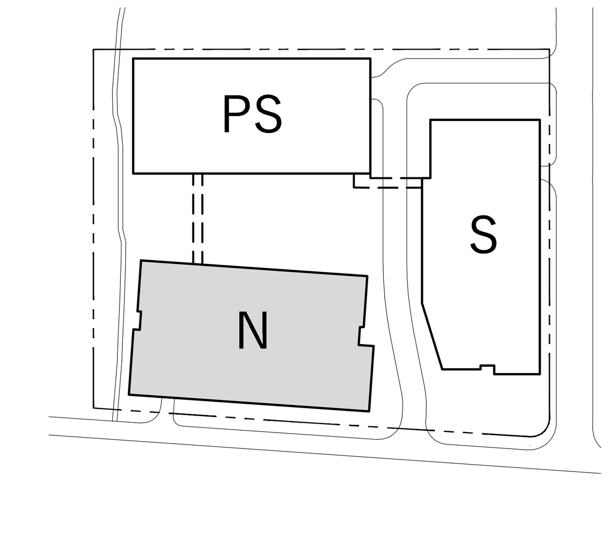
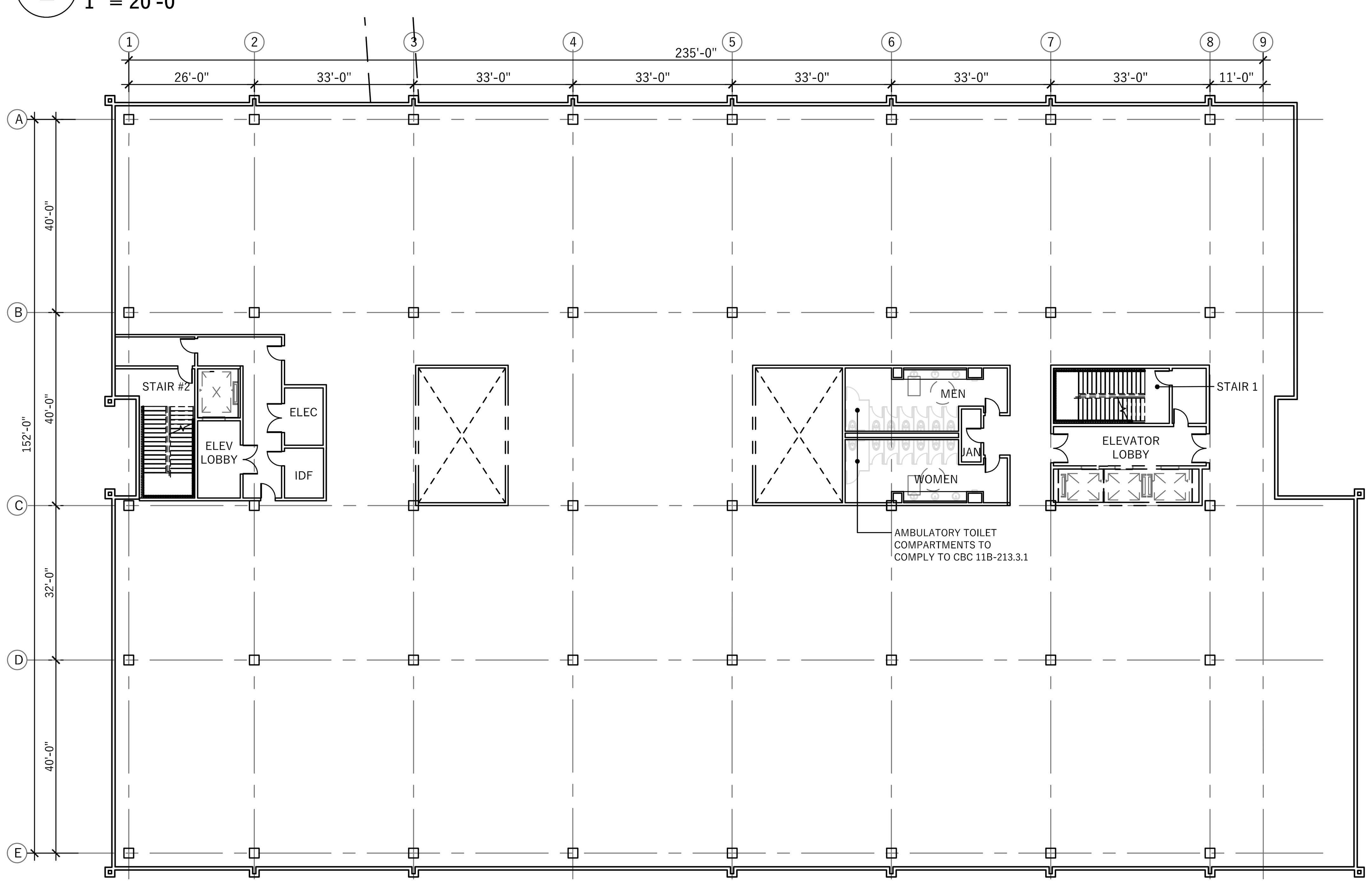


Bridge to Parking Structure



3 North Building - 3rd Floor Plan
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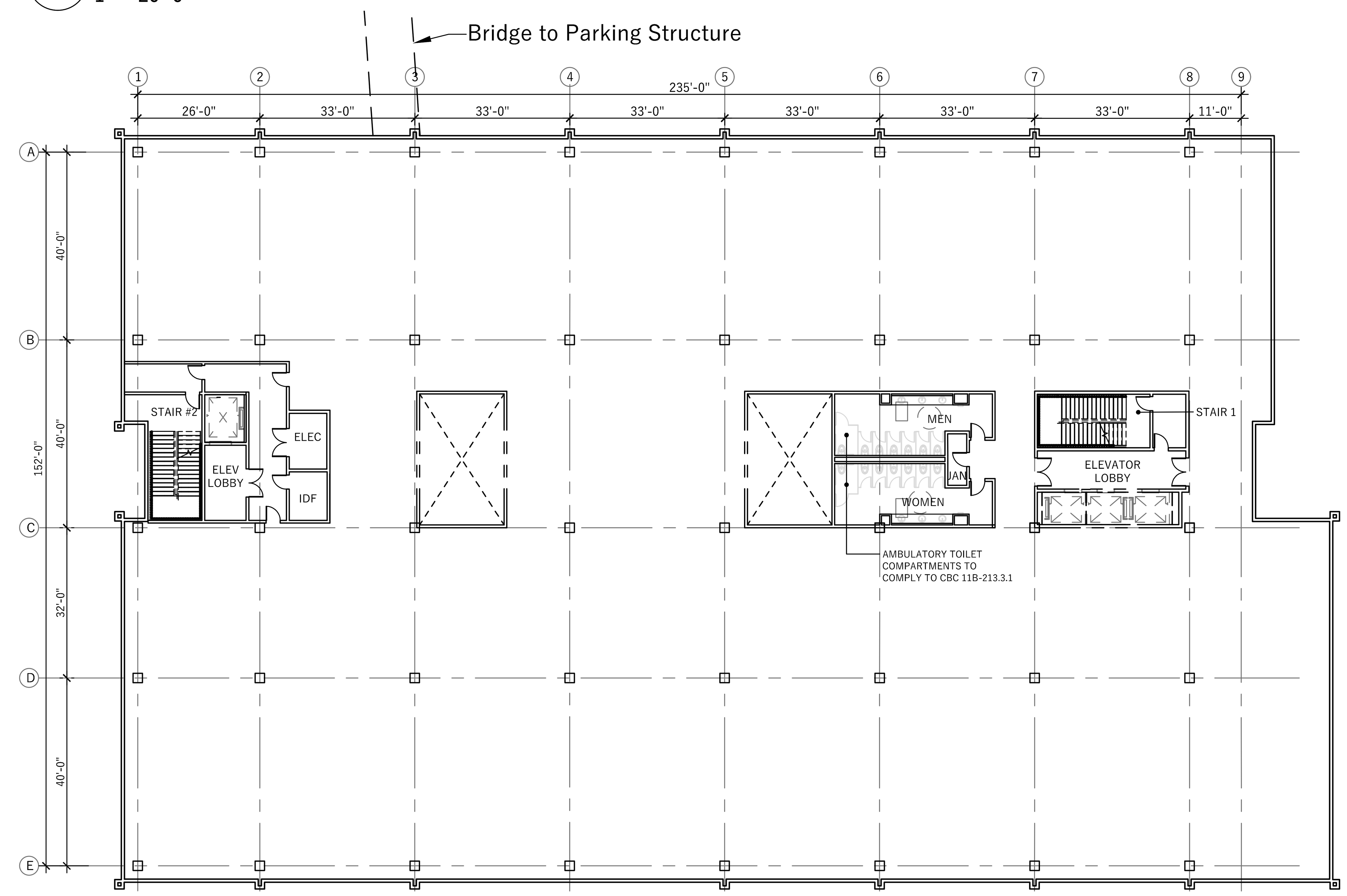

4 North Building - 4th Floor Plan
1" = 20'-0"

0' 10' 20' 40'

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North Building - Floors 1 - 4 Plans

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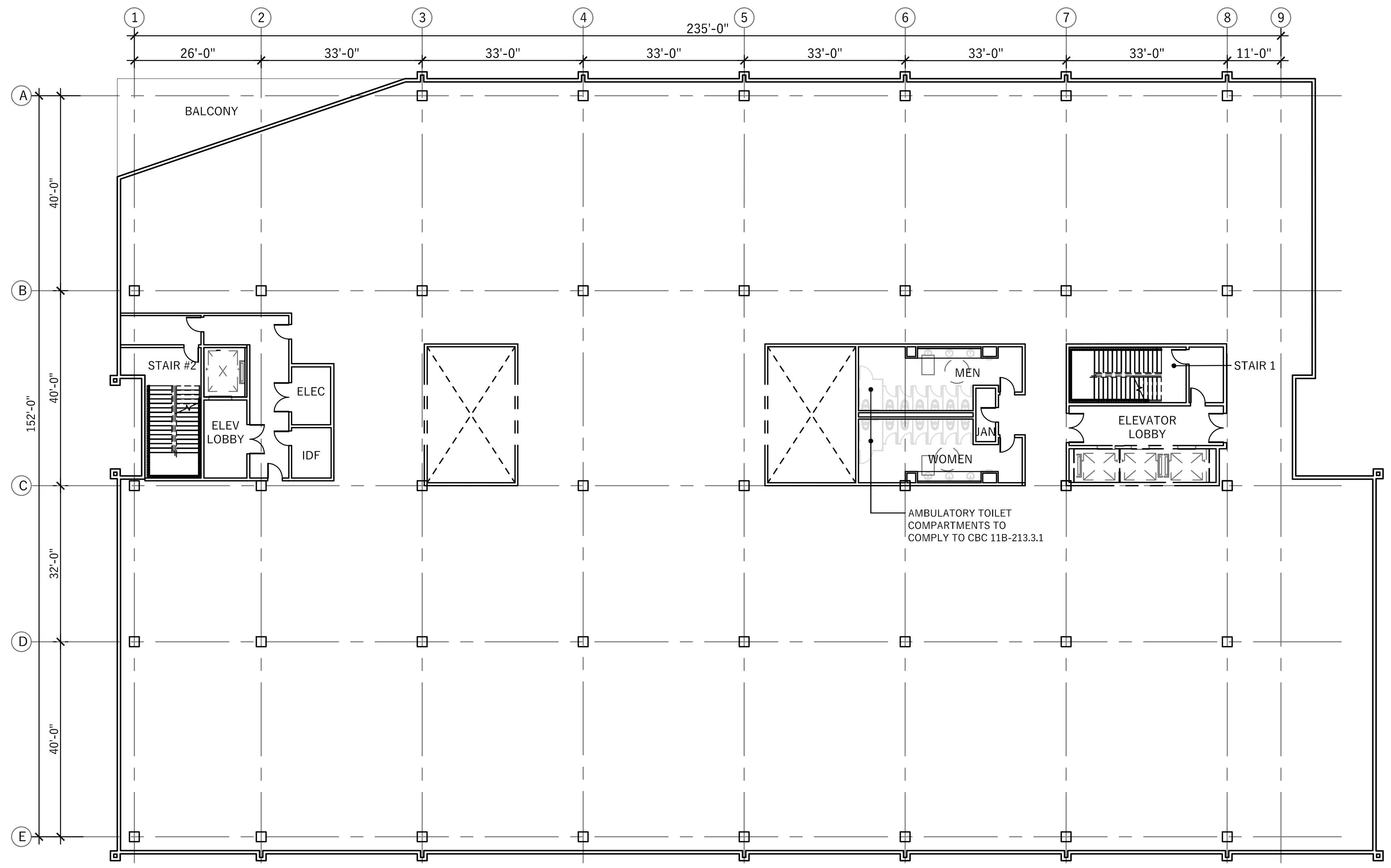
A10.1
Project Number: 10294.001



1 North Building - 5th Floor Plan
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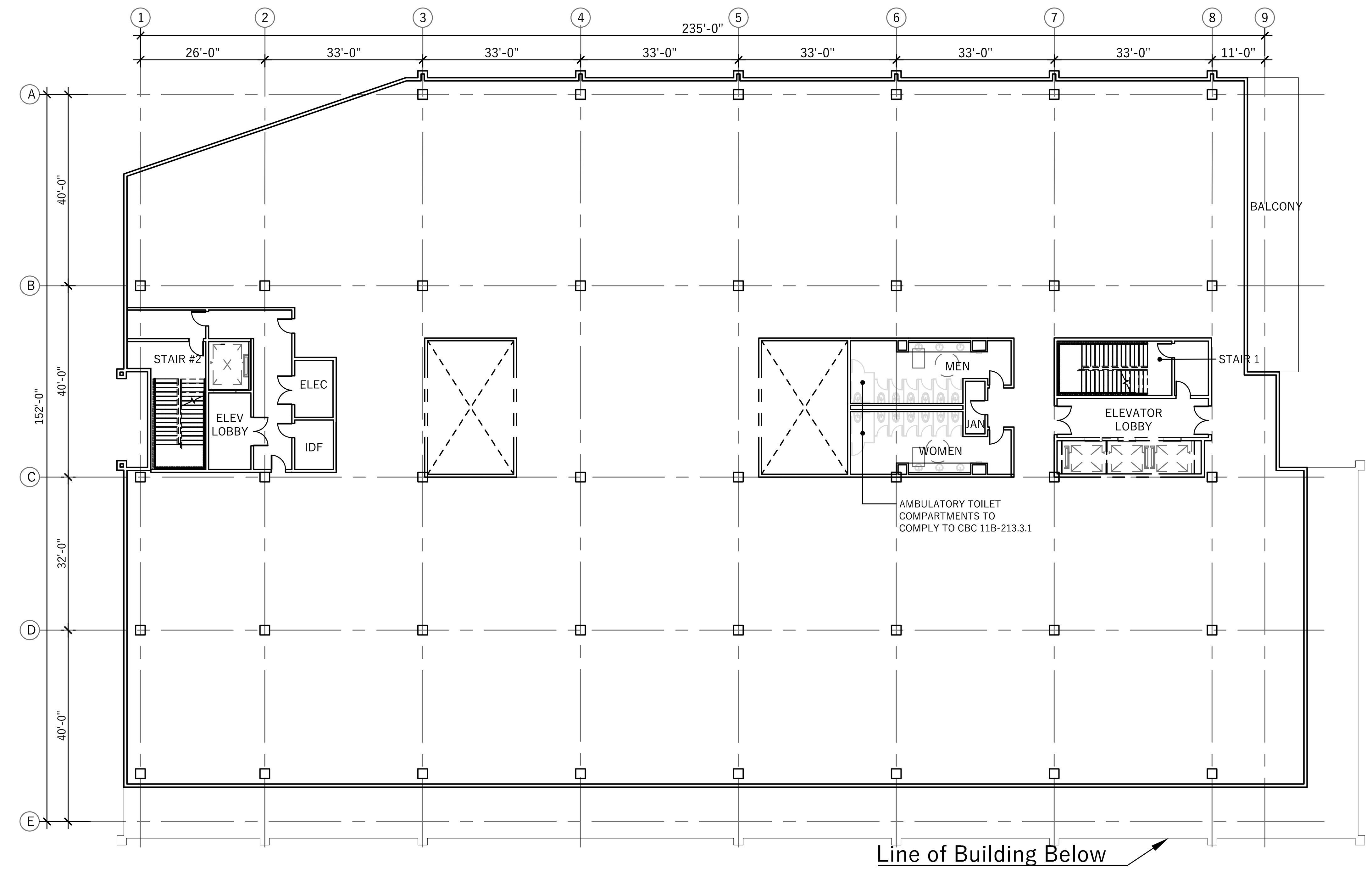

2 North Building - 6th Floor Plan
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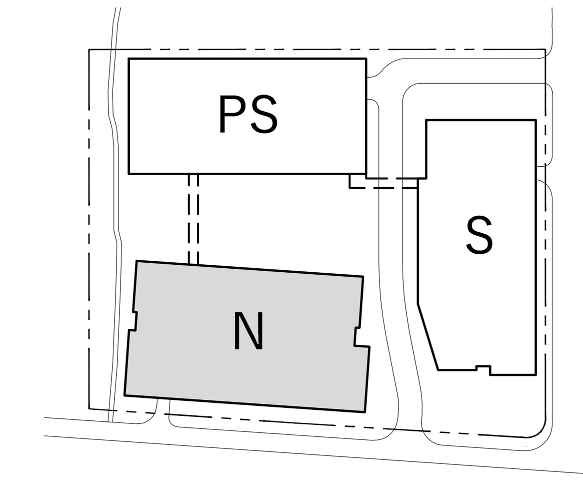

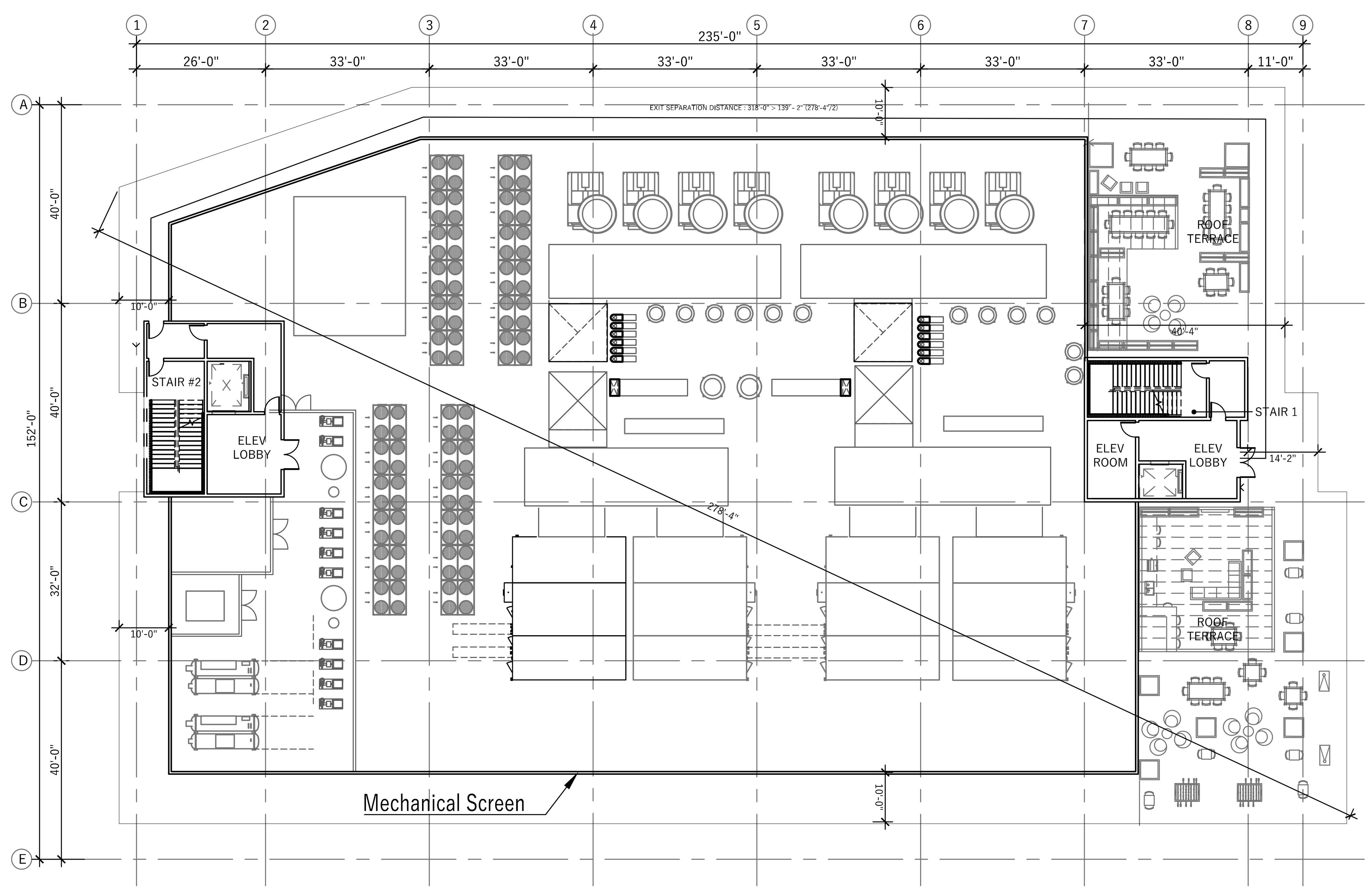

3 North Building - Roof Plan
1" = 20'-0"

0' 10' 20' 40'

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North Building - Floors 5, 6, and Roof Plan

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A10.2

Project Number: 10294.001

1 South Building - 1st Floor Plan
1" = 20'-0"

2 South Building - 2nd Floor Plan
1" = 20'-0"

3 South Building- 3rd Floor Plan
1" = 20'-0"

4 South Building -4th Floor Plan
1" = 20'-0"

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South Building - Floors 1 - 4 Plans

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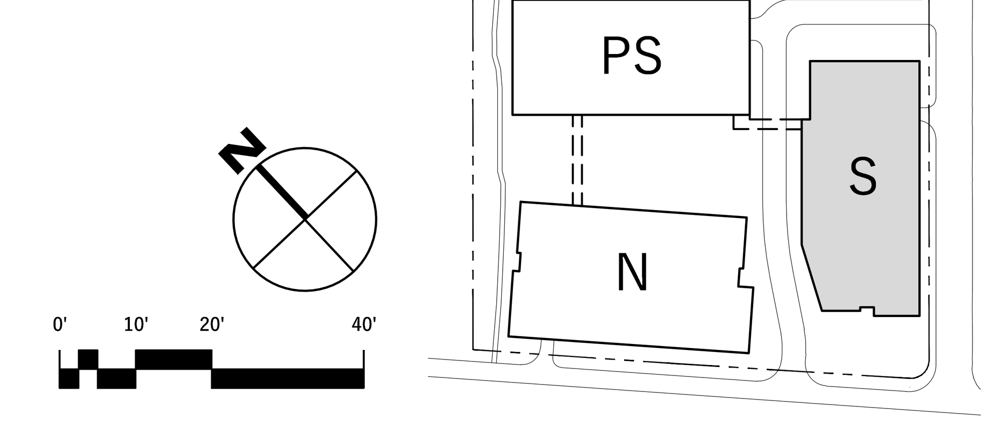
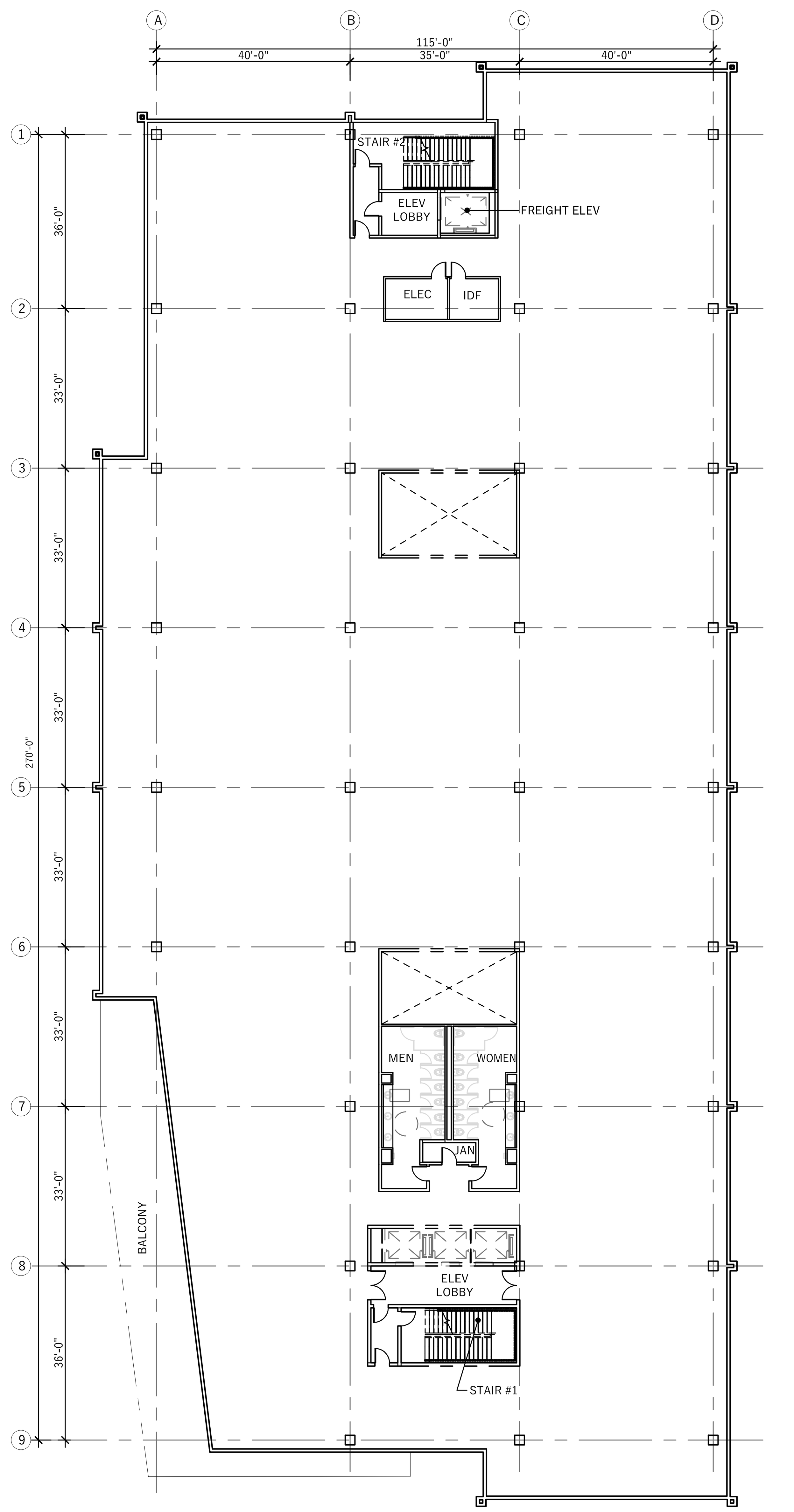
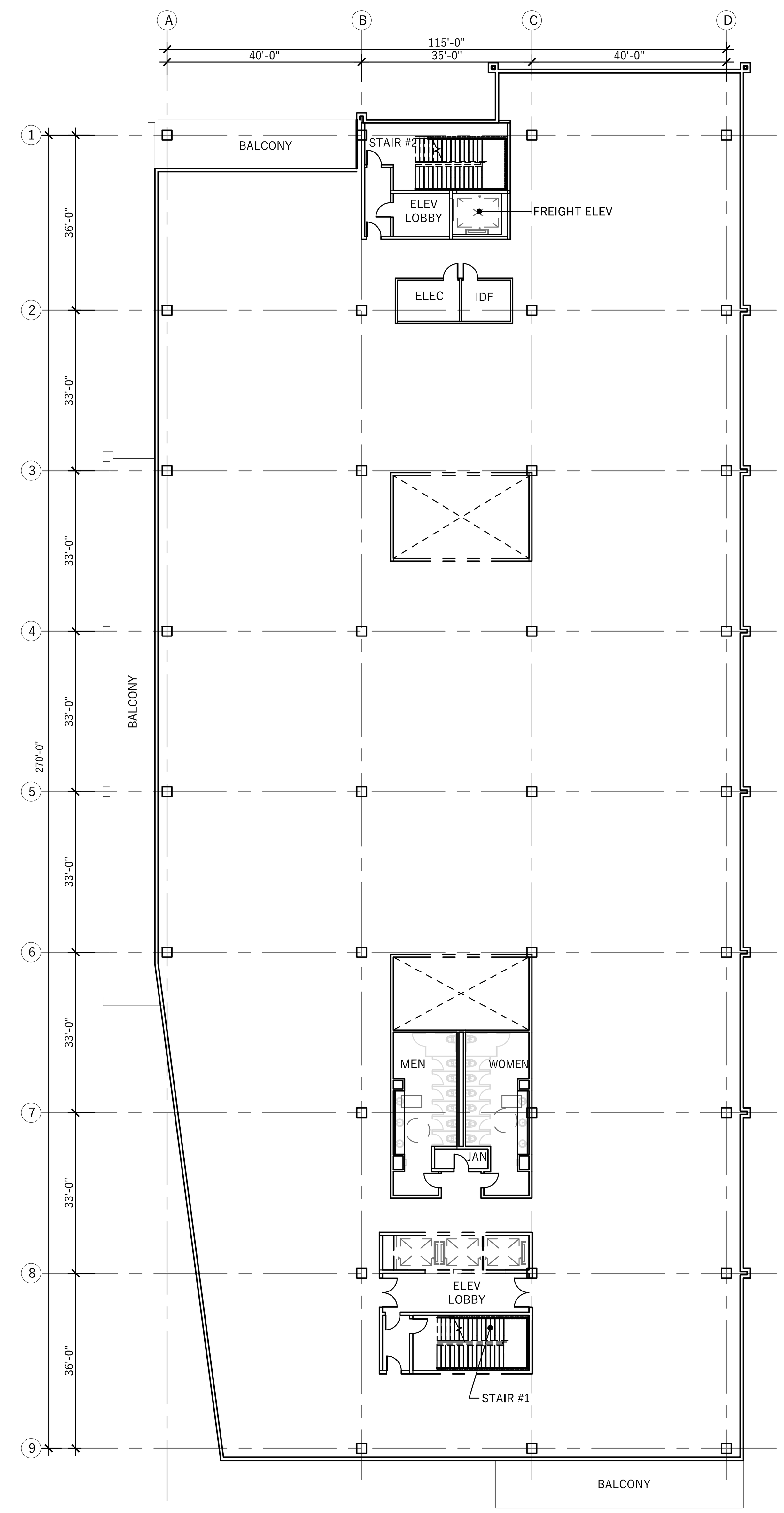
A11.1

Project Number: 10294.001

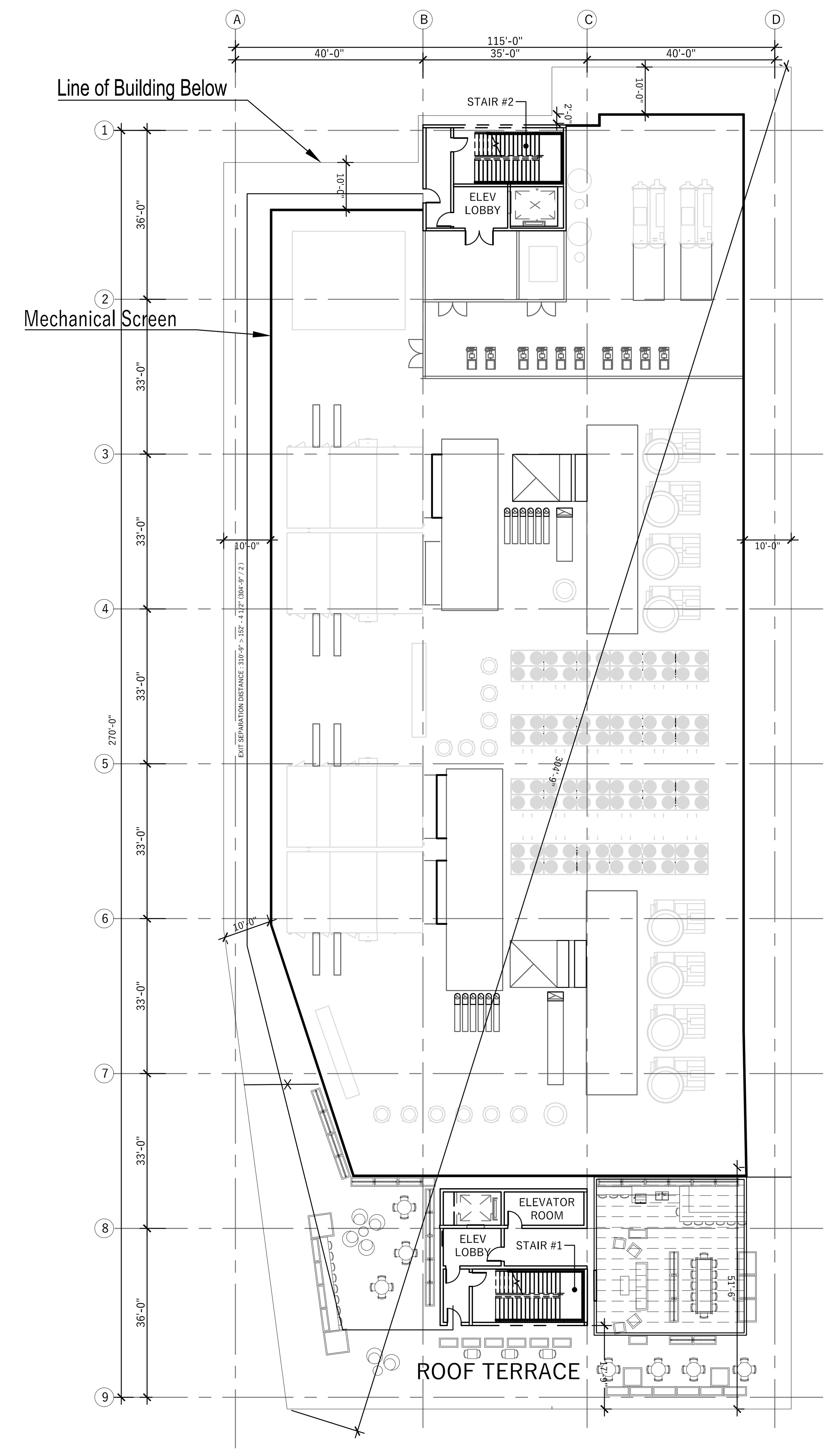




1 South Building - 5th Floor Plan
1" = 20'-0"



2 South Building - 6th Floor Plan
1" = 20'-0"



3 South Building - Roof Plan
1" = 20'-0"

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South Building - Floors 5,6, and Roof Plan

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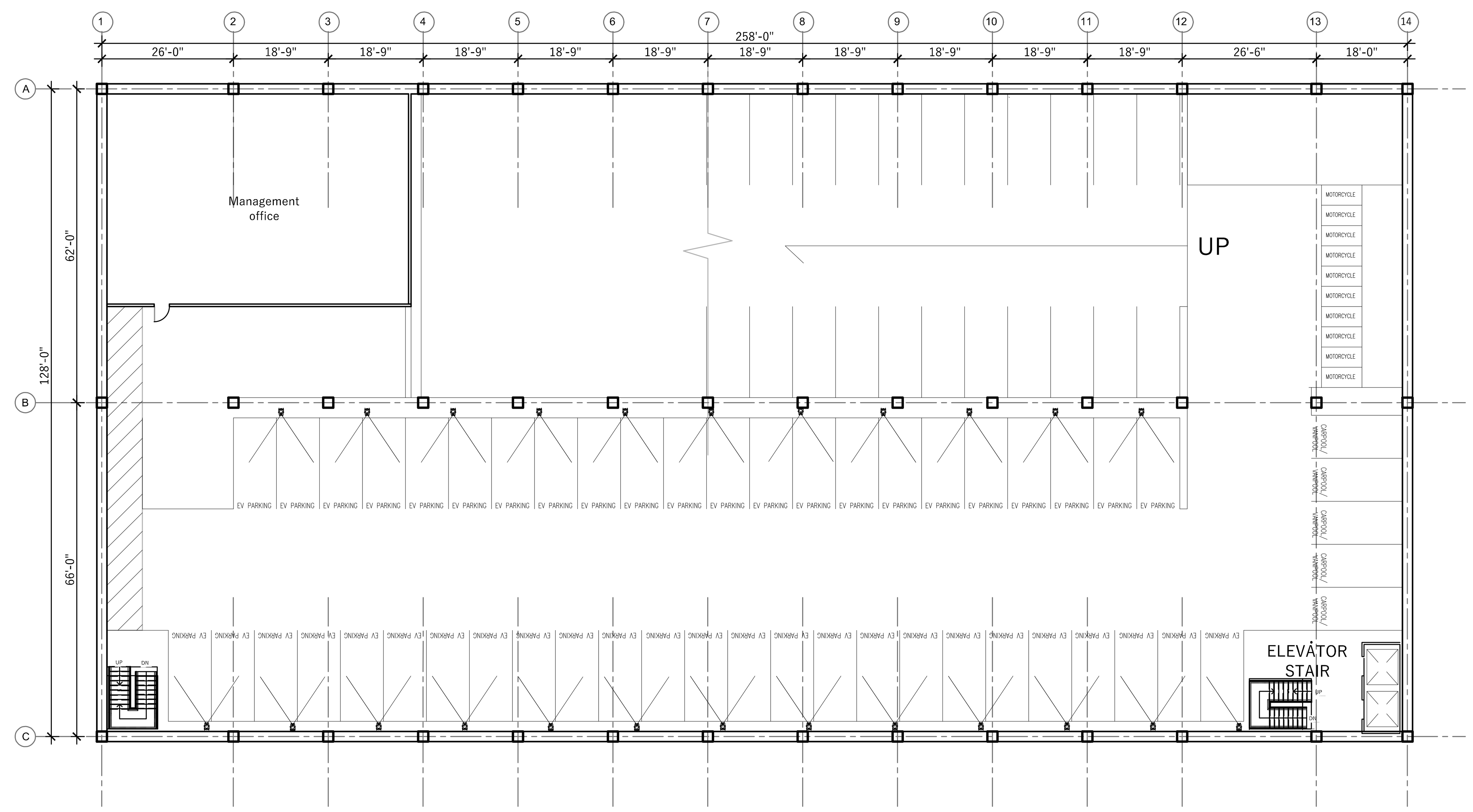
A11.2

Project Number: 10294.001



1 Parking Structure- Basement Level Plan
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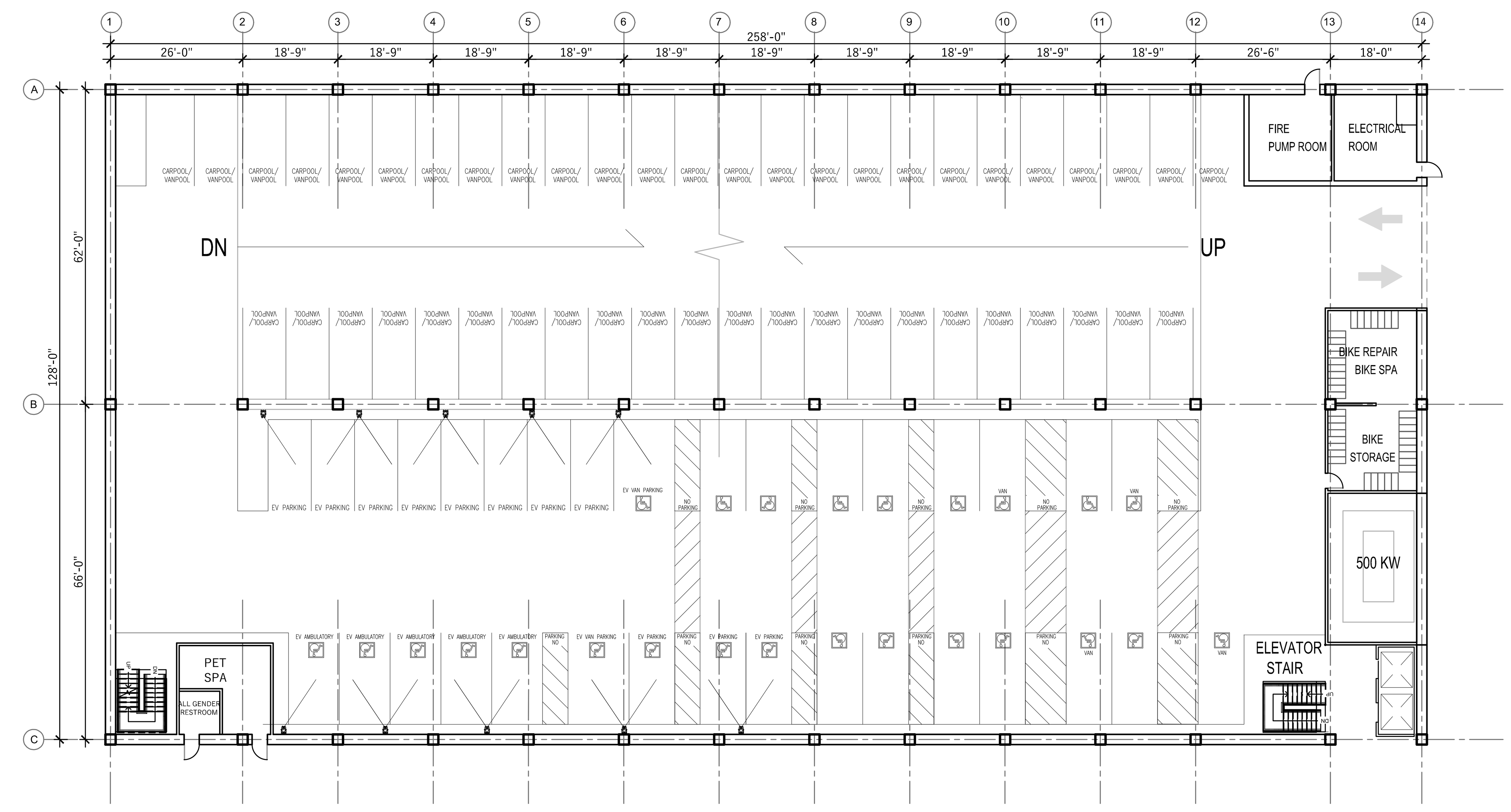
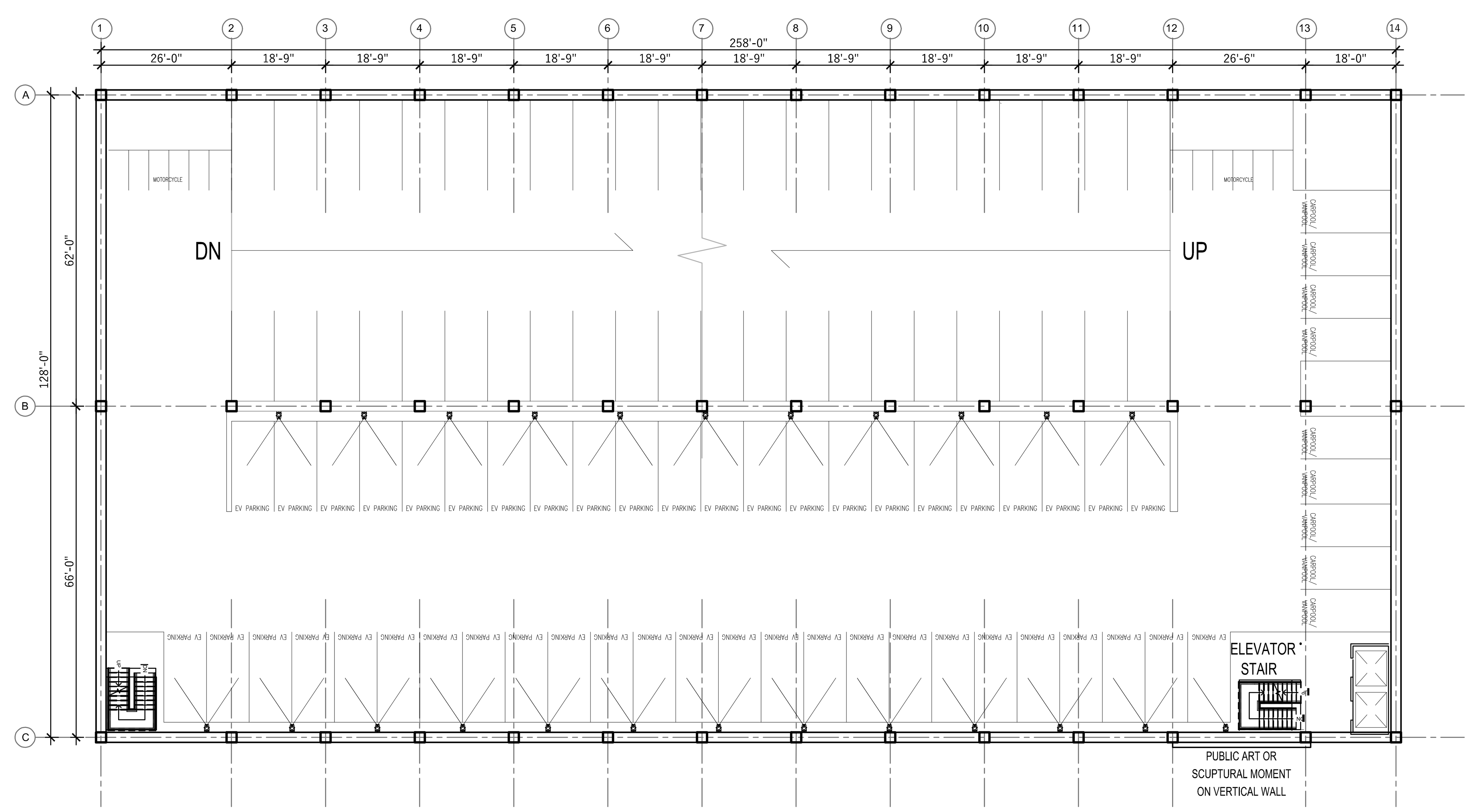
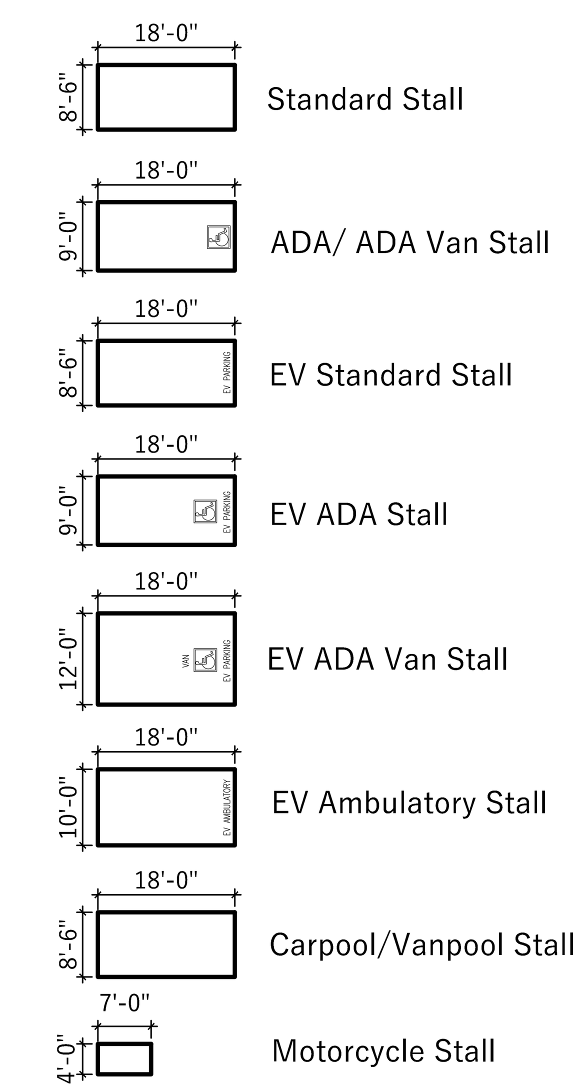


2 Parking Structure- Level 1 Plan
1" = 20'-0"



3 Parking Structure- Typical Level Plan (Levels 2,-3)
1" = 20'-0"

Parking Stall Types

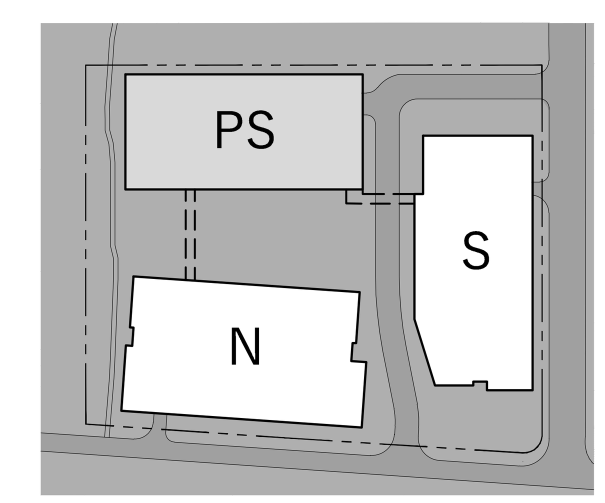


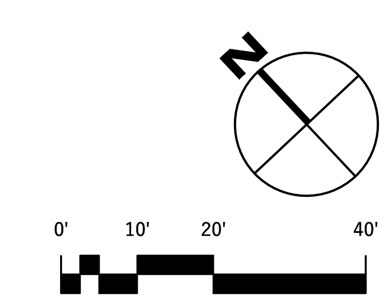
Parking Structure Stall Counts

Parking Level	Stall Count	ADA*	EV**	Carpool/Vanpool
Basement	62 stalls****		47 Installed	5 stalls
Level 1	79 stalls	11 Standard 4 Van	18 Installed 3*** ADA Standard 2*** ADA Van 5*** Ambulatory	46 stalls
Level 2	112 stalls****		47 Installed	9 stalls
Level 3	112 stalls****		47 Installed	9 stalls
Level 4	104 stalls****	5 Standard	31 Installed 2*** ADA Standard	29 stalls
Level 5	105 stalls		5 Installed 42 Capable	
Level 6	105 stalls		47 Capable	
Level 7	105 stalls		31 Capable	
Level 8	105 stalls			
Level 9	44 stalls			
Total	**933 stalls**	**20 stalls**	**195 Installed 120 Capable**	**98 stalls**

*Included in Regular Stall Count
**Per CalGreen requirements, 60 EV Installed and 79 CAV stalls are required
***Included in EV Installed Count

**** Included in Motorcycle stall Count



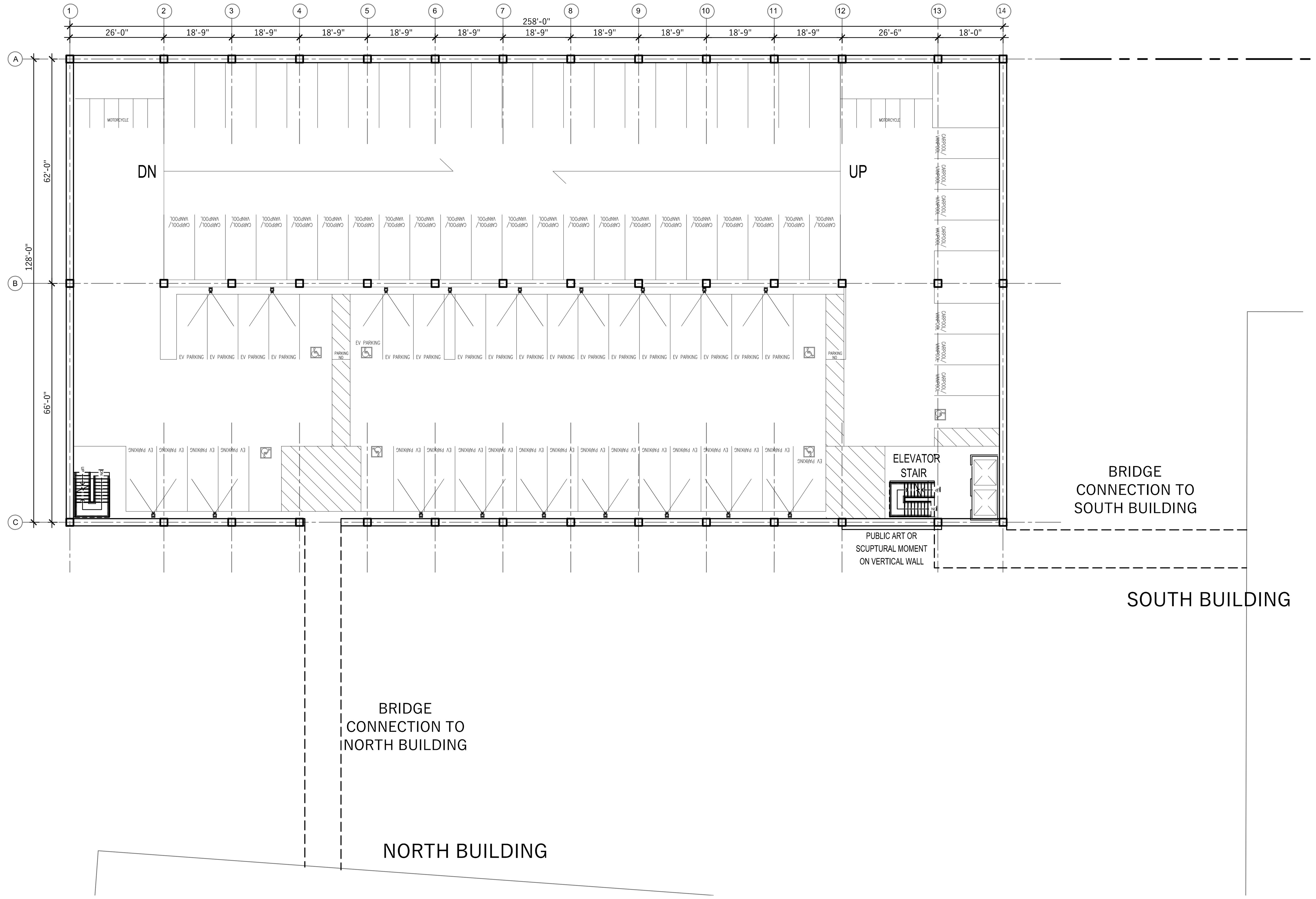


DES ARCHITECTS ENGINEERS
PRESIDIO BAY

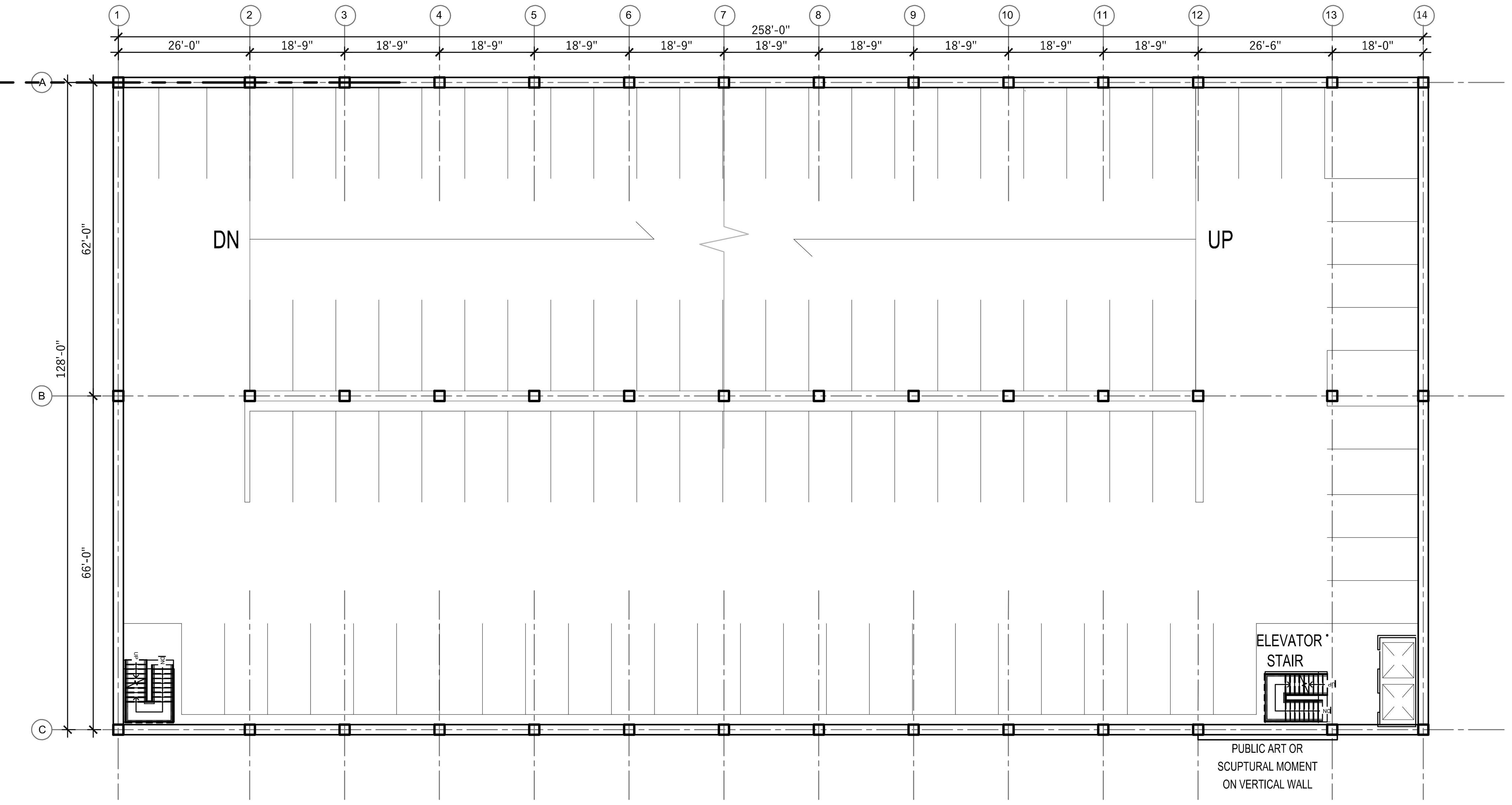
Parking Structure - Floor Plans

642 QUARRY ROAD
PRE APPLICATION SUBMITTAL 08.31.2021
PLANNING SUBMITTAL 10.15.2021
ENTITLEMENT PLAN CHECK RESPONSE 1 01.13.2022

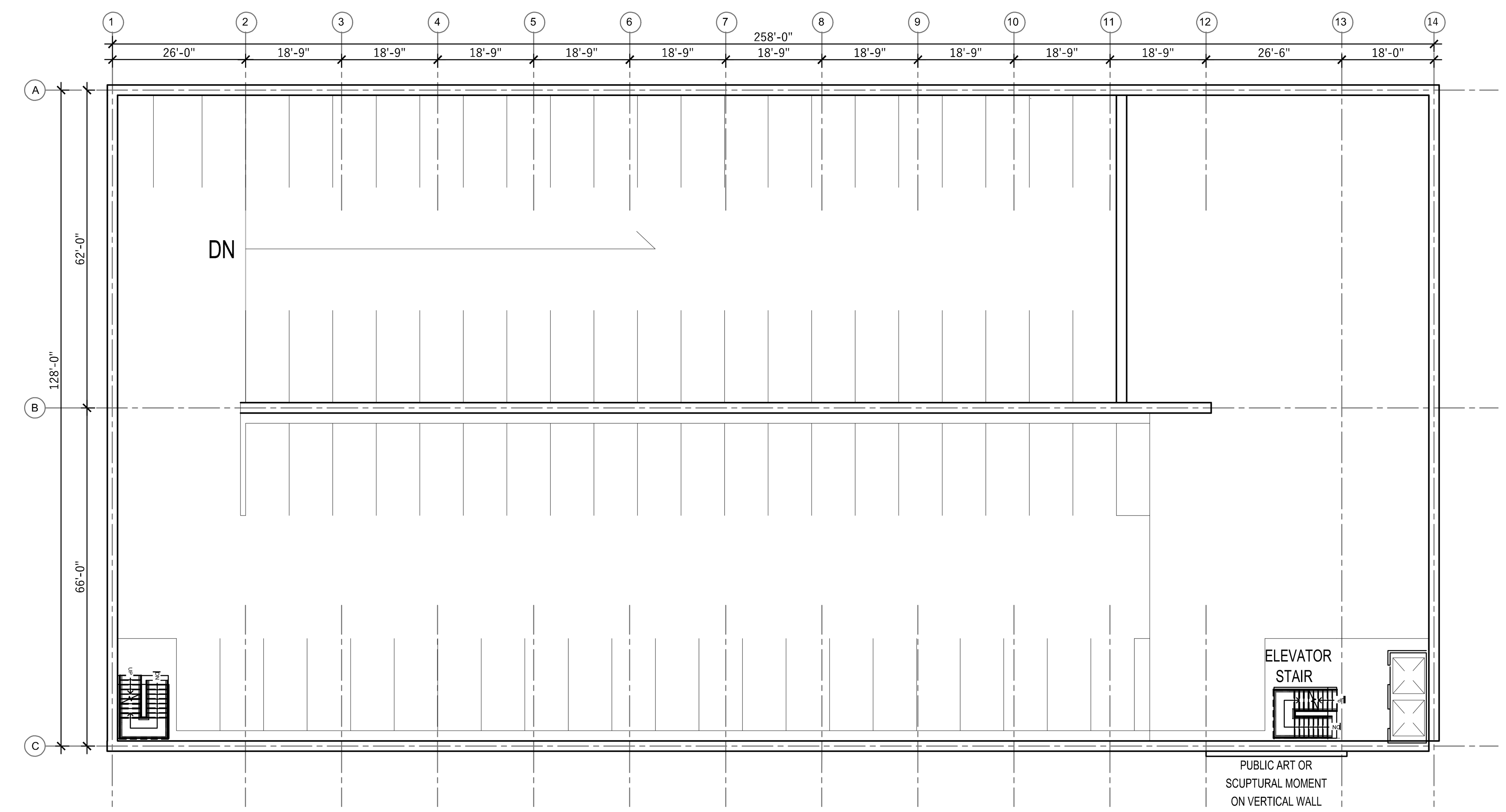
A12.1
Project Number: 10294.001



1 Parking Structure- Level 4 Plan
1" = 20'-0"

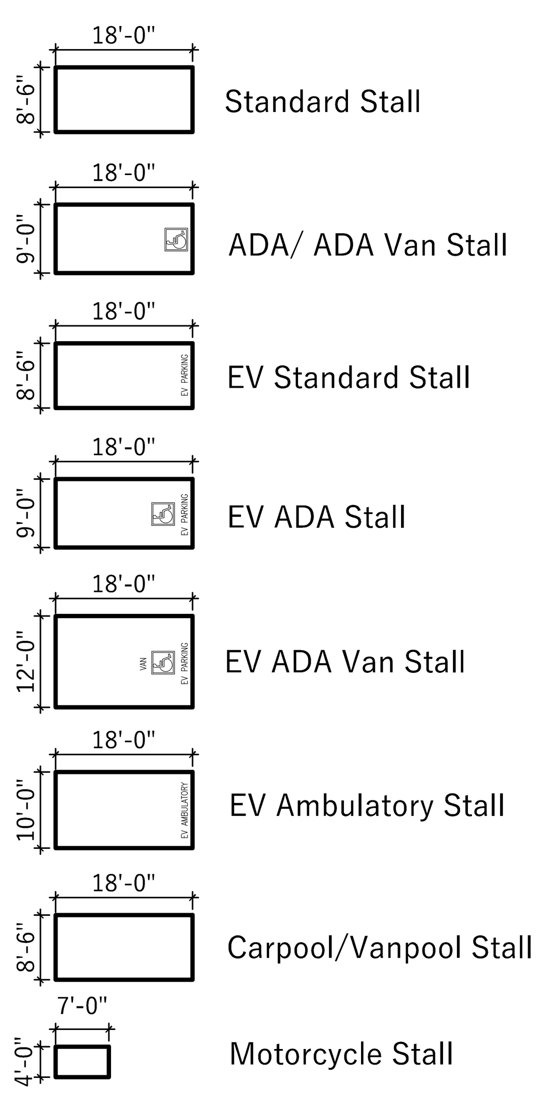


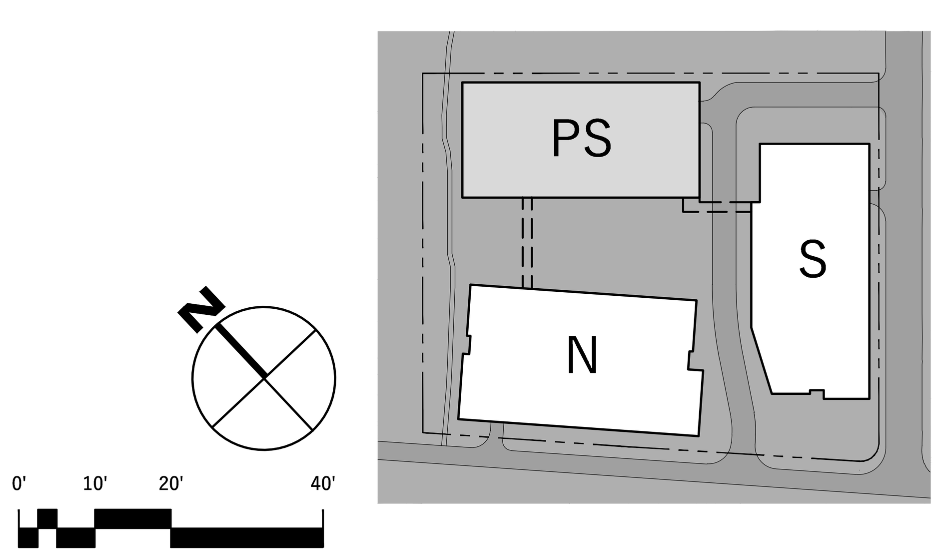
2 Parking Structure- Typical Level Plan (Level 5-8)
1" = 20'-0"



3 Parking Structure- Level 9 Plan
1" = 20'-0"

Parking Stall Types





DES ARCHITECTS ENGINEERS

PRESIDIO BAY

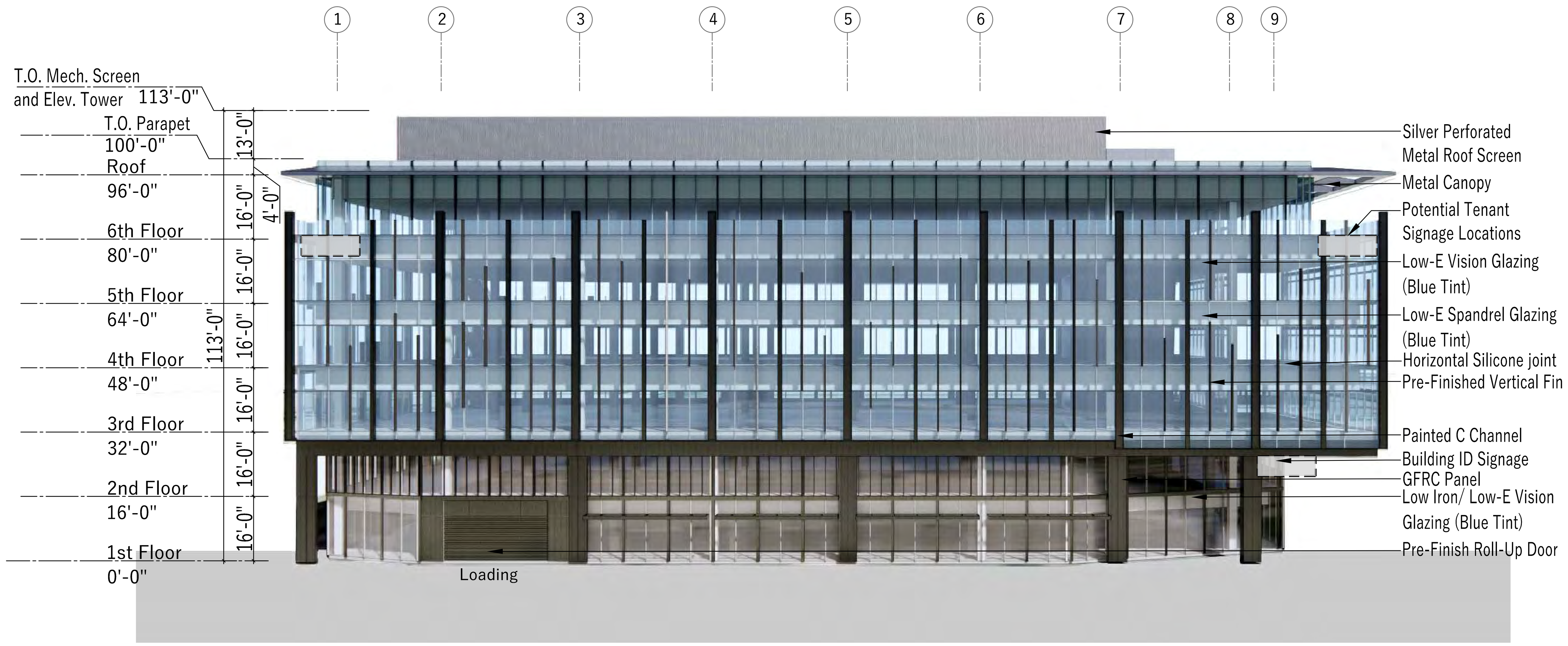
Parking Structure - Floor Plans

642 QUARRY ROAD

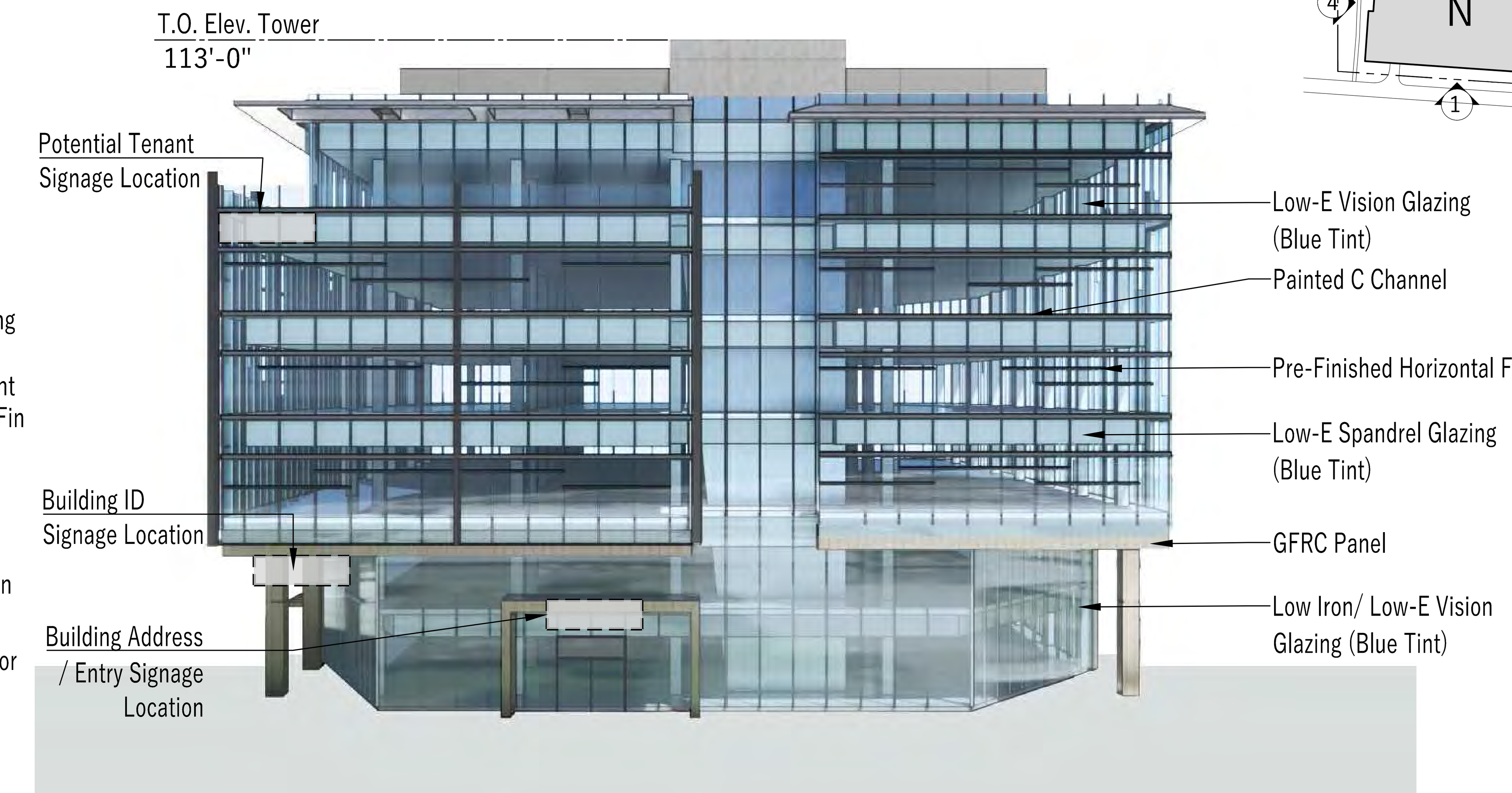
PRE APPLICATION SUBMITTAL 08.31.2021
PLANNING SUBMITTAL 10.15.2021
ENTITLEMENT PLAN CHECK RESPONSE 1 01.13.2022

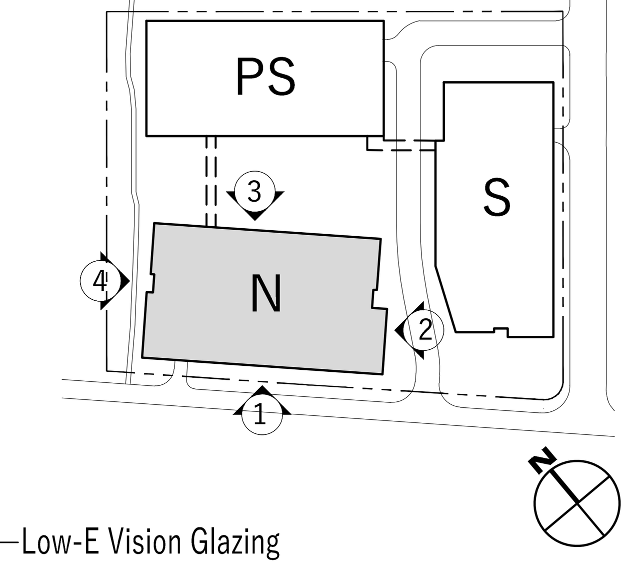
A12.2

Project Number: 10294.001

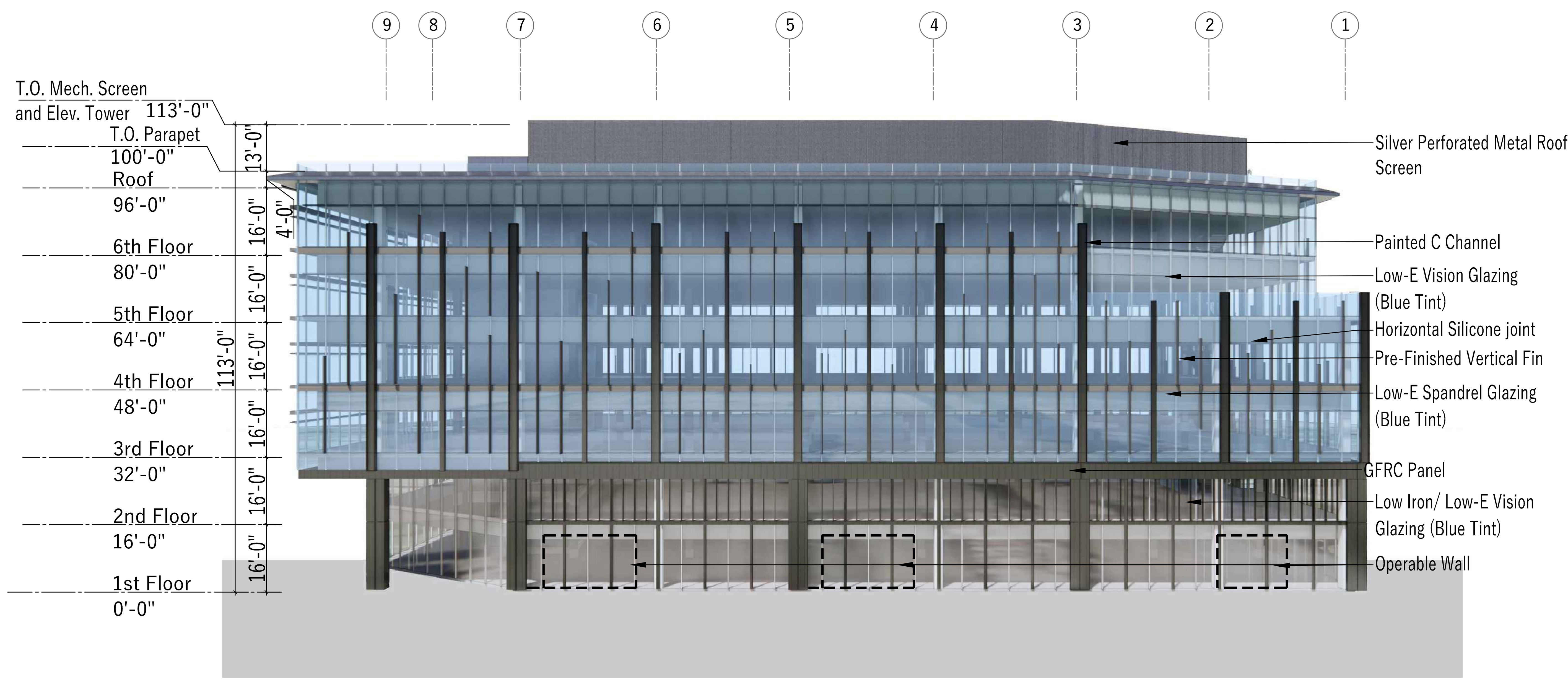


1 Elevation 1
1" = 20'-0"

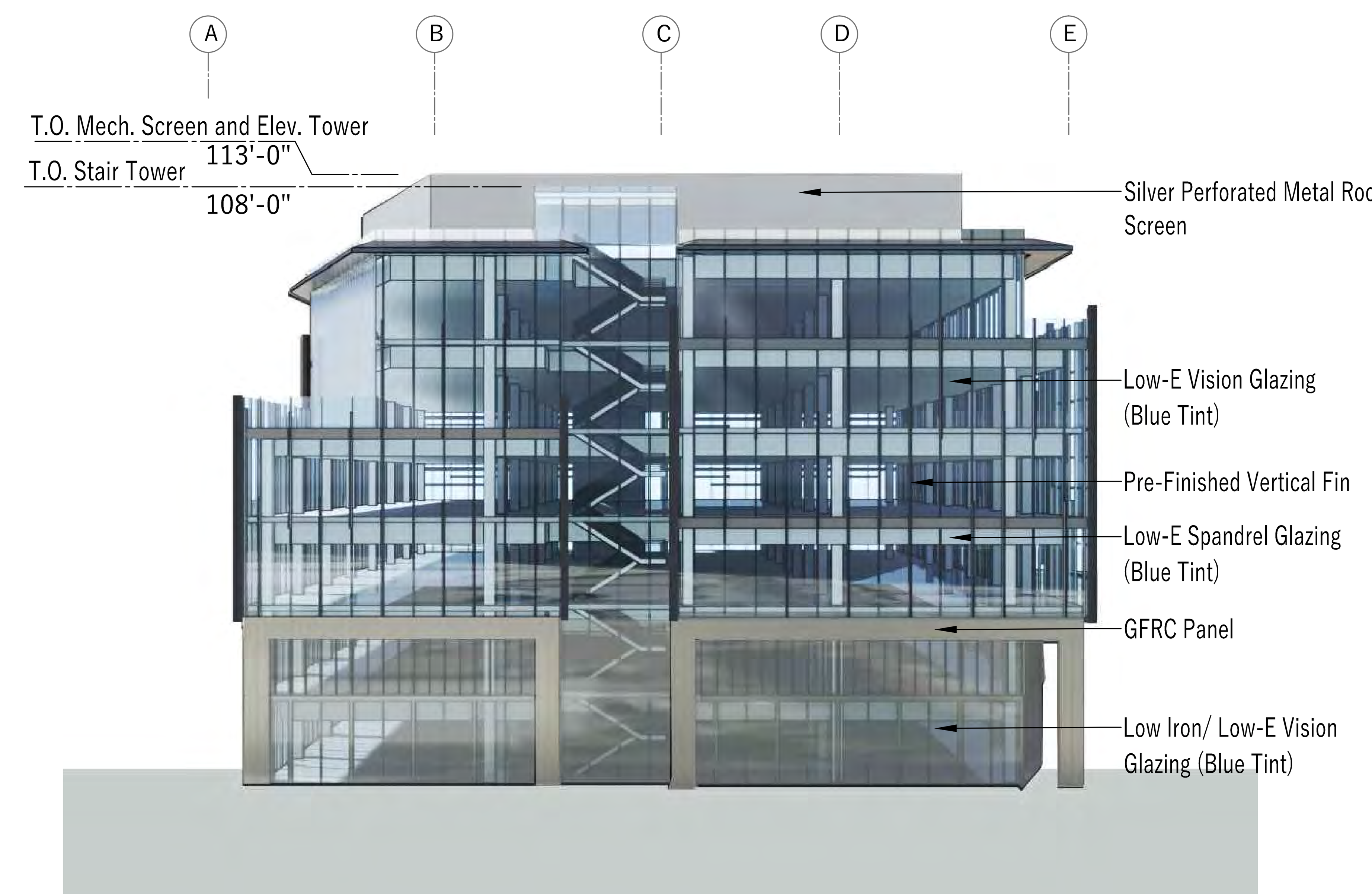




2 Elevation 2
1" = 20'-0"



3 Elevation 3
1" = 20'-0"



4 Elevation 4
1" = 20'-0"

0' 10' 20' 40'

DES ARCHITECTS ENGINEERS

PRESIDIO BAY

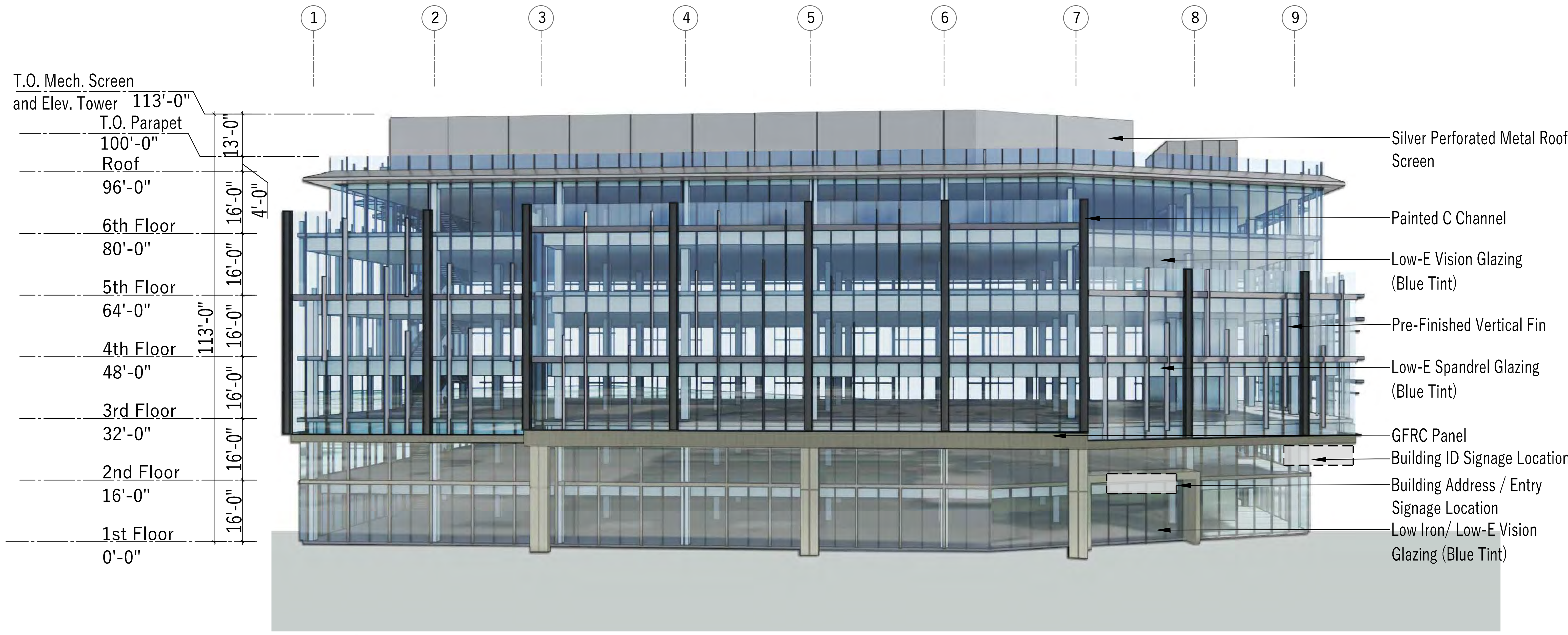
North Building - Elevations

642 QUARRY ROAD

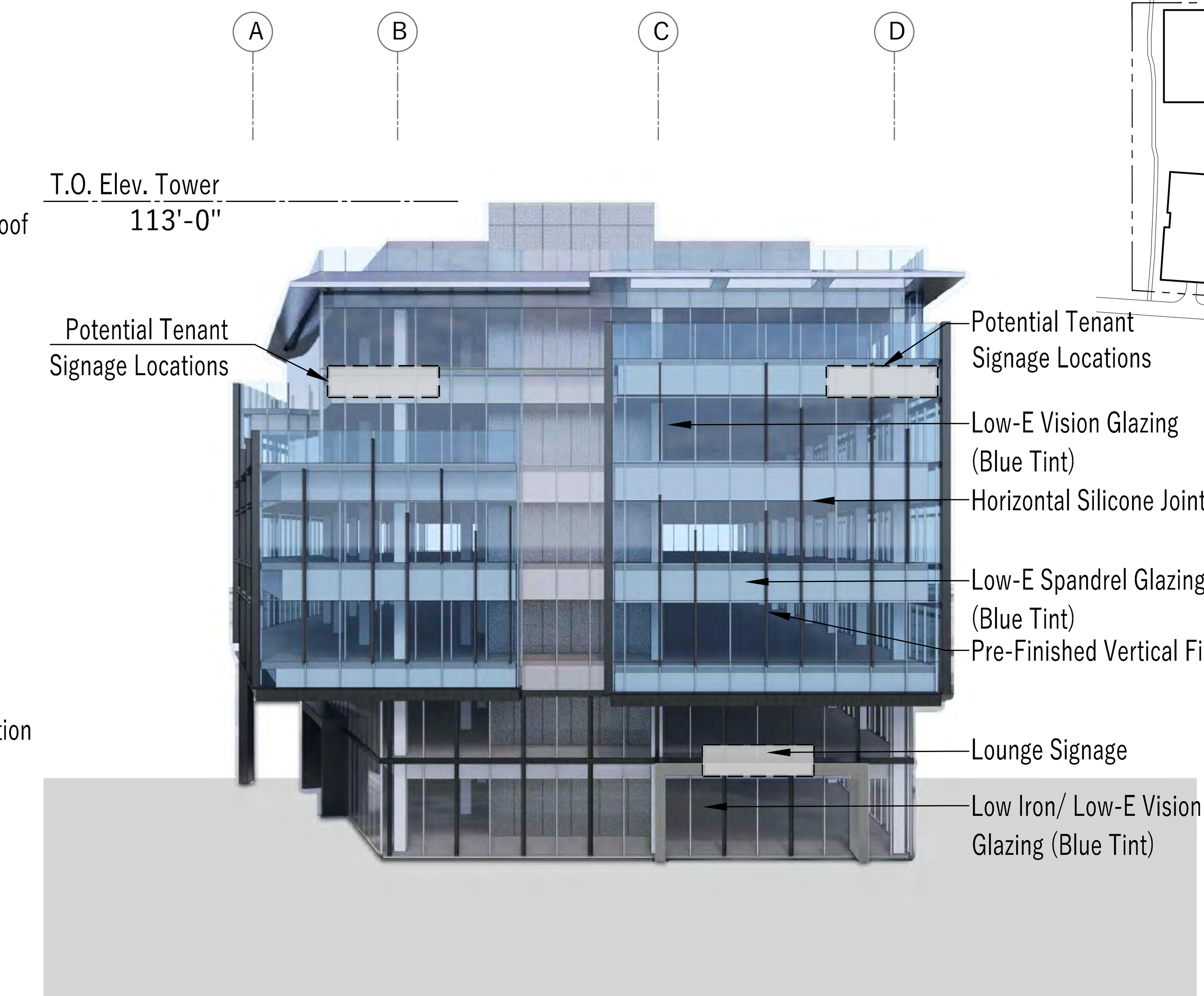
PRE APPLICATION SUBMITTAL 08.31.2021
PLANNING SUBMITTAL 10.15.2021
ENTITLEMENT PLAN CHECK RESPONSE 1 01.13.2022

A13

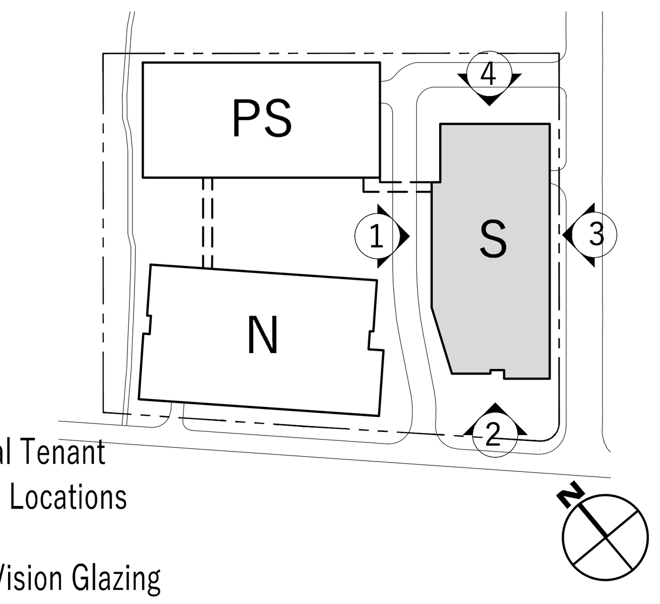
Project Number: 10294.001

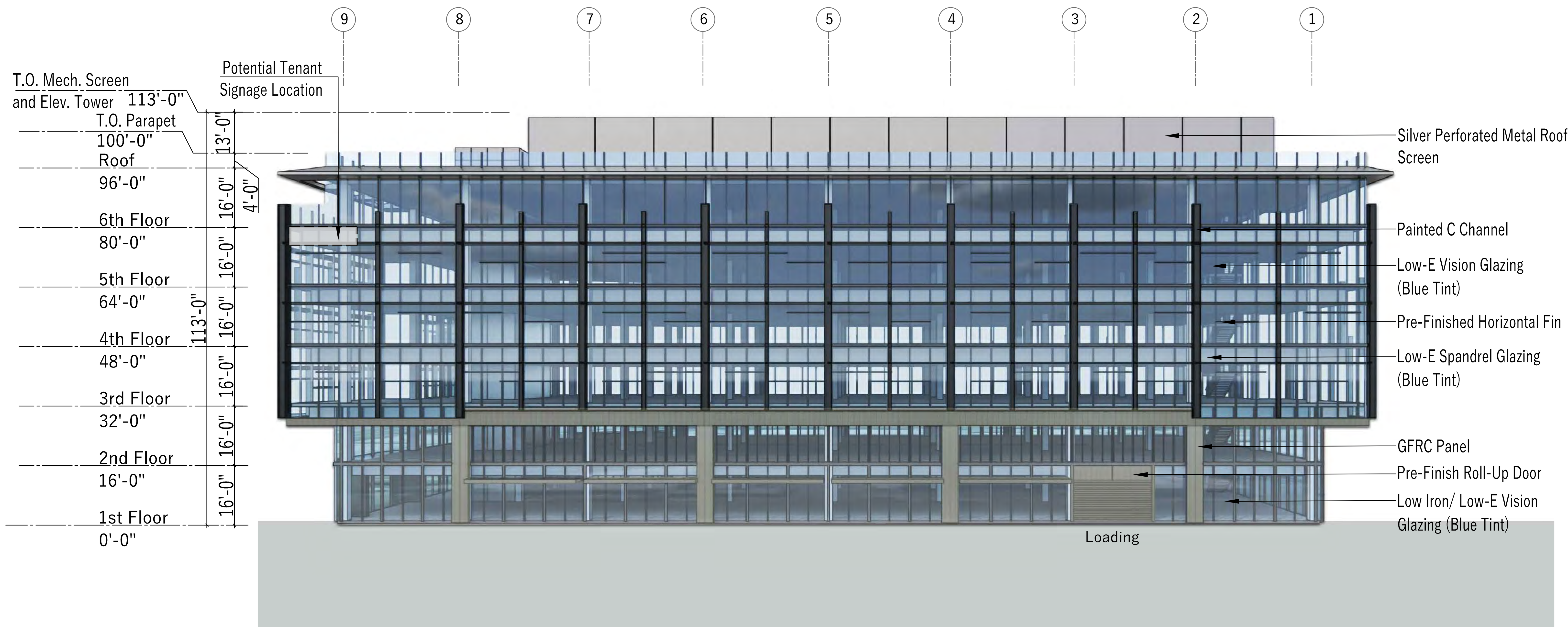


1 Elevation 1
1" = 20'-0"

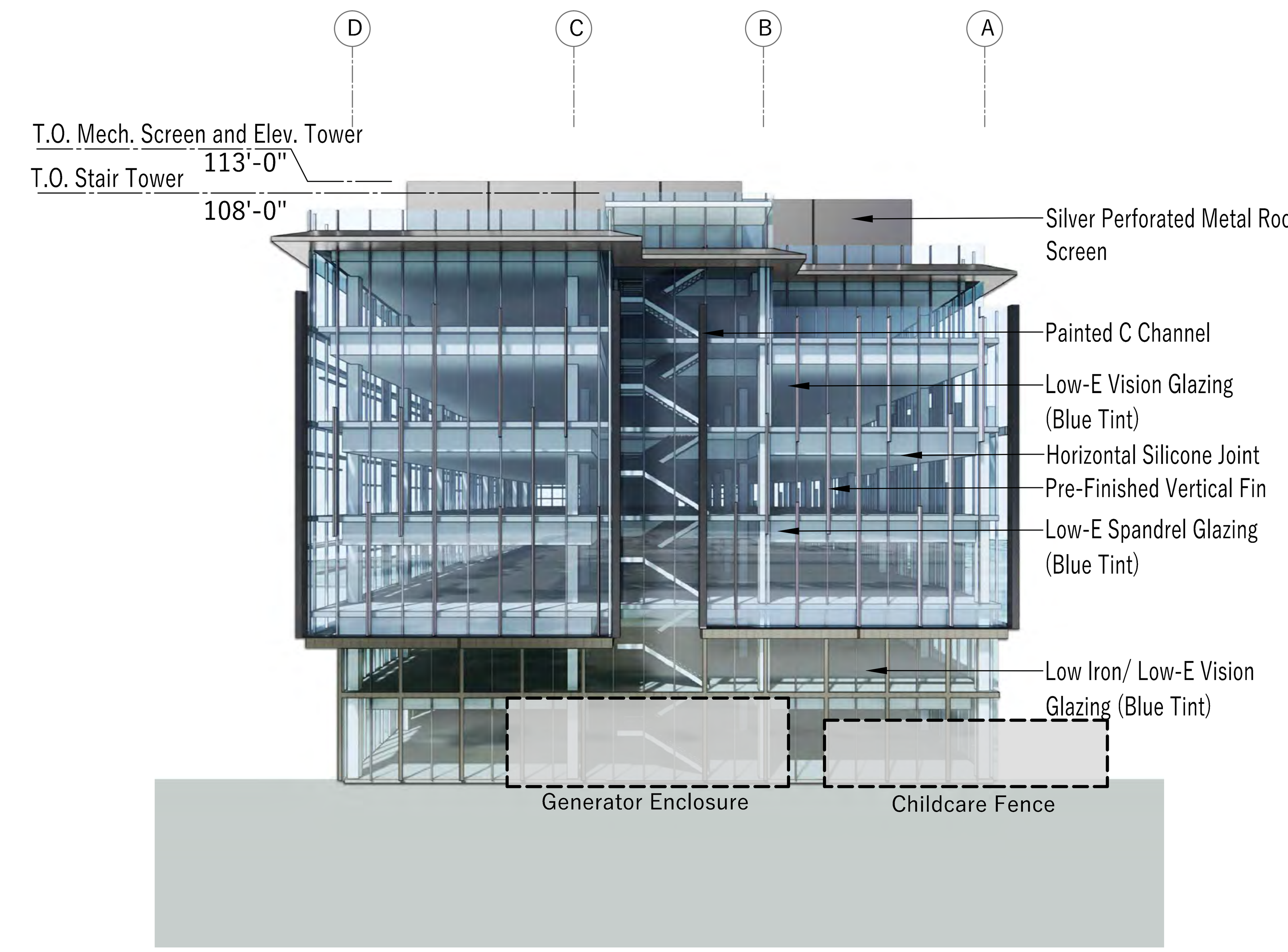


2 Elevation 2
1" = 20'-0"





3 Elevation 3
1" = 20'-0"



4 Elevation 4
1" = 20'-0"

0' 10' 20' 40'

DES ARCHITECTS ENGINEERS

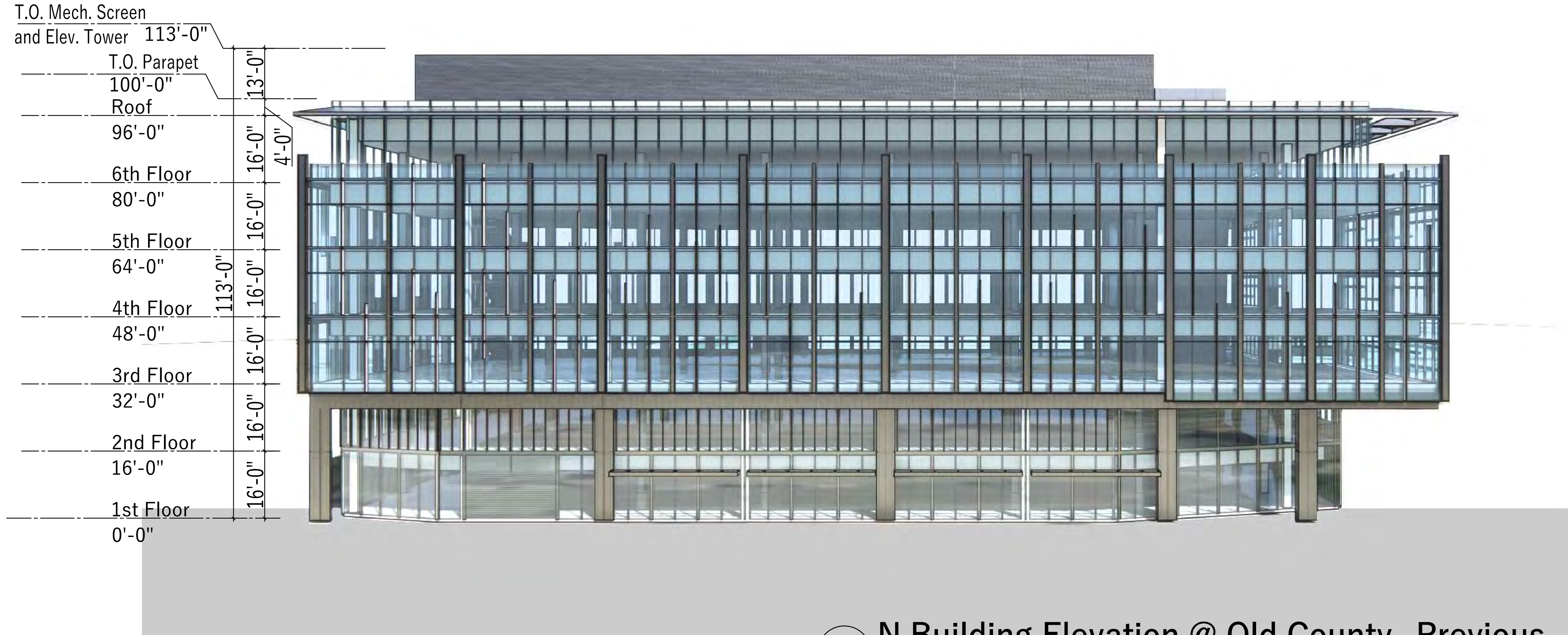
PRESIDIO BAY

South Building - Elevations

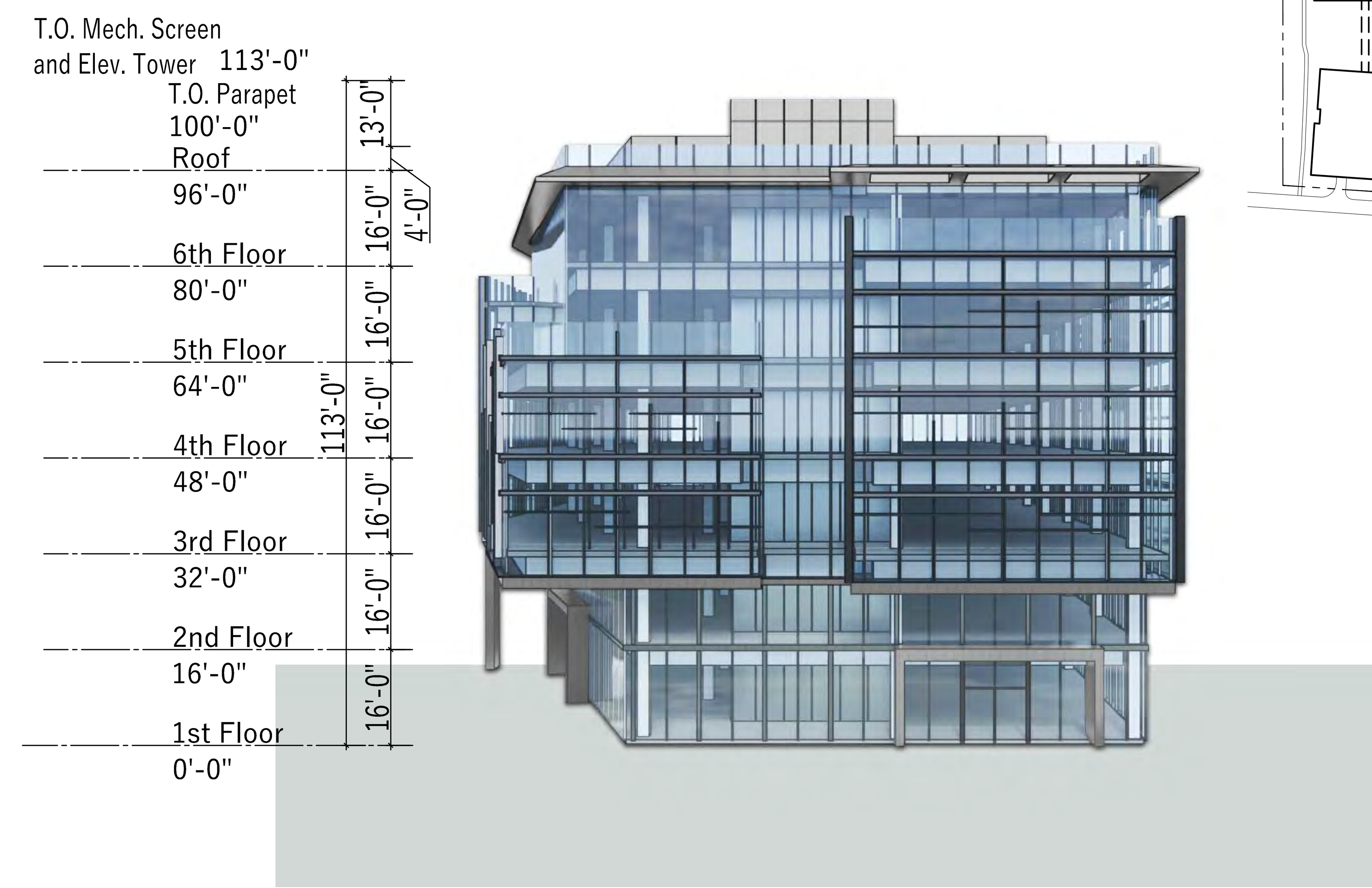
642 QUARRY ROAD
PRE APPLICATION SUBMITTAL 08.31.2021
PLANNING SUBMITTAL 10.15.2021
ENTITLEMENT PLAN CHECK RESPONSE 1 01.13.2022

A14

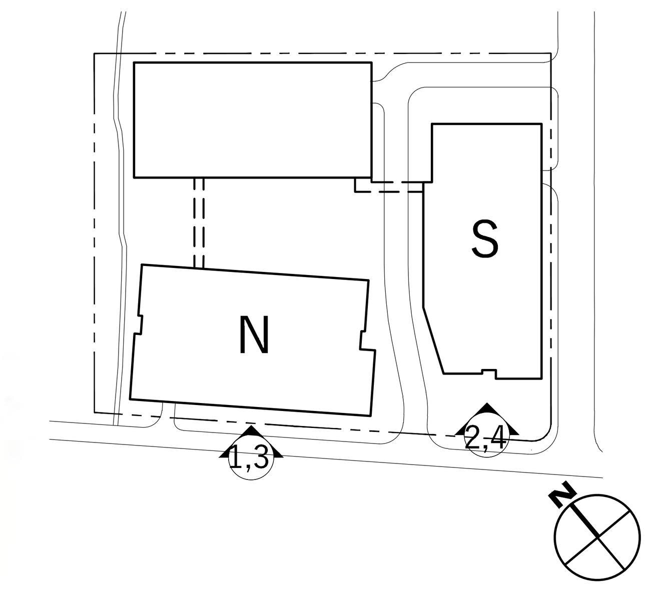
Project Number: 10294.001



1 N.Building Elevation @ Old County- Previous
1" = 20'-0"

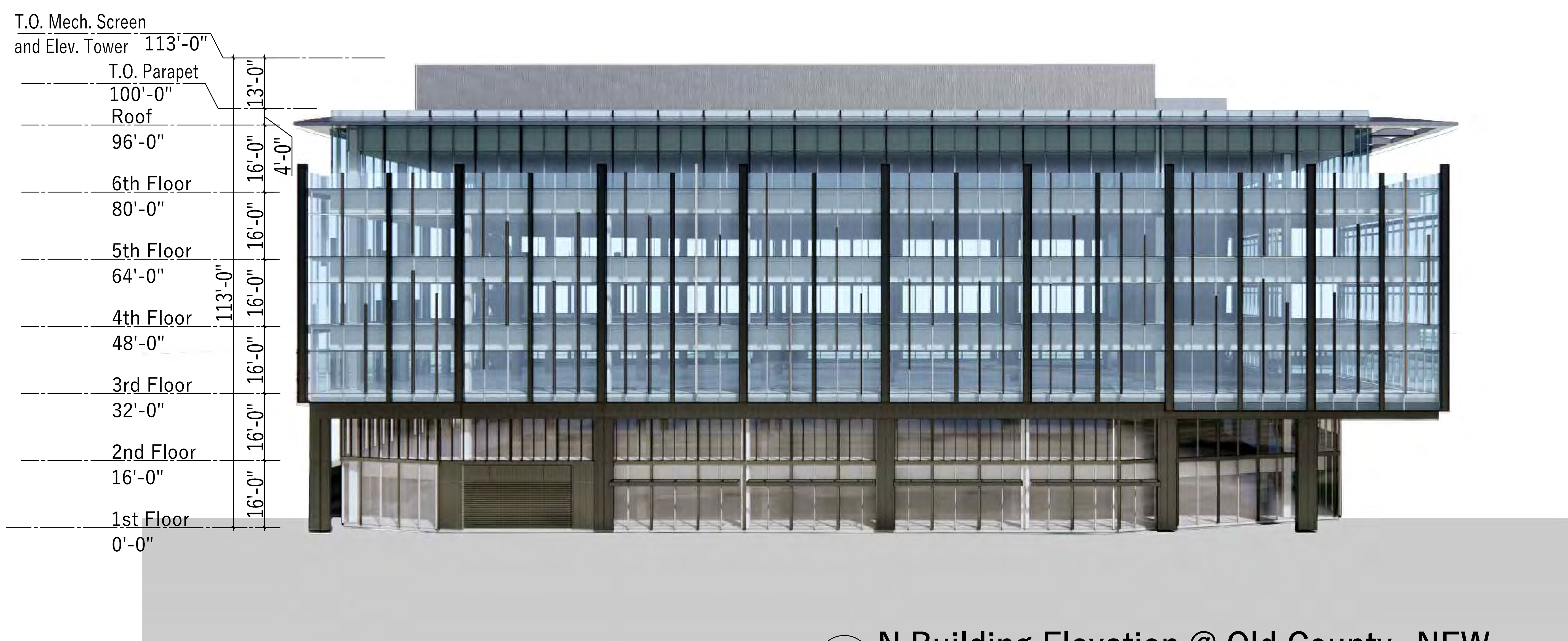


2 S.Building Elevation @ Old County- Previous
1" = 20'-0"

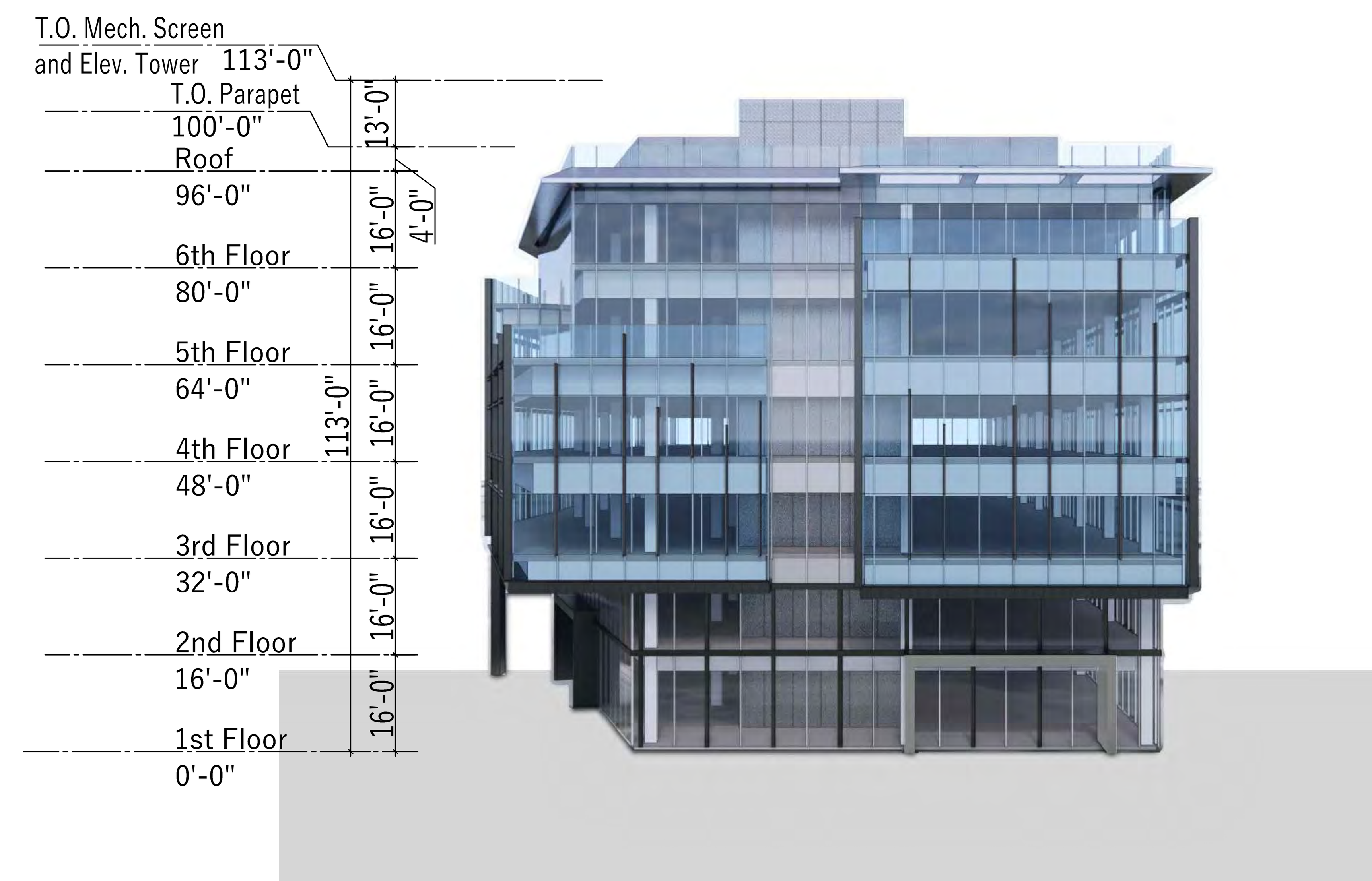


Design Modification - Remove random horizontal fins and horizontal extrusions

Design Modification - Remove random horizontal fins and horizontal extrusions



3 N.Building Elevation @ Old County- NEW
1" = 20'-0"



4 S.Building Elevation @ Old County- NEW
1" = 20'-0"

0' 10' 20' 40'

DES ARCHITECTS ENGINEERS

PRESIDIO BAY

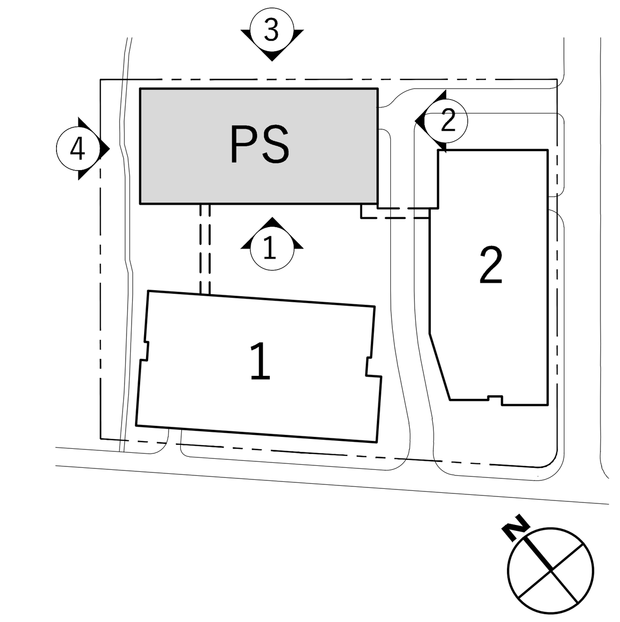
Building Elevations Update

642 QUARRY ROAD

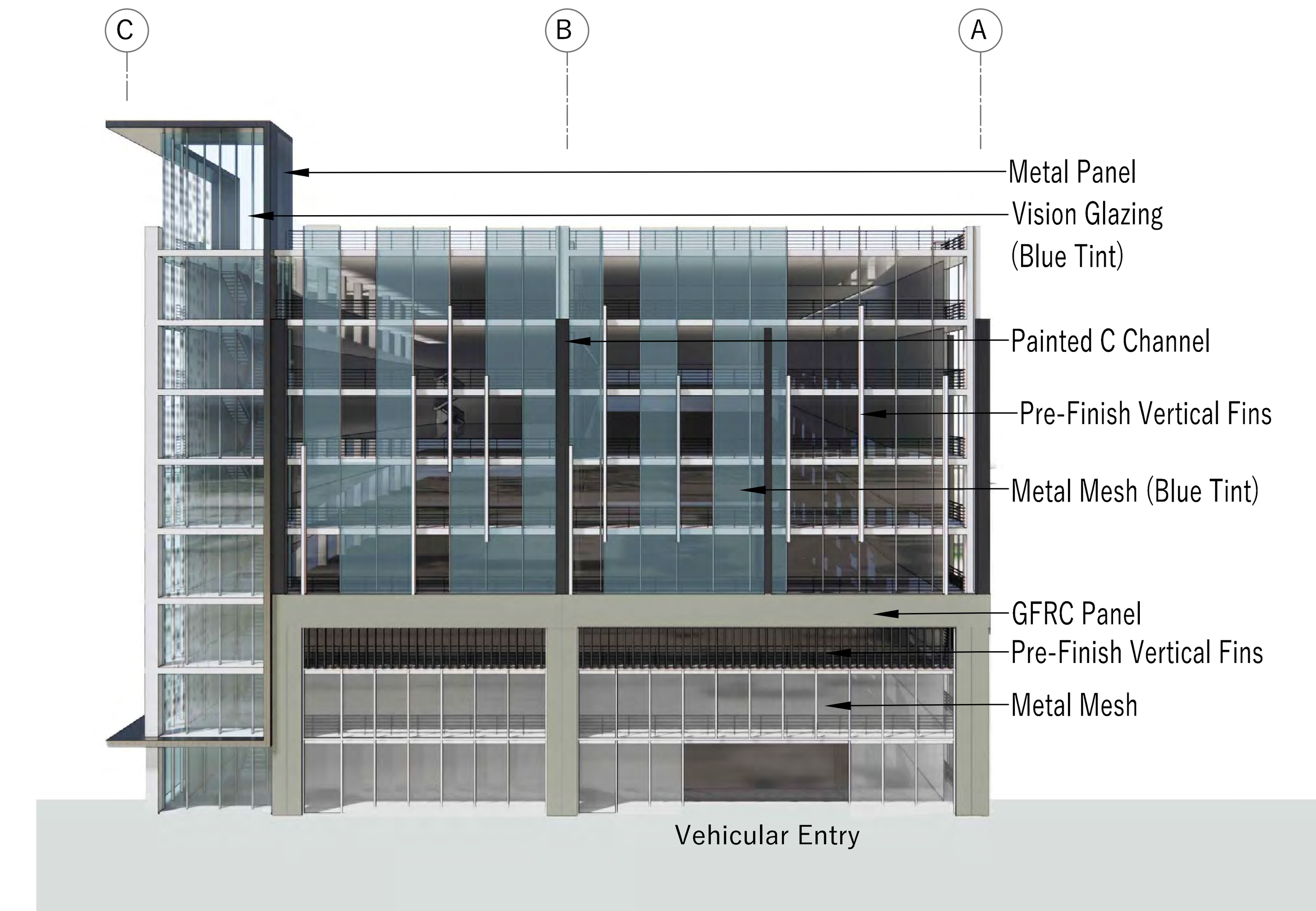
PRE APPLICATION SUBMITTAL 08.31.2021
PLANNING SUBMITTAL 10.15.2021
ENTITLEMENT PLAN CHECK RESPONSE 1 01.13.2022

A14.1

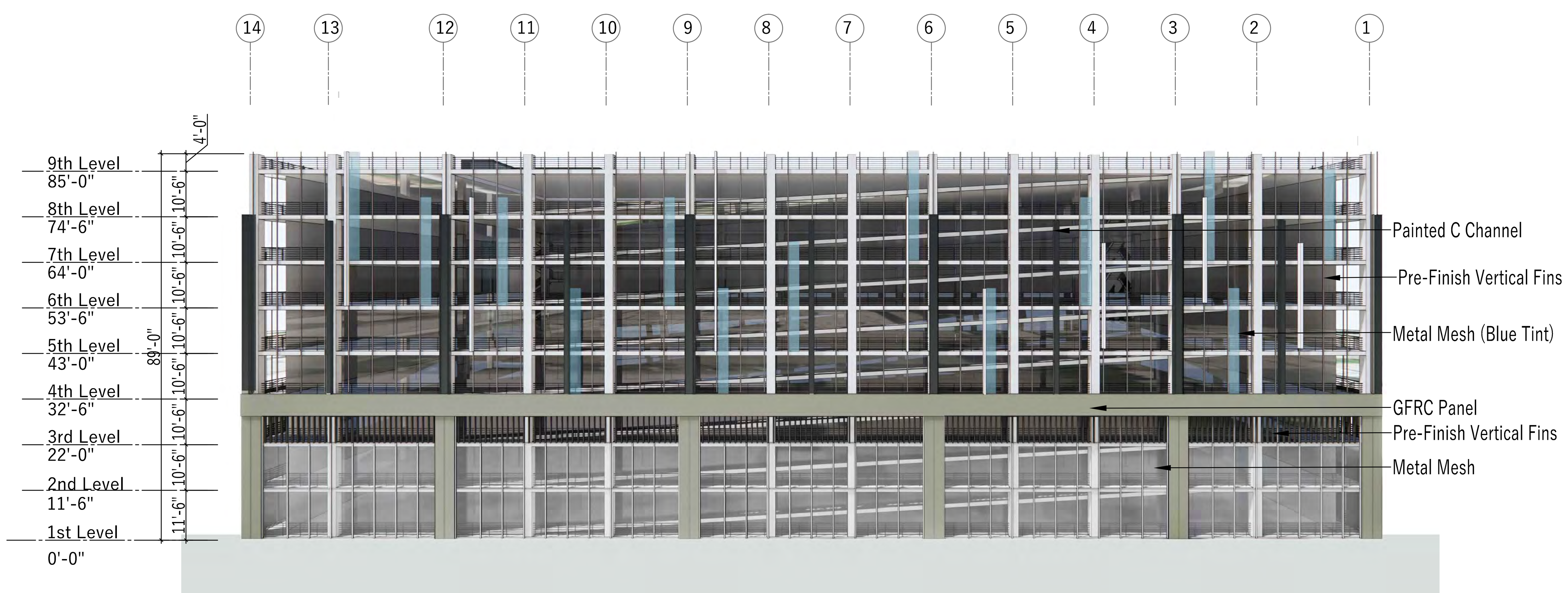
Project Number: 10294.001



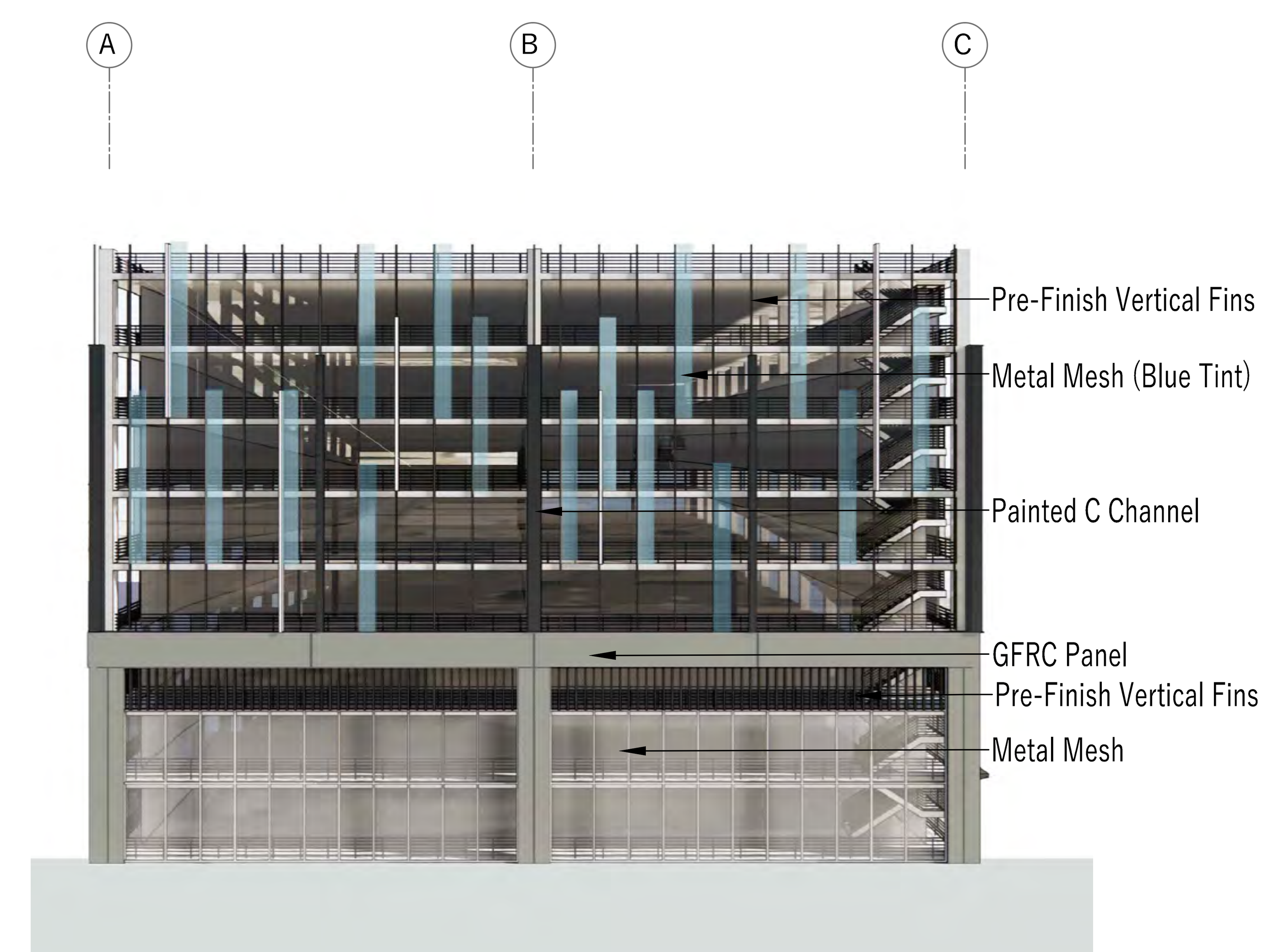
1 Elevation 1
1" = 20'-0"



2 Elevation 2
1" = 20'-0"



3 Elevation 3
1" = 20'-0"



4 Elevation 4
1" = 20'-0"

0' 10' 20' 40'

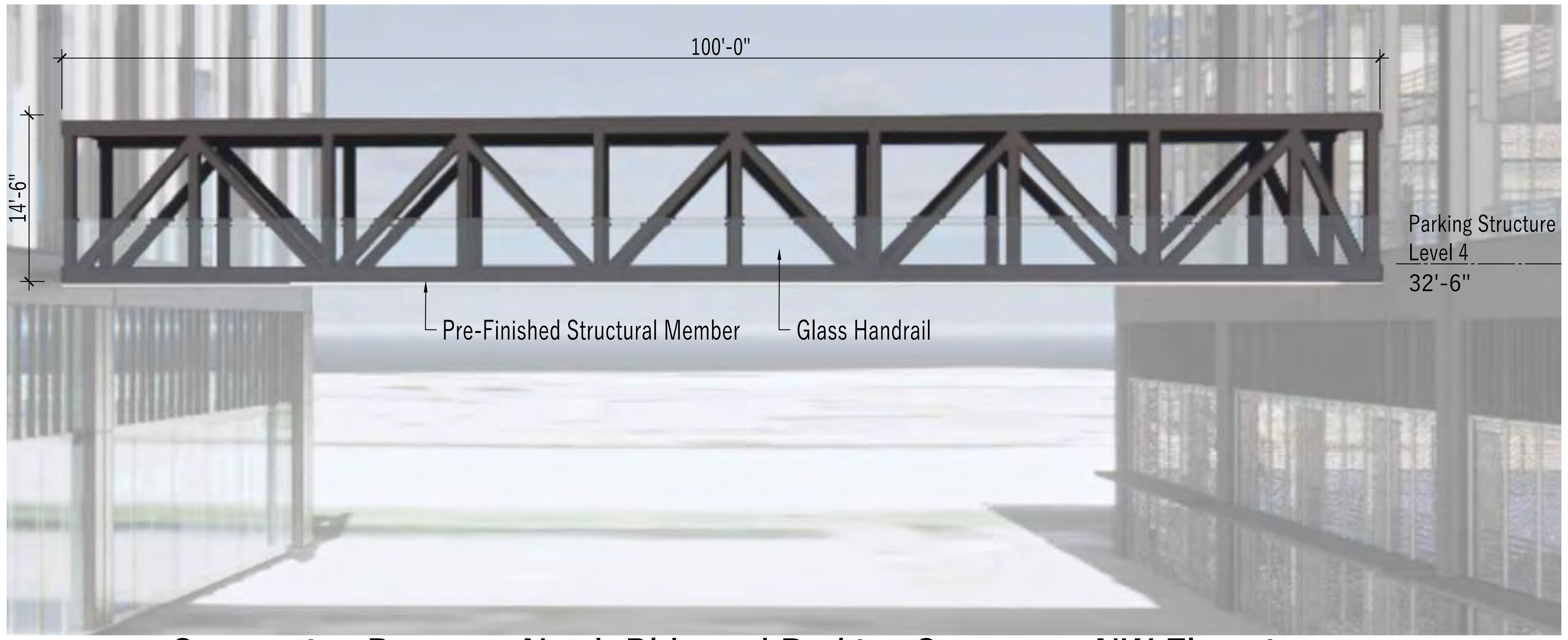
DES ARCHITECTS ENGINEERS

PRESIDIO BAY

Parking Structure - Elevations

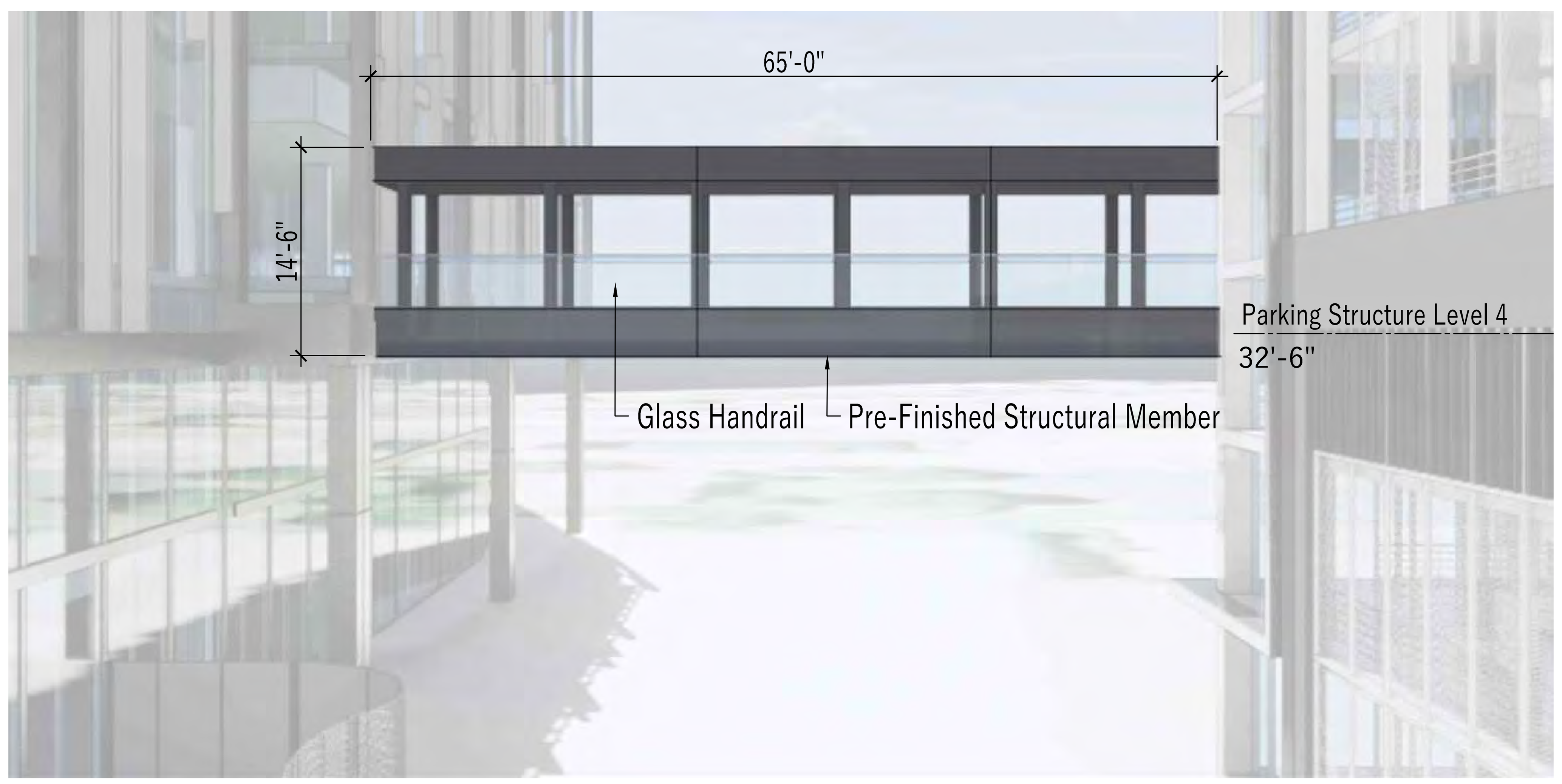
642 QUARRY ROAD
PRE APPLICATION SUBMITTAL 08.31.2021
PLANNING SUBMITTAL 10.15.2021
ENTITLEMENT PLAN CHECK RESPONSE 1 01.13.2022

A15
Project Number: 10294.001

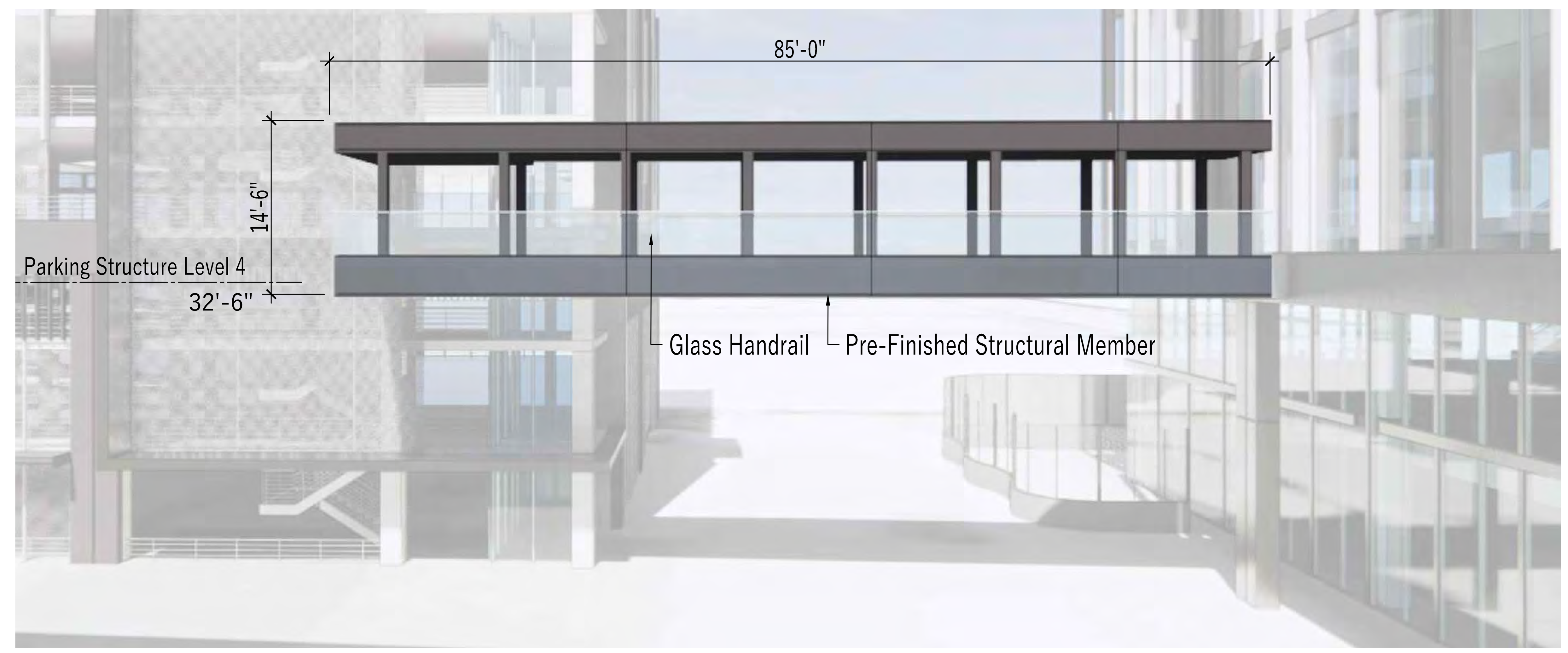


① **Connection Between North Bldg and Parking Structure -NW Elevation**
1/8"=1'-0"

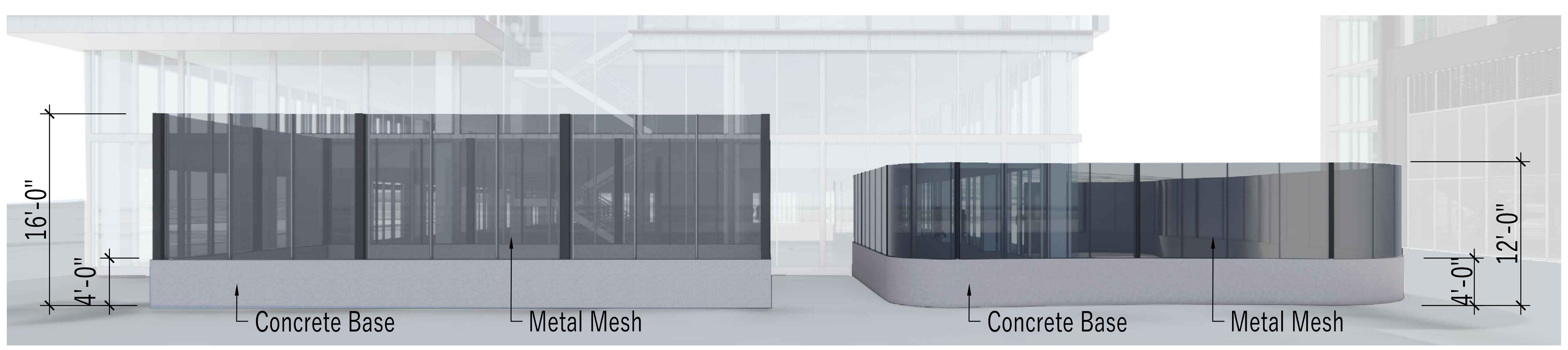
② **Connection Between North Bldg and Parking Structure - SE Elevation**
1/8"=1'-0"



③ **Connection Between South Bldg and Parking Structure - SW Elevation**
1/8"=1'-0"



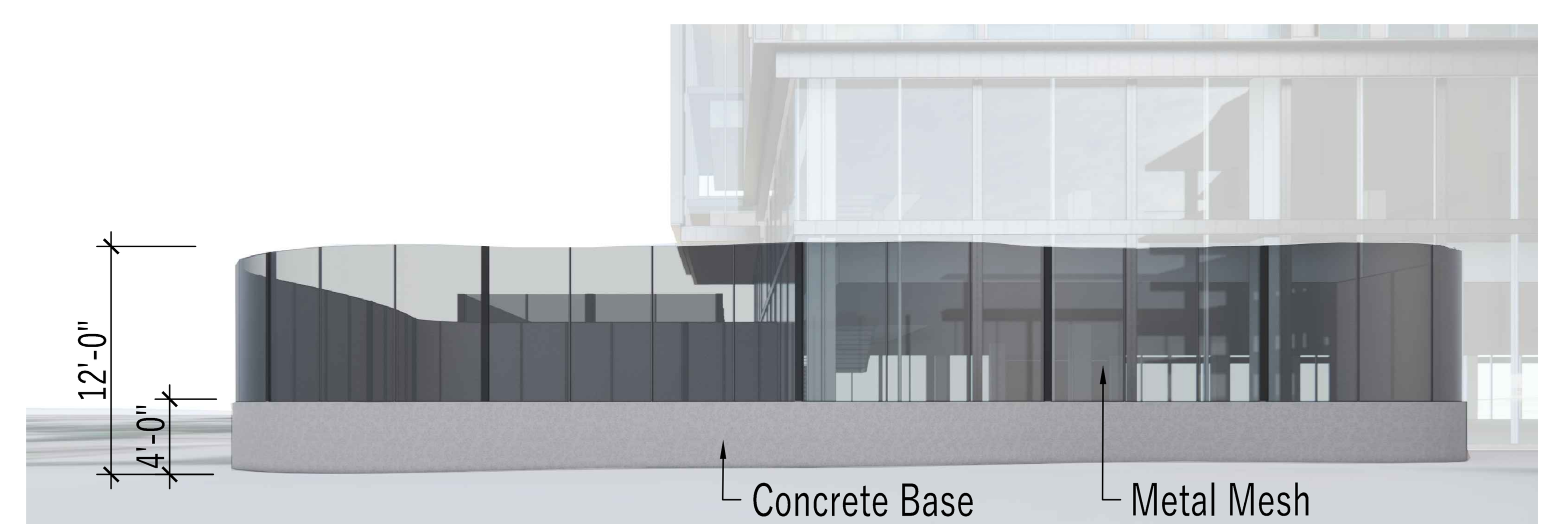
④ **Connection Between South Bldg and Parking Structure - NE Elevation**
1/8"=1'-0"



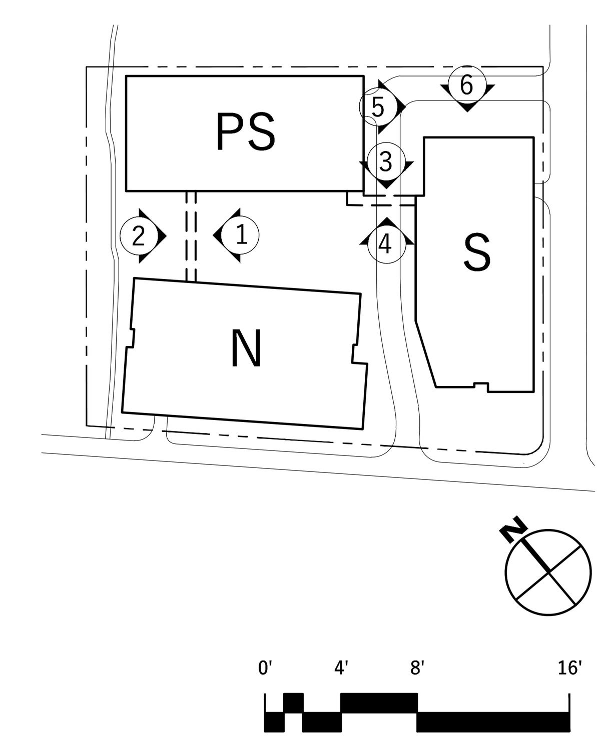
GENERATOR ENCLOSURE

CHILDCARE CENTER FENCE

⑤ **Generator Enclosure and Childcare Center Fence Elevation**
1/8"=1'-0"



⑥ **Childcare Center Fence Elevation**
1/8"=1'-0"



DES ARCHITECTS ENGINEERS

PRESIDIO BAY

Miscellaneous Elevations

642 QUARRY ROAD

PRE APPLICATION SUBMITTAL 08.31.2021
PLANNING SUBMITTAL 10.15.2021
ENTITLEMENT PLAN CHECK RESPONSE 1 01.13.2022

A16

Project Number: 10294.001

LEGEND

TREE TO REMAIN

DIA. MEASURED AT 48" ABOVE NATURAL GRADE

TREE TO BE REMOVED

#X

TREE INFORMATION TABLE

TREE #	BOTANICAL NAME	COMMON NAME	DIA. (in) AT 48" HT	CIRCUMFERENCE (in) AT 48" HT	TO BE REMOVED	REASON FOR REMOVAL	PROTECTED
170	CORYMBIA FICIFOLIA	RED FLOWERING GUM	24	75	X		SIGNIFICANT
171	MAYTENUS BOARIA	MAYTEN	10	31	X		NO
172	PRUNUS AVIUM	CHERRY	10	31	X		NO
173	JUNIPERUS CHINENSIS 'KAIZUKA'	HOLLYWOOD JUNIPER	12	38	X		SIGNIFICANT
174	PRUNUS AVIUM	CHERRY	7	22	X		NO
175	PHOTINIA FRASERI	PHOTINIA	5,5,5,5,5,4,3	16,16,16,16,16,,12,9	X		SIGNIFICANT
176	MELALEUCA VIMINALIS	WEEPING	12,9,7,6,5	38,28,22,19,16	X		SIGNIFICANT
177	MELALEUCA VIMINALIS	WEEPING	12,9,6,6	38,28,19,19	X		SIGNIFICANT
178	PISTACIA CHINENSIS	CHINESE PISTACHE	16	50	X		SIGNIFICANT
179	PRUNUS CAROLINIANA	CAROLINA CHERRY LAUREL	8	25	X		NO
180	MGNOLIA X SOULANGIANA	SAUCER MAGNOLIA	10,9,7	31,28,22	X		SIGNIFICANT
181	PRUNUS CAROLINIANA	CAROLINA CHERRY LAUREL	6,5	19,16	X		NO
182	EUGENIA UNIFLORA	DWARF BRUSH CHERRY	8,7,6,6	25,22,19,19	X		SIGNIFICANT
183	JUNIPERUS CHINENSIS 'KAIZUKA'	HOLLYWOOD JUNIPER	7	22	X		NO
184	AFROCARPUS FALCATUS	AFRICAN FERN–PINE	21	66	X		SIGNIFICANT
185	AFROCARPUS FALCATUS	AFRICAN FERN–PINE	20	63	X		SIGNIFICANT
186	PRUNUS CERASIFERA	PURPLELEAF PLUM	8	25	X		NO
187	PRUNUS CERASIFERA	PURPLELEAF PLUM	7	22	X		NO
188	QUERCUS AGRIFOLIA	COAST LIVE OAK	11,11,9	34,34,28	X		HERITAGE
189	POPULUS NIGRA 'ITALICA'	LOMBARDY POPLAR	16,16,13,12,10	50,50,41,38,31			SIGNIFICANT
190	ACACIA MELANOXYLON	BLACKWOOD ACACIA	19,13	60,41	X		NO
191	ACACIA MELANOXYLON	BLACKWOOD ACACIA	15	47	X		NO
192	POPULUS NIGRA 'ITALICA'	LOMBARDY POPLAR	13	41			SIGNIFICANT
193	QUERCUS AGRIFOLIA	COAST LIVE OAK	10	31	X		HERITAGE
194	ACACIA BAILEYANA	BAILEY ACACIA	16	50			NO

TOTAL NUMBER OF TREES TO BE REMOVED: 22
TOTAL NUMBER OF PROTECTED TREES TO BE REMOVED: 12
TOTAL NUMBER OF PROPOSED TREES: 116

NOTE:
1. LOCATION AND MEASUREMENTS PROVIDED BY BKF ENGINEERS AND HORTSCIENCE | BARTLETT CONSULTING ARBORIST: DARYA BARAR, MANAGING CONSULTING URBAN FORESTER, ISA CERTIFIED ARBORIST NO. WE-6757A REGISTERED CONSULTING ARBORIST #693, ISA TREE RISK ASSESSMENT QUALIFIED
2. REFER TO CITY OF SAN CARLOS PLANNING DIVISION 'PROTECTED TREE CATEGORY THRESHOLDS' FOR CLASSIFICATION OF PROTECTED TREE.
3. ALL TREE REMOVALS ARE PART OF NEW CONSTRUCTION/DEVELOPMENT.
4. REFER TO SAN CARLOS MUNI CODE 18.18.070.C.4 FOR CLASSIFICATION OF REASONS FOR REMOVAL.

DES ARCHITECTS ENGINEERS
PRESIDIO BAY
JETT Landscape Architecture + Design

TREE REMOVAL PLAN

642 QUARRY ROAD
11.11.2022

L1

Project Number: 10294.001

NORTH

15' 0' 15' 30' 60'

SCALE: 1"=30'-0"

LEGEND (NON-AMENITY)

- (2) STORMWATER TREATMENT PLANTER
- (16) DECOMPOSED GRANITE PATH
- (28) ENHANCED INTEGRAL COLOR CONCRETE PAVING W/ SAWCUT JOINTS
- (29) PERMEABLE PAVERS
- (30) ACCESSIBLE RAMP
- (31) 4X4 TREE GRATE
- (32) 4' HEIGHT WIRE MESH FENCE
- (33) MONUMENT SIGN
- (34) 6' HEIGHT GOOD NEIGHBOR WOOD FENCE
- (35) GRASSCRETE MAINTENANCE ACCESS PAVING
- (36) RETAINING WALL AND PATH

LEGEND (TENANT & PUBLIC USE)

- (1) WOOD BOARDWALK
- (3) ACTIVE RECREATION & FLEXIBLE OPEN SPACE
- (4) MULTI-PURPOSE STAGE
- (5) OVERHEAD SHADE STRUCTURES / SITE IDENTITY MARKERS
- (6) WATER FEATURE OR PUBLIC ART FEATURE
- (7) CONCRETE PLAZA STAIRS
- (8) PUBLIC ENTRY PLAZA
- (9) COMMUNITY BOTANICAL GARDENS
- (10) BIKE SHARE & BIKE RACKS
- (11) CONCRETE SEAT WALL
- (12) ACCESSIBLE SEATING
- (13) LOADING/ FOOD TRUCK AREA
- (14) DROP OFF AREA
- (15) COMMUNITY EVENT SPACE
- (18) CHILDCARE OUTDOOR PLAY AREA AND FENCING
- (19) DOG PARK WITH 4' HEIGHT WIRE FENCE
- (20) BOCCE COURT
- (21) PICKLEBALL COURT
- (22) STADIUM SEATING
- (37) BENCH SEATING AND TRASH / RECYCLING RECEPTACLES

LEGEND (TENANT USE ONLY)

- (17) WOOD DECKING WITH PROGRAMMATIC INDOOR + OUTDOOR AMENITIES
- (23) OUTDOOR KITCHEN AND DINING
- (24) OUTDOOR GAMES
- (26) BAR HEIGHT TABLE RAILING
- (27) OUTDOOR FITNESS
- — PET SPA, SEE ARCH DRAWINGS
- — GYM, SEE ARCH DRAWINGS
- — GOLF SIMULATOR, SEE ARCH DRAWINGS
- — LOUNGE, SEE ARCH DRAWINGS

PROJECT INFORMATION AND CALCULATIONS:

PER CITY MUNICIPAL CODE 18.18.070, ONE TREE IS REQUIRED PER EVERY FIVE THOUSAND SQ FT OF LOT COVERAGE.

TREES REQUIRED: 41
TREES PROVIDED: 99
TREES PROVIDED IN PUBLIC REALM IMPROVEMENTS: 22

LOT AREA: 205,036 SF
REQUIRED LANDSCAPE AREA (10%): 20,504 SF
PROVIDED LANDSCAPE AREA: 73,925 SF
GROUND LEVEL: 46,005 SF
ROOF DECKS & BALCONIES: 27,920 SF

LANDSCAPE AREA: 33,406 SF
LANDSCAPE AREA IN CREEK SETBACK: 7,179 SF
=TOTAL LANDSCAPE AREA: 40,585 SF

HARDSCAPE AREA: 33,340 SF

SITE BIKE PARKING SPACES: 93 (2 per bike rack)

DES ARCHITECTS ENGINEERS

PRESIDIO BAY

JETT Landscape Architecture + Design

LANDSCAPE CONCEPT PLAN

642 QUARRY ROAD
100% DD 07.20.2022

L2

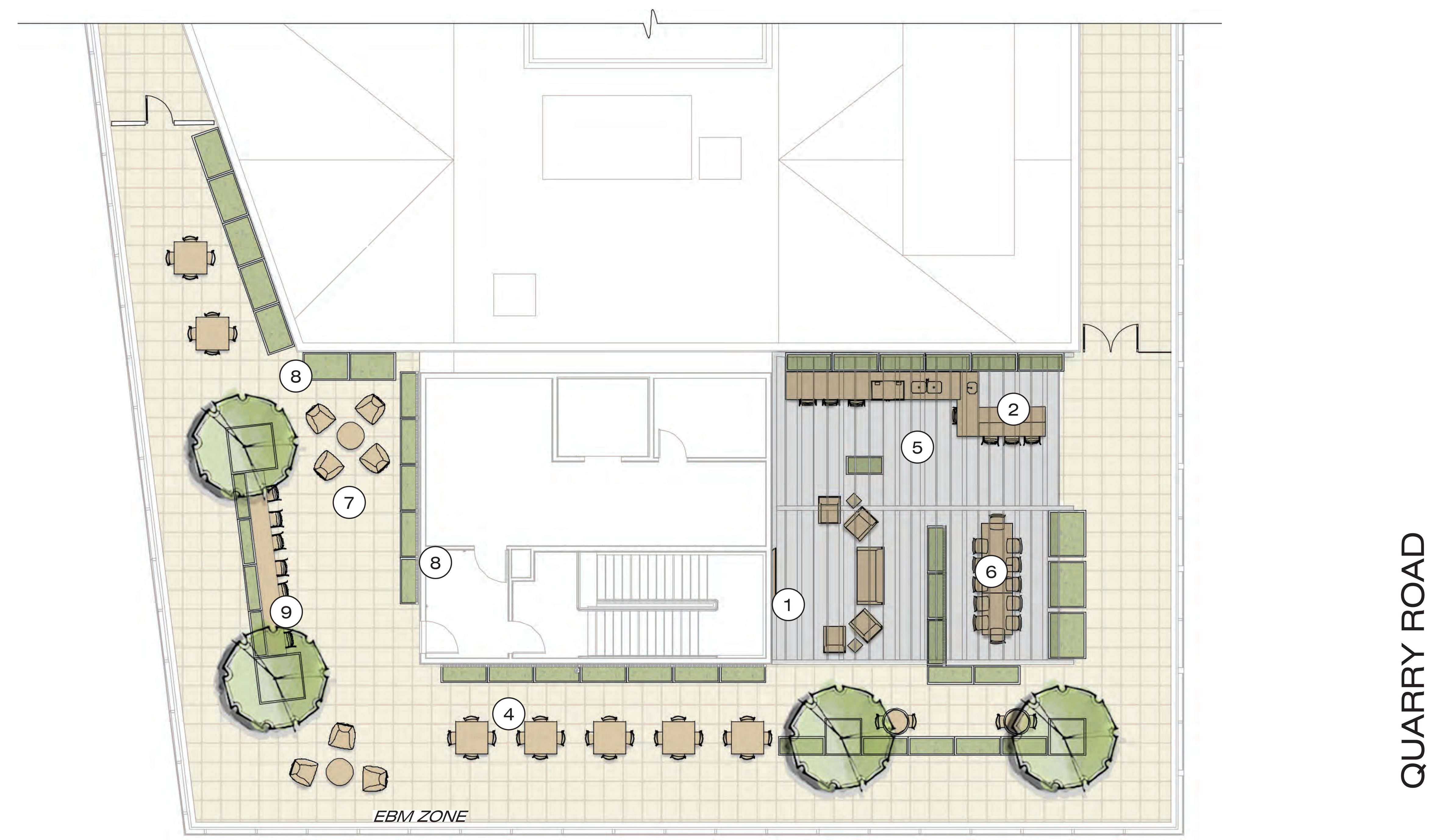
Project Number: 10294.001

LEGEND

1. TV LOUNGE
2. OUTDOOR KITCHEN AND WET BAR
3. OUTDOOR GAMES
4. INDIVIDUAL OR SMALL GROUP WORK SPACE
5. OVERHEAD SHADE STRUCTURE
6. LARGER GROUP WORK SPACE
7. LOUNGE SEATING
8. PLANTER DIVIDERS / SCREENS
9. BAR HEIGHT SEATING

NORTH BUILDING - ROOF DECK

SOUTH BUILDING - ROOF DECK



NORTH

20' 0' 5' 10' 20'

SCALE: 1"=10'-0"

DES ARCHITECTS ENGINEERS

PRESIDIO BAY

JETT Landscape Architecture + Design

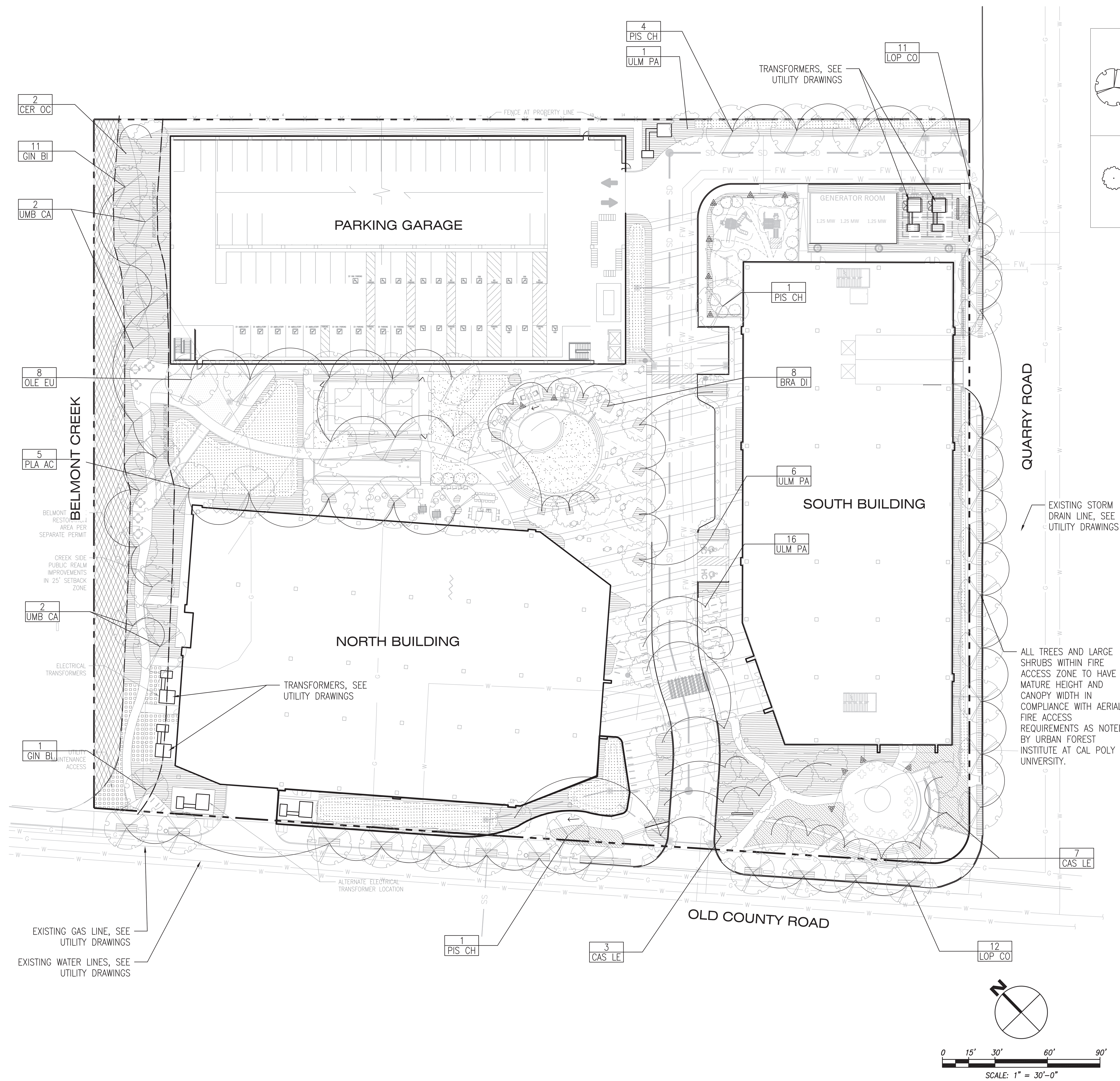
LANDSCAPE CONCEPT PLAN - NORTH AND SOUTH ROOF DECKS

642 QUARRY ROAD

100% DD 07.20.2022

L3

Project Number: 10294.001



PLANT PALETTE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	WTR USE	EVERGREEN (Y/N)	CA NATIVE?	QTY
LANDSCAPE TREES								
GIN BI	GINKGO BILOBA 'AUTUMN GOLD'	AUTUMN GOLD MAIDENHAIR	36" BOX	PER PLAN	M			12
LOP CO	LOPHOSTEMON CONFERTUS	BRISBANE BOX	24" BOX	PER PLAN	M	Y		23
OLE EU	OLEA EUROPAEA 'SWAN HILL'	FRUITLESS OLIVE	36" BOX	PER PLAN	VL	Y		12
PIS CH	PISTACIA CHINENSIS 'KEITH DAVEY'	KEITH DAVEY CHINESE PISTACHE	24" BOX	PER PLAN	L			6
PLA AC	PLATANUS X ACERIFOLIA	LONDON PLANE	36" BOX	PER PLAN	M			5
UMB CA	UMBELLULARIA CALIFORNICA	CALIFORNIA LAUREL	24" BOX	PER PLAN	L	Y	Y	4
SMALL ACCENT TREES								
BRA DI	BRACHYCHITON DISCOLOR	LACEBARK	36" BOX	PER PLAN	L	1/2		8
CAS LE	CASSIA LEPTOPHYLLA	GOLDEN MEDALLION TREE	24" BOX	PER PLAN	L	1/2		10
CER OC	CERCIS OCCIDENTALIS	WESTERN REDBUD	24" BOX	PER PLAN	L		Y	2
MIC CH	MICHELIA CHAMPACA 'ALBA'	WHITE FRAGRANT CHAMPACA	24" BOX	PER PLAN	M	Y		7
ULM PA	ULMUS PARVIFOLIA 'BOSQUE'	BOSQUE ELM	24" BOX	PER PLAN	L			22
SHRUBS								
	AGAVE ATTENUATA	FOXTAIL AGAVE	5 GAL	5'-0" OC	L			
	ARMERIA MARTIMA	SEA THRIFT	1 GAL	1'-0" OC	L		Y	
	LEUCADENDRON SALIGNUM 'WINTER RED'	WINTER RED CONE BUSH	1 GAL	3'-6" OC	L			
	MIMULUS 'JELLY BEAN ORANGE'	JELLY BEAN ORANGE MONKEYFLOWER	1 GAL	2'-0" OC	L		Y	
	RHAMNUS CALIFORNICA 'EVE CASE'	COFFEEBERRY	5 GAL	5'-0" OC	L		Y	
	PITTOSPORUM TOBIRA 'WHEELER'S DWARF'	WHEELER'S DWARF JAPANESE PITTOSPORUM	5 GAL	4'-6" OC	L			
	SALVIA GREGGII 'FURMAN'S RED'	AUTUMN SAGE	5 GAL	2'-6" OC	L			
	SANTOLINA ROSMARINIFOLIA	GREEN SANTOLINA	1 GAL	2'-0" OC	L			
GROUNDCOVERS								
	ARCTOSTAPHYLOS UVA URSI 'GREEN SUPREME'	GRN. SUPREME MANZANITA	5 GAL	5'-0" OC	L		Y	
	CEANOTHUS GRISEUS VAR. HORIZONTALIS	CARMEL CREEPER 'YANKEE POINT'	5 GAL	5'-0" OC	L		Y	
	CISTUS S. 'PROSTRATUS'	SAGELEAF ROCKROSE	5 GAL	5'-0" OC	L			
	FESTUCA MAIREI	ATLAS FESCUE	5 GAL	2'-0" OC	L			
	FESTUCA RUBRA 'MOLATE'	CREEPING RED FESCUE	1 GAL	2'-0" OC	L		Y	
	GREVILLEA 'AUSTRAFLORA FANFARE'	FANFARE GREVILLEA	5 GAL	6'-0" OC	L			
	LIBERTIA PEREGRINANS	ORANGE LIBERTIA	1 GAL	1'-6" OC	L			
STORMWATER PLANTING MIX								
	ALLIUM UNIFOLIUM	ONE-LEAF ONION	1 GAL	2'-0" OC	M		Y	
	CAREX DIVULSA	BERKELEY SEDGE	1 GAL	2'-0" OC	L		Y	
	CHONDROPETALUM TECORUM	SMALL CAPE RUSH	5 GAL	3'-6" OC	L			
	FESTUCA RUBRA 'MOLATE'	CREEPING RED FESCUE	1 GAL	2'-0" OC	L			
	JUNCUS 'ELK BLUE'	CA GRAY RUSH	1 GAL	2'-0" OC	M		Y	
	LOMANDRA LONGIFOLIA 'BREEZE'	DWARF MAT RUSH	5 GAL	3'-6" OC	L			
VINES								
	VITIS CALIFORNICA 'ROGER'S RED'	ROGER'S RED GRAPE	5 GAL	PER PLAN	L		Y	
TURF								
	TALL FESCUE SOD		SOD	PER PLAN	M			
CA NATIVE BOTANICAL GARDEN								
	ACHILLEA MILLIFOLIUM	YARROW	1 GAL	2'-0" OC	L		Y	
	ARCTOSTAPHYLOS 'JOHN DOURLEY'	JOHN DOURLEY MANZANITA	5 GAL	4'-0" OC	VL			
	ARCTOSTAPHYLOS 'AUSTIN GRIFFITHS'	AUSTIN GRIFFITHS MANZANITA	5 GAL	6'-0" OC	VL			
	BACCHARIS PILULARIS 'PIGEON POINT'	DWARF COYOTE BUSH	5 GAL	4'-6" OC	VL			
	CALAMAGROSTIS FOLIOSA	MENDOCINO REED GRASS	1 GAL	1'-6" OC	L			
	CEANOTHUS GRISEUS VAR. HORIZONTALIS	CARMEL CREEPER 'YANKEE POINT'	5 GAL	5'-0" OC	VL			
	EPILOBIUM CANUM 'EVERETT'S CHOICE'	CA FUCHSIA	1 GAL	4'-6" OC	L			
	ERIOGONUM GRANDE RUBESCENS	SAN MIGUEL ISLAND BUCKWHEAT	1 GAL	2'-6" OC	L			
	ERIOGONUM LATIFOLIUM RUBESCENS 'SUZI'S RED'	SUZI'S RED BUCKWHEAT	1 GAL	2'-6" OC	L			
	ERIOGONUM FASCICULATUM 'WARRINER LYTLE'	CALIFORNIA BUCKWHEAT	1 GAL	1'-0" OC	L			
	ESCHSCHOLZIA CALIFORNICA	CA POPPY	1 GAL	1'-0" OC	L			
	FESTUCA CALIFORNICA	CA FESCUE	1 GAL	2'-0" OC	L			
	FESTUCA IDAHOENSIS	IDAHO FESCUE	1 GAL	2'-0" OC	L			
	HEUCHERA MICRANTHA 'MARTHA ROBERICK'	ALUMROOT	1 GAL	1'-0" OC	L			
	IRIS DOUGLASIANA 'PCH YELLOW'	DOUGLAS IRIS	1 GAL	2'-6" OC	L			
	LEYMUS CONDENSATUS 'CANYON PRINCE'	CANYON PRINCE WILD RYE	1 GAL	4'-0" OC	L			
	LUPINUS ALBIFRONS COLLINUS	PROSTRATE SILVER LUPINE	1 GAL	2'-0" OC	L			
	MIMULUS AURANTIACUS	STICKY MONKEYFLOWER	1 GAL	1'-6" OC	L			
	MONARDELLA VILLOSA 'RUSSIAN RIVER'	RUSSIAN RIVER COYOTE MINT	1 GAL	1'-6" OC	L			
	MUHLENBERGIA RIGENS	DEER GRASS	5 GAL	4'-0" OC	L			
	ROSA CALIFORNICA	CA WILD ROSE	5 GAL	5'-0" OC	L			
	SALVIA CLEVELANDII 'WINNIFRED GILMAN'	CLEVELAND SAGE	5 GAL	4'-6" OC	L			
	SALVIA SPATHACEA	HUMMINGBIRD SAGE	5 GAL	4'-6" OC	L			
	SATUREJA DOUGLASII	YERBA BUENA	1 GAL	2'-6" OC	L			
	SISYRINCHIUM BELLUM	BLUE-EYED GRASS	1 GAL	1'-0" OC	L			
	SISYRINCHIUM CALIFORNICUM	YELLOW EYED GRASS	1 GAL	1'-6" OC	L			

DES ARCHITECTS ENGINEERS

PRESIDIO BAY

JETT Landscape Architecture + Design

PRELIMINARY PLANTING PLAN

642 QUARRY ROAD

PLANNING SUBMITTAL 01.21.2022

L9

Project Number: 10294.001

Jan 21, 2022 – 1:44pm andrea M:\Projects\PBV Presidio Bay Ventures\642 Quarry Road\AUTOCAD\SHEETS\PLANNING\L9 PRELIMINARY PLANTING PLAN.dwg

DES ARCHITECTS ENGINEERS

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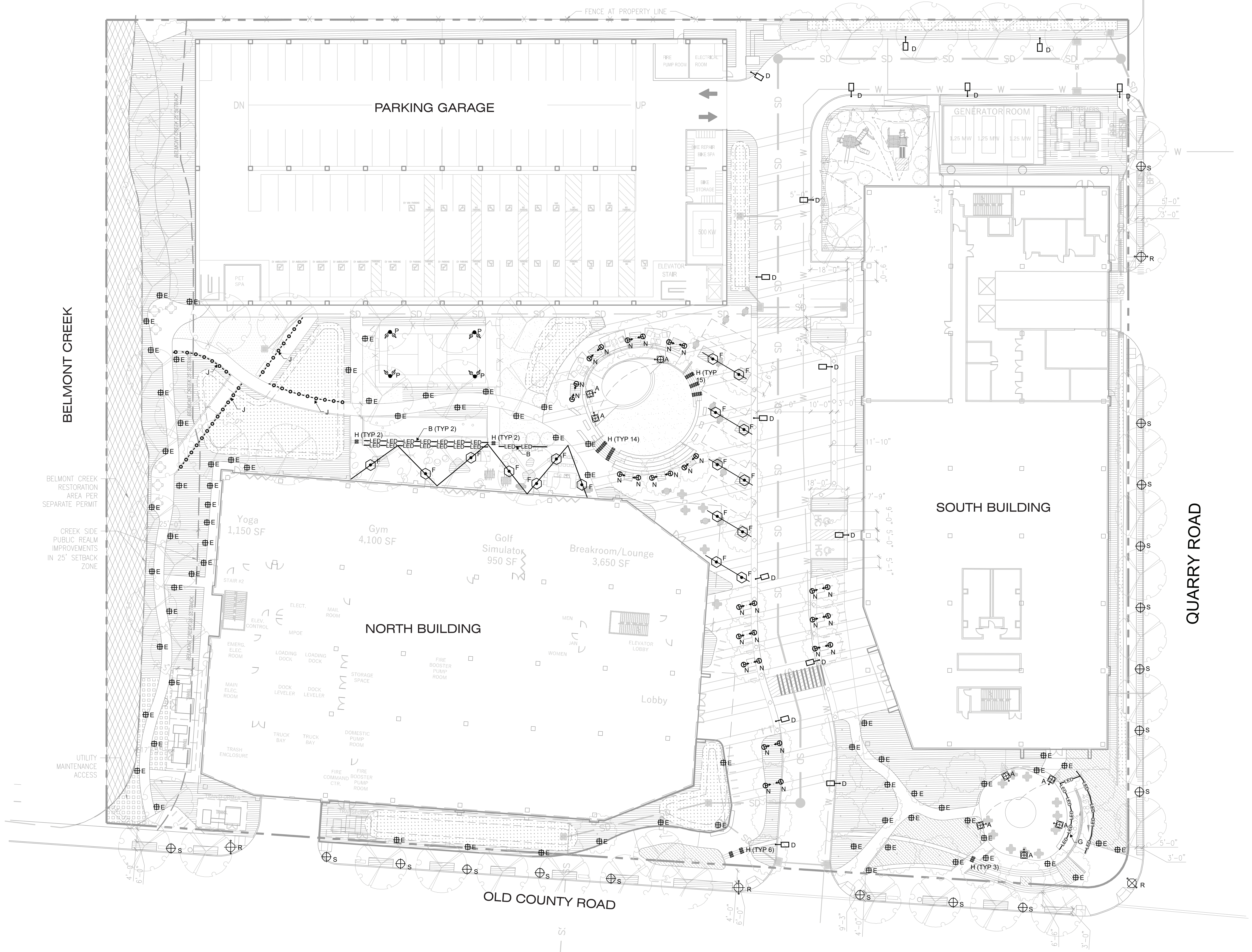
PRELIMINARY PLANTING PLAN - NORTH AND SOUTH ROOF DECKS

642 QUARRY ROAD
PLANNING SUBMITTAL 01.21.2022

L10

Project Number: 10294.001

Jan 19, 2022 - 3:34pm andrea M:\Projects\PBV Presidio Bay Ventures\642 Quarry Road\AUTOCAD\SHEETS\PLANNING\L9 PRELIMINARY PLANTING PLAN - ROOF DECKS 1 AND 2.dwg



DES ARCHITECTS ENGINEERS

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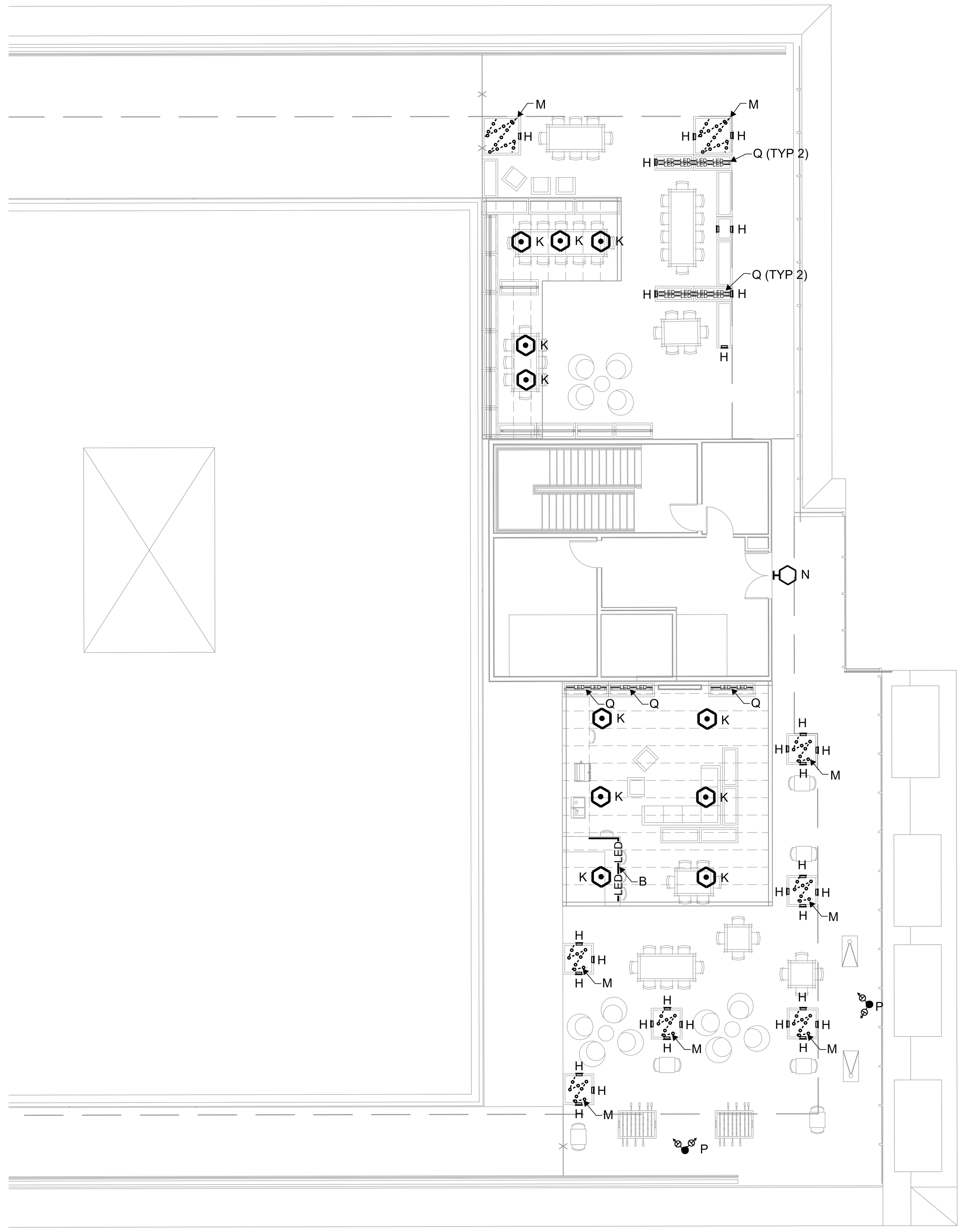
• INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY •

SITE LIGHTING PLAN

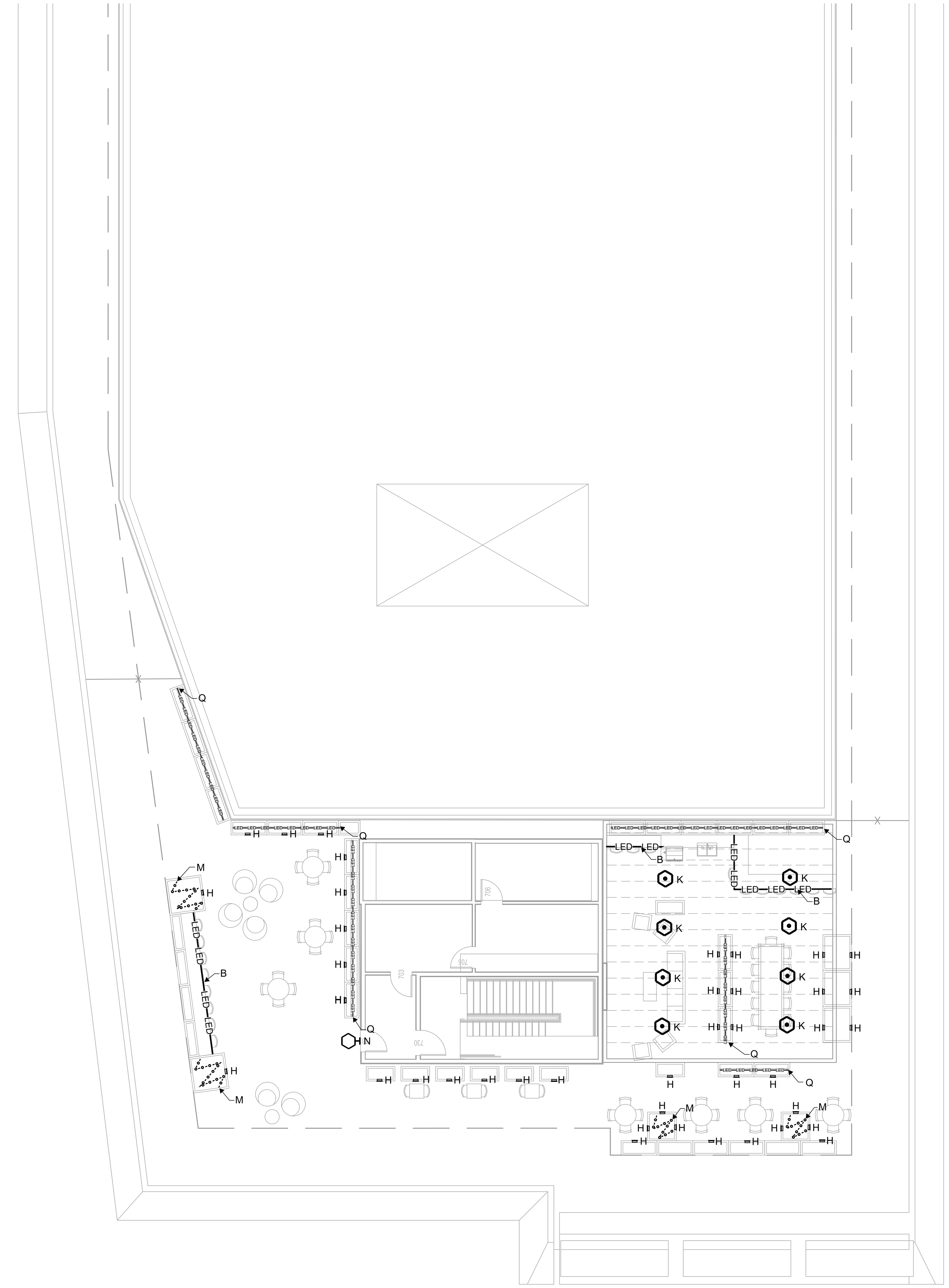
642 QUARRY ROAD
PLANNING SUBMITTAL 01.21.2022

L12

Project Number: 10294.001



NORTH BUILDING - ROOF DECK



SOUTH BUILDING - ROOF DECK

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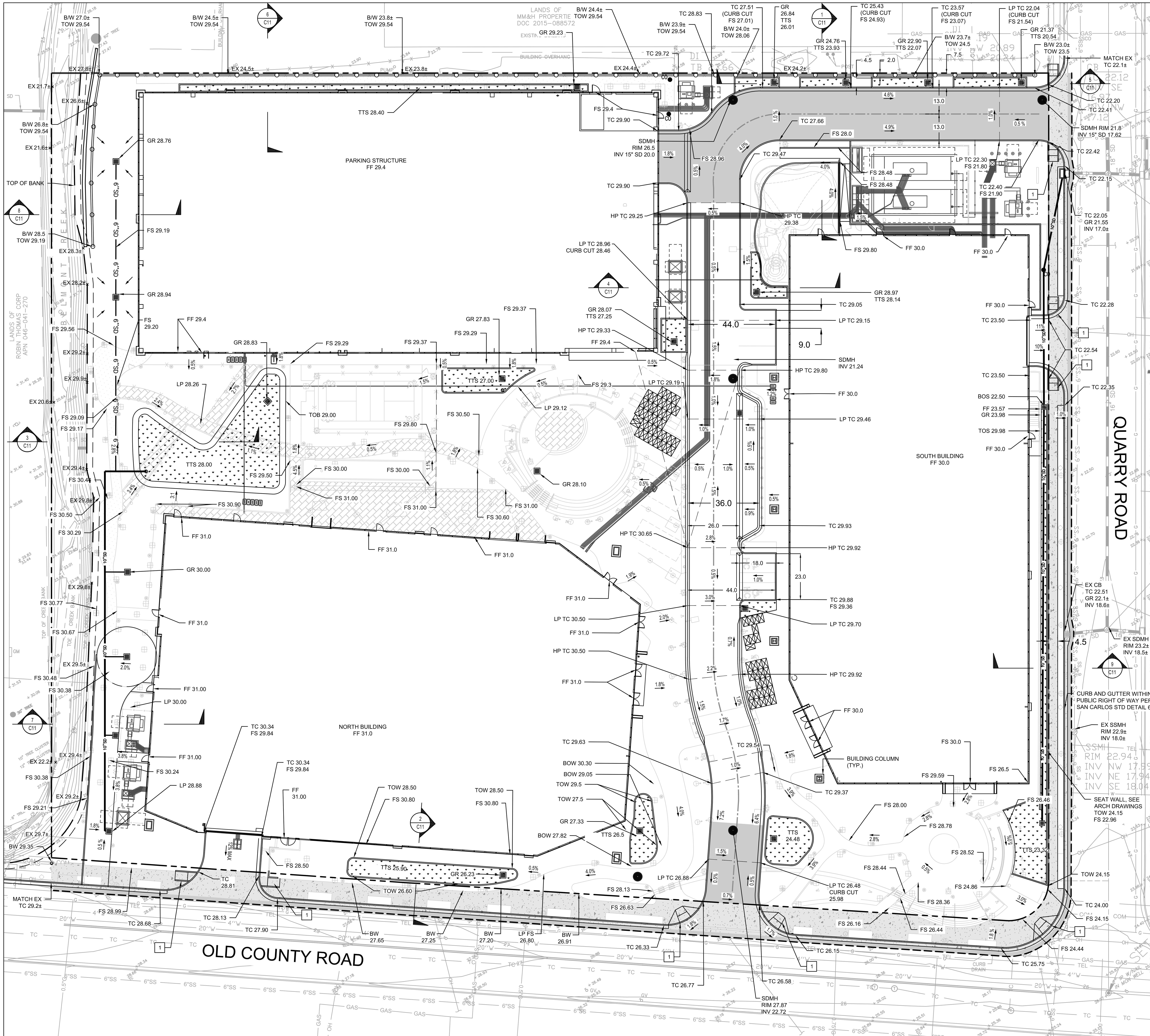
SITE LIGHTING PLAN - NORTH AND SOUTH ROOF DECKS

642 QUARRY ROAD
PLANNING SUBMITTAL 01.21.2022

L14

Project Number: 10294.001



20 0 20 40
GRAPHIC SCALE: 1" = 20'

NOTES

XX.XX	SPOT ELEVATION
X.X%	SLOPE
	OFFSITE IMPROVEMENTS
	BIORETENTION
	ASPHALT
	CONCRETE
	WOOD, SEE LANDSCAPE DRAWINGS
	DECOMPOSED GRANITE
	PROPERTY LINE
	ROAD CENTERLINE
	GRADE BREAK
	TOP OF BANK
	SAWCUT LINE
	VALLEY GUTTER
SD	STORM DRAIN LINE
	MANHOLE
	BUBBLE UP
	CATCH BASIN
	CURB INLET

ABBREVIATIONS

BIO	BIORETENTION
BOW	BACK OF WALK
B/W	BOTTOM OF WALL (WHERE WALL MEETS FINISH GRADE)
EX	EXISTING
FG	FINISH GRADE
GR	GRATE ELEVATION
HP	HIGH POINT
LP	LOW POINT
PR	PROPOSED
SW	SIDEWALK
TC	TOP OF CURB
TOB	TOP OF BIORETENTION
TOW	TOP OF WALL
TTS	TOP OF TREATMENT SOIL

KEYNOTES

1 PROPOSED CURB RAMP, PER CALTRANS A88A

NOTES

1. ALL EXISTING UTILITIES HAVE BEEN PLOTTED FROM RECORD INFORMATION AND FIELD TOPOGRAPHIC SURVEY. THE TYPES, LOCATION, SIZE AND DEPTHS OF EXISTING UNDERGROUND UTILITIES SHOW ON THESE PLANS MAY VARY AND ADDITIONAL FACILITIES MAY EXIST.
2. PROTECT ALL EXISTING UNDERGROUND UTILITIES UNLESS OTHERWISE NOTED ON THE PLAN.
3. CONTRACTOR IS RESPONSIBLE TO LEGALLY DISPOSE OF ALL REMOVED MATERIAL AT THE CONTRACTORS EXPENSE.
4. THE CONTRACTOR SHALL EXERCISE DUE CAUTION DURING CONSTRUCTION TO PROTECT ANY EXISTING UNDERGROUND UTILITIES, UTILITY BOXES, STRUCTURES EXISTING LANDSCAPING, FIXTURES, EQUIPMENT, CONCRETE SIDEWALK, CONCRETE CURB AND GUTTER, AND AC/CONCRETE PAVING TO REMAIN. ANY DAMAGE RESULTING FROM CONTRACTOR OPERATIONS SHALL BE REPAIRED AT NO ADDITIONAL COST.
5. ALL NEW SURFACES ARE TO CONFORM WITH EXISTING SURFACE WITH LES THAN $\frac{1}{2}$" OPENING AT LINE OF CONFORMATION.
6. ELECTRICAL UTILITIES ARE FOR REFERENCE ONLY, SEE ELECTRICAL PLANS FOR DESIGN.
7. CONSTRUCTION IN PUBLIC RIGHT OF WAY FOR FRONTAGE IMPROVEMENTS TO BE PER CITY STANDARDS. WORK MAY INCLUDE, BUT IS NOT LIMITED TO SIDEWALK REPLACEMENT, CURB & GUTTER REPLACEMENT (WITH SAWCUT AND AC PLUG 6" MIN DEPTH), ACCESSIBLE CURB RAMPS, AND LANDSCAPING FOR PROJECT FRONTAGES ALONG OLD COUNTY ROAD AND QUARRY ROAD. REQUIREMENTS ARE SUBJECT TO CHANGE BASED ON FINAL CONDITIONS OF APPROVAL FROM SAN CARLOS PLANNING DEPARTMENT AND PUBLIC WORKS DEPARTMENT.
8. FINAL REQUIREMENTS FOR PUBLIC IMPROVEMENTS AS A PART OF FRONTAGE WORK MAY COME FROM THE CITY OF SAN CARLOS GREEN INFRASTRUCTURE PLAN, BASED ON REQUIREMENTS FROM THE CITY OF SAN CARLOS PUBLIC WORKS DEPARTMENT.
9. AIR QUALITY ANALYSIS IS BASED ON USE OF TIER IV EQUIPMENT.

DES
ARCHITECTS
ENGINEERS

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San Francisco, CA 94111

642 QUARRY ROAD - SITE

SITE
642 Quarry Road
San Carlos, CA 94070

GRADING AND DRAINAGE PLAN

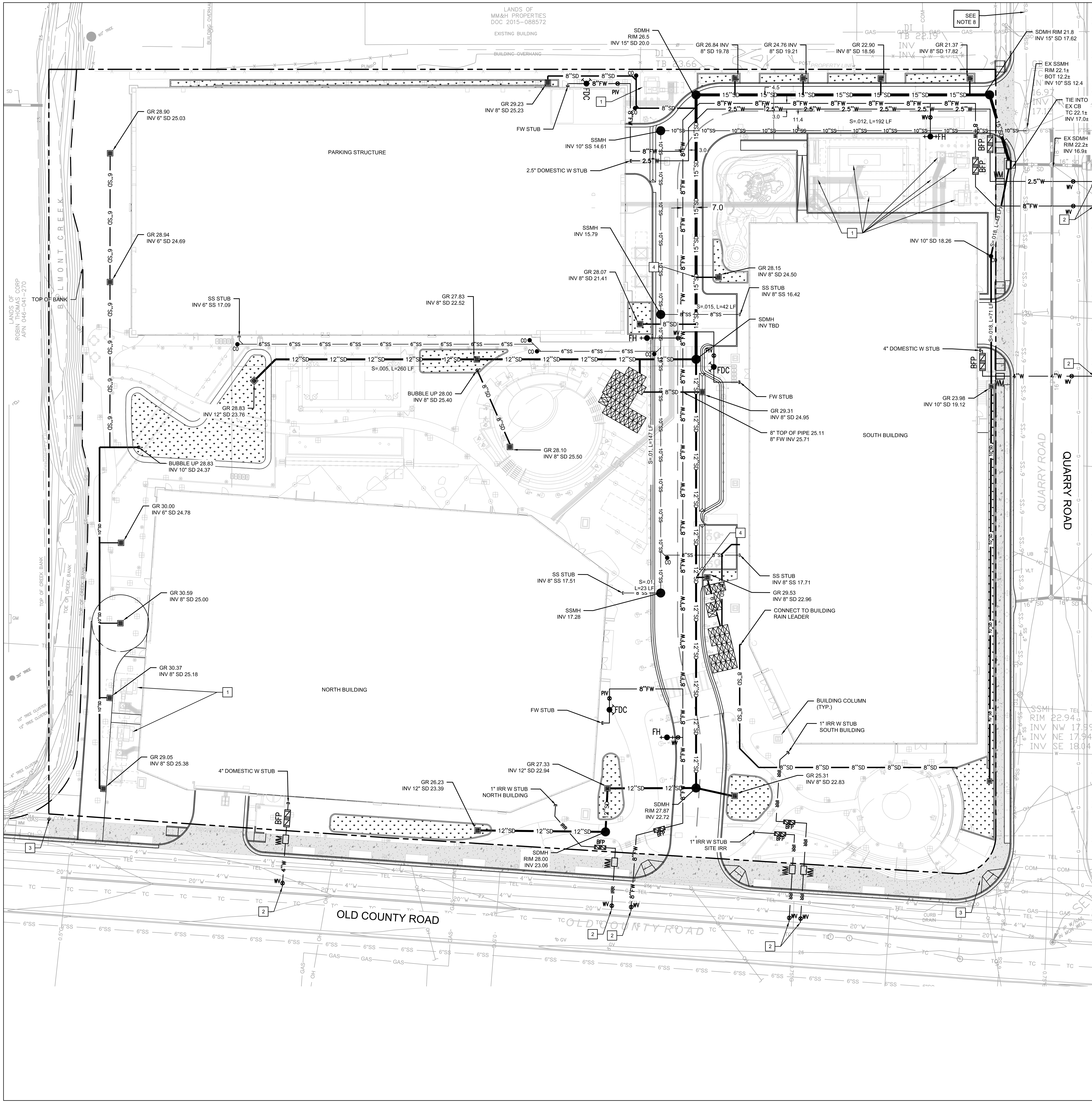
#	DATE:	DESCRIPTION:

DRAWN BY:	R. NELSON
REVIEWED BY:	A. VAZQUEZ
APPROVED BY:	J. YOUNG
DES PROJECT NO.:	10294.002

ENGINEER OF RECORD | ARCHITECT OF RECORD

SITE
BLDG.

C10
SHEET NO.



LEGEND

	OFFSITE IMPROVEMENTS
	BIORETENTION
	PROPERTY LINE
	ROAD CENTERLINE
	OVERHEAD POWER LINES
	TOP OF BANK
	OVERHEAD POW25' DEVELOPMENT SETBACK FROM CREEK TOP OF BANK
SS	SANITARY SEWER LINE
SD	STORM DRAIN LINE
W	WATER LINE
FW	FIRE WATER LINE
	MANHOLE
	BUBBLE UP
	CATCH BASIN
	CURB INLET
WV	WATER VALVE
BFP	BACKFLOW PREVENTER
WM	WATER METER
FH	FIRE HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
	PROPOSED LIGHTING (DESIGN BY OTHERS)
	SILVA CELLS
	SILVA CELLS JUNCTION BOX 1 / C72

ABBREVIATIONS

BIO	BIORETENTION	SW	SIDEWALK
EX	EXISTING	TC	TOP OF CURB
FG	FINISH GRADE	TOB	TOP OF BIORETENTION
GR	GRATE ELEVATION	TTS	TOP OF TREATMENT SOIL
HP	HIGH POINT		
LP	LOW POINT		
PR	PROPOSED		

KEYNOTES

1	ELECTRICAL COMPONENTS FOR REFERENCE ONLY, SEE ELECTRICAL PLANS FOR DESIGN
2	CONNECT TO PUBLIC MAIN
3	PROTECT EXISTING HYDRANT
4	DIRECT CONNECTION

NOTES

1. ALL EXISTING UTILITIES HAVE BEEN PLOTTED FROM RECORD INFORMATION AND FIELD TOPOGRAPHIC SURVEY. THE TYPES, LOCATION, SIZE AND DEPTHS OF EXISTING UNDERGROUND UTILITIES SHOW ON THESE PLANS MAY VARY AND ADDITIONAL FACILITIES MAY EXIST.
2. PROTECT ALL EXISTING UNDERGROUND UTILITIES UNLESS OTHERWISE NOTED ON THE PLAN.
3. CONTRACTOR IS RESPONSIBLE TO LEGALLY DISPOSE OF ALL REMOVED MATERIAL AT THE CONTRACTORS EXPENSE.
4. THE CONTRACTOR SHALL EXERCISE DUE CAUTION DURING CONSTRUCTION TO PROTECT ANY EXISTING UNDERGROUND UTILITIES, UTILITY BOXES, STRUCTURES EXISTING LANDSCAPING, FIXTURES, EQUIPMENT, CONCRETE SIDEWALK, CONCRETE CURB AND GUTTER, AND AC/CONCRETE PAVING TO REMAIN. ANY DAMAGE RESULTING FROM CONTRACTOR OPERATIONS SHALL BE REPAIRED AT NO ADDITIONAL COST.
5. ALL NEW SURFACES ARE TO CONFORM WITH EXISTING SURFACE WITH LES THAN $\frac{1}{2}$" OPENING AT LINE OF CONFORMATION.
6. ELECTRICAL UTILITIES ARE FOR REFERENCE ONLY, SEE ELECTRICAL PLANS FOR DESIGN.
7. CONSTRUCTION IN PUBLIC RIGHT OF WAY FOR FRONTAGE IMPROVEMENTS TO BE PER CITY STANDARDS AND APPLICABLE UTILITY DISTRICT STANDARDS. CONNECTIONS TO EXISTING SEWER, STORM DRAIN, AND POTABLE WATER SYSTEMS MAY REQUIRE PAVING AND GRADING FOR TRENCHING AND STRUCTURE WORK BASED ON JURISDICTIONAL REQUIREMENTS.
8. EXISTING 6-INCH SANITARY SEWER LINE IN QUARRY ROAD IS TO BE REPLACED WITH A 10-INCH DIAMETER SEWER PIPE FROM THE PROJECT'S POINT OF CONNECTION IN QUARRY ROAD TO THE CONNECTION TO THE 27-INCH DIAMETER SEWER MAIN IN INDUSTRIAL ROAD. REPLACEMENT WILL REQUIRE APPROXIMATELY 2,000 LF OF SEWER LINE AND THE REQUIRED REPLACEMENT OF OFF-SITE PAVING REMOVED TO COMPLETE THE WORK.
9. CITY OF SAN CARLOS MAY REQUIRE UNDERGROUNDING OF OVERHEAD UTILITY LINES FOR EXISTING UTILITY POLES FRONTING PROPERTY WITHIN PUBLIC RIGHT-OF WAY.
10. ELECTRICAL EQUIPMENT, LIGHTING UTILITIES AND OTHER DRY UTILITIES ARE FOR REFERENCE ONLY. SEE OTHER CONSULTANTS PLANS FOR FINAL DRAWINGS.
11. FIRE SAFETY WATER LINES AND APPURTENANCE LOCATIONS SHOWN ARE SUBJECT TO CHANGE PENDING FINAL APPROVAL OF FIRE DEPARTMENT AND CITY REVIEW.

20 0 20 40
GRAPHIC SCALE: 1" = 20'

DES ARCHITECTS ENGINEERS

BKF

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1160 Battery Street , Suite 100
San Francisco, CA 94111

642 QUARRY ROAD - SITE

SITE
642 Quarry Road
San Carlos, CA 94070

UTILITY PLAN

#	DATE:	DESCRIPTION:

DRAWN BY:	R. NELSON
REVIEWED BY:	A. VAZQUEZ
APPROVED BY:	J. YOUNG
DES PROJECT NO.:	10294.002

ENGINEER OF RECORD | ARCHITECT OF RECORD

SITE | ----
BLDG. | SHEET NO.

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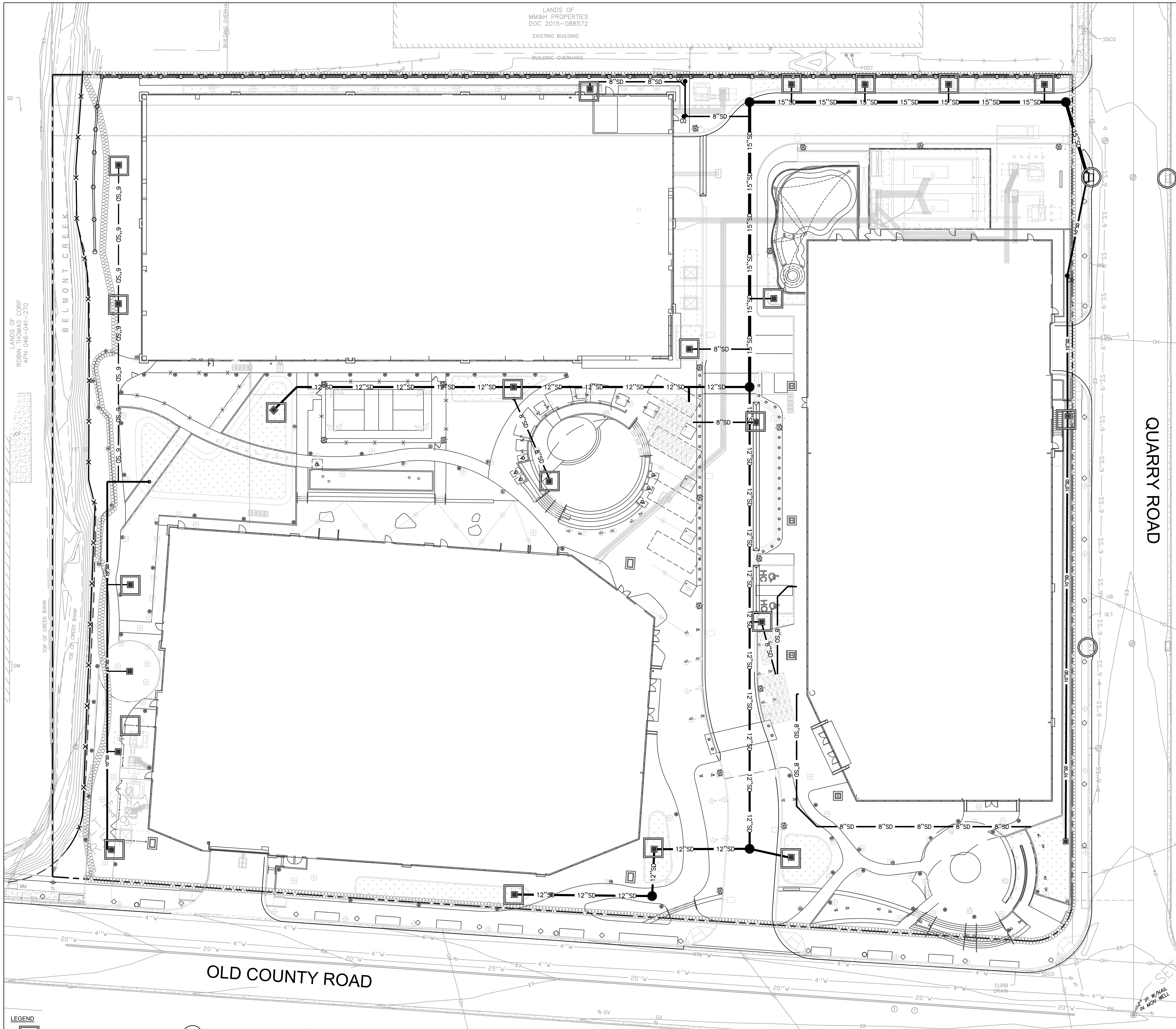
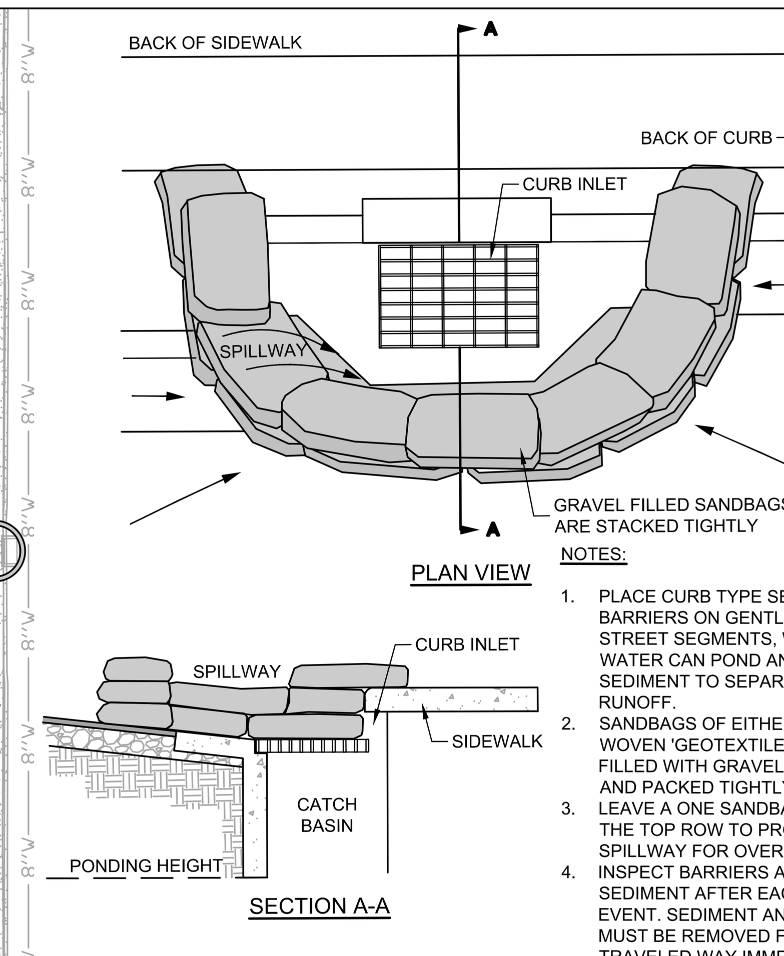
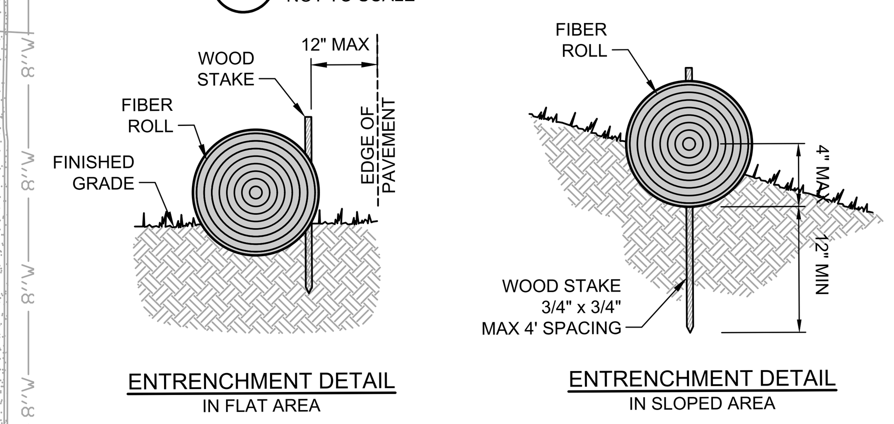




NOTES:

1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. SANDBAGS OF EITHER BURLAP OR WOVEN 'GEOTEXTILE' FABRIC, ARE FILLED WITH GRAVEL LAYERED AND PACKED TIGHTLY.
3. LEAVE A ONE SANDBAG GAP IN THE TOP ROW TO PROVIDE A SPILLWAY FOR OVERFLOW.
4. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

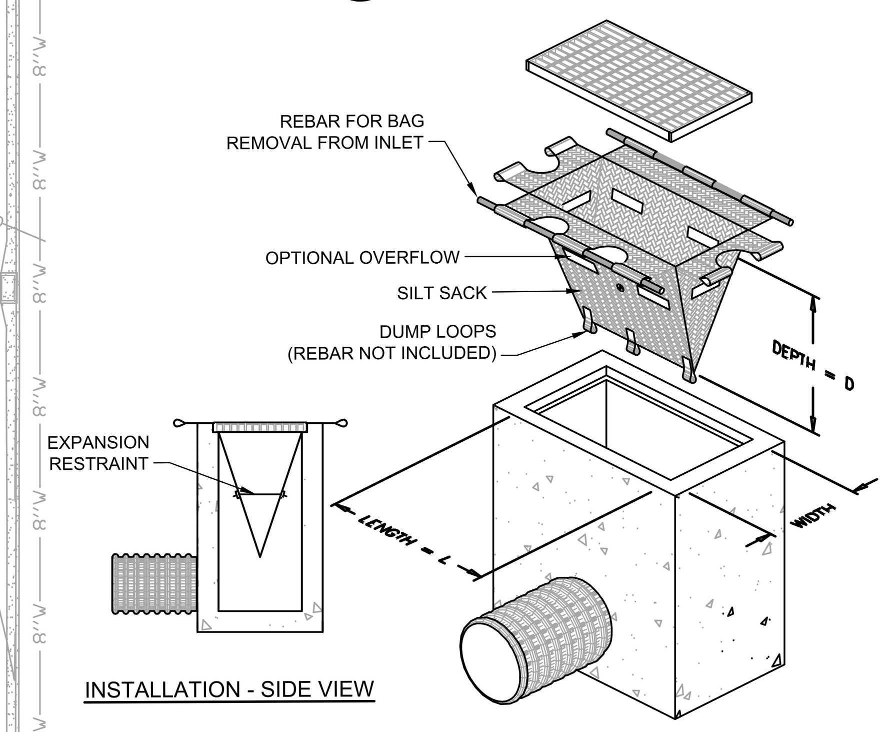
2 CURB INLET SEDIMENT BARRIER
NOT TO SCALE



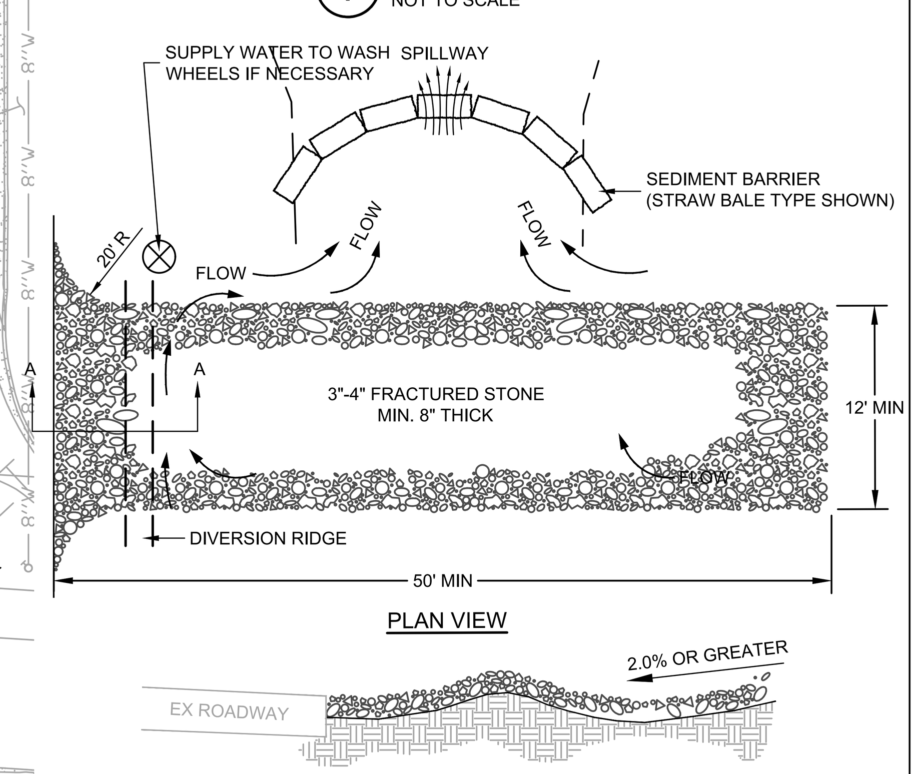
NOTES

1. FIBER ROLLS ARE TUBES MADE FROM POROUS BIODEGRADABLE FIBER STUFFED IN A PHOTO-DEGRADABLE OPEN WEAVE NETTING. THEY ARE APPROXIMATELY 8" DIAMETER.
2. FIBER ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 2"-4" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL. ROLLS SHOULD BE ABUTTED SECURELY TO PROVIDE A TIGHT JOINT, NOT OVERLAPPED.

3 FIBER ROLL
NOT TO SCALE



4 SILT BAG
NOT TO SCALE



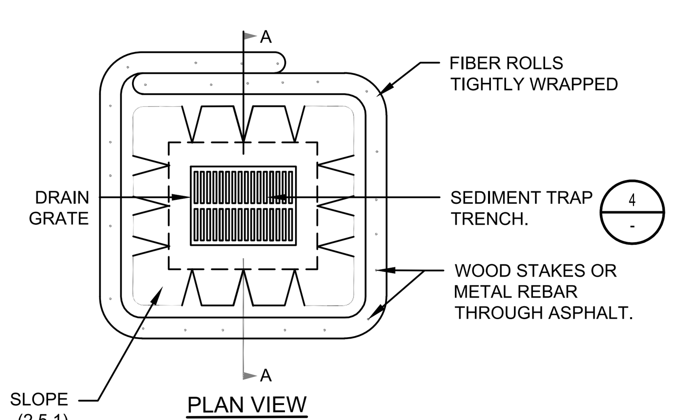
5 ONSITE CONSTRUCTION ENTRANCE
NOT TO SCALE

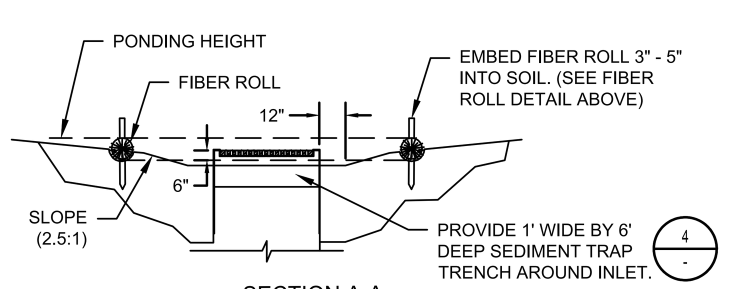
LEGEND

STORM DRAIN DROP INLET PROTECTION	1 / -
STORM DRAIN CURB INLET PROTECTION	2 / -
FIBER ROLLS	3 / -
CONSTRUCTION SITE ENTRANCE	5 / -
SILT FENCE	14 / C70

EROSION CONTROL NOTES:

1. CONTRACTOR SHALL PROVIDE THE CITY INSPECTOR AND ENGINEER UPDATED EROSION CONTROL PLANS TO REFLECT SITE AND CONSTRUCTION PHASING CHANGES.





1 DROP INLET SEDIMENT BARRIERS
NOT TO SCALE

NOTES:

1. DURING THE DRY SEASON (JUNE 1ST TO SEPTEMBER 30TH) USE INSERTS AT ALL DROP INLETS.
2. INSERTS TO BE INSPECTED AND CLEANED WEEKLY AND AFTER EVERY RAIN EVENT.
3. EMPTY DROP INLET FILTERS WHEN FILTERS APPEAR TO BE HALF FULL.
4. DISPOSE OF TRAPPED SEDIMENT IN ACCORDANCE WITH LOCAL REQUIREMENTS.
5. PLACE FIBER ROLLS AROUND THE INLET CONSISTENT WITH BASIN SEDIMENT BARRIER DETAIL ON THIS SHEET. USE REED & GRAHAM, INC. GEOSYNTHETICS STRAW WATTLE FIBER ROLL (COMES IN 9" X 25' ROLLS) OR EQUIVALENT.
6. FIBER ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE FIBER ROLL IN A TRENCH, 3" - 5" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND FIBER ROLL.
7. THE TOP OF THE STRUCTURE (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BY-PASSING THE INLET. EXCAVATION OF A BASIN ADJACENT TO THE DROP INLET OR A TEMPORARY DIKE ON THE DOWNSLOPE OF THE STRUCTURE MAY BE NECESSARY
8. AIR QUALITY ANALYSIS IS BASED ON USE OF TIER IV EQUIPMENT.

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San Carlos, CA 94070

EROSION CONTROL PLAN

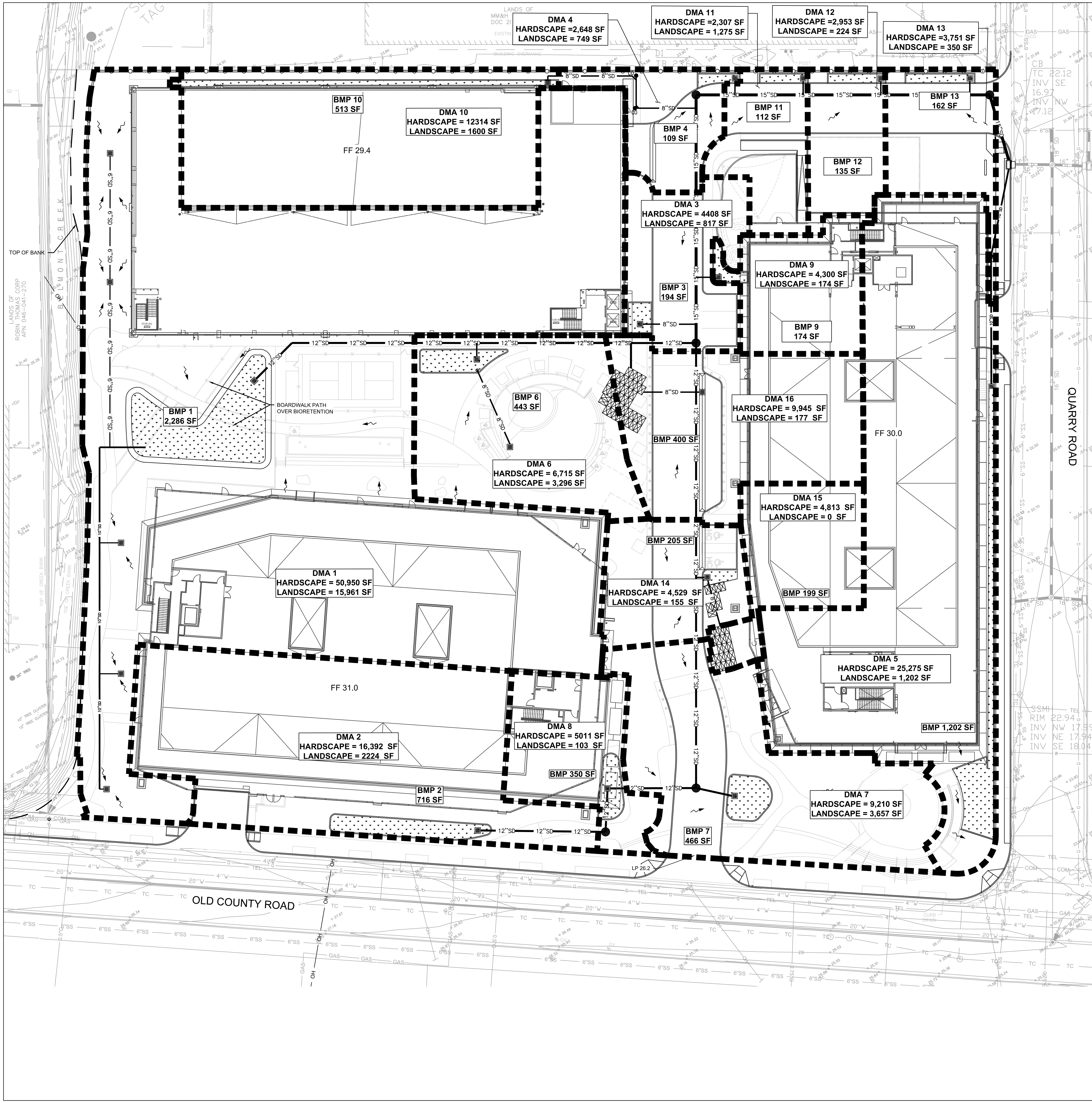
#	DATE:	DESCRIPTION:

DRAWN BY: R. NELSON
REVIEWED BY: A. VAZQUEZ
APPROVED BY: J. YOUNG
DES PROJECT NO.: 10294.002

ENGINEER OF RECORD
ARCHITECT OF RECORD

SITE
BLDG.

C30
SHEET NO.



LEGENDS

DRAINAGE MANAGEMENT AREA

BIORETENTION / FLOW THRU PLANTER (7/C71) (8/C71)

AREA OF IMPROVEMENTS WITHIN BELMONT CREEK AND 25' DEVELOPMENT SETBACK (UNDER SEPARATE PERMIT)

SILVA CELLS

STORM WATER CONTROL NOTES

1. THIS STORMWATER MANAGEMENT PLAN HAS BEEN PREPARED TO MEET THE SAN FRANCISCO BAY REGION MUNICIPAL REGIONAL STORMWATER PERMIT (MRP) REQUIREMENTS. THE COUNTY OF SAN MATEO C.3 REGULATED PROJECTS GUIDE, VERSION 1.0, DATED JANUARY 2020 IS USED FOR A BASIS OF DESIGN.
2. THE PROJECT REPLACES MORE THAN 10,000 SQFT OF IMPERVIOUS AND THEREBY CONSIDERED A REGULATED PROJECT. THE PROJECT IS DESIGNED TO CONFORM TO C3 REQUIREMENTS WHICH INCLUDES SITE DESIGN MEASURES, SOURCE CONTROL AND LOW IMPACT DEVELOPMENT DESIGN.
3. ASSUME IN-SITU PERCOLATION RATE IS EQUAL TO OR ABOVE 5 IN/HR. FINAL PERCOLATION RATE TO BE CONFIRMED IN FINAL GEOTECHNICAL INVESTIGATION.
4. THIS PROJECT IS EXEMPT FROM HYDROMODIFICATION.
5. ALL NEW AND EXISTING ON-SITE INLETS ARE TO BE MARKED WITH THE WORDS "NO DUMPING! FLOWS TO THE BAY"
6. SIZING CALCULATIONS TO DETERMINE THE MINIMUM REQUIRED BIORETENTION AREA TO BE PROVIDED IN THE TREATMENT AREA SUMMARY TABLE ON THIS SHEET WERE PERFORMED BASED ON CRITERIA PROVIDED IN SECTION 5.1.3 OF THE SAN MATEO COUNTY C3 PROJECTS GUIDE. SEE SUPPLEMENTAL SIZING WORKSHEETS FOR CALCULATIONS.

SIZING TABLES

TABLE OF IMPERVIOUS AND PERVIOUS SURFACES

	A	B	C	D	E
TYPES OF IMPERVIOUS SURFACE	PRE PROJECT IMPERVIOUS SURFACE (SQFT)	EXISTING IMPERVIOUS SURFACE TO BE RETAINED (SQFT)	EXISTING IMPERVIOUS SURFACE TO BE REPLACED (SQFT)	NEW IMPERVIOUS SURFACE TO BE CREATED (SQFT)	POST PROJECT LANDSCAPE (SQFT) IF APPLICABLE
ROOF ARES(S) - EXCLUDING ANY PORTION OF THE ROOF THAT IS VEGETADED ("GREEN ROOF")	98,808	0	103,200	0	
IMPERVIOUS SIDEWALKS, PATIOS, PATHS, DRIVEWAYS	57,469	0	56,406	0	
IMPERVIOUS UNCOVERED PARKING	28,619	0	928	0	
STREET (PUBLIC)	0	0	0	0	
STREET (PRIVATE)	0	0	0	0	34,732
TOTALS	184,896	0	160,534	0	34,732
AREA OF EXISTING IMPERVIOUS SURFACE NOT REPLACED		0			
TOTAL NEW IMPERVIOUS SURFACE (SUM OF TOTALS FOR COLUMNS "B" "C" AND "D"		160,534			

STORMWATER TREATMENT SIZING SUMMARY TABLE

DRAINAGE MANAGEMENT AREA	TREATMENT TYPE	IMPERVIOUS AREA (SQFT)	TOTAL PERVIOUS AREA (SQFT)	TREE TYPE / QUANTITY	TREE REDUCTION (SF)	EFFECTIVE PERVIOUS AREA[1] (SQFT)	TOTAL EFFECTIVE IMPERVIOUS AREA[2] (SQFT)	REQUIRED TREATMENT AREA (SQFT)	AVAILABLE TREATMENT AREA (SQFT)
DMA 1	BIORETENTION	50,950	15,961	EVERGREEN-11 DECIDUOUS- 09	0	1,596	52,546	2102	2,286
DMA 2	FLOW THRU PLANTER	16,392	2,224	EVERGREEN-00 DECIDUOUS- 00	0	222	16,614	665	716
DMA 3	FLOW THRU PLANTER	4,408	817	EVERGREEN-00 DECIDUOUS- 06	0	82	4,490	180	194
DMA 4	FLOW THRU PLANTER	2,648	749	EVERGREEN-00 DECIDUOUS- 01	0	75	2,723	109	109
DMA 5	FLOW THRU PLANTER	25,275	1,202	EVERGREEN-00 DECIDUOUS- 02	0	120	25,395	1016	1,202
DMA 6	FLOW THRU PLANTER	6,715	3,296	EVERGREEN-03 DECIDUOUS- 04	0	330	7,045	282	443
DMA 7	FLOW THRU PLANTER	9,210	3,657	EVERGREEN-00 DECIDUOUS- 15	0	366	9,576	383	466
DMA 8	FLOW THRU PLANTER	5011	103	EVERGREEN-00 DECIDUOUS- 01	0	10	5,021	201	350
DMA 9	FLOW THRU PLANTER	4,300	174	EVERGREEN-00 DECIDUOUS- 00	0	17	4,317	173	174
DMA 10	FLOW THRU PLANTER	12,314	1,600	EVERGREEN-00 DECIDUOUS- 00	0	160	12,474	499	513
DMA 11	FLOW THRU PLANTER	2,307	1,275	EVERGREEN-00 DECIDUOUS- 01	0	128	2,435	97	112
DMA 12	FLOW THRU PLANTER	2,953	224	EVERGREEN-00 DECIDUOUS- 01	0	22	2,975	119	135
DMA 13	FLOW THRU PLANTER	3,751	350	EVERGREEN-00 DECIDUOUS- 01	0	35	3,786	151	162
DMA 14	FLOW THRU PLANTER	4,529	155	EVERGREEN-00 DECIDUOUS- 00	0	16	4,545	182	205
DMA 15	SILVA CELLS	4,813	0	EVERGREEN-00 DECIDUOUS- 00	0	0	4,813	193	199
DMA 16	SILVA CELLS	9,945	177	EVERGREEN-00 DECIDUOUS- 00	0	18	9,963	399	400
POST-PROJECT TOTAL		165,521	31,964		0	3,179	168,700	6748	7666

STORM WATER CONTROL NOTES

1. EFFECTIVE PERVIOUS AREA EQUALS TO THE TOTAL PERVIOUS AREA MULTIPLIED BY A FACTOR OF 0.1
2. TOTAL EFFECTIVE IMPERVIOUS AREA EQUALS TO THE EFFECTIVE PERVIOUS AREA + IMPERVIOUS AREA - SF REDUCED FROM TREE CREDITS

DES ARCHITECTS ENGINEERS

BKF

PRESIDIO BAY VENTURES
1160 Battery Street , Suite 100
San Francisco, CA 94111

642 QUARRY ROAD - SITE

SITE
642 Quarry Road
San Carlos, CA 94070

STORMWATER CONTROL PLAN

#	DATE:	DESCRIPTION:
	7/20/22	100% DESIGN DEVELOPMENT

DRAWN BY: R. NELSON

REVIEWED BY: A. VAZQUEZ

APPROVED BY: J. YOUNG

DES PROJECT NO.: 10294.002

ENGINEER OF RECORD | ARCHITECT OF RECORD

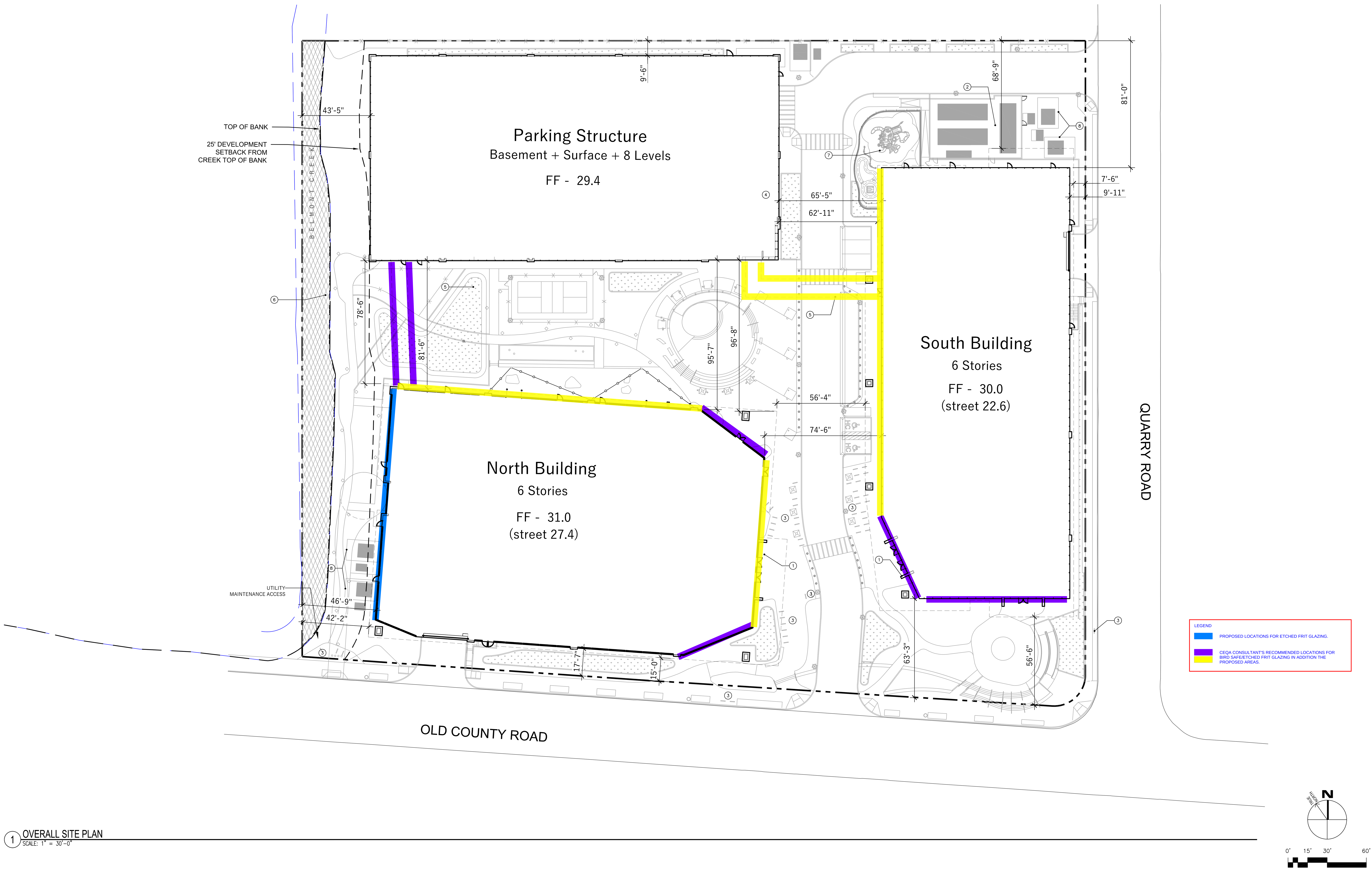
SITE
BLDG.

C40
SHEET NO.

6/6/2022 11:42:02 AM BIM 360://PresidioBayVentures - 642 Quarry/10294001_A_642 QUARRY_SITE COORD_2020_CENTRAL.rvt

642 Quarry Road Project IS/MND

Appendix B: Bird Safe Glazing Treatments



1 OVERALL SITE PLAN
SCALE: 1" = 30'-0"

KEYNOTES

1. KNOX BOX
2. GENERATOR ENCLOSURE.
3. VISITOR BIKE PARKING.
4. LONG TERM BIKE PARKING.
5. PEDESTRIAN BRIDGE ABOVE.
6. CREEK RESTORATION UNDER A SEPARATE PERMIT.
7. CHILDREN'S PLAYGROUND EQUIPMENT.
8. TRANSFORMERS

LEGEND

PROPERTY LINE
SETBACK
ACCESSIBLE PATH OF TRAVEL
ACCESSIBLE ROUTE BETWEEN TRASH ENCLOSURE AND BUILDING ENTRANCE

DES ARCHITECTS ENGINEERS
399 Bradford Street Redwood City, Ca. 94063
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PRESIDIO BAY

PRESIDIO BAY VENTURES

1160 Battery Street, Suite 100
San Francisco, CA 94111

642 QUARRY ROAD - SOUTH BUILDING

SOUTH BUILDING
642 Quarry Road
San Carlos, CA 94070

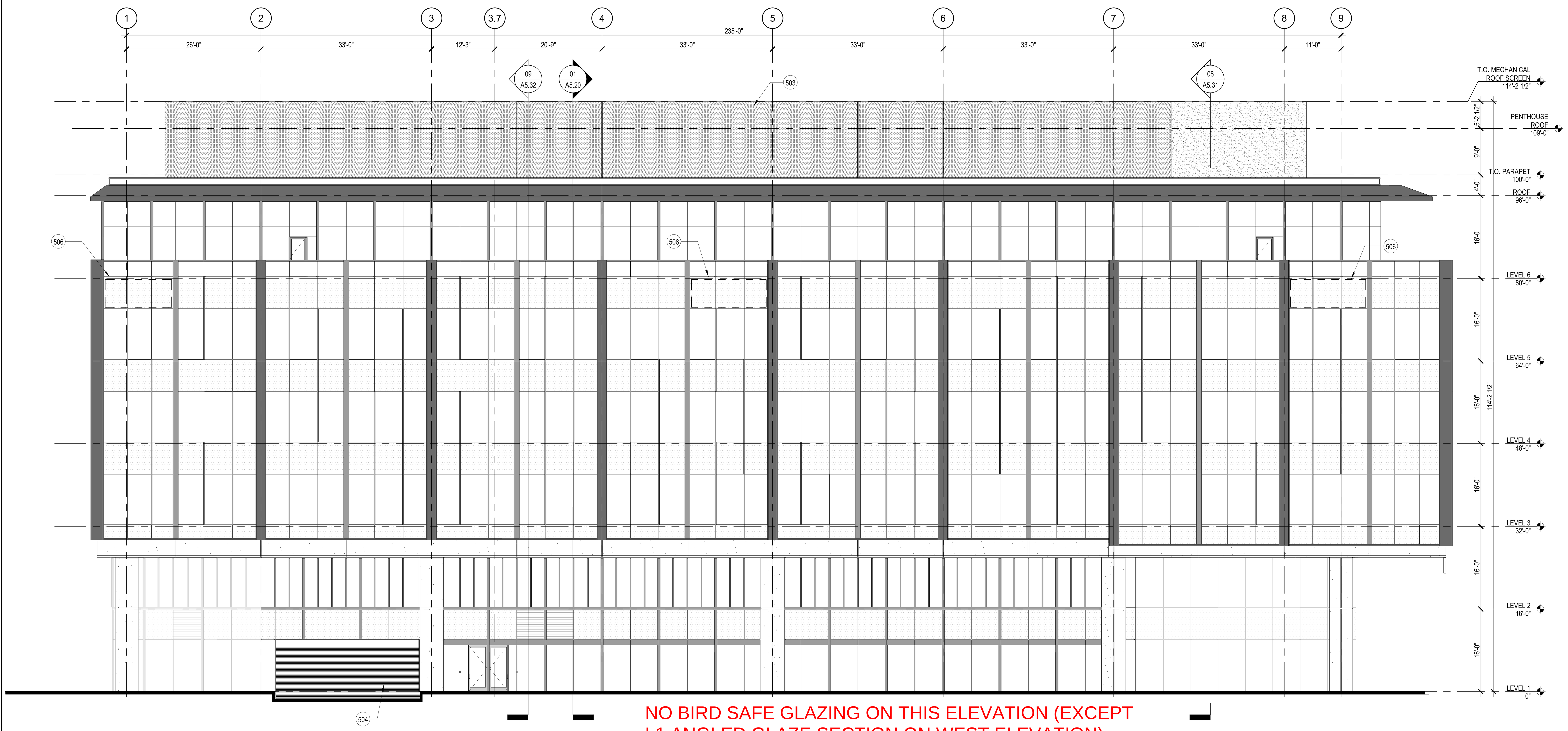
SITE PLAN

ISSUE:	DATE:	DESCRIPTION:
	02/18/22	SCHEMATIC DESIGN
	04/22/22	50% DESIGN DEVELOPMENT

DRAWN BY: B.KREBS
REVIEWED BY:
APPROVED BY:
DES PROJECT NO.: 10294.002

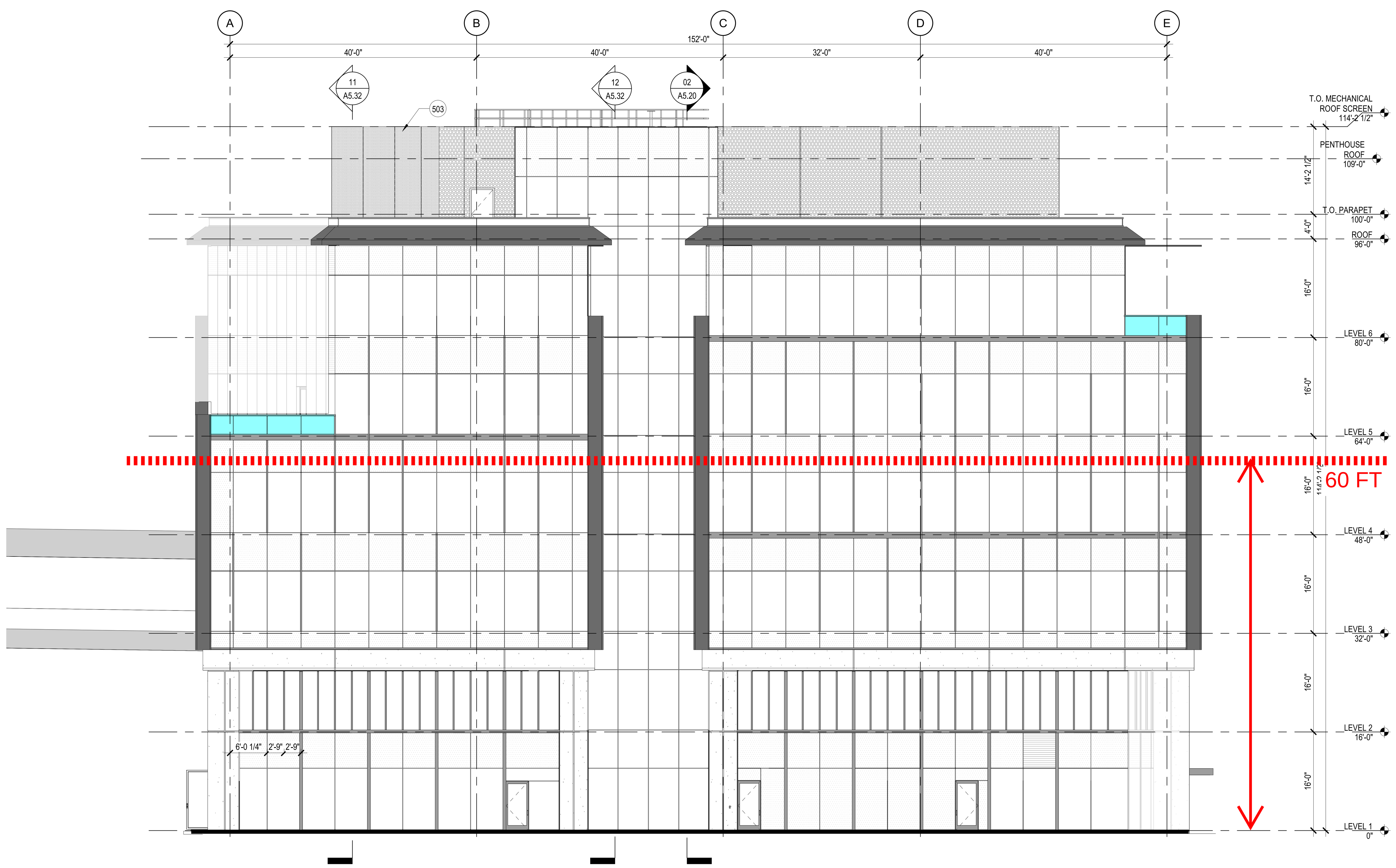
S
BLDG.

A1.01
SHEET NO.



NO BIRD SAFE GLAZING ON THIS ELEVATION (EXCEPT L1 ANGLED GLAZE SECTION ON WEST ELEVATION)

01 SOUTH
3/32" = 1'-0"



02 WEST
3/32" = 1'-0"

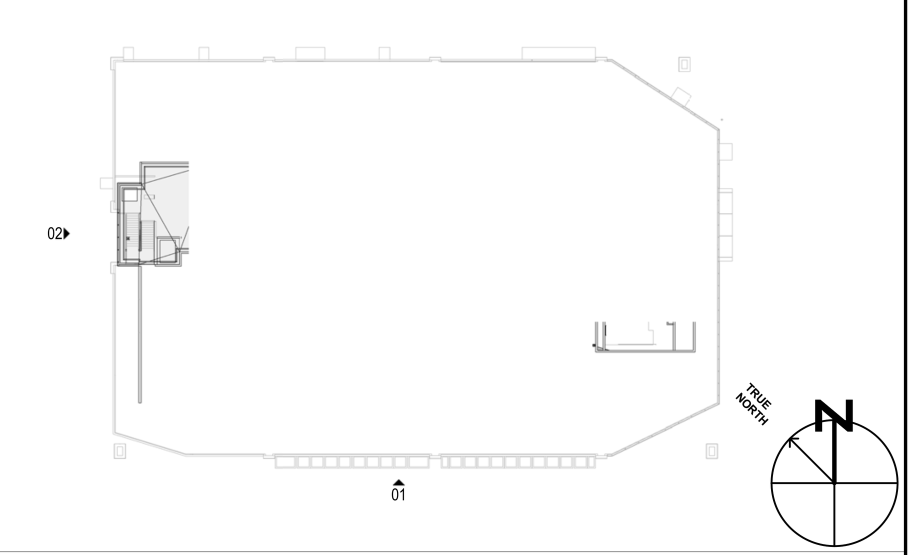
SHEET NOTES

1. SEE ARCHITECTURAL PLAN DRAWINGS FOR TYPICAL CLADDING SPACING AND DIMENSIONS.
2. FOR MULLION TYPES SEE SHEET A8.01 & A8.02.
3. PROVIDE SAFETLY GLAZING IN ALL FIXED OR OPERABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST EXPOSED EDGE OF GLAZING IS WITHIN A 24-INCH ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60-INCHES ABOCE THE WALKING SURFACE.
4. ALL STOREFRONT DOORS SHALL BE INSULATED GLAZING UNITS
5. FOR ALL CONCRETE AND STEEL COMPONENTS SEE STRUCTURAL DRAWINGS.
6. WALL REVEALS, PARAPET CAP, AND DECORATIVE MOULDINGS ARE DIMENSIONED TO TOP U.O.N.
7. ALL BUILDING SIGNAGE RELATED TO TENANTS SHALL BE SUBMITTED UNDER A SEPARATE PERIMIT.
8. PROVIDE CONDUIT AND BACKING FOR FUTURE TENANT BUILDING ILLUMINATED SIGNAGE. COORDINATE WITH OWNER AND ARCHITECT FOR FINAL LOCATION.

KEYNOTES

503	PERFORATED PANEL MECHANICAL ROOF SCREEN
504	ROLL UP DOOR AT LOADING DOCK
506	SKIN MOUNT TENANT SIGNS, RACEWAY TO MATCH CURTAIN WALL OR GFRC PANELS. SEE DETAILS 18, 19 & 20 A8.01

KEY PLAN



LEGEND

- CLEAR VISION GLASS
- SPANDREL GLASS
- METAL PANEL AT ROOF SCREEN
- METAL PANEL: MICAS - UC110628F GRAPHITE GRAY
- METAL PANEL: MICAS - UC106685F SILVERSTORM
- METAL PANEL: MICAS - UC106682F PLATINUM MICA
- CEMENT PLASTER
- GFRC WITH 1"X1" REVEALS
  REVEALS TO WRAP CORNERS UNLESS OTHERWISE NOTED
- MECHANICAL LOUVER ASSEMBLY
- SECURITY CAMERA MOUNTED 12'-6" A.F.F. - U.N.O. REFER TO SECURITY DRAWINGS

LEGEND

- 60' LIMIT LINE AND BELOW FOR ETCHED FRIT GLAZING, WHICH APPLIES TO ONLY THE PORTIONS DESIGNATED FOR CLEAR VISION GLAZING
- CEQA CONSULTANT'S RECOMMENDED LOCATION FOR A GLASS REFLECTANCE OF 15% OR LESS AT BALCONIES

DES ARCHITECTS ENGINEERS

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Fax: (650) 364-2618
www.des-ae.com

PS
N
S

PRESIDIO BAY VENTURES
1160 Battery Street , Suite 100
San Francisco, CA 94111

642 QUARRY ROAD NORTH BUILDING

NORTH BUILDING
642 Quarry Road
San Carlos, CA 94070

EXTERIOR ELEVATIONS

#	DATE:	DESCRIPTION:
	02/18/22	SCHEMATIC DESIGN
	04/22/22	50% DESIGN DEVELOPMENT
	07/20/22	100% DESIGN DEVELOPMENT

DRAWN BY: P.AZOD
REVIEWED BY: J. GAAN
APPROVED BY: K. NORMAN
DES PROJECT NO.: 10294.002

ENGINEER OF RECORD
ARCHITECT OF RECORD

N
BLDG.

A5.11
SHEET NO.

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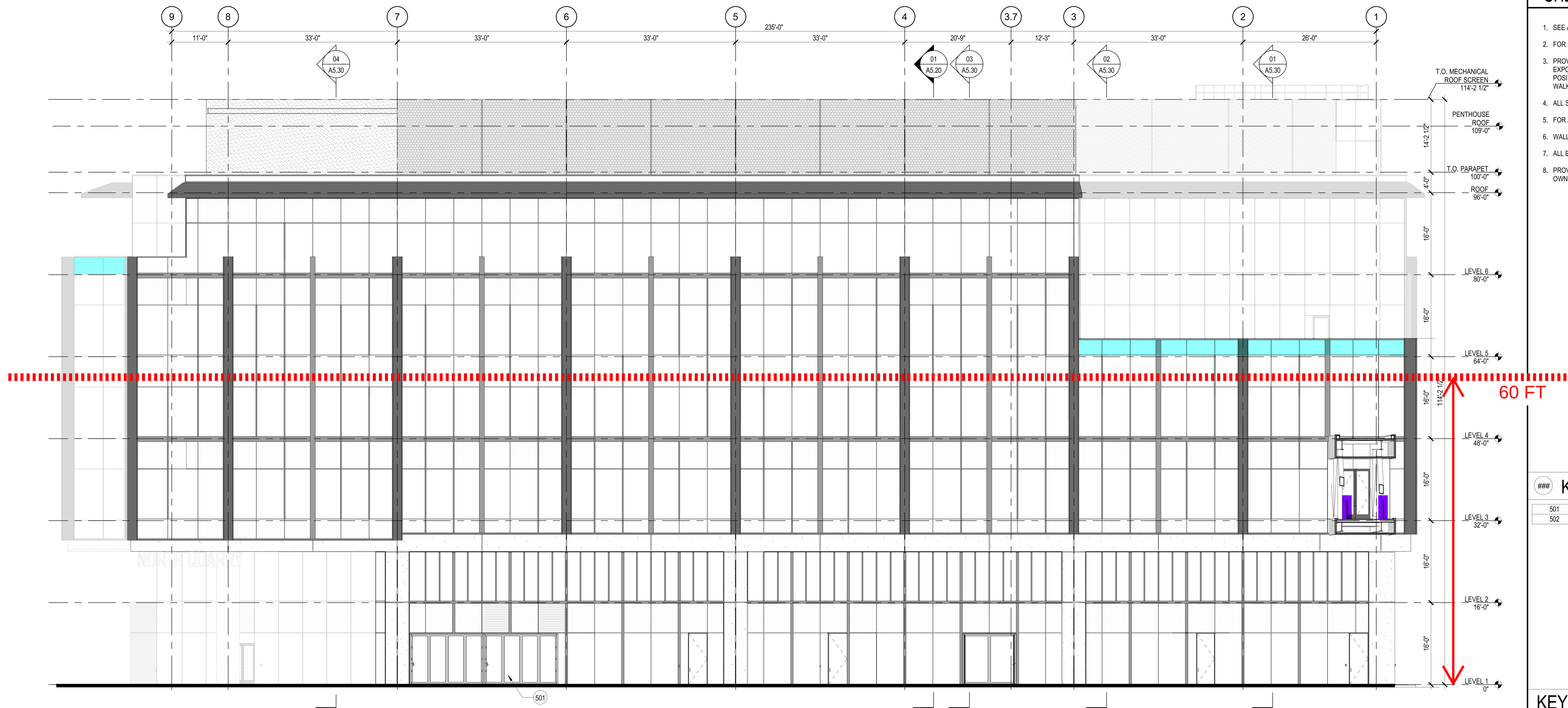
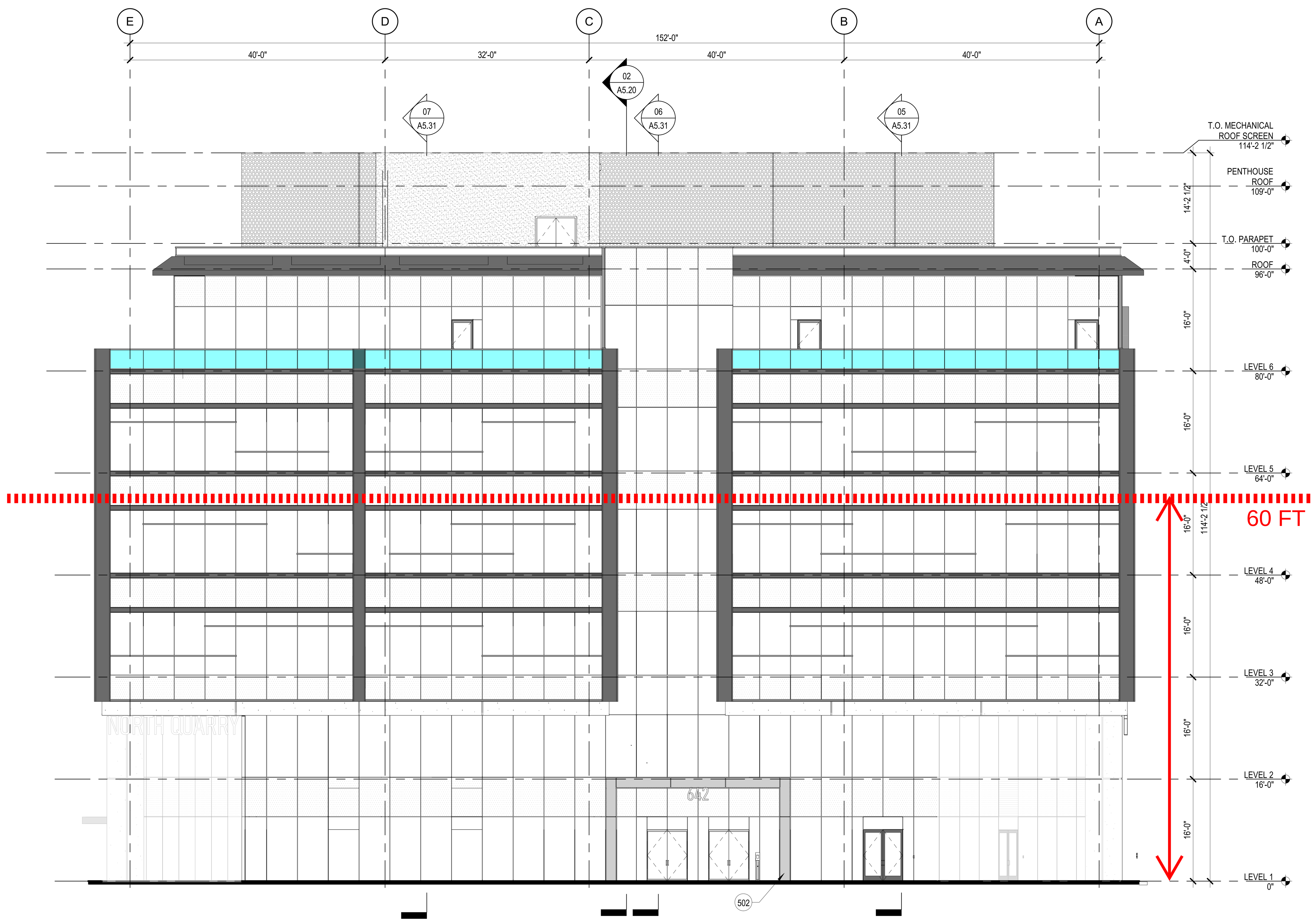


01 NORTH
3/32" = 1'-0"



02 EAST
3/32" = 1'-0"

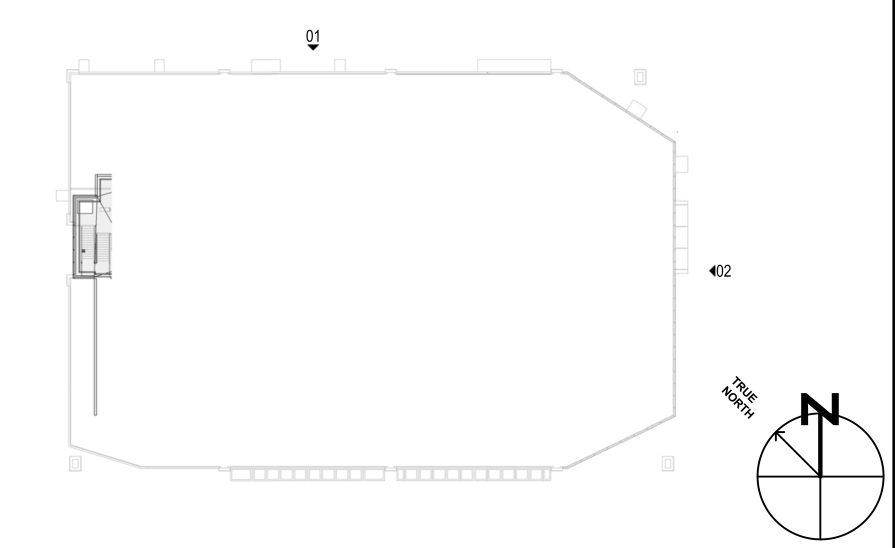
SHEET NOTES

1. SEE ARCHITECTURAL PLAN DRAWINGS FOR TYPICAL CLADDING SPACING AND DIMENSIONS.
2. FOR MULLION TYPES SEE SHEET A8.01 & A8.02.
3. PROVIDE SAFETLY GLAZING IN ALL FIXED OR OPERABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST EXPOSED EDGE OF GLAZING IS WITHIN A 24-INCH ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60-INCHES ABOCE THE WALKING SURFACE.
4. ALL STOREFRONT DOORS SHALL BE INSULATED GLAZING UNITS
5. FOR ALL CONCRETE AND STEEL COMPONENTS SEE STRUCTURAL DRAWINGS.
6. WALL REVEALS, PARAPET CAP, AND DECORATIVE MOULDINGS ARE DIMENSIONED TO TOP U.O.N.
7. ALL BUILDING SIGNAGE RELATED TO TENANTS SHALL BE SUBMITTED UNDER A SEPARATE PERIMIT.
8. PROVIDE CONDUIT AND BACKING FOR FUTURE TENANT BUILDING ILLUMINATED SIGNAGE. COORDINATE WITH OWNER AND ARCHITECT FOR FINAL LOCATION.

KEYNOTES

501	OPERABLE GLAZING PARTITIONS, TYP.
502	ENTRY PORTAL

KEY PLAN



LEGEND

- CLEAR VISION GLASS
- SPANDREL GLASS
- METAL PANEL AT ROOF SCREEN
- METAL PANEL: MICAS - UC110628F GRAPHITE GRAY
- METAL PANEL: MICAS - UC106685F SILVERSTORM
- METAL PANEL: MICAS - UC106682F PLATINUM MICA
- CEMENT PLASTER
- GFRC WITH 1"X1" REVEALS
  REVEALS TO WRAP CORNERS UNLESS OTHERWISE NOTED
- MECHANICAL LOUVER ASSEMBLY
- SECURITY CAMERA MOUNTED 12'-6" A.F.F. - U.N.O. REFER TO SECURITY DRAWINGS

LEGEND

- 60' LIMIT LINE AND BELOW FOR ETCHED FRIT GLAZING, WHICH APPLIES TO ONLY THE PORTIONS DESIGNATED FOR CLEAR VISION GLAZING
- CEQA CONSULTANT'S RECOMMENDED LOCATION FOR A GLASS REFLECTANCE OF 15% OR LESS AT BALCONIES
- CEQA CONSULTANT'S RECOMMENDED LOCATIONS FOR BIRD SAFE/ETCHED FRIT GLAZING IN ADDITION THE PROPOSED AREAS.

DES
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ENGINEERS

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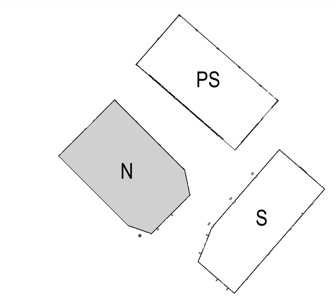


PRESIDIO BAY VENTURES
1160 Battery Street , Suite 100
San Francisco, CA 94111

642 QUARRY ROAD NORTH BUILDING

NORTH BUILDING
642 Quarry Road
San Carlos, CA 94070

EXTERIOR ELEVATIONS

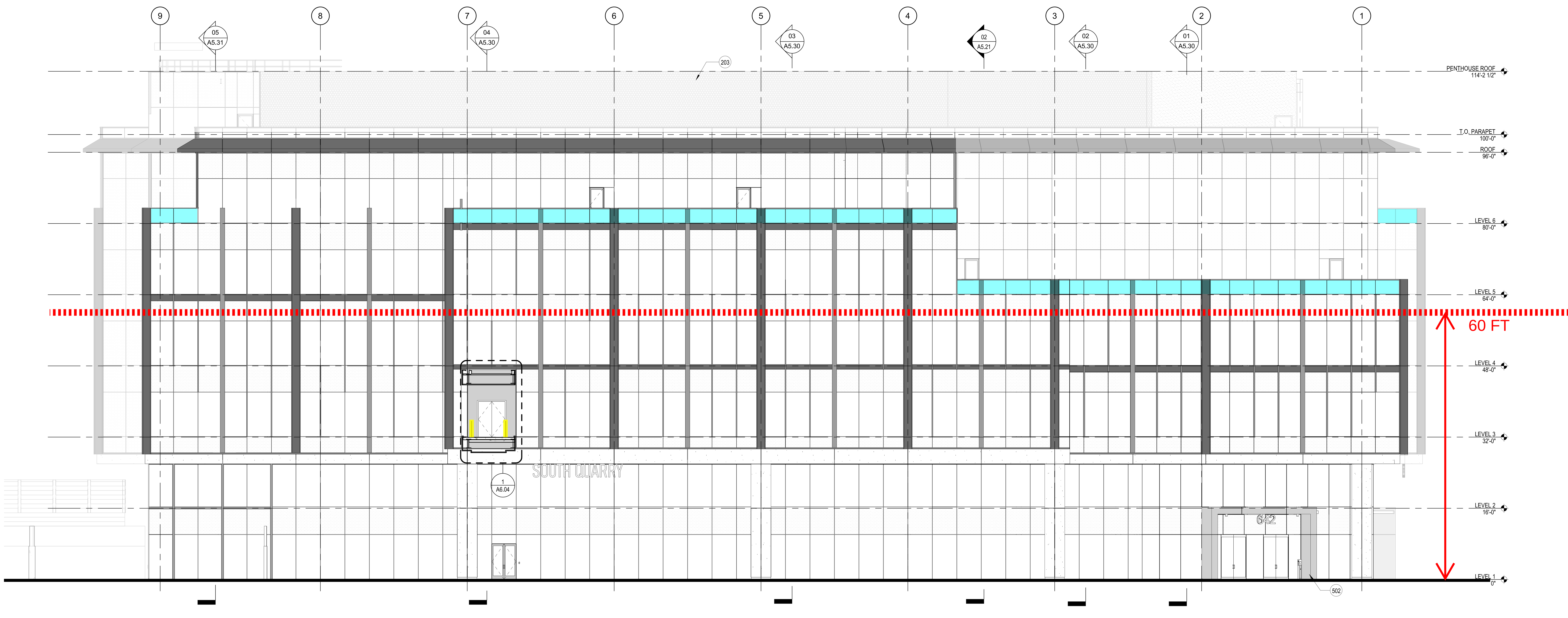
#	DATE:	DESCRIPTION:
	02/18/22	SCHEMATIC DESIGN
	04/22/22	50% DESIGN DEVELOPMENT
	07/20/22	100% DESIGN DEVELOPMENT

DRAWN BY:	P. AZOD
REVIEWED BY:	J. GAAN
APPROVED BY:	K. NORMAN
DES PROJECT NO.:	10294.002

ENGINEER OF RECORD
ARCHITECT OF RECORD

N
BLDG.

A5.10
SHEET NO.



01 NORTH
3/32" = 1'-0"

LEGEND

60' LIMIT LINE AND BELOW FOR ETCHED FRIT GLAZING, WHICH APPLIES TO ONLY THE PORTIONS DESIGNATED FOR CLEAR VISION GLAZING

CEQA CONSULTANT'S RECOMMENDED LOCATION FOR A GLASS REFLECTANCE OF 15% OR LESS AT BALCONIES

CEQA CONSULTANT'S RECOMMENDED LOCATIONS FOR BIRD SAFE/ETCHED FRIT GLAZING IN ADDITION THE PROPOSED AREAS.

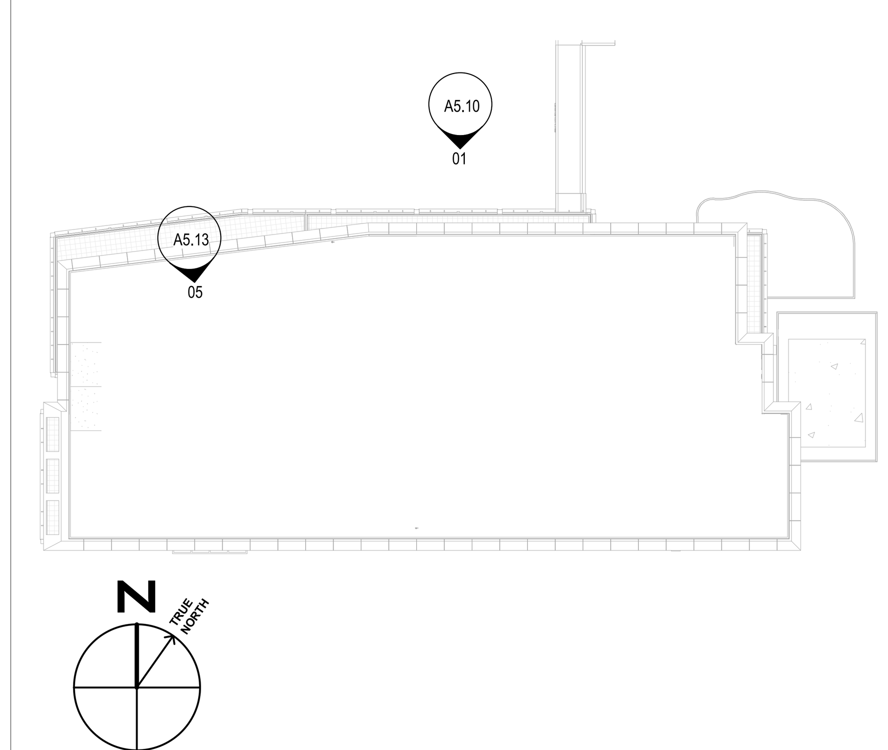
SHEET NOTES

1. ALL DIMENSIONS ARE TO THE FACE OF FINISH U.O.N.
2. FOR PARTITION TYPES DETAILS SEE SHEET A9.10.
3. COORDINATE LOCATION AND PROVIDE BLOCKING, BACKINGS AND/OR REINFORCEMENT IN PARTITIONS FOR ALL CABINETS, COUNTERTOPS AND ANY WALL-MOUNTED ITEMS. REFER TO THE PLANS, ELEVATIONS AND DETAILS FOR LOCATION OF ITEMS WHICH MAY REQUIRE SUPPORT.
4. REFER TO SHEET A9.20 FOR DOOR AND HARDWARE SCHEDULE.
5. ALL DOORS TO COMPLY WITH THE REQUIRED MANEUVERING CLEARANCE AT THE DOORS. ALL DOORS ARE LOCATED 4" ON HINGED SIDE FROM WALL PERPENDICULAR TO THE DOOR UNLESS OTHERWISE NOTED.
6. ALL DOORS AND PENETRATIONS IN PARTITIONS SHALL MAINTAIN THE REQUIRED FIRE PROTECTION RATING OF THAT WALL OR PARTITION. WHERE A CONFLICT BETWEEN PARTITION RATING AND DOOR/FRAME RATING OCCURS NOTIFY ARCHITECT PRIOR TO PROCEEDING.
7. +0" = T.O. FLOOR FINISH, GC TO VERIFY ELEVATION
8. FOR GENERAL ACCESSIBILITY STANDARDS & DETAILS SEE SHEET G1.02 .

KEYNOTES

203	METAL PANEL ROOFSCREEN
502	ENTRY PORTAL

KEY PLAN



LEGEND

- CLEAR VISION GLASS
- SPANDREL GLASS
- METAL PANEL AT ROOF SCREEN
- METAL PANEL: MICAS - UC110628F GRAPHITE GRAY
- METAL PANEL: MICAS - UC106685F SILVERSTORM
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- GFRC WITH 1"X1" REVEALS
  REVEALS TO WRAP CORNERS UNLESS OTHERWISE NOTED
- MECHANICAL LOUVER ASSEMBLY
- SECURITY CAMERA MOUNTED 12'-6" A.F.F. - U.N.O. REFER TO SECURITY DRAWINGS

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ENGINEERS

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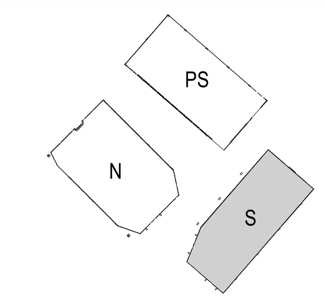

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1160 Battery Street , Suite 100
San Francisco, CA 94111

642 QUARRY ROAD - SOUTH BUILDING

SOUTH BUILDING
642 Quarry Road
San Carlos, CA 94070

EXTERIOR ELEVATIONS

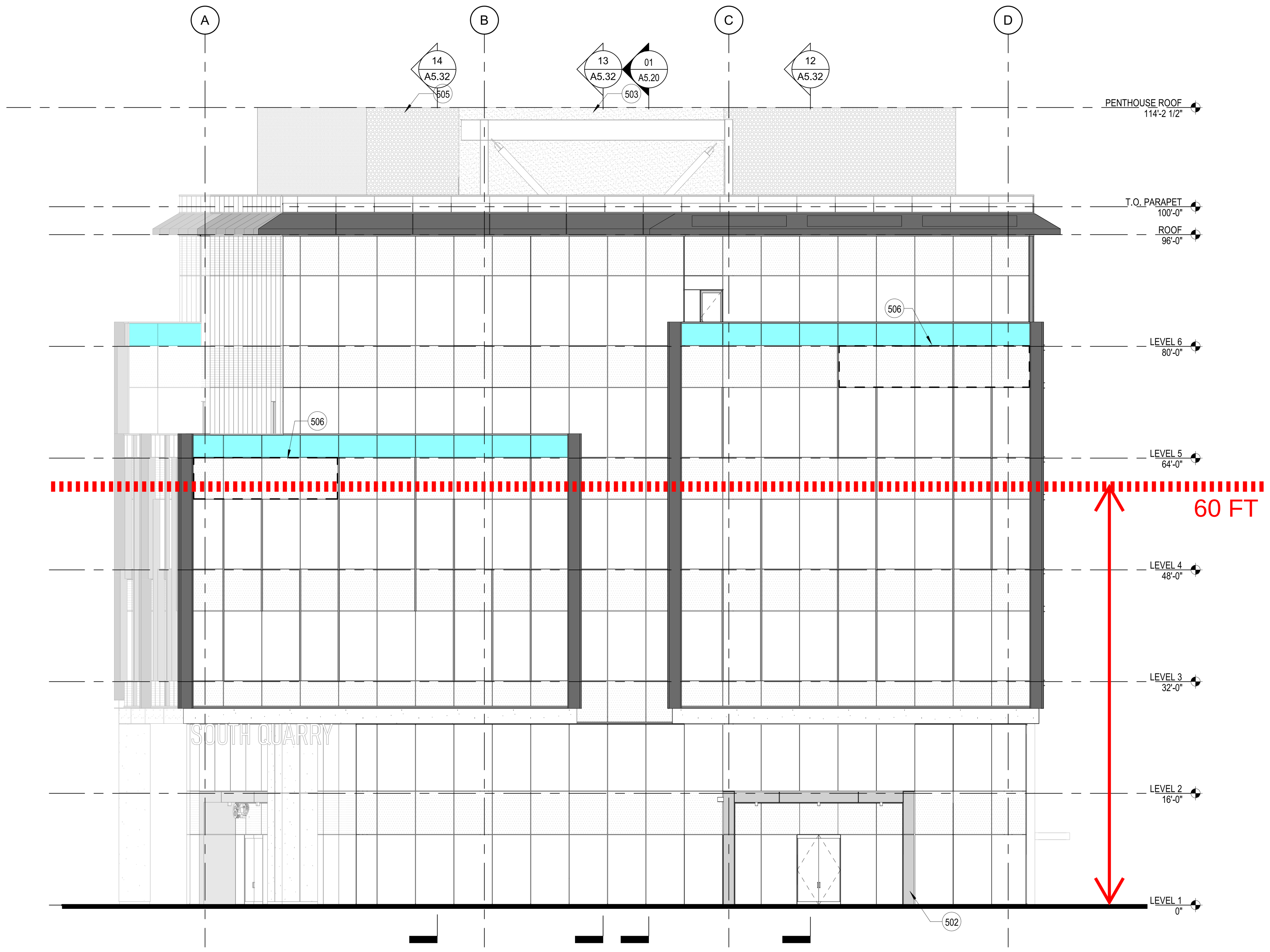
#	DATE:	DESCRIPTION:
	02/18/22	SCHEMATIC DESIGN
	04/22/22	50% DESIGN DEVELOPMENT
	07/20/22	100% DESIGN DEVELOPMENT

DRAWN BY: P.AZOD
REVIEWED BY: J.GAAN
APPROVED BY: K.NORMAN
DES PROJECT NO.: 10294.002

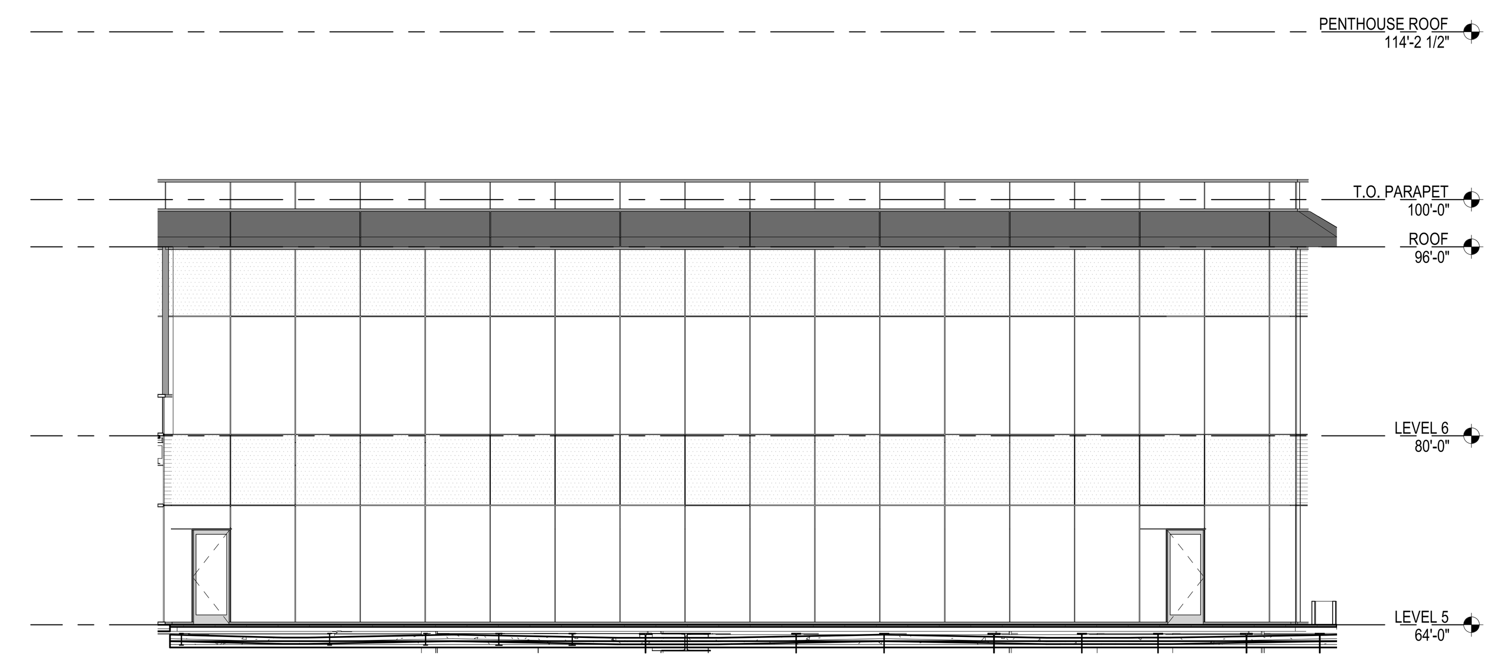
ENGINEER OF RECORD
ARCHITECT OF RECORD

S
BLDG.

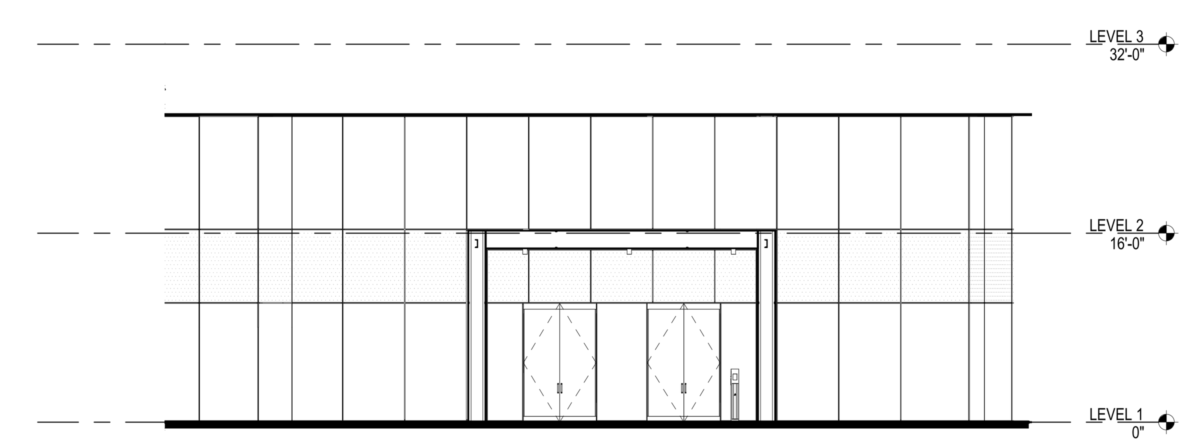
A5.10
SHEET NO.



04 WEST
3/32" = 1'-0"



05 PARTIAL ELEVATION
3/32" = 1'-0"



06 PARTIAL ELEV
3/32" = 1'-0"

LEGEND

60' LIMIT LINE AND BELOW FOR ETCHED FRIT GLAZING, WHICH APPLIES TO ONLY THE PORTIONS DESIGNATED FOR CLEAR VISION GLAZING

CEQA CONSULTANT'S RECOMMENDED LOCATION FOR A GLASS REFLECTANCE OF 15% OR LESS AT BALCONIES

SHEET NOTES

1. ALL DIMENSIONS ARE TO THE FACE OF FINISH U.O.N.
2. FOR PARTITION TYPES DETAILS SEE SHEET A9.10.
3. COORDINATE LOCATION AND PROVIDE BLOCKING, BACKINGS AND/OR REINFORCEMENT IN PARTITIONS FOR ALL CABINETS, COUNTERTOPS AND ANY WALL-MOUNTED ITEMS. REFER TO THE PLANS, ELEVATIONS AND DETAILS FOR LOCATION OF ITEMS WHICH MAY REQUIRE SUPPORT.
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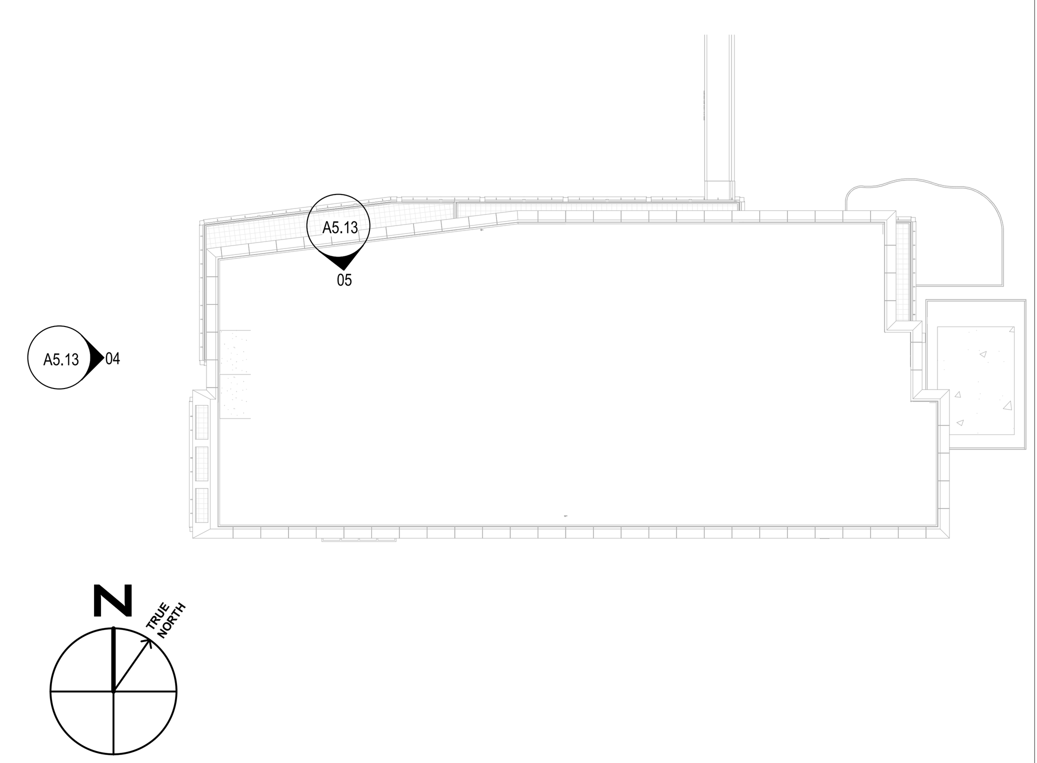
7. +0" = T.O. FLOOR FINISH, GC TO VERIFY ELEVATION
8. FOR GENERAL ACCESSIBILITY STANDARDS & DETAILS SEE SHEET G1.02 .

KEYNOTES

502	ENTRY PORTAL
503	PERFORATED PANEL MECHANICAL ROOF SCREEN
505	STAIR TOWER
506	SKIN MOUNT TENANT SIGNS, RACEWAY TO MATCH CURTAIN WALL OR GFRC PANELS. SEE DETAILS 18, 19 & 20 A8.01

KEY PLAN



LEGEND

- CLEAR VISION GLASS
- SPANDREL GLASS
- METAL PANEL AT ROOF SCREEN
- METAL PANEL: MICAS - UC110628F GRAPHITE GRAY
- METAL PANEL: MICAS - UC106685F SILVERSTORM
- METAL PANEL: MICAS - UC106682F PLATINUM MICA
- CEMENT PLASTER
- GFRC WITH 1"X1" REVEALS
  REVEALS TO WRAP CORNERS UNLESS OTHERWISE NOTED
- MECHANICAL LOUVER ASSEMBLY
- SECURITY CAMERA MOUNTED 12'-6" A.F.F. - U.N.O. REFER TO SECURITY DRAWINGS

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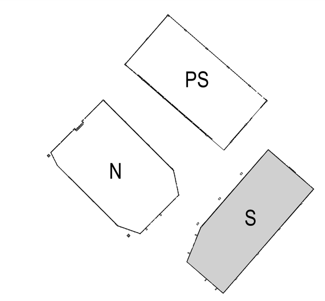

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642 QUARRY ROAD - SOUTH BUILDING

SOUTH BUILDING
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San Carlos, CA 94070

EXTERIOR ELEVATIONS

#	DATE:	DESCRIPTION:
	02/18/22	SCHEMATIC DESIGN
	04/22/22	50% DESIGN DEVELOPMENT
	07/20/22	100% DESIGN DEVELOPMENT

DRAWN BY: P.AZOD
REVIEWED BY: J.GAAN
APPROVED BY: K.NORMAN
DES PROJECT NO.: 10294.002

ENGINEER OF RECORD
ARCHITECT OF RECORD

S
BLDG.

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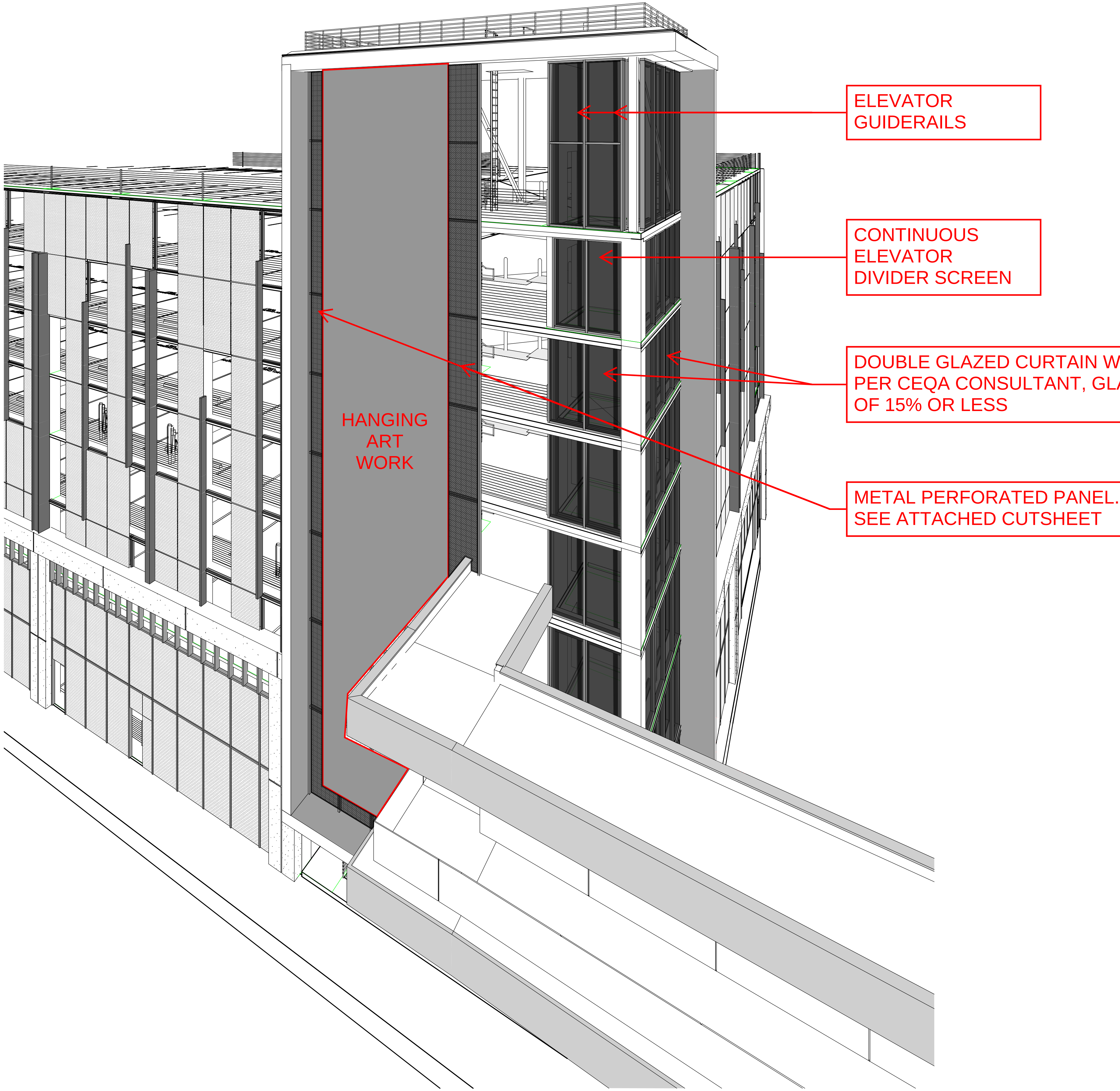

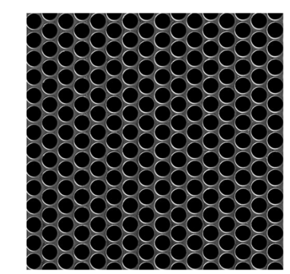

McNICHOLS® Perforated Metal

Round, Carbon Steel, Cold Rolled, 16 Gauge (.0598" Thick), 5/16" Round on 3/8" Staggered Centers, 63% Open Area

McNICHOLS® Perforated Metal, Round, Carbon Steel, Cold Rolled, Mill Finish, 16 Gauge (.0598" Thick), 5/16" Round on 3/8" Staggered Centers, 1/16" Bar Width, 8.21 Holes Per Square Inch (HPSI), Minimum Solid Margins Both Sides of Sheet Parallel to Length of Sheet, Holes Sheared Through Both Ends of Sheet Parallel to Width of Sheet, 63% Open Area

ITEM 1651381641 - 48" x 120" - **In-Stock!**

Please Request Quote

PRODUCT SIZE(S)	QTY	SUBTOTAL
48" x 120"	1	$--.--

642 Quarry Road Project IS/MND

Appendix C: Vehicle Trip Reduction Measures

Proposed C/CAG Trip Reduction Measures and Values

Required Measures											
	ID	Status	Measures	Type	Measure Description	Point Value		Vehicle Trip Reduction Impact	% SOV Trip Reduction Estimate Range	% SOV Mitigated Trip Reduction	Citation
Parking Mgmt. for Ridesharing	1	Yes	Free/Preferential Parking for Carpools	Programmatic	Provide free or preferential parking, including reserved spaces or spaces near an entrance or other desirable location, to incentivize ridesharing.	1		1.00%	.05-5%	5.00%	3,6
TDM Mgmt. & Admin	2	Yes	TDM Coordinator/Contact Person	Programmatic	Provide a TDM coordinator or contact person. This may be an individual who is an employee of - or at - the development project; or may be contracted through a third-party provider, such as Commute.org.	1		0.50%	1-2%	2.00%	6
	3	Yes	Actively Participate in Commute.org, or Transportation Management Assocation (TMA) Equivalent	Programmatic	Obtain certification of registration from Commute.org or equivalent TMA incorporation documents.	13		16.50%	7.8-26%	26.00%	1,3,6
	3A	Yes	*Participation in Commute.org, or equivalent program such as TMA*		*Obtain certification of registration from Commute.org or equivalent TMA incorporation documents.*		*2*	*4.00%*	*5.00%*	*5.00%*	*3*
	3B	Yes	*Commute assistance and ride-matching*		*Establish a commute assistance program to provide individualized trip planning services.*		*4*	*1.00%*	*1-3%*	*3.00%*	*6*
	3C	Yes	*Shuttle Program/Shuttle Consortium/Fund Transit Service*		*Establish a shuttle service to regional transit hubs or commercial centers. Shuttle service should be provided free of charge to employees and guests.*		*5*	*10.00%*	*0.3-13%*	*13.00%*	*1*
	3D	Yes	*Guaranteed Ride Home*		*Offer employees a Guaranteed Ride Home (GRH) program (or participate in the Commute.org GRH program).*		*1*	*0.50%*	*<1%*	*1.00%*	*1*
	3E	Yes	*Orientation, Education, Promotional Programs*		*Offer new employees an orientation or education program or materials.*		*1*	*1.00%*	*0.8-4%*	*4.00%*	*1*
Shuttles, Transit & Ridesharing	4	Yes	Carpool or Vanpool Program	Programmatic	Establish carpool or vanpool program for tenant-occupants and register program with Commute.org for active users to become eligible for fiscal rewards.	3		2.00%	1-5%	5.00%	
	5	Yes	Transit or Ridesharing Passes/Subsidies	Programmatic	Offer public transit passes or subsidies; or carpool/vanpool subsidies to tenants equivalent to 30% of the value of their monthly fare or $50 monthly, to incentivize transit use and ridesharing and comply with regional environmental sustainability goals. NOTE: Funding contributions towards and/or participation in Commute.org shuttle program does not count for this measure. Passes/subsides provided must be valid for public transportation options, including but not limited to BART, Caltrain, SamTrans, and ridesharing platforms and vanpool subscription (or costs).	8		10.00%	0-20%	20.00%	
	6	Yes	Pre-Tax Transportation Benefits	Programmatic	Offer option for tenants to participate in a pre-tax transit program to encourage the use of sustainable transportation modes and leverage pre-tax income to pay for commute trip costs.	3		1.00%	0-3%	3.00%	0
Active Transportation	7	Yes	Secure Bicycle Storage	Site Design	Comply with CALGreen minimum bicycle parking requirements: Provide safe and convenient	1		1.00%	0.50%	0.50%	6
	8	Yes	Showers, Lockers, and Changing Rooms for Cyclists	Site Design	These amenities serve as end of trip facilities for employees arriving by bike or other active transportation forms.	2		2.00%	2-5%	3.00%	3
Site Design Initiatives	9	No	Design Streets to Encourage Bike/Ped Access	Site Design	Design street or roadways that provide multimodal travel choices and give people the option to avoid vehicular traffic congestion, increasing the overall capacity of the transportation network.		-1	-1.00%	0-2%	2.00%	1,6
					Maximum Weighted Points from Required Measures, for "Transit Proximate" Projects	29		34.00%			

* "Transit Proximate" : Project located between 0.5 - 3 miles from a transit station or stop with "high quality" transit service.

^ "High quality" transit service : Rail station or a transit stop featuring bus service with maximum 15-minute headways during weekday peak hours of 6-10AM and 3-7PM.

See attachment for Citation references.

Additional Recommended Measures . Select sufficient, additional measures to reach 35% trip reduction threshold (25% for TODs).											
	ID	Status	Additional Measures	Type	Measure Description	Additional Point		Vehicle Trip Reduction Impact	% SOV Trip Reduction Estimate Range	% SOV Mitigated Trip Reduction	Citation
Employee Programs	10	Yes	Flex Time, Compressed Work Week, Telecommute	Programmatic	Flex time allows employees some flexibility in their daily work schedules. Compressed work week allows employees to work fewer but longer days. Telecommuting functions similarly, allowing employees to work from home rather than the office, reducing vehicle travel on the days they work remotely.	5		5.00%	1-27%	16.00%	2,9
Parking Mgmt.	11	No	Paid Parking at Market Rate	Programmatic	Motorists pay directly for using parking facilities. Parking rates should be at the market rate and not subsidized by property owners or employers.		-10	-25.00%	0.5-20%	10.00%	1
	12	No	Short Term Daily Parking	Programmatic	Offer daily or hourly parking rates that are proportional to the monthly rate or approximately the cost of a transit fare.		-2	-2.00%	2.00%	1.00%	
	13	Yes	Reduced Parking	Site Design	Provide off-street private parking at least 10% below local zoning code required minimums, on a per unit or square foot basis. Where regulations stipulate parking maximums, full credit may be issued if applicant provides parking below the applicable maximum rate. Consideration may be required of potential spillover parking into surrounding areas.	8		10.00%	5-12%	8.00%	1
TDM Mgmt. & Admin	14	?	Developer TDM Fee/TDM Fund	Programmatic	Impact fees can be collected from developers, generally on a per-unit or square footage basis, to fund the implementation of TDM programs. These TDM fees can be put in an escrow account for the developer or subsequent property manager to spend to implement programmatic elements of the TDM plan. NOTE: "Double dipping" with the already required "TMA Participation" measure (above) is not allowed. This measure cannot be given credit for TDM fund payment or developer fees already required by fee nexus ordinance by the governing jurisdiction. Credit here may only be given for voluntary TDM fund payment or developer fee negotiated separately with the governing jurisdiction.	5		4.00%	5.00%	5.00%	
Transit, Shuttles, & Ridesharing	15	Yes	Car Share On-Site	Programmatic	Provide on-site car share or vehicle fleets.	3		1.00%	<2%	2.00%	2
	16	No	Land Dedication or Capital Improvements for Transit	Site Design	Contribute space on, or adjacent to, the project site for transit improvements. NOTE: Scoring for this measure is tiered, based how many improvements are implemented from the list of sub-types below. Each improvement type is worth 2 points. Achieving 4 improvements equals the full 8 points. Land dedication sufficient to accommodate at least 4 improvements will also score the full amount of points.		-8	-4.00%	0-4%	3.00%	1
	16A	No	*Bus Pullout Space*		*2*						
	16B	No	*Bus Shelter*		*2*						
	16C	No	*Visual/Electrical Improvements (i.e., Lighting,*		*2*						
	16D	No	*Other (i.e., Micromobility Parking Zone, TNC*		*2*						
	17	Yes	Shuttle Program/Shuttle Consortium/Fund Transit Service	Programmatic	Establish a shuttle service to regional transit hubs or commercial centers. Shuttle service should be provided free of charge to employees and guests.	5		10.00%	0.3-13%	13.00%	1
Active Transportation	18	Yes	Bike/Scooter Share On-Site	Programmatic	Allocate space for bike or scooter share stations, docks, or parking areas.	2		1.00%	<2%	2.00%	7
	19	No	Active Transportation Subsidies	Programmatic	Offer employees or residents who use active transportation subsidies other incentives (gift cards, prizes).		-3	-2.00%	0.5-3%	3.00%	5
	20	No	Gap Closure	Site Design	Establish new, or enhance the quality of, pedestrian and bicycle facilities to facilitate active transportation from a project site to existing trails, bikeways, or adjacent streets. Pedestrian improvements should be within 0.5 miles of project site (approx. 10-15 minute walk); bicycling improvements within 2 miles of site (approx. 15-min ride at 10mph).		-5	-7.00%	3-21%	15.00%	8
	21	Yes	Bike Repair Station	Site Design	Offer a bicycle repair station or toolkit, within a designated, secure area of the building, such as a bicycle storage room, to encourage bicycling and support employees and residents who cycle.	1		0.50%	0.50%	1.00%	
Site Design Initiatives	22	Yes	Pedestrian Oriented Uses & Amenities on Ground Floor	Site Design	Include active, pedestrian-oriented commercial uses on the ground floor to create more walkable and inviting areas. Provide on-site amenities, such as cafés, gym, childcare, retail stores, or banks.	4		3.00%	0.5-2%	3.00%	10
					Maximum Weighted Points from Additional Measures, for "Transit Proximate" Projects	28		24.50%			
					Cumulative Total for "Transit Proximate" Projects	57					

642 Quarry Road Project IS/MND

Appendix D: Air Quality, Health Risk Assessment, Energy, and Greenhouse Gas Materials

642 Quarry Road Project IS/MND

Appendix D.1: Unmitigated CalEEMod Output Files

642 Quarry Road (San Carlos)

Air Quality Construction Emissions Estimates and Transportation Energy Calculations
Prepared by: MIG, Inc.
October 2022

Contents:

Sheet 1: AERMOD Source Emissions Rates

Table 1-1: AERMOD Source Emissions Rates

Source	Description	Size (m^2) / Length (m)	Emissions Rate (grams / sec)	Emissions Rate (grams / (sec * m^2))
PAREA01	Y1_ON_Demo+Grad	18,806.6	9.01E-04	4.788E-08
PAREA02	Y1_ON_B1	6,999.4	7.19E-04	1.028E-07
PAREA03	Y1_ON_B2	6,106.1	6.15E-04	1.007E-07
PAREA04	Y1_ON_PG	5,846.1	5.05E-04	8.635E-08
PAREA05	Y1_ON_TC	270.4	1.48E-04	5.480E-07
PAREA06	Y2_ON_Common+Deliv	18,806.6	1.94E-04	1.029E-08
PAREA07	Y2_ON_B1	6,999.7	9.14E-04	1.305E-07
PAREA08	Y2_ON_B2	6,106.7	9.86E-04	1.614E-07
PAREA09	Y2_ON_PG	5,846.2	1.29E-03	2.214E-07
PAREA10	Y2_ON_TC	270.5	4.26E-04	1.575E-06
PAREA11	Y2_ON-Offsite-Work	6,186.5	5.16E-04	8.339E-08
ARLN01	Y1_OFF_Q-E	443.2	8.36E-06	1.376E-09
ARLN02	Y1_OFF_OC-N	563.1	7.08E-06	9.173E-10
ARLN03	Y1_OFF_OC-S	293.1	1.84E-06	4.586E-10
ARLN04	Y1_OFF_Q-E	443.2	1.17E-05	1.920E-09
ARLN05	Y1_OFF_OC-N	563.1	9.89E-06	1.280E-09
ARLN06	Y1_OFF_OC-S	293.1	2.57E-06	6.399E-10

Sheet 2: AERMOD Emissions Rates Assignments by Area

Table 2-1: AERMOD Emissions Rates Assignments by Area

Description	PM2.5 Emissions (grams)					Emissions Rate (grams / second)
	Heavy-Duty Off-road	Hauling (20 mi)	Vendor (8.4 mi)	Worker (11.7 mi)	Total Emissions (grams)	
Year 1						
Y1 Demolition and Grading / Deliveries	9417.363598	25.84	334.60	0	9777.794084	0.000900548
Y1 Building 1 (N)	7811.026065	0	0	0	7811.026065	0.000719406
Y1 Building 2 (S)	6674.956283	0	0	0	6674.956283	0.000614773
Y1 Parking Garage	5480.980498	0	0	0	5480.980498	0.000504806
Y1 Tower Crane	1609.115142	0	0	0	1609.115142	0.000148202
Y1 Off (Quary E/o Site)	0	245.43	2,643.30	40.59	2929.329694	0.000269795
Y1 Off (Old County N/o Site)	0	163.62	1,762.20	27.06	1952.886463	0.000179864
Y1 Off (Old County S/o Site)	0	81.81	881.10	13.53	976.4432314	8.99318E-05
Year 2						
Y2 On-site Deliveries	0	5.26	458.14	-	463.3979221	4.26796E-05
Y2 Building 1 (N)	9920.25	0			9920.25	0.000913669
Y2 Building 2 (S)	10703.56	0			10703.56	0.000985813
Y2 Parking Garage	14056.39	0			14056.39	0.001294613
Y2 Tower Crane	4626.21	0			4626.206033	0.00042608
Y2 Site Work to Common Areas	1638.76	0			1638.764435	0.000150932
Y2 Off-site Work	5601.44	0			5601.438012	0.0005159
Y2 Off (Quary E/o Site)	0	49.97	3,619.29	64.45	3733.706582	0.00034388
Y2 Off (Old County N/o Site)	0	33.31	2,412.86	42.97	2489.137722	0.000229253
Y2 Off (Old County S/o Site)	0	16.66	1,206.43	21.48	1244.568861	0.000114627

Notes: One mile of running hauling emissions distributed across all on-site areas to capture haul truck activity at the site.
Half-a-mile of running vendor emissions allocated to on-site activites for material delivery.
Per "Exhibit N 642 Quarry Road Dirt Haul Route," 1/2 of traffic would occur on Quarry East of site, 1/3 of it on Old County Road north of site, and 1/6 of it on Old County Road South of site.
Emissions rates calculated based construction occuring 8 AM to 6 PM, Monday through Friday, and 9 AM to 5 PM on Saturdays. Applicant has indicated no construction on Sundays.

Table 2-1: Construction Hours

	Daily			
	Mon - Fri, 8 AM to 6 PM	Saturday, 9 AM to 5 PM	Weekly	Annually
Total Daily Time (hours)	10	8	58	3016
Total Daily Time (seconds)	36000	28800	208800	10857600

Sheet 3: Annual - Criteria Air Pollutant Emissions (Summary)

Table 3-1: Criteria Air Pollutant Emissions (OFFROAD2021)

Year / Phase	Emissions (tons/yr)				
	NOx	CO	ROG	PM10 (Exh)	PM2.5 (Exh)
Year 1					
Off-road Equipment	0.9	0.8	0.1	0.0	0.0
On-road Mobile	1.2	0.7	0.3	0.0	0.0
Year 1 Total	2.1	1.5	0.4	0.0	0.0
Year 2					
Off-road Equipment	1.4	1.4	4.3	0.1	0.1
On-road Mobile	1.5	0.9	0.5	0.0	0.0
Year 2 Total	2.9	2.2	4.7	0.1	0.1

Table 3-2: Criteria Air Pollutant Emissions (Tier IV Condition)

Year / Phase	Emissions (tons/yr)				
	NOx	CO	ROG	PM10 (Exh)	PM2.5 (Exh)
Year 1					
Off-road Equipment	0.4	2.0	0.1	0.0	0.0
On-road Mobile	1.2	0.7	0.3	0.0	0.0
Year 1 Total	1.6	2.7	0.4	0.0	0.0
Year 2					
Off-road Equipment	0.9	3.8	4.3	0.0	0.0
On-road Mobile	1.5	0.9	0.5	0.0	0.0
Year 2 Total	2.3	4.6	4.8	0.0	0.0

Table 3-3: Average Days Per Year

Year	Average Construction Days
Year 1	264
Year 2	264

Table 3-4: Criteria Air Pollutant Emissions (OFFROAD2021)

Year / Phase	Emissions (avg lbs/day)				
	NOx	CO	ROG	PM10 (Exh)	PM2.5 (Exh)
Year 1					
Off-road Equipment	6.6	6.3	0.7	0.3	0.3
On-road Mobile	9.0	5.2	2.5	0.1	0.1
Year 1 Total	15.6	11.5	3.2	0.4	0.3
Year 2					
Off-road Equipment	10.7	10.3	32.3	0.4	0.4
On-road Mobile	11.0	6.5	3.4	0.1	0.1
Year 2 Total	21.8	16.8	35.7	0.5	0.5

Table 3-5: Criteria Air Pollutant Emissions (Tier IV Condition)

Year / Phase	Emissions (avg lbs/day)				
	NOx	CO	ROG	PM10 (Exh)	PM2.5 (Exh)
Year 1					
Off-road Equipment	3.2	15.3	0.8	0.1	0.1
On-road Mobile	9.0	5.2	2.5	0.1	0.1
Year 1 Total	12.2	20.5	3.3	0.2	0.2
Year 2					
Off-road Equipment	6.7	28.7	32.6	0.2	0.2
On-road Mobile	11.0	6.5	3.4	0.1	0.1
Year 2 Total	17.8	35.2	36.0	0.3	0.3

Table 3-6: Scaling Factor for PM2.5 Exhaust (Tier IV vs. OFFROAD 2021)

Year	Factor
Year 1	0.54
Year 2	0.63

Sheet 4: Annual - On- and Off-road Equipment Emissions

Table 4-1: On-site, Off-road Emissions (OFFROAD2021)

Year / Phase	Emissions (tons)							
	NOx	CO	ROG	PM10 (Exh)	PM2.5 (Exh)	CO2	CH4	N2O
Year 1								
Demolition and Grading	0.25	0.23	0.03	0.01	0.01	43.25	0.00	0.00
Building 1	0.24	0.23	0.03	0.01	0.01	38.83	0.00	0.00
Building 2	0.20	0.19	0.02	0.01	0.01	32.13	0.00	0.00
Parking Garage	0.13	0.15	0.02	0.01	0.01	22.70	0.00	0.00
Tower Crane	0.05	0.04	0.00	0.00	0.00	11.41	0.00	0.00
Site Work to Common Areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-site Work	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Year 1 Total	0.87	0.83	0.09	0.04	0.03	148.31	0.01	0.00
Year 2								
Demolition and Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building 1	0.33	0.30	0.03	0.01	0.01	54.53	0.01	0.00
Building 2	0.36	0.32	0.04	0.01	0.01	58.73	0.01	0.00
Parking Garage	0.38	0.33	0.04	0.01	0.02	61.24	0.01	0.00
Tower Crane	0.14	0.11	0.01	0.01	0.01	32.81	0.00	0.00
Site Work to Common Areas	0.04	0.06	0.01	0.00	0.00	8.63	0.00	0.00
Off-site Work	0.17	0.25	0.02	0.01	0.01	38.00	0.00	0.00
Year 2 Off-road Sub-Total	1.42	1.36	0.15	0.05	0.05	253.94	0.03	0.01
Architectural Coating (CalEEMod)			4.11					
Year 2 Total	1.42	1.36	4.26	0.05	0.05	253.94	0.03	0.01

Table 4-2: On-site, Off-road Emissions (Tier IV)

Year / Phase	Emissions (tons)							
	NOx	CO	ROG	PM10 (Exh)	PM2.5 (Exh)	CO2	CH4	N2O
Year 1								
Demolition and Grading	0.07	0.56	0.02	0.00	0.00	44.80	0.00	0.00
Building 1	0.14	0.52	0.03	0.01	0.00	38.83	0.00	0.00
Building 2	0.12	0.43	0.02	0.00	0.00	32.13	0.00	0.00
Parking Garage	0.07	0.31	0.02	0.00	0.00	22.70	0.00	0.00
Tower Crane	0.02	0.20	0.01	0.00	0.00	11.41	0.00	0.00
Site Work to Common Areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-site Work	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Year 1 Total	0.42	2.02	0.10	0.01	0.02	149.87	0.01	0.00
Year 2								
Demolition and Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building 1	0.24	0.77	0.04	0.01	0.01	54.53	0.01	0.00
Building 2	0.25	0.82	0.05	0.01	0.01	58.73	0.01	0.00
Parking Garage	0.20	0.88	0.05	0.01	0.01	61.24	0.01	0.00
Tower Crane	0.06	0.56	0.02	0.00	0.00	32.81	0.00	0.00
Site Work to Common Areas	0.05	0.14	0.01	0.00	0.00	8.63	0.00	0.00
Off-site Work	0.09	0.61	0.03	0.00	0.00	38.00	0.00	0.00
Year 2 Off-road Sub-Total	0.89	3.79	0.19	0.03	0.03	253.94	0.03	0.01
Architectural Coating (CalEEMod)			4.11					
Year 2 Total	0.89	3.79	4.30	0.03	0.03	253.94	0.03	0.01

Table 4-3: On- and Off-Road Worker, Vendor, and Hauling Trip Emissions (Per Calendar Year)

Year / Activity	Emissions (tons)							
	NOx	CO	ROG	PM10 (Exh)	PM2.5 (Exh)	CO2	CH4	N2O
Year 1								
Worker	0.00	0.06	0.01	0.00	0.00	19.19	0.00	0.00
Vendor	1.04	0.54	0.32	0.01	0.01	716.40	0.07	0.10
Hauling	0.15	0.09	0.00	0.00	0.00	92.33	0.01	0.01
Year 1 Total	1.19	0.69	0.33	0.01	0.01	827.92	0.08	0.12
Year 2								
Worker	0.01	0.10	0.01	0.00	0.00	30.47	0.00	0.00
Vendor	1.42	0.74	0.44	0.01	0.01	980.92	0.09	0.14
Hauling	0.03	0.02	0.00	0.00	0.00	18.80	0.00	0.00
Year 2 Total	1.46	0.85	0.45	0.01	0.01	1,030.18	0.09	0.14

Sheet 5: Worker and Vendor Trips

Table 5-1: Calculation Parameters

Workers per Piece of Construction Equipment	Average Length per Worker Trip	Average Length per Vendor Trip
1.25	11.7	8.4

Source: CalEEMod v2022.4.0 User Manual Appendix C

Table 5-2: Demolition and Grading Worker Trips

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Number of Workers	Total One-Way Worker Trips Per Day	VMT
Feb-23	1	Excavators	2	15	37.5	76	889.2
		Rubber Tired Dozers	2	15	37.5	76	889.2
Mar-23	2	Excavators	2	20	50	100	1170
		Rubber Tired Dozers	2	20	50	100	1170
		Traffic Control	1	20	25	50	585
Apr-23	3	Rubber Tired Dozers	3	15	56.25	114	1333.8
		Tractor/Loader/Backhoe	2	15	37.5	76	889.2
		Traffic Control	1	15	18.75	38	444.6
		Excavators	2	5	12.5	26	304.2
		Graders	1	5	6.25	14	163.8
		Rubber Tired Dozers	1	5	6.25	14	163.8
		Tractor/Loader/Backhoe	2	5	12.5	26	304.2
		Pumps	6	5	37.5	76	889.2
		Traffic Control	1	5	6.25	14	163.8
May-23	4	Excavators	2	25	62.5	126	1474.2
		Graders	1	25	31.25	64	748.8
		Rubber Tired Dozers	1	25	31.25	64	748.8
		Tractor/Loader/Backhoe	2	25	62.5	126	1474.2
		Pumps	6	25	187.5	376	4399.2
		Traffic Control	1	25	31.25	64	748.8
					Year 1 Total	1620	18954
					Year 2 Total	0	0

Table 5-3: Building 1 Worker Trips

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Number of Workers	Total One-Way Worker Trips Per Day	VMT
May-23	4	Drill Rig	1	20	25	50	585
		Pumps	2	20	50	100	1170
Jun-23	5	Drill Rig	1	10	12.5	26	304.2
		Pumps	2	10	25	50	585
		Graders	1	5	6.25	14	163.8
		Forklift	1	5	6.25	14	163.8
		Welder	1	5	6.25	14	163.8
		Concrete Pump	2	5	12.5	26	304.2
Jul-23	6	Forklift	1	20	25	50	585
		Welder	1	20	25	50	585
		Concrete Pump	1	20	25	50	585
Aug-23	7	Forklift	1	10	12.5	26	304.2
		Welder	1	10	12.5	26	304.2
		Concrete Pump	1	20	25	50	585
		Forklift	2	10	25	50	585
		Welder	2	10	25	50	585
Sep-23	8	Concrete Pump	1	25	31.25	64	748.8
Oct-23	9	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Nov-23	10	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Dec-23	11	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Jan-24	12	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Feb-24	13	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Mar-24	14	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Apr-24	15	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
May-24	16	Mobile Crane	1	25	31.25	64	748.8
		Welder	1	25	31.25	64	748.8
		Forklift	1	25	31.25	64	748.8
		Mobile Crane	1	20	25	50	585

Jun-24	17	Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Jul-24	18	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Aug-24	19	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Sep-24	20	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Oct-24	21	Mobile Crane	1	10	12.5	26	304.2
		Welder	1	10	12.5	26	304.2
		Forklift	1	10	12.5	26	304.2
		Skip Loader	1	10	12.5	26	304.2
		Tractor/Loader/Backhoe	1	10	12.5	26	304.2
Nov-24	22	Skip Loader	1	20	25	50	585
		Tractor/Loader/Backhoe	1	20	25	50	585
Dec-24	23	Skip Loader	1	20	25	50	585
		Tractor/Loader/Backhoe	1	20	25	50	585
Jan-25	24	Skip Loader	1	5	6.25	14	163.8
		Tractor/Loader/Backhoe	1	5	6.25	14	163.8
					Year 1 Total	1310	15327
					Year 2 Total	1600	18720

Table 5-4: Building 2 Worker Trips

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Number of Workers	Total One-Way Worker Trips Per Day	VMT
Jun-23	5	Drill Rig	1	10	12.5	26	304.2
		Pumps	2	10	25	50	585
Jul-23	6	Drill Rig	1	5	6.25	14	163.8
		Pumps	2	5	12.5	26	304.2
		Graders	1	5	6.25	14	163.8
		Forklift	1	10	12.5	26	304.2
		Welder	1	10	12.5	26	304.2
		Concrete Pump	1	10	12.5	26	304.2
Aug-23	7	Forklift	1	15	18.75	38	444.6
		Welder	1	15	18.75	38	444.6
		Concrete Pump	1	20	25	50	585
		Forklift	2	5	12.5	26	304.2
		Welder	2	5	12.5	26	304.2
Sep-23	8	Forklift	2	5	12.5	26	304.2
		Welder	2	5	12.5	26	304.2
		Concrete Pump	1	25	31.25	64	748.8
		Forklift	1	5	6.25	14	163.8
		Welder	1	5	6.25	14	163.8
Oct-23	9	Concrete Pump	1	15	18.75	38	444.6
		Mobile Crane	1	5	6.25	14	163.8
		Welder	1	5	6.25	14	163.8
		Forklift	1	5	6.25	14	163.8
Nov-23	10	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Dec-23	11	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Jan-24	12	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Feb-24	13	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Mar-24	14	Mobile Crane	1	25	31.25	64	748.8
		Welder	1	25	31.25	64	748.8
		Forklift	1	25	31.25	64	748.8
Apr-24	15	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
		Mobile Crane	1	20	25	50	585

May-24	16	Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Jun-24	17	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Jul-24	18	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Aug-24	19	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Sep-24	20	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Oct-24	21	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Forklift	1	20	25	50	585
Nov-24	22	Mobile Crane	1	5	6.25	14	163.8
		Welder	1	5	6.25	14	163.8
		Forklift	1	5	6.25	14	163.8
		Skip Loader	1	15	18.75	38	444.6
		Tractor/Loader/Backhoe	1	15	18.75	38	444.6
Dec-24	23	Skip Loader	1	20	25	50	585
		Tractor/Loader/Backhoe	1	20	25	50	585
Jan-25	24	Skip Loader	1	20	25	50	585
		Tractor/Loader/Backhoe	1	20	25	50	585
					Year 1 Total	1060	12402
					Year 2 Total	1710	20007

Table 5-5: Parking Garage Worker Trips

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Number of Workers	Total One-Way Worker Trips Per Day	VMT
Jul-23	6	Drill Rig	1	15	18.75	38	444.6
		Pumps	2	15	37.5	76	889.2
Aug-23	7	Drill Rig	1	5	6.25	14	163.8
		Pumps	2	5	12.5	26	304.2
		Graders	1	5	6.25	14	163.8
		Forklift	1	10	12.5	26	304.2
		Welder	1	10	12.5	26	304.2
		Concrete Pump	1	10	12.5	26	304.2
Sep-23	8	Forklift	1	20	25	50	585
		Welder	1	20	25	50	585
		Concrete Pump	1	25	31.25	64	748.8
		Forklift	2	5	12.5	26	304.2
		Welder	2	5	12.5	26	304.2
Oct-23	9	Forklift	2	10	25	50	585
		Welder	2	10	25	50	585
		Concrete Pump	1	10	12.5	26	304.2
		Forklift	1	5	6.25	14	163.8
		Welder	1	5	6.25	14	163.8
		Concrete Pump	2	10	25	50	585
Nov-23	10	Concrete Pump	1	20	25	50	585
Dec-23	11	Concrete Pump	1	20	25	50	585
		Generator	1	20	25	50	585
Jan-24	12	Concrete Pump	1	20	25	50	585
		Forklift	1	20	25	50	585
		Generator	1	20	25	50	585
Feb-24	13	Concrete Pump	1	20	25	50	585
		Forklift	1	20	25	50	585
		Mobile Crane	1	20	25	50	585
		Generator	1	20	25	50	585
Mar-24	14	Concrete Pump	1	25	31.25	64	748.8
		Forklift	1	25	31.25	64	748.8
		Mobile Crane	1	25	31.25	64	748.8
		Generator	1	25	31.25	64	748.8
Apr-24	15	Concrete Pump	1	20	25	50	585
		Forklift	1	20	25	50	585
		Mobile Crane	1	20	25	50	585
		Generator	1	20	25	50	585
May-24	16	Concrete Pump	1	20	25	50	585
		Forklift	1	20	25	50	585
		Mobile Crane	1	20	25	50	585
		Generator	1	20	25	50	585

Jun-24	17	Concrete Pump	1	20	25	50	585
		Forklift	1	20	25	50	585
		Mobile Crane	1	20	25	50	585
		Generator	1	20	25	50	585
Jul-24	18	Concrete Pump	1	20	25	50	585
		Forklift	1	20	25	50	585
		Mobile Crane	1	20	25	50	585
		Generator	1	20	25	50	585
Aug-24	19	Concrete Pump	1	5	6.25	14	163.8
		Forklift	1	5	6.25	14	163.8
		Mobile Crane	1	20	25	50	585
		Generator	1	5	6.25	14	163.8
		Welder	1	15	18.75	38	444.6
Sep-24	20	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
		Skip Loader	1	20	25	50	585
		Tractor/Loader/Backhoe	1	20	25	50	585
Oct-24	21	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
Nov-24	22	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
Dec-24	23	Mobile Crane	1	20	25	50	585
		Welder	1	20	25	50	585
Jan-25	24	Mobile Crane	1	5	6.25	14	163.8
		Welder	1	5	6.25	14	163.8
					Year 1 Total	966	11302.2
					Year 2 Total	1914	22393.8

Table 5-6: Tower Crane Worker Trips

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Number of Workers	Total One-Way Worker Trips Per Day	VMT
Oct-23	9	Tower Crane	1	20	25	50	585
Nov-23	10	Tower Crane	1	20	25	50	585
Dec-23	11	Tower Crane	1	20	25	50	585
Jan-24	12	Tower Crane	1	20	25	50	585
Feb-24	13	Tower Crane	1	20	25	50	585
Mar-24	14	Tower Crane	1	25	31.25	64	748.8
Apr-24	15	Tower Crane	1	20	25	50	585
May-24	16	Tower Crane	1	20	25	50	585
Jun-24	17	Tower Crane	1	20	25	50	585
Jul-24	18	Tower Crane	1	20	25	50	585
Aug-24	19	Tower Crane	1	20	25	50	585
Sep-24	20	Tower Crane	1	20	25	50	585
Oct-24	21	Tower Crane	1	20	25	50	585

Nov-24	22	Tower Crane	1	20	25	50	585
Dec-24	23	Tower Crane	1	20	25	50	585
Jan-25	24	Tower Crane	1	5	6.25	14	163.8
					Year 1 Total	200	2340
					Year 2 Total	578	6762.6

Table 5-7: Site Work to Common Areas Worker Trips

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Number of Workers	Total One-Way Worker Trips Per Day	VMT
Oct-24	21	Skip Loader	1	20	25	50	585
		Tractor/Loader/Backhoe	1	20	25	50	585
Nov-24	22	Skip Loader	1	20	25	50	585
		Tractor/Loader/Backhoe	1	20	25	50	585
Dec-24	23	Pavers	1	20	25	50	585
		Paving Equipment	2	20	50	100	1170
		Rollers	2	20	50	100	1170
Jan-25	24	Air Compressor	1	20	25	50	585
					Year 1 Total	0	0
					Year 2 Total	500	5850

Table 5-8: Off-site Work Worker Trips

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Number of Workers	Total One-Way Worker Trips Per Day	VMT
Mar-24	14	Tractor/Loader/Backhoe	1	25	31.25	64	748.8
		Forklift	1	25	31.25	64	748.8
		Rollers	1	25	31.25	64	748.8
Apr-24	15	Tractor/Loader/Backhoe	1	20	25	50	585
		Forklift	1	20	25	50	585
		Rollers	1	20	25	50	585
May-24	16	Tractor/Loader/Backhoe	1	25	31.25	64	748.8
		Forklift	1	25	31.25	64	748.8
		Rollers	1	25	31.25	64	748.8
Jun-24	17	Tractor/Loader/Backhoe	1	20	25	50	585
		Forklift	1	20	25	50	585
		Rollers	1	20	25	50	585
Jul-24	18	Tractor/Loader/Backhoe	1	20	25	50	585
		Forklift	1	20	25	50	585
		Rollers	1	20	25	50	585
Aug-24	19	Tractor/Loader/Backhoe	1	20	25	50	585
		Forklift	1	20	25	50	585
		Rollers	1	20	25	50	585
Sep-24	20	Tractor/Loader/Backhoe	1	20	25	50	585
		Forklift	1	20	25	50	585
		Rollers	1	20	25	50	585

Oct-24	21	Tractor/Loader/Backhoe	1	20	25	50	585
		Forklift	1	20	25	50	585
		Rollers	1	20	25	50	585
Nov-24	22	Tractor/Loader/Backhoe	1	20	25	50	585
		Forklift	1	20	25	50	585
		Rollers	1	20	25	50	585
Dec-24	23	Tractor/Loader/Backhoe	1	20	25	50	585
		Forklift	1	20	25	50	585
		Rollers	1	20	25	50	585
Jan-25	24	Tractor/Loader/Backhoe	1	20	25	50	585
		Forklift	1	20	25	50	585
		Rollers	1	20	25	50	585
Feb-25	25	Tractor/Loader/Backhoe	1	20	25	50	585
		Forklift	1	20	25	50	585
		Rollers	1	20	25	50	585
					Year 1 Total	0	0
					Year 2 Total	1884	22042.8

Table 5-9: Summary of Worker Trips and VMT

Linear Year	Worker Trips	Worker VMT
Year 1	5156	60325.2
Year 2	8186	95776.2

Table 5-10: Worker Trips - Annual Running and Non-Running Emissions (grams)

Linear Year	NOx	CO	ROG	PM10 (Exh)	PM2.5 (Exh)	CO2	CH4	N2O
Year 1	4224.870867	57428.03289	5043.038509	88.2247047	81.18547809	17408773.69	507.4110911	445.4622147
Year 2	6707.678999	91176.4696	8006.65501	140.0712631	128.8953304	27639298.18	805.5987572	707.2447032

Table 5-11: Worker Trips - Annual Running and Non-Running Emissions (tons)

Linear Year	NOx	CO	ROG	PM10 (Exh)	PM2.5 (Exh)	CO2	CH4	N2O
Year 1	0.004657127	0.063303622	0.005559003	9.72512E-05	8.94917E-05	19.1899038	0.000559325	0.000491038
Year 2	0.007393956	0.100504936	0.008825834	0.000154402	0.000142083	30.46713587	0.000888021	0.000779604

Table 5-12: Summary of Vendor Trips and VMT

Linear Year	Months	Months of Vendor Trips	Weeks per Month	Days Per Week	Days of Vendor Deliverie	Vendor Trips Per Day	Total Vendor Trips (One-Way)	Total Vendor VMT
Year 1	Apr 2023 - Jan 2023	9.5	4.1	5	195	128	49920	419328
Year 2	Feb 2024 - Feb 2025	13	4.1	5	267	128	68352	574156.8

Table 5-13: Vendor Trips - Annual Running and Non-Running Emissions (grams)

Linear Year	NOx	CO	ROG	PM10 (Exh)	PM2.5 (Exh)	CO2	CH4	N2O
Year 1	940750.92	487139.88	293335.12	8585.44	5621.20	649906097.93	59999.31	92675.94
Year 2	1288105.11	667006.92	401643.47	11755.45	7696.72	889871426.40	82152.91	126894.74

Table 5-14: Vendor Trips - Annual Running and Non-Running Emissions (tons)

Linear Year	NOx	CO	ROG	PM10 (Exh)	PM2.5 (Exh)	CO2	CH4	N2O
Year 1	1.037001226	0.536980243	0.323346883	0.009463837	0.006196321	716.3994272	0.066137976	0.102157815
Year 2	1.419893987	0.735249871	0.442736501	0.012958177	0.008484193	980.9161387	0.090558152	0.139877624

Sheet 6: Off-road Hauling

Table 6-1: Earthwork / Demo Quantities (CY)

Phase / Sub-phase	Construction Year	Import	Export
Building Demolition (Feb & March 2023)	1	0	1,840
Excavation and Underground Soils (Feb - Oct 2023)	1	0	35,000
Roadway and Open Space Fill (Nov 2024 - Feb 2025)	2	7500	0

Note: One (1) SF of building space is equal to 0.046 short tons of waste material.

Table 6-2: Project Parameters

Haul Truck Size (CY)	Building Area for Demolition (SF)
16	40000

Table 6-3: Haul Trips Required (One-way)

Phase / Sub-phase	Construction Year	Import	Export	Total
Building Demolition (Feb & March 2023)	1	0	115	115
Excavation and Underground Soils (Feb - Oct 2023)	1	0	2,188	2,188
Roadway and Open Space Fill	2	469	0	469
			Year 1 Total	2,303
			Year 2 Total	469

Table 6-4: Average Off-site One-way Haul Truck Trip Distance (mi)

20

Table 6-5: Annual Haul Trip Distribution (VMT)

Phase / Sub-phase	Construction Year	VMT
Building Demolition (Feb & March 2023)	1	2,300
Excavation and Underground Soils (Feb - Oct 2023)	1	43,750

Roadway and Open Space Fill (Nov 2024 - Feb 2025)	2	9,375
	Year 1 Total	46,050
	Year 2 Total	9,375

Table 6-6: Hauling - Annual Running and Non-Running Emissions (grams)

Year	NOX	CO	ROG	PM10 (Exh)	PM2.5 (Exh)	CO2	CH4	N2O
1	134,753	77,509	1,615	1,135	517	83,763,399.37	12,605	13,418
2	27,433	15,780	329	231	105	17,052,809.32	2,566	2,732

Table 6-7: Conversions

lbs / ton	grams / lbs
2000	453.59237

Table 6-8: Hauling - Annual Running and Non-running Emissions (tons)

Year	NOX	CO	ROG	PM10(Exh)	PM2.5 (Exh)	CO2	CH4	N2O
1	0.15	0.09	0.00	0.00	0.00	92.33	0.01	0.01
2	0.03	0.02	0.00	0.00	0.00	18.80	0.00	0.00

Sheet 7: On- and Off-road Motor Vehicle Emission Factors (Exhaust)

Table 7-1: Mobile Source Emissions Running Rate (g/mi)

Vehicle Type	NOx	CO	ROG	PM10 (Exh)	PM2.5 (Exh)	CO2	CH4	N2O
LDA-LDT1-LDT2	0.04747	0.66743	0.00952	0.00128	0.00118	282.34972	0.00231	0.00467
LHDT1-LHDT2	0.49636	0.74394	0.26600	0.01114	0.01062	790.83782	0.00635	0.04354
MHDT	1.22118	0.47089	1.34398	0.01575	0.01506	1279.46522	0.01107	0.14968
HHDT	2.79341	1.68143	0.03492	0.02447	0.01105	1818.95088	0.27372	0.29138

Source: EMFAC2021 (v1.0.2); rates derived by MIG

Table 7-2: Mobile Source Emissions Trip Rate (g/trip)

Vehicle Type	NOx	CO	ROG	PM10 (Exh)	PM2.5 (Exh)	CO2	CH4	N2O
LDA-LDT1-LDT2	0.26405	3.32922	0.86673	0.00211	0.00194	72.91899	0.07133	0.03172
LHDT1-LHDT2	0.40803	2.26045	0.35496	0.00019	0.00017	18.29029	0.02073	0.03399
MHDT	1.31122	1.40291	0.16651	0.00265	0.00253	10.90044	0.01153	0.00809
HHDT	2.66E+00	3.44E-02	2.98E-03	3.51E-03	3.36E-03	3.09E-01	6.67E-07	7.63E-07

Source: EMFAC2021 (v1.0.2); rates derived by MIG

Table 7-3: Mobile Source Regional Fleet Average Fuel Efficiency and Project Fuel Consumption For Gasoline and Diesel Fueled Vehicles

Vehicle Type	EMFAC 2022 VMT		EMFAC 2022 Fuel Use (Gal)		EMFAC Avg. Miles/Gallon	
	Gasoline	Diesel	Gasoline	Diesel	Gasoline	Diesel
LDA-LDT1-LDT2	13,176,723	38,289	476,657	1,023	27.6	37.4
LHDT1-LHDT2	43,550	77,799	44,534	16,986	1.0	4.6
MHDT	45,998	175,901	9,564	20,956	4.8	8.4
HHDT	593	119,080	156	22,677	3.8	5.3
TOTAL	13,266,865	411,069	530,911	61,641	--	--

Source: EMFAC2021 (v1.0.2); rates derived by MIG

Sheet 8: Tier IV and OFFROAD 2021 Off-road Yearly Emissions Totals

Table 8-1: Linear Year 1 Off-road Exhaust Emissions Totals (OFFROAD2021)

Construction Phase / Source	Emissions (short tons)								
	NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O	gal
Demolition and Grading	0.250736	0.225841	0.026576	0.011284	0.010381	43.24785	0.004436	0.000835971	3905.84495
Building 1	0.239463	0.22807	0.025184	0.009357	0.00861	38.82886	0.003356	0.000654785	2832.132648
Building 2	0.200768	0.189513	0.021246	0.007996	0.007358	32.126	0.002773	0.000540669	2335.414983
Parking Garage	0.133977	0.151652	0.015148	0.005865	0.006042	22.69691	0.001768	0.000345588	1670.576735
Tower Crane	0.048281	0.036829	0.004604	0.001928	0.001774	11.41109	0.001577	0.000300337	1014.301068
Site Work to Common Areas	0	0	0	0	0	0	0	0	0
Off-site Work	0	0	0	0	0	0	0	0	0
Total	0.873225	0.831905	0.092758	0.036429	0.034164	148.3107	0.01391	0.00267735	11758.27038

Table 8-2: Linear Year 2 Off-road Exhaust Emissions Totals (OFFROAD2021)

Construction Phase / Source	Emissions (short tons)								
	NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O	gal
Demolition and Grading	0	0	0	0	0	0	0	0	0
Building 1	0.333478	0.298404	0.03432	0.011883	0.010935	54.52565	0.005131	0.001006445	3979.674036
Building 2	0.360141	0.321009	0.037093	0.012822	0.011799	58.73463	0.005518	0.001081883	4279.487368
Parking Garage	0.375339	0.33421	0.040619	0.01456	0.015495	61.24303	0.006005	0.001165862	4625.965011
Tower Crane	0.138809	0.105883	0.013236	0.005543	0.0051	32.80688	0.004533	0.000863468	2916.11557
Site Work to Common Areas	0.044233	0.059841	0.005054	0.001965	0.001806	8.625363	0.000821	0.000166211	681.6664144
Off-site Work	0.165248	0.245521	0.017386	0.006711	0.006175	38.00016	0.004078	0.000832025	3377.732436
Total	1.417247	1.364868	0.147708	0.053484	0.051309	253.9357	0.026086	0.005115895	19860.64084

Table 8-3: Linear Year 1 Off-road Exhaust Emissions Totals (Tier IV Condition)

Construction Phase / Source	Emissions (short tons)								gal
	NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O	
Demolition and Grading	0.066528	0.564348	0.021509	0.002593	0.002724	44.80261	0.004639	0.000903712	3905.84495
Building 1	0.143067	0.520444	0.029567	0.005044	0.004766	38.82886	0.003356	0.000654785	0
Building 2	0.119186	0.43282	0.024641	0.004205	0.003973	32.126	0.002773	0.000540669	2335.414983
Parking Garage	0.072562	0.307008	0.017072	0.002312	0.002843	22.69691	0.001768	0.000345588	1670.576735
Tower Crane	0.020664	0.195219	0.007243	0.000771	0.000846	11.41109	0.001577	0.000300337	1014.301068
Site Work to Common Areas	0	0	0	0	0	0	0	0	0
Off-site Work	0	0	0	0	0	0	0	0	0
Total	0.422007	2.019839	0.100032	0.014926	0.015153	149.8655	0.014113	0.002745091	8926.137736

Table 8-4: Linear Year 2 Off-road Exhaust Emissions Totals (Tier IV Condition)

Construction Phase / Source	Emissions (short tons)								gal
	NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O	
Demolition and Grading	0	0	0	0	0	0	0	0	0
Building 1	0.237349	0.765748	0.04313	0.007184	0.006801	54.52565	0.005131	0.001006445	3979.674036
Building 2	0.25418	0.822125	0.046437	0.007769	0.007353	58.73463	0.005518	0.001081883	4279.487368
Parking Garage	0.199826	0.884464	0.046009	0.005682	0.007554	61.24303	0.006005	0.001165862	4625.965011
Tower Crane	0.059408	0.561255	0.020823	0.002216	0.002432	32.80688	0.004533	0.000863468	2916.11557
Site Work to Common Areas	0.049008	0.140897	0.007524	0.001095	0.001039	8.625363	0.000821	0.000166211	681.6664144
Off-site Work	0.08635	0.61475	0.029412	0.004347	0.004156	38.00016	0.004078	0.000832025	3377.732436
Total	0.88612	3.789239	0.193334	0.028295	0.029335	253.9357	0.026086	0.005115895	19860.64084

Sheet 9: Tier IV Off-road Construction Emissions

Table 9-1: Demolition and Grading Equipment List

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Daily Hours in Use	Total Runtime Hours	Horsepower	Load Factor	Emission Factor (g/hp-hr)								gal / hp-hr	gal	Emissions (short tons)							
									NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O			NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O
Feb-23	1	Excavators	2	15	8	120	311	0.38	0.27521	2.6	0.09646	0.01027	0.01127	224.13	0.024	0.005	0.02196	311.437	0.0043	0.04064	0.00151	0.00016	0.00018	3.50372	0.00038	7.8E-05
		Rubber Tired Dozers	2	15	8	120	367	0.4	0.27521	2.6	0.09646	0.01027	0.01127	210.384	0.022	0.004	0.02061	363.132	0.00534	0.05049	0.00187	0.0002	0.00022	4.08531	0.00043	7.8E-05
Mar-23	2	Excavators	2	20	8	160	311	0.38	0.27521	2.6	0.09646	0.01027	0.01127	224.13	0.024	0.005	0.02196	415.249	0.00574	0.05419	0.00201	0.00021	0.00023	4.67163	0.0005	0.0001
		Rubber Tired Dozers	2	20	8	160	367	0.4	0.27521	2.6	0.09646	0.01027	0.01127	210.384	0.022	0.004	0.02061	484.176	0.00713	0.06732	0.0025	0.00027	0.00029	5.44707	0.00057	0.0001
		Traffic Control	1	20	8	160	6	0.82	3.47	4.143	0.547	0.162	0.149	568.299	0.023	0.005	0.02577	20.2831	0.00301	0.0036	0.00047	0.00014	0.00013	0.49314	2E-05	4.3E-06
Apr-23	3	Rubber Tired Dozers	3	15	8	120	367	0.4	0.27521	2.6	0.09646	0.01027	0.01127	210.384	0.022	0.004	0.02061	363.132	0.00534	0.05049	0.00187	0.0002	0.00022	4.08531	0.00043	7.8E-05
		Tractor/Loader/Backhoe	2	15	8	120	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	71.3367	0.00113	0.01521	0.00059	5.3E-05	5.3E-05	0.80255	9.5E-05	2.1E-05
		Traffic Control	1	15	8	120	6	0.82	3.47	4.143	0.547	0.162	0.149	568.299	0.023	0.005	0.02577	15.2123	0.00226	0.0027	0.00036	0.00011	9.7E-05	0.36985	1.5E-05	3.3E-06
		Excavators	2	5	8	40	311	0.38	0.27521	2.6	0.09646	0.01027	0.01127	224.13	0.024	0.005	0.02196	103.812	0.00143	0.01355	0.0005	5.4E-05	5.9E-05	1.16791	0.00013	2.6E-05
		Graders	1	5	8	40	148	0.41	0.2769	3.7	0.09646	0.01069	0.01069	216.609	0.021	0.004	0.02122	51.5141	0.00074	0.0099	0.00026	2.9E-05	2.9E-05	0.57954	5.6E-05	1.1E-05
		Rubber Tired Dozers	1	5	8	40	367	0.4	0.27521	2.6	0.09646	0.01027	0.01127	210.384	0.022	0.004	0.02061	121.044	0.00178	0.01683	0.00062	6.6E-05	7.3E-05	1.36177	0.00014	2.6E-05
		Tractor/Loader/Backhoe	2	5	8	40	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	23.7789	0.00038	0.00507	0.0002	1.8E-05	1.8E-05	0.26752	3.2E-05	6.9E-06
		Pumps	6	5	8	40	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	5.09474	0.00029	0.00037	2.1E-05	8E-06	7.4E-06	0.05732	8.3E-06	1.8E-06
		Traffic Control	1	5	8	40	6	0.82	3.47	4.143	0.547	0.162	0.149	568.299	0.023	0.005	0.02577	5.07076	0.00075	0.0009	0.00012	3.5E-05	3.2E-05	0.12328	5E-06	1.1E-06
May-23	4	Excavators	2	25	8	200	311	0.38	0.27521	2.6	0.09646	0.01027	0.01127	224.13	0.024	0.005	0.02196	519.061	0.00717	0.06774	0.00251	0.00027	0.00029	5.83954	0.00063	0.00013
		Graders	1	25	8	200	148	0.41	0.2769	3.7	0.09646	0.01069	0.01069	216.609	0.021	0.004	0.02122	257.57	0.0037	0.0495	0.00129	0.00014	0.00014	2.89772	0.00028	5.4E-05
		Rubber Tired Dozers	1	25	8	200	367	0.4	0.27521	2.6	0.09646	0.01027	0.01127	210.384	0.022	0.004	0.02061	605.22	0.00891	0.08415	0.00312	0.00033	0.00036	6.80884	0.00071	0.00013
		Tractor/Loader/Backhoe	2	25	8	200	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	118.894	0.00188	0.02535	0.00098	8.8E-05	8.8E-05	1.33759	0.00016	3.4E-05
		Pumps	6	25	8	200	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	25.4737	0.00147	0.00187	0.0001	4E-05	3.7E-05	0.28658	4.1E-05	9E-06
		Traffic Control	1	25	8	200	6	0.82	3.47	4.143	0.547	0.162	0.149	568.299	0.023	0.005	0.02577	25.3538	0.00376	0.00449	0.00059	0.00018	0.00016	0.61642	2.5E-05	5.4E-06
																	Linear Year 1 Total	3905.84	0.06653	0.56435	0.02151	0.00259	0.00272	44.8026	0.00464	0.0009
																	Linear Year 2 Total	0	0	0	0	0	0	0	0	0

Table 9-2: Building 1 Equipment List

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Daily Hours in Use	Total Runtime Hours	Horsepower	Load Factor	Emission Factor (g/hp-hr)								gal / hp-hr	gal	Emissions (short tons)							
									NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O			NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O
May-23	4	Drill Rig	1	20	8	160	83	0.5	0.27478	3.7	0.14336	0.0128	0.0128	262.969	0.021	0.004	0.02577	171.087	0.00201	0.02708	0.00105	9.4E-05	9.4E-05	1.92476	0.00015	2.9E-05
		Pumps	2	20	8	160	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	20.379	0.00118	0.00149	8.3E-05	3.2E-05	2.9E-05	0.22927	3.3E-05	7.2E-06
Jun-23	5	Drill Rig	1	10	8	80	83	0.5	0.27478	3.7	0.14336	0.0128	0.0128	262.969	0.021	0.004	0.02577	85.5434	0.00101	0.01354	0.00052	4.7E-05	4.7E-05	0.96238	7.7E-05	1.5E-05
		Pumps	2	10	8	80	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	10.1895	0.00059	0.00075	4.2E-05	1.6E-05	1.5E-05	0.11463	1.7E-05	3.6E-06
		Graders	1	5	8	40	148	0.41	0.2769	3.7	0.09646	0.01069	0.01069	216.609	0.021	0.004	0.02122	51.5141	0.00074	0.0099	0.00026	2.9E-05	2.9E-05	0.57954	5.6E-05	1.1E-05
		Forklift	1	5	8	40	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	31.9708	0.00047	0.00626	0.00024	2.2E-05	2.2E-05	0.35968	3.6E-05	6.8E-06
		Welder	1	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
		Concrete Pump	2	5	8	40	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	29.6193	0.00042	0.00562	0.00022	1.9E-05	1.9E-05	0.33322	3.2E-05	6.1E-06
Jul-23	6	Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Concrete Pump	1	20	8	160	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	118.477	0.00167	0.02247	0.00087	7.8E-05	7.8E-05	1.33289	0.00013	2.4E-05
Aug-23	7	Forklift	1	10	8	80	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	63.9415	0.00093	0.01253	0.00049	4.3E-05	4.3E-05	0.71935	7.1E-05	1.4E-05
		Welder	1	10	8	80	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	42.6686	0.00839	0.0071	0.00105	0.00028	0.00025	1.03737	4.2E-05	9.1E-06
		Concrete Pump	1	20	8	160	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	118.477	0.00167	0.02247	0.00087	7.8E-05	7.8E-05	1.33289	0.00013	2.4E-05
		Forklift	2	10	8	80	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	63.9415	0.00093	0.01253	0.00049	4.3E-05	4.3E-05	0.71935	7.1E-05	1.4E-05
		Welder	2	10	8	80	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	42.6686	0.00839	0.0071	0.00105	0.00028	0.00025	1.03737	4.2E-05	9.1E-06

Sep-23	8	Concrete Pump	1	25	8	200	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	148.096	0.00209	0.02809	0.00109	9.7E-05	9.7E-05	1.66611	0.00016	3E-05
Oct-23	9	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Nov-23	10	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Dec-23	11	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Jan-24	12	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Feb-24	13	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Mar-24	14	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Apr-24	15	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
May-24	16	Mobile Crane	1	25	8	200	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	233.164	0.00475	0.04488	0.00167	0.00018	0.00018	2.62314	0.00036	6.9E-05
		Welder	1	25	8	200	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	106.672	0.02097	0.01776	0.00263	0.00069	0.00063	2.59344	0.0001	2.3E-05
		Forklift	1	25	8	200	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	159.854	0.00233	0.03132	0.00121	0.00011	0.00011	1.79839	0.00018	3.4E-05
Jun-24	17	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Jul-24	18	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Aug-24	19	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Sep-24	20	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Oct-24	21	Mobile Crane	1	10	8	80	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	93.2654	0.0019	0.01795	0.00067	7.1E-05	7.1E-05	1.04925	0.00015	2.8E-05
		Welder	1	10	8	80	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	42.6686	0.00839	0.0071	0.00105	0.00028	0.00025	1.03737	4.2E-05	9.1E-06
		Forklift	1	10	8	80	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	63.9415	0.00093	0.01253	0.00049	4.3E-05	4.3E-05	0.71935	7.1E-05	1.4E-05
		Skip Loader	1	10	8	80	71	0.37	2.89206	4.1	0.18715	0.01322	0.01322	194.503	0.021	0.004	0.01906	40.0516	0.0067	0.0095	0.00043	3.1E-05	3.1E-05	0.45059	4.9E-05	9.3E-06
		Tractor/Loader/Backhoe	1	10	8	80	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	47.5578	0.00075	0.01014	0.00039	3.5E-05	3.5E-05	0.53503	6.3E-05	1.4E-05
Nov-24	22	Skip Loader	1	20	8	160	71	0.37	2.89206	4.1	0.18715	0.01322	0.01322	194.503	0.021	0.004	0.01906	80.1033	0.0134	0.019	0.00087	6.1E-05	6.1E-05	0.90118	9.7E-05	1.9E-05
		Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
Dec-24	23	Skip Loader	1	20	8	160	71	0.37	2.89206	4.1	0.18715	0.01322	0.01322	194.503	0.021	0.004	0.01906	80.1033	0.0134	0.019	0.00087	6.1E-05	6.1E-05	0.90118	9.7E-05	1.9E-05
		Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
Jan-25	24	Skip Loader	1	5	8	40	71	0.37	2.89206	4.1	0.18715	0.01322	0.01322	194.503	0.021	0.004	0.01906	20.0258	0.00335	0.00475	0.00022	1.5E-05	1.5E-05	0.22529	2.4E-05	4.6E-06

Jan-25	24	Tractor/Loader/Backhoe	1	5	8	40	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	23.7789	0.00038	0.00507	0.0002	1.8E-05	1.8E-05	0.26752	3.2E-05	6.9E-06
																	Linear Year 1 Total	0	0.14307	0.52044	0.02957	0.00504	0.00477	38.8289	0.00336	0.00065
																	Linear Year 2 Total	3979.67	0.23735	0.76575	0.04313	0.00718	0.0068	54.5257	0.00513	0.00101

Table 9-3: Building 2 Equipment List

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Daily Hours in Use	Total Runtime Hours	Horsepower	Load Factor	Emission Factor (g/hp-hr)								gal / hp-hr	gal	Emissions (short tons)							
									NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O			NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O
Jun-23	5	Drill Rig	1	10	8	80	83	0.5	0.27478	3.7	0.14336	0.0128	0.0128	262.969	0.021	0.004	0.02577	85.5434	0.00101	0.01354	0.00052	4.7E-05	4.7E-05	0.96238	7.7E-05	1.5E-05
		Pumps	2	10	8	80	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	10.1895	0.00059	0.00075	4.2E-05	1.6E-05	1.5E-05	0.11463	1.7E-05	3.6E-06
Jul-23	6	Drill Rig	1	5	8	40	83	0.5	0.27478	3.7	0.14336	0.0128	0.0128	262.969	0.021	0.004	0.02577	42.7717	0.0005	0.00677	0.00026	2.3E-05	2.3E-05	0.48119	3.8E-05	7.3E-06
		Pumps	2	5	8	40	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	5.09474	0.00029	0.00037	2.1E-05	8E-06	7.4E-06	0.05732	8.3E-06	1.8E-06
		Graders	1	5	8	40	148	0.41	0.2769	3.7	0.09646	0.01069	0.01069	216.609	0.021	0.004	0.02122	51.5141	0.00074	0.0099	0.00026	2.9E-05	2.9E-05	0.57954	5.6E-05	1.1E-05
		Forklift	1	10	8	80	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	63.9415	0.00093	0.01253	0.00049	4.3E-05	4.3E-05	0.71935	7.1E-05	1.4E-05
		Welder	1	10	8	80	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	42.6686	0.00839	0.0071	0.00105	0.00028	0.00025	1.03737	4.2E-05	9.1E-06
		Concrete Pump	1	10	8	80	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	59.2386	0.00083	0.01124	0.00044	3.9E-05	3.9E-05	0.66645	6.4E-05	1.2E-05
Aug-23	7	Forklift	1	15	8	120	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	95.9123	0.0014	0.01879	0.00073	6.5E-05	6.5E-05	1.07903	0.00011	2E-05
		Welder	1	15	8	120	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	64.0029	0.01258	0.01065	0.00158	0.00041	0.00038	1.55606	6.3E-05	1.4E-05
		Concrete Pump	1	20	8	160	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	118.477	0.00167	0.02247	0.00087	7.8E-05	7.8E-05	1.33289	0.00013	2.4E-05
		Forklift	2	5	8	40	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	31.9708	0.00047	0.00626	0.00024	2.2E-05	2.2E-05	0.35968	3.6E-05	6.8E-06
		Welder	2	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
Sep-23	8	Forklift	2	5	8	40	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	31.9708	0.00047	0.00626	0.00024	2.2E-05	2.2E-05	0.35968	3.6E-05	6.8E-06
		Welder	2	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
		Concrete Pump	1	25	8	200	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	148.096	0.00209	0.02809	0.00109	9.7E-05	9.7E-05	1.66611	0.00016	3E-05
		Forklift	1	5	8	40	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	31.9708	0.00047	0.00626	0.00024	2.2E-05	2.2E-05	0.35968	3.6E-05	6.8E-06
		Welder	1	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
Oct-23	9	Concrete Pump	1	15	8	120	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	88.8579	0.00125	0.01686	0.00065	5.8E-05	5.8E-05	0.99967	9.6E-05	1.8E-05
		Mobile Crane	1	5	8	40	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	46.6327	0.00095	0.00898	0.00033	3.5E-05	3.5E-05	0.52463	7.3E-05	1.4E-05
		Welder	1	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
		Forklift	1	5	8	40	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	31.9708	0.00047	0.00626	0.00024	2.2E-05	2.2E-05	0.35968	3.6E-05	6.8E-06
Nov-23	10	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Dec-23	11	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Jan-24	12	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Feb-24	13	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Mar-24	14	Mobile Crane	1	25	8	200	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	233.164	0.00475	0.04488	0.00167	0.00018	0.00018	2.62314	0.00036	6.9E-05
		Welder	1	25	8	200	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	106.672	0.02097	0.01776	0.00263	0.00069	0.00063	2.59344	0.0001	2.3E-05
		Forklift	1	25	8	200	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	159.854	0.00233	0.03132	0.00121	0.00011	0.00011	1.79839	0.00018	3.4E-05
		Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05

Apr-24	15	Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
May-24	16	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Jun-24	17	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Jul-24	18	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Aug-24	19	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Sep-24	20	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Oct-24	21	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
Nov-24	22	Mobile Crane	1	5	8	40	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	46.6327	0.00095	0.00898	0.00033	3.5E-05	3.5E-05	0.52463	7.3E-05	1.4E-05
		Welder	1	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
		Forklift	1	5	8	40	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	31.9708	0.00047	0.00626	0.00024	2.2E-05	2.2E-05	0.35968	3.6E-05	6.8E-06
		Skip Loader	1	15	8	120	71	0.37	2.89206	4.1	0.18715	0.01322	0.01322	194.503	0.021	0.004	0.01906	60.0775	0.01005	0.01425	0.00065	4.6E-05	4.6E-05	0.67588	7.3E-05	1.4E-05
		Tractor/Loader/Backhoe	1	15	8	120	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	71.3367	0.00113	0.01521	0.00059	5.3E-05	5.3E-05	0.80255	9.5E-05	2.1E-05
Dec-24	23	Skip Loader	1	20	8	160	71	0.37	2.89206	4.1	0.18715	0.01322	0.01322	194.503	0.021	0.004	0.01906	80.1033	0.0134	0.019	0.00087	6.1E-05	6.1E-05	0.90118	9.7E-05	1.9E-05
		Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
Jan-25	24	Skip Loader	1	20	8	160	71	0.37	2.89206	4.1	0.18715	0.01322	0.01322	194.503	0.021	0.004	0.01906	80.1033	0.0134	0.019	0.00087	6.1E-05	6.1E-05	0.90118	9.7E-05	1.9E-05
		Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
																	Linear Year 1 Total	2335.41	0.11919	0.43282	0.02464	0.00421	0.00397	32.126	0.00277	0.00054
																	Linear Year 2 Total	4279.49	0.25418	0.82213	0.04644	0.00777	0.00735	58.7346	0.00552	0.00108

Table 9-4: Parking Garage Equipment List

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Daily Hours in Use	Total Runtime Hours	Horsepower	Load Factor	Emission Factor (g/hp-hr)								gal / hp-hr	gal	Emissions (short tons)							
									NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O			NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O
Jul-23	6	Drill Rig	1	15	8	120	83	0.5	0.27478	3.7	0.14336	0.0128	0.0128	262.969	0.021	0.004	0.02577	128.315	0.00151	0.02031	0.00079	7E-05	7E-05	1.44357	0.00012	2.2E-05
		Pumps	2	15	8	120	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	15.2842	0.00088	0.00112	6.2E-05	2.4E-05	2.2E-05	0.17195	2.5E-05	5.4E-06
Aug-23	7	Drill Rig	1	5	8	40	83	0.5	0.27478	3.7	0.14336	0.0128	0.0128	262.969	0.021	0.004	0.02577	42.7717	0.0005	0.00677	0.00026	2.3E-05	2.3E-05	0.48119	3.8E-05	7.3E-06
		Pumps	2	5	8	40	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	5.09474	0.00029	0.00037	2.1E-05	8E-06	7.4E-06	0.05732	8.3E-06	1.8E-06
		Graders	1	5	8	40	148	0.41	0.2769	3.7	0.09646	0.01069	0.01069	216.609	0.021	0.004	0.02122	51.5141	0.00074	0.0099	0.00026	2.9E-05	2.9E-05	0.57954	5.6E-05	1.1E-05
		Forklift	1	10	8	80	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	63.9415	0.00093	0.01253	0.00049	4.3E-05	4.3E-05	0.71935	7.1E-05	1.4E-05
		Welder	1	10	8	80	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	42.6686	0.00839	0.0071	0.00105	0.00028	0.00025	1.03737	4.2E-05	9.1E-06
		Concrete Pump	1	10	8	80	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	59.2386	0.00083	0.01124	0.00044	3.9E-05	3.9E-05	0.66645	6.4E-05	1.2E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05

Sep-23	8	Concrete Pump	1	25	8	200	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	148.096	0.00209	0.02809	0.00109	9.7E-05	9.7E-05	1.66611	0.00016	3E-05
		Forklift	2	5	8	40	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	31.9708	0.00047	0.00626	0.00024	2.2E-05	2.2E-05	0.35968	3.6E-05	6.8E-06
		Welder	2	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
Oct-23	9	Forklift	2	10	8	80	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	63.9415	0.00093	0.01253	0.00049	4.3E-05	4.3E-05	0.71935	7.1E-05	1.4E-05
		Welder	2	10	8	80	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	42.6686	0.00839	0.0071	0.00105	0.00028	0.00025	1.03737	4.2E-05	9.1E-06
		Concrete Pump	1	10	8	80	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	59.2386	0.00083	0.01124	0.00044	3.9E-05	3.9E-05	0.66645	6.4E-05	1.2E-05
		Forklift	1	5	8	40	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	31.9708	0.00047	0.00626	0.00024	2.2E-05	2.2E-05	0.35968	3.6E-05	6.8E-06
		Welder	1	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
		Concrete Pump	2	10	8	80	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	59.2386	0.00083	0.01124	0.00044	3.9E-05	3.9E-05	0.66645	6.4E-05	1.2E-05
Nov-23	10	Concrete Pump	1	20	8	160	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	118.477	0.00167	0.02247	0.00087	7.8E-05	7.8E-05	1.33289	0.00013	2.4E-05
Dec-23	11	Concrete Pump	1	20	8	160	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	118.477	0.00167	0.02247	0.00087	7.8E-05	7.8E-05	1.33289	0.00013	2.4E-05
		Generator	1	20	8	160	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	42.7098	0.00529	0.00804	0.001	1.5E-05	0.00034	1.03843	4.2E-05	9.1E-06
Jan-24	12	Concrete Pump	1	20	8	160	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	118.477	0.00167	0.02247	0.00087	7.8E-05	7.8E-05	1.33289	0.00013	2.4E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Generator	1	20	8	160	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	42.7098	0.00529	0.00804	0.001	1.5E-05	0.00034	1.03843	4.2E-05	9.1E-06
Feb-24	13	Concrete Pump	1	20	8	160	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	118.477	0.00167	0.02247	0.00087	7.8E-05	7.8E-05	1.33289	0.00013	2.4E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Generator	1	20	8	160	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	42.7098	0.00529	0.00804	0.001	1.5E-05	0.00034	1.03843	4.2E-05	9.1E-06
Mar-24	14	Concrete Pump	1	25	8	200	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	148.096	0.00209	0.02809	0.00109	9.7E-05	9.7E-05	1.66611	0.00016	3E-05
		Forklift	1	25	8	200	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	159.854	0.00233	0.03132	0.00121	0.00011	0.00011	1.79839	0.00018	3.4E-05
		Mobile Crane	1	25	8	200	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	233.164	0.00475	0.04488	0.00167	0.00018	0.00018	2.62314	0.00036	6.9E-05
		Generator	1	25	8	200	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	53.3873	0.00661	0.01005	0.00126	1.8E-05	0.00042	1.29803	5.3E-05	1.1E-05
Apr-24	15	Concrete Pump	1	20	8	160	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	118.477	0.00167	0.02247	0.00087	7.8E-05	7.8E-05	1.33289	0.00013	2.4E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Generator	1	20	8	160	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	42.7098	0.00529	0.00804	0.001	1.5E-05	0.00034	1.03843	4.2E-05	9.1E-06
May-24	16	Concrete Pump	1	20	8	160	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	118.477	0.00167	0.02247	0.00087	7.8E-05	7.8E-05	1.33289	0.00013	2.4E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Generator	1	20	8	160	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	42.7098	0.00529	0.00804	0.001	1.5E-05	0.00034	1.03843	4.2E-05	9.1E-06
Jun-24	17	Concrete Pump	1	20	8	160	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	118.477	0.00167	0.02247	0.00087	7.8E-05	7.8E-05	1.33289	0.00013	2.4E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Generator	1	20	8	160	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	42.7098	0.00529	0.00804	0.001	1.5E-05	0.00034	1.03843	4.2E-05	9.1E-06
Jul-24	18	Concrete Pump	1	20	8	160	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	118.477	0.00167	0.02247	0.00087	7.8E-05	7.8E-05	1.33289	0.00013	2.4E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Generator	1	20	8	160	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	42.7098	0.00529	0.00804	0.001	1.5E-05	0.00034	1.03843	4.2E-05	9.1E-06
Aug-24	19	Concrete Pump	1	5	8	40	82	0.42	0.27478	3.7	0.14336	0.0128	0.0128	219.436	0.021	0.004	0.0215	29.6193	0.00042	0.00562	0.00022	1.9E-05	1.9E-05	0.33322	3.2E-05	6.1E-06
		Forklift	1	5	8	40	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	31.9708	0.00047	0.00626	0.00024	2.2E-05	2.2E-05	0.35968	3.6E-05	6.8E-06
		Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Generator	1	5	8	40	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	10.6775	0.00132	0.00201	0.00025	3.7E-06	8.4E-05	0.25961	1.1E-05	2.3E-06
		Welder	1	15	8	120	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	64.0029	0.01258	0.01065	0.00158	0.00041	0.00038	1.55606	6.3E-05	1.4E-05
Sep-24	20	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Skip Loader	1	20	8	160	71	0.37	2.89206	4.1	0.18715	0.01322	0.01322	194.503	0.021	0.004	0.01906	80.1033	0.0134	0.019	0.00087	6.1E-05	6.1E-05	0.90118	9.7E-05	1.9E-05

		Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
Oct-24	21	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
Nov-24	22	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
Dec-24	23	Mobile Crane	1	20	8	160	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	186.531	0.0038	0.03591	0.00133	0.00014	0.00014	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
Jan-25	24	Mobile Crane	1	5	8	40	270	0.29	0.27521	2.6	0.09646	0.01027	0.01027	151.958	0.021	0.004	0.01489	46.6327	0.00095	0.00898	0.00033	3.5E-05	3.5E-05	0.52463	7.3E-05	1.4E-05
		Welder	1	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
																	Linear Year 1 Total	1670.58	0.07256	0.30701	0.01707	0.00231	0.00284	22.6969	0.00177	0.00035
																	Linear Year 2 Total	4625.97	0.19983	0.88446	0.04601	0.00568	0.00755	61.243	0.00601	0.00117

Table 9-5: Tower Crane Operation

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Daily Hours in Use	Total Runtime Hours	Horsepower	Load Factor	Emission Factor (g/hp-hr)								gal / hp-hr	gal	Emissions (short tons)							
									NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O			NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O
Oct-23	9	Tower Crane	1	20	8	160	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	253.575	0.00517	0.0488	0.00181	0.00019	0.00021	2.85277	0.00039	7.5E-05
Nov-23	10	Tower Crane	1	20	8	160	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	253.575	0.00517	0.0488	0.00181	0.00019	0.00021	2.85277	0.00039	7.5E-05
Dec-23	11	Tower Crane	1	20	8	160	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	253.575	0.00517	0.0488	0.00181	0.00019	0.00021	2.85277	0.00039	7.5E-05
Jan-24	12	Tower Crane	1	20	8	160	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	253.575	0.00517	0.0488	0.00181	0.00019	0.00021	2.85277	0.00039	7.5E-05
Feb-24	13	Tower Crane	1	20	8	160	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	253.575	0.00517	0.0488	0.00181	0.00019	0.00021	2.85277	0.00039	7.5E-05
Mar-24	14	Tower Crane	1	25	8	200	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	316.969	0.00646	0.06101	0.00226	0.00024	0.00026	3.56597	0.00049	9.4E-05
Apr-24	15	Tower Crane	1	20	8	160	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	253.575	0.00517	0.0488	0.00181	0.00019	0.00021	2.85277	0.00039	7.5E-05
May-24	16	Tower Crane	1	20	8	160	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	253.575	0.00517	0.0488	0.00181	0.00019	0.00021	2.85277	0.00039	7.5E-05
Jun-24	17	Tower Crane	1	20	8	160	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	253.575	0.00517	0.0488	0.00181	0.00019	0.00021	2.85277	0.00039	7.5E-05
Jul-24	18	Tower Crane	1	20	8	160	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	253.575	0.00517	0.0488	0.00181	0.00019	0.00021	2.85277	0.00039	7.5E-05
Aug-24	19	Tower Crane	1	20	8	160	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	253.575	0.00517	0.0488	0.00181	0.00019	0.00021	2.85277	0.00039	7.5E-05
Sep-24	20	Tower Crane	1	20	8	160	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	253.575	0.00517	0.0488	0.00181	0.00019	0.00021	2.85277	0.00039	7.5E-05
Oct-24	21	Tower Crane	1	20	8	160	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	253.575	0.00517	0.0488	0.00181	0.00019	0.00021	2.85277	0.00039	7.5E-05
Nov-24	22	Tower Crane	1	20	8	160	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	253.575	0.00517	0.0488	0.00181	0.00019	0.00021	2.85277	0.00039	7.5E-05
Dec-24	23	Tower Crane	1	20	8	160	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	253.575	0.00517	0.0488	0.00181	0.00019	0.00021	2.85277	0.00039	7.5E-05
Jan-25	24	Tower Crane	1	5	8	40	367	0.29	0.27521	2.6	0.09646	0.01027	0.01127	151.977	0.021	0.004	0.01489	63.3938	0.00129	0.0122	0.00045	4.8E-05	5.3E-05	0.71319	9.9E-05	1.9E-05
																	Linear Year 1 Total	1014.3	0.02066	0.19522	0.00724	0.00077	0.00085	11.4111	0.00158	0.0003
																	Linear Year 2 Total	2916.12	0.05941	0.56125	0.02082	0.00222	0.00243	32.8069	0.00453	0.00086

Table 9-6: Site Work to Common Areas

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Daily Hours in Use	Total Runtime Hours	Horsepower	Load Factor	Emission Factor (g/hp-hr)								gal / hp-hr	gal	Emissions (short tons)							
									NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O			NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O
Oct-24	21	Skip Loader	1	20	8	160	71	0.37	2.89206	4.1	0.18715	0.01322	0.01322	194.503	0.021	0.004	0.01906	80.1033	0.0134	0.019	0.00087	6.1E-05	6.1E-05	0.90118	9.7E-05	1.9E-05
		Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
Nov-24	22	Skip Loader	1	20	8	160	71	0.37	2.89206	4.1	0.18715	0.01322	0.01322	194.503	0.021	0.004	0.01906	80.1033	0.0134	0.019	0.00087	6.1E-05	6.1E-05	0.90118	9.7E-05	1.9E-05
		Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
Dec-24	23	Pavers	1	20	8	160	81	0.42	0.27478	3.7	0.14336	0.0128	0.0128	218.41	0.021	0.004	0.0214	116.485	0.00165	0.0222	0.00086	7.7E-05	7.7E-05	1.31048	0.00013	2.4E-05
		Paving Equipment	2	20	8	160	89	0.36	0.27478	3.7	0.14336	0.0128	0.0128	187.752	0.021	0.004	0.0184	94.3063	0.00155	0.02091	0.00081	7.2E-05	7.2E-05	1.06096	0.00012	2.3E-05
		Rollers	2	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05

Jan-25	24	Air Compressor	1	20	8	160	37	0.48	3.976	4.914	0.623	0.157	0.144	568.326	0.023	0.005	0.02577	73.2169	0.01245	0.01539	0.00195	0.00049	0.00045	1.78018	7.2E-05	1.6E-05
																	Linear Year 1 Total	0	0	0	0	0	0	0	0	0
																	Linear Year 2 Total	681.666	0.04901	0.1409	0.00752	0.00109	0.00104	8.62536	0.00082	0.00017

Table 9-7: Off-site Work

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Daily Hours in Use	Total Runtime Hours	Horsepower	Load Factor	Emission Factor (g/hp-hr)								gal / hp-hr	gal	Emissions (short tons)							
									NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O			NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O
Mar-24	14	Tractor/Loader/Backhoe	1	25	8	200	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	118.894	0.00188	0.02535	0.00098	8.8E-05	8.8E-05	1.33759	0.00016	3.4E-05
		Forklift	1	25	8	200	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	159.854	0.00233	0.03132	0.00121	0.00011	0.00011	1.79839	0.00018	3.4E-05
		Rollers	1	25	8	200	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	59.025	0.00443	0.0048	0.00075	0.00024	0.00022	0.66404	7.2E-05	1.5E-05
Apr-24	15	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
May-24	16	Tractor/Loader/Backhoe	1	25	8	200	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	118.894	0.00188	0.02535	0.00098	8.8E-05	8.8E-05	1.33759	0.00016	3.4E-05
		Forklift	1	25	8	200	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	159.854	0.00233	0.03132	0.00121	0.00011	0.00011	1.79839	0.00018	3.4E-05
		Rollers	1	25	8	200	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	59.025	0.00443	0.0048	0.00075	0.00024	0.00022	0.66404	7.2E-05	1.5E-05
Jun-24	17	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Jul-24	18	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Aug-24	19	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Sep-24	20	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Oct-24	21	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Nov-24	22	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Dec-24	23	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Jan-25	24	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Feb-25	25	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.27478	3.7	0.14336	0.0128	0.0128	195.212	0.023	0.005	0.01913	95.1156	0.00151	0.02028	0.00079	7E-05	7E-05	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.27478	3.7	0.14336	0.0128	0.0128	212.431	0.021	0.004	0.02081	127.883	0.00186	0.02506	0.00097	8.7E-05	8.7E-05	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
																	Linear Year 1 Total	0	0	0	0	0	0	0	0	0
																	Linear Year 2 Total	3377.73	0.08635	0.61475	0.02941	0.00435	0.00416	38.0002	0.00408	0.00083

Note: Feb 2025 (i.e., first month of Year 3 construction) added to Linear Year 2 total.

Sheet 10: OFFROAD2021 Off-road Construction Emissions

Table 10-1: Demolition and Grading Equipment List

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Daily Hours in Use	Total Runtime Hours	Horsepower	Load Factor	Emission Factor (g/hp-hr)								gal / hp-hr	gal	Emissions (short tons)							
									NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O			NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O
Feb-23	1	Excavators	2	15	8	120	311	0.38	0.33896	0.39825	0.04655	0.01145	0.01053	201.178	0.021	0.004	0.02196	311.437	0.0053	0.00623	0.00073	0.00018	0.00016	3.14493	0.00033	6.3E-05
		Rubber Tired Dozers	2	15	8	120	367	0.4	1.764	1.41605	0.1758	0.07952	0.07315	210.384	0.022	0.004	0.02061	363.132	0.03425	0.0275	0.00341	0.00154	0.00142	4.08531	0.00043	7.8E-05
Mar-23	2	Excavators	2	20	8	160	311	0.38	0.33896	0.39825	0.04655	0.01145	0.01053	201.178	0.021	0.004	0.02196	415.249	0.00707	0.0083	0.00097	0.00024	0.00022	4.19324	0.00044	8.3E-05
		Rubber Tired Dozers	2	20	8	160	367	0.4	1.764	1.41605	0.1758	0.07952	0.07315	210.384	0.022	0.004	0.02061	484.176	0.04567	0.03666	0.00455	0.00206	0.00189	5.44707	0.00057	0.0001
		Traffic Control	1	20	8	160	6	0.82	3.47	4.143	0.547	0.162	0.149	568.299	0.023	0.005	0.02577	20.2831	0.00301	0.0036	0.00047	0.00014	0.00013	0.49314	2E-05	4.3E-06
Apr-23	3	Rubber Tired Dozers	3	15	8	120	367	0.4	1.764	1.41605	0.1758	0.07952	0.07315	210.384	0.022	0.004	0.02061	363.132	0.03425	0.0275	0.00341	0.00154	0.00142	4.08531	0.00043	7.8E-05
		Tractor/Loader/Backhoe	2	15	8	120	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	71.3367	0.00351	0.00528	0.00034	0.00017	0.00015	0.80255	9.5E-05	2.1E-05
		Traffic Control	1	15	8	120	6	0.82	3.47	4.143	0.547	0.162	0.149	568.299	0.023	0.005	0.02577	15.2123	0.00226	0.0027	0.00036	0.00011	9.7E-05	0.36985	1.5E-05	3.3E-06
		Excavators	2	5	8	40	311	0.38	0.33896	0.39825	0.04655	0.01145	0.01053	201.178	0.021	0.004	0.02196	103.812	0.00177	0.00208	0.00024	6E-05	5.5E-05	1.04831	0.00011	2.1E-05
		Graders	1	5	8	40	148	0.41	1.43305	1.39773	0.15734	0.07881	0.07251	216.609	0.021	0.004	0.02122	51.5141	0.00383	0.00374	0.00042	0.00021	0.00019	0.57954	5.6E-05	1.1E-05
		Rubber Tired Dozers	1	5	8	40	367	0.4	1.764	1.41605	0.1758	0.07952	0.07315	210.384	0.022	0.004	0.02061	121.044	0.01142	0.00917	0.00114	0.00051	0.00047	1.36177	0.00014	2.6E-05
		Tractor/Loader/Backhoe	2	5	8	40	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	23.7789	0.00117	0.00176	0.00011	5.6E-05	5.1E-05	0.26752	3.2E-05	6.9E-06
		Pumps	6	5	8	40	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	5.09474	0.00029	0.00037	2.1E-05	8E-06	7.4E-06	0.05732	8.3E-06	1.8E-06
		Traffic Control	1	5	8	40	6	0.82	3.47	4.143	0.547	0.162	0.149	568.299	0.023	0.005	0.02577	5.07076	0.00075	0.0009	0.00012	3.5E-05	3.2E-05	0.12328	5E-06	1.1E-06
May-23	4	Excavators	2	25	8	200	311	0.38	0.33896	0.39825	0.04655	0.01145	0.01053	201.178	0.021	0.004	0.02196	519.061	0.00883	0.01038	0.00121	0.0003	0.00027	5.24155	0.00055	0.0001
		Graders	1	25	8	200	148	0.41	1.43305	1.39773	0.15734	0.07881	0.07251	216.609	0.021	0.004	0.02122	257.57	0.01917	0.0187	0.0021	0.00105	0.00097	2.89772	0.00028	5.4E-05
		Rubber Tired Dozers	1	25	8	200	367	0.4	1.764	1.41605	0.1758	0.07952	0.07315	210.384	0.022	0.004	0.02061	605.22	0.05709	0.04583	0.00569	0.00257	0.00237	6.80884	0.00071	0.00013
		Tractor/Loader/Backhoe	2	25	8	200	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	118.894	0.00585	0.00881	0.00057	0.00028	0.00026	1.33759	0.00016	3.4E-05
		Pumps	6	25	8	200	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	25.4737	0.00147	0.00187	0.0001	4E-05	3.7E-05	0.28658	4.1E-05	9E-06
		Traffic Control	1	25	8	200	6	0.82	3.47	4.143	0.547	0.162	0.149	568.299	0.023	0.005	0.02577	25.3538	0.00376	0.00449	0.00059	0.00018	0.00016	0.61642	2.5E-05	5.4E-06
																	Linear Year 1 Total	3905.84	0.25074	0.22584	0.02658	0.01128	0.01038	43.2478	0.00444	0.00084
																	Linear Year 2 Total	0	0	0	0	0	0	0	0	0

Table 10-2: Building 1 Equipment List

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Daily Hours in Use	Total Runtime Hours	Horsepower	Load Factor	Emission Factor (g/hp-hr)								gal / hp-hr	gal	Emissions (short tons)							
									NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O			NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O
May-23	4	Drill Rig	1	20	8	160	83	0.5	1.03939	1.65616	0.08935	0.04192	0.03857	262.969	0.021	0.004	0.02577	171.087	0.00761	0.01212	0.00065	0.00031	0.00028	1.92476	0.00015	2.9E-05
		Pumps	2	20	8	160	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	20.379	0.00118	0.00149	8.3E-05	3.2E-05	2.9E-05	0.22927	3.3E-05	7.2E-06
Jun-23	5	Drill Rig	1	10	8	80	83	0.5	1.03939	1.65616	0.08935	0.04192	0.03857	262.969	0.021	0.004	0.02577	85.5434	0.0038	0.00606	0.00033	0.00015	0.00014	0.96238	7.7E-05	1.5E-05
		Pumps	2	10	8	80	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	10.1895	0.00059	0.00075	4.2E-05	1.6E-05	1.5E-05	0.11463	1.7E-05	3.6E-06
		Graders	1	5	8	40	148	0.41	1.43305	1.39773	0.15734	0.07881	0.07251	216.609	0.021	0.004	0.02122	51.5141	0.00383	0.00374	0.00042	0.00021	0.00019	0.57954	5.6E-05	1.1E-05
		Forklift	1	5	8	40	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	31.9708	0.00125	0.00219	8.5E-05	3.1E-05	2.8E-05	0.35968	3.6E-05	6.8E-06
		Welder	1	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
		Concrete Pump	2	5	8	40	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	29.6193	0.00223	0.00226	0.00024	0.00015	0.00014	0.33322	3.2E-05	6.1E-06
Jul-23	6	Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Concrete Pump	1	20	8	160	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	118.477	0.00893	0.00905	0.00096	0.00061	0.00056	1.33289	0.00013	2.4E-05
Aug-23	7	Forklift	1	10	8	80	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	63.9415	0.0025	0.00438	0.00017	6.1E-05	5.6E-05	0.71935	7.1E-05	1.4E-05
		Welder	1	10	8	80	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	42.6686	0.00839	0.0071	0.00105	0.00028	0.00025	1.03737	4.2E-05	9.1E-06
		Concrete Pump	1	20	8	160	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	118.477	0.00893	0.00905	0.00096	0.00061	0.00056	1.33289	0.00013	2.4E-05
		Forklift	2	10	8	80	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	63.9415	0.0025	0.00438	0.00017	6.1E-05	5.6E-05	0.71935	7.1E-05	1.4E-05
		Welder	2	10	8	80	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	42.6686	0.00839	0.0071	0.00105	0.00028	0.00025	1.03737	4.2E-05	9.1E-06

Sep-23	8	Concrete Pump	1	25	8	200	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	148.096	0.01116	0.01131	0.0012	0.00076	0.0007	1.66611	0.00016	3E-05
Oct-23	9	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Nov-23	10	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Dec-23	11	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Jan-24	12	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Feb-24	13	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Mar-24	14	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Apr-24	15	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
May-24	16	Mobile Crane	1	25	8	200	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	233.164	0.01722	0.00897	0.00156	0.00072	0.00066	2.62314	0.00036	6.9E-05
		Welder	1	25	8	200	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	106.672	0.02097	0.01776	0.00263	0.00069	0.00063	2.59344	0.0001	2.3E-05
		Forklift	1	25	8	200	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	159.854	0.00625	0.01095	0.00043	0.00015	0.00014	1.79839	0.00018	3.4E-05
Jun-24	17	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Jul-24	18	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Aug-24	19	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Sep-24	20	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Oct-24	21	Mobile Crane	1	10	8	80	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	93.2654	0.00689	0.00359	0.00063	0.00029	0.00027	1.04925	0.00015	2.8E-05
		Welder	1	10	8	80	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	42.6686	0.00839	0.0071	0.00105	0.00028	0.00025	1.03737	4.2E-05	9.1E-06
		Forklift	1	10	8	80	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	63.9415	0.0025	0.00438	0.00017	6.1E-05	5.6E-05	0.71935	7.1E-05	1.4E-05
		Skip Loader	1	10	8	80	71	0.37	0.74836	1.20125	0.05625	0.02526	0.02324	194.503	0.021	0.004	0.01906	40.0516	0.00173	0.00278	0.00013	5.9E-05	5.4E-05	0.45059	4.9E-05	9.3E-06
		Tractor/Loader/Backhoe	1	10	8	80	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	47.5578	0.00234	0.00352	0.00023	0.00011	0.0001	0.53503	6.3E-05	1.4E-05
Nov-24	22	Skip Loader	1	20	8	160	71	0.37	0.74836	1.20125	0.05625	0.02526	0.02324	194.503	0.021	0.004	0.01906	80.1033	0.00347	0.00557	0.00026	0.00012	0.00011	0.90118	9.7E-05	1.9E-05
		Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
Dec-24	23	Skip Loader	1	20	8	160	71	0.37	0.74836	1.20125	0.05625	0.02526	0.02324	194.503	0.021	0.004	0.01906	80.1033	0.00347	0.00557	0.00026	0.00012	0.00011	0.90118	9.7E-05	1.9E-05
		Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
Jan-25	24	Skip Loader	1	5	8	40	71	0.37	0.74836	1.20125	0.05625	0.02526	0.02324	194.503	0.021	0.004	0.01906	20.0258	0.00087	0.00139	6.5E-05	2.9E-05	2.7E-05	0.22529	2.4E-05	4.6E-06

Jan-25	24	Tractor/Loader/Backhoe	1	5	8	40	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	23.7789	0.00117	0.00176	0.00011	5.6E-05	5.1E-05	0.26752	3.2E-05	6.9E-06
																	Linear Year 1 Total	2832.13	0.23946	0.22807	0.02518	0.00936	0.00861	38.8289	0.00336	0.00065
																	Linear Year 2 Total	3979.67	0.33348	0.2984	0.03432	0.01188	0.01094	54.5257	0.00513	0.00101

Table 10-3: Building 2 Equipment List

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Daily Hours in Use	Total Runtime Hours	Horsepower	Load Factor	Emission Factor (g/hp-hr)								gal / hp-hr	gal	Emissions (short tons)							
									NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O			NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O
Jun-23	5	Drill Rig	1	10	8	80	83	0.5	1.03939	1.65616	0.08935	0.04192	0.03857	262.969	0.021	0.004	0.02577	85.5434	0.0038	0.00606	0.00033	0.00015	0.00014	0.96238	7.7E-05	1.5E-05
		Pumps	2	10	8	80	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	10.1895	0.00059	0.00075	4.2E-05	1.6E-05	1.5E-05	0.11463	1.7E-05	3.6E-06
Jul-23	6	Drill Rig	1	5	8	40	83	0.5	1.03939	1.65616	0.08935	0.04192	0.03857	262.969	0.021	0.004	0.02577	42.7717	0.0019	0.00303	0.00016	7.7E-05	7.1E-05	0.48119	3.8E-05	7.3E-06
		Pumps	2	5	8	40	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	5.09474	0.00029	0.00037	2.1E-05	8E-06	7.4E-06	0.05732	8.3E-06	1.8E-06
		Graders	1	5	8	40	148	0.41	1.43305	1.39773	0.15734	0.07881	0.07251	216.609	0.021	0.004	0.02122	51.5141	0.00383	0.00374	0.00042	0.00021	0.00019	0.57954	5.6E-05	1.1E-05
		Forklift	1	10	8	80	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	63.9415	0.0025	0.00438	0.00017	6.1E-05	5.6E-05	0.71935	7.1E-05	1.4E-05
		Welder	1	10	8	80	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	42.6686	0.00839	0.0071	0.00105	0.00028	0.00025	1.03737	4.2E-05	9.1E-06
		Concrete Pump	1	10	8	80	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	59.2386	0.00446	0.00453	0.00048	0.0003	0.00028	0.66645	6.4E-05	1.2E-05
Aug-23	7	Forklift	1	15	8	120	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	95.9123	0.00375	0.00657	0.00026	9.2E-05	8.4E-05	1.07903	0.00011	2E-05
		Welder	1	15	8	120	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	64.0029	0.01258	0.01065	0.00158	0.00041	0.00038	1.55606	6.3E-05	1.4E-05
		Concrete Pump	1	20	8	160	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	118.477	0.00893	0.00905	0.00096	0.00061	0.00056	1.33289	0.00013	2.4E-05
		Forklift	2	5	8	40	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	31.9708	0.00125	0.00219	8.5E-05	3.1E-05	2.8E-05	0.35968	3.6E-05	6.8E-06
		Welder	2	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
Sep-23	8	Forklift	2	5	8	40	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	31.9708	0.00125	0.00219	8.5E-05	3.1E-05	2.8E-05	0.35968	3.6E-05	6.8E-06
		Welder	2	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
		Concrete Pump	1	25	8	200	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	148.096	0.01116	0.01131	0.0012	0.00076	0.0007	1.66611	0.00016	3E-05
		Forklift	1	5	8	40	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	31.9708	0.00125	0.00219	8.5E-05	3.1E-05	2.8E-05	0.35968	3.6E-05	6.8E-06
		Welder	1	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
Oct-23	9	Concrete Pump	1	15	8	120	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	88.8579	0.0067	0.00679	0.00072	0.00045	0.00042	0.99967	9.6E-05	1.8E-05
		Mobile Crane	1	5	8	40	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	46.6327	0.00344	0.00179	0.00031	0.00014	0.00013	0.52463	7.3E-05	1.4E-05
		Welder	1	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
		Forklift	1	5	8	40	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	31.9708	0.00125	0.00219	8.5E-05	3.1E-05	2.8E-05	0.35968	3.6E-05	6.8E-06
Nov-23	10	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Dec-23	11	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Jan-24	12	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Feb-24	13	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Mar-24	14	Mobile Crane	1	25	8	200	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	233.164	0.01722	0.00897	0.00156	0.00072	0.00066	2.62314	0.00036	6.9E-05
		Welder	1	25	8	200	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	106.672	0.02097	0.01776	0.00263	0.00069	0.00063	2.59344	0.0001	2.3E-05
		Forklift	1	25	8	200	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	159.854	0.00625	0.01095	0.00043	0.00015	0.00014	1.79839	0.00018	3.4E-05
		Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05

Apr-24	15	Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
May-24	16	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Jun-24	17	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Jul-24	18	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Aug-24	19	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Sep-24	20	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Oct-24	21	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
Nov-24	22	Mobile Crane	1	5	8	40	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	46.6327	0.00344	0.00179	0.00031	0.00014	0.00013	0.52463	7.3E-05	1.4E-05
		Welder	1	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
		Forklift	1	5	8	40	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	31.9708	0.00125	0.00219	8.5E-05	3.1E-05	2.8E-05	0.35968	3.6E-05	6.8E-06
		Skip Loader	1	15	8	120	71	0.37	0.74836	1.20125	0.05625	0.02526	0.02324	194.503	0.021	0.004	0.01906	60.0775	0.0026	0.00417	0.0002	8.8E-05	8.1E-05	0.67588	7.3E-05	1.4E-05
		Tractor/Loader/Backhoe	1	15	8	120	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	71.3367	0.00351	0.00528	0.00034	0.00017	0.00015	0.80255	9.5E-05	2.1E-05
Dec-24	23	Skip Loader	1	20	8	160	71	0.37	0.74836	1.20125	0.05625	0.02526	0.02324	194.503	0.021	0.004	0.01906	80.1033	0.00347	0.00557	0.00026	0.00012	0.00011	0.90118	9.7E-05	1.9E-05
		Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
Jan-25	24	Skip Loader	1	20	8	160	71	0.37	0.74836	1.20125	0.05625	0.02526	0.02324	194.503	0.021	0.004	0.01906	80.1033	0.00347	0.00557	0.00026	0.00012	0.00011	0.90118	9.7E-05	1.9E-05
		Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
																	Linear Year 1 Total	2335.41	0.20077	0.18951	0.02125	0.008	0.00736	32.126	0.00277	0.00054
																	Linear Year 2 Total	4279.49	0.36014	0.32101	0.03709	0.01282	0.0118	58.7346	0.00552	0.00108

Table 10-4: Parking Garage Equipment List

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Daily Hours in Use	Total Runtime Hours	Horsepower	Load Factor	Emission Factor (g/hp-hr)								gal / hp-hr	gal	Emissions (short tons)							
									NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O			NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O
Jul-23	6	Drill Rig	1	15	8	120	83	0.5	1.03939	1.65616	0.08935	0.04192	0.03857	262.969	0.021	0.004	0.02577	128.315	0.00571	0.00909	0.00049	0.00023	0.00021	1.44357	0.00012	2.2E-05
		Pumps	2	15	8	120	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	15.2842	0.00088	0.00112	6.2E-05	2.4E-05	2.2E-05	0.17195	2.5E-05	5.4E-06
Aug-23	7	Drill Rig	1	5	8	40	83	0.5	1.03939	1.65616	0.08935	0.04192	0.03857	262.969	0.021	0.004	0.02577	42.7717	0.0019	0.00303	0.00016	7.7E-05	7.1E-05	0.48119	3.8E-05	7.3E-06
		Pumps	2	5	8	40	11	0.74	0.81873	1.0398	0.0579	0.02232	0.02054	159.696	0.023	0.005	0.01565	5.09474	0.00029	0.00037	2.1E-05	8E-06	7.4E-06	0.05732	8.3E-06	1.8E-06
		Graders	1	5	8	40	148	0.41	1.43305	1.39773	0.15734	0.07881	0.07251	216.609	0.021	0.004	0.02122	51.5141	0.00383	0.00374	0.00042	0.00021	0.00019	0.57954	5.6E-05	1.1E-05
		Forklift	1	10	8	80	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	63.9415	0.0025	0.00438	0.00017	6.1E-05	5.6E-05	0.71935	7.1E-05	1.4E-05
		Welder	1	10	8	80	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	42.6686	0.00839	0.0071	0.00105	0.00028	0.00025	1.03737	4.2E-05	9.1E-06
		Concrete Pump	1	10	8	80	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	59.2386	0.00446	0.00453	0.00048	0.0003	0.00028	0.66645	6.4E-05	1.2E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05

Sep-23	8	Concrete Pump	1	25	8	200	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	148.096	0.01116	0.01131	0.0012	0.00076	0.0007	1.66611	0.00016	3E-05
		Forklift	2	5	8	40	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	31.9708	0.00125	0.00219	8.5E-05	3.1E-05	2.8E-05	0.35968	3.6E-05	6.8E-06
		Welder	2	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
Oct-23	9	Forklift	2	10	8	80	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	63.9415	0.0025	0.00438	0.00017	6.1E-05	5.6E-05	0.71935	7.1E-05	1.4E-05
		Welder	2	10	8	80	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	42.6686	0.00839	0.0071	0.00105	0.00028	0.00025	1.03737	4.2E-05	9.1E-06
		Concrete Pump	1	10	8	80	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	59.2386	0.00446	0.00453	0.00048	0.0003	0.00028	0.66645	6.4E-05	1.2E-05
		Forklift	1	5	8	40	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	31.9708	0.00125	0.00219	8.5E-05	3.1E-05	2.8E-05	0.35968	3.6E-05	6.8E-06
		Welder	1	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
		Concrete Pump	2	10	8	80	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	59.2386	0.00446	0.00453	0.00048	0.0003	0.00028	0.66645	6.4E-05	1.2E-05
Nov-23	10	Concrete Pump	1	20	8	160	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	118.477	0.00893	0.00905	0.00096	0.00061	0.00056	1.33289	0.00013	2.4E-05
Dec-23	11	Concrete Pump	1	20	8	160	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	118.477	0.00893	0.00905	0.00096	0.00061	0.00056	1.33289	0.00013	2.4E-05
		Generator	1	20	8	160	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	42.7098	0.00529	0.00804	0.001	1.5E-05	0.00034	1.03843	4.2E-05	9.1E-06
Jan-24	12	Concrete Pump	1	20	8	160	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	118.477	0.00893	0.00905	0.00096	0.00061	0.00056	1.33289	0.00013	2.4E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Generator	1	20	8	160	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	42.7098	0.00529	0.00804	0.001	1.5E-05	0.00034	1.03843	4.2E-05	9.1E-06
Feb-24	13	Concrete Pump	1	20	8	160	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	118.477	0.00893	0.00905	0.00096	0.00061	0.00056	1.33289	0.00013	2.4E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Generator	1	20	8	160	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	42.7098	0.00529	0.00804	0.001	1.5E-05	0.00034	1.03843	4.2E-05	9.1E-06
Mar-24	14	Concrete Pump	1	25	8	200	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	148.096	0.01116	0.01131	0.0012	0.00076	0.0007	1.66611	0.00016	3E-05
		Forklift	1	25	8	200	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	159.854	0.00625	0.01095	0.00043	0.00015	0.00014	1.79839	0.00018	3.4E-05
		Mobile Crane	1	25	8	200	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	233.164	0.01722	0.00897	0.00156	0.00072	0.00066	2.62314	0.00036	6.9E-05
		Generator	1	25	8	200	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	53.3873	0.00661	0.01005	0.00126	1.8E-05	0.00042	1.29803	5.3E-05	1.1E-05
Apr-24	15	Concrete Pump	1	20	8	160	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	118.477	0.00893	0.00905	0.00096	0.00061	0.00056	1.33289	0.00013	2.4E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Generator	1	20	8	160	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	42.7098	0.00529	0.00804	0.001	1.5E-05	0.00034	1.03843	4.2E-05	9.1E-06
May-24	16	Concrete Pump	1	20	8	160	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	118.477	0.00893	0.00905	0.00096	0.00061	0.00056	1.33289	0.00013	2.4E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Generator	1	20	8	160	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	42.7098	0.00529	0.00804	0.001	1.5E-05	0.00034	1.03843	4.2E-05	9.1E-06
Jun-24	17	Concrete Pump	1	20	8	160	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	118.477	0.00893	0.00905	0.00096	0.00061	0.00056	1.33289	0.00013	2.4E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Generator	1	20	8	160	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	42.7098	0.00529	0.00804	0.001	1.5E-05	0.00034	1.03843	4.2E-05	9.1E-06
Jul-24	18	Concrete Pump	1	20	8	160	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	118.477	0.00893	0.00905	0.00096	0.00061	0.00056	1.33289	0.00013	2.4E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Generator	1	20	8	160	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	42.7098	0.00529	0.00804	0.001	1.5E-05	0.00034	1.03843	4.2E-05	9.1E-06
Aug-24	19	Concrete Pump	1	5	8	40	82	0.42	1.47002	1.4901	0.15814	0.09961	0.09164	219.436	0.021	0.004	0.0215	29.6193	0.00223	0.00226	0.00024	0.00015	0.00014	0.33322	3.2E-05	6.1E-06
		Forklift	1	5	8	40	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	31.9708	0.00125	0.00219	8.5E-05	3.1E-05	2.8E-05	0.35968	3.6E-05	6.8E-06
		Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Generator	1	5	8	40	14	0.74	2.894	4.402	0.55	0.008	0.184	568.318	0.023	0.005	0.02577	10.6775	0.00132	0.00201	0.00025	3.7E-06	8.4E-05	0.25961	1.1E-05	2.3E-06
		Welder	1	15	8	120	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	64.0029	0.01258	0.01065	0.00158	0.00041	0.00038	1.55606	6.3E-05	1.4E-05
Sep-24	20	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
		Skip Loader	1	20	8	160	71	0.37	0.74836	1.20125	0.05625	0.02526	0.02324	194.503	0.021	0.004	0.01906	80.1033	0.00347	0.00557	0.00026	0.00012	0.00011	0.90118	9.7E-05	1.9E-05

		Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
Oct-24	21	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
Nov-24	22	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
Dec-24	23	Mobile Crane	1	20	8	160	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	186.531	0.01377	0.00718	0.00125	0.00058	0.00053	2.09851	0.00029	5.5E-05
		Welder	1	20	8	160	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	85.3372	0.01678	0.01421	0.00211	0.00055	0.00051	2.07475	8.4E-05	1.8E-05
Jan-25	24	Mobile Crane	1	5	8	40	270	0.29	0.99738	0.51968	0.09057	0.04181	0.03846	151.958	0.021	0.004	0.01489	46.6327	0.00344	0.00179	0.00031	0.00014	0.00013	0.52463	7.3E-05	1.4E-05
		Welder	1	5	8	40	46	0.45	4.596	3.891	0.577	0.151	0.139	568.291	0.023	0.005	0.02577	21.3343	0.00419	0.00355	0.00053	0.00014	0.00013	0.51869	2.1E-05	4.6E-06
																	Linear Year 1 Total	1670.58	0.13398	0.15165	0.01515	0.00586	0.00604	22.6969	0.00177	0.00035
																	Linear Year 2 Total	4625.97	0.37534	0.33421	0.04062	0.01456	0.01549	61.243	0.00601	0.00117

Table 10-5: Tower Crane Operation

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Daily Hours in Use	Total Runtime Hours	Horsepower	Load Factor	Emission Factor (g/hp-hr)								gal / hp-hr	gal	Emissions (short tons)							
									NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O			NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O
Oct-23	9	Tower Crane	1	20	8	160	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	253.575	0.01207	0.00921	0.00115	0.00048	0.00044	2.85277	0.00039	7.5E-05
Nov-23	10	Tower Crane	1	20	8	160	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	253.575	0.01207	0.00921	0.00115	0.00048	0.00044	2.85277	0.00039	7.5E-05
Dec-23	11	Tower Crane	1	20	8	160	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	253.575	0.01207	0.00921	0.00115	0.00048	0.00044	2.85277	0.00039	7.5E-05
Jan-24	12	Tower Crane	1	20	8	160	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	253.575	0.01207	0.00921	0.00115	0.00048	0.00044	2.85277	0.00039	7.5E-05
Feb-24	13	Tower Crane	1	20	8	160	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	253.575	0.01207	0.00921	0.00115	0.00048	0.00044	2.85277	0.00039	7.5E-05
Mar-24	14	Tower Crane	1	25	8	200	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	316.969	0.01509	0.01151	0.00144	0.0006	0.00055	3.56597	0.00049	9.4E-05
Apr-24	15	Tower Crane	1	20	8	160	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	253.575	0.01207	0.00921	0.00115	0.00048	0.00044	2.85277	0.00039	7.5E-05
May-24	16	Tower Crane	1	20	8	160	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	253.575	0.01207	0.00921	0.00115	0.00048	0.00044	2.85277	0.00039	7.5E-05
Jun-24	17	Tower Crane	1	20	8	160	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	253.575	0.01207	0.00921	0.00115	0.00048	0.00044	2.85277	0.00039	7.5E-05
Jul-24	18	Tower Crane	1	20	8	160	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	253.575	0.01207	0.00921	0.00115	0.00048	0.00044	2.85277	0.00039	7.5E-05
Aug-24	19	Tower Crane	1	20	8	160	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	253.575	0.01207	0.00921	0.00115	0.00048	0.00044	2.85277	0.00039	7.5E-05
Sep-24	20	Tower Crane	1	20	8	160	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	253.575	0.01207	0.00921	0.00115	0.00048	0.00044	2.85277	0.00039	7.5E-05
Oct-24	21	Tower Crane	1	20	8	160	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	253.575	0.01207	0.00921	0.00115	0.00048	0.00044	2.85277	0.00039	7.5E-05
Nov-24	22	Tower Crane	1	20	8	160	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	253.575	0.01207	0.00921	0.00115	0.00048	0.00044	2.85277	0.00039	7.5E-05
Dec-24	23	Tower Crane	1	20	8	160	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	253.575	0.01207	0.00921	0.00115	0.00048	0.00044	2.85277	0.00039	7.5E-05
Jan-25	24	Tower Crane	1	5	8	40	367	0.29	0.64303	0.4905	0.06132	0.02568	0.02362	151.977	0.021	0.004	0.01489	63.3938	0.00302	0.0023	0.00029	0.00012	0.00011	0.71319	9.9E-05	1.9E-05
																	Linear Year 1 Total	1014.3	0.04828	0.03683	0.0046	0.00193	0.00177	11.4111	0.00158	0.0003
																	Linear Year 2 Total	2916.12	0.13881	0.10588	0.01324	0.00554	0.0051	32.8069	0.00453	0.00086

Table 10-6: Site Work to Common Areas

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Daily Hours in Use	Total Runtime Hours	Horsepower	Load Factor	Emission Factor (g/hp-hr)								gal / hp-hr	gal	Emissions (short tons)							
									NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O			NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O
Oct-24	21	Skip Loader	1	20	8	160	71	0.37	0.74836	1.20125	0.05625	0.02526	0.02324	194.503	0.021	0.004	0.01906	80.1033	0.00347	0.00557	0.00026	0.00012	0.00011	0.90118	9.7E-05	1.9E-05
		Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
Nov-24	22	Skip Loader	1	20	8	160	71	0.37	0.74836	1.20125	0.05625	0.02526	0.02324	194.503	0.021	0.004	0.01906	80.1033	0.00347	0.00557	0.00026	0.00012	0.00011	0.90118	9.7E-05	1.9E-05
		Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
Dec-24	23	Pavers	1	20	8	160	81	0.42	1.12606	1.41063	0.09662	0.05709	0.05252	218.41	0.021	0.004	0.0214	116.485	0.00676	0.00846	0.00058	0.00034	0.00032	1.31048	0.00013	2.4E-05
		Paving Equipment	2	20	8	160	89	0.36	0.91752	1.22567	0.08782	0.04577	0.04211	187.752	0.021	0.004	0.0184	94.3063	0.00518	0.00693	0.0005	0.00026	0.00024	1.06096	0.00012	2.3E-05
		Rollers	2	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05

Jan-25	24	Air Compressor	1	20	8	160	37	0.48	3.976	4.914	0.623	0.157	0.144	568.326	0.023	0.005	0.02577	73.2169	0.01245	0.01539	0.00195	0.00049	0.00045	1.78018	7.2E-05	1.6E-05
																	Linear Year 1 Total	0	0	0	0	0	0	0	0	0
																	Linear Year 2 Total	681.666	0.04423	0.05984	0.00505	0.00197	0.00181	8.62536	0.00082	0.00017

Table 10-7: Off-site Work

Month / Year	Linear Month of Construction	Equipment	Quantity	Anticipated Duration of Use (days / month)	Daily Hours in Use	Total Runtime Hours	Horsepower	Load Factor	Emission Factor (g/hp-hr)								gal / hp-hr	gal	Emissions (short tons)							
									NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O			NOx	CO	ROG	PM10	PM2.5	CO2	CH4	N2O
Mar-24	14	Tractor/Loader/Backhoe	1	25	8	200	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	118.894	0.00585	0.00881	0.00057	0.00028	0.00026	1.33759	0.00016	3.4E-05
		Forklift	1	25	8	200	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	159.854	0.00625	0.01095	0.00043	0.00015	0.00014	1.79839	0.00018	3.4E-05
		Rollers	1	25	8	200	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	59.025	0.00443	0.0048	0.00075	0.00024	0.00022	0.66404	7.2E-05	1.5E-05
Apr-24	15	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
May-24	16	Tractor/Loader/Backhoe	1	25	8	200	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	118.894	0.00585	0.00881	0.00057	0.00028	0.00026	1.33759	0.00016	3.4E-05
		Forklift	1	25	8	200	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	159.854	0.00625	0.01095	0.00043	0.00015	0.00014	1.79839	0.00018	3.4E-05
		Rollers	1	25	8	200	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	59.025	0.00443	0.0048	0.00075	0.00024	0.00022	0.66404	7.2E-05	1.5E-05
Jun-24	17	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Jul-24	18	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Aug-24	19	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Sep-24	20	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Oct-24	21	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Nov-24	22	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Dec-24	23	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Jan-25	24	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
Feb-25	25	Tractor/Loader/Backhoe	1	20	8	160	84	0.37	0.85399	1.28505	0.08292	0.04078	0.03752	195.212	0.023	0.005	0.01913	95.1156	0.00468	0.00704	0.00045	0.00022	0.00021	1.07007	0.00013	2.7E-05
		Forklift	1	20	8	160	96	0.4	0.73795	1.29316	0.05023	0.01808	0.01663	212.431	0.021	0.004	0.02081	127.883	0.005	0.00876	0.00034	0.00012	0.00011	1.43871	0.00014	2.7E-05
		Rollers	1	20	8	160	36	0.38	1.46753	1.59135	0.24709	0.07913	0.0728	220.179	0.024	0.005	0.02157	47.22	0.00354	0.00384	0.0006	0.00019	0.00018	0.53123	5.8E-05	1.2E-05
																	Linear Year 1 Total	0	0	0	0	0	0	0	0	0
																	Linear Year 2 Total	3377.73	0.16525	0.24552	0.01739	0.00671	0.00617	38.0002	0.00408	0.00083

Note: Feb 2025 (i.e., first month of Year 3 construction) added to Linear Year 2 total.

Sheet 11: Tier IV Equipment Category and Horsepower / Emissions Factor Assignment

Table 11: Equipment Category and Emissions Assignment

Row Labels	Average Horsepower	OFFROAD Cat	HP_Bin	Load Factor	ROG g_hp-hr	CO g_hp-hr	Nox g_hp-hr	PM10 g_hp-hr	PM2_5 g_hp-hr	Co2_g_hp-hr	CH4_g_hp-hr	N2O_g_hp-hr	gal/hp-hr
Air Compressor	37	CalEEMod	50	0.48	0.623	4.914	3.976	0.157	0.144	568.326	0.023	0.005	0.0257661
Concrete Pump	82	Construction and Mining	100	0.42	0.143	3.700	0.275	0.013	0.013	219.436	0.021	0.004	0.0215006
Drill Rig	83	Construction and Mining	100	0.5	0.14	3.70	0.27	0.01	0.01	262.9686	0.021	0.004	0.0257661
Excavators	311	Construction and Mining	600	0.38	0.10	2.60	0.28	0.01	0.01	224.13	0.024	0.005	0.0219606
Forklift	96	Construction and Mining	100	0.4	0.14	3.70	0.27	0.01	0.01	212.4307	0.021	0.004	0.0208143
Generator	14	CalEEMod	25	0.74	0.55	4.402	2.894	0.008	0.184	568.318	0.023	0.005	0.0257661
Graders	148	Construction and Mining	175	0.41	0.10	3.70	0.28	0.01	0.01	216.6086	0.021	0.004	0.0212237
Mobile Crane	270	Construction and Mining	300	0.29	0.10	2.60	0.28	0.01	0.01	151.9583	0.021	0.004	0.0148891
Pavers	81	Construction and Mining	100	0.42	0.14	3.70	0.27	0.01	0.01	218.4103	0.021	0.004	0.0214002
Paving Equipment	89	Construction and Mining	100	0.36	0.14	3.70	0.27	0.01	0.01	187.7517	0.021	0.004	0.0183962
Pumps	11	Portable Equipment - Re	75	0.74	0.057903	1.039796	0.818728	0.022321	0.020536	159.6957	0.023	0.005	0.0156472
Rollers	36	Construction and Mining	50	0.38	0.247092	1.591345	1.467526	0.07913	0.072799	220.1789	0.024	0.005	0.0215735
Rubber Tired Dozers	367	Construction and Mining	600	0.4	0.10	2.60	0.28	0.01	0.01	210.384	0.022	0.004	0.0206138
Skip Loader	71	Construction and Mining	75	0.37	0.19	4.10	2.89	0.01	0.01	194.5028	0.021	0.004	0.0190577
Tower Crane	367	Construction and Mining	600	0.29	0.10	2.60	0.28	0.01	0.01	151.9772	0.021	0.004	0.014891
Tractor/Loader/Backhoe	84	Construction and Mining	100	0.37	0.14	3.70	0.27	0.01	0.01	195.2118	0.023	0.005	0.0191272
Traffic Control	6	CalEEMod	25	0.82	0.547	4.143	3.47	0.162	0.149	568.299	0.023	0.005	0.0257661
Welder	46	CalEEMod	50	0.45	0.577	3.891	4.596	0.151	0.139	568.291	0.023	0.005	0.0257661

Note: Equipment >50hp are T4; all others remain CalEEMod defaults.

Avg horsepower obtained from CalEEMod v2022.4.0, aside for excavators, which resemble CAT336. Atypical pieces of equipment (e.g., air compressor utilize CalEEMod emissions rates). CH4 and N2O emission rates for standard OFFROAD2021 equipment profiles taken from CalEEMod. Gal/hp-hr for CalEEMod equipment taken from highest OFFROAD rate.

Sheet 12: OFFROAD2021 Equipment Category and Horsepower / Emissions Factor Assignment

Table 12: Equipment Category and Emissions Assignment

Row Labels	Average Horsepower	OFFROAD Cat	HP_Bin	Load Factor	ROG g_hp-hr	CO g_hp-hr	Nox g_hp-hr	PM10 g_hp-hr	PM2_5 g_hp-hr	Co2_g_hp-hr	CH4_g_hp-hr	N2O_g_hp-hr	gal/hp-hr
Air Compressor	37	CalEEMod	50	0.48	0.623	4.914	3.976	0.157	0.144	568.326	0.023	0.005	0.025766
Concrete Pump	82	Construction and Mining - Other	100	0.42	0.158	1.490	1.470	0.100	0.092	219.436	0.021	0.004	0.022
Drill Rig	83	Construction and Mining - Bore/Drill R	100	0.5	0.089354	1.656164	1.039393	0.04192	0.038567	262.9686	0.021	0.004	0.025766
Excavators	311	Construction and Mining - Excavators	600	0.38	0.05	0.40	0.34	0.01	0.01	201.18	0.021	0.004	0.021961
Forklift	96	Construction and Mining - Rough Terr	100	0.4	0.050232	1.293163	0.737952	0.018079	0.016633	212.4307	0.021	0.004	0.020814
Generator	14	CalEEMod	25	0.74	0.55	4.402	2.894	0.008	0.184	568.318	0.023	0.005	0.025766
Graders	148	Construction and Mining - Graders	175	0.41	0.157337	1.397731	1.433047	0.078811	0.072506	216.6086	0.021	0.004	0.021224
Mobile Crane	270	Construction and Mining - Cranes	300	0.29	0.090571	0.519679	0.997381	0.041806	0.038462	151.9583	0.021	0.004	0.014889
Pavers	81	Construction and Mining - Pavers	100	0.42	0.096618	1.410634	1.126065	0.057086	0.052519	218.4103	0.021	0.004	0.0214
Paving Equipment	89	Construction and Mining - Paving Equ	100	0.36	0.087817	1.225673	0.917517	0.045773	0.042111	187.7517	0.021	0.004	0.018396
Pumps	11	Portable Equipment - Rental Pump	75	0.74	0.057903	1.039796	0.818728	0.022321	0.020536	159.6957	0.023	0.005	0.015647
Rollers	36	Construction and Mining - Rollers	50	0.38	0.247092	1.591345	1.467526	0.07913	0.072799	220.1789	0.024	0.005	0.021573
Rubber Tired Dozers	367	Construction and Mining - Rubber Tir	600	0.4	0.175802	1.416051	1.764	0.079515	0.073154	210.384	0.022	0.004	0.020614
Skip Loader	71	Construction and Mining - Skid Steer	75	0.37	0.056247	1.201248	0.748359	0.025256	0.023235	194.5028	0.021	0.004	0.019058
Tower Crane	367	Construction and Mining - Cranes	600	0.29	0.061317	0.490499	0.64303	0.025678	0.023623	151.9772	0.021	0.004	0.014891
Tractor/Loader/Backhoe	84	Construction and Mining - Tractors/Lo	100	0.37	0.082922	1.285047	0.853987	0.040782	0.03752	195.2118	0.023	0.005	0.019127
Traffic Control	6	CalEEMod	25	0.82	0.547	4.143	3.47	0.162	0.149	568.299	0.023	0.005	0.025766
Welder	46	CalEEMod	50	0.45	0.577	3.891	4.596	0.151	0.139	568.291	0.023	0.005	0.025766

Note: Avg horsepower obtained from CalEEMod v2022.4.0, aside for excavators, which resembles CAT336. Atypical pieces of equipment (e.g., air compressor utilize CalEEMod emissions rates). CH4 and N2O emission rates for standard OFFROAD2021 equipment profiles taken from CalEEMod. Gal/hp-hr for CalEEMod equipment taken from highest OFFROAD rate.

Sheet 13: Tier IV Emission Factors

Table 13-1: U.S. EPA Tier IV (Final) Emission Standards

Maximum Horsepower	Assigned HP Bin	EMFAC (g/hp-hr)				
		ROG	NOx	CO	PM10	PM2.5
50≤hp<75 (I-T4)	75	0.09	2.74	4.1	0.009	0.009
75≤hp<100	100	0.08	0.26	3.7	0.009	0.009
100≤hp<175	175	0.05	0.26	3.7	0.009	0.009
175≤hp<300	300	0.05	0.26	2.6	0.009	0.009
300≤hp<600	600	0.05	0.26	2.6	0.009	0.01

CARB 2017 Table D-9 (pg. 235) and CalEEMod v2022.4.0

Table 13-2: Controlled Off-Road Diesel Engine Deterioration Rates

Maximum Horsepower	Assigned HP Bin	EMFAC (g/hp-hr-hr)		
		NOx	ROG	PM
50≤hp<75 (I-T4)	75	0.000036	0.000023	0.000001
75≤hp<100	100	0.0000035	0.000015	0.0000009
100≤hp<175	175	0.000004	0.000011	0.0000004
175≤hp<300	300	0.0000036	0.000011	0.0000003
300≤hp<600	600	0.0000036	0.000011	0.0000003

Table 13-3: Assumed Runtime of Equipment

Total Hours
4224

Note: Assumes equipment has been in operation for 2 years and used consistently by construction contractor (8hrs per day, 264 days per year).

Table 13-4: Project U.S. EPA Tier IV (Final) Emission Rates After Accounting for Deterioration

Maximum Horsepower	Assigned HP Bin	EMFAC (g/hp-hr)				
		ROG	NOx	CO	PM10	PM2.5
50≤hp<75 (T4 F)	75	0.19	2.89	4.1	0.01	0.01
75≤hp<100	100	0.14	0.27	3.7	0.01	0.01
100≤hp<175	175	0.10	0.28	3.7	0.01	0.01
175≤hp<300	300	0.10	0.28	2.6	0.01	0.01
300≤hp<600	600	0.10	0.28	2.6	0.01	0.01

Table 13-5: Project U.S. EPA Tier IV (Final) Emission Rates After Accounting for Deterioration (Reorder)

Maximum Horsepower	Assigned HP Bin	EMFAC (g/hp-hr)				
		ROG	CO	NOx	PM10	PM2.5
50≤hp<75 (T4 F)	75	0.19	4.10	2.89	0.01	0.01
75≤hp<100	100	0.14	3.70	0.27	0.01	0.01
100≤hp<175	175	0.10	3.70	0.28	0.01	0.01
175≤hp<300	300	0.10	2.60	0.28	0.01	0.01
300≤hp<600	600	0.10	2.60	0.28	0.01	0.01

Sheet 14: Phase Equipment List

Table 14-1: Demolition and Grading Equipment List

Month / Year	Equipment	Quantity	Weeks of Operation in Month	Anticipated Duration of Use (days / month); (Assumes 5 Days Construction Per Week)
Feb-23	Excavators	2	3	15
	Rubber Tired Dozers	2	3	15
Mar-23	Excavators	2	4	20
	Rubber Tired Dozers	2	4	20
	Traffic Control	1	4	20
Apr-23	Rubber Tired Dozers	3	3	15
	Tractor/Loader/Backhoe	2	3	15
	Traffic Control	1	3	15
	Excavators	2	1	5
	Graders	1	1	5
	Rubber Tired Dozers	1	1	5
	Tractor/Loader/Backhoe	2	1	5
	Pumps	6	1	5
	Traffic Control	1	1	5
May-23	Excavators	2	5	25
	Graders	1	5	25
	Rubber Tired Dozers	1	5	25
	Tractor/Loader/Backhoe	2	5	25
	Pumps	6	5	25
	Traffic Control	1	5	25

Table 14-2: Building 1 Equipment List

Month / Year	Equipment	Quantity	Weeks of Operation in Month	of Use (days / month); (Assumes 5 Days
May-23	Drill Rig	1	4	20
	Pumps	2	4	20
Jun-23	Drill Rig	1	2	10
	Pumps	2	2	10
	Graders	1	1	5
	Forklift	1	1	5
	Welder	1	1	5
	Concrete Pump	2	1	5

Jul-23	Forklift	1	4	20
	Welder	1	4	20
	Concrete Pump	1	4	20
Aug-23	Forklift	1	2	10
	Welder	1	2	10
	Concrete Pump	1	4	20
	Forklift	2	2	10
	Welder	2	2	10
Sep-23	Concrete Pump	1	5	25
Oct-23	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Nov-23	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Dec-23	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Jan-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Feb-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Mar-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Apr-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
May-24	Mobile Crane	1	5	25
	Welder	1	5	25
	Forklift	1	5	25
Jun-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Jul-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Aug-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Sep-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20

Oct-24	Mobile Crane	1	2	10
	Welder	1	2	10
	Forklift	1	2	10
	Skip Loader	1	2	10
	Tractor/Loader/Backhoe	1	2	10
Nov-24	Skip Loader	1	4	20
	Tractor/Loader/Backhoe	1	4	20
Dec-24	Skip Loader	1	4	20
	Tractor/Loader/Backhoe	1	4	20
Jan-25	Skip Loader	1	1	5
	Tractor/Loader/Backhoe	1	1	5

Table 14-3: Building 2 Equipment List

Month / Year	Equipment	Quantity	Weeks of Operation in Month	Anticipated Duration of Use (days / month); (Assumes 5 Days Construction Per Week)
Jun-23	Drill Rig	1	2	10
	Pumps	2	2	10
Jul-23	Drill Rig	1	1	5
	Pumps	2	1	5
	Graders	1	1	5
	Forklift	1	2	10
	Welder	1	2	10
	Concrete Pump	1	2	10
Aug-23	Forklift	1	3	15
	Welder	1	3	15
	Concrete Pump	1	4	20
	Forklift	2	1	5
	Welder	2	1	5
Sep-23	Forklift	2	1	5
	Welder	2	1	5
	Concrete Pump	1	5	25
	Forklift	1	1	5
	Welder	1	1	5
Oct-23	Concrete Pump	1	3	15
	Mobile Crane	1	1	5
	Welder	1	1	5
	Forklift	1	1	5
Nov-23	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Dec-23	Mobile Crane	1	4	20
	Welder	1	4	20

	Forklift	1	4	20
Jan-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Feb-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Mar-24	Mobile Crane	1	5	25
	Welder	1	5	25
	Forklift	1	5	25
Apr-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
May-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Jun-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Jul-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Aug-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Sep-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Oct-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Forklift	1	4	20
Nov-24	Mobile Crane	1	1	5
	Welder	1	1	5
	Forklift	1	1	5
	Skip Loader	1	3	15
	Tractor/Loader/Backhoe	1	3	15
Dec-24	Skip Loader	1	4	20
	Tractor/Loader/Backhoe	1	4	20
Jan-25	Skip Loader	1	4	20
	Tractor/Loader/Backhoe	1	4	20

Table 14-4: Parking Garage Equipment List

Month / Year	Equipment	Quantity	Weeks of Operation in Month	Anticipated Duration of Use (days / month); (Assumes 5 Days Construction Per Week)
Jul-23	Drill Rig	1	3	15
	Pumps	2	3	15
Aug-23	Drill Rig	1	1	5
	Pumps	2	1	5
	Graders	1	1	5
	Forklift	1	2	10
	Welder	1	2	10
	Concrete Pump	1	2	10
Sep-23	Forklift	1	4	20
	Welder	1	4	20
	Concrete Pump	1	5	25
	Forklift	2	1	5
	Welder	2	1	5
Oct-23	Forklift	2	2	10
	Welder	2	2	10
	Concrete Pump	1	2	10
	Forklift	1	1	5
	Welder	1	1	5
	Concrete Pump	2	2	10
Nov-23	Concrete Pump	1	4	20
Dec-23	Concrete Pump	1	4	20
	Generator	1	4	20
Jan-24	Concrete Pump	1	4	20
	Forklift	1	4	20
	Generator	1	4	20
Feb-24	Concrete Pump	1	4	20
	Forklift	1	4	20
	Mobile Crane	1	4	20
	Generator	1	4	20
Mar-24	Concrete Pump	1	5	25
	Forklift	1	5	25
	Mobile Crane	1	5	25
	Generator	1	5	25
Apr-24	Concrete Pump	1	4	20
	Forklift	1	4	20
	Mobile Crane	1	4	20
	Generator	1	4	20
May-24	Concrete Pump	1	4	20
	Forklift	1	4	20
	Mobile Crane	1	4	20
	Generator	1	4	20

Jun-24	Concrete Pump	1	4	20
	Forklift	1	4	20
	Mobile Crane	1	4	20
	Generator	1	4	20
Jul-24	Concrete Pump	1	4	20
	Forklift	1	4	20
	Mobile Crane	1	4	20
	Generator	1	4	20
Aug-24	Concrete Pump	1	1	5
	Forklift	1	1	5
	Mobile Crane	1	4	20
	Generator	1	1	5
	Welder	1	3	15
Sep-24	Mobile Crane	1	4	20
	Welder	1	4	20
	Skip Loader	1	4	20
	Tractor/Loader/Backhoe	1	4	20
Oct-24	Mobile Crane	1	4	20
	Welder	1	4	20
Nov-24	Mobile Crane	1	4	20
	Welder	1	4	20
Dec-24	Mobile Crane	1	4	20
	Welder	1	4	20
Jan-25	Mobile Crane	1	1	5
	Welder	1	1	5

Table 14-5: Tower Crane Operation

Month / Year	**Equipment**	**Quantity**	**Weeks of Operation in Month**	**Anticipated Duration of Use (days / month); (Assumes 5 Days Construction Per Week)**
Oct-23	Tower Crane	1	4	20
Nov-23	Tower Crane	1	4	20
Dec-23	Tower Crane	1	4	20
Jan-24	Tower Crane	1	4	20
Feb-24	Tower Crane	1	4	20
Mar-24	Tower Crane	1	5	25
Apr-24	Tower Crane	1	4	20
May-24	Tower Crane	1	4	20
Jun-24	Tower Crane	1	4	20
Jul-24	Tower Crane	1	4	20
Aug-24	Tower Crane	1	4	20
Sep-24	Tower Crane	1	4	20
Oct-24	Tower Crane	1	4	20

Nov-24	Tower Crane	1	4	20
Dec-24	Tower Crane	1	4	20
Jan-25	Tower Crane	1	1	5

Table 14-6: Site Work to Common Areas

Month / Year	Equipment	Quantity	Weeks of Operation in Month	Anticipated Duration of Use (days / month); (Assumes 5 Days Construction Per Week)
Oct-24	Skip Loader	1	4	20
	Tractor/Loader/Backhoe	1	4	20
Nov-24	Skip Loader	1	4	20
	Tractor/Loader/Backhoe	1	4	20
Dec-24	Pavers	1	4	20
	Paving Equipment	2	4	20
	Rollers	2	4	20
Jan-25	Air Compressor	1	4	20

Table 14-7: Off-site Work

Month / Year	Equipment	Quantity	Weeks of Operation in Month	Anticipated Duration of Use (days / month); (Assumes 5 Days Construction Per Week)
Mar-24	Tractor/Loader/Backhoe	1	5	25
	Forklift	1	5	25
	Rollers	1	5	25
Apr-24	Tractor/Loader/Backhoe	1	4	20
	Forklift	1	4	20
	Rollers	1	4	20
May-24	Tractor/Loader/Backhoe	1	5	25
	Forklift	1	5	25
	Rollers	1	5	25
Jun-24	Tractor/Loader/Backhoe	1	4	20
	Forklift	1	4	20
	Rollers	1	4	20
Jul-24	Tractor/Loader/Backhoe	1	4	20
	Forklift	1	4	20
	Rollers	1	4	20
Aug-24	Tractor/Loader/Backhoe	1	4	20
	Forklift	1	4	20
	Rollers	1	4	20
Sep-24	Tractor/Loader/Backhoe	1	4	20
	Forklift	1	4	20

	Rollers	1	4	20
Oct-24	Tractor/Loader/Backhoe	1	4	20
	Forklift	1	4	20
	Rollers	1	4	20
Nov-24	Tractor/Loader/Backhoe	1	4	20
	Forklift	1	4	20
	Rollers	1	4	20
Dec-24	Tractor/Loader/Backhoe	1	4	20
	Forklift	1	4	20
	Rollers	1	4	20
Jan-25	Tractor/Loader/Backhoe	1	4	20
	Forklift	1	4	20
	Rollers	1	4	20
Feb-25	Tractor/Loader/Backhoe	1	4	20
	Forklift	1	4	20
	Rollers	1	4	20

Sheet 15: Summary of On- and Off-Road Fuel Consumption

Table 15-1: Off-Road Equipment Fuel Consumption

Year	Diesel Fuel Consumed (Gal)
Year 1	11,758
Year 2	19,861
Total	31,619

Table 15-2: Construction Worker, Vendor, and Haul Trip Fuel Consumption

Year	Diesel Fuel Consumed (Gal)	Gasoline Fuel Consumed (Gal)	Electricity Consumed (kW)
Year 1	69,758	8,957	894
Year 2	1,792	3,355	1,419
Total	71,550	12,312	2,313

Table 15-3: Total Construction Fuel Consumption

Year	Diesel Fuel Consumed (Gal)	Gasoline Fuel Consumed (Gal)	Electricity Consumed (kW)
Year 1	81,517	8,957	894
Year 2	21,653	3,355	1,419
Total	103,169	12,312	2,313

Table 15-4: Operational Vehicle Fuel Consumption

Operational Estimates	Diesel Fuel Consumed (Gal)	Gasoline Fuel Consumed (Gal)	Electricity Consumed (kW)
Annual Consumption	26,475	348,280	169,936

Table 15-5: Operational Energy Consumption (Building)

Land Use	Electricity (kWh/yr)	Natural Gas (kBTU/yr)
R&D	10,882,319	2,040,566
Day Care	68,751	154,499
Parking Garage	177	
Total	10,951,248	2,195,065

Sheet 16: Construction Off-site Fuel Consumption Estimates

Table 16-1: Construction Off-site Fuel Consultion Estimates

Year	Number of Trips	Total VMT	Vehicle Class	Percent of Workers by Vehcile Class	Gasoline Average Fuel Economy (MPG)	Gasoline Fuel Split	Gasoline Fuel Consumption by Class (gal)	Diesel Average Fuel Economy (MPG)	Diesel Fuel Split	Diesel Fuel Consumption by Class (gal)	Electric Average Fuel Economy (Mi / KWh)	Electric Fuel Split	Electric Fuel Consumption by Class (KWh)	Hybrid Average Fuel Economy (MPG)	Hybrid Average Fuel Economy (Mi / KWh)	Hybrid Fuel Split	Hybrid Fuel Consumption by Class (gal)	Hybrid Fuel Consumption by Class (KWh)	Diesel Fuel Consumption by Phase (gal)	Gasoline Fuel Consumption by Phase (gal)	Hybrid Fuel Consumption by Phase (KWh)
Worker Trips																					
Year 1	5156	60325	LDA	0.5	30.0	90.9%	914	43.3	0.3%	2	2.6	6.2%	717.8	60.8	6.6	2.6%	13	120	4	2,113	894
			LDT1	0.25	25.5	99.5%	589	24.3	0.0%	0	2.6	0.3%	17.6	65.5	6.1	0.1%	0	3			
			LDT2	0.25	24.8	98.1%	597	32.7	0.4%	2	2.6	0.6%	35.1	62.9	6.3	0.9%	0	0			
Year 2	8186	95776	LDA	0.5	30.0	90.9%	1,452	43.3	0.3%	3	2.6	6.2%	1139.6	60.8	6.6	2.6%	21	190	7	3,355	1,419
			LDT1	0.25	25.5	99.5%	935	24.3	0.0%	0	2.6	0.3%	28.0	65.5	6.1	0.1%	1	5			
			LDT2	0.25	24.8	98.1%	947	32.7	0.4%	3	2.6	0.6%	55.7	62.9	6.3	0.9%	0	0			
Sub-Total Worker Trips Energy Consumption																			11	5,468	2,313
Vendor Trips																					
Year 1	49920	419328	MHDT	0.5	4.8	15.7%	6,844	8.4	84.3%	21,057	N/A								60,985	6,844	0
			HHDT	0.5	N/A	0.0%	N/A	5.3	100.0%	39,928											
Year 2	68352	574157	MHDT	0.5	4.8	15.7%	9,370	8.4	0.0%	0	N/A								54,671	9,370	0
			HHDT	0.5	N/A	0.3%	N/A	5.3	100.0%	54,671											
Hauling Trips																					
Year 1	2,303	46,050	HHDT	1.0	N/A	0.0%	N/A	5.3	100.0%	8,770	N/A								8,770	0	0
Year 2	469	9,375	HHDT	1.0	N/A	0.0%	N/A	5.3	100.0%	1,785	N/A								1,785	0	0

Total On-Road Construction Trips Genergy Usage	***Diesel (gal)***	***71,550***	***Gasoline (gal)***	***12,312***	***Electricity (KWh)***	***2,313***

Sheet 17: Operational Fuel Consumption

Sheet 17: Operational Fuel Consumption

Trip Type	Vehicle Class	Annual VMT	Gasoline Average Fuel Economy (MPG)	Gasoline Fuel Split	Gasoline Fuel Consumption by Class (gal)	Diesel Average Fuel Economy (MPG)	Diesel Fuel Split	Diesel Fuel Consumption by Class (gal)	Electric Average Fuel Economy (Mi / KWh)	Electric Fuel Split	Electric Fuel Consumption by Class (KWh)	Hybrid Average Fuel Economy (MPG Gas)	Hybrid Average Fuel Economy (Mi / KWh)	Hybrid Fuel Split	Hybrid Fuel Consumption by Class (gal Gas)	Hybrid Fuel Consumption by Class (KWh)
Employee / Visitor	LDA / LDT1 / LDT2	9,257,222	27.64	93.8%	313,997	37.44	0.3%	793	2.59	4.0%	142,859	61.16	6.55	1.9%	2,900	27,078
Trucks	LHDT1/LHDT2	424,501	9.79	64.4%	27,910	15.16	35.6%	9,974	0	0.0%	0	0	0	0.0%	0	0
	MHDT	105,560	4.81	15.7%	3,446	8.39	84.3%	10,601	0	0.0%	0	0	0	0.0%	0	0
	HHDT	30,885	3.80	0.3%	27	5.25	99.7%	5,862	0	0.0%	0	0	0	0.0%	0	0

Sub-total Resident Consumption	Diesel	37	Gasoline	316,897	Electricity	169,936
Sub-total Truck Consumption	Diesel	26,438	Gasoline	31,383	Electricity	0
Total	***Diesel (Gal)***	***26,475***	***Gasoline (Gal)***	***348,280***	***Electricity***	***169,936***

Model Output: OFFROAD2021 (v1.0.2) Emissions Inventory
Region Type: County
Region: San Mateo
Calendar Year: 2023
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2021 Equipment Types
Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Hors

Region	Calendar Y	Vehicle Category	Model Year	Horsepowe
San Mateo	2023	Construction and Mining - Bore/Drill Rigs	Aggregate	25
San Mateo	2023	Construction and Mining - Bore/Drill Rigs	Aggregate	50
San Mateo	2023	Construction and Mining - Bore/Drill Rigs	Aggregate	75
San Mateo	2023	Construction and Mining - Bore/Drill Rigs	Aggregate	100
San Mateo	2023	Construction and Mining - Bore/Drill Rigs	Aggregate	175
San Mateo	2023	Construction and Mining - Bore/Drill Rigs	Aggregate	300
San Mateo	2023	Construction and Mining - Bore/Drill Rigs	Aggregate	600
San Mateo	2023	Construction and Mining - Cranes	Aggregate	25
San Mateo	2023	Construction and Mining - Cranes	Aggregate	50
San Mateo	2023	Construction and Mining - Cranes	Aggregate	75
San Mateo	2023	Construction and Mining - Cranes	Aggregate	100
San Mateo	2023	Construction and Mining - Cranes	Aggregate	175
San Mateo	2023	Construction and Mining - Cranes	Aggregate	300
San Mateo	2023	Construction and Mining - Cranes	Aggregate	600
San Mateo	2023	Construction and Mining - Crawler Tractors	Aggregate	25
San Mateo	2023	Construction and Mining - Crawler Tractors	Aggregate	50
San Mateo	2023	Construction and Mining - Crawler Tractors	Aggregate	75
San Mateo	2023	Construction and Mining - Crawler Tractors	Aggregate	100
San Mateo	2023	Construction and Mining - Crawler Tractors	Aggregate	175
San Mateo	2023	Construction and Mining - Crawler Tractors	Aggregate	300
San Mateo	2023	Construction and Mining - Crawler Tractors	Aggregate	600
San Mateo	2023	Construction and Mining - Excavators	Aggregate	25
San Mateo	2023	Construction and Mining - Excavators	Aggregate	50
San Mateo	2023	Construction and Mining - Excavators	Aggregate	75
San Mateo	2023	Construction and Mining - Excavators	Aggregate	100
San Mateo	2023	Construction and Mining - Excavators	Aggregate	175
San Mateo	2023	Construction and Mining - Excavators	Aggregate	300
San Mateo	2023	Construction and Mining - Excavators	Aggregate	600
San Mateo	2023	Construction and Mining - Graders	Aggregate	25
San Mateo	2023	Construction and Mining - Graders	Aggregate	50
San Mateo	2023	Construction and Mining - Graders	Aggregate	75
San Mateo	2023	Construction and Mining - Graders	Aggregate	100
San Mateo	2023	Construction and Mining - Graders	Aggregate	175
San Mateo	2023	Construction and Mining - Graders	Aggregate	300
San Mateo	2023	Construction and Mining - Graders	Aggregate	600
San Mateo	2023	Construction and Mining - Other	Aggregate	25
San Mateo	2023	Construction and Mining - Other	Aggregate	50
San Mateo	2023	Construction and Mining - Other	Aggregate	75

San Mateo	2023	Construction and Mining - Other	Aggregate	100
San Mateo	2023	Construction and Mining - Other	Aggregate	175
San Mateo	2023	Construction and Mining - Other	Aggregate	300
San Mateo	2023	Construction and Mining - Other	Aggregate	600
San Mateo	2023	Construction and Mining - Pavers	Aggregate	25
San Mateo	2023	Construction and Mining - Pavers	Aggregate	50
San Mateo	2023	Construction and Mining - Pavers	Aggregate	75
San Mateo	2023	Construction and Mining - Pavers	Aggregate	100
San Mateo	2023	Construction and Mining - Pavers	Aggregate	175
San Mateo	2023	Construction and Mining - Pavers	Aggregate	300
San Mateo	2023	Construction and Mining - Pavers	Aggregate	600
San Mateo	2023	Construction and Mining - Paving Equipment	Aggregate	25
San Mateo	2023	Construction and Mining - Paving Equipment	Aggregate	50
San Mateo	2023	Construction and Mining - Paving Equipment	Aggregate	75
San Mateo	2023	Construction and Mining - Paving Equipment	Aggregate	100
San Mateo	2023	Construction and Mining - Paving Equipment	Aggregate	175
San Mateo	2023	Construction and Mining - Paving Equipment	Aggregate	300
San Mateo	2023	Construction and Mining - Paving Equipment	Aggregate	600
San Mateo	2023	Portable Equipment - Rental Pump	Aggregate	75
San Mateo	2023	Portable Equipment - Rental Pump	Aggregate	100
San Mateo	2023	Construction and Mining - Rollers	Aggregate	25
San Mateo	2023	Construction and Mining - Rollers	Aggregate	50
San Mateo	2023	Construction and Mining - Rollers	Aggregate	75
San Mateo	2023	Construction and Mining - Rollers	Aggregate	100
San Mateo	2023	Construction and Mining - Rollers	Aggregate	175
San Mateo	2023	Construction and Mining - Rollers	Aggregate	300
San Mateo	2023	Construction and Mining - Rollers	Aggregate	600
San Mateo	2023	Construction and Mining - Rough Terrain Forklifts	Aggregate	25
San Mateo	2023	Construction and Mining - Rough Terrain Forklifts	Aggregate	50
San Mateo	2023	Construction and Mining - Rough Terrain Forklifts	Aggregate	75
San Mateo	2023	Construction and Mining - Rough Terrain Forklifts	Aggregate	100
San Mateo	2023	Construction and Mining - Rough Terrain Forklifts	Aggregate	175
San Mateo	2023	Construction and Mining - Rough Terrain Forklifts	Aggregate	300
San Mateo	2023	Construction and Mining - Rough Terrain Forklifts	Aggregate	600
San Mateo	2023	Construction and Mining - Rubber Tired Dozers	Aggregate	25
San Mateo	2023	Construction and Mining - Rubber Tired Dozers	Aggregate	50
San Mateo	2023	Construction and Mining - Rubber Tired Dozers	Aggregate	75
San Mateo	2023	Construction and Mining - Rubber Tired Dozers	Aggregate	100
San Mateo	2023	Construction and Mining - Rubber Tired Dozers	Aggregate	175
San Mateo	2023	Construction and Mining - Rubber Tired Dozers	Aggregate	300
San Mateo	2023	Construction and Mining - Rubber Tired Dozers	Aggregate	600
San Mateo	2023	Construction and Mining - Rubber Tired Loaders	Aggregate	25
San Mateo	2023	Construction and Mining - Rubber Tired Loaders	Aggregate	50
San Mateo	2023	Construction and Mining - Rubber Tired Loaders	Aggregate	75
San Mateo	2023	Construction and Mining - Rubber Tired Loaders	Aggregate	100
San Mateo	2023	Construction and Mining - Rubber Tired Loaders	Aggregate	175
San Mateo	2023	Construction and Mining - Rubber Tired Loaders	Aggregate	300

San Mateo	2023	Construction and Mining - Rubber Tired Loaders	Aggregate	600
San Mateo	2023	Construction and Mining - Scrapers	Aggregate	25
San Mateo	2023	Construction and Mining - Scrapers	Aggregate	50
San Mateo	2023	Construction and Mining - Scrapers	Aggregate	75
San Mateo	2023	Construction and Mining - Scrapers	Aggregate	100
San Mateo	2023	Construction and Mining - Scrapers	Aggregate	175
San Mateo	2023	Construction and Mining - Scrapers	Aggregate	300
San Mateo	2023	Construction and Mining - Scrapers	Aggregate	600
San Mateo	2023	Construction and Mining - Skid Steer Loaders	Aggregate	25
San Mateo	2023	Construction and Mining - Skid Steer Loaders	Aggregate	50
San Mateo	2023	Construction and Mining - Skid Steer Loaders	Aggregate	75
San Mateo	2023	Construction and Mining - Skid Steer Loaders	Aggregate	100
San Mateo	2023	Construction and Mining - Skid Steer Loaders	Aggregate	175
San Mateo	2023	Construction and Mining - Skid Steer Loaders	Aggregate	300
San Mateo	2023	Construction and Mining - Skid Steer Loaders	Aggregate	600
San Mateo	2023	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	25
San Mateo	2023	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	50
San Mateo	2023	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	75
San Mateo	2023	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	100
San Mateo	2023	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	175
San Mateo	2023	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	300
San Mateo	2023	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	600

epower-hours

Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2.5_tpd
Diesel	0	0	0	0	0	0	0	0
Diesel	5.16E-06	6.24E-06	7.43E-06	4.44E-05	4.33E-05	0.006129	2.33E-06	2.14E-06
Diesel	3.11E-06	3.76E-06	4.48E-06	5.72E-05	5.77E-05	0.008999	2.74E-06	2.52E-06
Diesel	8.19E-06	9.91E-06	1.18E-05	0.000184	0.000115	0.029159	4.65E-06	4.28E-06
Diesel	8.79E-06	1.06E-05	1.27E-05	0.000248	9.15E-05	0.044767	4.12E-06	3.79E-06
Diesel	1.21E-05	1.47E-05	1.75E-05	0.000131	0.000148	0.065299	4.75E-06	4.37E-06
Diesel	1.61E-05	1.95E-05	2.31E-05	0.000194	0.00016	0.103556	5.53E-06	5.09E-06
Diesel	2E-07	2.42E-07	2.88E-07	1.12E-06	9.71E-07	0.000118	7.54E-08	6.94E-08
Diesel	5.72E-06	6.93E-06	8.24E-06	2.5E-05	1.98E-05	0.001911	2.05E-06	1.89E-06
Diesel	1.51E-06	1.83E-06	2.17E-06	6.3E-06	1.37E-05	0.000732	1.29E-06	1.18E-06
Diesel	3.7E-05	4.47E-05	5.32E-05	0.000324	0.000398	0.043147	2.6E-05	2.39E-05
Diesel	8.77E-05	0.000106	0.000126	0.000861	0.001053	0.132287	5.63E-05	5.18E-05
Diesel	0.000112	0.000135	0.000161	0.000776	0.001489	0.226889	6.24E-05	5.74E-05
Diesel	0.000133	0.000161	0.000192	0.00129	0.001691	0.399707	6.75E-05	6.21E-05
Diesel	0	0	0	0	0	0	0	0
Diesel	1.66E-05	2.01E-05	2.39E-05	7.53E-05	5.71E-05	0.006189	5.64E-06	5.19E-06
Diesel	2.92E-06	3.54E-06	4.21E-06	1.15E-05	2.8E-05	0.000958	2.05E-06	1.89E-06
Diesel	0.000233	0.000282	0.000336	0.001984	0.002412	0.272441	0.000189	0.000174
Diesel	0.000163	0.000197	0.000234	0.00183	0.001888	0.298349	0.000105	9.67E-05
Diesel	0.000159	0.000193	0.000229	0.001133	0.002177	0.312395	9.02E-05	8.3E-05
Diesel	0.000354	0.000429	0.00051	0.003097	0.004378	1.094273	0.000171	0.000157
Diesel	4.29E-07	5.19E-07	6.18E-07	1.46E-06	9.91E-07	7.68E-05	1.38E-07	1.27E-07
Diesel	0.000156	0.000189	0.000225	0.001782	0.001512	0.247446	5.86E-05	5.39E-05
Diesel	1.94E-06	2.35E-06	2.8E-06	2.35E-05	3.3E-05	0.003225	1.97E-06	1.81E-06
Diesel	0.000113	0.000137	0.000163	0.002094	0.001412	0.317678	6.81E-05	6.27E-05
Diesel	0.000191	0.000231	0.000275	0.003953	0.001895	0.678008	9.32E-05	8.58E-05
Diesel	0.000195	0.000236	0.00028	0.001813	0.002018	0.863131	6.54E-05	6.02E-05
Diesel	0.000294	0.000356	0.000424	0.003045	0.002592	1.53843	8.76E-05	8.06E-05
Diesel	1.33E-07	1.61E-07	1.92E-07	6.27E-07	4.93E-07	4.76E-05	5.95E-08	5.47E-08
Diesel	4.64E-06	5.62E-06	6.68E-06	2.07E-05	1.48E-05	0.001593	1.57E-06	1.44E-06
Diesel	1.37E-06	1.65E-06	1.97E-06	5.58E-06	1.29E-05	0.000592	1.09E-06	1.01E-06
Diesel	4.61E-05	5.58E-05	6.64E-05	0.000313	0.00044	0.038322	3.4E-05	3.13E-05
Diesel	0.000247	0.000299	0.000356	0.002659	0.002726	0.412091	0.00015	0.000138
Diesel	0.000381	0.000461	0.000549	0.002084	0.005236	0.854639	0.000175	0.000161
Diesel	2.94E-05	3.56E-05	4.24E-05	0.000119	0.000395	0.055213	1.42E-05	1.31E-05
Diesel	0	0	0	0	0	0	0	0
Diesel	6.71E-05	8.12E-05	9.66E-05	0.000476	0.000431	0.055497	3.01E-05	2.77E-05
Diesel	1.36E-05	1.65E-05	1.96E-05	9.48E-05	0.00016	0.011766	1.15E-05	1.06E-05

Diesel	9.64E-05	0.000117	0.000139	0.001099	0.001085	0.161896	7.35E-05	6.76E-05
Diesel	4.09E-05	4.95E-05	5.89E-05	0.000566	0.000488	0.094497	2.55E-05	2.34E-05
Diesel	4.25E-05	5.14E-05	6.12E-05	0.000319	0.00057	0.12413	2.2E-05	2.02E-05
Diesel	0.000131	0.000159	0.000189	0.001208	0.001602	0.484402	5.95E-05	5.48E-05
Diesel	0	0	0	0	0	0	0	0
Diesel	9.58E-06	1.16E-05	1.38E-05	5.77E-05	4.93E-05	0.006787	3.44E-06	3.16E-06
Diesel	1.48E-05	1.79E-05	2.12E-05	7.05E-05	0.000131	0.008899	1.3E-05	1.2E-05
Diesel	2.07E-05	2.5E-05	2.98E-05	0.000365	0.000292	0.056573	1.48E-05	1.36E-05
Diesel	2.85E-05	3.45E-05	4.1E-05	0.000508	0.000337	0.089607	1.6E-05	1.48E-05
Diesel	1.53E-05	1.85E-05	2.2E-05	0.000133	0.000229	0.069548	7.12E-06	6.55E-06
Diesel	2.33E-06	2.82E-06	3.36E-06	2.44E-05	3.1E-05	0.013192	9.07E-07	8.34E-07
Diesel	0	0	0	0	0	0	0	0
Diesel	6.49E-06	7.85E-06	9.35E-06	6.15E-05	5.48E-05	0.008459	2.51E-06	2.31E-06
Diesel	1.04E-06	1.26E-06	1.5E-06	1.04E-05	1.32E-05	0.001452	9.46E-07	8.71E-07
Diesel	1.36E-05	1.64E-05	1.96E-05	0.00023	0.000172	0.035169	8.57E-06	7.89E-06
Diesel	1.36E-05	1.65E-05	1.96E-05	0.000223	0.000152	0.037918	7.92E-06	7.28E-06
Diesel	7.36E-06	8.9E-06	1.06E-05	5.48E-05	9.65E-05	0.025564	3.71E-06	3.41E-06
Diesel	5.89E-06	7.12E-06	8.47E-06	5.32E-05	7.07E-05	0.027581	2.34E-06	2.15E-06
Diesel	9.38E-05	0.000113	0.000135	0.002038	0.001605	0.312967	4.37E-05	4.02E-05
Diesel	6.12E-05	7.41E-05	8.82E-05	0.001815	0.000671	0.249477	5.56E-05	5.11E-05
Diesel	1.23E-07	1.49E-07	1.78E-07	4.1E-07	2.84E-07	2.18E-05	3.89E-08	3.58E-08
Diesel	0.000129	0.000156	0.000186	0.001007	0.000928	0.139296	5.01E-05	4.61E-05
Diesel	4.24E-06	5.13E-06	6.1E-06	1.69E-05	4.14E-05	0.001457	2.93E-06	2.7E-06
Diesel	9.31E-05	0.000113	0.000134	0.001402	0.001192	0.216259	6.49E-05	5.97E-05
Diesel	5.28E-05	6.39E-05	7.61E-05	0.001241	0.000632	0.225092	2.88E-05	2.65E-05
Diesel	1.32E-05	1.6E-05	1.91E-05	0.000111	0.000183	0.038058	6.97E-06	6.41E-06
Diesel	4.69E-06	5.68E-06	6.75E-06	5.6E-05	6.05E-05	0.021041	2.06E-06	1.89E-06
Diesel	4.08E-08	4.94E-08	5.88E-08	5.03E-07	6.21E-07	7.29E-05	3.5E-08	3.22E-08
Diesel	6.85E-06	8.29E-06	9.86E-06	4.93E-05	4.59E-05	0.007014	2.42E-06	2.23E-06
Diesel	5.38E-07	6.51E-07	7.75E-07	2.18E-06	5.35E-06	0.000193	3.67E-07	3.38E-07
Diesel	0.000109	0.000132	0.000157	0.003389	0.001934	0.556789	4.74E-05	4.36E-05
Diesel	4.28E-05	5.17E-05	6.16E-05	0.000676	0.000445	0.119581	2.97E-05	2.73E-05
Diesel	1.58E-06	1.91E-06	2.28E-06	1.67E-05	2.42E-05	0.008953	5.67E-07	5.22E-07
Diesel	3.76E-07	4.54E-07	5.41E-07	5.99E-06	3.75E-06	0.003327	5.71E-08	5.26E-08
Diesel	0	0	0	0	0	0	0	0
Diesel	4.61E-06	5.58E-06	6.64E-06	5.08E-05	3.84E-05	0.006146	1.5E-06	1.38E-06
Diesel	8.8E-06	1.06E-05	1.27E-05	5.59E-05	8.54E-05	0.006603	6.35E-06	5.84E-06
Diesel	1.95E-05	2.36E-05	2.8E-05	0.000152	0.000199	0.019329	1.49E-05	1.37E-05
Diesel	2.66E-05	3.22E-05	3.83E-05	0.000195	0.000292	0.026829	1.85E-05	1.71E-05
Diesel	2.14E-05	2.59E-05	3.08E-05	0.00015	0.000282	0.030212	1.26E-05	1.16E-05
Diesel	0.000215	0.00026	0.000309	0.002091	0.002605	0.310673	0.000117	0.000108
Diesel	0	0	0	0	0	0	0	0
Diesel	2.77E-05	3.36E-05	3.99E-05	0.000194	0.000147	0.019154	9.71E-06	8.93E-06
Diesel	3.08E-06	3.73E-06	4.44E-06	1.22E-05	2.28E-05	0.001245	2.16E-06	1.98E-06
Diesel	0.000301	0.000364	0.000434	0.003432	0.003112	0.469081	0.000211	0.000194
Diesel	0.000476	0.000576	0.000686	0.007001	0.004699	1.118351	0.000252	0.000232
Diesel	0.000528	0.000639	0.00076	0.003678	0.006218	1.616024	0.000208	0.000192

Diesel	0.000741	0.000897	0.001068	0.005419	0.007843	2.097876	0.000295	0.000271
Diesel	1.07E-08	1.3E-08	1.54E-08	2.74E-07	2.41E-07	4.95E-05	8.83E-10	8.13E-10
Diesel	1.91E-06	2.31E-06	2.75E-06	6.51E-06	4.6E-06	0.000394	6.43E-07	5.92E-07
Diesel	4.73E-06	5.72E-06	6.81E-06	2.74E-05	4.42E-05	0.003419	3.75E-06	3.45E-06
Diesel	1.42E-05	1.72E-05	2.05E-05	0.000125	0.000176	0.016489	1.3E-05	1.2E-05
Diesel	0.000112	0.000136	0.000161	0.001315	0.001299	0.207498	6.82E-05	6.28E-05
Diesel	0.00013	0.000158	0.000188	0.000828	0.001632	0.252349	7.29E-05	6.71E-05
Diesel	0.001141	0.00138	0.001643	0.010275	0.014437	3.086941	0.000553	0.000509
Diesel	0	0	0	0	0	0	0	0
Diesel	5.22E-05	6.31E-05	7.51E-05	0.000653	0.000602	0.105376	1.67E-05	1.53E-05
Diesel	0.000134	0.000162	0.000193	0.003458	0.002154	0.559896	7.27E-05	6.69E-05
Diesel	5.33E-07	6.45E-07	7.67E-07	2.18E-06	5.38E-06	0.000198	3.59E-07	3.3E-07
Diesel	7.58E-07	9.17E-07	1.09E-06	2.06E-05	8.92E-06	0.003785	3.75E-07	3.45E-07
Diesel	5.6E-07	6.77E-07	8.06E-07	6.54E-06	7.81E-06	0.003514	2.39E-07	2.2E-07
Diesel	2.58E-07	3.13E-07	3.72E-07	1.91E-06	4E-06	0.001016	1.74E-07	1.6E-07
Diesel	0	0	0	0	0	0	0	0
Diesel	0.000185	0.000224	0.000267	0.001674	0.001394	0.207781	6.67E-05	6.14E-05
Diesel	7.73E-05	9.36E-05	0.000111	0.000312	0.000734	0.031262	5.97E-05	5.49E-05
Diesel	0.001168	0.001413	0.001681	0.021894	0.01455	3.32597	0.000695	0.000639
Diesel	0.000169	0.000204	0.000243	0.00341	0.001685	0.581068	8.48E-05	7.8E-05
Diesel	0.000103	0.000124	0.000148	0.000848	0.001224	0.364647	4.45E-05	4.1E-05
Diesel	0.000115	0.000139	0.000166	0.001113	0.001126	0.479203	4.31E-05	3.96E-05

SOx_tpd	NH3_tpd	Fuel Consu	Total_Activ	Total_Popu	Horsepower_Hours_hhpy
0	0	0	0	0	0
5.65E-08	5E-08	198.8509	173.1975	0.480988	6727.139
8.31E-08	7.34E-08	291.9482	159.543	0.329097	11445.87
2.69E-07	2.38E-07	946.0188	434.0089	1.139181	36715.67
4.14E-07	3.65E-07	1452.417	371.2705	1.159433	55511.93
6.03E-07	5.33E-07	2118.547	391.2375	1.194875	82180.66
9.57E-07	8.45E-07	3359.752	323.3157	0.956912	130998.1
1.08E-09	9.63E-10	3.826426	9.243115	0.019076	231.0779
1.75E-08	1.56E-08	61.99437	89.91097	0.20348	3707.257
6.72E-09	5.97E-09	23.74699	23.60007	0.063587	1584.129
3.98E-07	3.52E-07	1399.864	1070.651	2.384529	94265.48
1.22E-06	1.08E-06	4291.902	1968.776	4.260359	287649.7
2.09E-06	1.85E-06	7361.168	2245.798	4.71183	494399.2
3.69E-06	3.26E-06	12968.04	2370.323	4.724547	870866.4
0	0	0	0	0	0
5.67E-08	5.05E-08	200.7906	194.8172	0.564356	8206.56
8.77E-09	7.82E-09	31.07515	20.01971	0.09594	1398.709
2.51E-06	2.22E-06	8839.039	4547.558	9.599693	397764.6
2.75E-06	2.44E-06	9679.597	2922.017	6.371577	436461.9
2.88E-06	2.55E-06	10135.31	2228.193	4.93247	457503.6
1.01E-05	8.93E-06	35502.5	4151.292	8.645931	1601205
6.97E-10	6.26E-10	2.49019	4.541211	0.016965	113.5303
2.28E-06	2.02E-06	8028.12	10212.49	13.79782	365569
2.98E-08	2.63E-08	104.6198	73.69831	0.113097	5339.442
2.93E-06	2.59E-06	10306.7	6441.013	9.833773	524206.8
6.26E-06	5.53E-06	21997.23	7622.747	12.74036	1113138
7.97E-06	7.04E-06	28003.32	6481.942	10.96474	1416203
1.42E-05	1.26E-05	49912.65	7479.983	11.53588	2532123
4.36E-10	3.88E-10	1.543502	2.626461	0.011365	65.66153
1.46E-08	1.3E-08	51.66946	58.7605	0.164794	2195.929
5.43E-09	4.83E-09	19.19977	12.50196	0.034095	874.4956
3.53E-07	3.13E-07	1243.301	660.6797	1.716136	59589.46
3.8E-06	3.36E-06	13369.83	4237.204	8.898902	629949.5
7.89E-06	6.98E-06	27727.82	6098.124	7.955595	1310559
5.1E-07	4.51E-07	1791.326	254.3465	0.312541	84977.96
0	0	0	0	0	0
5.11E-07	4.53E-07	1800.537	1966.967	4.087852	75025.09
1.08E-07	9.6E-08	381.7397	244.2919	0.682226	18054.89

1.49E-06	1.32E-06	5252.541	2972.368	6.525157	244296.9
8.72E-07	7.71E-07	3065.845	941.1218	2.250244	143254.8
1.15E-06	1.01E-06	4027.251	853.6454	2.074186	187114.4
4.47E-06	3.95E-06	15715.9	1912.18	4.252906	731597.5
0	0	0	0	0	0
6.25E-08	5.54E-08	220.2076	237.6598	0.662216	9218.934
8.18E-08	7.26E-08	288.7193	189.1025	0.546328	13541.4
5.22E-07	4.62E-07	1835.441	1059.493	2.654382	85767.5
8.28E-07	7.31E-07	2907.185	855.4056	2.190831	135041.1
6.43E-07	5.68E-07	2256.406	476.9583	1.048508	104976.9
1.22E-07	1.08E-07	427.9969	53.71592	0.121406	19926.14
0	0	0	0	0	0
7.8E-08	6.9E-08	274.4282	388.5977	0.815419	13505.53
1.34E-08	1.19E-08	47.1122	36.45968	0.088153	2541.218
3.25E-07	2.87E-07	1141.03	696.2672	1.493099	62025.29
3.5E-07	3.09E-07	1230.194	461.4215	0.991726	67134.38
2.36E-07	2.09E-07	829.4034	195.6103	0.413219	45148.62
2.55E-07	2.25E-07	894.8347	122.5063	0.258951	48788.26
2.89E-06	2.55E-06	10153.87	8991.143	9.168642	648924.3
2.3E-06	2.04E-06	8094.009	6045.768	6.165121	517280.4
1.98E-10	1.78E-10	0.707087	1.311811	0.005676	32.79527
1.28E-06	1.14E-06	4519.299	5862.515	16.73978	209484.1
1.33E-08	1.19E-08	47.27416	34.36944	0.147587	2436.426
2E-06	1.77E-06	7016.277	4141.911	12.34055	361445.1
2.08E-06	1.84E-06	7302.863	2619.588	7.220412	376676
3.51E-07	3.11E-07	1234.75	292.7896	0.93661	63624.68
1.94E-07	1.72E-07	682.6681	99.4287	0.323556	35016.07
6.72E-10	5.95E-10	2.36359	4.087421	0.013101	102.1855
6.46E-08	5.72E-08	227.5666	206.112	0.746782	9842.104
1.77E-09	1.58E-09	6.275996	4.549148	0.019652	301.7917
5.14E-06	4.54E-06	18064.39	9010.068	31.56794	867884.1
1.1E-06	9.76E-07	3879.688	1483.946	5.325738	186633.1
8.27E-08	7.31E-08	290.4833	66.3676	0.262029	13961.25
3.07E-08	2.72E-08	107.9434	13.57932	0.052406	5230.915
0	0	0	0	0	0
5.67E-08	5.02E-08	199.399	212.7388	0.221424	8771.438
6.08E-08	5.39E-08	214.2396	150.554	0.199822	10448.42
1.78E-07	1.58E-07	627.0986	360.3473	0.410444	30445.86
2.47E-07	2.19E-07	870.4245	300.5463	0.378041	42549.48
2.79E-07	2.47E-07	980.19	219.2661	0.307833	47855.02
2.87E-06	2.54E-06	10079.45	1331.94	1.814595	488967.4
0	0	0	0	0	0
1.76E-07	1.56E-07	621.4256	718.1012	0.827469	29820.55
1.14E-08	1.02E-08	40.37857	31.03204	0.05629	2128.085
4.33E-06	3.83E-06	15218.83	9550.062	10.24486	820870.1
1.03E-05	9.13E-06	36283.67	12968.91	13.63354	1944665
1.49E-05	1.32E-05	52430.12	13477.76	12.5021	2809097

1.94E-05	1.71E-05	68063.29	11064.58	11.22431	3651272
4.57E-10	4.04E-10	1.605792	2.315192	0.005566	57.87979
3.58E-09	3.22E-09	12.78087	12.09688	0.033394	468.5112
3.15E-08	2.79E-08	110.9158	65.77717	0.144708	4444.721
1.52E-07	1.35E-07	534.9602	235.1527	0.406295	21295.94
1.92E-06	1.69E-06	6732.041	1604.428	3.523074	268037
2.33E-06	2.06E-06	8187.184	1476.79	3.60656	328486.6
2.85E-05	2.52E-05	100152.4	9489.025	19.53553	4005023
0	0	0	0	0	0
9.73E-07	8.6E-07	3418.799	3691.128	11.59045	160798.6
5.17E-06	4.57E-06	18165.21	13488.38	37.38596	953169.5
1.82E-09	1.62E-09	6.430717	3.983934	0.017239	337.3064
3.5E-08	3.09E-08	122.8092	42.39569	0.155152	6462.878
3.25E-08	2.87E-08	114.0166	29.16903	0.097688	5984.313
9.38E-09	8.29E-09	32.95021	3.651939	0.011493	1726.637
0	0	0	0	0	0
1.92E-06	1.7E-06	6741.237	8482.639	16.2212	320763.7
2.87E-07	2.55E-07	1014.259	739.484	3.193371	53137.8
3.07E-05	2.71E-05	107907.4	67758.71	106.9469	5641580
5.37E-06	4.74E-06	18852.12	6918.32	12.32133	992730.2
3.37E-06	2.98E-06	11830.58	2985.94	5.295909	622060.6
4.43E-06	3.91E-06	15547.22	2415.271	4.346376	819472.6

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: County
Region: San Mateo
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissic

Region	Calendar Year	Vehicle Catego	Model Year	Speed	Fuel	Population
San Mateo	2023	HHDT	Aggregate	Aggregate	Gasoline	4.303890698
San Mateo	2023	HHDT	Aggregate	Aggregate	Diesel	1295.720214
San Mateo	2023	HHDT	Aggregate	Aggregate	Electricity	0.738780711
San Mateo	2023	HHDT	Aggregate	Aggregate	Natural Gas	157.5654775
San Mateo	2023	LDA	Aggregate	Aggregate	Gasoline	240378.7755
San Mateo	2023	LDA	Aggregate	Aggregate	Diesel	833.76116
San Mateo	2023	LDA	Aggregate	Aggregate	Electricity	16299.00167
San Mateo	2023	LDA	Aggregate	Aggregate	Plug-in Hybrid	6930.414301
San Mateo	2023	LDT1	Aggregate	Aggregate	Gasoline	24557.61445
San Mateo	2023	LDT1	Aggregate	Aggregate	Diesel	7.65560053
San Mateo	2023	LDT1	Aggregate	Aggregate	Electricity	74.62310938
San Mateo	2023	LDT1	Aggregate	Aggregate	Plug-in Hybrid	34.6707317
San Mateo	2023	LDT2	Aggregate	Aggregate	Gasoline	139222.3344
San Mateo	2023	LDT2	Aggregate	Aggregate	Diesel	541.6893961
San Mateo	2023	LDT2	Aggregate	Aggregate	Electricity	855.0521432
San Mateo	2023	LDT2	Aggregate	Aggregate	Plug-in Hybrid	1293.229046
San Mateo	2023	LHDT1	Aggregate	Aggregate	Gasoline	10572.08032
San Mateo	2023	LHDT1	Aggregate	Aggregate	Diesel	4577.1091
San Mateo	2023	LHDT2	Aggregate	Aggregate	Gasoline	1231.236334
San Mateo	2023	LHDT2	Aggregate	Aggregate	Diesel	1952.708679
San Mateo	2023	MCY	Aggregate	Aggregate	Gasoline	12536.76923
San Mateo	2023	MDV	Aggregate	Aggregate	Gasoline	78398.01795
San Mateo	2023	MDV	Aggregate	Aggregate	Diesel	1107.903223
San Mateo	2023	MDV	Aggregate	Aggregate	Electricity	906.5115211
San Mateo	2023	MDV	Aggregate	Aggregate	Plug-in Hybrid	678.1174043
San Mateo	2023	MH	Aggregate	Aggregate	Gasoline	774.811544
San Mateo	2023	MH	Aggregate	Aggregate	Diesel	328.5821927
San Mateo	2023	MHDT	Aggregate	Aggregate	Gasoline	780.1924103
San Mateo	2023	MHDT	Aggregate	Aggregate	Diesel	4189.443285
San Mateo	2023	MHDT	Aggregate	Aggregate	Electricity	2.059294497
San Mateo	2023	MHDT	Aggregate	Aggregate	Natural Gas	38.13508361
San Mateo	2023	OBUS	Aggregate	Aggregate	Gasoline	256.5607122
San Mateo	2023	OBUS	Aggregate	Aggregate	Diesel	1051.799358
San Mateo	2023	OBUS	Aggregate	Aggregate	Natural Gas	6.660994224
San Mateo	2023	SBUS	Aggregate	Aggregate	Gasoline	62.11288081
San Mateo	2023	SBUS	Aggregate	Aggregate	Diesel	168.8117767
San Mateo	2023	SBUS	Aggregate	Aggregate	Electricity	0.041475397
San Mateo	2023	SBUS	Aggregate	Aggregate	Natural Gas	6.023036101

San Mateo	2023	UBUS	Aggregate	Aggregate	Gasoline	61.26278416
San Mateo	2023	UBUS	Aggregate	Aggregate	Diesel	341.8463182
San Mateo	2023	UBUS	Aggregate	Aggregate	Electricity	2.018702775
San Mateo	2023	UBUS	Aggregate	Aggregate	Natural Gas	34.94319438

ons, 1000 gallons/day for Fuel Consumption

Total VMT	CVMT	EVMT	Trips	Energy Con	NOx_RUNEX	NOx_IDLEX	NOx_STREX
593.3265441	593.3265441	0	86.11225	0	0.002652805	0	2.65829E-07
119079.5533	119079.5533	0	14027.66	0	0.379331068	0.067169587	0.044483639
40.81186697	0	40.81186697	9.636589	75.42902	0	0	0
10602.72018	10602.72018	0	1067.368	0	0.019287498	0.001758259	0
7727537.252	7727537.252	0	1129355	0	0.360637387	0	0.324304498
19906.51935	19906.51935	0	3528.191	0	0.004690665	0	0
630419.5769	0	630419.5769	81240.99	243394	0	0	0
264587.6143	131767.8553	132819.759	28657.26	40115.53	0.000933146	0	0.003702224
732297.8125	732297.8125	0	111855.3	0	0.093944392	0	0.044952245
101.9185358	101.9185358	0	22.20173	0	0.000188301	0	0
2574.769635	0	2574.769635	357.9526	994.0736	0	0	0
1451.310185	668.3078042	783.0023803	143.3635	236.4901	4.73278E-06	0	1.85211E-05
4716888.169	4716888.169	0	668266.1	0	0.281188954	0	0.218876954
18280.97893	18280.97893	0	2609.031	0	0.000861659	0	0
26877.4268	0	26877.4268	4389.934	10376.91	0	0	0
52235.96142	24959.10442	27276.857	5347.502	8238.424	0.000176754	0	0.000690842
392533.1442	392533.1442	0	157508.2	0	0.05420768	0.000409189	0.10379881
179686.4952	179686.4952	0	57574.27	0	0.24258027	0.008890292	0
43549.94007	43549.94007	0	18343.59	0	0.006912822	4.67283E-05	0.012238601
77798.96503	77798.96503	0	24562.62	0	0.07578361	0.003615073	0
73820.03874	73820.03874	0	25073.54	0	0.04370875	0	0.003766931
2704273.204	2704273.204	0	374408	0	0.204919785	0	0.149777708
37908.13119	37908.13119	0	5305.818	0	0.001744998	0	0
28548.82259	0	28548.82259	4657.021	11022.2	0	0	0
27547.88494	13448.4741	14099.41084	2804.015	4258.442	9.52386E-05	0	0.00036225
7442.975667	7442.975667	0	77.51215	0	0.00308428	0	3.45951E-05
3487.261646	3487.261646	0	32.85822	0	0.012413183	0	0
45998.28851	45998.28851	0	15610.09	0	0.024370084	7.6098E-05	0.007806547
175901.2378	175901.2378	0	50462.49	0	0.276591385	0.065090544	0.08822477
44.11104086	0	44.11104086	25.56596	47.28311	0	0	0
1832.769616	1832.769616	0	342.2075	0	0.000268598	0.000277844	0
15177.04243	15177.04243	0	5133.267	0	0.005154553	1.84003E-05	0.002090536
74746.94829	74746.94829	0	10288.18	0	0.069515006	0.006700866	0.017112492
415.1451968	415.1451968	0	59.28285	0	0.000106602	1.14314E-05	0
3411.923415	3411.923415	0	248.4515	0	0.003376085	6.32154E-05	0.000176186
3793.040846	3793.040846	0	2444.395	0	0.020918681	0.004442124	0.00117907
0.481131281	0	0.481131281	0.600564	0.50685	0	0	0
153.4041036	153.4041036	0	87.21356	0	9.40752E-05	3.49508E-05	0

4165.675726	4165.675726	0	245.0511	0	0.000169979	0	0.000156194
28540.61963	28540.61963	0	1367.385	0	0.091160134	0	0
15.3192995	0	15.3192995	8.074811	26.70528	0	0	0
1199.610791	1199.610791	0	139.7728	0	8.38429E-05	0	0

NOx_TOTEX	PM2.5_RUNEX	PM2.5_IDLEX	PM2.5_STREX	PM2.5_TOTEX	PM2.5_PMTW	PM2.5_PMBW
0.002653071	9.28509E-07	0	7.91276E-08	1.00764E-06	3.27015E-06	2.03722E-05
0.490984295	0.003338332	5.40725E-05	0	0.003392405	0.001129979	0.004061708
0	0	0	0	0	3.89852E-07	6.19941E-07
0.021045757	2.21672E-05	2.11317E-06	0	2.42804E-05	0.000105187	0.000684594
0.684941885	0.010206695	0	0.002527822	0.012734517	0.017036303	0.019998385
0.004690665	0.000315152	0	0	0.000315152	4.38864E-05	5.26182E-05
0	0	0	0	0	0.001389837	0.001062843
0.004635371	0.000179444	0	6.52454E-05	0.000244689	0.000583316	0.000384439
0.138896637	0.001331351	0	0.00032064	0.001651991	0.00161444	0.002283427
0.000188301	2.6892E-05	0	0	2.6892E-05	2.24692E-07	3.74355E-07
0	0	0	0	0	5.6764E-06	4.35723E-06
2.32539E-05	6.12018E-07	0	2.21379E-07	8.33396E-07	3.19959E-06	2.12909E-06
0.500065908	0.006275451	0	0.001435425	0.007710877	0.010398958	0.014119594
0.000861659	9.45817E-05	0	0	9.45817E-05	4.03027E-05	5.51907E-05
0	0	0	0	0	5.92546E-05	4.5164E-05
0.000867596	2.75397E-05	0	9.95108E-06	3.74908E-05	0.000115161	7.62696E-05
0.158415679	0.000614627	0	4.38958E-05	0.000658522	0.000865387	0.011812539
0.251470562	0.005407244	0.000135933	0	0.005543177	0.000594211	0.005407323
0.019198152	6.56523E-05	0	4.57542E-06	7.02277E-05	9.60112E-05	0.001528978
0.079398683	0.002030478	5.78408E-05	0	0.002088318	0.000257276	0.002731414
0.047475681	0.000153192	0	0.000101242	0.000254434	8.13727E-05	0.000341765
0.354697493	0.003642778	0	0.000854089	0.004496866	0.005961902	0.008148626
0.001744998	0.000180847	0	0	0.000180847	8.35731E-05	0.000116498
0	0	0	0	0	6.29394E-05	4.7955E-05
0.000457489	1.75458E-05	0	6.18649E-06	2.37323E-05	6.07327E-05	4.01297E-05
0.003118875	1.41016E-05	0	3.72773E-08	1.41389E-05	2.46134E-05	0.000129271
0.012413183	0.00021317	0	0	0.00021317	1.53762E-05	6.02548E-05
0.032252728	6.98318E-05	0	9.3334E-06	7.91652E-05	0.000152113	0.000798904
0.429906699	0.00364176	0.000184776	0	0.003826536	0.000581694	0.003099037
0	0	0	0	0	1.45872E-07	3.88575E-07
0.000546442	2.48089E-06	7.84343E-07	0	3.26524E-06	6.06085E-06	3.25137E-05
0.00726349	1.67339E-05	0	1.62343E-06	1.83573E-05	5.01895E-05	0.000262316
0.093328364	0.000788126	3.91667E-06	0	0.000792043	0.000247183	0.001431718
0.000118033	3.91699E-07	2.52203E-08	0	4.1692E-07	1.37286E-06	7.38966E-06
0.003615486	4.37781E-06	0	1.97355E-07	4.57517E-06	7.522E-06	5.91267E-05
0.026539874	0.00010015	4.80416E-06	0	0.000104954	1.25433E-05	6.57312E-05
0	0	0	0	0	1.59107E-09	4.16887E-09
0.000129026	5.71275E-07	7.64544E-08	0	6.47729E-07	5.07297E-07	2.65841E-06

0.000326173	4.54304E-06	0	3.44037E-08	4.57744E-06	9.51701E-06	0.000148467
0.091160134	0.000239714	0	0	0.000239714	0.000248947	0.001211235
0	0	0	0	0	1.5198E-07	3.25068E-07
8.38429E-05	3.91353E-07	0	0	3.91353E-07	1.16224E-05	5.09103E-05

PM2.5_TOTAL	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_TOTEX	PM10_PMTW	PM10_PMBW
2.465E-05	1.00984E-06	0	8.60585E-08	1.0959E-06	1.30806E-05	5.82063E-05
0.008584092	0.003489277	5.65174E-05	0	0.003545794	0.004519918	0.011604879
1.00979E-06	0	0	0	0	1.55941E-06	1.77126E-06
0.000814062	2.41088E-05	2.29827E-06	0	2.64071E-05	0.00042075	0.001955983
0.049769205	0.011100682	0	0.002749155	0.013849837	0.068145214	0.057138243
0.000411657	0.000329402	0	0	0.000329402	0.000175545	0.000150338
0.002452681	0	0	0	0	0.005559349	0.003036695
0.001212444	0.000195162	0	7.09603E-05	0.000266122	0.002333263	0.001098396
0.005549858	0.001447922	0	0.000348713	0.001796635	0.006457761	0.006524077
2.7491E-05	2.81079E-05	0	0	2.81079E-05	8.98768E-07	1.06959E-06
1.00336E-05	0	0	0	0	2.27056E-05	1.24492E-05
6.16207E-06	6.65625E-07	0	2.4077E-07	9.06394E-07	1.27984E-05	6.0831E-06
0.032229429	0.006825111	0	0.001561152	0.008386263	0.041595833	0.040341696
0.000190075	9.88583E-05	0	0	9.88583E-05	0.000161211	0.000157688
0.000104419	0	0	0	0	0.000237018	0.00012904
0.000228921	2.99519E-05	0	1.08227E-05	4.07746E-05	0.000460642	0.000217913
0.013336449	0.000668463	0	4.77407E-05	0.000716203	0.00346155	0.033750111
0.011544712	0.005651735	0.000142079	0	0.005793815	0.002376845	0.015449496
0.001695217	7.14029E-05	0	4.97619E-06	7.63791E-05	0.000384045	0.004368509
0.005077008	0.002122287	6.04562E-05	0	0.002182743	0.001029104	0.00780404
0.000677572	0.000163759	0	0.000107618	0.000271377	0.000325491	0.000976472
0.018607394	0.003961717	0	0.00092884	0.004890558	0.023847608	0.023281787
0.000380918	0.000189024	0	0	0.000189024	0.000334292	0.00033285
0.000110894	0	0	0	0	0.000251758	0.000137014
0.000124595	1.90827E-05	0	6.72837E-06	2.58111E-05	0.000242931	0.000114656
0.000168023	1.53368E-05	0	4.05424E-08	1.53774E-05	9.84537E-05	0.000369344
0.000288801	0.000222808	0	0	0.000222808	6.15048E-05	0.000172157
0.001030183	7.59485E-05	0	1.01509E-05	8.60994E-05	0.000608453	0.002282583
0.007507266	0.003806424	0.00019313	0	0.003999555	0.002326775	0.008854391
5.34448E-07	0	0	0	0	5.83489E-07	1.11022E-06
4.18398E-05	2.6982E-06	8.53045E-07	0	3.55124E-06	2.42434E-05	9.28963E-05
0.000330863	1.81996E-05	0	1.76563E-06	1.99652E-05	0.000200758	0.000749474
0.002470944	0.000823762	4.09377E-06	0	0.000827856	0.000988733	0.004090622
9.17944E-06	4.26009E-07	2.74294E-08	0	4.53438E-07	5.49143E-06	2.11133E-05
7.12239E-05	4.76127E-06	0	2.14641E-07	4.97591E-06	3.0088E-05	0.000168933
0.000183228	0.000104678	5.02138E-06	0	0.000109699	5.01733E-05	0.000187804
5.75993E-09	0	0	0	0	6.36428E-09	1.1911E-08
3.81343E-06	6.21314E-07	8.31511E-08	0	7.04465E-07	2.02919E-06	7.59544E-06

0.000162562	4.94097E-06	0	3.74172E-08	4.97839E-06	3.8068E-05	0.000424192
0.001699895	0.000250552	0	0	0.000250552	0.000995787	0.003460671
4.77047E-07	0	0	0	0	6.07919E-07	9.28765E-07
6.2924E-05	4.09049E-07	0	0	4.09049E-07	4.64895E-05	0.000145458

PM10_TOTAL	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	CH4_RUNEX	CH4_IDLEX
7.23828E-05	1.476920654	0	0.005171844	1.482092498	7.48805E-05	0
0.019670591	242.0187186	11.8428035	0	253.8615221	0.000173532	0.000223123
3.33067E-06	0	0	0	0	0	0
0.00240314	17.7952999	1.474688039	0	19.26998794	0.03907193	0.004440722
0.139133293	2355.983764	0	87.73895006	2443.722714	0.019307119	0
0.000655285	5.145632484	0	0	5.145632484	2.55518E-05	0
0.008596044	0	0	0	0	0	0
0.003697781	39.20058071	0	2.061039339	41.26162005	0.00012115	0
0.014778473	261.8846415	0	10.53334838	272.4179899	0.004397502	0
3.00763E-05	0.04697767	0	0	0.04697767	1.65589E-06	0
3.51548E-05	0	0	0	0	0	0
1.97879E-05	0.198853485	0	0.011203694	0.210057179	6.15388E-07	0
0.090323793	1741.297727	0	62.83736411	1804.135091	0.012320298	0
0.000417757	6.256140544	0	0	6.256140544	1.19725E-05	0
0.000366058	0	0	0	0	0	0
0.00071933	7.426130227	0	0.452357325	7.878487552	2.29866E-05	0
0.037927864	369.3010415	1.373775427	4.683817506	375.3586344	0.002734849	0.001295628
0.023620156	124.9070022	0.651054317	0	125.5580565	0.001326515	2.57221E-05
0.004828933	46.26251736	0.185509788	0.517646998	46.96567414	0.000272968	0.000146608
0.011015887	64.14745429	0.441258163	0	64.58871245	0.000522964	1.09737E-05
0.00157334	15.2687321	0	1.324108249	16.59284034	0.012294149	0
0.052019952	1203.189565	0	42.65383889	1245.843404	0.008479296	0
0.000856167	16.97626439	0	0	16.97626439	1.8758E-05	0
0.000388772	0	0	0	0	0	0
0.000383398	4.001131347	0	0.29526358	4.296394927	1.24277E-05	0
0.000483175	15.97550328	0	0.002725065	15.97822834	0.000116261	0
0.00045647	4.172131498	0	0	4.172131498	1.68268E-05	0
0.002977136	89.43982058	0.456093846	0.798325717	90.69424014	0.00078686	0.000224867
0.01518072	224.130215	10.45692956	0	234.5871445	0.000389492	5.90128E-05
1.6937E-06	0	0	0	0	0	0
0.000120691	2.03726796	0.229473584	0	2.266741544	0.00155456	0.00073674
0.000970197	29.14796217	0.105667712	0.171321314	29.42495119	0.000160519	5.81354E-05
0.00590721	103.0666835	1.421186699	0	104.4878702	7.80634E-05	1.62262E-05
2.70582E-05	0.471054835	0.008768754	0	0.479823589	0.000350695	3.28742E-05
0.000203997	2.998714935	0.174044212	0.017063881	3.189823028	8.1757E-05	0.000167458
0.000347676	4.807181698	0.418101279	0	5.225282977	1.35194E-05	1.5468E-06
1.82753E-08	0	0	0	0	0	0
1.03291E-05	0.212732671	0.027090964	0	0.239823635	0.000576388	0.000100749

0.000467239	4.709799228	0	0.011139498	4.720938726	1.03717E-05		0
0.004707011	45.66362892	0	0	45.66362892	0.000229995		0
1.53668E-06	0	0	0	0	0		0
0.000192356	1.78434486	0	0	1.78434486	0.005878919		0

CH4_STREX	CH4_TOTEX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	N2O_TOTEX	ROG_RUNEX
1.11643E-08	7.48916E-05	9.82676E-05	0	1.27716E-08	9.82804E-05	0.000380238
0	0.000396655	0.038130148	0.001865839	0	0.039995986	0.003736089
0	0	0	0	0	0	0
0	0.043512652	0.003627688	0.000300625	0	0.003928313	0.00089962
0.090297488	0.109604607	0.038475471	0	0.040274021	0.078749492	0.075590821
0	2.55518E-05	0.000810696	0	0	0.000810696	0.000550115
0	0	0	0	0	0	0
0.001340993	0.001462143	0.000162084	0	0.000642514	0.000804598	0.000392197
0.012310458	0.01670796	0.006860738	0	0.004564761	0.0114255	0.019606257
0	1.65589E-06	7.40135E-06	0	0	7.40135E-06	3.56504E-05
0	0	0	0	0	0	0
6.72124E-06	7.33663E-06	8.24494E-07	0	3.22609E-06	4.05058E-06	1.98917E-06
0.055870439	0.068190737	0.025782503	0	0.025573036	0.051355539	0.047381288
0	1.19725E-05	0.000985657	0	0	0.000985657	0.00025776
0	0	0	0	0	0	0
0.00025074	0.000273727	3.08021E-05	0	0.000120368	0.00015117	7.42889E-05
0.005281826	0.009312304	0.003093959	3.49268E-05	0.008683177	0.011812063	0.013374741
0	0.001352237	0.019679149	0.000102574	0	0.019781723	0.028559094
0.000612489	0.001032065	0.000409613	3.83967E-06	0.000981782	0.001395234	0.001266462
0	0.000533938	0.010106458	6.95204E-05	0	0.010175978	0.011259112
0.005014483	0.017308633	0.00307062	0	0.000222982	0.003293603	0.079944551
0.036757844	0.045237139	0.017001663	0	0.015414616	0.032416278	0.034610079
0	1.8758E-05	0.002674617	0	0	0.002674617	0.000403849
0	0	0	0	0	0	0
0.00013192	0.000144348	1.67062E-05	0	6.35278E-05	8.02341E-05	4.00284E-05
3.25575E-06	0.000119516	0.00019497	0	3.63366E-06	0.000198603	0.000503611
0	1.68268E-05	0.000657321	0	0	0.000657321	0.000362271
0.000844728	0.001856455	0.001194843	6.33858E-06	0.000592552	0.001793734	0.003882612
0	0.000448505	0.035311807	0.001647494	0	0.0369593	0.008385667
0	0	0	0	0	0	0
0	0.0022913	0.00041531	4.67797E-05	0	0.00046209	2.22116E-05
0.000187619	0.000406273	0.000289103	1.66941E-06	0.000180469	0.000471241	0.000759614
0	9.42896E-05	0.016238198	0.000223909	0	0.016462106	0.001680684
0	0.000383569	9.60276E-05	1.78757E-06	0	9.78152E-05	5.01074E-06
2.4584E-05	0.000273799	0.000156948	5.75244E-06	1.54957E-05	0.000178197	0.000400379
0	1.50662E-05	0.000757373	6.5872E-05	0	0.000823245	0.000291069
0	0	0	0	0	0	0
0	0.000677137	4.33669E-05	5.52267E-06	0	4.88896E-05	8.23545E-06

1.4469E-05	2.48407E-05	2.27585E-05	0	2.08099E-05	4.35684E-05	3.04505E-05
0	0.000229995	0.007194323	0	0	0.007194323	0.004951735
0	0	0	0	0	0	0
0	0.005878919	0.00036375	0	0	0.00036375	8.39982E-05

ROG_IDLEX	ROG_STREX	ROG_TOTEX	ROG_DIURN	ROG_HOTSOA	ROG_RUNLOS	ROG_TOTAL
0	6.0562E-08	0.000380298	1.39445E-05	3.9714E-06	3.18488E-05	0.000430063
0.004803779	0	0.008539868	0	0	0	0.008539868
0	0	0	0	0	0	0
7.26243E-05	0	0.000972245	0	0	0	0.000972245
0	0.425318854	0.500909675	0.351010608	0.108383698	0.276675595	1.236979576
0	0	0.000550115	0	0	0	0.000550115
0	0	0	0	0	0	0
0	0.005579763	0.00597196	0.002997936	0.001170366	0.001039153	0.011179415
0	0.063367128	0.082973385	0.062110622	0.017948663	0.051339245	0.214371916
0	0	3.56504E-05	0	0	0	3.56504E-05
0	0	0	0	0	0	0
0	2.79138E-05	2.9903E-05	1.05042E-05	3.85321E-06	3.41036E-06	4.76707E-05
0	0.256337983	0.303719271	0.154607619	0.046871312	0.118437431	0.623635634
0	0	0.00025776	0	0	0	0.00025776
0	0	0	0	0	0	0
0	0.001041195	0.001115484	0.000426538	0.000151276	0.000140113	0.00183341
0.004690623	0.025762929	0.043828293	0.0234753	0.006410788	0.034537432	0.108251813
0.000553781	0	0.029112876	0	0	0	0.029112876
0.000535718	0.003010627	0.004812808	0.002830341	0.000783681	0.00413508	0.01256191
0.000236257	0	0.011495369	0	0	0	0.011495369
0	0.037234171	0.117178722	0.047474974	0.098262072	0.102736372	0.36565214
0	0.180663769	0.215273849	0.102874092	0.029878273	0.080324672	0.428350885
0	0	0.000403849	0	0	0	0.000403849
0	0	0	0	0	0	0
0	0.000545961	0.000585989	0.000243004	8.64694E-05	8.11616E-05	0.000996624
0	1.38793E-05	0.00051749	0.003333458	0.000949583	2.23805E-05	0.004822912
0	0	0.000362271	0	0	0	0.000362271
0.000870933	0.004655817	0.009409361	0.002235162	0.000577664	0.004726308	0.016948495
0.00127053	0	0.009656196	0	0	0	0.009656196
0	0	0	0	0	0	0
1.05266E-05	0	3.27382E-05	0	0	0	3.27382E-05
0.000211055	0.000927294	0.001897963	0.000537991	0.00014984	0.000641396	0.00322719
0.000349346	0	0.00203003	0	0	0	0.00203003
4.69707E-07	0	5.48045E-06	0	0	0	5.48045E-06
0.000725356	0.000142723	0.001268458	0.00014341	3.81012E-05	0.000111428	0.001561398
3.33022E-05	0	0.000324371	0	0	0	0.000324371
0	0	0	0	0	0	0
1.43951E-06	0	9.67495E-06	0	0	0	9.67495E-06

0	5.57212E-05	8.61717E-05	4.68429E-05	1.90677E-05	3.09438E-05	0.000183026
0	0	0.004951735	0	0	0	0.004951735
0	0	0	0	0	0	0
0	0	8.39982E-05	0	0	0	8.39982E-05

TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_TOTEX	TOG_DIURN	TOG_HOTSOA	TOG_RUNLOS
0.000554842	0	6.63077E-08	0.000554908	1.39445E-05	3.9714E-06	3.18488E-05
0.004253253	0.005468737	0	0.00972199	0	0	0
0	0	0	0	0	0	0
0.04026469	0.004542536	0	0.044807226	0	0	0
0.110292468	0	0.46566913	0.575961598	0.351010608	0.108383698	0.276675595
0.000626269	0	0	0.000626269	0	0	0
0	0	0	0	0	0	0
0.000572293	0	0.006109138	0.006681431	0.002997936	0.001170366	0.001039153
0.028603495	0	0.069378925	0.09798242	0.062110622	0.017948663	0.051339245
4.05856E-05	0	0	4.05856E-05	0	0	0
0	0	0	0	0	0	0
2.90259E-06	0	3.05621E-05	3.34647E-05	1.05042E-05	3.85321E-06	3.41036E-06
0.069136201	0	0.280657782	0.349793983	0.154607619	0.046871312	0.118437431
0.000293443	0	0	0.000293443	0	0	0
0	0	0	0	0	0	0
0.000108402	0	0.001139977	0.001248379	0.000426538	0.000151276	0.000140113
0.01951639	0.006844546	0.028207165	0.054568101	0.0234753	0.006410788	0.034537432
0.03251263	0.000630443	0	0.033143073	0	0	0
0.001848019	0.000781719	0.003296258	0.005925996	0.002830341	0.000783681	0.00413508
0.012817751	0.000268963	0	0.013086714	0	0	0
0.096112375	0	0.040477017	0.136589392	0.047474974	0.098262072	0.102736372
0.050456787	0	0.197802989	0.248259777	0.102874092	0.029878273	0.080324672
0.000459755	0	0	0.000459755	0	0	0
0	0	0	0	0	0	0
5.84093E-05	0	0.000597758	0.000656168	0.000243004	8.64694E-05	8.11616E-05
0.000734868	0	1.51961E-05	0.000750064	0.003333458	0.000949583	2.23805E-05
0.000412421	0	0	0.000412421	0	0	0
0.005665498	0.001270863	0.005097533	0.012033894	0.002235162	0.000577664	0.004726308
0.009546443	0.001446401	0	0.010992844	0	0	0
0	0	0	0	0	0	0
0.001586542	0.000751898	0	0.00233844	0	0	0
0.001108426	0.000307971	0.00101527	0.002431668	0.000537991	0.00014984	0.000641396
0.001913331	0.000397704	0	0.002311034	0	0	0
0.00035791	3.35505E-05	0	0.000391461	0	0	0
0.000584233	0.001058437	0.000156264	0.001798934	0.00014341	3.81012E-05	0.000111428
0.00033136	3.7912E-05	0	0.000369272	0	0	0
0	0	0	0	0	0	0
0.000588246	0.000102822	0	0.000691068	0	0	0

4.44333E-05	0	6.10077E-05	0.000105441	4.68429E-05	1.90677E-05	3.09438E-05
0.005637174	0	0	0.005637174	0	0	0
0	0	0	0	0	0	0
0.005999868	0	0	0.005999868	0	0	0

TOG_TOTAL	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	SOx_RUNEX	SOx_IDLEX
0.000604673	0.021771294	0	0.000576112	0.022347407	1.46009E-05	0
0.00972199	0.01625944	0.066529671	0	0.082789111	0.002291773	0.000112144
0	0	0	0	0	0	0
0.044807226	0.203506104	0.011534943	0	0.215041047	0	0
1.312031499	5.773165886	0	4.227244832	10.00041072	0.023291298	0
0.000626269	0.006958578	0	0	0.006958578	4.87575E-05	0
0	0	0	0	0	0	0
0.011888886	0.058556694	0	0.04353593	0.102092625	0.000387538	0
0.229380951	0.983184442	0	0.62796467	1.611149112	0.002588996	0
4.05856E-05	0.000189659	0	0	0.000189659	4.45137E-07	0
0	0	0	0	0	0	0
5.12325E-05	0.00029716	0	0.000217797	0.000514957	1.96587E-06	0
0.669710346	3.606164892	0	2.5638763	6.170041192	0.017214501	0
0.000293443	0.002439482	0	0	0.002439482	5.92801E-05	0
0	0	0	0	0	0	0
0.001966306	0.011095969	0	0.008123891	0.01921986	7.34149E-05	0
0.118991621	0.426825647	0.04383623	0.576094526	1.046756403	0.003650917	1.35812E-05
0.033143073	0.073672912	0.004590026	0	0.078262937	0.001183557	6.16907E-06
0.013675097	0.042196357	0.005106484	0.066741045	0.114043885	0.000457352	1.83395E-06
0.013086714	0.026068214	0.001958219	0	0.028026433	0.00060783	4.18115E-06
0.385062809	0.94184366	0	0.216650149	1.158493809	0.000150947	0
0.461336814	2.227787646	0	1.543215125	3.77100277	0.011894754	0
0.000459755	0.00733779	0	0	0.00733779	0.000160859	0
0	0	0	0	0	0	0
0.001066803	0.005977639	0	0.004259842	0.010237482	3.95553E-05	0
0.005055486	0.012244808	0	0.000311299	0.012556107	0.000157934	0
0.000412421	0.001145498	0	0	0.001145498	3.95331E-05	0
0.019573028	0.081123639	0.013000178	0.10274627	0.196870087	0.000884204	4.50895E-06
0.010992844	0.02883917	0.03500125	0	0.06384042	0.002122379	9.90209E-05
0	0	0	0	0	0	0
0.00233844	0.006191629	0.001505673	0	0.007697301	0	0
0.003760895	0.016493706	0.001633143	0.019579963	0.037706812	0.000288157	1.04463E-06
0.002311034	0.00775871	0.006527239	0	0.014285949	0.00097598	1.34578E-05
0.000391461	0.001460331	4.63024E-05	0	0.001506634	0	0
0.002091873	0.010181711	0.005611143	0.003637963	0.019430817	2.96454E-05	1.7206E-06
0.000369272	0.000872155	0.000798225	0	0.00167038	4.55211E-05	3.95917E-06
0	0	0	0	0	0	0
0.000691068	0.001947483	0.000140113	0	0.002087596	0	0

0.000202295	0.002553787	0	0.001590358	0.004144144	4.65612E-05	0
0.005637174	0.006071568	0	0	0.006071568	0.000432686	0
0	0	0	0	0	0	0
0.005999868	0.069471614	0	0	0.069471614	0	0

SOx_STREX	SOx_TOTEX	NH3_RUNEX	Fuel Consumption	
5.11289E-08	1.4652E-05	2.94314E-05	0.156284802	156.2848
0	0.002403917	0.025956058	22.67734921	22677.35
0	0	0	0	
0	0	0.008614974	2.2273167	2227.317
0.000867389	0.024158687	0.301606884	257.6875068	257687.5
0	4.87575E-05	6.80238E-05	0.459657311	459.6573
0	0	0	0	0
2.03755E-05	0.000407913	0.005744453	4.350986279	4350.986
0.000104133	0.002693129	0.029884777	28.72613666	28726.14
0	4.45137E-07	3.48272E-07	0.004196497	4.196497
0	0	0	0	0
1.1076E-07	2.07663E-06	3.09407E-05	0.022150267	22.15027
0.000621211	0.017835712	0.196270889	190.2437911	190243.8
0	5.92801E-05	6.24691E-05	0.558858557	558.8586
0	0	0	0	0
4.47201E-06	7.78869E-05	0.001154284	0.830776668	830.7767
4.63043E-05	0.003710802	0.019443968	39.581099	39581.1
0	0.001189726	0.036553062	11.21605145	11216.05
5.11747E-06	0.000464304	0.002159702	4.952471656	4952.472
0	0.000612011	0.016835204	5.769684098	5769.684
1.30902E-05	0.000164037	0.00071962	1.749694282	1749.694
0.000421677	0.01231643	0.113551096	131.3726303	131372.6
0	0.000160859	0.000129538	1.516482973	1516.483
0	0	0	0	0
2.91898E-06	4.24742E-05	0.000622625	0.453049477	453.0495
2.694E-08	0.000157961	0.000368065	1.684884214	1684.884
0	3.95331E-05	0.000714904	0.372694854	372.6949
7.89226E-06	0.000896605	0.002280614	9.563594303	9563.594
0	0.0022214	0.040120904	20.95557669	20955.58
0	0	0	0	
0	0	0.002141499	0.26200075	262.0008
1.69369E-06	0.000290896	0.000751491	3.102824338	3102.824
0	0.000989438	0.017931611	9.333860051	9333.86
0	0	0.000485076	0.055460289	55.46029
1.68694E-07	3.15346E-05	0.000169245	0.336362853	336.3629
0	4.94803E-05	0.000560348	0.466772458	466.7725
0	0	0	0	
0	0	0.000179245	0.027719954	27.71995

1.10125E-07	4.66713E-05	0.000206634	0.49781709	497.8171
0	0.000432686	0.003858467	4.079113883	4079.114
0	0	0	0	0
0	0	0.001282674	0.206243051	206.2431

642 Quarry Road Project IS/MND

Appendix D.2: Mitigated CalEEMod Output Files

642 Quarry Road (San Carlos) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	642 Quarry Road (San Carlos)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.70
Precipitation (days)	3.20
Location	642 Quarry Rd, San Carlos, CA 94070, USA
County	San Mateo
City	San Carlos
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1204
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Research & Development	410	1000sqft	2.40	410,072	39,552	—	—	—
Day-Care Center	4.00	1000sqft	0.09	0.09	0.00	—	—	—

Unenclosed Parking with Elevator	933	Space	0.78	373,200	0.00	—	—	—
Other Non-Asphalt Surfaces	63.0	1000sqft	1.44	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.99	2.30	18.4	27.3	0.05	0.60	3.31	3.91	0.56	0.81	1.36	—	8,696	8,696	0.54	0.66	19.3	8,925
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.5	457	113	75.8	0.63	1.81	20.2	21.7	1.66	10.1	11.8	—	57,449	57,449	8.62	8.71	2.74	60,264
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.38	22.6	16.2	19.8	0.05	0.50	2.90	3.40	0.46	0.81	1.28	—	6,928	6,928	0.56	0.62	6.26	7,132
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.43	4.13	2.97	3.61	0.01	0.09	0.53	0.62	0.08	0.15	0.23	—	1,147	1,147	0.09	0.10	1.04	1,181

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	2.99	2.30	18.4	27.3	0.05	0.60	3.31	3.91	0.56	0.81	1.36	—	8,696	8,696	0.54	0.66	19.3	8,925
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	12.5	4.00	113	75.8	0.63	1.81	20.2	21.7	1.66	10.1	11.8	—	57,449	57,449	8.62	8.71	2.74	60,264
2024	2.82	457	17.9	25.5	0.05	0.55	3.31	3.85	0.51	0.81	1.31	—	8,452	8,452	0.55	0.66	0.47	8,663
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	2.38	1.69	16.2	19.8	0.05	0.50	2.90	3.40	0.46	0.81	1.28	—	6,928	6,928	0.56	0.62	6.26	7,132
2024	0.10	22.6	0.64	0.96	< 0.005	0.03	0.08	0.10	0.02	0.02	0.04	—	220	220	0.01	0.01	0.16	223
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.43	0.31	2.97	3.61	0.01	0.09	0.53	0.62	0.08	0.15	0.23	—	1,147	1,147	0.09	0.10	1.04	1,181
2024	0.02	4.13	0.12	0.17	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	36.4	36.4	< 0.005	< 0.005	0.03	37.0

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	22.3	27.5	9.79	141	0.29	0.28	9.76	10.0	0.28	1.71	1.99	406	37,030	37,437	43.8	1.99	103	39,228
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	16.1	21.7	10.9	105	0.28	0.23	9.76	9.99	0.22	1.71	1.93	406	35,676	36,082	43.9	2.08	12.9	37,813

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.8	21.6	7.60	88.2	0.20	0.19	7.34	7.53	0.19	1.28	1.47	406	27,808	28,214	43.6	1.80	40.5	29,880
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.33	3.94	1.39	16.1	0.04	0.03	1.34	1.37	0.03	0.23	0.27	67.3	4,604	4,671	7.22	0.30	6.71	4,947

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	11.6	10.6	7.90	96.2	0.27	0.15	9.76	9.91	0.14	1.71	1.85	—	27,269	27,269	0.98	0.89	92.4	27,652
Area	6.06	16.6	0.29	34.1	< 0.005	0.05	—	0.05	0.06	—	0.06	—	140	140	0.01	< 0.005	—	141
Energy	0.06	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	6,775	6,775	1.05	0.12	—	6,837
Water	—	—	—	—	—	—	—	—	—	—	—	387	731	1,118	39.8	0.96	—	2,397
Waste	—	—	—	—	—	—	—	—	—	—	—	19.6	0.00	19.6	1.96	0.00	—	68.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5
Stationary	4.54	0.20	1.05	10.5	0.02	0.04	—	0.04	0.04	—	0.04	—	2,116	2,116	0.08	0.02	—	2,123
Total	22.3	27.5	9.79	141	0.29	0.28	9.76	10.0	0.28	1.71	1.99	406	37,030	37,437	43.8	1.99	103	39,228
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	11.5	10.5	9.32	93.9	0.26	0.15	9.76	9.91	0.14	1.71	1.85	—	26,055	26,055	1.09	0.99	2.40	26,378
Area	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	6,775	6,775	1.05	0.12	—	6,837
Water	—	—	—	—	—	—	—	—	—	—	—	387	731	1,118	39.8	0.96	—	2,397

Waste	—	—	—	—	—	—	—	—	—	—	—	19.6	0.00	19.6	1.96	0.00	—	68.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5
Stationary	4.54	0.20	1.05	10.5	0.02	0.04	—	0.04	0.04	—	0.04	—	2,116	2,116	0.08	0.02	—	2,123
Total	16.1	21.7	10.9	105	0.28	0.23	9.76	9.99	0.22	1.71	1.93	406	35,676	36,082	43.9	2.08	12.9	37,813
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.48	7.74	6.62	68.0	0.19	0.11	7.34	7.46	0.10	1.28	1.39	—	19,654	19,654	0.78	0.72	30.0	19,916
Area	2.99	13.8	0.14	16.8	< 0.005	0.02	—	0.02	0.03	—	0.03	—	69.1	69.1	< 0.005	< 0.005	—	69.3
Energy	0.06	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	6,775	6,775	1.05	0.12	—	6,837
Water	—	—	—	—	—	—	—	—	—	—	—	387	731	1,118	39.8	0.96	—	2,397
Waste	—	—	—	—	—	—	—	—	—	—	—	19.6	0.00	19.6	1.96	0.00	—	68.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5
Stationary	1.24	0.06	0.29	2.89	0.01	0.01	—	0.01	0.01	—	0.01	—	580	580	0.02	< 0.005	—	582
Total	12.8	21.6	7.60	88.2	0.20	0.19	7.34	7.53	0.19	1.28	1.47	406	27,808	28,214	43.6	1.80	40.5	29,880
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.55	1.41	1.21	12.4	0.04	0.02	1.34	1.36	0.02	0.23	0.25	—	3,254	3,254	0.13	0.12	4.97	3,297
Area	0.55	2.52	0.03	3.07	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	—	11.4	11.4	< 0.005	< 0.005	—	11.5
Energy	0.01	0.01	0.10	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,122	1,122	0.17	0.02	—	1,132
Water	—	—	—	—	—	—	—	—	—	—	—	64.0	121	185	6.58	0.16	—	397
Waste	—	—	—	—	—	—	—	—	—	—	—	3.24	0.00	3.24	0.32	0.00	—	11.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.73	1.73
Stationary	0.23	0.01	0.05	0.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	96.0	96.0	< 0.005	< 0.005	—	96.3
Total	2.33	3.94	1.39	16.1	0.04	0.03	1.34	1.37	0.03	0.23	0.27	67.3	4,604	4,671	7.22	0.30	6.71	4,947

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.39	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	2.14	2.14	—	0.32	0.32	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.50	1.29	< 0.005	0.07	—	0.07	0.06	—	0.06	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.27	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.52	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	122	122	< 0.005	0.01	0.01	124
Vendor	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	0.00
Hauling	0.35	0.04	3.23	1.93	0.02	0.02	0.12	0.14	0.02	0.04	0.06	—	1,883	1,883	0.29	0.30	0.09	1,980
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	6.71	6.71	< 0.005	< 0.005	0.01	6.80
Vendor	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	0.00
Hauling	0.02	< 0.005	0.17	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	103	103	0.02	0.02	0.09	109
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.11	1.11	< 0.005	< 0.005	< 0.005	1.13
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.01	18.0

3.3. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.70	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.54	0.49	< 0.005	0.02	—	0.02	0.02	—	0.02	—	72.5	72.5	< 0.005	< 0.005	—	72.8
Dust From Material Movement	—	—	—	—	—	—	0.27	0.27	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.0	12.0	< 0.005	< 0.005	—	12.1
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.60	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	142	142	< 0.005	0.01	0.02	144
Vendor	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	0.00
Hauling	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.96	1.96	< 0.005	< 0.005	< 0.005	1.98
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Vendor	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	0.00
Hauling	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	0.00

3.5. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.43	2.04	20.0	19.7	0.03	0.94	—	0.94	0.87	—	0.87	—	2,958	2,958	0.12	0.02	—	2,968
Dust From Material Movement	—	—	—	—	—	—	7.72	7.72	—	3.52	3.52	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.44	0.43	< 0.005	0.02	—	0.02	0.02	—	0.02	—	64.8	64.8	< 0.005	< 0.005	—	65.1

Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.52	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	122	122	< 0.005	0.01	0.01	124
Vendor	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	0.00
Hauling	10.0	1.22	93.4	55.6	0.60	0.60	3.51	4.11	0.60	1.17	1.77	—	54,370	54,370	8.49	8.68	2.72	57,172
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.68	2.68	< 0.005	< 0.005	< 0.005	2.72
Vendor	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	0.00
Hauling	0.22	0.03	2.01	1.21	0.01	0.01	0.08	0.09	0.01	0.03	0.04	—	1,192	1,192	0.19	0.19	0.99	1,254
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	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	0.00

Hauling	0.04	< 0.005	0.37	0.22	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	0.01	—	197	197	0.03	0.03	0.16	208

3.7. Building Construction (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.50	1.26	11.8	13.2	0.02	0.55	—	0.55	0.51	—	0.51	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.50	1.26	11.8	13.2	0.02	0.55	—	0.55	0.51	—	0.51	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.93	0.78	7.30	8.15	0.01	0.34	—	0.34	0.31	—	0.31	—	1,483	1,483	0.06	0.01	—	1,488
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.33	1.49	< 0.005	0.06	—	0.06	0.06	—	0.06	—	245	245	0.01	< 0.005	—	246
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.91	0.89	0.70	10.7	0.00	0.00	0.15	0.15	0.00	0.00	0.00	—	2,479	2,479	0.04	0.09	10.0	2,518
Vendor	0.57	0.15	5.92	3.43	0.02	0.05	0.21	0.26	0.05	0.07	0.12	—	3,820	3,820	0.40	0.55	9.25	4,001
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.90	0.87	0.88	9.89	0.00	0.00	0.15	0.15	0.00	0.00	0.00	—	2,342	2,342	0.06	0.10	0.26	2,373
Vendor	0.57	0.15	6.20	3.49	0.02	0.05	0.21	0.26	0.05	0.07	0.12	—	3,818	3,818	0.40	0.55	0.24	3,991
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.55	0.53	0.49	5.91	0.00	0.00	0.09	0.09	0.00	0.00	0.00	—	1,453	1,453	0.04	0.06	2.68	1,473
Vendor	0.35	0.09	3.78	2.15	0.01	0.03	0.13	0.16	0.03	0.04	0.07	—	2,362	2,362	0.24	0.34	2.48	2,471
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.10	0.09	1.08	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	241	241	0.01	0.01	0.44	244
Vendor	0.06	0.02	0.69	0.39	< 0.005	0.01	0.02	0.03	0.01	0.01	0.01	—	391	391	0.04	0.06	0.41	409
Hauling	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	0.00

3.9. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	32.8	32.8	< 0.005	< 0.005	—	33.0
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.44	5.44	< 0.005	< 0.005	—	5.46
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.84	0.74	0.79	9.05	0.00	0.00	0.15	0.15	0.00	0.00	0.00	—	2,291	2,291	0.06	0.09	0.23	2,321
Vendor	0.54	0.15	5.88	3.39	0.02	0.05	0.21	0.26	0.05	0.07	0.12	—	3,763	3,763	0.40	0.55	0.24	3,936
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	31.5	31.5	< 0.005	< 0.005	0.05	31.9
Vendor	0.01	< 0.005	0.08	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	51.6	51.6	0.01	0.01	0.05	54.0
Hauling	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	5.21	5.21	< 0.005	< 0.005	0.01	5.29
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.54	8.54	< 0.005	< 0.005	0.01	8.94
Hauling	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	0.00

3.11. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	6.87	8.89	0.01	0.33	—	0.33	0.30	—	0.30	—	1,351	1,351	0.05	0.01	—	1,355
Paving	—	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.34	0.44	< 0.005	0.02	—	0.02	0.01	—	0.01	—	66.6	66.6	< 0.005	< 0.005	—	66.8
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.0	11.0	< 0.005	< 0.005	—	11.1
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.63	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	159	159	< 0.005	0.01	0.02	161
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	7.87	7.87	< 0.005	< 0.005	0.01	7.98
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.30	1.30	< 0.005	< 0.005	< 0.005	1.32
Vendor	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	0.00
Hauling	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	0.00

3.13. Architectural Coating (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	457	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.58	6.58	< 0.005	< 0.005	—	6.61
Architectural Coatings	—	22.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.09	1.09	< 0.005	< 0.005	—	1.09
Architectural Coatings	—	4.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.15	0.16	1.81	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	458	458	0.01	0.02	0.05	464

Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	22.7	22.7	< 0.005	< 0.005	0.04	23.0
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	3.75	3.75	< 0.005	< 0.005	0.01	3.81
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	11.6	10.6	7.90	96.2	0.27	0.15	1.47	1.62	0.14	0.45	0.59	—	27,269	27,269	0.98	0.89	92.4	27,652
Day-Care Center	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	0.00

Unenclosed	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	0.00
Other Non-Asphalt Surfaces	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	0.00
Total	11.6	10.6	7.90	96.2	0.27	0.15	1.47	1.62	0.14	0.45	0.59	—	27,269	27,269	0.98	0.89	92.4	27,652
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	11.5	10.5	9.32	93.9	0.26	0.15	1.47	1.62	0.14	0.45	0.59	—	26,055	26,055	1.09	0.99	2.40	26,378
Day-Care Center	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	0.00
Unenclosed Parking with Elevator	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	0.00
Other Non-Asphalt Surfaces	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	0.00
Total	11.5	10.5	9.32	93.9	0.26	0.15	1.47	1.62	0.14	0.45	0.59	—	26,055	26,055	1.09	0.99	2.40	26,378
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	1.55	1.41	1.21	12.4	0.04	0.02	0.20	0.22	0.02	0.06	0.08	—	3,254	3,254	0.13	0.12	4.97	3,297
Day-Care Center	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	0.00

Unenclosed Parking with Elevator	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	0.00
Other Non-Asphalt Surfaces	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	0.00
Total	1.55	1.41	1.21	12.4	0.04	0.02	0.20	0.22	0.02	0.06	0.08	—	3,254	3,254	0.13	0.12	4.97	3,297

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	6,082	6,082	0.98	0.12	—	6,142
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	38.4	38.4	0.01	< 0.005	—	38.8
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	0.10	0.10	< 0.005	< 0.005	—	0.10
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	6,120	6,120	0.99	0.12	—	6,181

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	6,082	6,082	0.98	0.12	—	6,142
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	38.4	38.4	0.01	< 0.005	—	38.8
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	0.10	0.10	< 0.005	< 0.005	—	0.10
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	6,120	6,120	0.99	0.12	—	6,181
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	1,007	1,007	0.16	0.02	—	1,017
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	6.36	6.36	< 0.005	< 0.005	—	6.42
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02	< 0.005	< 0.005	—	0.02
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,013	1,013	0.16	0.02	—	1,023

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.06	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	654	654	0.06	< 0.005	—	656
Day-Care Center	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.50	0.50	< 0.005	< 0.005	—	0.50
Unenclosed Parking with Elevator	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
Other Non-Asphalt Surfaces	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
Total	0.06	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	654	654	0.06	< 0.005	—	656
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.06	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	654	654	0.06	< 0.005	—	656
Day-Care Center	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.50	0.50	< 0.005	< 0.005	—	0.50

Unenclosed Parking with Elevator	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
Other Non-Asphalt Surfaces	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
Total	0.06	0.03	0.55	0.46	< 0.005	0.04	—	0.04	0.04	—	0.04	—	654	654	0.06	< 0.005	—	656
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.01	0.01	0.10	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	108	108	0.01	< 0.005	—	109
Day-Care Center	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.08	0.08	< 0.005	< 0.005	—	0.08
Unenclosed Parking with Elevator	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
Other Non-Asphalt Surfaces	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
Total	0.01	0.01	0.10	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	108	108	0.01	< 0.005	—	109

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consum Products	—	8.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	6.06	5.59	0.29	34.1	< 0.005	0.05	—	0.05	0.06	—	0.06	—	140	140	0.01	< 0.005	—	141
Total	6.06	16.6	0.29	34.1	< 0.005	0.05	—	0.05	0.06	—	0.06	—	140	140	0.01	< 0.005	—	141
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	8.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	11.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.55	0.50	0.03	3.07	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	—	11.4	11.4	< 0.005	< 0.005	—	11.5
Total	0.55	2.52	0.03	3.07	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	—	11.4	11.4	< 0.005	< 0.005	—	11.5

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	386	730	1,117	39.7	0.96	—	2,395
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	0.33	0.62	0.95	0.03	< 0.005	—	2.04
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	387	731	1,118	39.8	0.96	—	2,397
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	386	730	1,117	39.7	0.96	—	2,395
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	0.33	0.62	0.95	0.03	< 0.005	—	2.04

Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	387	731	1,118	39.8	0.96	—	2,397
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	64.0	121	185	6.58	0.16	—	396
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	0.05	0.10	0.16	0.01	< 0.005	—	0.34
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	64.0	121	185	6.58	0.16	—	397

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	16.8	0.00	16.8	1.68	0.00	—	58.7
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	2.80	0.00	2.80	0.28	0.00	—	9.80
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	19.6	0.00	19.6	1.96	0.00	—	68.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	16.8	0.00	16.8	1.68	0.00	—	58.7
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	2.80	0.00	2.80	0.28	0.00	—	9.80
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	19.6	0.00	19.6	1.96	0.00	—	68.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	2.78	0.00	2.78	0.28	0.00	—	9.73
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	0.46	0.00	0.46	0.05	0.00	—	1.62
Unenclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.24	0.00	3.24	0.32	0.00	—	11.3

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.5	10.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.73	1.73
Day-Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.73	1.73

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	4.54	0.20	1.05	10.5	0.02	0.04	—	0.04	0.04	—	0.04	—	2,116	2,116	0.08	0.02	—	2,123
Total	4.54	0.20	1.05	10.5	0.02	0.04	—	0.04	0.04	—	0.04	—	2,116	2,116	0.08	0.02	—	2,123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	4.54	0.20	1.05	10.5	0.02	0.04	—	0.04	0.04	—	0.04	—	2,116	2,116	0.08	0.02	—	2,123
Total	4.54	0.20	1.05	10.5	0.02	0.04	—	0.04	0.04	—	0.04	—	2,116	2,116	0.08	0.02	—	2,123
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Emergency Generato	0.23	0.01	0.05	0.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	96.0	96.0	< 0.005	< 0.005	—	96.3
Total	0.23	0.01	0.05	0.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	96.0	96.0	< 0.005	< 0.005	—	96.3

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2023	1/29/2023	5.00	20.0	—
Site Preparation	Site Preparation	1/30/2023	2/6/2023	5.00	5.00	—
Grading	Grading	2/7/2023	2/18/2023	5.00	8.00	—
Building Construction	Building Construction	2/19/2023	1/7/2024	5.00	230	—
Paving	Paving	1/8/2024	2/2/2024	5.00	18.0	—
Architectural Coating	Architectural Coating	2/3/2024	2/28/2024	5.00	18.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29

Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	23.0	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT

Grading	—	—	—	—
Grading	Worker	15.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	664	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	288	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	128	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	57.6	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	1,179,260	393,087	5,802

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	40,000	—
Site Preparation	—	—	7.50	0.00	—
Grading	7,500	35,000	8.00	0.00	—
Paving	0.00	0.00	0.00	0.00	2.22

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Research & Development	0.00	0%
Day-Care Center	0.00	0%
Unenclosed Parking with Elevator	0.78	100%
Other Non-Asphalt Surfaces	1.44	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	204	0.03	< 0.005

2024	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Research & Development	3,711	627	365	1,019,117	35,747	6,043	3,515	9,818,168
Day-Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unenclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	1,179,260	393,087	5,802

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO_2 and CH_4 and N_2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Research & Development	10,882,319	204	0.0330	0.0040	2,040,566
Day-Care Center	68,751	204	0.0330	0.0040	1,545
Unenclosed Parking with Elevator	177	204	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Research & Development	201,594,518	327,893
Day-Care Center	171,558	0.00
Unenclosed Parking with Elevator	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Research & Development	31.2	0.00
Day-Care Center	5.20	0.00
Unenclosed Parking with Elevator	0.00	0.00

Other Non-Asphalt Surfaces	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Day-Care Center	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Day-Care Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Day-Care Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Day-Care Center	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	3.00	0.50	50.0	1,680	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.23	annual days of extreme heat
Extreme Precipitation	4.65	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	13.4	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	1	1	2
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	6.38

AQ-PM	20.0
AQ-DPM	91.1
Drinking Water	12.7
Lead Risk Housing	80.0
Pesticides	0.00
Toxic Releases	27.3
Traffic	90.2
Effect Indicators	—
CleanUp Sites	98.8
Groundwater	99.3
Haz Waste Facilities/Generators	97.4
Impaired Water Bodies	0.00
Solid Waste	76.4
Sensitive Population	—
Asthma	10.7
Cardio-vascular	10.9
Low Birth Weights	63.0
Socioeconomic Factor Indicators	—
Education	20.9
Housing	22.7
Linguistic	30.0
Poverty	14.5
Unemployment	29.4

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract

Economic	—
Above Poverty	61.34992942
Employed	98.22918003
Median HI	—
Education	—
Bachelor's or higher	77.58244578
High school enrollment	1.360195047
Preschool enrollment	29.03888105
Transportation	—
Auto Access	92.6344155
Active commuting	61.09328885
Social	—
2-parent households	85.65379186
Voting	83.98562813
Neighborhood	—
Alcohol availability	20.60823816
Park access	61.24727319
Retail density	91.6078532
Supermarket access	51.81573207
Tree canopy	76.15809059
Housing	—
Homeownership	72.09033748
Housing habitability	74.06646991
Low-inc homeowner severe housing cost burden	63.06942128
Low-inc renter severe housing cost burden	73.97664571
Uncrowded housing	43.11561658
Health Outcomes	—

Insured adults	39.07352752
Arthritis	0.0
Asthma ER Admissions	78.6
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	90.3
Cognitively Disabled	84.2
Physically Disabled	83.0
Heart Attack ER Admissions	84.7
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	13.2
Children	35.2

Elderly	84.2
English Speaking	56.5
Foreign-born	55.3
Outdoor Workers	36.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	28.2
Traffic Density	86.3
Traffic Access	87.4
Other Indices	—
Hardship	26.3
Other Decision Support	—
2016 Voting	78.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	31.0
Healthy Places Index Score for Project Location (b)	70.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Operations: Generators + Pumps EF	ROG, NOx, and PM10/PM2.5 updated to Tier 4 Final emissions standards, as provided in Table D-9 of the CARB Carl Moyer Guidelines 2017. Per BAAQMD Regulation 2, Rule 2, Section 301, diesel backup generates that are greater than or equal to 1,000 bhp are required to meet US EPA Tier 4 Final emissions standards.
Operations: Vehicle Data	Trip Gen updated based on Hexagon Trip Generation (including day-care center) for project trips occurring after accounting for the City's TDM Ordinance; reductions from existing land uses not included.
Operations: Energy Use	Project applicant has committed to all electric buildings; natural gas (kBTU) converted to electricity (kW-hr) by dividing kBTU by a factor of 3.412.

642 Quarry Road Project IS/MND

Appendix D.3: Health Risk Assessment Methodology

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Memo

To: Shannon Allen, City of San Carlos

CC: Kate Werner, MIG

From: Phil Gleason

Date: June 28, 2022

SUBJECT: 642 Quarry Road Construction and Operational Health Risk Assessment

This memorandum describes the methodology and results of the health risk assessment for the proposed research and development project at 642 Quarry Road in San Carlos. As explained in this memorandum, neither the construction nor operational emissions associated with the proposed project would exceed the BAAQMD-recommended significance threshold of 10 excess cancers per million population.

Construction Exhaust $PM_{2.5}$ Modeling Methodology

Construction activities associated with the proposed project would generate on- and off-site exhaust emissions, including diesel particulate matter (DPM), in the form of $PM_{2.5}$. The specific quantity of emissions emitted at any given time would be dependent on the type and number of pieces of equipment operating, the equipment's engine classification, the equipment's horsepower, and the load the engine is under. Off-site emissions would be generated from haul trucks used to export waste and soil to and from the site.

The U.S. EPA's AERMOD dispersion model (version 21112) was used to predict pollutant concentrations at existing sensitive receptors near the project site for both scenarios. The AERMOD dispersion model is an EPA-approved and BAAQMD-recommended model for simulating the dispersion of pollutant emissions and estimating ground level concentrations of pollutants at specified receptor locations. AERMOD requires the user to input information on the source(s) of pollutants being modeled, the receptors where pollutant concentrations are modeled, and the meteorology, terrain, and other factors that affect the potential dispersion of pollutants. These variables are described below.

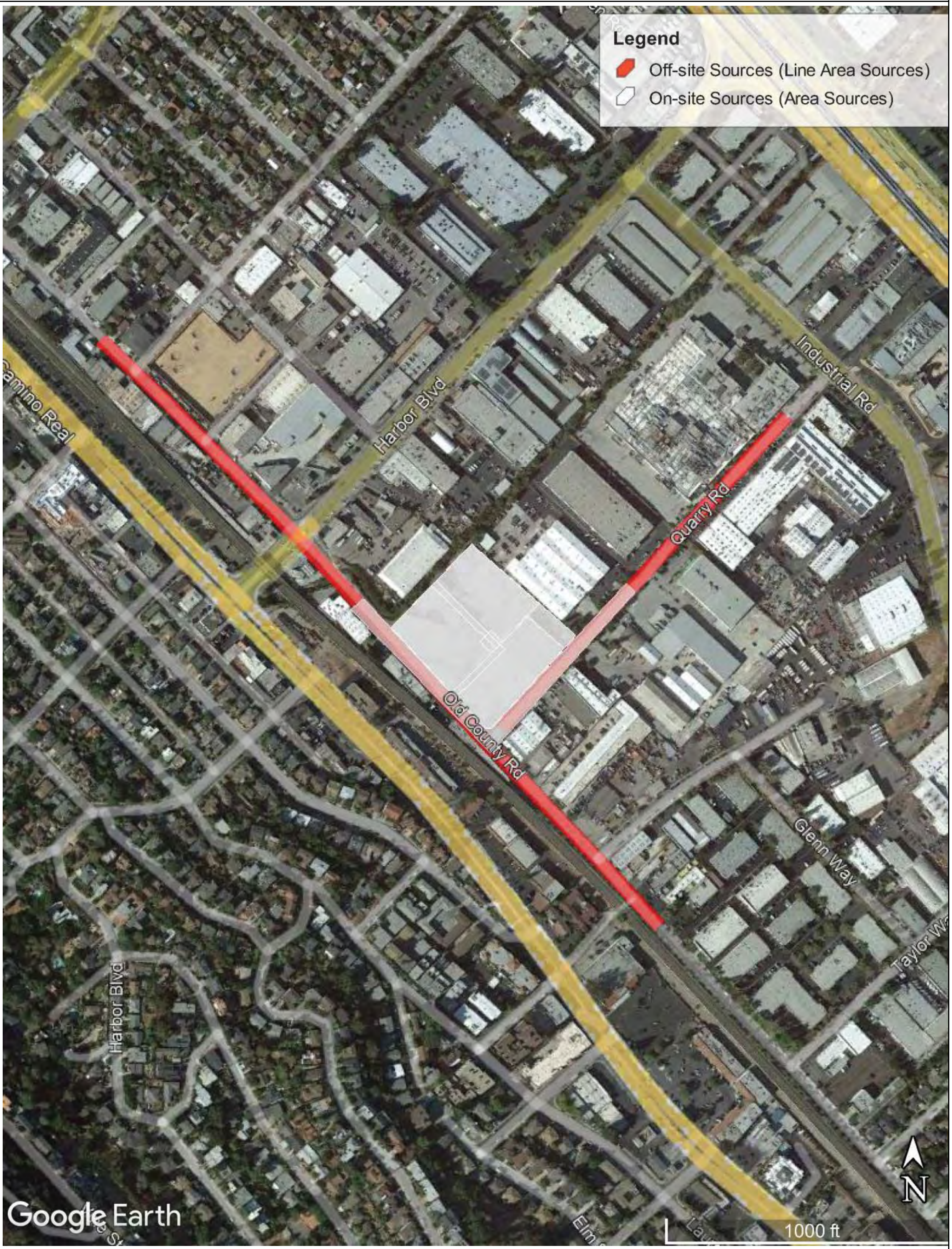
Modeled Construction Sources / Emission Rates

On- and off-site construction emissions were modeled as a series of area and line area sources, as shown in Table 3-1 and Figure 3-1.

Table 3-1: Construction AERMOD Source Parameters				
Source ID	Source Description	UTM Coordinates(A)		Size (m^2)
		X	Y	
PAREA01	Year 1: Demo / Grading	564500.95	4152462.83	18,806.6
PAREA02	Year 1: North Building	564500.95	4152462.83	6,999.4
PAREA03	Year 1: South Building	564681.73	4152442.79	6,106.1
PAREA04	Year 1: Parking Garage	564584.32	4152550.17	5,846.1
PAREA05	Year 1: Tower Crane	564605.09	4152460.74	270.4
PAREA06	Year 2: Common Area Improvements	564500.95	4152462.83	18,806.6
PAREA07	Year 2: North Building	564500.95	4152462.83	6,999.7
PAREA08	Year 2: South Building	564681.73	4152442.79	6,106.7
PAREA09	Year 2: Parking Garage	564584.32	4152550.17	5,846.2
PAREA10	Year 2: Tower Crane	564605.09	4152460.74	270.5
PAREA11	Year 2: Off-site Construction Work	564471.98	4152492.58	6,186.5
ARLN1	Year 1: Off-site Vehicles (Quarry E)	564613.69	4152369.56	443.2(B)
ARLN2	Year 1: Off-site Vehicles (Old County N)	564590.37	4152367.79	563.1(B)
ARLN3	Year 1: Off-site Vehicles (Old County S)	564589.44	4152368.39	293.1(B)
ARLN4	Year 2: Off-site Vehicles (Quarry E)	564613.69	4152369.56	443.2(B)
ARLN5	Year 2: Off-site Vehicles (Old County N)	564590.37	4152367.79	563.1(B)
ARLN6	Year 2: Off-site Vehicles (Old County S)	564589.44	4152368.39	293.1(B)

(A) UTM coordinates represent the southwest corner of the source.
(B) Reflects length of line area source in meters.

Figure 3-1: Modeled Construction Emissions Sources



Consistent with BAAQMD-recommendations, $PM_{2.5}$ construction exhaust emissions were presumed to be 100 percent DPM; $PM_{2.5}$ fugitive dust emissions were not modeled to determine total combined $PM_{2.5}$ exposure pursuant to BAAQMD CEQA Guidelines and guidance provided by staff of the BAAQMD's Planning and Climate Protection Division (BAAQMD 2017 and 2018). An emissions rate for each source listed in Table 1 was derived from the CalEEMod emissions estimates shown in Appendix B.1. The annual emissions generated during construction of the proposed research and development building were converted to an average emission rate in terms of grams / second per hour per hour of construction activity.[1]

This project applicant has indicated that, as a project design feature, all heavy-duty off-road construction equipment with a horsepower rating of 50 brake-horsepower or more would meet U.S. EPA Tier IV emissions standards. As a conservative practice, off-road construction emissions were analyzed for two scenarios, as defined below.

- Scenario 1 (OFFROAD2021 Average County-wide Fleet Emissions)
- Scenario 2 (Tier IV Equipment)

On-site DPM emissions were modeled as several area sources for each year of construction, with emissions assigned to the various area sources depending on the areas that specific activities would be occurring. For example, emissions were broken down by construction activities related to the North Building, South Building, and Parking Garage, and the area sources modeled reflect the areas in which those emissions would generally be generated. On-site DPM exhaust emissions were assigned a release height of five (5) meters (m); this elevated source height reflects the height of the equipment exhaust pipes, plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for the plume rise of the exhaust gases. The Sacramento Metropolitan Air Quality Management District (SMAQMD) recommends a release height of 5 meters. Since the BAAQMD does not have a recommended release height for PM_{10} exhaust emissions generated by construction equipment, the SMAQMD's release heights have been used instead (SMAQMD 2013).

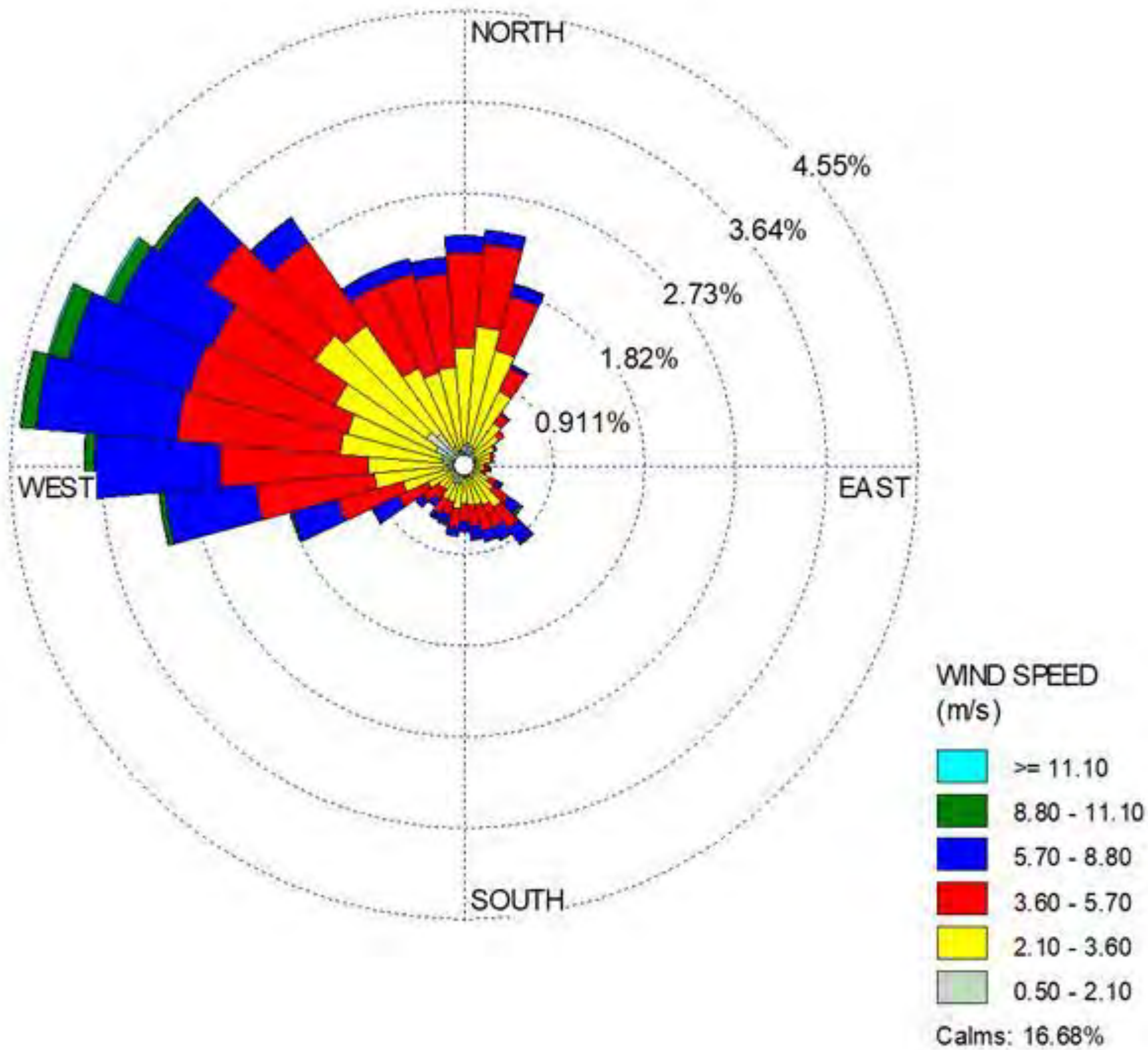
Off-site DPM emissions from vehicles were modeled as line area sources. Based on information contained in "Exhibit N 642 Quarry Road Dirt Haul Route" is was assumed that 1/2 of vehicle traffic would occur on Quarry Road east of the site, 1/3 of it would occur on Old County Road north of the site, and the remaining 1/6 would occur on Old County Road south of the site. Emissions from haul, vendor, and worker trips were modeled as area line sources, with a release height of 4.12 meters, the approximate height of a truck exhaust.

Meteorological Data Inputs

AERMOD requires meteorological data as an input into the model. The meteorological data is processed using AERMET, a pre-processor to AERMOD. AERMET requires surface meteorological data, upper air meteorological data, and surface parameter data such as albedo (reflectivity) and surface roughness. For the proposed project, pre-processed surface data was obtained from CARB for San Carlos Airport, the closest meteorological station to the project site (see Figure3-2). Five complete years of meteorological data from January 2009 to February 2014 were utilized. The meteorological data was processed using AERMET version 14134 with the adjusted U*. Emissions were modeled to be generated during potential construction hours only.

[1]The average emissions rate is based on 3,016 active construction hours for Years 1 and 2.

Figure 3-2: Wind Rose for San Carlos Airport



Source: CARB 2022

Terrain Inputs

Terrain was incorporated by using AERMAP (an AERMOD pre-processor) to import the elevation of the project site using data from the National Elevation Dataset (NED) with a resolution of 1/3 arcsecond.

Modeled Receptors

A receptor grid, with a grid spacing of 25 meters by 25 meters out to 650 meters, was centered on 564599.00 m E and 4152457.00 m N. The grid was converted to 729 discrete Cartesian receptors, 30 of which were removed because they were located within the plant boundary, yielding a total of 699 discrete modeled receptors. All modeled receptors were assigned a flagpole breathing height of 1.5 meters above ground surface, consistent with BAAQMD guidance.

Health Risk Analysis Methodology

Cancer risk and non-cancer health risks to sensitive receptors within the modeled receptor were estimated using the U.S. EPA's AERMOD dispersion model and recommendations contained in the BAAQMD's *Health Risks Assessment Modeling Protocol,* as well as the OEHHA *Air Toxics Hot Spots Program Guidance Manual*.

Cancer Risk

Cancer risk is the calculated, pollutant-specific estimated probability of developing cancer based upon the dose and exposure to the toxic air contaminants (TAC). Cancer risk is determined by calculating the combinatory effects of the cancer potency factor (CPF) when inhaling the toxic, the daily inhalation dose, the age group the receptor is cohort to, the duration of exposure over a lifetime (70 years), and other factors such as age sensitivity and the amount of time spent at the location of exposure. Risks were assessed for the inhalation pathway (i.e., breathing) for residential receptor. Additionally, residential receptors were assessed under a 70-year exposure duration to further detail potential risk to those under lifetime exposure. Cancer risk equations for residential are summarized in Table 3-2 and Table 3-3.

Table 3-2: Cancer Risk Equations for Construction

Equation 1 – Residential:	$RISK_{INH.RES} = DOSE_{AIR.RES} \times CPF \times ASF \times \frac{ED}{AT} \times FAH$
Where:	
$DOSE_{AIR}$ =	Daily Inhalation Dose (mg/kg-day). See Table 3-3.
CPF =	Cancer Potency Factor for Inhalants (mg/kg-day). CPF is expressed as the 95th percent upper confidence limit of the slope of the dose response curve under continuous lifetime exposure conditions. The CPF for diesel exhaust is 1.1 mg/kg-day.
ASF =	Age Sensitivity Factor. ASF is a protective coefficient intended to take into account increased susceptibility to long-term health effects from early-life exposure to TACs. The recommended ASFs are 10 for the third-trimester to birth and two-year age bins, three for the two-year to nine-year and 16-year age bins, and one for receptors over 16 years of age.
ED =	Exposure Duration (years). Exposure duration characterizes the length of residency (30 Years) or employment (25 Years) of the receptor.
AT =	Averaging Time (years). A 70-year (lifetime) averaging time is used to characterize to total risk as a factor of average risk over a typical lifespan.
FAH =	Fraction at Home. FAH is the percentage of time the receptor is physically at the receptor location. The recommended percentages are 85 percent for the third-trimester to birth and two-year age bins, 72 percent for the two-year to nine-year and 16-year age bins, and 73 for receptors over 16 years of age.

Exposure to receptors was assessed for the two years in which construction activities would take place and the receptors would be exposed to construction $PM_{2.5}$ emissions. The exposure time is consistent with the construction schedule described in the Initial Study prepared for the project.

Table 3-3: Inhalation Dose Equations for Construction	
Residential Dose	$DOSE_{AIR.RES} = C_{AIr} \times \frac{BR}{BW} \times A \times EF \times 10^{-6}$
Where:	
C_{AIR} =	Concentration of TAC in air (μg/m³). Concentration of toxic in micrograms per one cubic meter of air. The AERMOD program is used in the study to determine concentrations of diesel particulate matter at surrounding discrete and grid receptor points.
BR/BW =	Breathing Rate ÷ Body Weight (L/kg/day). Daily breathing rate normalized to body weight. The 95th percentile breathing rate to body weight ratios are used in this study with a recommended 361 L/kg/day for the third-trimester to birth age bin and 1,090 L/kg/day for the birth to two-years age bin. The 80th percentile breathing rate to body weight ratios are used in this study with a recommended 572 for the two-years to 16-years age bin, 261 L/kg/day for the 16-years to 30-years age bin, and 233 L/kg/day for the 16-years to 70-years age bin.
A =	Inhalation Absorption Factor. Is a coefficient that reflects the fraction of chemical absorbed in studies used in the development of CPF and Reference Exposure Levels (RELs). An absorption factor of one is recommended for all chemicals.
EF =	Exposure Frequency. EF is the ratio of days in a year that a receptor is receiving the dose. The recommended EF is 0.96 characterizing an assumed 350 days a year that a residential receptor is home for some portion of the day.

Non-Cancer Risk

The chronic non-cancer hazard quotient is the calculated pollutant-specific indicator for risk of developing an adverse health effect on specific organ system(s) targeted by the identified TAC, in this DPM. The potential for exposure to result in chronic non-cancer effects is evaluated by comparing the estimated annual average air concentration to the chemical-specific, non-cancer chronic reference exposure levels (RELs). The REL is a concentration below which there is assumed to be no observable adverse health impact to a target organ system. When calculated for a single chemical, the comparison yields a ratio termed a hazard quotient. To evaluate the potential for adverse chronic non-cancer health effects from simultaneous exposure to multiple chemicals, the hazard quotients for all chemicals are summed, yielding a hazard index. The chronic REL for DPM was established by OEHHA as 5 μg/m³. For an acute hazard quotient, the one-hour maximum concentration is divided by the acute REL for the substance; however, there is no acute REL for DPM.

Chronic non-cancer risks are considered significant if a project's TAC emissions result in a hazard index greater than or equal to one. Non-cancer risk equations are summarized in Table 3-4.

Table 3-4: Non-Cancer Risk Equation	
Chronic Hazard Quotient:	$HI_{DPM} = \frac{C_{DPM}}{REL_{AAC}}$
Where:	
HI_{DPM} =	Hazard Index; an expression of the potential for non-cancer health effects.
C_{DPM} =	Annual average DPM concentration (μg/m³).
REL_{DPM} =	Reference exposure level (REL) for DPM; the DPM concentration at which no adverse health effects are anticipated.

Discussion of Scaling Health Risk Values

The AERMOD model was run once utilizing the emissions rates calculated for Scenario 1 (OFFROAD 2021). Thus, the health risk values presented for Scenario 2 (Tier IV) in the following section, "Health Risk Assessment Results", are based on the difference (ratio-wise) between mass emissions of $PM_{2.5}$ for off-road sources in Scenario 1 and Scenario 2.[2] Table 5 below shows the estimated mass emissions of $PM_{2.5}$ by linear construction year for Scenarios 1 and 2 and presents the ratios of these differences.

Table 3-5: Off-road Project Construction DPM Emissions for Scenarios 1 and 2, and Scaling Values

Linear Year of Construction	Off-road Equipment DPM Exhaust Emissions ($PM_{2.5}$ Tons per Year)		Scaling Factor (Ratio of Scenario 2 to 1)
	Scenario 1 (OFFROAD2021)	Scenario 2 (U.S. EPA Tier IV)	
Year 1	0.31	0.17	0.54
Year 2	0.45	0.29	0.63

As shown in Table 5, Scenario 2 emissions are slightly more than half of Scenario 1 emissions for Year 1. Therefore, health risks calculated for Scenario 2 would be scaled down by approximately 54 percent for Year 1. Similarly, Scenario 1 risks would be scaled by approximately 0.63 in Year 2. This indicates that Tier IV equipment is still cleaner than average county-wide fleet characteristics, as accounted for in OFFROAD2021.

Construction Health Risk Assessment Results

The results of the construction HRA are presented below.

Individual Cancer Risk from Exposure to DPM

The predicted locations of the annual, unmitigated point of maximum impact (PMI) and the maximally exposed individual resident (MEIR) for DPM exposure during construction along with contours of pollutant concentrations in proximity of the project site are shown at the end of the document in Figures B3-3 and B3-4 for Year 1 and Year 2, respectively. See Appendix B.4 for the HRA output. The predicted PMI is located south of the project site, on the southern side of Quarry Road. Since the PMI for DPM exposure is located on land that is not occupied by a receptor on a permanent basis, lifetime excess cancer risks and chronic non-cancer health hazards, which are based on exposure to annual average pollutant concentrations, were not estimated for the modeled PMI location.

Accordingly, health risks were assessed at the modeled residential MEIR location. For both years, the MEIR for DPM exposure is located at a single-family residential building at 1595 5th Ave in the City of Belmont (564549.00 m E, 4152232.00 m N). The construction HRA for residential receptors evaluated worst-case carcinogenic and non-carcinogenic risks to child (3rd trimester, 0-2 years, and 2-16 years) and adult (16-30 years and 30-70 years) receptors.

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[2] This approach to scaling is slightly conservative, as it also increases risks associated with receptor exposure to DPM from on-road vehicles (hauling, vendor, and worker trips). In actuality, there would be no difference in risks between the two scenarios associated with DPM emissions (and corresponding concentrations) from on-road vehicles. Thus, including those concentrations (and risk contributions from those concentrations) in the parameter being scaled would result in a slightly higher outcome than if only the off-road emissions were being scaled.

As shown in Table 3-5, construction exhaust emissions under Scenario 1 would not have the potential to result in incremental cancerogenic health risk increases that are in excess of the BAAQMD's threshold of 10 excess cancers in a million. The project applicant has indicated that construction activities associated with the proposed project would utilize off-road equipment meeting U.S. EPA Tier IV emissions standards; the risks associated with the use of Tier IV equipment are shown under Scenario 2. Use of Tier IV equipment would further reduce the magnitude of an already less-than-significant impact.

Table 3-5: Maximum Increased Cancer Risk from Project Construction DPM Emissions

Receptor Age Range	Health Risk Increase at MEIR[(A)] (Excess Cancer Risk per Million Population)	
	Scenario 1 (OFFROAD2021)	Scenario 2 (U.S. EPA Tier IV)
Residential Child Receptor (0-2 Years of Age)	6.0	3.6
Residential Child Receptor (2 -16 Years of Age)	2.9	0.5
Residential Adult Receptor (16 to 30 Years of Age)	0.9	0.1
Residential Adult Receptor (30 to 70 Years of Age)	0.1	0.1
BAAQMD Significance Threshold	10	10
Threshold Exceeded?	**No**	**No**

Source: MIG, 2022 (see Appendix B.4)
(A) MEIR is located at 564549.00 m E and 4152232.00 m N

Non-Cancer Risk

The maximum annual average DPM concentration at any long-term receptor location during construction would be approximately 0.0212 μg/m^3, which would occur at the MEIR location during Year 1 of construction, under Scenario 1. Based on the chronic inhalation REL for DPM (5 μg/m^3), the calculated chronic hazard quotient during the maximum exposure to DPM concentration would be 0.00424, which is below the BAAQMD's non-cancer hazard index threshold value of 1.0. The annual average DPM concentration at the MEIR location in Year 1 of construction would be less than Year 2 and, therefore, would also be below the BAAQMD's non-cancer hazard index.

Operational Exhaust $PM_{2.5}$ Modeling Methodology

Operation of the proposed project would generate TAC emissions from operation of the emergency back-up diesel generators (DPM emissions) and possibly from research and development activities undertaken by future tenants of the site (various TAC emissions from exhaust fans). CEQA Guidelines Section 15145 sets forth that, "if, after a thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact." Trying to estimate specific health risk estimates for a project, such as the one being proposed, that does not have a known tenant / proposed activity is not appropriate nor possible because of the varying types and quantities of TAC emissions that could be emitted by the different tenants and the specific manner that those TACs could affect receptors. Thus, the TAC emissions associated with future operation that are not known at this time were not evaluated.

Future tenants would be required to comply with all applicable BAAQMD rules and regulations, including Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants, which pertains to new and modified sources of air pollution (e.g., vents on top of the rooves of the proposed buildings that lead from fume hoods). These rules require stationary source operators to apply for and demonstrate compliance with various emissions and exposure requirements, including the requirements that TAC emissions associated with a project not exceed a cancer risk greater than 10.0 in a million, a chronic hazard index of 1.0, or an acute hazard index of 1.0 (BAAQMD Regulation 2, Rule 5, Section 302.1). These standards, as well as any throughput limits and/or operation of emission control devices, would be enforceable conditions of any BAAQMD permit issued for future tenants at the site and, therefore, are not included as mitigation measures. The BAAQMD's review and issuance of a permit to operate for future tenants at the project site would, if such a permit is necessary for future tenants, also ensure the project does not cause or contribute to any existing or project air quality violation, or result in TAC emissions from the batching process that could pose a risk to human health. This analysis, therefore, focuses on the TAC emissions estimates associated with the project that are known at this time (i.e., those from emergency back-up generator operation).

Modeled Construction Sources / Emission Rates

The applicant has indicated that three (3) Kohler KD-1,250 model generators would be installed on the eastern side of the South Building. These generators were modeled as meeting U.S. EPA Tier IV emissions standards with an annual runtime of 50 hours.[3]

In general, the operational HRA for DPM emissions utilized the same parameters as the construction HRA. The modeling utilized AERMOD and relied on the same meteorological and terrain data. The following summarizes the portions of the operational HRA methodology that differ from the construction HRA methodology.

The technical data for the Kohler KD-1,250 model generators were obtained from manufacturer spec sheets. The two exhaust ports off each generator would be 11.75 feet above the ground, and each exhaust port would be approximately 1.1 feet in diameter. Each exhaust port was modeled as a point source in AERMOD. The exit velocity of the exhaust would be approximately 8,511 cubic feet per minute and the exhaust would be approximately 925 degrees Fahrenheit. The three project buildings were incorporated into the model,[4] and the Building Profile Input Program (BPIP) was run to account for building downwash. Table 3-6 summarizes the parameters of the modeled point sources. Figure3-5 depicts the modeled sources and buildings.

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[3] The project applicant provided information on the type of proposed generators – three (3) Kohler KD-1,250 model generators. The cut sheet for the Kohler KD-1,250 generator indicates it is Tier II EPA-Certified; however, pursuant to BAAQMD Regulation 2, Rule 2, Section 301, the BAAQMD's "Best Available Control Technology" regulation, diesel backup generators with a brake horsepower rating of 1,000 or more are required to use engines that meet the EPA Tier 4 emissions standards. Alternatively, older engines (e.g., Tier 2) can be retrofitted with a diesel particulate filter to meet the particulate matter emissions limits, a selective catalytic reduction system to meet the NOx emission limits, and/or an oxidation catalyst or catalyzed diesel particulate filter to meet the non-methane hydrocarbon and particulate matter emission limits (BAAQMD 2021). Therefore, although the applicant has indicated Tier II engines are proposed, Tier IV engines have been modeled to reflect compliance with BAAQMD rules and regulations.

[4] The North and South Building would each be approximately 100 feet tall, while the parking garage would be approximately 85 feet tall.

Figure 3-5: Modeled Operational Emissions Sources

Modeled Receptors

In general, the operational HRA utilized the same receptors as the construction HRA; however, an additional 75 receptors were placed in the childcare's outdoor play area adjacent to the proposed generators. The grid spacing for this area was 2 meters by 2 meters.

Table 3-6: Operational AERMOD Source Parameters			
Source ID	Source Description	UTM Coordinates[(A)]	
		X	Y
STCK1	Generator 1 North Exhaust	564657.27	4152458.72
STCK2	Generator 1 South Exhaust	564658.20	4152457.98
STCK3	Generator 2 North Exhaust	564660.69	4152455.94
STCK4	Generator 2 South Exhaust	564661.62	4152455.20
STCK5	Generator 2 North Exhaust	564663.86	4152452.62
STCK6	Generator 2 South Exhaust	564664.80	4152451.88
(A) UTM coordinates represent the center of the source. (B) Reflects length of line area source in meters.			

Health Risk Analysis Methodology

Residential receptor health risks were estimated using the same methodology as that used for the construction HRA. The following describes the parameters used to estimate potential health risks for childcare receptors.

Cancer Risk

Risks were assessed for the inhalation pathway (i.e., breathing) for childcare receptors under a 70-year exposure duration. Cancer risk equations for childcare receptors are summarized in Table 3-7 and Table 3-8.

Table 3-7: Cancer Risk Equations for Operational Childcare Receptors	
Equation 1 – Childcare Risk:	$RISK_{INH} = DOSE_{AIR} \times CPF \times ASF \times \frac{ED}{AT} \times FAH$
Where:	
$DOSE_{AIR}$ =	Daily Inhalation Dose (mg/kg-day). See Table 3-8.
CPF =	Cancer Potency Factor for Inhalants (mg/kg-day). CPF is expressed as the 95th percent upper confidence limit of the slope of the dose response curve under continuous lifetime exposure conditions. The CPF for diesel exhaust is 1.1 mg/kg-day.
ASF =	Age Sensitivity Factor. ASF is a protective coefficient intended to take into account increased susceptibility to long-term health effects from early-life exposure to TACs. The recommended ASFs are 10 for the birth to two-year age bins, three for the two-year to nine-year and 16-year age bins, and one for receptors over 16 years of age.
ED =	Exposure Duration (years). Childcare receptors were assumed to be at the site for up to 14 years.
AT =	Averaging Time (years). A 70-year (lifetime) averaging time is used to characterize to total risk as a factor of average risk over a typical lifespan.
FAH =	Fraction at Home. FAH is the percentage of time the receptor is physically at the receptor location. Childcare receptors were assumed to be on site for up to 11 hours per day.

Table 3-8: Inhalation Dose Equations for Operational Childcare Receptors	
Residential Dose	$DOSE_{AIR.RES} = C_{AIr} \times \frac{BR}{BW} \times A \times EF \times 10^{-6}$
Where:	
C_{AIR} =	Concentration of TAC in air (μg/m³). Concentration of toxic in micrograms per one cubic meter of air. The AERMOD program is used in the study to determine concentrations of diesel particulate matter at surrounding discrete and grid receptor points.
BR/BW =	Breathing Rate ÷ Body Weight (L/kg/day). Daily breathing rate normalized to body weight. The 95th percentile breathing rate to body weight ratios for 8-hour breathing rates under moderate intensity activities are used in this study with a recommended 1,200 L/kg/day for the birth to two-years age bin. The 80th percentile breathing rate to body weight ratios are used in this study with a recommended 572 for the two-years to 16-years age bin, 261 L/kg/day for the 16-years to 30-years age bin, and 233 L/kg/day for the 16-years to 70-years age bin.
A =	Inhalation Absorption Factor. Is a coefficient that reflects the fraction of chemical absorbed in studies used in the development of CPF and Reference Exposure Levels (RELs). An absorption factor of one is recommended for all chemicals.
EF =	Exposure Frequency. EF is the ratio of days in a year that a receptor is receiving the dose. The EF used for the childcare receptor is 0.72, which reflects that the receptor would be at the site 5 days per week; 264 days out of the year.

Operational Health Risk Assessment Results

The results of the operational HRA are presented below.

Individual Cancer Risk from Exposure to DPM

The predicted locations of the annual, unmitigated point of maximum impact (PMI) and the maximally exposed individual residents (MEIRs) for DPM exposure during operation along with contours of pollutant concentrations in proximity of the project site are shown at the end of the document in Figure3-6. See Appendix B.4 for the HRA output. The predicted PMI is located south of the project site, at 595 Quarry Road. Since the PMI for DPM exposure is located on land that is not occupied by a receptor on a permanent basis, lifetime excess cancer risks and chronic non-cancer health hazards, which are based on exposure to annual average pollutant concentrations, were not estimated for the modeled PMI location.

Accordingly, health risks were assessed at the modeled residential MEIR locations. The first MEIR is located at the apartments at 1608 5th Ave in the City of Belmont (564574.00 m E, 4152182.00 m N) and the second MEIR is located at the residence at 1595 5th Ave in the City of Belmont (564549.00 m E, 4152232.00 m N). The maximally exposed childcare receptor would be located in the northwesternmost corner of the outdoor play area (564629.05 m E, 4152459.77 m N).

As shown in Table 3-9, operational exhaust emissions from the use of the diesel back-up generators would not have the potential to result in incremental cancerogenic health risk increases that are in excess of the BAAQMD's threshold of 10 excess cancers in a million.

Table 3-9: Maximum Increased Cancer Risk from Project Construction DPM Emissions		
Receptor Age Range	**Health Risk Increase at Receptor Location (Excess Cancer Risk per Million Population)**	
	MEIR	**Childcare Receptor**
Child Receptor (0-2 Years of Age)	0.1	<0.1
Child Receptor (2 -16 Years of Age)	0.1	<0.1
Adult Receptor (16 to 30 Years of Age)	<0.1	<0.1
Adult Receptor (30 to 70 Years of Age)	<0.1	<0.1
BAAQMD Significance Threshold	10	10
Threshold Exceeded?	**No**	**No**
Source: MIG, 2022 (see Appendix B.4)		

As shown in Table 3-9, operational emissions associated with emergency back-up generator operation would approximately one one-hundredth of the BAAQMD's cancer risk threshold of 10.0 excess cancers per million population.

Non-Cancer Risk

The maximum annual average DPM concentration at any long-term receptor location during operation would be approximately 0.0005 μg/m^3, which would occur at the MEIR location. Based on the chronic inhalation REL for DPM (5 μg/m^3), the calculated chronic hazard quotient during the maximum exposure to DPM concentration would be 0.00003, which is below the BAAQMD's non-cancer hazard index threshold value of 1.0.

Figure 3-3: Construction Health Risk Assessment - Year 1 Scenario 1

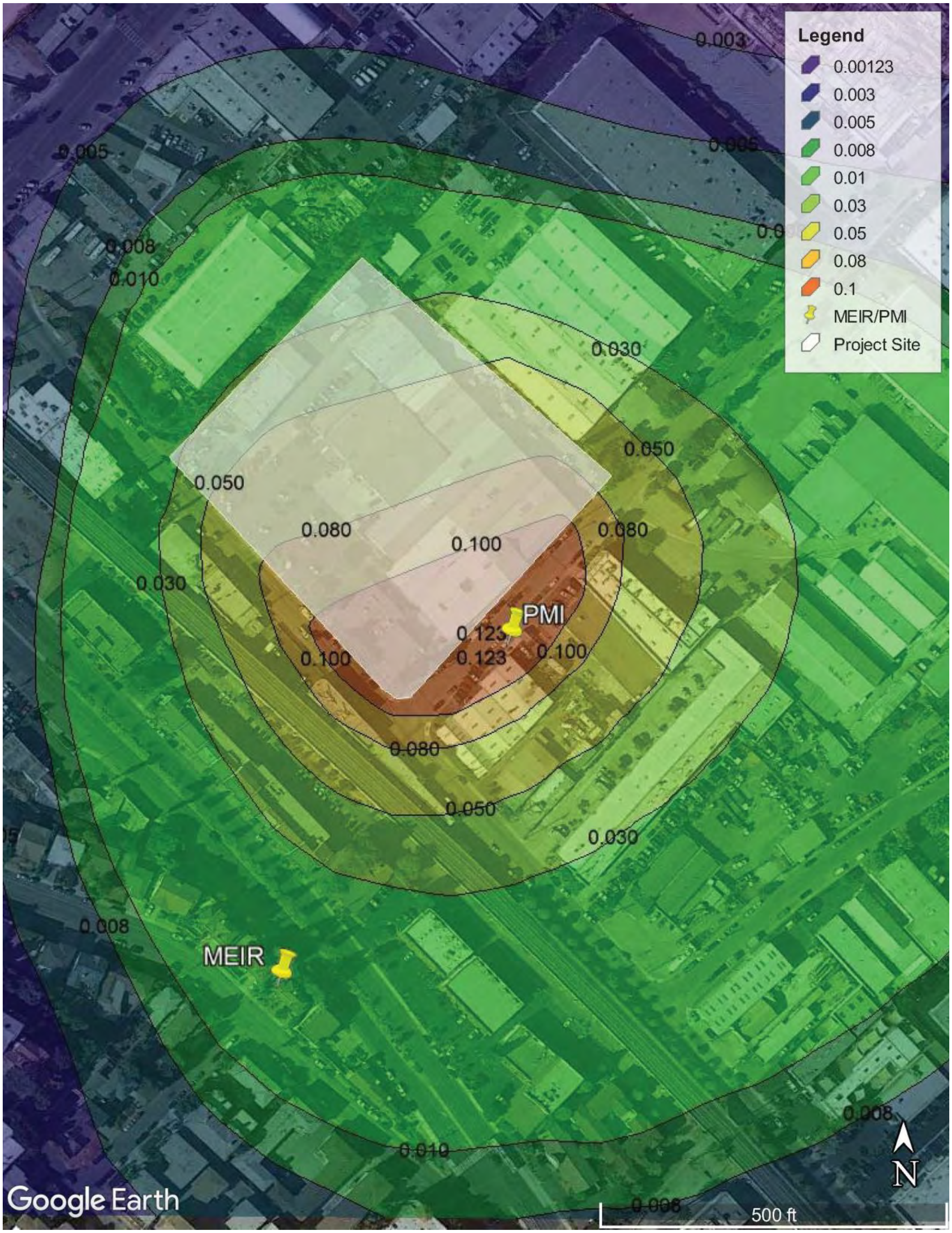


Figure 3-4: Construction Health Risk Assessment - Year 2 Scenario 1

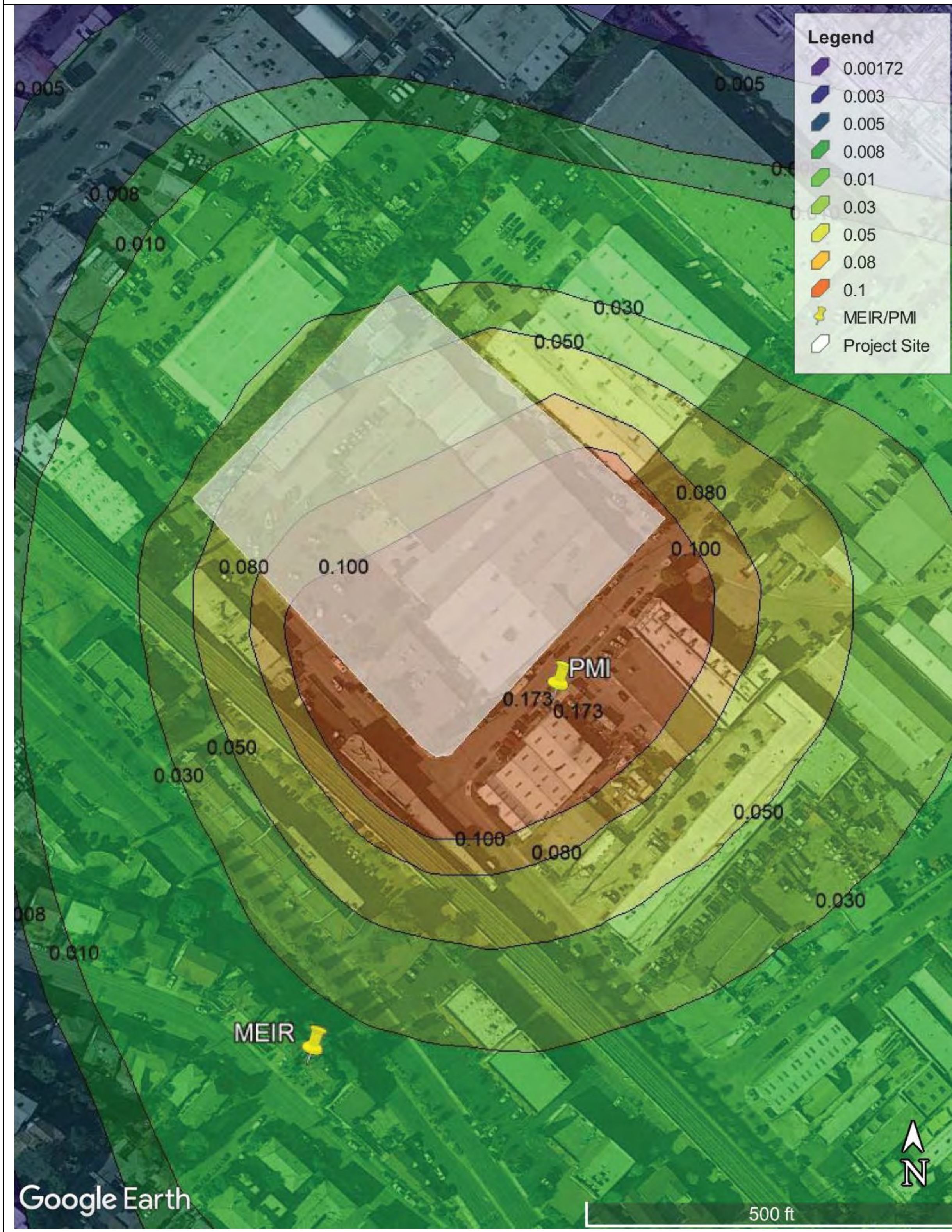
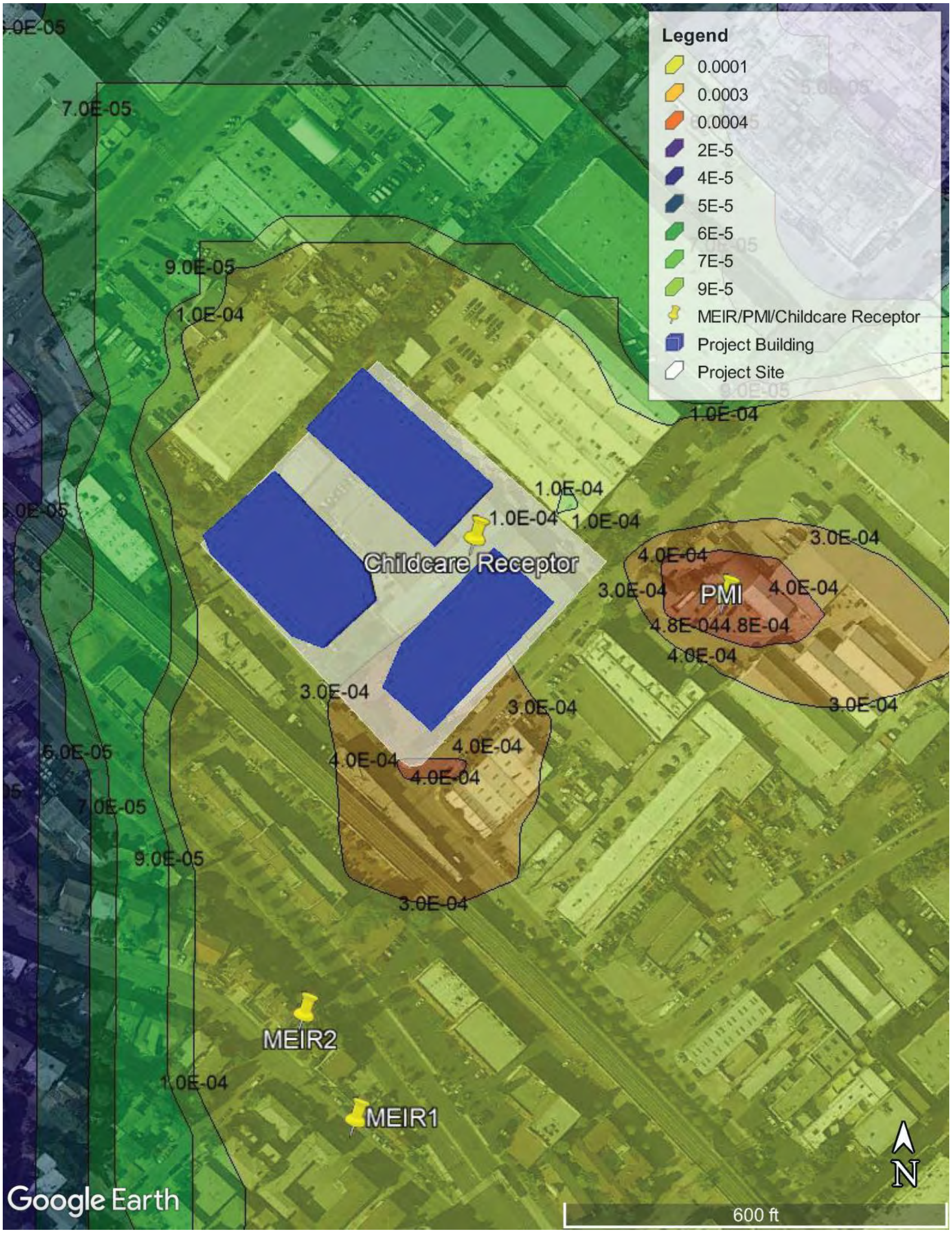


Figure 3-6: Operational Health Risk Assessment



Conclusion

As described in this memo, neither the construction nor operational emissions associated with the proposed project would exceed the applicable BAAQMD-recommended CEQA thresholds of significance for cancer risk or non-cancer risk.

References

The following references were used to prepare this memorandum:

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Office of Environmental Health Hazard Assessment (OEHHA) 2015. *Air Toxics Hot Spots Program Guidance Manual*. Sacramento, CA. February 2015.

Sacramento Metro Air Quality Management District (SMAQMD) 2013. "CEQA Guide". Chapter 3. Dispersion Modeling of Construction-Generated PM_{10} Emissions. Revised July 2013. Web. http://www.airquality.org/LandUseTransportation/Documents/Ch3PMDispersionModelingGuidanceFINAL7-2013.pdf.

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642 Quarry Road Project IS/MND

Appendix D.4: Health Risk Assessment Results

Health Risk Assessment Calculations (DPM)
642 Quarry Road Construction HRA
Residential Health Risk Calculations for MEIR - San Carlos Airport Met Data

METHODOLOGY

Dose (Air) = Cair x DBR x A x EF x CF

Where:
- Cair Chemical concentration in air ($\mu g/m^3$)
- DBR: Daily breathing rate (L/kg-day)
- A: Inhalation adsorption factor (unitless)
- EF: Exposure Frequency, days at home / days in year (unitless)
- CF: 10^{-6} Conversion Factor (m^3/L and mg/μg)

Cancer Risk (per million) = Dose (Air) x CPF x ASF x (ED/AT) x FAH x 1,000,000

Where:
- Dose: Dose of chemical in the air (μg/m3)
- CPF: Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$
- ASF: Age Sensitivity Factor
- ED: Exposure Duration (years)
- AT: Averaging Time for lifetime cancer risks
- FAH: Fraction of daily time spent at home / school

Risk Parameter Values by Age Bin

Variable	Residential Age Bin				
	3rd Trimester	0-2 Years	2-16 Years	16-30 Years	16-70 Years
DBR	361	1090	572	261	233
A	1	1	1	1	1
EF	0.96	0.96	0.96	0.96	0.96
CF	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
CPF	1.1	1.1	1.1	1.1	1.1
ASF	10	10	3	1	1
ED	0.25	2	14	14	54
AT	70	70	70	70	70
FAH	1	1	1	0.73	0.73

OFFROAD2021: AERMOD Modeled DPM Concentrations (PMI/MEIR)

	PMI			MEIR		
	Conc.	X	Y	Conc.	X	Y
Year 1	0.1233	564649.00	4152382.00	0.0144	564549.00	4152232.00
Year 2	0.1728	564649.00	4152382.00	0.0212	564549.00	4152232.00

OFFROAD2021: Risk Assessment Year 1 MEIR

Scenario	AERMOD DPM Conc.	Chronic Hazard Quotient
Year 1	0.0144	0.00288
Year 2	0.0212	0.00424

OFFROAD2021: Dose @ MEIR

Age Group	Cair x	BR	A	EF	CF		Dose
3rd Trimester	0.01439	361	1	0.96	1.00E-06	=	4.98E-06
0-2 Years	0.01439	1090	1	0.96	1.00E-06	=	1.50E-05
2-16 Years	0.01439	572	1	0.96	1.00E-06	=	7.89E-06
16-30 Years	0.01439	261	1	0.96	1.00E-06	=	3.60E-06
30-70 Years	0.01439	233	1	0.96	1.00E-06	=	3.22E-06

OFFROAD2021: Year 1 Excess Risk at MEIR

Age Group	Dose	CPF	ASF	ED	AT	FAH	Conversion	Risk
3rd Trimester	4.98E-06	1.1	10	0.25	70	1	1,000,000	0.2
0-2 Years	1.50E-05	1.1	10	1.00	70	1	1,000,000	2.4
2-16 Years	7.89E-06	1.1	3	1.00	70	1	1,000,000	0.4
16-30 Years	3.60E-06	1.1	1	1.00	70	0.73	1,000,000	0.0
30-70 Years	3.22E-06	1.1	1	1.00	70	0.73	1,000,000	0.0

OFFROAD2021: Year 2 Dose @ MEIR

Age Group	Cair x	BR	A	EF	CF		Dose
3rd Trimester	0.02118	361	1	0.96	1.00E-06	=	7.33E-06
0-2 Years	0.02118	1090	1	0.96	1.00E-06	=	2.21E-05
2-16 Years	0.02118	572	1	0.96	1.00E-06	=	1.16E-05
16-30 Years	0.02118	261	1	0.96	1.00E-06	=	5.30E-06
30-70 Years	0.02118	233	1	0.96	1.00E-06	=	4.73E-06

OFFROAD2021: Year 2 Excess Risk at MEIR

Age Group	Dose	CPF	ASF	ED	AT	FAH	Conversion	Risk
3rd Trimester	7.33E-06	1.1	10	0.25	70	1	1,000,000	0.3
0-2 Years	2.21E-05	1.1	10	1.00	70	1	1,000,000	3.5
2-16 Years	1.16E-05	1.1	3	1.00	70	1	1,000,000	0.5
16-30 Years	5.30E-06	1.1	1	1.00	70	0.73	1,000,000	0.1
30-70 Years	4.73E-06	1.1	1	1.00	70	0.73	1,000,000	0.1

OFFROAD2021 + Ops: Total Excess Risk at MEIR (Exposure Years 1 and 2 and 3-30)

Risks Presented by Age at Time of Construction Initiation

	Infant	Child (1-2)	Child 2<x<16	Adult 16<x<30	Adult 30<x<70
Year 1	2.6	2.4	0.4	0.0	0.0
Year 2	3.5	0.5	0.5	0.1	0.1
Total	6.0	2.9	0.9	0.1	0.1

Note: Infant exposure includes 3rd trimester (0.25 years) and child (1 year exposure) in Year 1

Scaling Factors for Tier IV Risks

	Scaling Factors
Year 1	0.54
Year 2	0.63

Tier IV: Risk Assessment MEIR

Scenario	AERMOD DPM Conc.	Chronic Hazard Quotient
Year 1	0.0077	0.0015
Year 2	0.0134	0.0027

Tier IV + Ops: Total Excess Risk at MEIR (Exposure Years 1 and 2 and 3-30)

	Risks Presented by Age at Time of Construction Initiation				
	Infant	Child (1-2)	Child 2<x<16	Adult 16<x<30	Adult 30<x<70
Year 1	1.4	1.3	0.2	0.0	0.0
Year 2	2.2	0.3	0.3	0.0	0.0
Total	3.6	1.6	0.5	0.1	0.1

Note: Infant exposure includes 3rd trimester (0.25 years) and child (1 year exposure) in Year 1

Health Risk Assessment Calculations (DPM)
642 Quarry Road Operational HRA
Residential Health Risk Calculations for MEIR - San Carlos Airport Met Data

METHODOLOGY

Dose (Air) = Cair x DBR x A x EF x CF

Where:	Cair	Chemical concentration in air (µg/m^3)
	DBR:	Daily breathing rate (L/kg-day)
	A:	Inhalation adsorption factor (unitless)
	EF:	Exposure Frequency, days at home / days in year (unitless)
	CF:	10^$^{-6}$ Conversion Factor (m^3/L and mg/µg)

Cancer Risk (per million) = Dose (Air) x CPF x ASF x (ED/AT) x FAH x 1,000,000

Where:	Dose:	Dose of chemical in the air (µg/m3)
	CPF:	Cancer Potency Factor (mg/kg-day)$^{-1}$
	ASF:	Age Sensitivity Factor
	ED:	Exposure Duration (years)
	AT:	Averaging Time for lifetime cancer risks
	FAH:	Fraction of daily time spent at home / school

Risk Parameter Values by Age Bin

Variable	Residential Age Bin				
	3rd Trimester	**0-2 Years**	**2-16 Years**	**16-30 Years**	**16-70 Years**
DBR	361	1090	572	261	233
A	1	1	1	1	1
EF	0.96	0.96	0.96	0.96	0.96
CF	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
CPF	1.1	1.1	1.1	1.1	1.1
ASF	10	10	3	1	1
ED	0.25	2	14	14	54
AT	70	70	70	70	70
FAH	1	1	1	0.73	0.73

AERMOD Modeled DPM Concentrations (PMI/MEIR)

	PMI			MEIR		
	Conc.	X	Y	Conc.	X	Y
Year 1 - 30	0.0005	564749.00	4152432.00	0.00014	564574.00	4152182.00
				0.00014	564549.00	4152232.00

Risk Assessment at MEIR

Scenario	AERMOD DPM Conc.	Chronic Hazard Quotient
Year 1 - 30	0.0001	0.00003

Dose @ MEIR

Age Group	Cair x	BR	A	EF	CF		Dose
3rd Trimester	0.00014	361	1	0.96	1.00E-06	=	4.85E-08
0-2 Years	0.00014	1090	1	0.96	1.00E-06	=	1.46E-07
2-16 Years	0.00014	572	1	0.96	1.00E-06	=	7.68E-08
16-30 Years	0.00014	261	1	0.96	1.00E-06	=	3.50E-08
30-70 Years	0.00014	233	1	0.96	1.00E-06	=	3.13E-08

Year 1-30 Excess Risk at MEIR

Age Group	Dose	CPF	ASF	ED	AT	FAH	Conversion	Risk
3rd Trimester	4.85E-08	1.1	10	0.25	70	1	1,000,000	0.0
0-2 Years	1.46E-07	1.1	10	1.00	70	1	1,000,000	0.0
2-16 Years	7.68E-08	1.1	3	1.00	70	1	1,000,000	0.0
16-30 Years	3.50E-08	1.1	1	1.00	70	0.73	1,000,000	0.0
30-70 Years	3.13E-08	1.1	1	1.00	70	0.73	1,000,000	0.0

Total Excess Risk at MEIR (Exposure Years 1 and 2)

	Risks Presented by Age at Time of Ops Initiation				
	Infant	Child (1-2)	Child 2<x<16	Adult 16<x<30	Adult 30<x<70
Year 1	0.0	0.0	0.0	0.0	0.0
Year 2	0.0	0.0	0.0	0.0	0.0
Year 3-30	0.1	0.1	0.0	0.0	0.0
Total	0.1	0.1	0.1	0.0	0.0

Note: Infant exposure includes 3rd trimester (0.25 years) and child (1 year exposure) in Year 1

Health Risk Assessment Calculations (DPM)
642 Quarry Road Operational HRA
Project Childcare Health Risk Calculations - San Carlos Airport Met Data

METHODOLOGY

Dose (Air) = Cair x DBR x A x EF x CF

Where:
- Cair Chemical concentration in air ($\mu g/m^3$)
- DBR: Daily breathing rate (L/kg-day)
- A: Inhalation adsorption factor (unitless)
- EF: Exposure Frequency, days at home / days in year (unitless)
- CF: 10^{-6} Conversion Factor (m^3/L and mg/μg)

Cancer Risk (per million) = Dose (Air) x CPF x ASF x (ED/AT) x FAH x 1,000,000

Where:
- Dose: Dose of chemical in the air (μg/m3)
- CPF: Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$
- ASF: Age Sensitivity Factor
- ED: Exposure Duration (years)
- AT: Averaging Time for lifetime cancer risks
- FAH: Fraction of daily time spent at home / school

Risk Parameter Values by Age Bin

Variable	Age Bin for Childcare Facility Receptors					
	0-2 Years	**2-9 Years**	**2-16 Years**	**16-30 Years**	**16-70 Years**	
DBR	1200	640	572	261	233	
A	1	1	1	1	1	
EF	0.72	0.72	0.72	0.72	0.72	Assumes receptor would be at site 5 days
CF	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06	per week; 264 days out of the year.
CPF	1.1	1.1	1.1	1.1	1.1	
ASF	10	3	3	1	1	
ED	2	7	14	14	54	
AT	70	70	70	70	70	
FAH	0.46	0.46	0.46	0.46	0.46	Assumes receptor onsite from 7 AM to 6 PM.

AERMOD Modeled DPM Concentrations (PMI/Childcare Receptor)

	PMI			Childcare Receptor		
	Conc.	X	Y	Conc.	X	Y
Year 1 - 30	0.0005	564749.00	4152432.00	0.00026	564629.05	4152459.77

Risk Assessment at Childcare Receptor

Scenario	AERMOD DPM Conc.	Chronic Hazard Quotient
Year 1 - 30	0.0003	0.00005

Dose @ Childcare Receptor

Age Group	Cair x	BR	A	EF	CF		Dose
0-2 Years	0.00026	1200	1	0.72	1.00E-06	=	2.26E-07
2-9 Years	0.00026	640	1	0.72	1.00E-06	=	1.20E-07
2-16 Years	0.00026	572	1	0.72	1.00E-06	=	1.08E-07
16-30 Years	0.00026	261	1	0.72	1.00E-06	=	4.91E-08
30-70 Years	0.00026	233	1	0.72	1.00E-06	=	4.38E-08

Year 1-30 Excess Risk at Childcare Receptor

Age Group	Dose	CPF	ASF	ED	AT	FAH	Conversion	Risk
0-2 Years	2.26E-07	1.1	10	1.00	70	0.46	1,000,000	0.0
2-9 Years	1.20E-07	1.1	3	1.00	70	0.46	1,000,000	0.0
2-16 Years	1.08E-07	1.1	3	1.00	70	0.46	1,000,000	0.0
16-30 Years	4.91E-08	1.1	1	1.00	70	0.46	1,000,000	0.0
30-70 Years	4.38E-08	1.1	1	1.00	70	0.46	1,000,000	0.0

Total Excess Risk at Childcare Receptor

	Risks Presented by Age at Time of Ops Initiation				
	Child (0-2)	Child (2-9)	Child 2<x<16	Adult 16<x<30	Adult 30<x<70
Total (1-14)	0.0	0.0	0.0	0.0	0.0

642 Quarry Road Project IS/MND

Appendix D.5: AERMOD Output Files

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** AERMOD Input Produced by:
** AERMOD View Ver. 10.2.1
** Lakes Environmental Software Inc.
** Date: 6/11/2022
** File: C:\Lakes\642-Quarry-SC_Const_Pre-Run_20220610\642-
Quarry-SC_Const_Pre-Run_20220610.ADI
**
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**
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** AERMOD Control Pathway
****************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_
20220601\642-Quarry-R
   MODELOPT DFAULT CONC
   AVERTIME PERIOD
   URBANOPT 4709220 San_Francisco-Oakland-Berkeley,_CA_Metro
   POLLUTID PM_2.5
   FLAGPOLE 1.50
   RUNORNOT RUN
   ERRORFIL 642-Quarry-SC_Const_Pre-Run_20220610.err
CO FINISHED
**
****************************************
** AERMOD Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA01      AREAPOLY   564500.950  4152462.830
9.110
** DESCRSRC Y1_ON-Demo+Grad
   LOCATION PAREA02      AREAPOLY   564500.950  4152462.830
9.110
** DESCRSRC Y1_ON_B1
   LOCATION PAREA03      AREAPOLY   564681.725  4152442.791
6.880
** DESCRSRC Y1_ON_B2
   LOCATION PAREA04      AREAPOLY   564584.320  4152550.170
7.680
** DESCRSRC Y1_ON_PG
   LOCATION PAREA05      AREAPOLY   564605.085  4152460.743
8.330
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** DESCRSRC Y1_ON_TC
   LOCATION PAREA06      AREAPOLY   564500.950  4152462.830
9.110
** DESCRSRC Y2_ON_Common+Delivery
   LOCATION PAREA07      AREAPOLY   564500.950  4152462.830
9.110
** DESCRSRC Y2_ON_B1
   LOCATION PAREA08      AREAPOLY   564681.730  4152442.790
6.880
** DESCRSRC Y2_ON_B2
   LOCATION PAREA09      AREAPOLY   564584.320  4152550.170
7.680
** DESCRSRC Y2_ON_PG
   LOCATION PAREA10      AREAPOLY   564605.090  4152460.740
8.330
** DESCRSRC Y2_ON_TC
   LOCATION PAREA11      AREAPOLY   564471.978  4152492.584
9.340
** DESCRSRC Y2_ON_Offsite-Work
** ------------------------------------------------------------------
-------
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN1
** DESCRSRC Y1_OFF_Q-E
** PREFIX
** Length of Side = 13.72
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.376E-09
** Nodes = 4
** 564613.689, 4152369.561, 7.21, 4.15
** 564622.254, 4152364.499, 7.17, 4.15
** 564819.637, 4152580.570, 5.07, 4.15
** 564912.853, 4152685.807, 4.22, 4.15
** ------------------------------------------------------------------
-------
   LOCATION A0000001     AREA     564610.200 4152363.656 7.28
   LOCATION A0000002     AREA     564627.317 4152359.874 7.20
   LOCATION A0000003     AREA     564693.112 4152431.897 6.76
   LOCATION A0000004     AREA     564758.906 4152503.921 5.88
   LOCATION A0000005     AREA     564824.771 4152576.022 5.10
   LOCATION A0000006     AREA     564871.379 4152628.641 4.62
** End of LINE AREA Source ID = ARLN1
** ------------------------------------------------------------------
-------
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN2
** DESCRSRC Y1_OFF_OC-N
** PREFIX
** Length of Side = 13.72
** Ratio = 10
** Vertical Dimension = 0.00
```

```
** Emission Rate = 9.1729E-10
** Nodes = 5
** 564590.367, 4152367.793, 7.71, 4.15
** 564582.093, 4152364.152, 7.77, 4.15
** 564400.396, 4152558.094, 9.66, 4.15
** 564272.362, 4152687.433, 10.45, 4.15
** 564194.692, 4152760.059, 10.62, 4.15
** ----------------------------------------------------------------
-------
   LOCATION A0000007     AREA     564587.605 4152374.070 8.03
   LOCATION A0000008     AREA     564587.098 4152368.841 7.87
   LOCATION A0000009     AREA     564496.249 4152465.812 9.20
   LOCATION A0000010     AREA     564405.270 4152562.919 9.68
   LOCATION A0000011     AREA     564341.253 4152627.589 9.62
   LOCATION A0000012     AREA     564277.046 4152692.443 10.20
** End of LINE AREA Source ID = ARLN2
** ----------------------------------------------------------------
-------
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN3
** DESCRSRC Y1_OFF_OC-S
** PREFIX
** Length of Side = 13.72
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 4.5861E-10
** Nodes = 4
** 564589.437, 4152368.388, 7.75, 4.15
** 564587.101, 4152358.654, 7.81, 4.15
** 564721.832, 4152220.418, 7.10, 4.15
** 564783.673, 4152154.907, 6.37, 4.15
** ----------------------------------------------------------------
-------
   LOCATION A0000013     AREA     564582.769 4152369.989 7.83
   LOCATION A0000014     AREA     564582.190 4152353.867 7.84
   LOCATION A0000015     AREA     564649.555 4152284.749 7.71
   LOCATION A0000016     AREA     564716.845 4152215.710 9.48
** End of LINE AREA Source ID = ARLN3
** ----------------------------------------------------------------
-------
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN4
** DESCRSRC Y2_OFF_Q-E
** PREFIX
** Length of Side = 13.72
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.92E-09
** Nodes = 4
** 564613.690, 4152369.560, 7.21, 4.15
** 564622.250, 4152364.500, 7.17, 4.15
** 564819.640, 4152580.570, 5.07, 4.15
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** 564912.850, 4152685.810, 4.22, 4.15
** -----------------------------------------------------------------------
   LOCATION A0000017     AREA     564610.200 4152363.656 7.28
   LOCATION A0000018     AREA     564627.313 4152359.874 7.20
   LOCATION A0000019     AREA     564693.110 4152431.898 6.76
   LOCATION A0000020     AREA     564758.907 4152503.921 5.88
   LOCATION A0000021     AREA     564824.774 4152576.023 5.10
   LOCATION A0000022     AREA     564871.379 4152628.643 4.62
** End of LINE AREA Source ID = ARLN4
** -----------------------------------------------------------------------
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN5
** DESCRSRC Y2_OFF_OC-N
** PREFIX
** Length of Side = 13.72
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.2799E-09
** Nodes = 5
** 564590.370, 4152367.790, 7.71, 4.15
** 564582.090, 4152364.150, 7.77, 4.15
** 564400.400, 4152558.090, 9.66, 4.15
** 564272.360, 4152687.430, 10.45, 4.15
** 564194.690, 4152760.060, 10.62, 4.15
** -----------------------------------------------------------------------
   LOCATION A0000023     AREA     564587.610 4152374.068 8.03
   LOCATION A0000024     AREA     564587.095 4152368.839 7.87
   LOCATION A0000025     AREA     564496.250 4152465.809 9.20
   LOCATION A0000026     AREA     564405.274 4152562.915 9.68
   LOCATION A0000027     AREA     564341.254 4152627.585 9.62
   LOCATION A0000028     AREA     564277.044 4152692.439 10.20
** End of LINE AREA Source ID = ARLN5
** -----------------------------------------------------------------------
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN6
** DESCRSRC Y2_OFF_OC-S
** PREFIX
** Length of Side = 13.72
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 6.3991E-10
** Nodes = 4
** 564589.440, 4152368.390, 7.75, 4.15
** 564587.100, 4152358.650, 7.81, 4.15
** 564721.830, 4152220.420, 7.10, 4.15
** 564783.670, 4152154.910, 6.37, 4.15
** -----------------------------------------------------------------------
```

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   LOCATION A0000029     AREA     564582.772 4152369.992 7.83
   LOCATION A0000030     AREA     564582.189 4152353.863 7.84
   LOCATION A0000031     AREA     564649.554 4152284.748 7.71
   LOCATION A0000032     AREA     564716.843 4152215.712 9.48
** End of LINE AREA Source ID = ARLN6
** Source Parameters **
   SRCPARAM PAREA01      4.7885E-08     5.000         6
   AREAVERT PAREA01      564500.950 4152462.830 564584.320
4152550.170
   AREAVERT PAREA01      564694.160 4152456.210 564607.150
4152359.610
   AREAVERT PAREA01      564601.190 4152358.610 564594.570
4152363.250
   SRCPARAM PAREA02      1.0278E-07     5.000         4
   AREAVERT PAREA02      564500.950 4152462.830 564547.596
4152511.459
   AREAVERT PAREA02      564620.380 4152440.992 564568.770
4152390.374
   SRCPARAM PAREA03      1.0068E-07     5.000         6
   AREAVERT PAREA03      564681.725 4152442.791 564643.251
4152475.658
   AREAVERT PAREA03      564564.434 4152395.041 564594.570
4152363.250
   AREAVERT PAREA03      564601.190 4152358.610 564607.150
4152359.610
   SRCPARAM PAREA04      8.6349E-08     5.000         4
   AREAVERT PAREA04      564584.320 4152550.170 564655.869
4152488.712
   AREAVERT PAREA04      564610.829 4152442.290 564543.073
4152506.679
   SRCPARAM PAREA05      5.4803E-07     5.000         4
   AREAVERT PAREA05      564605.085 4152460.743 564617.327
4152448.832
   AREAVERT PAREA05      564605.747 4152437.583 564593.961
4152449.316
   SRCPARAM PAREA06      1.0295E-08     5.000         6
   AREAVERT PAREA06      564500.950 4152462.830 564584.320
4152550.170
   AREAVERT PAREA06      564694.160 4152456.210 564607.150
4152359.610
   AREAVERT PAREA06      564601.190 4152358.610 564594.570
4152363.250
   SRCPARAM PAREA07      1.3053E-07     5.000         4
   AREAVERT PAREA07      564500.950 4152462.830 564547.600
4152511.460
   AREAVERT PAREA07      564620.380 4152440.990 564568.770
4152390.370
   SRCPARAM PAREA08      1.6143E-07     5.000         6
   AREAVERT PAREA08      564681.730 4152442.790 564643.250
4152475.660
   AREAVERT PAREA08      564564.430 4152395.040 564594.570
4152363.250
```

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   AREAVERT PAREA08      564601.190 4152358.610 564607.150
4152359.610
   SRCPARAM PAREA09      2.2144E-07     5.000         4
   AREAVERT PAREA09      564584.320 4152550.170 564655.870
4152488.710
   AREAVERT PAREA09      564610.830 4152442.290 564543.070
4152506.680
   SRCPARAM PAREA10      1.5754E-06     5.000         4
   AREAVERT PAREA10      564605.090 4152460.740 564617.330
4152448.830
   AREAVERT PAREA10      564605.750 4152437.580 564593.960
4152449.320
   SRCPARAM PAREA11      8.3391E-08     5.000         8
   AREAVERT PAREA11      564471.978 4152492.584 564458.742
4152481.294
   AREAVERT PAREA11      564605.903 4152333.744 564755.400
4152501.539
   AREAVERT PAREA11      564746.057 4152510.493 564607.150
4152359.610
   AREAVERT PAREA11      564601.190 4152358.610 564594.570
4152363.250
** LINE AREA Source ID = ARLN1
   SRCPARAM A0000001     1.376E-09     4.150     9.949    13.716
30.579
   SRCPARAM A0000002     1.376E-09     4.150    97.551
13.716   -47.588
   SRCPARAM A0000003     1.376E-09     4.150    97.551
13.716   -47.588
   SRCPARAM A0000004     1.376E-09     4.150    97.551
13.716   -47.588
   SRCPARAM A0000005     1.376E-09     4.150    70.293
13.716   -48.466
   SRCPARAM A0000006     1.376E-09     4.150    70.293
13.716   -48.466
** ------------------------------------------------------------------
-------
** LINE AREA Source ID = ARLN2
   SRCPARAM A0000007     9.1729E-10     4.150     9.039    13.716
156.251
   SRCPARAM A0000008     9.1729E-10     4.150   132.879
13.716  -133.133
   SRCPARAM A0000009     9.1729E-10     4.150   132.879
13.716  -133.133
   SRCPARAM A0000010     9.1729E-10     4.150    90.996
13.716  -134.710
   SRCPARAM A0000011     9.1729E-10     4.150    90.996
13.716  -134.710
   SRCPARAM A0000012     9.1729E-10     4.150   106.335
13.716  -136.922
** ------------------------------------------------------------------
-------
** LINE AREA Source ID = ARLN3
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   SRCPARAM A0000013     4.5861E-10     4.150    10.011    13.716
103.496
   SRCPARAM A0000014     4.5861E-10     4.150    96.516    13.716
45.736
   SRCPARAM A0000015     4.5861E-10     4.150    96.516    13.716
45.736
   SRCPARAM A0000016     4.5861E-10     4.150    90.089    13.716
46.650
** -----------------------------------------------------------------
-------
** LINE AREA Source ID = ARLN4
   SRCPARAM A0000017      1.92E-09     4.150     9.944    13.716
30.588
   SRCPARAM A0000018      1.92E-09     4.150    97.553
13.716   -47.587
   SRCPARAM A0000019      1.92E-09     4.150    97.553
13.716   -47.587
   SRCPARAM A0000020      1.92E-09     4.150    97.553
13.716   -47.587
   SRCPARAM A0000021      1.92E-09     4.150    70.291
13.716   -48.469
   SRCPARAM A0000022      1.92E-09     4.150    70.291
13.716   -48.469
** -----------------------------------------------------------------
-------
** LINE AREA Source ID = ARLN5
   SRCPARAM A0000023     1.2799E-09     4.150     9.045    13.716
156.269
   SRCPARAM A0000024     1.2799E-09     4.150   132.876
13.716  -133.132
   SRCPARAM A0000025     1.2799E-09     4.150   132.876
13.716  -133.132
   SRCPARAM A0000026     1.2799E-09     4.150    90.999
13.716  -134.711
   SRCPARAM A0000027     1.2799E-09     4.150    90.999
13.716  -134.711
   SRCPARAM A0000028     1.2799E-09     4.150   106.338
13.716  -136.921
** -----------------------------------------------------------------
-------
** LINE AREA Source ID = ARLN6
   SRCPARAM A0000029     6.3991E-10     4.150    10.017    13.716
103.509
   SRCPARAM A0000030     6.3991E-10     4.150    96.514    13.716
45.735
   SRCPARAM A0000031     6.3991E-10     4.150    96.514    13.716
45.735
   SRCPARAM A0000032     6.3991E-10     4.150    90.087    13.716
46.651
** -----------------------------------------------------------------
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   URBANSRC ALL
```

```
** Variable Emissions Type: "By Hour / Seven Days (HRDOW7)"
** Variable Emission Scenario: "Scenario 1"
   EMISFACT PAREA01      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA01      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA01      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA01      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA01      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA01      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA01      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA01      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA01      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA01      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA01      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA01      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA01      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA01      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA01      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA01      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA01      HRDOW7 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA01      HRDOW7 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA01      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA01      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA01      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA02      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA02      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA02      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA02      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA02      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA02      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA02      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA02      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA02      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA02      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA02      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA02      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA02      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA02      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA02      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA02      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA02      HRDOW7 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA02      HRDOW7 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA02      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA02      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA02      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA03      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA03      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA03      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA03      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA03      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA03      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA03      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT PAREA03       HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT PAREA03       HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA03       HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA03       HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT PAREA03       HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA03       HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA03       HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT PAREA03       HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA03       HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA03       HRDOW7 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT PAREA03       HRDOW7 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA03       HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA03       HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA03       HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA04       HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA04       HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT PAREA04       HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA04       HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA04       HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT PAREA04       HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT PAREA04       HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT PAREA05       HRDOW7 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
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EMISFACT A0000001      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000007      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000009      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000009      HRDOW7 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000010      HRDOW7 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000010      HRDOW7 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000011      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000011      HRDOW7 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000011      HRDOW7 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000012      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000012      HRDOW7 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000012      HRDOW7 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000007     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000007     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000008     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000008     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000008     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000009     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000009     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000009     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000010     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000010     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000010     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000011     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000011     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000011     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000012     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000012     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000012     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000016     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000015      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000016      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000022      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000022      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000026      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000026      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000026      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000027      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000027      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000028      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000028      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
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EMISFACT A0000023      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000023      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000024      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000024      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000024      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000025      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000025      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000025      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000026      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000026      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000026      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000027      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000027      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
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EMISFACT A0000027     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000028     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000028     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000028     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000023     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000023     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000023     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000024     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000024     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000024     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000025     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000025     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000025     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000026     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000026     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000026     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000027     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000027     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000027     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000028     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000028     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000028     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000023     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000023     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000023     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000024     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000024     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000024     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000026     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
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EMISFACT A0000027     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000027     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
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EMISFACT A0000028     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000023     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000023     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000023     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000024     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000025     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000025     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000026     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000026     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000026     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000028      HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000028      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000023      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000023      HRDOW7 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000023      HRDOW7 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000024      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000024      HRDOW7 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
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EMISFACT A0000026      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000027      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000027      HRDOW7 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
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EMISFACT A0000028      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000025      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000025      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000025      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000026      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000026      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000026      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000027      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000027      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000027      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000028      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000028      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000028      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000029      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000031      HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000032      HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000029     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000029     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000029     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000030     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000030     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000031     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000031     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000031     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000032     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000032     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000032     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000029     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000029     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000029     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000030     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000030     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000030     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000031     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000031     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000031     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000032     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000032     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000032     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000029     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000029     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000029     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000030     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT A0000030     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000031     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000031     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000031     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000032     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000032     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000032     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000029     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000029     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000029     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000030     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000030     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000030     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000031     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000031     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000031     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000032     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000032     HRDOW7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
EMISFACT A0000032     HRDOW7 1.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000029     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT A0000029     HRDOW7 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
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   EMISFACT A0000030     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000030     HRDOW7 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT A0000030     HRDOW7 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000031     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000031     HRDOW7 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT A0000031     HRDOW7 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000032     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000032     HRDOW7 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT A0000032     HRDOW7 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000029     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000029     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000029     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000030     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000030     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000030     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000031     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000031     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000031     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000032     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000032     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT A0000032     HRDOW7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
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A0000006
   SRCGROUP Y1_All   A0000007 A0000008 A0000009 A0000010 A0000011
A0000012
   SRCGROUP Y1_All   A0000013 A0000014 A0000015 A0000016 PAREA01
PAREA02
   SRCGROUP Y1_All   PAREA03 PAREA04 PAREA05
   SRCGROUP Y1_On    PAREA01 PAREA02 PAREA03 PAREA04 PAREA05
   SRCGROUP Y1_Off   A0000001 A0000002 A0000003 A0000004 A0000005
A0000006
   SRCGROUP Y1_Off   A0000007 A0000008 A0000009 A0000010 A0000011
A0000012
   SRCGROUP Y1_Off   A0000013 A0000014 A0000015 A0000016
   SRCGROUP Y2_All   PAREA06 PAREA07 PAREA08 PAREA09 PAREA10
PAREA11 A0000017
   SRCGROUP Y2_All   A0000018 A0000019 A0000020 A0000021 A0000022
A0000023
   SRCGROUP Y2_All   A0000024 A0000025 A0000026 A0000027 A0000028
A0000029
   SRCGROUP Y2_All   A0000030 A0000031 A0000032
   SRCGROUP Y2_On    PAREA06 PAREA07 PAREA08 PAREA09 PAREA10
PAREA11
   SRCGROUP Y2_Off   A0000017 A0000018 A0000019 A0000020 A0000021
A0000022
   SRCGROUP Y2_Off   A0000023 A0000024 A0000025 A0000026 A0000027
A0000028
   SRCGROUP Y2_Off   A0000029 A0000030 A0000031 A0000032
SO FINISHED
**
****************************************
```

```
** AERMOD Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED 642-Quarry-SC_Const_Pre-Run_20220610.rou
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE "..\405industrialRd_MIT\Met data-San Carlos Airport
\724938.SFC"
   PROFFILE "..\405industrialRd_MIT\Met data-San Carlos Airport
\724938.PFL"
   SURFDATA 93231 2009 San_Carlos_Airport 566119.00 4152498.00
   UAIRDATA 23230 2009 OAKLAND/WSO_AP
   PROFBASE 1.0 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE PERIOD Y1_All 642-QUARRY-SC_CONST_PRE-RUN_20220610.AD
\PE00G001.PLT 31
   PLOTFILE PERIOD Y1_On 642-QUARRY-SC_CONST_PRE-RUN_20220610.AD
\PE00G002.PLT 32
   PLOTFILE PERIOD Y1_Off 642-QUARRY-SC_CONST_PRE-RUN_20220610.AD
\PE00G003.PLT 33
   PLOTFILE PERIOD Y2_All 642-QUARRY-SC_CONST_PRE-RUN_20220610.AD
\PE00G004.PLT 34
   PLOTFILE PERIOD Y2_On 642-QUARRY-SC_CONST_PRE-RUN_20220610.AD
\PE00G005.PLT 35
   PLOTFILE PERIOD Y2_Off 642-QUARRY-SC_CONST_PRE-RUN_20220610.AD
\PE00G006.PLT 36
   SUMMFILE 642-Quarry-SC_Const_Pre-Run_20220610.sum
OU FINISHED

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************
```

```
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                            ***     MODEL SETUP
OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration
Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    43
Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =   4709220.0 ;  Urban Roughness Length =
1.000 m

 **Model Uses Regulatory DEFAULT Options:
         1. Stack-tip Downwash.
         2. Model Accounts for ELEVated Terrain Effects.
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay.
         6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
         CCVR_Sub - Meteorological data includes CCVR
substitutions
         TEMP_Sub - Meteorological data includes TEMP
substitutions

 **Model Accepts FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates PERIOD Averages Only

 **This Run Includes:     43 Source(s);      6 Source Group(s);
and     699 Receptor(s)
```

```
                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:     43 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total
of     0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
          Model Outputs Tables of PERIOD Averages by Receptor
          Model Outputs External File(s) of High Values for
Plotting (PLOTFILE Keyword)
          Model Outputs Separate Summary File of High Ranked
Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:
c for Calm Hours

m for Missing Hours

b for Both Calm and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =
1.00 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units =
GRAMS/SEC                                ;  Emission Rate Unit
Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.8 MB of
RAM.

 **Input Runstream File:          aermod.inp
 **Output Print File:             aermod.out

 **Detailed Error/Message File:   642-Quarry-SC_Const_Pre-Run_
20220610.err
 **File for Summary of Results:   642-Quarry-SC_Const_Pre-Run_
20220610.sum
```

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** ***
*** 12:38:17

PAGE 2
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** AREA SOURCE DATA ***

```
               NUMBER EMISSION RATE  COORD (SW CORNER)  BASE
RELEASE  X-DIM     Y-DIM    ORIENT.    INIT.   URBAN  EMISSION
RATE
   SOURCE       PART.  (GRAMS/SEC       X        Y       ELEV.
HEIGHT  OF AREA   OF AREA   OF AREA     SZ     SOURCE  SCALAR
VARY
     ID         CATS.   /METER**2)   (METERS) (METERS) (METERS)
(METERS) (METERS)  (METERS)   (DEG.)  (METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
-

 A0000001         0   0.13760E-08  564610.2 4152363.7     7.3
4.15      9.95     13.72      30.58     0.00     YES   HRDOW7
 A0000002         0   0.13760E-08  564627.3 4152359.9     7.2
4.15     97.55     13.72     -47.59     0.00     YES   HRDOW7
 A0000003         0   0.13760E-08  564693.1 4152431.9     6.8
4.15     97.55     13.72     -47.59     0.00     YES   HRDOW7
 A0000004         0   0.13760E-08  564758.9 4152503.9     5.9
4.15     97.55     13.72     -47.59     0.00     YES   HRDOW7
 A0000005         0   0.13760E-08  564824.8 4152576.0     5.1
4.15     70.29     13.72     -48.47     0.00     YES   HRDOW7
 A0000006         0   0.13760E-08  564871.4 4152628.6     4.6
4.15     70.29     13.72     -48.47     0.00     YES   HRDOW7
 A0000007         0   0.91729E-09  564587.6 4152374.1     8.0
4.15      9.04     13.72     156.25     0.00     YES   HRDOW7
 A0000008         0   0.91729E-09  564587.1 4152368.8     7.9
4.15    132.88     13.72   -133.13     0.00     YES   HRDOW7
 A0000009         0   0.91729E-09  564496.2 4152465.8     9.2
4.15    132.88     13.72   -133.13     0.00     YES   HRDOW7
 A0000010         0   0.91729E-09  564405.3 4152562.9     9.7
4.15     91.00     13.72   -134.71     0.00     YES   HRDOW7
 A0000011         0   0.91729E-09  564341.3 4152627.6     9.6
4.15     91.00     13.72   -134.71     0.00     YES   HRDOW7
 A0000012         0   0.91729E-09  564277.0 4152692.4    10.2
4.15    106.33     13.72   -136.92     0.00     YES   HRDOW7
 A0000013         0   0.45861E-09  564582.8 4152370.0     7.8
4.15     10.01     13.72     103.50     0.00     YES   HRDOW7
 A0000014         0   0.45861E-09  564582.2 4152353.9     7.8
```

```
4.15     96.52     13.72     45.74     0.00      YES   HRDOW7
 A0000015         0  0.45861E-09  564649.6 4152284.7     7.7
4.15     96.52     13.72     45.74     0.00      YES   HRDOW7
 A0000016         0  0.45861E-09  564716.8 4152215.7     9.5
4.15     90.09     13.72     46.65     0.00      YES   HRDOW7
 A0000017         0  0.19200E-08  564610.2 4152363.7     7.3
4.15      9.94     13.72     30.59     0.00      YES   HRDOW7
 A0000018         0  0.19200E-08  564627.3 4152359.9     7.2
4.15     97.55     13.72    -47.59     0.00      YES   HRDOW7
 A0000019         0  0.19200E-08  564693.1 4152431.9     6.8
4.15     97.55     13.72    -47.59     0.00      YES   HRDOW7
 A0000020         0  0.19200E-08  564758.9 4152503.9     5.9
4.15     97.55     13.72    -47.59     0.00      YES   HRDOW7
 A0000021         0  0.19200E-08  564824.8 4152576.0     5.1
4.15     70.29     13.72    -48.47     0.00      YES   HRDOW7
 A0000022         0  0.19200E-08  564871.4 4152628.6     4.6
4.15     70.29     13.72    -48.47     0.00      YES   HRDOW7
 A0000023         0  0.12799E-08  564587.6 4152374.1     8.0
4.15      9.04     13.72    156.27     0.00      YES   HRDOW7
 A0000024         0  0.12799E-08  564587.1 4152368.8     7.9
4.15    132.88     13.72   -133.13     0.00      YES   HRDOW7
 A0000025         0  0.12799E-08  564496.2 4152465.8     9.2
4.15    132.88     13.72   -133.13     0.00      YES   HRDOW7
 A0000026         0  0.12799E-08  564405.3 4152562.9     9.7
4.15     91.00     13.72   -134.71     0.00      YES   HRDOW7
 A0000027         0  0.12799E-08  564341.3 4152627.6     9.6
4.15     91.00     13.72   -134.71     0.00      YES   HRDOW7
 A0000028         0  0.12799E-08  564277.0 4152692.4    10.2
4.15    106.34     13.72   -136.92     0.00      YES   HRDOW7
 A0000029         0  0.63991E-09  564582.8 4152370.0     7.8
4.15     10.02     13.72    103.51     0.00      YES   HRDOW7
 A0000030         0  0.63991E-09  564582.2 4152353.9     7.8
4.15     96.51     13.72     45.74     0.00      YES   HRDOW7
 A0000031         0  0.63991E-09  564649.6 4152284.7     7.7
4.15     96.51     13.72     45.74     0.00      YES   HRDOW7
 A0000032         0  0.63991E-09  564716.8 4152215.7     9.5
4.15     90.09     13.72     46.65     0.00      YES   HRDOW7
```

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

PAGE 3
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	LOCATION OF AREA Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
PAREA01	0	0.47885E-07	564501.0	4152462.8	9.1	5.00	6	0.00	YES	HRDOW7
PAREA02	0	0.10278E-06	564501.0	4152462.8	9.1	5.00	4	0.00	YES	HRDOW7
PAREA03	0	0.10068E-06	564681.7	4152442.8	6.9	5.00	6	0.00	YES	HRDOW7
PAREA04	0	0.86349E-07	564584.3	4152550.2	7.7	5.00	4	0.00	YES	HRDOW7
PAREA05	0	0.54803E-06	564605.1	4152460.7	8.3	5.00	4	0.00	YES	HRDOW7
PAREA06	0	0.10295E-07	564501.0	4152462.8	9.1	5.00	6	0.00	YES	HRDOW7
PAREA07	0	0.13053E-06	564501.0	4152462.8	9.1	5.00	4	0.00	YES	HRDOW7
PAREA08	0	0.16143E-06	564681.7	4152442.8	6.9	5.00	6	0.00	YES	HRDOW7
PAREA09	0	0.22144E-06	564584.3	4152550.2	7.7	5.00	4	0.00	YES	HRDOW7
PAREA10	0	0.15754E-05	564605.1	4152460.7	8.3	5.00	4	0.00	YES	HRDOW7
PAREA11	0	0.83391E-07	564472.0	4152492.6	9.3	5.00	8	0.00	YES	HRDOW7

```
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN


                                             *** SOURCE IDs
DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                                 SOURCE
IDs
 -----------                                                 -------
---


  Y1_ALL     PAREA01     , PAREA02     , PAREA03     ,
PAREA04     , PAREA05     , A0000001    , A0000002    ,
A0000003    ,

             A0000004    , A0000005    , A0000006    ,
A0000007    , A0000008    , A0000009    , A0000010    ,
A0000011    ,

             A0000012    , A0000013    , A0000014    ,
A0000015    , A0000016    ,

  Y1_ON      PAREA01     , PAREA02     , PAREA03     ,
PAREA04     , PAREA05     ,

  Y1_OFF     A0000001    , A0000002    , A0000003    ,
A0000004    , A0000005    , A0000006    , A0000007    ,
A0000008    ,

             A0000009    , A0000010    , A0000011    ,
A0000012    , A0000013    , A0000014    , A0000015    ,
A0000016    ,

  Y2_ALL     PAREA06     , PAREA07     , PAREA08     ,
PAREA09     , PAREA10     , PAREA11     , A0000017    ,
A0000018    ,

             A0000019    , A0000020    , A0000021    ,
A0000022    , A0000023    , A0000024    , A0000025    ,
A0000026    ,

             A0000027    , A0000028    , A0000029    ,
A0000030    , A0000031    , A0000032    ,
```

```
  Y2_ON      PAREA06     , PAREA07     , PAREA08     ,
PAREA09     , PAREA10     , PAREA11     ,

  Y2_OFF     A0000017    , A0000018    , A0000019    ,
A0000020    , A0000021    , A0000022    , A0000023    ,
A0000024    ,

             A0000025    , A0000026    , A0000027    ,
A0000028    , A0000029    , A0000030    , A0000031    ,
A0000032    ,
```

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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN


                                          *** SOURCE IDs DEFINED
AS URBAN SOURCES ***

  URBAN ID   URBAN POP                                     SOURCE
IDs
  --------   ---------                                     -------
---


             4709220.   PAREA01     , PAREA02     ,
PAREA03     , PAREA04     , PAREA05     , PAREA06     ,
PAREA07     ,
 PAREA08     ,

            PAREA09     , PAREA10     , PAREA11     ,
A0000001    , A0000002    , A0000003    , A0000004    ,
A0000005    ,

            A0000006    , A0000007    , A0000008    ,
A0000009    , A0000010    , A0000011    , A0000012    ,
A0000013    ,

            A0000014    , A0000015    , A0000016    ,
A0000017    , A0000018    , A0000019    , A0000020    ,
A0000021    ,

            A0000022    , A0000023    , A0000024    ,
A0000025    , A0000026    , A0000027    , A0000028    ,
A0000029    ,

            A0000030    , A0000031    , A0000032    ,
```

```
                  * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

 SOURCE ID = PAREA01      ; SOURCE TYPE = AREAPOLY :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                   * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

 SOURCE ID = PAREA02      ; SOURCE TYPE = AREAPOLY :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
*** AERMET - VERSION 14134 *** ***
*** 12:38:17

PAGE 8
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = PAREA03 ; SOURCE TYPE = AREAPOLY :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = PAREA04 ; SOURCE TYPE = AREAPOLY :

```
  HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR
HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                  * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

 SOURCE ID = PAREA05      ; SOURCE TYPE = AREAPOLY :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

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5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                   * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

 SOURCE ID = PAREA06      ; SOURCE TYPE = AREAPOLY :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                  * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

 SOURCE ID = PAREA07      ; SOURCE TYPE = AREAPOLY :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = PAREA08 ; SOURCE TYPE = AREAPOLY :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

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5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = PAREA09 ; SOURCE TYPE = AREAPOLY :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

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5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = PAREA10 ; SOURCE TYPE = AREAPOLY :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
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*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = PAREA11 ; SOURCE TYPE = AREAPOLY :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

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5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE  17
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                  * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

 SOURCE ID = A0000001     ; SOURCE TYPE = AREA     :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

PAGE 18
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000002 ; SOURCE TYPE = AREA :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

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5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE  19
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                  * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

 SOURCE ID = A0000003     ; SOURCE TYPE = AREA     :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

PAGE 20
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000004 ; SOURCE TYPE = AREA :

```
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000005 ; SOURCE TYPE = AREA :

```
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
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*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000006 ; SOURCE TYPE = AREA :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

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5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
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*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

PAGE 23
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000007 ; SOURCE TYPE = AREA :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

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5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                   * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

 SOURCE ID = A0000008     ; SOURCE TYPE = AREA     :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
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5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000009 ; SOURCE TYPE = AREA :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

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5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000010 ; SOURCE TYPE = AREA :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000011 ; SOURCE TYPE = AREA :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000012 ; SOURCE TYPE = AREA :

```
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000013 ; SOURCE TYPE = AREA :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

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5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

PAGE 30
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000014 ; SOURCE TYPE = AREA :

```
  HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR
HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000015 ; SOURCE TYPE = AREA :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

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5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000016 ; SOURCE TYPE = AREA :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE  33
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                  * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

 SOURCE ID = A0000017     ; SOURCE TYPE = AREA     :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

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5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000018 ; SOURCE TYPE = AREA :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000019 ; SOURCE TYPE = AREA :

```
  HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR
HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000020 ; SOURCE TYPE = AREA :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE  37
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                  * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

 SOURCE ID = A0000021     ; SOURCE TYPE = AREA     :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
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5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
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*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

PAGE 38
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000022 ; SOURCE TYPE = AREA :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

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5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE  39
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                  * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

 SOURCE ID = A0000023     ; SOURCE TYPE = AREA      :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
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*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
*** AERMET - VERSION 14134 *** ***
*** 12:38:17

PAGE 40
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000024 ; SOURCE TYPE = AREA :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

PAGE 41
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000025 ; SOURCE TYPE = AREA :

```
  HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR
HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR    HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
*** AERMET - VERSION 14134 *** ***
*** 12:38:17

PAGE 42
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000026 ; SOURCE TYPE = AREA :

```
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE  43
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                  * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

 SOURCE ID = A0000027     ; SOURCE TYPE = AREA     :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000028 ; SOURCE TYPE = AREA :

```
 HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                  DAY OF WEEK = MONDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
  17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00   21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK = TUESDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
  17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00   21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK = WEDNESDY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
  17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00   21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK = THURSDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00    5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
   9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01   13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
  17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00   21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK = FRIDAY
   1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

PAGE 45
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000029 ; SOURCE TYPE = AREA :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
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*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000030 ; SOURCE TYPE = AREA :

```
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .1000E+01 10 .1000E+01 11 .1000E+01 12 .1000E+01
13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .1000E+01 18 .1000E+01 19 .0000E+00 20 .0000E+00
21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK =
SATURDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00
5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .1000E+01 11 .1000E+01 12 .1000E+01
13 .1000E+01 14 .1000E+01 15 .1000E+01 16 .1000E+01
17 .1000E+01 18 .0000E+00 19 .0000E+00 20 .0000E+00
21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00
DAY OF WEEK =
SUNDAY
1 .0000E+00 2 .0000E+00 3 .0000E+00 4 .0000E+00
5 .0000E+00 6 .0000E+00 7 .0000E+00 8 .0000E+00
9 .0000E+00 10 .0000E+00 11 .0000E+00 12 .0000E+00
13 .0000E+00 14 .0000E+00 15 .0000E+00 16 .0000E+00
17 .0000E+00 18 .0000E+00 19 .0000E+00 20 .0000E+00
21 .0000E+00 22 .0000E+00 23 .0000E+00 24 .0000E+00

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

SOURCE ID = A0000031 ; SOURCE TYPE = AREA :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = MONDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = TUESDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = WEDNESDY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = THURSDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = FRIDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00								

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE  48
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                   * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW7) *

 SOURCE ID = A0000032     ; SOURCE TYPE = AREA     :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
MONDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
TUESDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
WEDNESDY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
THURSDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
FRIDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
```

```
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                              DAY OF WEEK =
SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(564274.0, 4152132.0, 54.3, 172.7, 1.5);
(564299.0, 4152132.0, 54.1, 172.7, 1.5);
(564324.0, 4152132.0, 53.4, 172.7, 1.5);
(564349.0, 4152132.0, 51.7, 172.7, 1.5);
(564374.0, 4152132.0, 50.2, 172.7, 1.5);
(564399.0, 4152132.0, 48.6, 172.7, 1.5);
(564424.0, 4152132.0, 40.9, 172.7, 1.5);
(564449.0, 4152132.0, 30.8, 172.7, 1.5);
(564474.0, 4152132.0, 30.6, 172.7, 1.5);
(564499.0, 4152132.0, 30.1, 172.7, 1.5);
(564524.0, 4152132.0, 26.9, 172.7, 1.5);
(564549.0, 4152132.0, 23.5, 172.7, 1.5);
(564574.0, 4152132.0, 19.2, 172.7, 1.5);
(564599.0, 4152132.0, 15.2, 172.7, 1.5);
(564624.0, 4152132.0, 14.0, 172.7, 1.5);
(564649.0, 4152132.0, 13.4, 172.7, 1.5);
(564674.0, 4152132.0, 13.0, 172.7, 1.5);
(564699.0, 4152132.0, 11.6, 172.7, 1.5);
(564724.0, 4152132.0, 9.1, 172.7, 1.5);
(564749.0, 4152132.0, 8.6, 172.7, 1.5);
(564774.0, 4152132.0, 9.6, 172.7, 1.5);
(564799.0, 4152132.0, 7.8, 172.7, 1.5);
(564824.0, 4152132.0, 4.6, 172.7, 1.5);
(564849.0, 4152132.0, 4.3, 172.7, 1.5);
(564874.0, 4152132.0, 4.1, 172.7, 1.5);
(564899.0, 4152132.0, 4.2, 172.7, 1.5);
(564924.0, 4152132.0, 3.7, 172.7, 1.5);
(564274.0, 4152157.0, 48.9, 172.7, 1.5);
(564299.0, 4152157.0, 50.4, 172.7, 1.5);
(564324.0, 4152157.0, 49.4, 172.7, 1.5);
(564349.0, 4152157.0, 48.8, 172.7, 1.5);
(564374.0, 4152157.0, 48.8, 172.7, 1.5);
(564399.0, 4152157.0, 48.1, 172.7, 1.5);
(564424.0, 4152157.0, 44.3, 172.7, 1.5);
(564449.0, 4152157.0, 34.7, 172.7, 1.5);
(564474.0, 4152157.0, 28.7, 172.7, 1.5);

```
    ( 564499.0, 4152157.0,       25.2,      172.7,        1.5);
( 564524.0, 4152157.0,       23.5,      172.7,        1.5);
    ( 564549.0, 4152157.0,       20.1,      172.7,        1.5);
( 564574.0, 4152157.0,       19.2,      172.7,        1.5);
    ( 564599.0, 4152157.0,       15.1,      172.7,        1.5);
( 564624.0, 4152157.0,       13.6,      172.7,        1.5);
    ( 564649.0, 4152157.0,       13.6,      172.7,        1.5);
( 564674.0, 4152157.0,       13.2,      172.7,        1.5);
    ( 564699.0, 4152157.0,        9.3,      172.7,        1.5);
( 564724.0, 4152157.0,        8.2,      172.7,        1.5);
    ( 564749.0, 4152157.0,        9.4,      172.7,        1.5);
( 564774.0, 4152157.0,        8.4,      172.7,        1.5);
    ( 564799.0, 4152157.0,        5.5,      172.7,        1.5);
( 564824.0, 4152157.0,        4.8,      172.7,        1.5);
    ( 564849.0, 4152157.0,        4.1,      172.7,        1.5);
( 564874.0, 4152157.0,        4.0,      172.7,        1.5);
    ( 564899.0, 4152157.0,        3.8,      172.7,        1.5);
( 564924.0, 4152157.0,        3.8,      172.7,        1.5);
    ( 564274.0, 4152182.0,       45.0,      172.7,        1.5);
( 564299.0, 4152182.0,       46.2,      172.7,        1.5);
    ( 564324.0, 4152182.0,       44.7,      172.7,        1.5);
( 564349.0, 4152182.0,       44.5,      172.7,        1.5);
    ( 564374.0, 4152182.0,       45.5,      172.7,        1.5);
( 564399.0, 4152182.0,       45.6,      172.7,        1.5);
    ( 564424.0, 4152182.0,       42.7,      172.7,        1.5);
( 564449.0, 4152182.0,       37.0,      172.7,        1.5);
    ( 564474.0, 4152182.0,       28.3,      172.7,        1.5);
( 564499.0, 4152182.0,       23.3,      172.7,        1.5);
    ( 564524.0, 4152182.0,       20.7,      172.7,        1.5);
( 564549.0, 4152182.0,       18.8,      172.7,        1.5);
    ( 564574.0, 4152182.0,       16.3,      172.7,        1.5);
( 564599.0, 4152182.0,       14.5,      172.7,        1.5);
    ( 564624.0, 4152182.0,       13.9,      172.7,        1.5);
( 564649.0, 4152182.0,       12.8,      172.7,        1.5);
    ( 564674.0, 4152182.0,       10.2,      172.7,        1.5);
( 564699.0, 4152182.0,        8.8,      172.7,        1.5);
    ( 564724.0, 4152182.0,        9.0,      172.7,        1.5);
( 564749.0, 4152182.0,        9.0,      172.7,        1.5);
    ( 564774.0, 4152182.0,        5.8,      172.7,        1.5);
( 564799.0, 4152182.0,        5.0,      172.7,        1.5);
    ( 564824.0, 4152182.0,        5.0,      172.7,        1.5);
( 564849.0, 4152182.0,        4.3,      172.7,        1.5);
    ( 564874.0, 4152182.0,        3.9,      172.7,        1.5);
( 564899.0, 4152182.0,        3.7,      172.7,        1.5);
    ( 564924.0, 4152182.0,        3.8,      172.7,        1.5);
( 564274.0, 4152207.0,       40.6,      172.7,        1.5);
    ( 564299.0, 4152207.0,       38.4,      172.7,        1.5);
( 564324.0, 4152207.0,       38.0,      172.7,        1.5);
    ( 564349.0, 4152207.0,       38.8,      172.7,        1.5);
( 564374.0, 4152207.0,       41.0,      172.7,        1.5);
    ( 564399.0, 4152207.0,       41.4,      172.7,        1.5);
( 564424.0, 4152207.0,       38.7,      172.7,        1.5);
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    ( 564449.0, 4152207.0,       34.2,      172.7,        1.5);
( 564474.0, 4152207.0,       28.0,      172.7,        1.5);
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
     ( 564499.0, 4152207.0,       23.0,      172.7,        1.5);
( 564524.0, 4152207.0,      19.6,      172.7,        1.5);
     ( 564549.0, 4152207.0,       17.4,      172.7,        1.5);
( 564574.0, 4152207.0,      13.7,      172.7,        1.5);
     ( 564599.0, 4152207.0,       13.8,      172.7,        1.5);
( 564624.0, 4152207.0,      13.3,      172.7,        1.5);
     ( 564649.0, 4152207.0,       11.7,      172.7,        1.5);
( 564674.0, 4152207.0,       9.2,      172.7,        1.5);
     ( 564699.0, 4152207.0,        9.4,      172.7,        1.5);
( 564724.0, 4152207.0,       9.8,      172.7,        1.5);
     ( 564749.0, 4152207.0,        6.2,      172.7,        1.5);
( 564774.0, 4152207.0,       5.9,      172.7,        1.5);
     ( 564799.0, 4152207.0,        5.2,      172.7,        1.5);
( 564824.0, 4152207.0,       4.8,      172.7,        1.5);
     ( 564849.0, 4152207.0,        4.2,      172.7,        1.5);
( 564874.0, 4152207.0,       3.9,      172.7,        1.5);
     ( 564899.0, 4152207.0,        3.7,      172.7,        1.5);
( 564924.0, 4152207.0,       3.6,      172.7,        1.5);
     ( 564274.0, 4152232.0,       34.3,      172.7,        1.5);
( 564299.0, 4152232.0,      32.8,      172.7,        1.5);
     ( 564324.0, 4152232.0,       34.6,      172.7,        1.5);
( 564349.0, 4152232.0,      34.8,      172.7,        1.5);
     ( 564374.0, 4152232.0,       36.7,      172.7,        1.5);
( 564399.0, 4152232.0,      35.6,      172.7,        1.5);
     ( 564424.0, 4152232.0,       31.8,      172.7,        1.5);
( 564449.0, 4152232.0,      28.8,      172.7,        1.5);
     ( 564474.0, 4152232.0,       25.6,      172.7,        1.5);
( 564499.0, 4152232.0,      22.1,      172.7,        1.5);
     ( 564524.0, 4152232.0,       19.2,      172.7,        1.5);
( 564549.0, 4152232.0,      17.3,      172.7,        1.5);
     ( 564574.0, 4152232.0,       13.2,      172.7,        1.5);
( 564599.0, 4152232.0,      13.5,      172.7,        1.5);
     ( 564624.0, 4152232.0,       12.7,      172.7,        1.5);
( 564649.0, 4152232.0,      10.1,      172.7,        1.5);
     ( 564674.0, 4152232.0,       10.0,      172.7,        1.5);
( 564699.0, 4152232.0,      10.3,      172.7,        1.5);
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( 564749.0, 4152232.0,        6.2,      172.7,        1.5);
( 564774.0, 4152232.0,        5.7,      172.7,        1.5);
( 564799.0, 4152232.0,        5.7,      172.7,        1.5);
( 564824.0, 4152232.0,        4.7,      172.7,        1.5);
( 564849.0, 4152232.0,        4.1,      172.7,        1.5);
( 564874.0, 4152232.0,        4.2,      172.7,        1.5);
( 564899.0, 4152232.0,        3.8,      172.7,        1.5);
( 564924.0, 4152232.0,        3.8,      172.7,        1.5);
( 564274.0, 4152257.0,       29.7,      172.7,        1.5);
( 564299.0, 4152257.0,       30.1,      172.7,        1.5);
( 564324.0, 4152257.0,       30.4,      172.7,        1.5);
( 564349.0, 4152257.0,       29.8,      172.7,        1.5);
( 564374.0, 4152257.0,       29.0,      172.7,        1.5);
( 564399.0, 4152257.0,       26.3,      172.7,        1.5);
( 564424.0, 4152257.0,       24.4,      172.7,        1.5);
( 564449.0, 4152257.0,       23.3,      172.7,        1.5);
( 564474.0, 4152257.0,       22.1,      172.7,        1.5);
( 564499.0, 4152257.0,       20.0,      172.7,        1.5);
( 564524.0, 4152257.0,       19.6,      172.7,        1.5);
( 564549.0, 4152257.0,       13.4,      172.7,        1.5);
( 564574.0, 4152257.0,       13.3,      172.7,        1.5);
( 564599.0, 4152257.0,       12.8,      172.7,        1.5);
( 564624.0, 4152257.0,       10.7,      172.7,        1.5);
( 564649.0, 4152257.0,       10.6,      172.7,        1.5);
( 564674.0, 4152257.0,       10.3,      172.7,        1.5);
( 564699.0, 4152257.0,        7.1,      172.7,        1.5);
( 564724.0, 4152257.0,        6.7,      172.7,        1.5);
( 564749.0, 4152257.0,        5.7,      172.7,        1.5);
( 564774.0, 4152257.0,        5.3,      172.7,        1.5);
( 564799.0, 4152257.0,        5.0,      172.7,        1.5);
( 564824.0, 4152257.0,        4.9,      172.7,        1.5);
( 564849.0, 4152257.0,        4.6,      172.7,        1.5);
( 564874.0, 4152257.0,        4.0,      172.7,        1.5);
( 564899.0, 4152257.0,        3.8,      172.7,        1.5);
( 564924.0, 4152257.0,        3.6,      172.7,        1.5);
( 564274.0, 4152282.0,       27.7,      172.7,        1.5);
( 564299.0, 4152282.0,       26.0,      172.7,        1.5);
( 564324.0, 4152282.0,       24.7,      172.7,        1.5);
( 564349.0, 4152282.0,       24.6,      172.7,        1.5);
( 564374.0, 4152282.0,       23.7,      172.7,        1.5);
( 564399.0, 4152282.0,       22.4,      172.7,        1.5);
( 564424.0, 4152282.0,       21.3,      172.7,        1.5);
( 564449.0, 4152282.0,       20.0,      172.7,        1.5);
( 564474.0, 4152282.0,       18.4,      172.7,        1.5);
( 564499.0, 4152282.0,       17.7,      172.7,        1.5);
( 564524.0, 4152282.0,       12.3,      172.7,        1.5);
( 564549.0, 4152282.0,       13.0,      172.7,        1.5);
( 564574.0, 4152282.0,       11.7,      172.7,        1.5);
( 564599.0, 4152282.0,       12.3,      172.7,        1.5);
( 564624.0, 4152282.0,        9.8,      172.7,        1.5);
( 564649.0, 4152282.0,        7.9,      172.7,        1.5);
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    ( 564674.0, 4152282.0,        7.2,      172.7,        1.5);
( 564699.0, 4152282.0,        7.0,      172.7,        1.5);
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
( 564724.0, 4152282.0,       6.8,     172.7,       1.5);
( 564749.0, 4152282.0,       6.4,     172.7,       1.5);
( 564774.0, 4152282.0,       5.2,     172.7,       1.5);
( 564799.0, 4152282.0,       4.8,     172.7,       1.5);
( 564824.0, 4152282.0,       4.9,     172.7,       1.5);
( 564849.0, 4152282.0,       4.7,     172.7,       1.5);
( 564874.0, 4152282.0,       4.6,     172.7,       1.5);
( 564899.0, 4152282.0,       3.5,     172.7,       1.5);
( 564924.0, 4152282.0,       3.4,     172.7,       1.5);
( 564274.0, 4152307.0,      25.1,     172.7,       1.5);
( 564299.0, 4152307.0,      23.4,     172.7,       1.5);
( 564324.0, 4152307.0,      22.4,     172.7,       1.5);
( 564349.0, 4152307.0,      21.9,     172.7,       1.5);
( 564374.0, 4152307.0,      21.2,     172.7,       1.5);
( 564399.0, 4152307.0,      20.2,     172.7,       1.5);
( 564424.0, 4152307.0,      18.8,     172.7,       1.5);
( 564449.0, 4152307.0,      17.4,     172.7,       1.5);
( 564474.0, 4152307.0,      15.8,     172.7,       1.5);
( 564499.0, 4152307.0,      13.7,     172.7,       1.5);
( 564524.0, 4152307.0,      13.2,     172.7,       1.5);
( 564549.0, 4152307.0,      11.1,     172.7,       1.5);
( 564574.0, 4152307.0,       9.4,     172.7,       1.5);
( 564599.0, 4152307.0,       8.5,     172.7,       1.5);
( 564624.0, 4152307.0,       7.8,     172.7,       1.5);
( 564649.0, 4152307.0,       7.2,     172.7,       1.5);
( 564674.0, 4152307.0,       7.3,     172.7,       1.5);
( 564699.0, 4152307.0,       7.4,     172.7,       1.5);
( 564724.0, 4152307.0,       7.0,     172.7,       1.5);
( 564749.0, 4152307.0,       6.6,     172.7,       1.5);
( 564774.0, 4152307.0,       6.2,     172.7,       1.5);
( 564799.0, 4152307.0,       5.3,     172.7,       1.5);
( 564824.0, 4152307.0,       4.6,     172.7,       1.5);
( 564849.0, 4152307.0,       4.8,     172.7,       1.5);
( 564874.0, 4152307.0,       4.3,     172.7,       1.5);
( 564899.0, 4152307.0,       3.6,     172.7,       1.5);
( 564924.0, 4152307.0,       3.8,     172.7,       1.5);
```

```
    ( 564274.0, 4152332.0,      23.0,     172.7,       1.5);
( 564299.0, 4152332.0,      21.8,     172.7,       1.5);
    ( 564324.0, 4152332.0,      20.7,     172.7,       1.5);
( 564349.0, 4152332.0,      19.8,     172.7,       1.5);
    ( 564374.0, 4152332.0,      18.8,     172.7,       1.5);
( 564399.0, 4152332.0,      17.9,     172.7,       1.5);
    ( 564424.0, 4152332.0,      16.9,     172.7,       1.5);
( 564449.0, 4152332.0,      15.3,     172.7,       1.5);
    ( 564474.0, 4152332.0,      13.8,     172.7,       1.5);
( 564499.0, 4152332.0,      12.8,     172.7,       1.5);
    ( 564524.0, 4152332.0,      11.0,     172.7,       1.5);
( 564549.0, 4152332.0,       9.3,     172.7,       1.5);
    ( 564574.0, 4152332.0,       8.4,     172.7,       1.5);
( 564599.0, 4152332.0,       8.0,     172.7,       1.5);
    ( 564624.0, 4152332.0,       7.4,     172.7,       1.5);
( 564649.0, 4152332.0,       7.2,     172.7,       1.5);
    ( 564674.0, 4152332.0,       7.2,     172.7,       1.5);
( 564699.0, 4152332.0,       7.3,     172.7,       1.5);
    ( 564724.0, 4152332.0,       7.4,     172.7,       1.5);
( 564749.0, 4152332.0,       7.0,     172.7,       1.5);
    ( 564774.0, 4152332.0,       6.5,     172.7,       1.5);
( 564799.0, 4152332.0,       6.0,     172.7,       1.5);
    ( 564824.0, 4152332.0,       5.2,     172.7,       1.5);
( 564849.0, 4152332.0,       4.6,     172.7,       1.5);
    ( 564874.0, 4152332.0,       4.2,     172.7,       1.5);
( 564899.0, 4152332.0,       4.0,     172.7,       1.5);
    ( 564924.0, 4152332.0,       4.2,     172.7,       1.5);
( 564274.0, 4152357.0,      20.9,     172.7,       1.5);
    ( 564299.0, 4152357.0,      19.9,     172.7,       1.5);
( 564324.0, 4152357.0,      19.0,     172.7,       1.5);
    ( 564349.0, 4152357.0,      18.0,     172.7,       1.5);
( 564374.0, 4152357.0,      17.0,     172.7,       1.5);
    ( 564399.0, 4152357.0,      15.9,     172.7,       1.5);
( 564424.0, 4152357.0,      14.6,     172.7,       1.5);
    ( 564449.0, 4152357.0,      12.0,     172.7,       1.5);
( 564474.0, 4152357.0,      12.2,     172.7,       1.5);
    ( 564499.0, 4152357.0,      10.5,     172.7,       1.5);
( 564524.0, 4152357.0,       9.1,     172.7,       1.5);
    ( 564549.0, 4152357.0,       8.7,     172.7,       1.5);
( 564574.0, 4152357.0,       8.0,     172.7,       1.5);
    ( 564599.0, 4152357.0,       7.6,     172.7,       1.5);
( 564624.0, 4152357.0,       7.2,     172.7,       1.5);
    ( 564649.0, 4152357.0,       7.3,     172.7,       1.5);
( 564674.0, 4152357.0,       7.0,     172.7,       1.5);
    ( 564699.0, 4152357.0,       6.7,     172.7,       1.5);
( 564724.0, 4152357.0,       7.3,     172.7,       1.5);
    ( 564749.0, 4152357.0,       7.1,     172.7,       1.5);
( 564774.0, 4152357.0,       6.5,     172.7,       1.5);
    ( 564799.0, 4152357.0,       6.4,     172.7,       1.5);
( 564824.0, 4152357.0,       5.6,     172.7,       1.5);
    ( 564849.0, 4152357.0,       5.0,     172.7,       1.5);
( 564874.0, 4152357.0,       4.6,     172.7,       1.5);
```

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    ( 564899.0, 4152357.0,        4.3,      172.7,        1.5);
( 564924.0, 4152357.0,        4.4,      172.7,        1.5);
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*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

PAGE 52
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
( 564274.0, 4152382.0,       18.8,     172.7,       1.5);
( 564299.0, 4152382.0,       18.3,     172.7,       1.5);
( 564324.0, 4152382.0,       17.4,     172.7,       1.5);
( 564349.0, 4152382.0,       16.5,     172.7,       1.5);
( 564374.0, 4152382.0,       15.5,     172.7,       1.5);
( 564399.0, 4152382.0,       14.3,     172.7,       1.5);
( 564424.0, 4152382.0,       12.5,     172.7,       1.5);
( 564449.0, 4152382.0,       11.1,     172.7,       1.5);
( 564474.0, 4152382.0,       10.2,     172.7,       1.5);
( 564499.0, 4152382.0,        9.7,     172.7,       1.5);
( 564524.0, 4152382.0,        9.0,     172.7,       1.5);
( 564549.0, 4152382.0,        8.0,     172.7,       1.5);
( 564574.0, 4152382.0,        7.9,     172.7,       1.5);
( 564649.0, 4152382.0,        7.1,     172.7,       1.5);
( 564674.0, 4152382.0,        6.8,     172.7,       1.5);
( 564699.0, 4152382.0,        7.1,     172.7,       1.5);
( 564724.0, 4152382.0,        7.1,     172.7,       1.5);
( 564749.0, 4152382.0,        6.3,     172.7,       1.5);
( 564774.0, 4152382.0,        6.5,     172.7,       1.5);
( 564799.0, 4152382.0,        6.5,     172.7,       1.5);
( 564824.0, 4152382.0,        6.2,     172.7,       1.5);
( 564849.0, 4152382.0,        5.6,     172.7,       1.5);
( 564874.0, 4152382.0,        4.8,     172.7,       1.5);
( 564899.0, 4152382.0,        4.5,     172.7,       1.5);
( 564924.0, 4152382.0,        4.3,     172.7,       1.5);
( 564274.0, 4152407.0,       17.6,     172.7,       1.5);
( 564299.0, 4152407.0,       16.9,     172.7,       1.5);
( 564324.0, 4152407.0,       16.0,     172.7,       1.5);
( 564349.0, 4152407.0,       15.2,     172.7,       1.5);
( 564374.0, 4152407.0,       14.5,     172.7,       1.5);
( 564399.0, 4152407.0,       13.1,     172.7,       1.5);
( 564424.0, 4152407.0,       11.1,     172.7,       1.5);
( 564449.0, 4152407.0,       10.0,     172.7,       1.5);
( 564474.0, 4152407.0,        9.9,     172.7,       1.5);
( 564499.0, 4152407.0,        9.2,     172.7,       1.5);
( 564524.0, 4152407.0,        8.5,     172.7,       1.5);
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
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( 564374.0, 4152557.0,        9.9,     172.7,        1.5);
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06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE  54
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                                   *** DISCRETE
CARTESIAN RECEPTORS ***
                                                 (X-COORD, Y-COORD,
ZELEV, ZHILL, ZFLAG)

(METERS)

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*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

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(564749.0, 4152682.0, 4.8, 172.7, 1.5);
(564774.0, 4152682.0, 4.9, 172.7, 1.5);
(564799.0, 4152682.0, 5.0, 172.7, 1.5);
(564824.0, 4152682.0, 5.1, 172.7, 1.5);
(564849.0, 4152682.0, 5.2, 172.7, 1.5);
(564874.0, 4152682.0, 5.0, 172.7, 1.5);
(564899.0, 4152682.0, 4.6, 172.7, 1.5);
(564924.0, 4152682.0, 4.3, 172.7, 1.5);
(564274.0, 4152707.0, 10.0, 172.7, 1.5);
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(564324.0, 4152707.0, 8.8, 172.7, 1.5);
(564349.0, 4152707.0, 8.4, 172.7, 1.5);
(564374.0, 4152707.0, 8.8, 172.7, 1.5);
(564399.0, 4152707.0, 8.6, 172.7, 1.5);
(564424.0, 4152707.0, 8.2, 172.7, 1.5);
(564449.0, 4152707.0, 8.3, 172.7, 1.5);
(564474.0, 4152707.0, 8.4, 172.7, 1.5);
(564499.0, 4152707.0, 8.8, 172.7, 1.5);
(564524.0, 4152707.0, 8.4, 172.7, 1.5);
(564549.0, 4152707.0, 8.0, 172.7, 1.5);
(564574.0, 4152707.0, 8.0, 172.7, 1.5);
(564599.0, 4152707.0, 7.3, 172.7, 1.5);
(564624.0, 4152707.0, 6.9, 172.7, 1.5);
(564649.0, 4152707.0, 6.5, 172.7, 1.5);
(564674.0, 4152707.0, 6.6, 172.7, 1.5);
(564699.0, 4152707.0, 6.5, 172.7, 1.5);
(564724.0, 4152707.0, 4.9, 172.7, 1.5);
(564749.0, 4152707.0, 4.8, 172.7, 1.5);
(564774.0, 4152707.0, 4.9, 172.7, 1.5);
(564799.0, 4152707.0, 5.0, 172.7, 1.5);
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(564849.0, 4152707.0, 5.4, 172.7, 1.5);
(564874.0, 4152707.0, 4.8, 172.7, 1.5);
(564899.0, 4152707.0, 4.7, 172.7, 1.5);
(564924.0, 4152707.0, 4.1, 172.7, 1.5);
(564274.0, 4152732.0, 9.8, 172.7, 1.5);
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(564349.0, 4152732.0, 8.4, 172.7, 1.5);
(564374.0, 4152732.0, 8.5, 172.7, 1.5);
(564399.0, 4152732.0, 8.2, 172.7, 1.5);
(564424.0, 4152732.0, 8.0, 172.7, 1.5);
(564449.0, 4152732.0, 8.1, 172.7, 1.5);
(564474.0, 4152732.0, 8.0, 172.7, 1.5);
(564499.0, 4152732.0, 8.0, 172.7, 1.5);

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    ( 564524.0, 4152732.0,        8.1,      172.7,        1.5);
( 564549.0, 4152732.0,        7.6,      172.7,        1.5);
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(564574.0, 4152732.0, 7.2, 172.7, 1.5);
(564599.0, 4152732.0, 6.8, 172.7, 1.5);
(564624.0, 4152732.0, 6.3, 172.7, 1.5);
(564649.0, 4152732.0, 6.5, 172.7, 1.5);
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(564699.0, 4152732.0, 6.0, 172.7, 1.5);
(564724.0, 4152732.0, 5.8, 172.7, 1.5);
(564749.0, 4152732.0, 4.7, 172.7, 1.5);
(564774.0, 4152732.0, 4.9, 172.7, 1.5);
(564799.0, 4152732.0, 5.0, 172.7, 1.5);
(564824.0, 4152732.0, 5.0, 172.7, 1.5);
(564849.0, 4152732.0, 5.0, 172.7, 1.5);
(564874.0, 4152732.0, 4.7, 172.7, 1.5);
(564899.0, 4152732.0, 4.7, 172.7, 1.5);
(564924.0, 4152732.0, 4.1, 172.7, 1.5);
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(564374.0, 4152757.0, 8.5, 172.7, 1.5);
(564399.0, 4152757.0, 8.1, 172.7, 1.5);
(564424.0, 4152757.0, 8.0, 172.7, 1.5);
(564449.0, 4152757.0, 7.9, 172.7, 1.5);
(564474.0, 4152757.0, 8.0, 172.7, 1.5);
(564499.0, 4152757.0, 7.2, 172.7, 1.5);
(564524.0, 4152757.0, 7.4, 172.7, 1.5);
(564549.0, 4152757.0, 7.4, 172.7, 1.5);
(564574.0, 4152757.0, 6.9, 172.7, 1.5);
(564599.0, 4152757.0, 6.5, 172.7, 1.5);
(564624.0, 4152757.0, 6.4, 172.7, 1.5);
(564649.0, 4152757.0, 6.3, 172.7, 1.5);
(564674.0, 4152757.0, 5.9, 172.7, 1.5);
(564699.0, 4152757.0, 5.8, 172.7, 1.5);
(564724.0, 4152757.0, 5.6, 172.7, 1.5);
(564749.0, 4152757.0, 5.0, 172.7, 1.5);
(564774.0, 4152757.0, 4.6, 172.7, 1.5);

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( 564799.0, 4152757.0,        4.9,     172.7,        1.5);
( 564824.0, 4152757.0,        4.8,     172.7,        1.5);
( 564849.0, 4152757.0,        4.6,     172.7,        1.5);
( 564874.0, 4152757.0,        4.5,     172.7,        1.5);
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( 564924.0, 4152757.0,        3.6,     172.7,        1.5);
( 564274.0, 4152782.0,        9.3,     172.7,        1.5);
( 564299.0, 4152782.0,        8.9,     172.7,        1.5);
( 564324.0, 4152782.0,        8.6,     172.7,        1.5);
( 564349.0, 4152782.0,        8.5,     172.7,        1.5);
( 564374.0, 4152782.0,        8.3,     172.7,        1.5);
( 564399.0, 4152782.0,        8.5,     172.7,        1.5);
( 564424.0, 4152782.0,        8.4,     172.7,        1.5);
( 564449.0, 4152782.0,        7.9,     172.7,        1.5);
( 564474.0, 4152782.0,        7.4,     172.7,        1.5);
( 564499.0, 4152782.0,        7.1,     172.7,        1.5);
( 564524.0, 4152782.0,        6.9,     172.7,        1.5);
( 564549.0, 4152782.0,        6.6,     172.7,        1.5);
( 564574.0, 4152782.0,        6.7,     172.7,        1.5);
( 564599.0, 4152782.0,        6.4,     172.7,        1.5);
( 564624.0, 4152782.0,        6.1,     172.7,        1.5);
( 564649.0, 4152782.0,        6.0,     172.7,        1.5);
( 564674.0, 4152782.0,        5.8,     172.7,        1.5);
( 564699.0, 4152782.0,        5.7,     172.7,        1.5);
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( 564749.0, 4152782.0,        5.2,     172.7,        1.5);
( 564774.0, 4152782.0,        4.9,     172.7,        1.5);
( 564799.0, 4152782.0,        4.5,     172.7,        1.5);
( 564824.0, 4152782.0,        4.5,     172.7,        1.5);
( 564849.0, 4152782.0,        4.1,     172.7,        1.5);
( 564874.0, 4152782.0,        4.1,     172.7,        1.5);
( 564899.0, 4152782.0,        3.7,     172.7,        1.5);
( 564924.0, 4152782.0,        3.6,     172.7,        1.5);
```

```
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE  57
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                            *** METEOROLOGICAL
DAYS SELECTED FOR PROCESSING ***
                                                            (1
=YES; 0=NO)

            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1

                NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED
WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.



                                  *** UPPER BOUND OF FIRST
THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

                                                 1.54,   3.09,
5.14,   8.23,  10.80,
```

```
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE  58
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                    *** UP TO THE FIRST 24 HOURS
OF METEOROLOGICAL DATA ***

   Surface file:   ..\405industrialRd_MIT\Met data-San Carlos
Airport\724938.SFC                    Met Version:  14134
   Profile file:   ..\405industrialRd_MIT\Met data-San Carlos
Airport\724938.PFL
   Surface format: FREE
   Profile format: FREE
   Surface station no.:    93231                  Upper air
station no.:    23230
                  Name: SAN_CARLOS_AIRPORT
Name: OAKLAND/WSO_AP
                  Year:   2009
Year:   2009

 First 24 hours of scalar data
 YR MO DY JDY HR     H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN
Z0  BOWEN ALBEDO  REF WS   WD     HT  REF TA     HT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 09 01 01   1 01 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 02 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 03 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 04 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 05 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 06 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 07   -3.0  0.063 -9.000 -9.000 -999.   38.      7.5
0.04   0.55   1.00    1.76    5.   10.0  281.1    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   0.74    0.00    0.   10.0  280.1    2.0
 09 01 01   1 09 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   0.38  999.00  999.   -9.0  280.1    2.0
 09 01 01   1 10    5.5  0.179  0.236  0.014   87.  181.    -95.0
0.04   0.55   0.26    2.36   61.   10.0  280.1    2.0
 09 01 01   1 11   12.1 -9.000 -9.000 -9.000  156. -999. -99999.0
0.04   0.55   0.21    0.00    0.   10.0  280.1    2.0
```

```
 09 01 01   1 12   16.0  0.328  0.455  0.016  215.  451.   -201.4
0.04   0.55   0.20    4.36  336.   10.0  281.1    2.0
 09 01 01   1 13   16.6  0.226  0.493  0.015  262.  263.    -63.2
0.04   0.55   0.19    2.86  293.   10.0  281.1    2.0
 09 01 01   1 14   69.0 -9.000 -9.000 -9.000  402. -999. -99999.0
0.04   0.55   0.20    0.00    0.   10.0  282.1    2.0
 09 01 01   1 15   49.6  0.205  0.847  0.017  445.  223.    -15.9
0.04   0.55   0.23    2.36  999.   10.0  283.1    2.0
 09 01 01   1 16   18.0  0.192  0.607  0.016  451.  202.    -35.7
0.04   0.55   0.31    2.36  999.   10.0  283.1    2.0
 09 01 01   1 17  -17.1  0.203 -9.000 -9.000 -999.  220.     44.6
0.04   0.55   0.55    3.36  999.   10.0  282.1    2.0
 09 01 01   1 18  -11.3  0.104 -9.000 -9.000 -999.   86.      9.1
0.04   0.55   1.00    2.86  337.   10.0  282.1    2.0
 09 01 01   1 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00    0.00    0.   10.0  281.1    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00    0.00    0.   10.0  281.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW
sigmaV
 09 01 01 01   10.0 1 -999.  -99.00  -999.0
99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
```

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
*** AERMET - VERSION 14134 *** ***
*** 12:38:17

PAGE 59
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_ALL ***
INCLUDING SOURCE(S):
PAREA01 , PAREA02 , PAREA03 , PAREA04 , PAREA05 ,
A0000001 , A0000002 , A0000003 , A0000004 , A0000005 , A0000006 , A0000007 , A0000008 ,
A0000009 , A0000010 , A0000011 , A0000012 , A0000013 , A0000014 , A0000015 , A0000016 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564274.00	4152132.00	0.00090	564299.00	4152132.00	0.00106
564324.00	4152132.00	0.00126	564349.00	4152132.00	0.00153
564374.00	4152132.00	0.00186	564399.00	4152132.00	0.00226
564424.00	4152132.00	0.00287	564449.00	4152132.00	0.00375
564474.00	4152132.00	0.00440	564499.00	4152132.00	0.00506
564524.00	4152132.00	0.00585	564549.00	4152132.00	0.00661
564574.00	4152132.00	0.00741	564599.00	4152132.00	0.00804
564624.00	4152132.00	0.00815	564649.00	4152132.00	0.00805
564674.00	4152132.00	0.00783	564699.00	4152132.00	0.00771
564724.00	4152132.00	0.00759	564749.00	4152132.00	0.00724
564774.00	4152132.00	0.00680			

564799.00	4152132.00	0.00649
564824.00	4152132.00	0.00608
564849.00	4152132.00	0.00572
564874.00	4152132.00	0.00538
564899.00	4152132.00	0.00507
564924.00	4152132.00	0.00476
564274.00	4152157.00	0.00092
564299.00	4152157.00	0.00109
564324.00	4152157.00	0.00131
564349.00	4152157.00	0.00158
564374.00	4152157.00	0.00192
564399.00	4152157.00	0.00236
564424.00	4152157.00	0.00296
564449.00	4152157.00	0.00389
564474.00	4152157.00	0.00495
564499.00	4152157.00	0.00605
564524.00	4152157.00	0.00703
564549.00	4152157.00	0.00812
564574.00	4152157.00	0.00870
564599.00	4152157.00	0.00954
564624.00	4152157.00	0.00971
564649.00	4152157.00	0.00946
564674.00	4152157.00	0.00913
564699.00	4152157.00	0.00929
564724.00	4152157.00	0.00888
564749.00	4152157.00	0.00828
564774.00	4152157.00	0.00784
564799.00	4152157.00	0.00736
564824.00	4152157.00	0.00685
564849.00	4152157.00	0.00638
564874.00	4152157.00	0.00597
564899.00	4152157.00	0.00557
564924.00	4152157.00	0.00521
564274.00	4152182.00	0.00095
564299.00	4152182.00	0.00112
564324.00	4152182.00	0.00136
564349.00	4152182.00	0.00165
564374.00	4152182.00	0.00201
564399.00	4152182.00	0.00249
564424.00	4152182.00	0.00316
564449.00	4152182.00	0.00409
564474.00	4152182.00	0.00548
564499.00	4152182.00	0.00702
564524.00	4152182.00	0.00847
564549.00	4152182.00	0.00975
564574.00	4152182.00	0.01090
564599.00	4152182.00	0.01157
564624.00	4152182.00	0.01160
564649.00	4152182.00	0.01146
564674.00	4152182.00	0.01152
564699.00	4152182.00	0.01103
564724.00	4152182.00	0.01032

564749.00	4152182.00	0.00961
564774.00	4152182.00	0.00903
564799.00	4152182.00	0.00835
564824.00	4152182.00	0.00775
564849.00	4152182.00	0.00715
564874.00	4152182.00	0.00662
564899.00	4152182.00	0.00613

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

PAGE 60
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_ALL ***
INCLUDING SOURCE(S): PAREA01 , PAREA02 , PAREA03 , PAREA04 , PAREA05 ,
A0000001 , A0000002 , A0000003 , A0000004 , A0000005 , A0000006 , A0000007 , A0000008 ,
A0000009 , A0000010 , A0000011 , A0000012 , A0000013 , A0000014 , A0000015 , A0000016 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564924.00	4152182.00	0.00569	564274.00	4152207.00	0.00097
564299.00	4152207.00	0.00118	564324.00	4152207.00	0.00143
564349.00	4152207.00	0.00174	564374.00	4152207.00	0.00212
564399.00	4152207.00	0.00265	564424.00	4152207.00	0.00342
564449.00	4152207.00	0.00451	564474.00	4152207.00	0.00605
564499.00	4152207.00	0.00798	564524.00	4152207.00	0.01003
564549.00	4152207.00	0.01190	564574.00	4152207.00	0.01384
564599.00	4152207.00	0.01431	564624.00	4152207.00	0.01434
564649.00	4152207.00	0.01433	564674.00	4152207.00	0.01409
564699.00	4152207.00	0.01310	564724.00	4152207.00	0.01207
564749.00	4152207.00	0.01135			

564774.00	4152207.00	0.01043
564799.00	4152207.00	0.00955
564824.00	4152207.00	0.00875
564849.00	4152207.00	0.00801
564874.00	4152207.00	0.00735
564899.00	4152207.00	0.00675
564924.00	4152207.00	0.00619
564274.00	4152232.00	0.00101
564299.00	4152232.00	0.00123
564324.00	4152232.00	0.00147
564349.00	4152232.00	0.00182
564374.00	4152232.00	0.00223
564399.00	4152232.00	0.00287
564424.00	4152232.00	0.00384
564449.00	4152232.00	0.00514
564474.00	4152232.00	0.00689
564499.00	4152232.00	0.00918
564524.00	4152232.00	0.01185
564549.00	4152232.00	0.01439
564574.00	4152232.00	0.01728
564599.00	4152232.00	0.01799
564624.00	4152232.00	0.01813
564649.00	4152232.00	0.01837
564674.00	4152232.00	0.01713
564699.00	4152232.00	0.01576
564724.00	4152232.00	0.01471
564749.00	4152232.00	0.01336
564774.00	4152232.00	0.01210
564799.00	4152232.00	0.01099
564824.00	4152232.00	0.00991
564849.00	4152232.00	0.00897
564874.00	4152232.00	0.00817
564899.00	4152232.00	0.00740
564924.00	4152232.00	0.00675
564274.00	4152257.00	0.00104
564299.00	4152257.00	0.00125
564324.00	4152257.00	0.00152
564349.00	4152257.00	0.00191
564374.00	4152257.00	0.00244
564399.00	4152257.00	0.00327
564424.00	4152257.00	0.00442
564449.00	4152257.00	0.00595
564474.00	4152257.00	0.00803
564499.00	4152257.00	0.01087
564524.00	4152257.00	0.01381
564549.00	4152257.00	0.01912
564574.00	4152257.00	0.02188
564599.00	4152257.00	0.02346
564624.00	4152257.00	0.02447
564649.00	4152257.00	0.02307
564674.00	4152257.00	0.02140
564699.00	4152257.00	0.01986

564724.00	4152257.00	0.01777
564749.00	4152257.00	0.01582
564774.00	4152257.00	0.01410
564799.00	4152257.00	0.01258
564824.00	4152257.00	0.01127
564849.00	4152257.00	0.01008
564874.00	4152257.00	0.00900

*** AERMOD - VERSION 21112 ***   *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
*** AERMET - VERSION 14134 ***   ***
***   12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: Y1_ALL   ***
INCLUDING SOURCE(S):
PAREA01   , PAREA02   , PAREA03   , PAREA04   , PAREA05   ,
A0000001   , A0000002   , A0000003   , A0000004   , A0000005   , A0000006   , A0000007   , A0000008   ,
A0000009   , A0000010   , A0000011   , A0000012   , A0000013   , A0000014   , A0000015   , A0000016   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3   **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564899.00	4152257.00	0.00809	564924.00	4152257.00	0.00729
564274.00	4152282.00	0.00104	564299.00	4152282.00	0.00128
564324.00	4152282.00	0.00160	564349.00	4152282.00	0.00202
564374.00	4152282.00	0.00262	564399.00	4152282.00	0.00351
564424.00	4152282.00	0.00479	564449.00	4152282.00	0.00669
564474.00	4152282.00	0.00945	564499.00	4152282.00	0.01297
564524.00	4152282.00	0.01944	564549.00	4152282.00	0.02412
564574.00	4152282.00	0.02978	564599.00	4152282.00	0.03191
564624.00	4152282.00	0.03342	564649.00	4152282.00	0.03177
564674.00	4152282.00	0.02834	564699.00	4152282.00	0.02485
564724.00	4152282.00	0.02171			

564749.00	4152282.00	0.01897
564774.00	4152282.00	0.01650
564799.00	4152282.00	0.01445
564824.00	4152282.00	0.01276
564849.00	4152282.00	0.01125
564874.00	4152282.00	0.00996
564899.00	4152282.00	0.00877
564924.00	4152282.00	0.00781
564274.00	4152307.00	0.00104
564299.00	4152307.00	0.00129
564324.00	4152307.00	0.00162
564349.00	4152307.00	0.00206
564374.00	4152307.00	0.00269
564399.00	4152307.00	0.00365
564424.00	4152307.00	0.00511
564449.00	4152307.00	0.00739
564474.00	4152307.00	0.01090
564499.00	4152307.00	0.01622
564524.00	4152307.00	0.02280
564549.00	4152307.00	0.03243
564574.00	4152307.00	0.04267
564599.00	4152307.00	0.04923
564624.00	4152307.00	0.04870
564649.00	4152307.00	0.04353
564674.00	4152307.00	0.03735
564699.00	4152307.00	0.03164
564724.00	4152307.00	0.02682
564749.00	4152307.00	0.02281
564774.00	4152307.00	0.01949
564799.00	4152307.00	0.01667
564824.00	4152307.00	0.01431
564849.00	4152307.00	0.01246
564874.00	4152307.00	0.01084
564899.00	4152307.00	0.00946
564924.00	4152307.00	0.00836
564274.00	4152332.00	0.00104
564299.00	4152332.00	0.00128
564324.00	4152332.00	0.00161
564349.00	4152332.00	0.00207
564374.00	4152332.00	0.00274
564399.00	4152332.00	0.00374
564424.00	4152332.00	0.00534
564449.00	4152332.00	0.00801
564474.00	4152332.00	0.01237
564499.00	4152332.00	0.01899
564524.00	4152332.00	0.02961
564549.00	4152332.00	0.04435
564574.00	4152332.00	0.06185
564599.00	4152332.00	0.07508
564624.00	4152332.00	0.07257
564649.00	4152332.00	0.06199
564674.00	4152332.00	0.05065

564699.00	4152332.00	0.04096
564724.00	4152332.00	0.03332
564749.00	4152332.00	0.02740
564774.00	4152332.00	0.02276
564799.00	4152332.00	0.01906
564824.00	4152332.00	0.01602
564849.00	4152332.00	0.01361

 *** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: Y1_ALL   ***
INCLUDING SOURCE(S):
PAREA01   , PAREA02   , PAREA03   , PAREA04   ,
PAREA05   ,
A0000001   , A0000002   , A0000003   ,
A0000004   , A0000005   , A0000006   , A0000007   ,
A0000008   ,
A0000009   , A0000010   , A0000011   ,
A0000012   , A0000013   , A0000014   , A0000015   ,
A0000016   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3   **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152332.00	0.01166	564899.00	4152332.00	0.01011
564924.00	4152332.00	0.00885	564274.00	4152357.00	0.00104
564299.00	4152357.00	0.00127	564324.00	4152357.00	0.00160
564349.00	4152357.00	0.00206	564374.00	4152357.00	0.00274
564399.00	4152357.00	0.00379	564424.00	4152357.00	0.00552
564449.00	4152357.00	0.00886	564474.00	4152357.00	0.01389
564499.00	4152357.00	0.02332	564524.00	4152357.00	0.03833
564549.00	4152357.00	0.06002	564574.00	4152357.00	0.08874
564599.00	4152357.00	0.10805	564624.00	4152357.00	0.10731
564649.00	4152357.00	0.09070	564674.00	4152357.00	0.06977
564699.00	4152357.00	0.05309			

564724.00	4152357.00	0.04113
564749.00	4152357.00	0.03250
564774.00	4152357.00	0.02612
564799.00	4152357.00	0.02133
564824.00	4152357.00	0.01758
564849.00	4152357.00	0.01468
564874.00	4152357.00	0.01241
564899.00	4152357.00	0.01061
564924.00	4152357.00	0.00920
564274.00	4152382.00	0.00103
564299.00	4152382.00	0.00126
564324.00	4152382.00	0.00158
564349.00	4152382.00	0.00203
564374.00	4152382.00	0.00270
564399.00	4152382.00	0.00375
564424.00	4152382.00	0.00563
564449.00	4152382.00	0.00899
564474.00	4152382.00	0.01541
564499.00	4152382.00	0.02736
564524.00	4152382.00	0.04822
564549.00	4152382.00	0.07975
564574.00	4152382.00	0.11178
564649.00	4152382.00	0.12327
564674.00	4152382.00	0.09322
564699.00	4152382.00	0.06720
564724.00	4152382.00	0.04938
564749.00	4152382.00	0.03730
564774.00	4152382.00	0.02907
564799.00	4152382.00	0.02313
564824.00	4152382.00	0.01876
564849.00	4152382.00	0.01543
564874.00	4152382.00	0.01286
564899.00	4152382.00	0.01090
564924.00	4152382.00	0.00935
564274.00	4152407.00	0.00102
564299.00	4152407.00	0.00124
564324.00	4152407.00	0.00155
564349.00	4152407.00	0.00198
564374.00	4152407.00	0.00261
564399.00	4152407.00	0.00364
564424.00	4152407.00	0.00550
564449.00	4152407.00	0.00885
564474.00	4152407.00	0.01564
564499.00	4152407.00	0.03133
564524.00	4152407.00	0.06030
564549.00	4152407.00	0.09074
564674.00	4152407.00	0.11194
564699.00	4152407.00	0.07953
564724.00	4152407.00	0.05598
564749.00	4152407.00	0.04068
564774.00	4152407.00	0.03078
564799.00	4152407.00	0.02396

564824.00	4152407.00	0.01914
564849.00	4152407.00	0.01562
564874.00	4152407.00	0.01296
564899.00	4152407.00	0.01090
564924.00	4152407.00	0.00931
564274.00	4152432.00	0.00101
564299.00	4152432.00	0.00122

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
*** AERMET - VERSION 14134 *** ***
*** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_ALL ***
INCLUDING SOURCE(S):
PAREA01 , PAREA02 , PAREA03 , PAREA04 ,
PAREA05 ,
A0000001 , A0000002 , A0000003 ,
A0000004 , A0000005 , A0000006 , A0000007 ,
A0000008 ,
A0000009 , A0000010 , A0000011 ,
A0000012 , A0000013 , A0000014 , A0000015 ,
A0000016 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564324.00	4152432.00	0.00152	564349.00	4152432.00	0.00192
564374.00	4152432.00	0.00253	564399.00	4152432.00	0.00352
564424.00	4152432.00	0.00514	564449.00	4152432.00	0.00805
564474.00	4152432.00	0.01457	564499.00	4152432.00	0.03241
564524.00	4152432.00	0.06179	564674.00	4152432.00	0.10604
564699.00	4152432.00	0.08114	564724.00	4152432.00	0.05702
564749.00	4152432.00	0.04065	564774.00	4152432.00	0.03025
564799.00	4152432.00	0.02333	564824.00	4152432.00	0.01854
564849.00	4152432.00	0.01510	564874.00	4152432.00	0.01253
564899.00	4152432.00	0.01055	564924.00	4152432.00	0.00899
564274.00	4152457.00	0.00099			

564299.00	4152457.00	0.00120
564324.00	4152457.00	0.00148
564349.00	4152457.00	0.00188
564374.00	4152457.00	0.00248
564399.00	4152457.00	0.00336
564424.00	4152457.00	0.00477
564449.00	4152457.00	0.00735
564474.00	4152457.00	0.01260
564499.00	4152457.00	0.02445
564699.00	4152457.00	0.06638
564724.00	4152457.00	0.04907
564749.00	4152457.00	0.03591
564774.00	4152457.00	0.02712
564799.00	4152457.00	0.02110
564824.00	4152457.00	0.01698
564849.00	4152457.00	0.01387
564874.00	4152457.00	0.01159
564899.00	4152457.00	0.00983
564924.00	4152457.00	0.00843
564274.00	4152482.00	0.00098
564299.00	4152482.00	0.00118
564324.00	4152482.00	0.00146
564349.00	4152482.00	0.00186
564374.00	4152482.00	0.00241
564399.00	4152482.00	0.00325
564424.00	4152482.00	0.00456
564449.00	4152482.00	0.00679
564474.00	4152482.00	0.01087
564499.00	4152482.00	0.01862
564674.00	4152482.00	0.06353
564699.00	4152482.00	0.04827
564724.00	4152482.00	0.03618
564749.00	4152482.00	0.02810
564774.00	4152482.00	0.02219
564799.00	4152482.00	0.01781
564824.00	4152482.00	0.01460
564849.00	4152482.00	0.01217
564874.00	4152482.00	0.01027
564899.00	4152482.00	0.00877
564924.00	4152482.00	0.00760
564274.00	4152507.00	0.00097
564299.00	4152507.00	0.00117
564324.00	4152507.00	0.00146
564349.00	4152507.00	0.00184
564374.00	4152507.00	0.00239
564399.00	4152507.00	0.00320
564424.00	4152507.00	0.00443
564449.00	4152507.00	0.00630
564474.00	4152507.00	0.00957
564499.00	4152507.00	0.01501
564524.00	4152507.00	0.02237
564649.00	4152507.00	0.05075

564674.00	4152507.00	0.04132
564699.00	4152507.00	0.03189
564724.00	4152507.00	0.02503
564749.00	4152507.00	0.02018
564774.00	4152507.00	0.01688
564799.00	4152507.00	0.01417
564824.00	4152507.00	0.01196

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_ALL ***
INCLUDING SOURCE(S):
PAREA01 , PAREA02 , PAREA03 , PAREA04 , PAREA05 ,
A0000001 , A0000002 , A0000003 , A0000004 , A0000005 , A0000006 , A0000007 , A0000008 ,
A0000009 , A0000010 , A0000011 , A0000012 , A0000013 , A0000014 , A0000015 , A0000016 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152507.00	0.01015	564874.00	4152507.00	0.00872
564899.00	4152507.00	0.00760	564924.00	4152507.00	0.00669
564274.00	4152532.00	0.00098	564299.00	4152532.00	0.00119
564324.00	4152532.00	0.00147	564349.00	4152532.00	0.00185
564374.00	4152532.00	0.00242	564399.00	4152532.00	0.00320
564424.00	4152532.00	0.00424	564449.00	4152532.00	0.00585
564474.00	4152532.00	0.00826	564499.00	4152532.00	0.01180
564524.00	4152532.00	0.01656	564549.00	4152532.00	0.02130
564624.00	4152532.00	0.03275	564649.00	4152532.00	0.02917
564674.00	4152532.00	0.02384	564699.00	4152532.00	0.01958
564724.00	4152532.00	0.01643			

564749.00	4152532.00	0.01401
564774.00	4152532.00	0.01211
564799.00	4152532.00	0.01078
564824.00	4152532.00	0.00945
564849.00	4152532.00	0.00821
564874.00	4152532.00	0.00725
564899.00	4152532.00	0.00642
564924.00	4152532.00	0.00573
564274.00	4152557.00	0.00100
564299.00	4152557.00	0.00122
564324.00	4152557.00	0.00151
564349.00	4152557.00	0.00192
564374.00	4152557.00	0.00247
564399.00	4152557.00	0.00312
564424.00	4152557.00	0.00407
564449.00	4152557.00	0.00533
564474.00	4152557.00	0.00707
564499.00	4152557.00	0.00922
564524.00	4152557.00	0.01193
564549.00	4152557.00	0.01480
564574.00	4152557.00	0.01644
564599.00	4152557.00	0.01621
564624.00	4152557.00	0.01629
564649.00	4152557.00	0.01516
564674.00	4152557.00	0.01341
564699.00	4152557.00	0.01187
564724.00	4152557.00	0.01058
564749.00	4152557.00	0.00950
564774.00	4152557.00	0.00859
564799.00	4152557.00	0.00779
564824.00	4152557.00	0.00724
564849.00	4152557.00	0.00654
564874.00	4152557.00	0.00588
564899.00	4152557.00	0.00531
564924.00	4152557.00	0.00481
564274.00	4152582.00	0.00103
564299.00	4152582.00	0.00126
564324.00	4152582.00	0.00158
564349.00	4152582.00	0.00199
564374.00	4152582.00	0.00243
564399.00	4152582.00	0.00303
564424.00	4152582.00	0.00379
564449.00	4152582.00	0.00477
564474.00	4152582.00	0.00600
564499.00	4152582.00	0.00734
564524.00	4152582.00	0.00889
564549.00	4152582.00	0.01026
564574.00	4152582.00	0.01080
564599.00	4152582.00	0.01055
564624.00	4152582.00	0.00957
564649.00	4152582.00	0.00885
564674.00	4152582.00	0.00815

564699.00	4152582.00	0.00752
564724.00	4152582.00	0.00696
564749.00	4152582.00	0.00647
564774.00	4152582.00	0.00606
564799.00	4152582.00	0.00563
564824.00	4152582.00	0.00535
564849.00	4152582.00	0.00515

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_ALL ***
INCLUDING SOURCE(S): PAREA01 , PAREA02 , PAREA03 , PAREA04 , PAREA05 ,
A0000001 , A0000002 , A0000003 , A0000004 , A0000005 , A0000006 , A0000007 , A0000008 ,
A0000009 , A0000010 , A0000011 , A0000012 , A0000013 , A0000014 , A0000015 , A0000016 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152582.00	0.00474	564899.00	4152582.00	0.00433
564924.00	4152582.00	0.00398	564274.00	4152607.00	0.00108
564299.00	4152607.00	0.00134	564324.00	4152607.00	0.00166
564349.00	4152607.00	0.00197	564374.00	4152607.00	0.00239
564399.00	4152607.00	0.00287	564424.00	4152607.00	0.00347
564449.00	4152607.00	0.00421	564474.00	4152607.00	0.00503
564499.00	4152607.00	0.00592	564524.00	4152607.00	0.00674
564549.00	4152607.00	0.00734	564574.00	4152607.00	0.00753
564599.00	4152607.00	0.00725	564624.00	4152607.00	0.00672
564649.00	4152607.00	0.00607	564674.00	4152607.00	0.00555
564699.00	4152607.00	0.00514			

564724.00 4152607.00 0.00482
564749.00 4152607.00 0.00457
564774.00 4152607.00 0.00429
564799.00 4152607.00 0.00411
564824.00 4152607.00 0.00396
564849.00 4152607.00 0.00388
564874.00 4152607.00 0.00382
564899.00 4152607.00 0.00355
564924.00 4152607.00 0.00328
564274.00 4152632.00 0.00114
564299.00 4152632.00 0.00142
564324.00 4152632.00 0.00164
564349.00 4152632.00 0.00194
564374.00 4152632.00 0.00227
564399.00 4152632.00 0.00267
564424.00 4152632.00 0.00314
564449.00 4152632.00 0.00365
564474.00 4152632.00 0.00420
564499.00 4152632.00 0.00476
564524.00 4152632.00 0.00522
564549.00 4152632.00 0.00550
564574.00 4152632.00 0.00555
564599.00 4152632.00 0.00534
564624.00 4152632.00 0.00497
564649.00 4152632.00 0.00453
564674.00 4152632.00 0.00413
564699.00 4152632.00 0.00380
564724.00 4152632.00 0.00356
564749.00 4152632.00 0.00332
564774.00 4152632.00 0.00319
564799.00 4152632.00 0.00309
564824.00 4152632.00 0.00301
564849.00 4152632.00 0.00294
564874.00 4152632.00 0.00295
564899.00 4152632.00 0.00293
564924.00 4152632.00 0.00271
564274.00 4152657.00 0.00122
564299.00 4152657.00 0.00141
564324.00 4152657.00 0.00162
564349.00 4152657.00 0.00185
564374.00 4152657.00 0.00213
564399.00 4152657.00 0.00244
564424.00 4152657.00 0.00279
564449.00 4152657.00 0.00316
564474.00 4152657.00 0.00353
564499.00 4152657.00 0.00386
564524.00 4152657.00 0.00413
564549.00 4152657.00 0.00427
564574.00 4152657.00 0.00427
564599.00 4152657.00 0.00412
564624.00 4152657.00 0.00387
564649.00 4152657.00 0.00356

564674.00	4152657.00	0.00325
564699.00	4152657.00	0.00299
564724.00	4152657.00	0.00273
564749.00	4152657.00	0.00258
564774.00	4152657.00	0.00247
564799.00	4152657.00	0.00239
564824.00	4152657.00	0.00234

*** AERMOD - VERSION 21112 ***   *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
*** AERMET - VERSION 14134 ***   ***
***   12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: Y1_ALL   ***
INCLUDING SOURCE(S):
PAREA01   , PAREA02   , PAREA03   , PAREA04   , PAREA05   ,
A0000001   , A0000002   , A0000003   , A0000004   , A0000005   , A0000006   , A0000007   , A0000008   ,
A0000009   , A0000010   , A0000011   , A0000012   , A0000013   , A0000014   , A0000015   , A0000016   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3   **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152657.00	0.00230	564874.00	4152657.00	0.00225
564899.00	4152657.00	0.00229	564924.00	4152657.00	0.00224
564274.00	4152682.00	0.00121	564299.00	4152682.00	0.00138
564324.00	4152682.00	0.00154	564349.00	4152682.00	0.00174
564374.00	4152682.00	0.00196	564399.00	4152682.00	0.00220
564424.00	4152682.00	0.00246	564449.00	4152682.00	0.00273
564474.00	4152682.00	0.00297	564499.00	4152682.00	0.00318
564524.00	4152682.00	0.00334	564549.00	4152682.00	0.00341
564574.00	4152682.00	0.00339	564599.00	4152682.00	0.00328
564624.00	4152682.00	0.00310	564649.00	4152682.00	0.00288
564674.00	4152682.00	0.00265			

564699.00	4152682.00	0.00242
564724.00	4152682.00	0.00223
564749.00	4152682.00	0.00210
564774.00	4152682.00	0.00199
564799.00	4152682.00	0.00192
564824.00	4152682.00	0.00186
564849.00	4152682.00	0.00183
564874.00	4152682.00	0.00180
564899.00	4152682.00	0.00175
564924.00	4152682.00	0.00175
564274.00	4152707.00	0.00118
564299.00	4152707.00	0.00130
564324.00	4152707.00	0.00145
564349.00	4152707.00	0.00161
564374.00	4152707.00	0.00178
564399.00	4152707.00	0.00197
564424.00	4152707.00	0.00217
564449.00	4152707.00	0.00235
564474.00	4152707.00	0.00252
564499.00	4152707.00	0.00265
564524.00	4152707.00	0.00275
564549.00	4152707.00	0.00279
564574.00	4152707.00	0.00276
564599.00	4152707.00	0.00267
564624.00	4152707.00	0.00254
564649.00	4152707.00	0.00238
564674.00	4152707.00	0.00221
564699.00	4152707.00	0.00205
564724.00	4152707.00	0.00188
564749.00	4152707.00	0.00176
564774.00	4152707.00	0.00166
564799.00	4152707.00	0.00158
564824.00	4152707.00	0.00153
564849.00	4152707.00	0.00150
564874.00	4152707.00	0.00146
564899.00	4152707.00	0.00144
564924.00	4152707.00	0.00140
564274.00	4152732.00	0.00111
564299.00	4152732.00	0.00122
564324.00	4152732.00	0.00134
564349.00	4152732.00	0.00148
564374.00	4152732.00	0.00162
564399.00	4152732.00	0.00176
564424.00	4152732.00	0.00190
564449.00	4152732.00	0.00203
564474.00	4152732.00	0.00215
564499.00	4152732.00	0.00224
564524.00	4152732.00	0.00230
564549.00	4152732.00	0.00232
564574.00	4152732.00	0.00229
564599.00	4152732.00	0.00222
564624.00	4152732.00	0.00211

564649.00	4152732.00	0.00200
564674.00	4152732.00	0.00187
564699.00	4152732.00	0.00175
564724.00	4152732.00	0.00162
564749.00	4152732.00	0.00150
564774.00	4152732.00	0.00142
564799.00	4152732.00	0.00134

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_ALL ***
INCLUDING SOURCE(S):
PAREA01 , PAREA02 , PAREA03 , PAREA04 , PAREA05 ,
A0000001 , A0000002 , A0000003 , A0000004 , A0000005 , A0000006 , A0000007 , A0000008 ,
A0000009 , A0000010 , A0000011 , A0000012 , A0000013 , A0000014 , A0000015 , A0000016 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564824.00	4152732.00	0.00129	564849.00	4152732.00	0.00125
564874.00	4152732.00	0.00122	564899.00	4152732.00	0.00119
564924.00	4152732.00	0.00117	564274.00	4152757.00	0.00103
564299.00	4152757.00	0.00113	564324.00	4152757.00	0.00124
564349.00	4152757.00	0.00135	564374.00	4152757.00	0.00145
564399.00	4152757.00	0.00156	564424.00	4152757.00	0.00167
564449.00	4152757.00	0.00176	564474.00	4152757.00	0.00185
564499.00	4152757.00	0.00191	564524.00	4152757.00	0.00195
564549.00	4152757.00	0.00196	564574.00	4152757.00	0.00193
564599.00	4152757.00	0.00187	564624.00	4152757.00	0.00179
564649.00	4152757.00	0.00171			

564674.00	4152757.00	0.00161
564699.00	4152757.00	0.00151
564724.00	4152757.00	0.00141
564749.00	4152757.00	0.00132
564774.00	4152757.00	0.00123
564799.00	4152757.00	0.00116
564824.00	4152757.00	0.00111
564849.00	4152757.00	0.00106
564874.00	4152757.00	0.00103
564899.00	4152757.00	0.00101
564924.00	4152757.00	0.00099
564274.00	4152782.00	0.00096
564299.00	4152782.00	0.00105
564324.00	4152782.00	0.00114
564349.00	4152782.00	0.00122
564374.00	4152782.00	0.00131
564399.00	4152782.00	0.00139
564424.00	4152782.00	0.00147
564449.00	4152782.00	0.00154
564474.00	4152782.00	0.00160
564499.00	4152782.00	0.00165
564524.00	4152782.00	0.00167
564549.00	4152782.00	0.00167
564574.00	4152782.00	0.00165
564599.00	4152782.00	0.00160
564624.00	4152782.00	0.00154
564649.00	4152782.00	0.00147
564674.00	4152782.00	0.00140
564699.00	4152782.00	0.00132
564724.00	4152782.00	0.00124
564749.00	4152782.00	0.00116
564774.00	4152782.00	0.00109
564799.00	4152782.00	0.00102
564824.00	4152782.00	0.00097
564849.00	4152782.00	0.00093
564874.00	4152782.00	0.00089
564899.00	4152782.00	0.00087
564924.00	4152782.00	0.00085

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

PAGE 68
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_ON ***
INCLUDING SOURCE(S): PAREA01 , PAREA02 , PAREA03 , PAREA04 , PAREA05 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564274.00	4152132.00	0.00089	564299.00	4152132.00	0.00105
564324.00	4152132.00	0.00126	564349.00	4152132.00	0.00152
564374.00	4152132.00	0.00185	564399.00	4152132.00	0.00225
564424.00	4152132.00	0.00286	564449.00	4152132.00	0.00373
564474.00	4152132.00	0.00438	564499.00	4152132.00	0.00504
564524.00	4152132.00	0.00582	564549.00	4152132.00	0.00659
564574.00	4152132.00	0.00738	564599.00	4152132.00	0.00800
564624.00	4152132.00	0.00811	564649.00	4152132.00	0.00800
564674.00	4152132.00	0.00778	564699.00	4152132.00	0.00765
564724.00	4152132.00	0.00752	564749.00	4152132.00	0.00716
564774.00	4152132.00	0.00670	564799.00	4152132.00	0.00642
564824.00	4152132.00	0.00602	564849.00	4152132.00	0.00567
564874.00	4152132.00	0.00534	564899.00	4152132.00	0.00504
564924.00	4152132.00	0.00473			

564274.00	4152157.00	0.00092
564299.00	4152157.00	0.00108
564324.00	4152157.00	0.00130
564349.00	4152157.00	0.00157
564374.00	4152157.00	0.00191
564399.00	4152157.00	0.00235
564424.00	4152157.00	0.00295
564449.00	4152157.00	0.00388
564474.00	4152157.00	0.00493
564499.00	4152157.00	0.00603
564524.00	4152157.00	0.00700
564549.00	4152157.00	0.00809
564574.00	4152157.00	0.00867
564599.00	4152157.00	0.00950
564624.00	4152157.00	0.00967
564649.00	4152157.00	0.00941
564674.00	4152157.00	0.00907
564699.00	4152157.00	0.00922
564724.00	4152157.00	0.00878
564749.00	4152157.00	0.00816
564774.00	4152157.00	0.00773
564799.00	4152157.00	0.00727
564824.00	4152157.00	0.00678
564849.00	4152157.00	0.00633
564874.00	4152157.00	0.00592
564899.00	4152157.00	0.00553
564924.00	4152157.00	0.00518
564274.00	4152182.00	0.00094
564299.00	4152182.00	0.00111
564324.00	4152182.00	0.00135
564349.00	4152182.00	0.00164
564374.00	4152182.00	0.00200
564399.00	4152182.00	0.00248
564424.00	4152182.00	0.00314
564449.00	4152182.00	0.00408
564474.00	4152182.00	0.00546
564499.00	4152182.00	0.00700
564524.00	4152182.00	0.00844
564549.00	4152182.00	0.00972
564574.00	4152182.00	0.01086
564599.00	4152182.00	0.01152
564624.00	4152182.00	0.01155
564649.00	4152182.00	0.01139
564674.00	4152182.00	0.01144
564699.00	4152182.00	0.01093
564724.00	4152182.00	0.01019
564749.00	4152182.00	0.00949
564774.00	4152182.00	0.00893
564799.00	4152182.00	0.00826
564824.00	4152182.00	0.00768
564849.00	4152182.00	0.00710
564874.00	4152182.00	0.00657

564899.00	4152182.00	0.00609

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_ON ***
INCLUDING SOURCE(S):
PAREA01 , PAREA02 , PAREA03 , PAREA04 ,
PAREA05 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564924.00	4152182.00	0.00565	564274.00	4152207.00	0.00096
564299.00	4152207.00	0.00117	564324.00	4152207.00	0.00142
564349.00	4152207.00	0.00173	564374.00	4152207.00	0.00211
564399.00	4152207.00	0.00264	564424.00	4152207.00	0.00341
564449.00	4152207.00	0.00450	564474.00	4152207.00	0.00603
564499.00	4152207.00	0.00796	564524.00	4152207.00	0.01000
564549.00	4152207.00	0.01186	564574.00	4152207.00	0.01379
564599.00	4152207.00	0.01425	564624.00	4152207.00	0.01427
564649.00	4152207.00	0.01424	564674.00	4152207.00	0.01398
564699.00	4152207.00	0.01296	564724.00	4152207.00	0.01192
564749.00	4152207.00	0.01123	564774.00	4152207.00	0.01033
564799.00	4152207.00	0.00947	564824.00	4152207.00	0.00869
564849.00	4152207.00	0.00795	564874.00	4152207.00	0.00730
564899.00	4152207.00	0.00670			

564924.00	4152207.00	0.00616
564274.00	4152232.00	0.00100
564299.00	4152232.00	0.00122
564324.00	4152232.00	0.00146
564349.00	4152232.00	0.00180
564374.00	4152232.00	0.00222
564399.00	4152232.00	0.00285
564424.00	4152232.00	0.00383
564449.00	4152232.00	0.00512
564474.00	4152232.00	0.00686
564499.00	4152232.00	0.00915
564524.00	4152232.00	0.01181
564549.00	4152232.00	0.01435
564574.00	4152232.00	0.01722
564599.00	4152232.00	0.01791
564624.00	4152232.00	0.01804
564649.00	4152232.00	0.01826
564674.00	4152232.00	0.01699
564699.00	4152232.00	0.01551
564724.00	4152232.00	0.01458
564749.00	4152232.00	0.01324
564774.00	4152232.00	0.01200
564799.00	4152232.00	0.01091
564824.00	4152232.00	0.00985
564849.00	4152232.00	0.00891
564874.00	4152232.00	0.00812
564899.00	4152232.00	0.00736
564924.00	4152232.00	0.00671
564274.00	4152257.00	0.00103
564299.00	4152257.00	0.00123
564324.00	4152257.00	0.00151
564349.00	4152257.00	0.00190
564374.00	4152257.00	0.00243
564399.00	4152257.00	0.00325
564424.00	4152257.00	0.00440
564449.00	4152257.00	0.00593
564474.00	4152257.00	0.00800
564499.00	4152257.00	0.01083
564524.00	4152257.00	0.01377
564549.00	4152257.00	0.01906
564574.00	4152257.00	0.02181
564599.00	4152257.00	0.02336
564624.00	4152257.00	0.02435
564649.00	4152257.00	0.02292
564674.00	4152257.00	0.02114
564699.00	4152257.00	0.01971
564724.00	4152257.00	0.01763
564749.00	4152257.00	0.01571
564774.00	4152257.00	0.01401
564799.00	4152257.00	0.01251
564824.00	4152257.00	0.01120
564849.00	4152257.00	0.01002

564874.00	4152257.00	0.00895

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_ON ***
INCLUDING SOURCE(S):
PAREA01 , PAREA02 , PAREA03 , PAREA04 ,
PAREA05 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564899.00	4152257.00	0.00805	564924.00	4152257.00	0.00724
564274.00	4152282.00	0.00103	564299.00	4152282.00	0.00127
564324.00	4152282.00	0.00159	564349.00	4152282.00	0.00200
564374.00	4152282.00	0.00260	564399.00	4152282.00	0.00349
564424.00	4152282.00	0.00477	564449.00	4152282.00	0.00666
564474.00	4152282.00	0.00941	564499.00	4152282.00	0.01292
564524.00	4152282.00	0.01938	564549.00	4152282.00	0.02405
564574.00	4152282.00	0.02969	564599.00	4152282.00	0.03179
564624.00	4152282.00	0.03325	564649.00	4152282.00	0.03158
564674.00	4152282.00	0.02816	564699.00	4152282.00	0.02469
564724.00	4152282.00	0.02157	564749.00	4152282.00	0.01886
564774.00	4152282.00	0.01641	564799.00	4152282.00	0.01437
564824.00	4152282.00	0.01269	564849.00	4152282.00	0.01119
564874.00	4152282.00	0.00991			

564899.00	4152282.00	0.00872
564924.00	4152282.00	0.00777
564274.00	4152307.00	0.00103
564299.00	4152307.00	0.00128
564324.00	4152307.00	0.00160
564349.00	4152307.00	0.00204
564374.00	4152307.00	0.00267
564399.00	4152307.00	0.00362
564424.00	4152307.00	0.00509
564449.00	4152307.00	0.00736
564474.00	4152307.00	0.01086
564499.00	4152307.00	0.01616
564524.00	4152307.00	0.02273
564549.00	4152307.00	0.03234
564574.00	4152307.00	0.04253
564599.00	4152307.00	0.04903
564624.00	4152307.00	0.04847
564649.00	4152307.00	0.04331
564674.00	4152307.00	0.03715
564699.00	4152307.00	0.03148
564724.00	4152307.00	0.02668
564749.00	4152307.00	0.02269
564774.00	4152307.00	0.01939
564799.00	4152307.00	0.01658
564824.00	4152307.00	0.01423
564849.00	4152307.00	0.01239
564874.00	4152307.00	0.01078
564899.00	4152307.00	0.00940
564924.00	4152307.00	0.00831
564274.00	4152332.00	0.00103
564299.00	4152332.00	0.00127
564324.00	4152332.00	0.00160
564349.00	4152332.00	0.00205
564374.00	4152332.00	0.00272
564399.00	4152332.00	0.00371
564424.00	4152332.00	0.00530
564449.00	4152332.00	0.00796
564474.00	4152332.00	0.01232
564499.00	4152332.00	0.01892
564524.00	4152332.00	0.02952
564549.00	4152332.00	0.04421
564574.00	4152332.00	0.06165
564599.00	4152332.00	0.07483
564624.00	4152332.00	0.07227
564649.00	4152332.00	0.06170
564674.00	4152332.00	0.05042
564699.00	4152332.00	0.04077
564724.00	4152332.00	0.03316
564749.00	4152332.00	0.02727
564774.00	4152332.00	0.02264
564799.00	4152332.00	0.01896
564824.00	4152332.00	0.01594

564849.00	4152332.00	0.01353

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_ON ***
INCLUDING SOURCE(S): PAREA01 , PAREA02 , PAREA03 , PAREA04 , PAREA05 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152332.00	0.01160	564899.00	4152332.00	0.01005
564924.00	4152332.00	0.00879	564274.00	4152357.00	0.00102
564299.00	4152357.00	0.00126	564324.00	4152357.00	0.00158
564349.00	4152357.00	0.00204	564374.00	4152357.00	0.00271
564399.00	4152357.00	0.00375	564424.00	4152357.00	0.00548
564449.00	4152357.00	0.00881	564474.00	4152357.00	0.01383
564499.00	4152357.00	0.02323	564524.00	4152357.00	0.03820
564549.00	4152357.00	0.05983	564574.00	4152357.00	0.08850
564599.00	4152357.00	0.10780	564624.00	4152357.00	0.10696
564649.00	4152357.00	0.09031	564674.00	4152357.00	0.06946
564699.00	4152357.00	0.05285	564724.00	4152357.00	0.04094
564749.00	4152357.00	0.03235	564774.00	4152357.00	0.02599
564799.00	4152357.00	0.02122	564824.00	4152357.00	0.01748
564849.00	4152357.00	0.01459			

564874.00	4152357.00	0.01234
564899.00	4152357.00	0.01055
564924.00	4152357.00	0.00915
564274.00	4152382.00	0.00102
564299.00	4152382.00	0.00124
564324.00	4152382.00	0.00156
564349.00	4152382.00	0.00200
564374.00	4152382.00	0.00266
564399.00	4152382.00	0.00371
564424.00	4152382.00	0.00558
564449.00	4152382.00	0.00893
564474.00	4152382.00	0.01532
564499.00	4152382.00	0.02724
564524.00	4152382.00	0.04804
564549.00	4152382.00	0.07953
564574.00	4152382.00	0.11157
564649.00	4152382.00	0.12293
564674.00	4152382.00	0.09282
564699.00	4152382.00	0.06689
564724.00	4152382.00	0.04914
564749.00	4152382.00	0.03711
564774.00	4152382.00	0.02892
564799.00	4152382.00	0.02300
564824.00	4152382.00	0.01865
564849.00	4152382.00	0.01534
564874.00	4152382.00	0.01278
564899.00	4152382.00	0.01083
564924.00	4152382.00	0.00929
564274.00	4152407.00	0.00100
564299.00	4152407.00	0.00122
564324.00	4152407.00	0.00153
564349.00	4152407.00	0.00195
564374.00	4152407.00	0.00257
564399.00	4152407.00	0.00359
564424.00	4152407.00	0.00543
564449.00	4152407.00	0.00876
564474.00	4152407.00	0.01553
564499.00	4152407.00	0.03116
564524.00	4152407.00	0.06006
564549.00	4152407.00	0.09054
564674.00	4152407.00	0.11162
564699.00	4152407.00	0.07915
564724.00	4152407.00	0.05568
564749.00	4152407.00	0.04045
564774.00	4152407.00	0.03059
564799.00	4152407.00	0.02381
564824.00	4152407.00	0.01902
564849.00	4152407.00	0.01551
564874.00	4152407.00	0.01287
564899.00	4152407.00	0.01082
564924.00	4152407.00	0.00924
564274.00	4152432.00	0.00099

564299.00	4152432.00	0.00120

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_ON ***
INCLUDING SOURCE(S):
PAREA01 , PAREA02 , PAREA03 , PAREA04 ,
PAREA05 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564324.00	4152432.00	0.00149	564349.00	4152432.00	0.00189
564374.00	4152432.00	0.00248	564399.00	4152432.00	0.00346
564424.00	4152432.00	0.00505	564449.00	4152432.00	0.00794
564474.00	4152432.00	0.01441	564499.00	4152432.00	0.03215
564524.00	4152432.00	0.06158	564674.00	4152432.00	0.10588
564699.00	4152432.00	0.08081	564724.00	4152432.00	0.05665
564749.00	4152432.00	0.04036	564774.00	4152432.00	0.03003
564799.00	4152432.00	0.02316	564824.00	4152432.00	0.01840
564849.00	4152432.00	0.01498	564874.00	4152432.00	0.01243
564899.00	4152432.00	0.01046	564924.00	4152432.00	0.00892
564274.00	4152457.00	0.00097	564299.00	4152457.00	0.00117
564324.00	4152457.00	0.00145	564349.00	4152457.00	0.00183
564374.00	4152457.00	0.00242	564399.00	4152457.00	0.00328
564424.00	4152457.00	0.00466			

564449.00	4152457.00	0.00719
564474.00	4152457.00	0.01238
564499.00	4152457.00	0.02424
564699.00	4152457.00	0.06622
564724.00	4152457.00	0.04873
564749.00	4152457.00	0.03555
564774.00	4152457.00	0.02684
564799.00	4152457.00	0.02088
564824.00	4152457.00	0.01681
564849.00	4152457.00	0.01373
564874.00	4152457.00	0.01147
564899.00	4152457.00	0.00974
564924.00	4152457.00	0.00835
564274.00	4152482.00	0.00095
564299.00	4152482.00	0.00114
564324.00	4152482.00	0.00141
564349.00	4152482.00	0.00180
564374.00	4152482.00	0.00233
564399.00	4152482.00	0.00314
564424.00	4152482.00	0.00441
564449.00	4152482.00	0.00657
564474.00	4152482.00	0.01069
564499.00	4152482.00	0.01844
564674.00	4152482.00	0.06344
564699.00	4152482.00	0.04815
564724.00	4152482.00	0.03602
564749.00	4152482.00	0.02776
564774.00	4152482.00	0.02184
564799.00	4152482.00	0.01755
564824.00	4152482.00	0.01440
564849.00	4152482.00	0.01201
564874.00	4152482.00	0.01014
564899.00	4152482.00	0.00866
564924.00	4152482.00	0.00752
564274.00	4152507.00	0.00093
564299.00	4152507.00	0.00113
564324.00	4152507.00	0.00140
564349.00	4152507.00	0.00176
564374.00	4152507.00	0.00228
564399.00	4152507.00	0.00305
564424.00	4152507.00	0.00421
564449.00	4152507.00	0.00611
564474.00	4152507.00	0.00939
564499.00	4152507.00	0.01488
564524.00	4152507.00	0.02227
564649.00	4152507.00	0.05069
564674.00	4152507.00	0.04125
564699.00	4152507.00	0.03181
564724.00	4152507.00	0.02492
564749.00	4152507.00	0.02001
564774.00	4152507.00	0.01652
564799.00	4152507.00	0.01384

564824.00	4152507.00	0.01170

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_ON ***
INCLUDING SOURCE(S): PAREA01 , PAREA02 , PAREA03 , PAREA04 , PAREA05 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152507.00	0.00995	564874.00	4152507.00	0.00857
564899.00	4152507.00	0.00748	564924.00	4152507.00	0.00659
564274.00	4152532.00	0.00094	564299.00	4152532.00	0.00114
564324.00	4152532.00	0.00140	564349.00	4152532.00	0.00175
564374.00	4152532.00	0.00227	564399.00	4152532.00	0.00298
564424.00	4152532.00	0.00405	564449.00	4152532.00	0.00566
564474.00	4152532.00	0.00812	564499.00	4152532.00	0.01170
564524.00	4152532.00	0.01648	564549.00	4152532.00	0.02124
564624.00	4152532.00	0.03270	564649.00	4152532.00	0.02912
564674.00	4152532.00	0.02378	564699.00	4152532.00	0.01952
564724.00	4152532.00	0.01635	564749.00	4152532.00	0.01390
564774.00	4152532.00	0.01194	564799.00	4152532.00	0.01042
564824.00	4152532.00	0.00913	564849.00	4152532.00	0.00796
564874.00	4152532.00	0.00706			

564899.00	4152532.00	0.00628
564924.00	4152532.00	0.00562
564274.00	4152557.00	0.00095
564299.00	4152557.00	0.00114
564324.00	4152557.00	0.00141
564349.00	4152557.00	0.00177
564374.00	4152557.00	0.00226
564399.00	4152557.00	0.00294
564424.00	4152557.00	0.00388
564449.00	4152557.00	0.00519
564474.00	4152557.00	0.00697
564499.00	4152557.00	0.00915
564524.00	4152557.00	0.01187
564549.00	4152557.00	0.01474
564574.00	4152557.00	0.01640
564599.00	4152557.00	0.01616
564624.00	4152557.00	0.01625
564649.00	4152557.00	0.01512
564674.00	4152557.00	0.01337
564699.00	4152557.00	0.01182
564724.00	4152557.00	0.01052
564749.00	4152557.00	0.00942
564774.00	4152557.00	0.00847
564799.00	4152557.00	0.00761
564824.00	4152557.00	0.00689
564849.00	4152557.00	0.00622
564874.00	4152557.00	0.00565
564899.00	4152557.00	0.00514
564924.00	4152557.00	0.00468
564274.00	4152582.00	0.00096
564299.00	4152582.00	0.00117
564324.00	4152582.00	0.00144
564349.00	4152582.00	0.00179
564374.00	4152582.00	0.00225
564399.00	4152582.00	0.00286
564424.00	4152582.00	0.00365
564449.00	4152582.00	0.00467
564474.00	4152582.00	0.00593
564499.00	4152582.00	0.00728
564524.00	4152582.00	0.00884
564549.00	4152582.00	0.01022
564574.00	4152582.00	0.01076
564599.00	4152582.00	0.01051
564624.00	4152582.00	0.00953
564649.00	4152582.00	0.00881
564674.00	4152582.00	0.00811
564699.00	4152582.00	0.00748
564724.00	4152582.00	0.00691
564749.00	4152582.00	0.00642
564774.00	4152582.00	0.00598
564799.00	4152582.00	0.00552
564824.00	4152582.00	0.00515

564849.00	4152582.00	0.00479

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_ON ***
INCLUDING SOURCE(S):
PAREA01 , PAREA02 , PAREA03 , PAREA04 ,
PAREA05 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152582.00	0.00445	564899.00	4152582.00	0.00413
564924.00	4152582.00	0.00384	564274.00	4152607.00	0.00099
564299.00	4152607.00	0.00120	564324.00	4152607.00	0.00146
564349.00	4152607.00	0.00179	564374.00	4152607.00	0.00221
564399.00	4152607.00	0.00274	564424.00	4152607.00	0.00337
564449.00	4152607.00	0.00414	564474.00	4152607.00	0.00497
564499.00	4152607.00	0.00587	564524.00	4152607.00	0.00670
564549.00	4152607.00	0.00730	564574.00	4152607.00	0.00750
564599.00	4152607.00	0.00722	564624.00	4152607.00	0.00668
564649.00	4152607.00	0.00604	564674.00	4152607.00	0.00552
564699.00	4152607.00	0.00511	564724.00	4152607.00	0.00478
564749.00	4152607.00	0.00452	564774.00	4152607.00	0.00423
564799.00	4152607.00	0.00404	564824.00	4152607.00	0.00385
564849.00	4152607.00	0.00367			

564874.00	4152607.00	0.00349
564899.00	4152607.00	0.00329
564924.00	4152607.00	0.00311
564274.00	4152632.00	0.00101
564299.00	4152632.00	0.00122
564324.00	4152632.00	0.00147
564349.00	4152632.00	0.00177
564374.00	4152632.00	0.00214
564399.00	4152632.00	0.00257
564424.00	4152632.00	0.00306
564449.00	4152632.00	0.00359
564474.00	4152632.00	0.00416
564499.00	4152632.00	0.00472
564524.00	4152632.00	0.00518
564549.00	4152632.00	0.00546
564574.00	4152632.00	0.00552
564599.00	4152632.00	0.00531
564624.00	4152632.00	0.00494
564649.00	4152632.00	0.00450
564674.00	4152632.00	0.00410
564699.00	4152632.00	0.00378
564724.00	4152632.00	0.00353
564749.00	4152632.00	0.00328
564774.00	4152632.00	0.00315
564799.00	4152632.00	0.00304
564824.00	4152632.00	0.00294
564849.00	4152632.00	0.00283
564874.00	4152632.00	0.00273
564899.00	4152632.00	0.00263
564924.00	4152632.00	0.00251
564274.00	4152657.00	0.00103
564299.00	4152657.00	0.00122
564324.00	4152657.00	0.00145
564349.00	4152657.00	0.00173
564374.00	4152657.00	0.00203
564399.00	4152657.00	0.00237
564424.00	4152657.00	0.00273
564449.00	4152657.00	0.00311
564474.00	4152657.00	0.00349
564499.00	4152657.00	0.00383
564524.00	4152657.00	0.00410
564549.00	4152657.00	0.00424
564574.00	4152657.00	0.00424
564599.00	4152657.00	0.00410
564624.00	4152657.00	0.00384
564649.00	4152657.00	0.00354
564674.00	4152657.00	0.00322
564699.00	4152657.00	0.00296
564724.00	4152657.00	0.00271
564749.00	4152657.00	0.00256
564774.00	4152657.00	0.00244
564799.00	4152657.00	0.00235

564824.00	4152657.00	0.00228

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_ON ***
INCLUDING SOURCE(S): PAREA01 , PAREA02 , PAREA03 , PAREA04 , PAREA05 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152657.00	0.00222	564874.00	4152657.00	0.00216
564899.00	4152657.00	0.00210	564924.00	4152657.00	0.00204
564274.00	4152682.00	0.00104	564299.00	4152682.00	0.00121
564324.00	4152682.00	0.00142	564349.00	4152682.00	0.00165
564374.00	4152682.00	0.00190	564399.00	4152682.00	0.00215
564424.00	4152682.00	0.00242	564449.00	4152682.00	0.00269
564474.00	4152682.00	0.00294	564499.00	4152682.00	0.00315
564524.00	4152682.00	0.00331	564549.00	4152682.00	0.00339
564574.00	4152682.00	0.00337	564599.00	4152682.00	0.00326
564624.00	4152682.00	0.00308	564649.00	4152682.00	0.00286
564674.00	4152682.00	0.00263	564699.00	4152682.00	0.00240
564724.00	4152682.00	0.00221	564749.00	4152682.00	0.00207
564774.00	4152682.00	0.00197	564799.00	4152682.00	0.00189
564824.00	4152682.00	0.00183			

564849.00	4152682.00	0.00178
564874.00	4152682.00	0.00174
564899.00	4152682.00	0.00170
564924.00	4152682.00	0.00166
564274.00	4152707.00	0.00103
564299.00	4152707.00	0.00119
564324.00	4152707.00	0.00136
564349.00	4152707.00	0.00155
564374.00	4152707.00	0.00174
564399.00	4152707.00	0.00194
564424.00	4152707.00	0.00214
564449.00	4152707.00	0.00232
564474.00	4152707.00	0.00249
564499.00	4152707.00	0.00262
564524.00	4152707.00	0.00273
564549.00	4152707.00	0.00277
564574.00	4152707.00	0.00274
564599.00	4152707.00	0.00265
564624.00	4152707.00	0.00252
564649.00	4152707.00	0.00236
564674.00	4152707.00	0.00219
564699.00	4152707.00	0.00203
564724.00	4152707.00	0.00186
564749.00	4152707.00	0.00174
564774.00	4152707.00	0.00164
564799.00	4152707.00	0.00156
564824.00	4152707.00	0.00150
564849.00	4152707.00	0.00146
564874.00	4152707.00	0.00143
564899.00	4152707.00	0.00140
564924.00	4152707.00	0.00137
564274.00	4152732.00	0.00101
564299.00	4152732.00	0.00115
564324.00	4152732.00	0.00129
564349.00	4152732.00	0.00144
564374.00	4152732.00	0.00158
564399.00	4152732.00	0.00173
564424.00	4152732.00	0.00188
564449.00	4152732.00	0.00201
564474.00	4152732.00	0.00213
564499.00	4152732.00	0.00222
564524.00	4152732.00	0.00228
564549.00	4152732.00	0.00230
564574.00	4152732.00	0.00227
564599.00	4152732.00	0.00220
564624.00	4152732.00	0.00210
564649.00	4152732.00	0.00198
564674.00	4152732.00	0.00186
564699.00	4152732.00	0.00173
564724.00	4152732.00	0.00161
564749.00	4152732.00	0.00149
564774.00	4152732.00	0.00140

564799.00	4152732.00	0.00132

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_ON ***
INCLUDING SOURCE(S): PAREA01 , PAREA02 , PAREA03 , PAREA04 , PAREA05 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564824.00	4152732.00	0.00127	564849.00	4152732.00	0.00122
564874.00	4152732.00	0.00119	564899.00	4152732.00	0.00117
564924.00	4152732.00	0.00115	564274.00	4152757.00	0.00098
564299.00	4152757.00	0.00109	564324.00	4152757.00	0.00121
564349.00	4152757.00	0.00132	564374.00	4152757.00	0.00143
564399.00	4152757.00	0.00154	564424.00	4152757.00	0.00165
564449.00	4152757.00	0.00175	564474.00	4152757.00	0.00183
564499.00	4152757.00	0.00190	564524.00	4152757.00	0.00194
564549.00	4152757.00	0.00194	564574.00	4152757.00	0.00191
564599.00	4152757.00	0.00186	564624.00	4152757.00	0.00178
564649.00	4152757.00	0.00169	564674.00	4152757.00	0.00159
564699.00	4152757.00	0.00150	564724.00	4152757.00	0.00140
564749.00	4152757.00	0.00130	564774.00	4152757.00	0.00121
564799.00	4152757.00	0.00115			

564824.00	4152757.00	0.00109
564849.00	4152757.00	0.00105
564874.00	4152757.00	0.00101
564899.00	4152757.00	0.00099
564924.00	4152757.00	0.00097
564274.00	4152782.00	0.00094
564299.00	4152782.00	0.00103
564324.00	4152782.00	0.00112
564349.00	4152782.00	0.00120
564374.00	4152782.00	0.00129
564399.00	4152782.00	0.00137
564424.00	4152782.00	0.00145
564449.00	4152782.00	0.00153
564474.00	4152782.00	0.00159
564499.00	4152782.00	0.00163
564524.00	4152782.00	0.00166
564549.00	4152782.00	0.00166
564574.00	4152782.00	0.00163
564599.00	4152782.00	0.00159
564624.00	4152782.00	0.00153
564649.00	4152782.00	0.00146
564674.00	4152782.00	0.00138
564699.00	4152782.00	0.00131
564724.00	4152782.00	0.00123
564749.00	4152782.00	0.00115
564774.00	4152782.00	0.00108
564799.00	4152782.00	0.00101
564824.00	4152782.00	0.00096
564849.00	4152782.00	0.00091
564874.00	4152782.00	0.00088
564899.00	4152782.00	0.00085
564924.00	4152782.00	0.00084

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_OFF ***
INCLUDING SOURCE(S):
A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,
A0000006 , A0000007 , A0000008 , A0000009 , A0000010 , A0000011 , A0000012 , A0000013 ,
A0000014 , A0000015 , A0000016 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564274.00	4152132.00	0.00001	564299.00	4152132.00	0.00001
564324.00	4152132.00	0.00001	564349.00	4152132.00	0.00001
564374.00	4152132.00	0.00001	564399.00	4152132.00	0.00001
564424.00	4152132.00	0.00001	564449.00	4152132.00	0.00001
564474.00	4152132.00	0.00002	564499.00	4152132.00	0.00002
564524.00	4152132.00	0.00002	564549.00	4152132.00	0.00002
564574.00	4152132.00	0.00003	564599.00	4152132.00	0.00004
564624.00	4152132.00	0.00004	564649.00	4152132.00	0.00004
564674.00	4152132.00	0.00005	564699.00	4152132.00	0.00006
564724.00	4152132.00	0.00007	564749.00	4152132.00	0.00009
564774.00	4152132.00	0.00010	564799.00	4152132.00	0.00008
564824.00	4152132.00	0.00006			

564849.00	4152132.00	0.00005
564874.00	4152132.00	0.00004
564899.00	4152132.00	0.00004
564924.00	4152132.00	0.00003
564274.00	4152157.00	0.00001
564299.00	4152157.00	0.00001
564324.00	4152157.00	0.00001
564349.00	4152157.00	0.00001
564374.00	4152157.00	0.00001
564399.00	4152157.00	0.00001
564424.00	4152157.00	0.00001
564449.00	4152157.00	0.00002
564474.00	4152157.00	0.00002
564499.00	4152157.00	0.00002
564524.00	4152157.00	0.00002
564549.00	4152157.00	0.00003
564574.00	4152157.00	0.00003
564599.00	4152157.00	0.00004
564624.00	4152157.00	0.00005
564649.00	4152157.00	0.00005
564674.00	4152157.00	0.00006
564699.00	4152157.00	0.00008
564724.00	4152157.00	0.00010
564749.00	4152157.00	0.00012
564774.00	4152157.00	0.00010
564799.00	4152157.00	0.00009
564824.00	4152157.00	0.00007
564849.00	4152157.00	0.00005
564874.00	4152157.00	0.00005
564899.00	4152157.00	0.00004
564924.00	4152157.00	0.00004
564274.00	4152182.00	0.00001
564299.00	4152182.00	0.00001
564324.00	4152182.00	0.00001
564349.00	4152182.00	0.00001
564374.00	4152182.00	0.00001
564399.00	4152182.00	0.00001
564424.00	4152182.00	0.00001
564449.00	4152182.00	0.00002
564474.00	4152182.00	0.00002
564499.00	4152182.00	0.00002
564524.00	4152182.00	0.00003
564549.00	4152182.00	0.00003
564574.00	4152182.00	0.00004
564599.00	4152182.00	0.00005
564624.00	4152182.00	0.00006
564649.00	4152182.00	0.00006
564674.00	4152182.00	0.00008
564699.00	4152182.00	0.00010
564724.00	4152182.00	0.00012
564749.00	4152182.00	0.00012
564774.00	4152182.00	0.00010

564799.00	4152182.00	0.00009
564824.00	4152182.00	0.00007
564849.00	4152182.00	0.00006
564874.00	4152182.00	0.00005
564899.00	4152182.00	0.00004

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*** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_OFF ***
INCLUDING SOURCE(S):
A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,
A0000006 , A0000007 , A0000008 , A0000009 , A0000010 , A0000011 , A0000012 , A0000013 ,
A0000014 , A0000015 , A0000016 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564924.00	4152182.00	0.00004	564274.00	4152207.00	0.00001
564299.00	4152207.00	0.00001	564324.00	4152207.00	0.00001
564349.00	4152207.00	0.00001	564374.00	4152207.00	0.00001
564399.00	4152207.00	0.00001	564424.00	4152207.00	0.00001
564449.00	4152207.00	0.00002	564474.00	4152207.00	0.00002
564499.00	4152207.00	0.00003	564524.00	4152207.00	0.00003
564549.00	4152207.00	0.00004	564574.00	4152207.00	0.00005
564599.00	4152207.00	0.00006	564624.00	4152207.00	0.00007
564649.00	4152207.00	0.00008	564674.00	4152207.00	0.00010
564699.00	4152207.00	0.00013	564724.00	4152207.00	0.00015
564749.00	4152207.00	0.00012	564774.00	4152207.00	0.00010
564799.00	4152207.00	0.00008			

564824.00	4152207.00	0.00007
564849.00	4152207.00	0.00006
564874.00	4152207.00	0.00005
564899.00	4152207.00	0.00004
564924.00	4152207.00	0.00004
564274.00	4152232.00	0.00001
564299.00	4152232.00	0.00001
564324.00	4152232.00	0.00001
564349.00	4152232.00	0.00001
564374.00	4152232.00	0.00001
564399.00	4152232.00	0.00001
564424.00	4152232.00	0.00002
564449.00	4152232.00	0.00002
564474.00	4152232.00	0.00002
564499.00	4152232.00	0.00003
564524.00	4152232.00	0.00004
564549.00	4152232.00	0.00005
564574.00	4152232.00	0.00006
564599.00	4152232.00	0.00007
564624.00	4152232.00	0.00009
564649.00	4152232.00	0.00011
564674.00	4152232.00	0.00014
564699.00	4152232.00	0.00026
564724.00	4152232.00	0.00013
564749.00	4152232.00	0.00012
564774.00	4152232.00	0.00009
564799.00	4152232.00	0.00008
564824.00	4152232.00	0.00007
564849.00	4152232.00	0.00006
564874.00	4152232.00	0.00005
564899.00	4152232.00	0.00005
564924.00	4152232.00	0.00004
564274.00	4152257.00	0.00001
564299.00	4152257.00	0.00001
564324.00	4152257.00	0.00001
564349.00	4152257.00	0.00001
564374.00	4152257.00	0.00002
564399.00	4152257.00	0.00002
564424.00	4152257.00	0.00002
564449.00	4152257.00	0.00002
564474.00	4152257.00	0.00003
564499.00	4152257.00	0.00004
564524.00	4152257.00	0.00004
564549.00	4152257.00	0.00006
564574.00	4152257.00	0.00007
564599.00	4152257.00	0.00009
564624.00	4152257.00	0.00012
564649.00	4152257.00	0.00015
564674.00	4152257.00	0.00026
564699.00	4152257.00	0.00015
564724.00	4152257.00	0.00014
564749.00	4152257.00	0.00011

564774.00	4152257.00	0.00009
564799.00	4152257.00	0.00008
564824.00	4152257.00	0.00007
564849.00	4152257.00	0.00006
564874.00	4152257.00	0.00005

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_OFF ***
INCLUDING SOURCE(S):
A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,
A0000006 , A0000007 , A0000008 , A0000009 , A0000010 , A0000011 , A0000012 , A0000013 ,
A0000014 , A0000015 , A0000016 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564899.00	4152257.00	0.00005	564924.00	4152257.00	0.00004
564274.00	4152282.00	0.00001	564299.00	4152282.00	0.00001
564324.00	4152282.00	0.00001	564349.00	4152282.00	0.00002
564374.00	4152282.00	0.00002	564399.00	4152282.00	0.00002
564424.00	4152282.00	0.00002	564449.00	4152282.00	0.00003
564474.00	4152282.00	0.00004	564499.00	4152282.00	0.00004
564524.00	4152282.00	0.00006	564549.00	4152282.00	0.00007
564574.00	4152282.00	0.00010	564599.00	4152282.00	0.00012
564624.00	4152282.00	0.00017	564649.00	4152282.00	0.00019
564674.00	4152282.00	0.00018	564699.00	4152282.00	0.00016
564724.00	4152282.00	0.00013	564749.00	4152282.00	0.00011
564774.00	4152282.00	0.00009			

564799.00	4152282.00	0.00008
564824.00	4152282.00	0.00007
564849.00	4152282.00	0.00006
564874.00	4152282.00	0.00006
564899.00	4152282.00	0.00005
564924.00	4152282.00	0.00005
564274.00	4152307.00	0.00001
564299.00	4152307.00	0.00001
564324.00	4152307.00	0.00002
564349.00	4152307.00	0.00002
564374.00	4152307.00	0.00002
564399.00	4152307.00	0.00002
564424.00	4152307.00	0.00003
564449.00	4152307.00	0.00003
564474.00	4152307.00	0.00004
564499.00	4152307.00	0.00006
564524.00	4152307.00	0.00007
564549.00	4152307.00	0.00010
564574.00	4152307.00	0.00014
564599.00	4152307.00	0.00019
564624.00	4152307.00	0.00023
564649.00	4152307.00	0.00022
564674.00	4152307.00	0.00020
564699.00	4152307.00	0.00016
564724.00	4152307.00	0.00014
564749.00	4152307.00	0.00012
564774.00	4152307.00	0.00010
564799.00	4152307.00	0.00009
564824.00	4152307.00	0.00008
564849.00	4152307.00	0.00007
564874.00	4152307.00	0.00006
564899.00	4152307.00	0.00005
564924.00	4152307.00	0.00005
564274.00	4152332.00	0.00001
564299.00	4152332.00	0.00002
564324.00	4152332.00	0.00002
564349.00	4152332.00	0.00002
564374.00	4152332.00	0.00002
564399.00	4152332.00	0.00003
564424.00	4152332.00	0.00003
564449.00	4152332.00	0.00004
564474.00	4152332.00	0.00005
564499.00	4152332.00	0.00007
564524.00	4152332.00	0.00009
564549.00	4152332.00	0.00013
564574.00	4152332.00	0.00020
564599.00	4152332.00	0.00025
564624.00	4152332.00	0.00030
564649.00	4152332.00	0.00029
564674.00	4152332.00	0.00024
564699.00	4152332.00	0.00019
564724.00	4152332.00	0.00016

564749.00	4152332.00	0.00013
564774.00	4152332.00	0.00011
564799.00	4152332.00	0.00010
564824.00	4152332.00	0.00009
564849.00	4152332.00	0.00008

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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

PAGE  80
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                              *** THE PERIOD ( 43872 HRS) AVERAGE
CONCENTRATION   VALUES FOR SOURCE GROUP: Y1_OFF   ***
                                  INCLUDING SOURCE(S):
A0000001    , A0000002    , A0000003    , A0000004    ,
A0000005    ,
                 A0000006    , A0000007    , A0000008    ,
A0000009    , A0000010    , A0000011    , A0000012    ,
A0000013    ,
                 A0000014    , A0000015    , A0000016    ,

                                               *** DISCRETE
CARTESIAN RECEPTOR POINTS ***

                                          ** CONC OF PM_2.5   IN
MICROGRAMS/M**3                            **

       X-COORD (M)   Y-COORD (M)        CONC
X-COORD (M)   Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         564874.00    4152332.00        0.00007
564899.00    4152332.00        0.00006
         564924.00    4152332.00        0.00005
564274.00    4152357.00        0.00001
         564299.00    4152357.00        0.00002
564324.00    4152357.00        0.00002
         564349.00    4152357.00        0.00002
564374.00    4152357.00        0.00003
         564399.00    4152357.00        0.00003
564424.00    4152357.00        0.00004
         564449.00    4152357.00        0.00005
564474.00    4152357.00        0.00007
         564499.00    4152357.00        0.00009
564524.00    4152357.00        0.00013
         564549.00    4152357.00        0.00019
564574.00    4152357.00        0.00024
         564599.00    4152357.00        0.00025
564624.00    4152357.00        0.00035
         564649.00    4152357.00        0.00039
564674.00    4152357.00        0.00031
         564699.00    4152357.00        0.00024
564724.00    4152357.00        0.00019
         564749.00    4152357.00        0.00016
```

564774.00	4152357.00	0.00013
564799.00	4152357.00	0.00011
564824.00	4152357.00	0.00010
564849.00	4152357.00	0.00008
564874.00	4152357.00	0.00007
564899.00	4152357.00	0.00006
564924.00	4152357.00	0.00006
564274.00	4152382.00	0.00002
564299.00	4152382.00	0.00002
564324.00	4152382.00	0.00002
564349.00	4152382.00	0.00003
564374.00	4152382.00	0.00003
564399.00	4152382.00	0.00004
564424.00	4152382.00	0.00005
564449.00	4152382.00	0.00007
564474.00	4152382.00	0.00009
564499.00	4152382.00	0.00012
564524.00	4152382.00	0.00018
564549.00	4152382.00	0.00023
564574.00	4152382.00	0.00020
564649.00	4152382.00	0.00033
564674.00	4152382.00	0.00040
564699.00	4152382.00	0.00031
564724.00	4152382.00	0.00024
564749.00	4152382.00	0.00019
564774.00	4152382.00	0.00015
564799.00	4152382.00	0.00013
564824.00	4152382.00	0.00011
564849.00	4152382.00	0.00009
564874.00	4152382.00	0.00008
564899.00	4152382.00	0.00007
564924.00	4152382.00	0.00006
564274.00	4152407.00	0.00002
564299.00	4152407.00	0.00002
564324.00	4152407.00	0.00003
564349.00	4152407.00	0.00003
564374.00	4152407.00	0.00004
564399.00	4152407.00	0.00005
564424.00	4152407.00	0.00007
564449.00	4152407.00	0.00009
564474.00	4152407.00	0.00012
564499.00	4152407.00	0.00017
564524.00	4152407.00	0.00024
564549.00	4152407.00	0.00020
564674.00	4152407.00	0.00032
564699.00	4152407.00	0.00038
564724.00	4152407.00	0.00030
564749.00	4152407.00	0.00023
564774.00	4152407.00	0.00018
564799.00	4152407.00	0.00015
564824.00	4152407.00	0.00012
564849.00	4152407.00	0.00011

564874.00	4152407.00	0.00009
564899.00	4152407.00	0.00008
564924.00	4152407.00	0.00007
564274.00	4152432.00	0.00002
564299.00	4152432.00	0.00003

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_OFF ***
INCLUDING SOURCE(S):
A0000001 , A0000002 , A0000003 , A0000004 ,
A0000005 ,
A0000006 , A0000007 , A0000008 ,
A0000009 , A0000010 , A0000011 , A0000012 ,
A0000013 ,
A0000014 , A0000015 , A0000016 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564324.00	4152432.00	0.00003	564349.00	4152432.00	0.00004
564374.00	4152432.00	0.00005	564399.00	4152432.00	0.00006
564424.00	4152432.00	0.00008	564449.00	4152432.00	0.00011
564474.00	4152432.00	0.00016	564499.00	4152432.00	0.00025
564524.00	4152432.00	0.00021	564674.00	4152432.00	0.00017
564699.00	4152432.00	0.00034	564724.00	4152432.00	0.00037
564749.00	4152432.00	0.00029	564774.00	4152432.00	0.00022
564799.00	4152432.00	0.00018	564824.00	4152432.00	0.00014
564849.00	4152432.00	0.00012	564874.00	4152432.00	0.00010
564899.00	4152432.00	0.00009	564924.00	4152432.00	0.00007
564274.00	4152457.00	0.00002	564299.00	4152457.00	0.00003
564324.00	4152457.00	0.00004			

564349.00	4152457.00	0.00005
564374.00	4152457.00	0.00006
564399.00	4152457.00	0.00008
564424.00	4152457.00	0.00011
564449.00	4152457.00	0.00016
564474.00	4152457.00	0.00022
564499.00	4152457.00	0.00021
564699.00	4152457.00	0.00016
564724.00	4152457.00	0.00033
564749.00	4152457.00	0.00036
564774.00	4152457.00	0.00028
564799.00	4152457.00	0.00022
564824.00	4152457.00	0.00017
564849.00	4152457.00	0.00014
564874.00	4152457.00	0.00011
564899.00	4152457.00	0.00009
564924.00	4152457.00	0.00008
564274.00	4152482.00	0.00003
564299.00	4152482.00	0.00004
564324.00	4152482.00	0.00005
564349.00	4152482.00	0.00006
564374.00	4152482.00	0.00008
564399.00	4152482.00	0.00011
564424.00	4152482.00	0.00015
564449.00	4152482.00	0.00022
564474.00	4152482.00	0.00018
564499.00	4152482.00	0.00018
564674.00	4152482.00	0.00009
564699.00	4152482.00	0.00012
564724.00	4152482.00	0.00016
564749.00	4152482.00	0.00034
564774.00	4152482.00	0.00035
564799.00	4152482.00	0.00027
564824.00	4152482.00	0.00021
564849.00	4152482.00	0.00016
564874.00	4152482.00	0.00013
564899.00	4152482.00	0.00011
564924.00	4152482.00	0.00009
564274.00	4152507.00	0.00003
564299.00	4152507.00	0.00004
564324.00	4152507.00	0.00006
564349.00	4152507.00	0.00008
564374.00	4152507.00	0.00010
564399.00	4152507.00	0.00015
564424.00	4152507.00	0.00022
564449.00	4152507.00	0.00019
564474.00	4152507.00	0.00018
564499.00	4152507.00	0.00014
564524.00	4152507.00	0.00010
564649.00	4152507.00	0.00006
564674.00	4152507.00	0.00007
564699.00	4152507.00	0.00008

564724.00	4152507.00	0.00011
564749.00	4152507.00	0.00017
564774.00	4152507.00	0.00036
564799.00	4152507.00	0.00034
564824.00	4152507.00	0.00026

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_OFF ***
INCLUDING SOURCE(S):
A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,
A0000006 , A0000007 , A0000008 , A0000009 , A0000010 , A0000011 , A0000012 , A0000013 ,
A0000014 , A0000015 , A0000016 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152507.00	0.00020	564874.00	4152507.00	0.00015
564899.00	4152507.00	0.00012	564924.00	4152507.00	0.00010
564274.00	4152532.00	0.00004	564299.00	4152532.00	0.00005
564324.00	4152532.00	0.00007	564349.00	4152532.00	0.00010
564374.00	4152532.00	0.00015	564399.00	4152532.00	0.00021
564424.00	4152532.00	0.00019	564449.00	4152532.00	0.00018
564474.00	4152532.00	0.00013	564499.00	4152532.00	0.00010
564524.00	4152532.00	0.00008	564549.00	4152532.00	0.00007
564624.00	4152532.00	0.00005	564649.00	4152532.00	0.00005
564674.00	4152532.00	0.00005	564699.00	4152532.00	0.00006
564724.00	4152532.00	0.00008	564749.00	4152532.00	0.00011
564774.00	4152532.00	0.00017			

564799.00	4152532.00	0.00037
564824.00	4152532.00	0.00032
564849.00	4152532.00	0.00025
564874.00	4152532.00	0.00019
564899.00	4152532.00	0.00014
564924.00	4152532.00	0.00011
564274.00	4152557.00	0.00005
564299.00	4152557.00	0.00007
564324.00	4152557.00	0.00010
564349.00	4152557.00	0.00014
564374.00	4152557.00	0.00021
564399.00	4152557.00	0.00018
564424.00	4152557.00	0.00018
564449.00	4152557.00	0.00014
564474.00	4152557.00	0.00010
564499.00	4152557.00	0.00008
564524.00	4152557.00	0.00006
564549.00	4152557.00	0.00005
564574.00	4152557.00	0.00005
564599.00	4152557.00	0.00004
564624.00	4152557.00	0.00004
564649.00	4152557.00	0.00004
564674.00	4152557.00	0.00004
564699.00	4152557.00	0.00005
564724.00	4152557.00	0.00006
564749.00	4152557.00	0.00008
564774.00	4152557.00	0.00011
564799.00	4152557.00	0.00018
564824.00	4152557.00	0.00035
564849.00	4152557.00	0.00031
564874.00	4152557.00	0.00023
564899.00	4152557.00	0.00017
564924.00	4152557.00	0.00013
564274.00	4152582.00	0.00007
564299.00	4152582.00	0.00010
564324.00	4152582.00	0.00014
564349.00	4152582.00	0.00020
564374.00	4152582.00	0.00018
564399.00	4152582.00	0.00018
564424.00	4152582.00	0.00013
564449.00	4152582.00	0.00010
564474.00	4152582.00	0.00008
564499.00	4152582.00	0.00006
564524.00	4152582.00	0.00005
564549.00	4152582.00	0.00004
564574.00	4152582.00	0.00004
564599.00	4152582.00	0.00004
564624.00	4152582.00	0.00004
564649.00	4152582.00	0.00004
564674.00	4152582.00	0.00004
564699.00	4152582.00	0.00004
564724.00	4152582.00	0.00005

564749.00	4152582.00	0.00006
564774.00	4152582.00	0.00008
564799.00	4152582.00	0.00011
564824.00	4152582.00	0.00019
564849.00	4152582.00	0.00036

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_OFF ***
INCLUDING SOURCE(S):
A0000001 , A0000002 , A0000003 , A0000004 ,
A0000005 ,
A0000006 , A0000007 , A0000008 ,
A0000009 , A0000010 , A0000011 , A0000012 ,
A0000013 ,
A0000014 , A0000015 , A0000016 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152582.00	0.00029	564899.00	4152582.00	0.00021
564924.00	4152582.00	0.00015	564274.00	4152607.00	0.00009
564299.00	4152607.00	0.00014	564324.00	4152607.00	0.00020
564349.00	4152607.00	0.00018	564374.00	4152607.00	0.00017
564399.00	4152607.00	0.00013	564424.00	4152607.00	0.00010
564449.00	4152607.00	0.00007	564474.00	4152607.00	0.00006
564499.00	4152607.00	0.00005	564524.00	4152607.00	0.00004
564549.00	4152607.00	0.00004	564574.00	4152607.00	0.00003
564599.00	4152607.00	0.00003	564624.00	4152607.00	0.00003
564649.00	4152607.00	0.00003	564674.00	4152607.00	0.00003
564699.00	4152607.00	0.00003	564724.00	4152607.00	0.00004
564749.00	4152607.00	0.00004			

564774.00	4152607.00	0.00006
564799.00	4152607.00	0.00008
564824.00	4152607.00	0.00011
564849.00	4152607.00	0.00021
564874.00	4152607.00	0.00034
564899.00	4152607.00	0.00026
564924.00	4152607.00	0.00017
564274.00	4152632.00	0.00013
564299.00	4152632.00	0.00020
564324.00	4152632.00	0.00017
564349.00	4152632.00	0.00017
564374.00	4152632.00	0.00013
564399.00	4152632.00	0.00010
564424.00	4152632.00	0.00007
564449.00	4152632.00	0.00006
564474.00	4152632.00	0.00005
564499.00	4152632.00	0.00004
564524.00	4152632.00	0.00003
564549.00	4152632.00	0.00003
564574.00	4152632.00	0.00003
564599.00	4152632.00	0.00003
564624.00	4152632.00	0.00003
564649.00	4152632.00	0.00003
564674.00	4152632.00	0.00003
564699.00	4152632.00	0.00003
564724.00	4152632.00	0.00003
564749.00	4152632.00	0.00004
564774.00	4152632.00	0.00004
564799.00	4152632.00	0.00006
564824.00	4152632.00	0.00008
564849.00	4152632.00	0.00011
564874.00	4152632.00	0.00022
564899.00	4152632.00	0.00030
564924.00	4152632.00	0.00020
564274.00	4152657.00	0.00019
564299.00	4152657.00	0.00018
564324.00	4152657.00	0.00017
564349.00	4152657.00	0.00013
564374.00	4152657.00	0.00009
564399.00	4152657.00	0.00007
564424.00	4152657.00	0.00005
564449.00	4152657.00	0.00004
564474.00	4152657.00	0.00004
564499.00	4152657.00	0.00003
564524.00	4152657.00	0.00003
564549.00	4152657.00	0.00003
564574.00	4152657.00	0.00003
564599.00	4152657.00	0.00002
564624.00	4152657.00	0.00002
564649.00	4152657.00	0.00002
564674.00	4152657.00	0.00002
564699.00	4152657.00	0.00002

564724.00	4152657.00	0.00003
564749.00	4152657.00	0.00003
564774.00	4152657.00	0.00003
564799.00	4152657.00	0.00004
564824.00	4152657.00	0.00005

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_OFF ***
INCLUDING SOURCE(S):
A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,
A0000006 , A0000007 , A0000008 , A0000009 , A0000010 , A0000011 , A0000012 , A0000013 ,
A0000014 , A0000015 , A0000016 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152657.00	0.00007	564874.00	4152657.00	0.00009
564899.00	4152657.00	0.00019	564924.00	4152657.00	0.00020
564274.00	4152682.00	0.00017	564299.00	4152682.00	0.00017
564324.00	4152682.00	0.00012	564349.00	4152682.00	0.00009
564374.00	4152682.00	0.00007	564399.00	4152682.00	0.00005
564424.00	4152682.00	0.00004	564449.00	4152682.00	0.00004
564474.00	4152682.00	0.00003	564499.00	4152682.00	0.00003
564524.00	4152682.00	0.00002	564549.00	4152682.00	0.00002
564574.00	4152682.00	0.00002	564599.00	4152682.00	0.00002
564624.00	4152682.00	0.00002	564649.00	4152682.00	0.00002
564674.00	4152682.00	0.00002	564699.00	4152682.00	0.00002
564724.00	4152682.00	0.00002			

564749.00	4152682.00	0.00002
564774.00	4152682.00	0.00003
564799.00	4152682.00	0.00003
564824.00	4152682.00	0.00004
564849.00	4152682.00	0.00005
564874.00	4152682.00	0.00006
564899.00	4152682.00	0.00005
564924.00	4152682.00	0.00009
564274.00	4152707.00	0.00015
564299.00	4152707.00	0.00011
564324.00	4152707.00	0.00008
564349.00	4152707.00	0.00006
564374.00	4152707.00	0.00005
564399.00	4152707.00	0.00004
564424.00	4152707.00	0.00003
564449.00	4152707.00	0.00003
564474.00	4152707.00	0.00002
564499.00	4152707.00	0.00002
564524.00	4152707.00	0.00002
564549.00	4152707.00	0.00002
564574.00	4152707.00	0.00002
564599.00	4152707.00	0.00002
564624.00	4152707.00	0.00002
564649.00	4152707.00	0.00002
564674.00	4152707.00	0.00002
564699.00	4152707.00	0.00002
564724.00	4152707.00	0.00002
564749.00	4152707.00	0.00002
564774.00	4152707.00	0.00002
564799.00	4152707.00	0.00003
564824.00	4152707.00	0.00003
564849.00	4152707.00	0.00003
564874.00	4152707.00	0.00004
564899.00	4152707.00	0.00004
564924.00	4152707.00	0.00003
564274.00	4152732.00	0.00009
564299.00	4152732.00	0.00007
564324.00	4152732.00	0.00005
564349.00	4152732.00	0.00004
564374.00	4152732.00	0.00003
564399.00	4152732.00	0.00003
564424.00	4152732.00	0.00003
564449.00	4152732.00	0.00002
564474.00	4152732.00	0.00002
564499.00	4152732.00	0.00002
564524.00	4152732.00	0.00002
564549.00	4152732.00	0.00002
564574.00	4152732.00	0.00002
564599.00	4152732.00	0.00002
564624.00	4152732.00	0.00002
564649.00	4152732.00	0.00002
564674.00	4152732.00	0.00002

564699.00	4152732.00	0.00002
564724.00	4152732.00	0.00002
564749.00	4152732.00	0.00002
564774.00	4152732.00	0.00002
564799.00	4152732.00	0.00002

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
*** AERMET - VERSION 14134 *** ***
*** 12:38:17

PAGE 85
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y1_OFF ***
INCLUDING SOURCE(S):
A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,
A0000006 , A0000007 , A0000008 , A0000009 , A0000010 , A0000011 , A0000012 , A0000013 ,
A0000014 , A0000015 , A0000016 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564824.00	4152732.00	0.00002	564849.00	4152732.00	0.00002
564874.00	4152732.00	0.00003	564899.00	4152732.00	0.00002
564924.00	4152732.00	0.00002	564274.00	4152757.00	0.00005
564299.00	4152757.00	0.00004	564324.00	4152757.00	0.00003
564349.00	4152757.00	0.00003	564374.00	4152757.00	0.00002
564399.00	4152757.00	0.00002	564424.00	4152757.00	0.00002
564449.00	4152757.00	0.00002	564474.00	4152757.00	0.00002
564499.00	4152757.00	0.00002	564524.00	4152757.00	0.00001
564549.00	4152757.00	0.00001	564574.00	4152757.00	0.00001
564599.00	4152757.00	0.00001	564624.00	4152757.00	0.00001
564649.00	4152757.00	0.00001	564674.00	4152757.00	0.00001
564699.00	4152757.00	0.00001			

564724.00	4152757.00	0.00001
564749.00	4152757.00	0.00002
564774.00	4152757.00	0.00002
564799.00	4152757.00	0.00002
564824.00	4152757.00	0.00002
564849.00	4152757.00	0.00002
564874.00	4152757.00	0.00002
564899.00	4152757.00	0.00002
564924.00	4152757.00	0.00002
564274.00	4152782.00	0.00003
564299.00	4152782.00	0.00002
564324.00	4152782.00	0.00002
564349.00	4152782.00	0.00002
564374.00	4152782.00	0.00002
564399.00	4152782.00	0.00002
564424.00	4152782.00	0.00002
564449.00	4152782.00	0.00001
564474.00	4152782.00	0.00001
564499.00	4152782.00	0.00001
564524.00	4152782.00	0.00001
564549.00	4152782.00	0.00001
564574.00	4152782.00	0.00001
564599.00	4152782.00	0.00001
564624.00	4152782.00	0.00001
564649.00	4152782.00	0.00001
564674.00	4152782.00	0.00001
564699.00	4152782.00	0.00001
564724.00	4152782.00	0.00001
564749.00	4152782.00	0.00001
564774.00	4152782.00	0.00001
564799.00	4152782.00	0.00001
564824.00	4152782.00	0.00001
564849.00	4152782.00	0.00001
564874.00	4152782.00	0.00001
564899.00	4152782.00	0.00001
564924.00	4152782.00	0.00001

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ALL ***
INCLUDING SOURCE(S):
PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 ,
PAREA11 , A0000017 , A0000018 , A0000019 , A0000020 , A0000021 , A0000022 , A0000023 ,
A0000024 , A0000025 , A0000026 , A0000027 , A0000028 , A0000029 , A0000030 , A0000031 ,
A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564274.00	4152132.00	0.00133	564299.00	4152132.00	0.00156
564324.00	4152132.00	0.00186	564349.00	4152132.00	0.00225
564374.00	4152132.00	0.00273	564399.00	4152132.00	0.00332
564424.00	4152132.00	0.00421	564449.00	4152132.00	0.00548
564474.00	4152132.00	0.00644	564499.00	4152132.00	0.00743
564524.00	4152132.00	0.00862	564549.00	4152132.00	0.00979
564574.00	4152132.00	0.01103	564599.00	4152132.00	0.01202
564624.00	4152132.00	0.01223	564649.00	4152132.00	0.01210
564674.00	4152132.00	0.01179	564699.00	4152132.00	0.01162
564724.00	4152132.00	0.01147	564749.00	4152132.00	0.01095

564774.00	4152132.00	0.01027
564799.00	4152132.00	0.00982
564824.00	4152132.00	0.00921
564849.00	4152132.00	0.00866
564874.00	4152132.00	0.00815
564899.00	4152132.00	0.00768
564924.00	4152132.00	0.00721
564274.00	4152157.00	0.00137
564299.00	4152157.00	0.00161
564324.00	4152157.00	0.00193
564349.00	4152157.00	0.00234
564374.00	4152157.00	0.00283
564399.00	4152157.00	0.00346
564424.00	4152157.00	0.00433
564449.00	4152157.00	0.00569
564474.00	4152157.00	0.00724
564499.00	4152157.00	0.00886
564524.00	4152157.00	0.01034
564549.00	4152157.00	0.01200
564574.00	4152157.00	0.01295
564599.00	4152157.00	0.01427
564624.00	4152157.00	0.01459
564649.00	4152157.00	0.01425
564674.00	4152157.00	0.01378
564699.00	4152157.00	0.01405
564724.00	4152157.00	0.01344
564749.00	4152157.00	0.01253
564774.00	4152157.00	0.01186
564799.00	4152157.00	0.01117
564824.00	4152157.00	0.01040
564849.00	4152157.00	0.00968
564874.00	4152157.00	0.00905
564899.00	4152157.00	0.00844
564924.00	4152157.00	0.00790
564274.00	4152182.00	0.00140
564299.00	4152182.00	0.00165
564324.00	4152182.00	0.00201
564349.00	4152182.00	0.00244
564374.00	4152182.00	0.00297
564399.00	4152182.00	0.00365
564424.00	4152182.00	0.00462
564449.00	4152182.00	0.00597
564474.00	4152182.00	0.00800
564499.00	4152182.00	0.01026
564524.00	4152182.00	0.01243
564549.00	4152182.00	0.01441
564574.00	4152182.00	0.01622
564599.00	4152182.00	0.01732
564624.00	4152182.00	0.01745
564649.00	4152182.00	0.01733
564674.00	4152182.00	0.01743
564699.00	4152182.00	0.01672

564724.00	4152182.00	0.01565
564749.00	4152182.00	0.01458
564774.00	4152182.00	0.01372
564799.00	4152182.00	0.01268
564824.00	4152182.00	0.01176
564849.00	4152182.00	0.01086
564874.00	4152182.00	0.01005
564899.00	4152182.00	0.00931

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*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ALL ***
INCLUDING SOURCE(S):
PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 ,
PAREA11 , A0000017 , A0000018 , A0000019 , A0000020 , A0000021 , A0000022 , A0000023 ,
A0000024 , A0000025 , A0000026 , A0000027 , A0000028 , A0000029 , A0000030 , A0000031 ,
A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564924.00	4152182.00	0.00863	564274.00	4152207.00	0.00143
564299.00	4152207.00	0.00174	564324.00	4152207.00	0.00211
564349.00	4152207.00	0.00258	564374.00	4152207.00	0.00313
564399.00	4152207.00	0.00390	564424.00	4152207.00	0.00501
564449.00	4152207.00	0.00658	564474.00	4152207.00	0.00881
564499.00	4152207.00	0.01163	564524.00	4152207.00	0.01469
564549.00	4152207.00	0.01755	564574.00	4152207.00	0.02061
564599.00	4152207.00	0.02146	564624.00	4152207.00	0.02162
564649.00	4152207.00	0.02165	564674.00	4152207.00	0.02138
564699.00	4152207.00	0.01990	564724.00	4152207.00	0.01834

564749.00	4152207.00	0.01729
564774.00	4152207.00	0.01588
564799.00	4152207.00	0.01453
564824.00	4152207.00	0.01332
564849.00	4152207.00	0.01218
564874.00	4152207.00	0.01117
564899.00	4152207.00	0.01025
564924.00	4152207.00	0.00941
564274.00	4152232.00	0.00149
564299.00	4152232.00	0.00182
564324.00	4152232.00	0.00218
564349.00	4152232.00	0.00269
564374.00	4152232.00	0.00330
564399.00	4152232.00	0.00422
564424.00	4152232.00	0.00563
564449.00	4152232.00	0.00749
564474.00	4152232.00	0.01000
564499.00	4152232.00	0.01333
564524.00	4152232.00	0.01729
564549.00	4152232.00	0.02118
564574.00	4152232.00	0.02575
564599.00	4152232.00	0.02705
564624.00	4152232.00	0.02752
564649.00	4152232.00	0.02794
564674.00	4152232.00	0.02608
564699.00	4152232.00	0.02401
564724.00	4152232.00	0.02247
564749.00	4152232.00	0.02040
564774.00	4152232.00	0.01847
564799.00	4152232.00	0.01676
564824.00	4152232.00	0.01511
564849.00	4152232.00	0.01366
564874.00	4152232.00	0.01243
564899.00	4152232.00	0.01126
564924.00	4152232.00	0.01026
564274.00	4152257.00	0.00153
564299.00	4152257.00	0.00184
564324.00	4152257.00	0.00225
564349.00	4152257.00	0.00283
564374.00	4152257.00	0.00361
564399.00	4152257.00	0.00482
564424.00	4152257.00	0.00648
564449.00	4152257.00	0.00868
564474.00	4152257.00	0.01165
564499.00	4152257.00	0.01573
564524.00	4152257.00	0.02006
564549.00	4152257.00	0.02810
564574.00	4152257.00	0.03262
564599.00	4152257.00	0.03555
564624.00	4152257.00	0.03732
564649.00	4152257.00	0.03526
564674.00	4152257.00	0.03274

564699.00	4152257.00	0.03044
564724.00	4152257.00	0.02723
564749.00	4152257.00	0.02424
564774.00	4152257.00	0.02157
564799.00	4152257.00	0.01924
564824.00	4152257.00	0.01721
564849.00	4152257.00	0.01538
564874.00	4152257.00	0.01373

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ALL ***
INCLUDING SOURCE(S):
PAREA06 , PAREA07 , PAREA08 , PAREA09 ,
PAREA10 ,
PAREA11 , A0000017 , A0000018 ,
A0000019 , A0000020 , A0000021 , A0000022 ,
A0000023 ,
A0000024 , A0000025 , A0000026 ,
A0000027 , A0000028 , A0000029 , A0000030 ,
A0000031 ,
A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564899.00	4152257.00	0.01234	564924.00	4152257.00	0.01110
564274.00	4152282.00	0.00154	564299.00	4152282.00	0.00190
564324.00	4152282.00	0.00238	564349.00	4152282.00	0.00300
564374.00	4152282.00	0.00389	564399.00	4152282.00	0.00520
564424.00	4152282.00	0.00706	564449.00	4152282.00	0.00979
564474.00	4152282.00	0.01370	564499.00	4152282.00	0.01871
564524.00	4152282.00	0.02811	564549.00	4152282.00	0.03529
564574.00	4152282.00	0.04443	564599.00	4152282.00	0.04854
564624.00	4152282.00	0.05154	564649.00	4152282.00	0.04903
564674.00	4152282.00	0.04370	564699.00	4152282.00	0.03828

564724.00	4152282.00	0.03339
564749.00	4152282.00	0.02914
564774.00	4152282.00	0.02532
564799.00	4152282.00	0.02215
564824.00	4152282.00	0.01952
564849.00	4152282.00	0.01721
564874.00	4152282.00	0.01522
564899.00	4152282.00	0.01339
564924.00	4152282.00	0.01193
564274.00	4152307.00	0.00154
564299.00	4152307.00	0.00192
564324.00	4152307.00	0.00241
564349.00	4152307.00	0.00306
564374.00	4152307.00	0.00401
564399.00	4152307.00	0.00543
564424.00	4152307.00	0.00759
564449.00	4152307.00	0.01087
564474.00	4152307.00	0.01585
564499.00	4152307.00	0.02337
564524.00	4152307.00	0.03281
564549.00	4152307.00	0.04719
564574.00	4152307.00	0.06369
564599.00	4152307.00	0.07617
564624.00	4152307.00	0.07609
564649.00	4152307.00	0.06781
564674.00	4152307.00	0.05799
564699.00	4152307.00	0.04894
564724.00	4152307.00	0.04138
564749.00	4152307.00	0.03515
564774.00	4152307.00	0.02999
564799.00	4152307.00	0.02561
564824.00	4152307.00	0.02195
564849.00	4152307.00	0.01909
564874.00	4152307.00	0.01660
564899.00	4152307.00	0.01448
564924.00	4152307.00	0.01279
564274.00	4152332.00	0.00154
564299.00	4152332.00	0.00190
564324.00	4152332.00	0.00240
564349.00	4152332.00	0.00309
564374.00	4152332.00	0.00410
564399.00	4152332.00	0.00562
564424.00	4152332.00	0.00801
564449.00	4152332.00	0.01191
564474.00	4152332.00	0.01812
564499.00	4152332.00	0.02744
564524.00	4152332.00	0.04247
564549.00	4152332.00	0.06405
564574.00	4152332.00	0.09056
564599.00	4152332.00	0.11050
564624.00	4152332.00	0.11025
564649.00	4152332.00	0.09657

564674.00	4152332.00	0.07885
564699.00	4152332.00	0.06349
564724.00	4152332.00	0.05151
564749.00	4152332.00	0.04232
564774.00	4152332.00	0.03510
564799.00	4152332.00	0.02935
564824.00	4152332.00	0.02465
564849.00	4152332.00	0.02091

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ALL ***
INCLUDING SOURCE(S):
PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 ,
PAREA11 , A0000017 , A0000018 ,
A0000019 , A0000020 , A0000021 , A0000022 , A0000023 ,
A0000024 , A0000025 , A0000026 ,
A0000027 , A0000028 , A0000029 , A0000030 , A0000031 ,
A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152332.00	0.01791	564899.00	4152332.00	0.01551
564924.00	4152332.00	0.01356	564274.00	4152357.00	0.00153
564299.00	4152357.00	0.00189	564324.00	4152357.00	0.00238
564349.00	4152357.00	0.00308	564374.00	4152357.00	0.00412
564399.00	4152357.00	0.00574	564424.00	4152357.00	0.00842
564449.00	4152357.00	0.01344	564474.00	4152357.00	0.02065
564499.00	4152357.00	0.03390	564524.00	4152357.00	0.05480
564549.00	4152357.00	0.08506	564574.00	4152357.00	0.12255
564599.00	4152357.00	0.14921	564624.00	4152357.00	0.15283
564649.00	4152357.00	0.13534	564674.00	4152357.00	0.10707

564699.00	4152357.00	0.08212
564724.00	4152357.00	0.06370
564749.00	4152357.00	0.05035
564774.00	4152357.00	0.04045
564799.00	4152357.00	0.03297
564824.00	4152357.00	0.02714
564849.00	4152357.00	0.02263
564874.00	4152357.00	0.01911
564899.00	4152357.00	0.01633
564924.00	4152357.00	0.01414
564274.00	4152382.00	0.00153
564299.00	4152382.00	0.00187
564324.00	4152382.00	0.00235
564349.00	4152382.00	0.00303
564374.00	4152382.00	0.00406
564399.00	4152382.00	0.00573
564424.00	4152382.00	0.00876
564449.00	4152382.00	0.01412
564474.00	4152382.00	0.02373
564499.00	4152382.00	0.04047
564524.00	4152382.00	0.06827
564549.00	4152382.00	0.10591
564574.00	4152382.00	0.14972
564649.00	4152382.00	0.17277
564674.00	4152382.00	0.13798
564699.00	4152382.00	0.10321
564724.00	4152382.00	0.07683
564749.00	4152382.00	0.05824
564774.00	4152382.00	0.04533
564799.00	4152382.00	0.03599
564824.00	4152382.00	0.02913
564849.00	4152382.00	0.02392
564874.00	4152382.00	0.01989
564899.00	4152382.00	0.01684
564924.00	4152382.00	0.01442
564274.00	4152407.00	0.00151
564299.00	4152407.00	0.00185
564324.00	4152407.00	0.00231
564349.00	4152407.00	0.00296
564374.00	4152407.00	0.00394
564399.00	4152407.00	0.00560
564424.00	4152407.00	0.00876
564449.00	4152407.00	0.01465
564474.00	4152407.00	0.02568
564499.00	4152407.00	0.04754
564524.00	4152407.00	0.08010
564549.00	4152407.00	0.11536
564674.00	4152407.00	0.15891
564699.00	4152407.00	0.12032
564724.00	4152407.00	0.08804
564749.00	4152407.00	0.06443
564774.00	4152407.00	0.04864

564799.00	4152407.00	0.03771
564824.00	4152407.00	0.03001
564849.00	4152407.00	0.02439
564874.00	4152407.00	0.02017
564899.00	4152407.00	0.01690
564924.00	4152407.00	0.01440
564274.00	4152432.00	0.00149
564299.00	4152432.00	0.00181

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ALL ***
INCLUDING SOURCE(S):
PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 ,
PAREA11 , A0000017 , A0000018 , A0000019 , A0000020 , A0000021 , A0000022 , A0000023 ,
A0000024 , A0000025 , A0000026 , A0000027 , A0000028 , A0000029 , A0000030 , A0000031 ,
A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564324.00	4152432.00	0.00225	564349.00	4152432.00	0.00288
564374.00	4152432.00	0.00382	564399.00	4152432.00	0.00542
564424.00	4152432.00	0.00828	564449.00	4152432.00	0.01416
564474.00	4152432.00	0.02662	564499.00	4152432.00	0.04821
564524.00	4152432.00	0.07849	564674.00	4152432.00	0.15351
564699.00	4152432.00	0.11977	564724.00	4152432.00	0.09029
564749.00	4152432.00	0.06610	564774.00	4152432.00	0.04898
564799.00	4152432.00	0.03741	564824.00	4152432.00	0.02947
564849.00	4152432.00	0.02382	564874.00	4152432.00	0.01964
564899.00	4152432.00	0.01644	564924.00	4152432.00	0.01396

564274.00	4152457.00	0.00147
564299.00	4152457.00	0.00177
564324.00	4152457.00	0.00220
564349.00	4152457.00	0.00280
564374.00	4152457.00	0.00373
564399.00	4152457.00	0.00513
564424.00	4152457.00	0.00760
564449.00	4152457.00	0.01310
564474.00	4152457.00	0.02320
564499.00	4152457.00	0.03533
564699.00	4152457.00	0.09908
564724.00	4152457.00	0.07618
564749.00	4152457.00	0.06000
564774.00	4152457.00	0.04541
564799.00	4152457.00	0.03465
564824.00	4152457.00	0.02744
564849.00	4152457.00	0.02211
564874.00	4152457.00	0.01828
564899.00	4152457.00	0.01540
564924.00	4152457.00	0.01313
564274.00	4152482.00	0.00145
564299.00	4152482.00	0.00175
564324.00	4152482.00	0.00217
564349.00	4152482.00	0.00277
564374.00	4152482.00	0.00361
564399.00	4152482.00	0.00494
564424.00	4152482.00	0.00711
564449.00	4152482.00	0.01084
564474.00	4152482.00	0.01554
564499.00	4152482.00	0.02721
564674.00	4152482.00	0.10108
564699.00	4152482.00	0.07493
564724.00	4152482.00	0.05549
564749.00	4152482.00	0.04513
564774.00	4152482.00	0.03768
564799.00	4152482.00	0.02980
564824.00	4152482.00	0.02383
564849.00	4152482.00	0.01952
564874.00	4152482.00	0.01626
564899.00	4152482.00	0.01377
564924.00	4152482.00	0.01186
564274.00	4152507.00	0.00143
564299.00	4152507.00	0.00174
564324.00	4152507.00	0.00217
564349.00	4152507.00	0.00274
564374.00	4152507.00	0.00357
564399.00	4152507.00	0.00483
564424.00	4152507.00	0.00679
564449.00	4152507.00	0.00973
564474.00	4152507.00	0.01397
564499.00	4152507.00	0.02097
564524.00	4152507.00	0.03164

564649.00	4152507.00	0.08020
564674.00	4152507.00	0.06527
564699.00	4152507.00	0.05053
564724.00	4152507.00	0.03939
564749.00	4152507.00	0.03127
564774.00	4152507.00	0.02741
564799.00	4152507.00	0.02325
564824.00	4152507.00	0.01932

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ALL ***
INCLUDING SOURCE(S):
PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 ,
PAREA11 , A0000017 , A0000018 , A0000019 , A0000020 , A0000021 , A0000022 , A0000023 ,
A0000024 , A0000025 , A0000026 , A0000027 , A0000028 , A0000029 , A0000030 , A0000031 ,
A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152507.00	0.01617	564874.00	4152507.00	0.01376
564899.00	4152507.00	0.01191	564924.00	4152507.00	0.01042
564274.00	4152532.00	0.00145	564299.00	4152532.00	0.00176
564324.00	4152532.00	0.00218	564349.00	4152532.00	0.00276
564374.00	4152532.00	0.00361	564399.00	4152532.00	0.00479
564424.00	4152532.00	0.00637	564449.00	4152532.00	0.00867
564474.00	4152532.00	0.01186	564499.00	4152532.00	0.01651
564524.00	4152532.00	0.02345	564549.00	4152532.00	0.03175
564624.00	4152532.00	0.05202	564649.00	4152532.00	0.04571
564674.00	4152532.00	0.03734	564699.00	4152532.00	0.03096

564724.00	4152532.00	0.02618
564749.00	4152532.00	0.02214
564774.00	4152532.00	0.01903
564799.00	4152532.00	0.01700
564824.00	4152532.00	0.01491
564849.00	4152532.00	0.01289
564874.00	4152532.00	0.01134
564899.00	4152532.00	0.01001
564924.00	4152532.00	0.00889
564274.00	4152557.00	0.00148
564299.00	4152557.00	0.00180
564324.00	4152557.00	0.00223
564349.00	4152557.00	0.00284
564374.00	4152557.00	0.00365
564399.00	4152557.00	0.00461
564424.00	4152557.00	0.00597
564449.00	4152557.00	0.00773
564474.00	4152557.00	0.01012
564499.00	4152557.00	0.01315
564524.00	4152557.00	0.01728
564549.00	4152557.00	0.02212
564574.00	4152557.00	0.02533
564599.00	4152557.00	0.02519
564624.00	4152557.00	0.02524
564649.00	4152557.00	0.02351
564674.00	4152557.00	0.02090
564699.00	4152557.00	0.01865
564724.00	4152557.00	0.01673
564749.00	4152557.00	0.01497
564774.00	4152557.00	0.01344
564799.00	4152557.00	0.01211
564824.00	4152557.00	0.01122
564849.00	4152557.00	0.01012
564874.00	4152557.00	0.00910
564899.00	4152557.00	0.00820
564924.00	4152557.00	0.00742
564274.00	4152582.00	0.00152
564299.00	4152582.00	0.00187
564324.00	4152582.00	0.00233
564349.00	4152582.00	0.00293
564374.00	4152582.00	0.00357
564399.00	4152582.00	0.00443
564424.00	4152582.00	0.00550
564449.00	4152582.00	0.00690
564474.00	4152582.00	0.00867
564499.00	4152582.00	0.01065
564524.00	4152582.00	0.01308
564549.00	4152582.00	0.01537
564574.00	4152582.00	0.01643
564599.00	4152582.00	0.01615
564624.00	4152582.00	0.01467
564649.00	4152582.00	0.01362

564674.00	4152582.00	0.01264
564699.00	4152582.00	0.01175
564724.00	4152582.00	0.01090
564749.00	4152582.00	0.01012
564774.00	4152582.00	0.00945
564799.00	4152582.00	0.00872
564824.00	4152582.00	0.00824
564849.00	4152582.00	0.00789

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ALL ***
INCLUDING SOURCE(S):
PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 ,
PAREA11 , A0000017 , A0000018 , A0000019 , A0000020 , A0000021 , A0000022 , A0000023 ,
A0000024 , A0000025 , A0000026 , A0000027 , A0000028 , A0000029 , A0000030 , A0000031 ,
A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152582.00	0.00727	564899.00	4152582.00	0.00665
564924.00	4152582.00	0.00611	564274.00	4152607.00	0.00159
564299.00	4152607.00	0.00196	564324.00	4152607.00	0.00243
564349.00	4152607.00	0.00288	564374.00	4152607.00	0.00348
564399.00	4152607.00	0.00418	564424.00	4152607.00	0.00504
564449.00	4152607.00	0.00613	564474.00	4152607.00	0.00733
564499.00	4152607.00	0.00868	564524.00	4152607.00	0.00999
564549.00	4152607.00	0.01100	564574.00	4152607.00	0.01140
564599.00	4152607.00	0.01104	564624.00	4152607.00	0.01028
564649.00	4152607.00	0.00933	564674.00	4152607.00	0.00857

564699.00	4152607.00	0.00797
564724.00	4152607.00	0.00749
564749.00	4152607.00	0.00713
564774.00	4152607.00	0.00667
564799.00	4152607.00	0.00637
564824.00	4152607.00	0.00610
564849.00	4152607.00	0.00594
564874.00	4152607.00	0.00583
564899.00	4152607.00	0.00541
564924.00	4152607.00	0.00501
564274.00	4152632.00	0.00168
564299.00	4152632.00	0.00207
564324.00	4152632.00	0.00240
564349.00	4152632.00	0.00283
564374.00	4152632.00	0.00331
564399.00	4152632.00	0.00389
564424.00	4152632.00	0.00458
564449.00	4152632.00	0.00534
564474.00	4152632.00	0.00618
564499.00	4152632.00	0.00703
564524.00	4152632.00	0.00775
564549.00	4152632.00	0.00824
564574.00	4152632.00	0.00839
564599.00	4152632.00	0.00810
564624.00	4152632.00	0.00757
564649.00	4152632.00	0.00694
564674.00	4152632.00	0.00636
564699.00	4152632.00	0.00587
564724.00	4152632.00	0.00553
564749.00	4152632.00	0.00516
564774.00	4152632.00	0.00494
564799.00	4152632.00	0.00477
564824.00	4152632.00	0.00463
564849.00	4152632.00	0.00450
564874.00	4152632.00	0.00449
564899.00	4152632.00	0.00444
564924.00	4152632.00	0.00412
564274.00	4152657.00	0.00178
564299.00	4152657.00	0.00205
564324.00	4152657.00	0.00237
564349.00	4152657.00	0.00270
564374.00	4152657.00	0.00311
564399.00	4152657.00	0.00358
564424.00	4152657.00	0.00409
564449.00	4152657.00	0.00465
564474.00	4152657.00	0.00521
564499.00	4152657.00	0.00572
564524.00	4152657.00	0.00615
564549.00	4152657.00	0.00640
564574.00	4152657.00	0.00644
564599.00	4152657.00	0.00624
564624.00	4152657.00	0.00588

564649.00	4152657.00	0.00544
564674.00	4152657.00	0.00500
564699.00	4152657.00	0.00461
564724.00	4152657.00	0.00423
564749.00	4152657.00	0.00400
564774.00	4152657.00	0.00382
564799.00	4152657.00	0.00369
564824.00	4152657.00	0.00359

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ALL ***
INCLUDING SOURCE(S):
PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 ,
PAREA11 , A0000017 , A0000018 , A0000019 , A0000020 , A0000021 , A0000022 , A0000023 ,
A0000024 , A0000025 , A0000026 , A0000027 , A0000028 , A0000029 , A0000030 , A0000031 ,
A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152657.00	0.00351	564874.00	4152657.00	0.00344
564899.00	4152657.00	0.00347	564924.00	4152657.00	0.00339
564274.00	4152682.00	0.00176	564299.00	4152682.00	0.00201
564324.00	4152682.00	0.00225	564349.00	4152682.00	0.00255
564374.00	4152682.00	0.00288	564399.00	4152682.00	0.00323
564424.00	4152682.00	0.00363	564449.00	4152682.00	0.00403
564474.00	4152682.00	0.00440	564499.00	4152682.00	0.00473
564524.00	4152682.00	0.00498	564549.00	4152682.00	0.00511
564574.00	4152682.00	0.00511	564599.00	4152682.00	0.00496
564624.00	4152682.00	0.00471	564649.00	4152682.00	0.00440

564674.00	4152682.00	0.00407
564699.00	4152682.00	0.00373
564724.00	4152682.00	0.00344
564749.00	4152682.00	0.00323
564774.00	4152682.00	0.00307
564799.00	4152682.00	0.00295
564824.00	4152682.00	0.00286
564849.00	4152682.00	0.00280
564874.00	4152682.00	0.00275
564899.00	4152682.00	0.00267
564924.00	4152682.00	0.00266
564274.00	4152707.00	0.00172
564299.00	4152707.00	0.00190
564324.00	4152707.00	0.00212
564349.00	4152707.00	0.00237
564374.00	4152707.00	0.00263
564399.00	4152707.00	0.00291
564424.00	4152707.00	0.00321
564449.00	4152707.00	0.00349
564474.00	4152707.00	0.00374
564499.00	4152707.00	0.00394
564524.00	4152707.00	0.00411
564549.00	4152707.00	0.00419
564574.00	4152707.00	0.00416
564599.00	4152707.00	0.00405
564624.00	4152707.00	0.00386
564649.00	4152707.00	0.00363
564674.00	4152707.00	0.00338
564699.00	4152707.00	0.00314
564724.00	4152707.00	0.00289
564749.00	4152707.00	0.00270
564774.00	4152707.00	0.00255
564799.00	4152707.00	0.00243
564824.00	4152707.00	0.00234
564849.00	4152707.00	0.00228
564874.00	4152707.00	0.00223
564899.00	4152707.00	0.00219
564924.00	4152707.00	0.00213
564274.00	4152732.00	0.00162
564299.00	4152732.00	0.00179
564324.00	4152732.00	0.00197
564349.00	4152732.00	0.00218
564374.00	4152732.00	0.00239
564399.00	4152732.00	0.00261
564424.00	4152732.00	0.00282
564449.00	4152732.00	0.00302
564474.00	4152732.00	0.00320
564499.00	4152732.00	0.00334
564524.00	4152732.00	0.00344
564549.00	4152732.00	0.00349
564574.00	4152732.00	0.00346
564599.00	4152732.00	0.00336

564624.00	4152732.00	0.00321
564649.00	4152732.00	0.00304
564674.00	4152732.00	0.00286
564699.00	4152732.00	0.00267
564724.00	4152732.00	0.00249
564749.00	4152732.00	0.00230
564774.00	4152732.00	0.00217
564799.00	4152732.00	0.00206

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ALL ***
INCLUDING SOURCE(S):
PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 ,
PAREA11 , A0000017 , A0000018 , A0000019 , A0000020 , A0000021 , A0000022 , A0000023 ,
A0000024 , A0000025 , A0000026 , A0000027 , A0000028 , A0000029 , A0000030 , A0000031 ,
A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564824.00	4152732.00	0.00197	564849.00	4152732.00	0.00191
564874.00	4152732.00	0.00185	564899.00	4152732.00	0.00181
564924.00	4152732.00	0.00177	564274.00	4152757.00	0.00151
564299.00	4152757.00	0.00167	564324.00	4152757.00	0.00183
564349.00	4152757.00	0.00199	564374.00	4152757.00	0.00216
564399.00	4152757.00	0.00232	564424.00	4152757.00	0.00248
564449.00	4152757.00	0.00262	564474.00	4152757.00	0.00275
564499.00	4152757.00	0.00286	564524.00	4152757.00	0.00293
564549.00	4152757.00	0.00294	564574.00	4152757.00	0.00291
564599.00	4152757.00	0.00283	564624.00	4152757.00	0.00272

564649.00	4152757.00	0.00259
564674.00	4152757.00	0.00245
564699.00	4152757.00	0.00230
564724.00	4152757.00	0.00216
564749.00	4152757.00	0.00201
564774.00	4152757.00	0.00188
564799.00	4152757.00	0.00178
564824.00	4152757.00	0.00169
564849.00	4152757.00	0.00162
564874.00	4152757.00	0.00157
564899.00	4152757.00	0.00153
564924.00	4152757.00	0.00150
564274.00	4152782.00	0.00142
564299.00	4152782.00	0.00155
564324.00	4152782.00	0.00168
564349.00	4152782.00	0.00181
564374.00	4152782.00	0.00194
564399.00	4152782.00	0.00206
564424.00	4152782.00	0.00218
564449.00	4152782.00	0.00229
564474.00	4152782.00	0.00239
564499.00	4152782.00	0.00247
564524.00	4152782.00	0.00251
564549.00	4152782.00	0.00252
564574.00	4152782.00	0.00249
564599.00	4152782.00	0.00242
564624.00	4152782.00	0.00233
564649.00	4152782.00	0.00223
564674.00	4152782.00	0.00212
564699.00	4152782.00	0.00201
564724.00	4152782.00	0.00189
564749.00	4152782.00	0.00177
564774.00	4152782.00	0.00166
564799.00	4152782.00	0.00156
564824.00	4152782.00	0.00148
564849.00	4152782.00	0.00141
564874.00	4152782.00	0.00136
564899.00	4152782.00	0.00132
564924.00	4152782.00	0.00129

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
*** AERMET - VERSION 14134 *** ***
*** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ON ***
INCLUDING SOURCE(S):
PAREA06 , PAREA07 , PAREA08 , PAREA09 ,
PAREA10 ,
PAREA11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564274.00	4152132.00	0.00132	564299.00	4152132.00	0.00155
564324.00	4152132.00	0.00185	564349.00	4152132.00	0.00224
564374.00	4152132.00	0.00272	564399.00	4152132.00	0.00330
564424.00	4152132.00	0.00419	564449.00	4152132.00	0.00546
564474.00	4152132.00	0.00642	564499.00	4152132.00	0.00740
564524.00	4152132.00	0.00859	564549.00	4152132.00	0.00976
564574.00	4152132.00	0.01099	564599.00	4152132.00	0.01197
564624.00	4152132.00	0.01217	564649.00	4152132.00	0.01204
564674.00	4152132.00	0.01172	564699.00	4152132.00	0.01154
564724.00	4152132.00	0.01137	564749.00	4152132.00	0.01083
564774.00	4152132.00	0.01014	564799.00	4152132.00	0.00971
564824.00	4152132.00	0.00913	564849.00	4152132.00	0.00859
564874.00	4152132.00	0.00809	564899.00	4152132.00	0.00763

564924.00	4152132.00	0.00716
564274.00	4152157.00	0.00136
564299.00	4152157.00	0.00160
564324.00	4152157.00	0.00192
564349.00	4152157.00	0.00232
564374.00	4152157.00	0.00282
564399.00	4152157.00	0.00345
564424.00	4152157.00	0.00431
564449.00	4152157.00	0.00566
564474.00	4152157.00	0.00721
564499.00	4152157.00	0.00883
564524.00	4152157.00	0.01030
564549.00	4152157.00	0.01196
564574.00	4152157.00	0.01290
564599.00	4152157.00	0.01421
564624.00	4152157.00	0.01452
564649.00	4152157.00	0.01418
564674.00	4152157.00	0.01370
564699.00	4152157.00	0.01395
564724.00	4152157.00	0.01331
564749.00	4152157.00	0.01236
564774.00	4152157.00	0.01172
564799.00	4152157.00	0.01104
564824.00	4152157.00	0.01030
564849.00	4152157.00	0.00960
564874.00	4152157.00	0.00898
564899.00	4152157.00	0.00839
564924.00	4152157.00	0.00785
564274.00	4152182.00	0.00139
564299.00	4152182.00	0.00164
564324.00	4152182.00	0.00199
564349.00	4152182.00	0.00243
564374.00	4152182.00	0.00295
564399.00	4152182.00	0.00364
564424.00	4152182.00	0.00460
564449.00	4152182.00	0.00595
564474.00	4152182.00	0.00797
564499.00	4152182.00	0.01023
564524.00	4152182.00	0.01239
564549.00	4152182.00	0.01436
564574.00	4152182.00	0.01616
564599.00	4152182.00	0.01725
564624.00	4152182.00	0.01737
564649.00	4152182.00	0.01724
564674.00	4152182.00	0.01732
564699.00	4152182.00	0.01658
564724.00	4152182.00	0.01547
564749.00	4152182.00	0.01441
564774.00	4152182.00	0.01358
564799.00	4152182.00	0.01256
564824.00	4152182.00	0.01167
564849.00	4152182.00	0.01078

564874.00	4152182.00	0.00998
564899.00	4152182.00	0.00925

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
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*** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ON ***
INCLUDING SOURCE(S):
PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 ,
PAREA11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564924.00	4152182.00	0.00858	564274.00	4152207.00	0.00142
564299.00	4152207.00	0.00173	564324.00	4152207.00	0.00210
564349.00	4152207.00	0.00256	564374.00	4152207.00	0.00312
564399.00	4152207.00	0.00388	564424.00	4152207.00	0.00499
564449.00	4152207.00	0.00656	564474.00	4152207.00	0.00878
564499.00	4152207.00	0.01159	564524.00	4152207.00	0.01464
564549.00	4152207.00	0.01749	564574.00	4152207.00	0.02054
564599.00	4152207.00	0.02138	564624.00	4152207.00	0.02152
564649.00	4152207.00	0.02153	564674.00	4152207.00	0.02124
564699.00	4152207.00	0.01971	564724.00	4152207.00	0.01814
564749.00	4152207.00	0.01712	564774.00	4152207.00	0.01574
564799.00	4152207.00	0.01442	564824.00	4152207.00	0.01322
564849.00	4152207.00	0.01210	564874.00	4152207.00	0.01110

564899.00	4152207.00	0.01019
564924.00	4152207.00	0.00935
564274.00	4152232.00	0.00148
564299.00	4152232.00	0.00180
564324.00	4152232.00	0.00216
564349.00	4152232.00	0.00267
564374.00	4152232.00	0.00328
564399.00	4152232.00	0.00420
564424.00	4152232.00	0.00561
564449.00	4152232.00	0.00746
564474.00	4152232.00	0.00997
564499.00	4152232.00	0.01329
564524.00	4152232.00	0.01723
564549.00	4152232.00	0.02111
564574.00	4152232.00	0.02567
564599.00	4152232.00	0.02695
564624.00	4152232.00	0.02740
564649.00	4152232.00	0.02778
564674.00	4152232.00	0.02589
564699.00	4152232.00	0.02365
564724.00	4152232.00	0.02229
564749.00	4152232.00	0.02023
564774.00	4152232.00	0.01833
564799.00	4152232.00	0.01665
564824.00	4152232.00	0.01502
564849.00	4152232.00	0.01358
564874.00	4152232.00	0.01236
564899.00	4152232.00	0.01120
564924.00	4152232.00	0.01021
564274.00	4152257.00	0.00152
564299.00	4152257.00	0.00183
564324.00	4152257.00	0.00223
564349.00	4152257.00	0.00281
564374.00	4152257.00	0.00359
564399.00	4152257.00	0.00480
564424.00	4152257.00	0.00645
564449.00	4152257.00	0.00864
564474.00	4152257.00	0.01160
564499.00	4152257.00	0.01568
564524.00	4152257.00	0.02000
564549.00	4152257.00	0.02801
564574.00	4152257.00	0.03251
564599.00	4152257.00	0.03542
564624.00	4152257.00	0.03715
564649.00	4152257.00	0.03505
564674.00	4152257.00	0.03238
564699.00	4152257.00	0.03023
564724.00	4152257.00	0.02704
564749.00	4152257.00	0.02408
564774.00	4152257.00	0.02145
564799.00	4152257.00	0.01913
564824.00	4152257.00	0.01711

564849.00	4152257.00	0.01530
564874.00	4152257.00	0.01366

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ON ***
INCLUDING SOURCE(S):
PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 ,
PAREA11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564899.00	4152257.00	0.01227	564924.00	4152257.00	0.01104
564274.00	4152282.00	0.00152	564299.00	4152282.00	0.00188
564324.00	4152282.00	0.00236	564349.00	4152282.00	0.00297
564374.00	4152282.00	0.00386	564399.00	4152282.00	0.00517
564424.00	4152282.00	0.00703	564449.00	4152282.00	0.00974
564474.00	4152282.00	0.01365	564499.00	4152282.00	0.01865
564524.00	4152282.00	0.02803	564549.00	4152282.00	0.03518
564574.00	4152282.00	0.04429	564599.00	4152282.00	0.04837
564624.00	4152282.00	0.05130	564649.00	4152282.00	0.04876
564674.00	4152282.00	0.04345	564699.00	4152282.00	0.03805
564724.00	4152282.00	0.03320	564749.00	4152282.00	0.02898
564774.00	4152282.00	0.02519	564799.00	4152282.00	0.02204
564824.00	4152282.00	0.01942	564849.00	4152282.00	0.01712

564874.00	4152282.00	0.01514
564899.00	4152282.00	0.01332
564924.00	4152282.00	0.01187
564274.00	4152307.00	0.00153
564299.00	4152307.00	0.00190
564324.00	4152307.00	0.00238
564349.00	4152307.00	0.00304
564374.00	4152307.00	0.00398
564399.00	4152307.00	0.00540
564424.00	4152307.00	0.00755
564449.00	4152307.00	0.01082
564474.00	4152307.00	0.01579
564499.00	4152307.00	0.02329
564524.00	4152307.00	0.03272
564549.00	4152307.00	0.04705
564574.00	4152307.00	0.06350
564599.00	4152307.00	0.07590
564624.00	4152307.00	0.07577
564649.00	4152307.00	0.06750
564674.00	4152307.00	0.05771
564699.00	4152307.00	0.04871
564724.00	4152307.00	0.04119
564749.00	4152307.00	0.03498
564774.00	4152307.00	0.02985
564799.00	4152307.00	0.02549
564824.00	4152307.00	0.02184
564849.00	4152307.00	0.01899
564874.00	4152307.00	0.01652
564899.00	4152307.00	0.01440
564924.00	4152307.00	0.01272
564274.00	4152332.00	0.00152
564299.00	4152332.00	0.00188
564324.00	4152332.00	0.00237
564349.00	4152332.00	0.00306
564374.00	4152332.00	0.00407
564399.00	4152332.00	0.00558
564424.00	4152332.00	0.00796
564449.00	4152332.00	0.01185
564474.00	4152332.00	0.01805
564499.00	4152332.00	0.02735
564524.00	4152332.00	0.04234
564549.00	4152332.00	0.06386
564574.00	4152332.00	0.09028
564599.00	4152332.00	0.11014
564624.00	4152332.00	0.10983
564649.00	4152332.00	0.09617
564674.00	4152332.00	0.07852
564699.00	4152332.00	0.06322
564724.00	4152332.00	0.05129
564749.00	4152332.00	0.04213
564774.00	4152332.00	0.03494
564799.00	4152332.00	0.02921

564824.00	4152332.00	0.02453
564849.00	4152332.00	0.02081

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ON ***
INCLUDING SOURCE(S):
PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 ,
PAREA11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152332.00	0.01781	564899.00	4152332.00	0.01542
564924.00	4152332.00	0.01349	564274.00	4152357.00	0.00151
564299.00	4152357.00	0.00187	564324.00	4152357.00	0.00235
564349.00	4152357.00	0.00304	564374.00	4152357.00	0.00408
564399.00	4152357.00	0.00569	564424.00	4152357.00	0.00836
564449.00	4152357.00	0.01336	564474.00	4152357.00	0.02056
564499.00	4152357.00	0.03377	564524.00	4152357.00	0.05463
564549.00	4152357.00	0.08480	564574.00	4152357.00	0.12222
564599.00	4152357.00	0.14887	564624.00	4152357.00	0.15234
564649.00	4152357.00	0.13479	564674.00	4152357.00	0.10663
564699.00	4152357.00	0.08178	564724.00	4152357.00	0.06343
564749.00	4152357.00	0.05013	564774.00	4152357.00	0.04026
564799.00	4152357.00	0.03281	564824.00	4152357.00	0.02701

564849.00	4152357.00	0.02251
564874.00	4152357.00	0.01901
564899.00	4152357.00	0.01624
564924.00	4152357.00	0.01406
564274.00	4152382.00	0.00151
564299.00	4152382.00	0.00184
564324.00	4152382.00	0.00232
564349.00	4152382.00	0.00300
564374.00	4152382.00	0.00402
564399.00	4152382.00	0.00567
564424.00	4152382.00	0.00869
564449.00	4152382.00	0.01403
564474.00	4152382.00	0.02361
564499.00	4152382.00	0.04030
564524.00	4152382.00	0.06802
564549.00	4152382.00	0.10559
564574.00	4152382.00	0.14944
564649.00	4152382.00	0.17231
564674.00	4152382.00	0.13743
564699.00	4152382.00	0.10278
564724.00	4152382.00	0.07650
564749.00	4152382.00	0.05797
564774.00	4152382.00	0.04511
564799.00	4152382.00	0.03581
564824.00	4152382.00	0.02898
564849.00	4152382.00	0.02379
564874.00	4152382.00	0.01978
564899.00	4152382.00	0.01674
564924.00	4152382.00	0.01433
564274.00	4152407.00	0.00149
564299.00	4152407.00	0.00182
564324.00	4152407.00	0.00227
564349.00	4152407.00	0.00292
564374.00	4152407.00	0.00389
564399.00	4152407.00	0.00553
564424.00	4152407.00	0.00867
564449.00	4152407.00	0.01453
564474.00	4152407.00	0.02552
564499.00	4152407.00	0.04730
564524.00	4152407.00	0.07977
564549.00	4152407.00	0.11508
564674.00	4152407.00	0.15847
564699.00	4152407.00	0.11979
564724.00	4152407.00	0.08762
564749.00	4152407.00	0.06410
564774.00	4152407.00	0.04839
564799.00	4152407.00	0.03750
564824.00	4152407.00	0.02983
564849.00	4152407.00	0.02424
564874.00	4152407.00	0.02005
564899.00	4152407.00	0.01679
564924.00	4152407.00	0.01430

564274.00	4152432.00	0.00146
564299.00	4152432.00	0.00178

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
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*** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ON ***
INCLUDING SOURCE(S):
PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 ,
PAREA11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564324.00	4152432.00	0.00221	564349.00	4152432.00	0.00282
564374.00	4152432.00	0.00375	564399.00	4152432.00	0.00533
564424.00	4152432.00	0.00817	564449.00	4152432.00	0.01400
564474.00	4152432.00	0.02639	564499.00	4152432.00	0.04786
564524.00	4152432.00	0.07820	564674.00	4152432.00	0.15328
564699.00	4152432.00	0.11930	564724.00	4152432.00	0.08977
564749.00	4152432.00	0.06569	564774.00	4152432.00	0.04867
564799.00	4152432.00	0.03716	564824.00	4152432.00	0.02927
564849.00	4152432.00	0.02366	564874.00	4152432.00	0.01950
564899.00	4152432.00	0.01632	564924.00	4152432.00	0.01386
564274.00	4152457.00	0.00143	564299.00	4152457.00	0.00173
564324.00	4152457.00	0.00215	564349.00	4152457.00	0.00274
564374.00	4152457.00	0.00364	564399.00	4152457.00	0.00502

564424.00	4152457.00	0.00745
564449.00	4152457.00	0.01287
564474.00	4152457.00	0.02288
564499.00	4152457.00	0.03503
564699.00	4152457.00	0.09886
564724.00	4152457.00	0.07571
564749.00	4152457.00	0.05950
564774.00	4152457.00	0.04502
564799.00	4152457.00	0.03434
564824.00	4152457.00	0.02720
564849.00	4152457.00	0.02192
564874.00	4152457.00	0.01812
564899.00	4152457.00	0.01527
564924.00	4152457.00	0.01301
564274.00	4152482.00	0.00141
564299.00	4152482.00	0.00170
564324.00	4152482.00	0.00210
564349.00	4152482.00	0.00269
564374.00	4152482.00	0.00351
564399.00	4152482.00	0.00479
564424.00	4152482.00	0.00689
564449.00	4152482.00	0.01053
564474.00	4152482.00	0.01528
564499.00	4152482.00	0.02696
564674.00	4152482.00	0.10095
564699.00	4152482.00	0.07477
564724.00	4152482.00	0.05527
564749.00	4152482.00	0.04466
564774.00	4152482.00	0.03720
564799.00	4152482.00	0.02942
564824.00	4152482.00	0.02354
564849.00	4152482.00	0.01929
564874.00	4152482.00	0.01608
564899.00	4152482.00	0.01362
564924.00	4152482.00	0.01174
564274.00	4152507.00	0.00138
564299.00	4152507.00	0.00168
564324.00	4152507.00	0.00209
564349.00	4152507.00	0.00263
564374.00	4152507.00	0.00343
564399.00	4152507.00	0.00462
564424.00	4152507.00	0.00649
564449.00	4152507.00	0.00947
564474.00	4152507.00	0.01372
564499.00	4152507.00	0.02078
564524.00	4152507.00	0.03150
564649.00	4152507.00	0.08012
564674.00	4152507.00	0.06518
564699.00	4152507.00	0.05041
564724.00	4152507.00	0.03924
564749.00	4152507.00	0.03103
564774.00	4152507.00	0.02691

564799.00	4152507.00	0.02278
564824.00	4152507.00	0.01896

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ON ***
INCLUDING SOURCE(S): PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 ,
PAREA11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152507.00	0.01589	564874.00	4152507.00	0.01355
564899.00	4152507.00	0.01174	564924.00	4152507.00	0.01029
564274.00	4152532.00	0.00139	564299.00	4152532.00	0.00168
564324.00	4152532.00	0.00208	564349.00	4152532.00	0.00262
564374.00	4152532.00	0.00340	564399.00	4152532.00	0.00449
564424.00	4152532.00	0.00610	564449.00	4152532.00	0.00841
564474.00	4152532.00	0.01167	564499.00	4152532.00	0.01637
564524.00	4152532.00	0.02334	564549.00	4152532.00	0.03166
564624.00	4152532.00	0.05195	564649.00	4152532.00	0.04564
564674.00	4152532.00	0.03726	564699.00	4152532.00	0.03088
564724.00	4152532.00	0.02606	564749.00	4152532.00	0.02198
564774.00	4152532.00	0.01879	564799.00	4152532.00	0.01649
564824.00	4152532.00	0.01446	564849.00	4152532.00	0.01255

564874.00	4152532.00	0.01108
564899.00	4152532.00	0.00981
564924.00	4152532.00	0.00874
564274.00	4152557.00	0.00140
564299.00	4152557.00	0.00170
564324.00	4152557.00	0.00210
564349.00	4152557.00	0.00264
564374.00	4152557.00	0.00337
564399.00	4152557.00	0.00436
564424.00	4152557.00	0.00572
564449.00	4152557.00	0.00754
564474.00	4152557.00	0.00998
564499.00	4152557.00	0.01305
564524.00	4152557.00	0.01719
564549.00	4152557.00	0.02204
564574.00	4152557.00	0.02527
564599.00	4152557.00	0.02512
564624.00	4152557.00	0.02518
564649.00	4152557.00	0.02345
564674.00	4152557.00	0.02084
564699.00	4152557.00	0.01858
564724.00	4152557.00	0.01664
564749.00	4152557.00	0.01487
564774.00	4152557.00	0.01328
564799.00	4152557.00	0.01186
564824.00	4152557.00	0.01073
564849.00	4152557.00	0.00968
564874.00	4152557.00	0.00877
564899.00	4152557.00	0.00797
564924.00	4152557.00	0.00725
564274.00	4152582.00	0.00142
564299.00	4152582.00	0.00173
564324.00	4152582.00	0.00213
564349.00	4152582.00	0.00265
564374.00	4152582.00	0.00332
564399.00	4152582.00	0.00419
564424.00	4152582.00	0.00532
564449.00	4152582.00	0.00676
564474.00	4152582.00	0.00856
564499.00	4152582.00	0.01057
564524.00	4152582.00	0.01301
564549.00	4152582.00	0.01531
564574.00	4152582.00	0.01637
564599.00	4152582.00	0.01609
564624.00	4152582.00	0.01462
564649.00	4152582.00	0.01357
564674.00	4152582.00	0.01259
564699.00	4152582.00	0.01169
564724.00	4152582.00	0.01083
564749.00	4152582.00	0.01004
564774.00	4152582.00	0.00934
564799.00	4152582.00	0.00857

564824.00	4152582.00	0.00797
564849.00	4152582.00	0.00740

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ON ***
INCLUDING SOURCE(S): PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 ,
PAREA11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152582.00	0.00686	564899.00	4152582.00	0.00636
564924.00	4152582.00	0.00591	564274.00	4152607.00	0.00146
564299.00	4152607.00	0.00177	564324.00	4152607.00	0.00216
564349.00	4152607.00	0.00264	564374.00	4152607.00	0.00324
564399.00	4152607.00	0.00399	564424.00	4152607.00	0.00491
564449.00	4152607.00	0.00603	564474.00	4152607.00	0.00725
564499.00	4152607.00	0.00861	564524.00	4152607.00	0.00993
564549.00	4152607.00	0.01095	564574.00	4152607.00	0.01135
564599.00	4152607.00	0.01100	564624.00	4152607.00	0.01024
564649.00	4152607.00	0.00929	564674.00	4152607.00	0.00853
564699.00	4152607.00	0.00793	564724.00	4152607.00	0.00744
564749.00	4152607.00	0.00707	564774.00	4152607.00	0.00659
564799.00	4152607.00	0.00626	564824.00	4152607.00	0.00594

564849.00	4152607.00	0.00565
564874.00	4152607.00	0.00535
564899.00	4152607.00	0.00505
564924.00	4152607.00	0.00477
564274.00	4152632.00	0.00149
564299.00	4152632.00	0.00180
564324.00	4152632.00	0.00216
564349.00	4152632.00	0.00260
564374.00	4152632.00	0.00313
564399.00	4152632.00	0.00376
564424.00	4152632.00	0.00448
564449.00	4152632.00	0.00526
564474.00	4152632.00	0.00611
564499.00	4152632.00	0.00697
564524.00	4152632.00	0.00771
564549.00	4152632.00	0.00820
564574.00	4152632.00	0.00835
564599.00	4152632.00	0.00806
564624.00	4152632.00	0.00753
564649.00	4152632.00	0.00690
564674.00	4152632.00	0.00632
564699.00	4152632.00	0.00583
564724.00	4152632.00	0.00548
564749.00	4152632.00	0.00511
564774.00	4152632.00	0.00488
564799.00	4152632.00	0.00470
564824.00	4152632.00	0.00452
564849.00	4152632.00	0.00435
564874.00	4152632.00	0.00418
564899.00	4152632.00	0.00402
564924.00	4152632.00	0.00384
564274.00	4152657.00	0.00151
564299.00	4152657.00	0.00180
564324.00	4152657.00	0.00213
564349.00	4152657.00	0.00253
564374.00	4152657.00	0.00298
564399.00	4152657.00	0.00348
564424.00	4152657.00	0.00402
564449.00	4152657.00	0.00459
564474.00	4152657.00	0.00516
564499.00	4152657.00	0.00568
564524.00	4152657.00	0.00611
564549.00	4152657.00	0.00636
564574.00	4152657.00	0.00640
564599.00	4152657.00	0.00621
564624.00	4152657.00	0.00585
564649.00	4152657.00	0.00541
564674.00	4152657.00	0.00497
564699.00	4152657.00	0.00458
564724.00	4152657.00	0.00419
564749.00	4152657.00	0.00395
564774.00	4152657.00	0.00377

564799.00	4152657.00	0.00363
564824.00	4152657.00	0.00351

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
*** AERMET - VERSION 14134 *** ***
*** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ON ***
INCLUDING SOURCE(S):
PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 ,
PAREA11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152657.00	0.00341	564874.00	4152657.00	0.00330
564899.00	4152657.00	0.00320	564924.00	4152657.00	0.00311
564274.00	4152682.00	0.00152	564299.00	4152682.00	0.00178
564324.00	4152682.00	0.00208	564349.00	4152682.00	0.00242
564374.00	4152682.00	0.00279	564399.00	4152682.00	0.00316
564424.00	4152682.00	0.00357	564449.00	4152682.00	0.00398
564474.00	4152682.00	0.00436	564499.00	4152682.00	0.00469
564524.00	4152682.00	0.00495	564549.00	4152682.00	0.00508
564574.00	4152682.00	0.00508	564599.00	4152682.00	0.00494
564624.00	4152682.00	0.00468	564649.00	4152682.00	0.00437
564674.00	4152682.00	0.00404	564699.00	4152682.00	0.00370
564724.00	4152682.00	0.00341	564749.00	4152682.00	0.00320
564774.00	4152682.00	0.00303	564799.00	4152682.00	0.00290

564824.00	4152682.00	0.00281
564849.00	4152682.00	0.00273
564874.00	4152682.00	0.00266
564899.00	4152682.00	0.00259
564924.00	4152682.00	0.00253
564274.00	4152707.00	0.00152
564299.00	4152707.00	0.00175
564324.00	4152707.00	0.00201
564349.00	4152707.00	0.00228
564374.00	4152707.00	0.00256
564399.00	4152707.00	0.00286
564424.00	4152707.00	0.00317
564449.00	4152707.00	0.00345
564474.00	4152707.00	0.00370
564499.00	4152707.00	0.00391
564524.00	4152707.00	0.00408
564549.00	4152707.00	0.00417
564574.00	4152707.00	0.00413
564599.00	4152707.00	0.00402
564624.00	4152707.00	0.00383
564649.00	4152707.00	0.00360
564674.00	4152707.00	0.00336
564699.00	4152707.00	0.00311
564724.00	4152707.00	0.00286
564749.00	4152707.00	0.00267
564774.00	4152707.00	0.00251
564799.00	4152707.00	0.00239
564824.00	4152707.00	0.00230
564849.00	4152707.00	0.00224
564874.00	4152707.00	0.00218
564899.00	4152707.00	0.00213
564924.00	4152707.00	0.00209
564274.00	4152732.00	0.00149
564299.00	4152732.00	0.00169
564324.00	4152732.00	0.00190
564349.00	4152732.00	0.00212
564374.00	4152732.00	0.00234
564399.00	4152732.00	0.00257
564424.00	4152732.00	0.00278
564449.00	4152732.00	0.00299
564474.00	4152732.00	0.00317
564499.00	4152732.00	0.00332
564524.00	4152732.00	0.00342
564549.00	4152732.00	0.00346
564574.00	4152732.00	0.00343
564599.00	4152732.00	0.00334
564624.00	4152732.00	0.00319
564649.00	4152732.00	0.00302
564674.00	4152732.00	0.00284
564699.00	4152732.00	0.00265
564724.00	4152732.00	0.00246
564749.00	4152732.00	0.00228

564774.00	4152732.00	0.00214
564799.00	4152732.00	0.00203

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_ON ***
INCLUDING SOURCE(S): PAREA06 , PAREA07 , PAREA08 , PAREA09 , PAREA10 , PAREA11 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564824.00	4152732.00	0.00194	564849.00	4152732.00	0.00187
564874.00	4152732.00	0.00182	564899.00	4152732.00	0.00178
564924.00	4152732.00	0.00174	564274.00	4152757.00	0.00144
564299.00	4152757.00	0.00161	564324.00	4152757.00	0.00178
564349.00	4152757.00	0.00195	564374.00	4152757.00	0.00212
564399.00	4152757.00	0.00229	564424.00	4152757.00	0.00245
564449.00	4152757.00	0.00260	564474.00	4152757.00	0.00273
564499.00	4152757.00	0.00284	564524.00	4152757.00	0.00290
564549.00	4152757.00	0.00292	564574.00	4152757.00	0.00289
564599.00	4152757.00	0.00281	564624.00	4152757.00	0.00270
564649.00	4152757.00	0.00257	564674.00	4152757.00	0.00243
564699.00	4152757.00	0.00228	564724.00	4152757.00	0.00213
564749.00	4152757.00	0.00199	564774.00	4152757.00	0.00186

564799.00	4152757.00	0.00175
564824.00	4152757.00	0.00167
564849.00	4152757.00	0.00160
564874.00	4152757.00	0.00155
564899.00	4152757.00	0.00151
564924.00	4152757.00	0.00148
564274.00	4152782.00	0.00138
564299.00	4152782.00	0.00152
564324.00	4152782.00	0.00165
564349.00	4152782.00	0.00179
564374.00	4152782.00	0.00192
564399.00	4152782.00	0.00204
564424.00	4152782.00	0.00216
564449.00	4152782.00	0.00228
564474.00	4152782.00	0.00238
564499.00	4152782.00	0.00245
564524.00	4152782.00	0.00249
564549.00	4152782.00	0.00250
564574.00	4152782.00	0.00247
564599.00	4152782.00	0.00241
564624.00	4152782.00	0.00232
564649.00	4152782.00	0.00222
564674.00	4152782.00	0.00211
564699.00	4152782.00	0.00199
564724.00	4152782.00	0.00187
564749.00	4152782.00	0.00175
564774.00	4152782.00	0.00164
564799.00	4152782.00	0.00154
564824.00	4152782.00	0.00146
564849.00	4152782.00	0.00139
564874.00	4152782.00	0.00134
564899.00	4152782.00	0.00130
564924.00	4152782.00	0.00127

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_OFF ***
INCLUDING SOURCE(S):
A0000017 , A0000018 , A0000019 , A0000020 , A0000021 ,
A0000022 , A0000023 , A0000024 ,
A0000025 , A0000026 , A0000027 , A0000028 , A0000029 ,
A0000030 , A0000031 , A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564274.00	4152132.00	0.00001	564299.00	4152132.00	0.00001
564324.00	4152132.00	0.00001	564349.00	4152132.00	0.00001
564374.00	4152132.00	0.00001	564399.00	4152132.00	0.00001
564424.00	4152132.00	0.00002	564449.00	4152132.00	0.00002
564474.00	4152132.00	0.00002	564499.00	4152132.00	0.00003
564524.00	4152132.00	0.00003	564549.00	4152132.00	0.00003
564574.00	4152132.00	0.00004	564599.00	4152132.00	0.00005
564624.00	4152132.00	0.00006	564649.00	4152132.00	0.00006
564674.00	4152132.00	0.00007	564699.00	4152132.00	0.00008
564724.00	4152132.00	0.00010	564749.00	4152132.00	0.00012
564774.00	4152132.00	0.00013	564799.00	4152132.00	0.00011
564824.00	4152132.00	0.00008			

564849.00	4152132.00	0.00007
564874.00	4152132.00	0.00006
564899.00	4152132.00	0.00005
564924.00	4152132.00	0.00005
564274.00	4152157.00	0.00001
564299.00	4152157.00	0.00001
564324.00	4152157.00	0.00001
564349.00	4152157.00	0.00001
564374.00	4152157.00	0.00001
564399.00	4152157.00	0.00002
564424.00	4152157.00	0.00002
564449.00	4152157.00	0.00002
564474.00	4152157.00	0.00003
564499.00	4152157.00	0.00003
564524.00	4152157.00	0.00003
564549.00	4152157.00	0.00004
564574.00	4152157.00	0.00005
564599.00	4152157.00	0.00006
564624.00	4152157.00	0.00007
564649.00	4152157.00	0.00007
564674.00	4152157.00	0.00008
564699.00	4152157.00	0.00011
564724.00	4152157.00	0.00013
564749.00	4152157.00	0.00016
564774.00	4152157.00	0.00015
564799.00	4152157.00	0.00012
564824.00	4152157.00	0.00010
564849.00	4152157.00	0.00008
564874.00	4152157.00	0.00006
564899.00	4152157.00	0.00006
564924.00	4152157.00	0.00005
564274.00	4152182.00	0.00001
564299.00	4152182.00	0.00001
564324.00	4152182.00	0.00001
564349.00	4152182.00	0.00001
564374.00	4152182.00	0.00001
564399.00	4152182.00	0.00002
564424.00	4152182.00	0.00002
564449.00	4152182.00	0.00002
564474.00	4152182.00	0.00003
564499.00	4152182.00	0.00003
564524.00	4152182.00	0.00004
564549.00	4152182.00	0.00005
564574.00	4152182.00	0.00006
564599.00	4152182.00	0.00007
564624.00	4152182.00	0.00008
564649.00	4152182.00	0.00009
564674.00	4152182.00	0.00011
564699.00	4152182.00	0.00014
564724.00	4152182.00	0.00017
564749.00	4152182.00	0.00017
564774.00	4152182.00	0.00014

564799.00	4152182.00	0.00012
564824.00	4152182.00	0.00010
564849.00	4152182.00	0.00008
564874.00	4152182.00	0.00007
564899.00	4152182.00	0.00006

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_OFF ***
INCLUDING SOURCE(S):
A0000017 , A0000018 , A0000019 , A0000020 , A0000021 ,
A0000022 , A0000023 , A0000024 ,
A0000025 , A0000026 , A0000027 , A0000028 , A0000029 ,
A0000030 , A0000031 , A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564924.00	4152182.00	0.00005	564274.00	4152207.00	0.00001
564299.00	4152207.00	0.00001	564324.00	4152207.00	0.00001
564349.00	4152207.00	0.00002	564374.00	4152207.00	0.00002
564399.00	4152207.00	0.00002	564424.00	4152207.00	0.00002
564449.00	4152207.00	0.00002	564474.00	4152207.00	0.00003
564499.00	4152207.00	0.00004	564524.00	4152207.00	0.00005
564549.00	4152207.00	0.00006	564574.00	4152207.00	0.00007
564599.00	4152207.00	0.00008	564624.00	4152207.00	0.00009
564649.00	4152207.00	0.00011	564674.00	4152207.00	0.00015
564699.00	4152207.00	0.00018	564724.00	4152207.00	0.00020
564749.00	4152207.00	0.00016	564774.00	4152207.00	0.00014
564799.00	4152207.00	0.00011			

564824.00	4152207.00	0.00009
564849.00	4152207.00	0.00008
564874.00	4152207.00	0.00007
564899.00	4152207.00	0.00006
564924.00	4152207.00	0.00005
564274.00	4152232.00	0.00001
564299.00	4152232.00	0.00001
564324.00	4152232.00	0.00001
564349.00	4152232.00	0.00002
564374.00	4152232.00	0.00002
564399.00	4152232.00	0.00002
564424.00	4152232.00	0.00002
564449.00	4152232.00	0.00003
564474.00	4152232.00	0.00003
564499.00	4152232.00	0.00004
564524.00	4152232.00	0.00005
564549.00	4152232.00	0.00007
564574.00	4152232.00	0.00009
564599.00	4152232.00	0.00010
564624.00	4152232.00	0.00012
564649.00	4152232.00	0.00015
564674.00	4152232.00	0.00019
564699.00	4152232.00	0.00036
564724.00	4152232.00	0.00018
564749.00	4152232.00	0.00017
564774.00	4152232.00	0.00013
564799.00	4152232.00	0.00011
564824.00	4152232.00	0.00009
564849.00	4152232.00	0.00008
564874.00	4152232.00	0.00007
564899.00	4152232.00	0.00006
564924.00	4152232.00	0.00006
564274.00	4152257.00	0.00001
564299.00	4152257.00	0.00001
564324.00	4152257.00	0.00002
564349.00	4152257.00	0.00002
564374.00	4152257.00	0.00002
564399.00	4152257.00	0.00003
564424.00	4152257.00	0.00003
564449.00	4152257.00	0.00003
564474.00	4152257.00	0.00004
564499.00	4152257.00	0.00005
564524.00	4152257.00	0.00006
564549.00	4152257.00	0.00008
564574.00	4152257.00	0.00010
564599.00	4152257.00	0.00013
564624.00	4152257.00	0.00017
564649.00	4152257.00	0.00021
564674.00	4152257.00	0.00036
564699.00	4152257.00	0.00021
564724.00	4152257.00	0.00019
564749.00	4152257.00	0.00015

564774.00	4152257.00	0.00013
564799.00	4152257.00	0.00011
564824.00	4152257.00	0.00009
564849.00	4152257.00	0.00008
564874.00	4152257.00	0.00007

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
*** AERMET - VERSION 14134 *** ***
*** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_OFF ***
INCLUDING SOURCE(S):
A0000017 , A0000018 , A0000019 , A0000020 , A0000021 ,
A0000022 , A0000023 , A0000024 ,
A0000025 , A0000026 , A0000027 , A0000028 , A0000029 ,
A0000030 , A0000031 , A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564899.00	4152257.00	0.00007	564924.00	4152257.00	0.00006
564274.00	4152282.00	0.00001	564299.00	4152282.00	0.00002
564324.00	4152282.00	0.00002	564349.00	4152282.00	0.00002
564374.00	4152282.00	0.00003	564399.00	4152282.00	0.00003
564424.00	4152282.00	0.00003	564449.00	4152282.00	0.00004
564474.00	4152282.00	0.00005	564499.00	4152282.00	0.00006
564524.00	4152282.00	0.00008	564549.00	4152282.00	0.00010
564574.00	4152282.00	0.00014	564599.00	4152282.00	0.00017
564624.00	4152282.00	0.00024	564649.00	4152282.00	0.00027
564674.00	4152282.00	0.00024	564699.00	4152282.00	0.00022
564724.00	4152282.00	0.00018	564749.00	4152282.00	0.00015
564774.00	4152282.00	0.00013			

564799.00	4152282.00	0.00011
564824.00	4152282.00	0.00010
564849.00	4152282.00	0.00009
564874.00	4152282.00	0.00008
564899.00	4152282.00	0.00007
564924.00	4152282.00	0.00006
564274.00	4152307.00	0.00002
564299.00	4152307.00	0.00002
564324.00	4152307.00	0.00002
564349.00	4152307.00	0.00002
564374.00	4152307.00	0.00003
564399.00	4152307.00	0.00003
564424.00	4152307.00	0.00004
564449.00	4152307.00	0.00005
564474.00	4152307.00	0.00006
564499.00	4152307.00	0.00008
564524.00	4152307.00	0.00010
564549.00	4152307.00	0.00014
564574.00	4152307.00	0.00019
564599.00	4152307.00	0.00027
564624.00	4152307.00	0.00032
564649.00	4152307.00	0.00031
564674.00	4152307.00	0.00028
564699.00	4152307.00	0.00023
564724.00	4152307.00	0.00019
564749.00	4152307.00	0.00016
564774.00	4152307.00	0.00014
564799.00	4152307.00	0.00012
564824.00	4152307.00	0.00011
564849.00	4152307.00	0.00010
564874.00	4152307.00	0.00009
564899.00	4152307.00	0.00008
564924.00	4152307.00	0.00007
564274.00	4152332.00	0.00002
564299.00	4152332.00	0.00002
564324.00	4152332.00	0.00002
564349.00	4152332.00	0.00003
564374.00	4152332.00	0.00003
564399.00	4152332.00	0.00004
564424.00	4152332.00	0.00005
564449.00	4152332.00	0.00006
564474.00	4152332.00	0.00007
564499.00	4152332.00	0.00009
564524.00	4152332.00	0.00013
564549.00	4152332.00	0.00019
564574.00	4152332.00	0.00028
564599.00	4152332.00	0.00035
564624.00	4152332.00	0.00042
564649.00	4152332.00	0.00040
564674.00	4152332.00	0.00033
564699.00	4152332.00	0.00027
564724.00	4152332.00	0.00022

564749.00	4152332.00	0.00019
564774.00	4152332.00	0.00016
564799.00	4152332.00	0.00014
564824.00	4152332.00	0.00012
564849.00	4152332.00	0.00011

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_OFF ***
INCLUDING SOURCE(S):
A0000017 , A0000018 , A0000019 , A0000020 , A0000021 ,
A0000022 , A0000023 , A0000024 , A0000025 , A0000026 , A0000027 , A0000028 , A0000029 ,
A0000030 , A0000031 , A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152332.00	0.00009	564899.00	4152332.00	0.00008
564924.00	4152332.00	0.00007	564274.00	4152357.00	0.00002
564299.00	4152357.00	0.00002	564324.00	4152357.00	0.00003
564349.00	4152357.00	0.00003	564374.00	4152357.00	0.00004
564399.00	4152357.00	0.00005	564424.00	4152357.00	0.00006
564449.00	4152357.00	0.00008	564474.00	4152357.00	0.00009
564499.00	4152357.00	0.00013	564524.00	4152357.00	0.00018
564549.00	4152357.00	0.00026	564574.00	4152357.00	0.00034
564599.00	4152357.00	0.00035	564624.00	4152357.00	0.00049
564649.00	4152357.00	0.00055	564674.00	4152357.00	0.00044
564699.00	4152357.00	0.00034	564724.00	4152357.00	0.00027
564749.00	4152357.00	0.00022			

564774.00	4152357.00	0.00018
564799.00	4152357.00	0.00016
564824.00	4152357.00	0.00013
564849.00	4152357.00	0.00012
564874.00	4152357.00	0.00010
564899.00	4152357.00	0.00009
564924.00	4152357.00	0.00008
564274.00	4152382.00	0.00002
564299.00	4152382.00	0.00003
564324.00	4152382.00	0.00003
564349.00	4152382.00	0.00004
564374.00	4152382.00	0.00005
564399.00	4152382.00	0.00006
564424.00	4152382.00	0.00007
564449.00	4152382.00	0.00009
564474.00	4152382.00	0.00012
564499.00	4152382.00	0.00017
564524.00	4152382.00	0.00025
564549.00	4152382.00	0.00032
564574.00	4152382.00	0.00028
564649.00	4152382.00	0.00046
564674.00	4152382.00	0.00056
564699.00	4152382.00	0.00043
564724.00	4152382.00	0.00033
564749.00	4152382.00	0.00027
564774.00	4152382.00	0.00022
564799.00	4152382.00	0.00018
564824.00	4152382.00	0.00015
564849.00	4152382.00	0.00013
564874.00	4152382.00	0.00011
564899.00	4152382.00	0.00010
564924.00	4152382.00	0.00009
564274.00	4152407.00	0.00003
564299.00	4152407.00	0.00003
564324.00	4152407.00	0.00004
564349.00	4152407.00	0.00004
564374.00	4152407.00	0.00005
564399.00	4152407.00	0.00007
564424.00	4152407.00	0.00009
564449.00	4152407.00	0.00012
564474.00	4152407.00	0.00016
564499.00	4152407.00	0.00024
564524.00	4152407.00	0.00033
564549.00	4152407.00	0.00028
564674.00	4152407.00	0.00045
564699.00	4152407.00	0.00053
564724.00	4152407.00	0.00042
564749.00	4152407.00	0.00033
564774.00	4152407.00	0.00026
564799.00	4152407.00	0.00021
564824.00	4152407.00	0.00017
564849.00	4152407.00	0.00015

564874.00	4152407.00	0.00013
564899.00	4152407.00	0.00011
564924.00	4152407.00	0.00009
564274.00	4152432.00	0.00003
564299.00	4152432.00	0.00004

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_OFF ***
INCLUDING SOURCE(S):
A0000017 , A0000018 , A0000019 , A0000020 , A0000021 ,
A0000022 , A0000023 , A0000024 , A0000025 , A0000026 , A0000027 , A0000028 , A0000029 ,
A0000030 , A0000031 , A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564324.00	4152432.00	0.00004	564349.00	4152432.00	0.00005
564374.00	4152432.00	0.00007	564399.00	4152432.00	0.00009
564424.00	4152432.00	0.00012	564449.00	4152432.00	0.00016
564474.00	4152432.00	0.00023	564499.00	4152432.00	0.00035
564524.00	4152432.00	0.00029	564674.00	4152432.00	0.00023
564699.00	4152432.00	0.00047	564724.00	4152432.00	0.00052
564749.00	4152432.00	0.00041	564774.00	4152432.00	0.00031
564799.00	4152432.00	0.00025	564824.00	4152432.00	0.00020
564849.00	4152432.00	0.00017	564874.00	4152432.00	0.00014
564899.00	4152432.00	0.00012	564924.00	4152432.00	0.00010
564274.00	4152457.00	0.00003	564299.00	4152457.00	0.00004
564324.00	4152457.00	0.00005			

564349.00	4152457.00	0.00006
564374.00	4152457.00	0.00008
564399.00	4152457.00	0.00011
564424.00	4152457.00	0.00015
564449.00	4152457.00	0.00022
564474.00	4152457.00	0.00031
564499.00	4152457.00	0.00030
564699.00	4152457.00	0.00023
564724.00	4152457.00	0.00047
564749.00	4152457.00	0.00050
564774.00	4152457.00	0.00039
564799.00	4152457.00	0.00030
564824.00	4152457.00	0.00024
564849.00	4152457.00	0.00019
564874.00	4152457.00	0.00016
564899.00	4152457.00	0.00013
564924.00	4152457.00	0.00011
564274.00	4152482.00	0.00004
564299.00	4152482.00	0.00005
564324.00	4152482.00	0.00006
564349.00	4152482.00	0.00008
564374.00	4152482.00	0.00011
564399.00	4152482.00	0.00015
564424.00	4152482.00	0.00021
564449.00	4152482.00	0.00031
564474.00	4152482.00	0.00026
564499.00	4152482.00	0.00025
564674.00	4152482.00	0.00012
564699.00	4152482.00	0.00016
564724.00	4152482.00	0.00022
564749.00	4152482.00	0.00047
564774.00	4152482.00	0.00048
564799.00	4152482.00	0.00037
564824.00	4152482.00	0.00029
564849.00	4152482.00	0.00023
564874.00	4152482.00	0.00018
564899.00	4152482.00	0.00015
564924.00	4152482.00	0.00012
564274.00	4152507.00	0.00005
564299.00	4152507.00	0.00006
564324.00	4152507.00	0.00008
564349.00	4152507.00	0.00011
564374.00	4152507.00	0.00015
564399.00	4152507.00	0.00021
564424.00	4152507.00	0.00030
564449.00	4152507.00	0.00026
564474.00	4152507.00	0.00025
564499.00	4152507.00	0.00019
564524.00	4152507.00	0.00014
564649.00	4152507.00	0.00009
564674.00	4152507.00	0.00010
564699.00	4152507.00	0.00012

564724.00	4152507.00	0.00016
564749.00	4152507.00	0.00023
564774.00	4152507.00	0.00051
564799.00	4152507.00	0.00047
564824.00	4152507.00	0.00036

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_OFF ***
INCLUDING SOURCE(S):
A0000017 , A0000018 , A0000019 , A0000020 , A0000021 ,
A0000022 , A0000023 , A0000024 , A0000025 , A0000026 , A0000027 , A0000028 , A0000029 ,
A0000030 , A0000031 , A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152507.00	0.00028	564874.00	4152507.00	0.00022
564899.00	4152507.00	0.00017	564924.00	4152507.00	0.00014
564274.00	4152532.00	0.00006	564299.00	4152532.00	0.00008
564324.00	4152532.00	0.00010	564349.00	4152532.00	0.00014
564374.00	4152532.00	0.00021	564399.00	4152532.00	0.00030
564424.00	4152532.00	0.00027	564449.00	4152532.00	0.00025
564474.00	4152532.00	0.00019	564499.00	4152532.00	0.00014
564524.00	4152532.00	0.00011	564549.00	4152532.00	0.00009
564624.00	4152532.00	0.00007	564649.00	4152532.00	0.00007
564674.00	4152532.00	0.00008	564699.00	4152532.00	0.00009
564724.00	4152532.00	0.00011	564749.00	4152532.00	0.00016
564774.00	4152532.00	0.00024			

564799.00	4152532.00	0.00051
564824.00	4152532.00	0.00045
564849.00	4152532.00	0.00035
564874.00	4152532.00	0.00026
564899.00	4152532.00	0.00020
564924.00	4152532.00	0.00015
564274.00	4152557.00	0.00007
564299.00	4152557.00	0.00010
564324.00	4152557.00	0.00014
564349.00	4152557.00	0.00020
564374.00	4152557.00	0.00029
564399.00	4152557.00	0.00025
564424.00	4152557.00	0.00025
564449.00	4152557.00	0.00019
564474.00	4152557.00	0.00014
564499.00	4152557.00	0.00011
564524.00	4152557.00	0.00009
564549.00	4152557.00	0.00007
564574.00	4152557.00	0.00007
564599.00	4152557.00	0.00006
564624.00	4152557.00	0.00006
564649.00	4152557.00	0.00006
564674.00	4152557.00	0.00006
564699.00	4152557.00	0.00007
564724.00	4152557.00	0.00008
564749.00	4152557.00	0.00011
564774.00	4152557.00	0.00016
564799.00	4152557.00	0.00025
564824.00	4152557.00	0.00049
564849.00	4152557.00	0.00044
564874.00	4152557.00	0.00032
564899.00	4152557.00	0.00024
564924.00	4152557.00	0.00018
564274.00	4152582.00	0.00010
564299.00	4152582.00	0.00013
564324.00	4152582.00	0.00020
564349.00	4152582.00	0.00028
564374.00	4152582.00	0.00025
564399.00	4152582.00	0.00025
564424.00	4152582.00	0.00019
564449.00	4152582.00	0.00014
564474.00	4152582.00	0.00011
564499.00	4152582.00	0.00008
564524.00	4152582.00	0.00007
564549.00	4152582.00	0.00006
564574.00	4152582.00	0.00006
564599.00	4152582.00	0.00005
564624.00	4152582.00	0.00005
564649.00	4152582.00	0.00005
564674.00	4152582.00	0.00005
564699.00	4152582.00	0.00006
564724.00	4152582.00	0.00006

564749.00	4152582.00	0.00008
564774.00	4152582.00	0.00011
564799.00	4152582.00	0.00015
564824.00	4152582.00	0.00027
564849.00	4152582.00	0.00050

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_OFF ***
INCLUDING SOURCE(S):
A0000017 , A0000018 , A0000019 , A0000020 , A0000021 ,
A0000022 , A0000023 , A0000024 ,
A0000025 , A0000026 , A0000027 , A0000028 , A0000029 ,
A0000030 , A0000031 , A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152582.00	0.00041	564899.00	4152582.00	0.00029
564924.00	4152582.00	0.00020	564274.00	4152607.00	0.00013
564299.00	4152607.00	0.00019	564324.00	4152607.00	0.00028
564349.00	4152607.00	0.00024	564374.00	4152607.00	0.00024
564399.00	4152607.00	0.00019	564424.00	4152607.00	0.00014
564449.00	4152607.00	0.00010	564474.00	4152607.00	0.00008
564499.00	4152607.00	0.00007	564524.00	4152607.00	0.00006
564549.00	4152607.00	0.00005	564574.00	4152607.00	0.00005
564599.00	4152607.00	0.00004	564624.00	4152607.00	0.00004
564649.00	4152607.00	0.00004	564674.00	4152607.00	0.00004
564699.00	4152607.00	0.00005	564724.00	4152607.00	0.00005
564749.00	4152607.00	0.00006			

564774.00	4152607.00	0.00008
564799.00	4152607.00	0.00011
564824.00	4152607.00	0.00015
564849.00	4152607.00	0.00029
564874.00	4152607.00	0.00047
564899.00	4152607.00	0.00036
564924.00	4152607.00	0.00024
564274.00	4152632.00	0.00018
564299.00	4152632.00	0.00027
564324.00	4152632.00	0.00024
564349.00	4152632.00	0.00024
564374.00	4152632.00	0.00018
564399.00	4152632.00	0.00013
564424.00	4152632.00	0.00010
564449.00	4152632.00	0.00008
564474.00	4152632.00	0.00006
564499.00	4152632.00	0.00006
564524.00	4152632.00	0.00005
564549.00	4152632.00	0.00004
564574.00	4152632.00	0.00004
564599.00	4152632.00	0.00004
564624.00	4152632.00	0.00004
564649.00	4152632.00	0.00004
564674.00	4152632.00	0.00004
564699.00	4152632.00	0.00004
564724.00	4152632.00	0.00004
564749.00	4152632.00	0.00005
564774.00	4152632.00	0.00006
564799.00	4152632.00	0.00008
564824.00	4152632.00	0.00011
564849.00	4152632.00	0.00015
564874.00	4152632.00	0.00031
564899.00	4152632.00	0.00042
564924.00	4152632.00	0.00028
564274.00	4152657.00	0.00027
564299.00	4152657.00	0.00025
564324.00	4152657.00	0.00023
564349.00	4152657.00	0.00018
564374.00	4152657.00	0.00013
564399.00	4152657.00	0.00010
564424.00	4152657.00	0.00008
564449.00	4152657.00	0.00006
564474.00	4152657.00	0.00005
564499.00	4152657.00	0.00005
564524.00	4152657.00	0.00004
564549.00	4152657.00	0.00004
564574.00	4152657.00	0.00004
564599.00	4152657.00	0.00003
564624.00	4152657.00	0.00003
564649.00	4152657.00	0.00003
564674.00	4152657.00	0.00003
564699.00	4152657.00	0.00003

564724.00	4152657.00	0.00004
564749.00	4152657.00	0.00004
564774.00	4152657.00	0.00005
564799.00	4152657.00	0.00006
564824.00	4152657.00	0.00007

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

PAGE 111
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_OFF ***
INCLUDING SOURCE(S): A0000017 , A0000018 , A0000019 , A0000020 , A0000021 ,
A0000022 , A0000023 , A0000024 , A0000025 , A0000026 , A0000027 , A0000028 , A0000029 ,
A0000030 , A0000031 , A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152657.00	0.00010	564874.00	4152657.00	0.00013
564899.00	4152657.00	0.00026	564924.00	4152657.00	0.00028
564274.00	4152682.00	0.00024	564299.00	4152682.00	0.00023
564324.00	4152682.00	0.00017	564349.00	4152682.00	0.00012
564374.00	4152682.00	0.00009	564399.00	4152682.00	0.00007
564424.00	4152682.00	0.00006	564449.00	4152682.00	0.00005
564474.00	4152682.00	0.00004	564499.00	4152682.00	0.00004
564524.00	4152682.00	0.00003	564549.00	4152682.00	0.00003
564574.00	4152682.00	0.00003	564599.00	4152682.00	0.00003
564624.00	4152682.00	0.00003	564649.00	4152682.00	0.00003
564674.00	4152682.00	0.00003	564699.00	4152682.00	0.00003
564724.00	4152682.00	0.00003			

564749.00	4152682.00	0.00003
564774.00	4152682.00	0.00004
564799.00	4152682.00	0.00004
564824.00	4152682.00	0.00005
564849.00	4152682.00	0.00007
564874.00	4152682.00	0.00008
564899.00	4152682.00	0.00007
564924.00	4152682.00	0.00013
564274.00	4152707.00	0.00020
564299.00	4152707.00	0.00016
564324.00	4152707.00	0.00011
564349.00	4152707.00	0.00008
564374.00	4152707.00	0.00007
564399.00	4152707.00	0.00005
564424.00	4152707.00	0.00005
564449.00	4152707.00	0.00004
564474.00	4152707.00	0.00003
564499.00	4152707.00	0.00003
564524.00	4152707.00	0.00003
564549.00	4152707.00	0.00003
564574.00	4152707.00	0.00003
564599.00	4152707.00	0.00003
564624.00	4152707.00	0.00002
564649.00	4152707.00	0.00002
564674.00	4152707.00	0.00003
564699.00	4152707.00	0.00003
564724.00	4152707.00	0.00003
564749.00	4152707.00	0.00003
564774.00	4152707.00	0.00003
564799.00	4152707.00	0.00004
564824.00	4152707.00	0.00004
564849.00	4152707.00	0.00005
564874.00	4152707.00	0.00005
564899.00	4152707.00	0.00005
564924.00	4152707.00	0.00005
564274.00	4152732.00	0.00013
564299.00	4152732.00	0.00010
564324.00	4152732.00	0.00007
564349.00	4152732.00	0.00006
564374.00	4152732.00	0.00005
564399.00	4152732.00	0.00004
564424.00	4152732.00	0.00003
564449.00	4152732.00	0.00003
564474.00	4152732.00	0.00003
564499.00	4152732.00	0.00003
564524.00	4152732.00	0.00002
564549.00	4152732.00	0.00002
564574.00	4152732.00	0.00002
564599.00	4152732.00	0.00002
564624.00	4152732.00	0.00002
564649.00	4152732.00	0.00002
564674.00	4152732.00	0.00002

564699.00	4152732.00	0.00002
564724.00	4152732.00	0.00002
564749.00	4152732.00	0.00002
564774.00	4152732.00	0.00003
564799.00	4152732.00	0.00003

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** ***
*** 12:38:17

PAGE 112
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: Y2_OFF ***
INCLUDING SOURCE(S):
A0000017 , A0000018 , A0000019 , A0000020 , A0000021 ,
A0000022 , A0000023 , A0000024 ,
A0000025 , A0000026 , A0000027 , A0000028 , A0000029 ,
A0000030 , A0000031 , A0000032 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564824.00	4152732.00	0.00003	564849.00	4152732.00	0.00003
564874.00	4152732.00	0.00004	564899.00	4152732.00	0.00003
564924.00	4152732.00	0.00003	564274.00	4152757.00	0.00007
564299.00	4152757.00	0.00006	564324.00	4152757.00	0.00005
564349.00	4152757.00	0.00004	564374.00	4152757.00	0.00003
564399.00	4152757.00	0.00003	564424.00	4152757.00	0.00003
564449.00	4152757.00	0.00002	564474.00	4152757.00	0.00002
564499.00	4152757.00	0.00002	564524.00	4152757.00	0.00002
564549.00	4152757.00	0.00002	564574.00	4152757.00	0.00002
564599.00	4152757.00	0.00002	564624.00	4152757.00	0.00002
564649.00	4152757.00	0.00002	564674.00	4152757.00	0.00002
564699.00	4152757.00	0.00002			

564724.00	4152757.00	0.00002
564749.00	4152757.00	0.00002
564774.00	4152757.00	0.00002
564799.00	4152757.00	0.00002
564824.00	4152757.00	0.00002
564849.00	4152757.00	0.00003
564874.00	4152757.00	0.00003
564899.00	4152757.00	0.00002
564924.00	4152757.00	0.00002
564274.00	4152782.00	0.00004
564299.00	4152782.00	0.00003
564324.00	4152782.00	0.00003
564349.00	4152782.00	0.00003
564374.00	4152782.00	0.00002
564399.00	4152782.00	0.00002
564424.00	4152782.00	0.00002
564449.00	4152782.00	0.00002
564474.00	4152782.00	0.00002
564499.00	4152782.00	0.00002
564524.00	4152782.00	0.00002
564549.00	4152782.00	0.00002
564574.00	4152782.00	0.00002
564599.00	4152782.00	0.00002
564624.00	4152782.00	0.00002
564649.00	4152782.00	0.00002
564674.00	4152782.00	0.00002
564699.00	4152782.00	0.00002
564724.00	4152782.00	0.00002
564749.00	4152782.00	0.00002
564774.00	4152782.00	0.00002
564799.00	4152782.00	0.00002
564824.00	4152782.00	0.00002
564849.00	4152782.00	0.00002
564874.00	4152782.00	0.00002
564899.00	4152782.00	0.00002
564924.00	4152782.00	0.00002

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE SUMMARY OF MAXIMUM PERIOD (43872 HRS) RESULTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

NETWORK
GROUP ID AVERAGE CONC
RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
- -

Y1_ALL 1ST HIGHEST VALUE IS 0.12327 AT (564649.00, 4152382.00, 7.11, 172.72, 1.50) DC
2ND HIGHEST VALUE IS 0.11194 AT (564674.00, 4152407.00, 6.95, 172.72, 1.50) DC
3RD HIGHEST VALUE IS 0.11178 AT (564574.00, 4152382.00, 7.94, 172.72, 1.50) DC
4TH HIGHEST VALUE IS 0.10805 AT (564599.00, 4152357.00, 7.65, 172.72, 1.50) DC
5TH HIGHEST VALUE IS 0.10731 AT (564624.00, 4152357.00, 7.23, 172.72, 1.50) DC
6TH HIGHEST VALUE IS 0.10604 AT (564674.00, 4152432.00, 6.96, 172.72, 1.50) DC
7TH HIGHEST VALUE IS 0.09322 AT (564674.00, 4152382.00, 6.83, 172.72, 1.50) DC
8TH HIGHEST VALUE IS 0.09074 AT (564549.00, 4152407.00, 8.15, 172.72, 1.50) DC
9TH HIGHEST VALUE IS 0.09070 AT (564649.00, 4152357.00, 7.32, 172.72, 1.50) DC
10TH HIGHEST VALUE IS 0.08874 AT (564574.00, 4152357.00, 7.98, 172.72, 1.50) DC

Y1_ON 1ST HIGHEST VALUE IS 0.12293 AT (564649.00, 4152382.00, 7.11, 172.72, 1.50) DC
2ND HIGHEST VALUE IS 0.11162 AT (564674.00, 4152407.00, 6.95, 172.72, 1.50) DC
3RD HIGHEST VALUE IS 0.11157 AT (564574.00, 4152382.00, 7.94, 172.72, 1.50) DC
4TH HIGHEST VALUE IS 0.10780 AT (564599.00, 4152357.00, 7.65, 172.72, 1.50) DC

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          5TH HIGHEST VALUE IS       0.10696 AT (  564624.00,
4152357.00,      7.23,   172.72,    1.50)  DC
          6TH HIGHEST VALUE IS       0.10588 AT (  564674.00,
4152432.00,      6.96,   172.72,    1.50)  DC
          7TH HIGHEST VALUE IS       0.09282 AT (  564674.00,
4152382.00,      6.83,   172.72,    1.50)  DC
          8TH HIGHEST VALUE IS       0.09054 AT (  564549.00,
4152407.00,      8.15,   172.72,    1.50)  DC
          9TH HIGHEST VALUE IS       0.09031 AT (  564649.00,
4152357.00,      7.32,   172.72,    1.50)  DC
         10TH HIGHEST VALUE IS       0.08850 AT (  564574.00,
4152357.00,      7.98,   172.72,    1.50)  DC

Y1_OFF    1ST HIGHEST VALUE IS       0.00040 AT (  564674.00,
4152382.00,      6.83,   172.72,    1.50)  DC
          2ND HIGHEST VALUE IS       0.00039 AT (  564649.00,
4152357.00,      7.32,   172.72,    1.50)  DC
          3RD HIGHEST VALUE IS       0.00038 AT (  564699.00,
4152407.00,      7.07,   172.72,    1.50)  DC
          4TH HIGHEST VALUE IS       0.00037 AT (  564724.00,
4152432.00,      6.44,   172.72,    1.50)  DC
          5TH HIGHEST VALUE IS       0.00037 AT (  564799.00,
4152532.00,      5.81,   172.72,    1.50)  DC
          6TH HIGHEST VALUE IS       0.00036 AT (  564774.00,
4152507.00,      5.85,   172.72,    1.50)  DC
          7TH HIGHEST VALUE IS       0.00036 AT (  564749.00,
4152457.00,      6.32,   172.72,    1.50)  DC
          8TH HIGHEST VALUE IS       0.00036 AT (  564849.00,
4152582.00,      4.80,   172.72,    1.50)  DC
          9TH HIGHEST VALUE IS       0.00035 AT (  564824.00,
4152557.00,      5.21,   172.72,    1.50)  DC
         10TH HIGHEST VALUE IS       0.00035 AT (  564624.00,
4152357.00,      7.23,   172.72,    1.50)  DC

Y2_ALL    1ST HIGHEST VALUE IS       0.17277 AT (  564649.00,
4152382.00,      7.11,   172.72,    1.50)  DC
          2ND HIGHEST VALUE IS       0.15891 AT (  564674.00,
4152407.00,      6.95,   172.72,    1.50)  DC
          3RD HIGHEST VALUE IS       0.15351 AT (  564674.00,
4152432.00,      6.96,   172.72,    1.50)  DC
          4TH HIGHEST VALUE IS       0.15283 AT (  564624.00,
4152357.00,      7.23,   172.72,    1.50)  DC
          5TH HIGHEST VALUE IS       0.14972 AT (  564574.00,
4152382.00,      7.94,   172.72,    1.50)  DC
          6TH HIGHEST VALUE IS       0.14921 AT (  564599.00,
4152357.00,      7.65,   172.72,    1.50)  DC
          7TH HIGHEST VALUE IS       0.13798 AT (  564674.00,
4152382.00,      6.83,   172.72,    1.50)  DC
          8TH HIGHEST VALUE IS       0.13534 AT (  564649.00,
4152357.00,      7.32,   172.72,    1.50)  DC
          9TH HIGHEST VALUE IS       0.12255 AT (  564574.00,
4152357.00,      7.98,   172.72,    1.50)  DC
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10TH HIGHEST VALUE IS   0.12032 AT (564699.00,
4152407.00,   7.07,   172.72,   1.50) DC

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/11/22
*** AERMET - VERSION 14134 *** *** *** 12:38:17

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE SUMMARY OF MAXIMUM PERIOD (43872 HRS) RESULTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

NETWORK
GROUP ID AVERAGE CONC
RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
- -

```
Y2_ON     1ST HIGHEST VALUE IS      0.17231 AT (  564649.00,
4152382.00,     7.11,   172.72,    1.50)  DC
          2ND HIGHEST VALUE IS      0.15847 AT (  564674.00,
4152407.00,     6.95,   172.72,    1.50)  DC
          3RD HIGHEST VALUE IS      0.15328 AT (  564674.00,
4152432.00,     6.96,   172.72,    1.50)  DC
          4TH HIGHEST VALUE IS      0.15234 AT (  564624.00,
4152357.00,     7.23,   172.72,    1.50)  DC
          5TH HIGHEST VALUE IS      0.14944 AT (  564574.00,
4152382.00,     7.94,   172.72,    1.50)  DC
          6TH HIGHEST VALUE IS      0.14887 AT (  564599.00,
4152357.00,     7.65,   172.72,    1.50)  DC
          7TH HIGHEST VALUE IS      0.13743 AT (  564674.00,
4152382.00,     6.83,   172.72,    1.50)  DC
          8TH HIGHEST VALUE IS      0.13479 AT (  564649.00,
4152357.00,     7.32,   172.72,    1.50)  DC
          9TH HIGHEST VALUE IS      0.12222 AT (  564574.00,
4152357.00,     7.98,   172.72,    1.50)  DC
         10TH HIGHEST VALUE IS      0.11979 AT (  564699.00,
4152407.00,     7.07,   172.72,    1.50)  DC

Y2_OFF    1ST HIGHEST VALUE IS      0.00056 AT (  564674.00,
4152382.00,     6.83,   172.72,    1.50)  DC
          2ND HIGHEST VALUE IS      0.00055 AT (  564649.00,
4152357.00,     7.32,   172.72,    1.50)  DC
          3RD HIGHEST VALUE IS      0.00053 AT (  564699.00,
4152407.00,     7.07,   172.72,    1.50)  DC
          4TH HIGHEST VALUE IS      0.00052 AT (  564724.00,
4152432.00,     6.44,   172.72,    1.50)  DC
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          5TH HIGHEST VALUE IS       0.00051 AT (  564799.00,
4152532.00,      5.81,   172.72,    1.50)  DC
          6TH HIGHEST VALUE IS       0.00051 AT (  564774.00,
4152507.00,      5.85,   172.72,    1.50)  DC
          7TH HIGHEST VALUE IS       0.00050 AT (  564749.00,
4152457.00,      6.32,   172.72,    1.50)  DC
          8TH HIGHEST VALUE IS       0.00050 AT (  564849.00,
4152582.00,      4.80,   172.72,    1.50)  DC
          9TH HIGHEST VALUE IS       0.00049 AT (  564824.00,
4152557.00,      5.21,   172.72,    1.50)  DC
         10TH HIGHEST VALUE IS       0.00049 AT (  564624.00,
4152357.00,      7.23,   172.72,    1.50)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/11/22
 *** AERMET - VERSION  14134 ***   ***
***        12:38:17

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            0 Warning Message(s)
 A Total of        20266 Informational Message(s)

 A Total of        43872 Hours Were Processed

 A Total of         7316 Calm Hours Identified

 A Total of        12950 Missing Hours Identified ( 29.52
Percent)

 CAUTION!:  Number of Missing Hours Exceeds 10 Percent of Total!
            Data May Not Be Acceptable for Regulatory
Applications.
            See Section 5.3.2 of "Meteorological Monitoring
Guidance
            for Regulatory Modeling Applications"
(EPA-454/R-99-005).


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
               ***  NONE  ***


    ************************************
    *** AERMOD Finishes Successfully ***
    ************************************
```

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**
***************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.2.1
** Lakes Environmental Software Inc.
** Date: 6/15/2022
** File: C:\Users\sjremote\Desktop\642-Quarry-SC_Ops\642-Quarry-
SC_Ops.ADI
**
***************************************
**
**
***************************************
** AERMOD Control Pathway
***************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_
20220601\642-Quarry-R
   MODELOPT DFAULT CONC
   AVERTIME PERIOD
   URBANOPT 4709220 San_Francisco-Oakland-Berkeley,_CA_Metro
   POLLUTID PM_2.5
   FLAGPOLE 1.50
   RUNORNOT RUN
   ERRORFIL 642-Quarry-SC_Ops.err
CO FINISHED
**
***************************************
** AERMOD Source Pathway
***************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION STCK1        POINT      564657.270  4152458.720
7.520
** DESCRSRC Gen1_N-Release
   LOCATION STCK2        POINT      564658.205  4152457.981
7.500
** DESCRSRC Gen1_S-Release
   LOCATION STCK3        POINT      564660.688  4152455.941
7.470
** DESCRSRC Gen2_N-Release
   LOCATION STCK4        POINT      564661.623  4152455.202
7.460
** DESCRSRC Gen2_S-Release
   LOCATION STCK5        POINT      564663.861  4152452.621
7.450
```

```
** DESCRSRC Gen3_N-Release
   LOCATION STCK6        POINT      564664.795  4152451.882
7.430
** DESCRSRC Gen3_S-Release
** Source Parameters **
   SRCPARAM STCK1        9.7005E-06     3.581   769.261  47.19614
0.329
   SRCPARAM STCK2        9.7005E-06     3.581   769.261  47.19614
0.329
   SRCPARAM STCK3        9.7005E-06     3.581   769.261  47.19614
0.329
   SRCPARAM STCK4        9.7005E-06     3.581   769.261  47.19614
0.329
   SRCPARAM STCK5        9.7005E-06     3.581   769.261  47.19614
0.329
   SRCPARAM STCK6        9.7005E-06     3.581   769.261  47.19614
0.329

** Building Downwash **
   BUILDHGT STCK1           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK1           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK1           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK1           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK1           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK1           30.48    30.48    30.48    30.48
30.48    30.48

   BUILDHGT STCK2           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK2           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK2           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK2           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK2           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK2           30.48    30.48    30.48    30.48
30.48    30.48

   BUILDHGT STCK3           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK3           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK3           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK3           30.48    30.48    30.48    30.48
```

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30.48    30.48
   BUILDHGT STCK3           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK3           30.48    30.48    30.48    30.48
30.48    30.48

   BUILDHGT STCK4           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK4           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK4           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK4           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK4           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK4           30.48    30.48    30.48    30.48
30.48    30.48

   BUILDHGT STCK5           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK5           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK5           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK5           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK5           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK5           30.48    30.48    30.48    30.48
30.48    30.48

   BUILDHGT STCK6           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK6           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK6           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK6           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK6           30.48    30.48    30.48    30.48
30.48    30.48
   BUILDHGT STCK6           30.48    30.48    30.48    30.48
30.48    30.48

   BUILDWID STCK1          164.38   162.05   154.79   142.84
137.74    80.88
   BUILDWID STCK1           83.23    83.05    80.35    75.21
67.78    86.79
   BUILDWID STCK1           91.21   107.50   126.37   141.87
154.13   161.71
   BUILDWID STCK1          164.38   162.05   154.79   142.84
```

```
137.74   139.07
   BUILDWID STCK1          136.17   129.14   118.18   103.63
67.78    86.79
   BUILDWID STCK1           91.21   107.50   126.37   141.87
154.13   161.71

   BUILDWID STCK2          164.38   162.05   154.79   142.84
137.74    80.88
   BUILDWID STCK2           83.23    83.05    80.35    75.21
67.78    86.79
   BUILDWID STCK2           91.21   107.50   126.37   141.87
154.13   161.71
   BUILDWID STCK2          164.38   162.05   154.79   142.84
137.74   139.07
   BUILDWID STCK2          136.17   129.14   118.18   103.63
88.54    86.79
   BUILDWID STCK2           91.21   107.50   126.37   141.87
154.13   161.71

   BUILDWID STCK3          164.38   162.05   154.79   142.84
137.74    80.88
   BUILDWID STCK3           83.23    83.05    80.35    75.21
67.78    86.79
   BUILDWID STCK3           91.21   107.50   126.37   141.87
154.13   161.71
   BUILDWID STCK3          164.38   162.05   154.79   142.84
137.74   139.07
   BUILDWID STCK3          136.17   129.14   118.18   103.63
88.54    86.79
   BUILDWID STCK3           91.21   107.50   126.37   141.87
154.13   161.71

   BUILDWID STCK4          164.38   162.05   154.79   142.84
137.74   139.07
   BUILDWID STCK4           83.23    83.05    80.35    75.21
67.78    86.79
   BUILDWID STCK4           91.21   107.50   126.37   141.87
154.13   161.71
   BUILDWID STCK4          164.38   162.05   154.79   142.84
137.74   139.07
   BUILDWID STCK4          136.17   129.14   118.18   103.63
88.54    86.79
   BUILDWID STCK4           91.21   107.50   126.37   141.87
154.13   161.71

   BUILDWID STCK5          164.38   162.05   154.79   142.84
137.74   139.07
   BUILDWID STCK5           83.23    83.05    80.35    75.21
67.78    86.79
   BUILDWID STCK5           91.21   107.50   126.37   141.87
154.13   161.71
   BUILDWID STCK5          164.38   162.05   154.79   142.84
```

```
137.74   139.07
   BUILDWID STCK5           136.17   129.14   118.18   103.63
88.54    86.79
   BUILDWID STCK5            91.21   107.50   126.37   141.87
154.13   161.71

   BUILDWID STCK6           164.38   162.05   154.79   142.84
137.74   139.07
   BUILDWID STCK6            83.23    83.05    80.35    75.21
67.78    86.79
   BUILDWID STCK6            91.21   107.50   126.37   141.87
154.13   161.71
   BUILDWID STCK6           164.38   162.05   154.79   142.84
137.74   139.07
   BUILDWID STCK6           136.17   129.14   118.18   103.63
88.54    86.79
   BUILDWID STCK6            91.21   107.50   126.37   141.87
154.13   161.71

   BUILDLEN STCK1           103.63    88.54    86.79    91.21
107.50    59.13
   BUILDLEN STCK1            65.85    72.51    78.72    82.54
83.85   154.79
   BUILDLEN STCK1           142.84   137.74   139.07   136.17
129.14   118.18
   BUILDLEN STCK1           103.63    88.54    86.79    91.21
107.50   126.37
   BUILDLEN STCK1           141.87   154.13   161.71   164.38
83.85   154.79
   BUILDLEN STCK1           142.84   137.74   139.07   136.17
129.14   118.18

   BUILDLEN STCK2           103.63    88.54    86.79    91.21
107.50    59.13
   BUILDLEN STCK2            65.85    72.51    78.72    82.54
83.85   154.79
   BUILDLEN STCK2           142.84   137.74   139.07   136.17
129.14   118.18
   BUILDLEN STCK2           103.63    88.54    86.79    91.21
107.50   126.37
   BUILDLEN STCK2           141.87   154.13   161.71   164.38
162.05   154.79
   BUILDLEN STCK2           142.84   137.74   139.07   136.17
129.14   118.18

   BUILDLEN STCK3           103.63    88.54    86.79    91.21
107.50    59.13
   BUILDLEN STCK3            65.85    72.51    78.72    82.54
83.85   154.79
   BUILDLEN STCK3           142.84   137.74   139.07   136.17
129.14   118.18
   BUILDLEN STCK3           103.63    88.54    86.79    91.21
```

```
107.50   126.37
   BUILDLEN STCK3           141.87   154.13   161.71   164.38
162.05   154.79
   BUILDLEN STCK3           142.84   137.74   139.07   136.17
129.14   118.18

   BUILDLEN STCK4           103.63    88.54    86.79    91.21
107.50   126.37
   BUILDLEN STCK4            65.85    72.51    78.72    82.54
83.85   154.79
   BUILDLEN STCK4           142.84   137.74   139.07   136.17
129.14   118.18
   BUILDLEN STCK4           103.63    88.54    86.79    91.21
107.50   126.37
   BUILDLEN STCK4           141.87   154.13   161.71   164.38
162.05   154.79
   BUILDLEN STCK4           142.84   137.74   139.07   136.17
129.14   118.18

   BUILDLEN STCK5           103.63    88.54    86.79    91.21
107.50   126.37
   BUILDLEN STCK5            65.85    72.51    78.72    82.54
83.85   154.79
   BUILDLEN STCK5           142.84   137.74   139.07   136.17
129.14   118.18
   BUILDLEN STCK5           103.63    88.54    86.79    91.21
107.50   126.37
   BUILDLEN STCK5           141.87   154.13   161.71   164.38
162.05   154.79
   BUILDLEN STCK5           142.84   137.74   139.07   136.17
129.14   118.18

   BUILDLEN STCK6           103.63    88.54    86.79    91.21
107.50   126.37
   BUILDLEN STCK6            65.85    72.51    78.72    82.54
83.85   154.79
   BUILDLEN STCK6           142.84   137.74   139.07   136.17
129.14   118.18
   BUILDLEN STCK6           103.63    88.54    86.79    91.21
107.50   126.37
   BUILDLEN STCK6           141.87   154.13   161.71   164.38
162.05   154.79
   BUILDLEN STCK6           142.84   137.74   139.07   136.17
129.14   118.18

   XBADJ
STCK1          -88.01   -91.92   -93.04  -100.14  -113.45  -128.0
6
   XBADJ
STCK1         -139.24  -147.27  -150.82  -149.79  -144.21  -134.2
4
   XBADJ
```

```
STCK1         -120.20  -104.31   -91.07   -75.06   -56.77   -36.7
5
   XBADJ    STCK1          -15.62     3.38     6.25     8.93
5.95    1.69
   XBADJ    STCK1           -2.63    -6.86   -10.89   -14.59
60.35   -20.55
   XBADJ
STCK1          -22.64   -33.43   -48.00   -61.11   -72.37   -81.4
3

   XBADJ
STCK2          -87.45   -91.55   -92.86  -100.17  -113.69  -128.4
9
   XBADJ
STCK2         -139.86  -148.06  -151.75  -150.83  -145.33  -135.4
2
   XBADJ
STCK2         -121.39  -105.47   -92.17   -76.07   -57.66   -37.4
9
   XBADJ    STCK2          -16.19     3.00     6.07     8.96
6.19    2.12
   XBADJ
STCK2           -2.01    -6.08    -9.96   -13.54   -16.71   -19.3
8
   XBADJ
STCK2          -21.45   -32.26   -46.89   -60.10   -71.48   -80.6
9

   XBADJ
STCK3          -85.87   -90.48   -92.34  -100.21  -114.28  -129.6
3
   XBADJ
STCK3         -141.50  -150.15  -154.24  -153.64  -148.37  -138.6
0
   XBADJ
STCK3         -124.61  -108.64   -95.18   -78.84   -60.10   -39.5
3
   XBADJ    STCK3          -17.76     1.94     5.55     9.00
6.79    3.26
   XBADJ
STCK3           -0.36    -3.98    -7.47   -10.74   -13.68   -16.2
0
   XBADJ
STCK3          -18.23   -29.10   -43.88   -57.33   -69.04   -78.6
5

   XBADJ
STCK4          -85.30   -90.10   -92.17  -100.24  -114.52  -130.0
6
   XBADJ
STCK4         -142.13  -150.94  -155.17  -154.68  -149.50  -139.7
7
```

```
   XBADJ
STCK4         -125.80  -109.80   -96.29   -79.85   -60.99   -40.2
7
   XBADJ    STCK4           -18.33     1.56     5.38     9.03
7.02     3.70
   XBADJ    STCK4
0.26    -3.19    -6.54    -9.69   -12.55   -15.02
   XBADJ
STCK4          -17.04   -27.94   -42.78   -56.32   -68.15   -77.9
1

   XBADJ
STCK5          -83.15   -88.45   -91.05   -99.71  -114.58  -130.7
1
   XBADJ
STCK5         -143.35  -152.70  -157.41  -157.34  -152.49  -143.0
0
   XBADJ
STCK5         -129.17  -113.22   -99.64   -83.04   -63.92   -42.8
5
   XBADJ    STCK5           -20.48    -0.10     4.26     8.49
7.08     4.35
   XBADJ    STCK5
1.48    -1.43    -4.30    -7.04    -9.56   -11.79
   XBADJ
STCK5          -13.67   -24.52   -39.42   -53.13   -65.22   -75.3
3

   XBADJ
STCK6          -82.59   -88.07   -90.88   -99.74  -114.82  -131.1
6
   XBADJ
STCK6         -143.98  -153.50  -158.35  -158.39  -153.62  -144.1
9
   XBADJ
STCK6         -130.37  -114.39  -100.76   -84.06   -64.81   -43.5
9
   XBADJ    STCK6           -21.05    -0.47     4.09     8.53
7.33     4.79
   XBADJ    STCK6
2.11    -0.63    -3.36    -5.98    -8.42   -10.61
   XBADJ
STCK6          -12.47   -23.35   -38.31   -52.11   -64.33   -74.5
9

   YBADJ    STCK1            67.60    63.18    56.85    48.78
35.44    50.63
   YBADJ    STCK1            33.44
15.24    -3.43   -21.99   -39.88   -49.65
   YBADJ
STCK1          -54.54   -59.70   -64.87   -68.31   -70.20   -69.9
7
```

```
   YBADJ
STCK1         -67.60   -63.18   -56.85   -48.78   -35.44   -21.5
3
   YBADJ    STCK1           -6.97     7.80    22.34    36.20
39.88    49.65
   YBADJ    STCK1           54.54    59.70    64.87    68.31
70.20    69.96

   YBADJ    STCK2           68.65    64.31    58.02    49.97
36.61    51.73
   YBADJ    STCK2           34.46
16.13    -2.69   -21.42   -39.50   -49.47
   YBADJ
STCK2         -54.57   -59.94   -65.31   -68.93   -70.99   -70.9
0
   YBADJ
STCK2         -68.65   -64.31   -58.02   -49.97   -36.61   -22.6
4
   YBADJ    STCK2           -7.98     6.91    21.60    35.63
47.27    49.47
   YBADJ    STCK2           54.57    59.94    65.31    68.93
70.99    70.89

   YBADJ    STCK3           71.45    67.35    61.20    53.19
39.77    54.75
   YBADJ    STCK3           37.22
18.57    -0.65   -19.84   -38.44   -48.95
   YBADJ
STCK3         -54.61   -60.53   -66.45   -70.57   -73.09   -73.3
9
   YBADJ
STCK3         -71.45   -67.35   -61.20   -53.19   -39.77   -25.6
5
   YBADJ    STCK3          -10.75     4.47    19.56    34.05
46.21    48.95
   YBADJ    STCK3           54.61    60.53    66.45    70.57
73.09    73.38

   YBADJ    STCK4           72.50    68.48    62.37    54.38
40.93    26.76
   YBADJ    STCK4           38.24    19.46
0.09   -19.28   -38.06   -48.77
   YBADJ
STCK4         -54.64   -60.77   -66.88   -71.19   -73.88   -74.3
2
   YBADJ
STCK4         -72.50   -68.48   -62.37   -54.38   -40.93   -26.7
6
   YBADJ    STCK4          -11.77     3.58    18.82    33.49
45.83    48.77
   YBADJ    STCK4           54.64    60.77    66.88    71.19
73.88    74.31
```

```
   YBADJ    STCK5           75.15    71.46    65.60    57.75
44.35    30.11
   YBADJ    STCK5           41.43    22.39
2.67   -17.12   -36.40   -47.66
   YBADJ
STCK5          -54.10   -60.83   -67.53   -72.41   -75.63   -76.5
6
   YBADJ
STCK5          -75.15   -71.46   -65.60   -57.75   -44.35   -30.1
1
   YBADJ    STCK5          -14.96     0.65    16.24    31.34
44.17    47.66
   YBADJ    STCK5           54.10    60.83    67.53    72.41
75.63    76.55

   YBADJ    STCK6           76.20    72.60    66.79    58.95
45.52    31.22
   YBADJ    STCK6           42.45    23.28
3.41   -16.56   -36.03   -47.49
   YBADJ
STCK6          -54.14   -61.07   -67.97   -73.04   -76.43   -77.5
0
   YBADJ
STCK6          -76.20   -72.60   -66.79   -58.95   -45.52   -31.2
2
   YBADJ    STCK6          -15.97    -0.24    15.50    30.77
43.80    47.49
   YBADJ    STCK6           54.14    61.07    67.97    73.04
76.43    77.49

   URBANSRC ALL

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 1 (6)"
** WeekDays:
   EMISFACT STCK1        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK1        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK1        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK1        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** Saturday:
   EMISFACT STCK1        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK1        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK1        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK1        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** Sunday:
   EMISFACT STCK1        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK1        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK1        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK1        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** WeekDays:
   EMISFACT STCK2        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
```

```
   EMISFACT STCK2         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK2         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK2         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** Saturday:
   EMISFACT STCK2         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK2         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK2         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK2         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** Sunday:
   EMISFACT STCK2         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK2         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK2         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK2         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** WeekDays:
   EMISFACT STCK3         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK3         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK3         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK3         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** Saturday:
   EMISFACT STCK3         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK3         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK3         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK3         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** Sunday:
   EMISFACT STCK3         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK3         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK3         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK3         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** WeekDays:
   EMISFACT STCK4         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK4         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK4         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK4         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** Saturday:
   EMISFACT STCK4         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK4         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK4         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK4         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** Sunday:
   EMISFACT STCK4         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK4         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK4         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK4         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** WeekDays:
   EMISFACT STCK5         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK5         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK5         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK5         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** Saturday:
   EMISFACT STCK5         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK5         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK5         HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
```

```
   EMISFACT STCK5        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** Sunday:
   EMISFACT STCK5        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK5        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK5        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK5        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** WeekDays:
   EMISFACT STCK6        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK6        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK6        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK6        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** Saturday:
   EMISFACT STCK6        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK6        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK6        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK6        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
** Sunday:
   EMISFACT STCK6        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK6        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK6        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT STCK6        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   SRCGROUP Gen_All  STCK1 STCK2 STCK3 STCK4 STCK5 STCK6
   SRCGROUP Gen1     STCK1 STCK2
   SRCGROUP Gen2     STCK3 STCK4
   SRCGROUP Gen3     STCK5 STCK6
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED 642-Quarry-SC_Ops.rou
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE "C:\Lakes\405industrialRd_MIT\Met data-San Carlos
Airport\724938.SFC"
   PROFFILE "C:\Lakes\405industrialRd_MIT\Met data-San Carlos
Airport\724938.PFL"
   SURFDATA 93231 2009 San_Carlos_Airport 566119.00 4152498.00
   UAIRDATA 23230 2009 OAKLAND/WSO_AP
   PROFBASE 1.0 METERS
ME FINISHED
**
****************************************
```

```
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE PERIOD Gen_All 642-QUARRY-SC_OPS.AD\PE00G001.PLT 31
   PLOTFILE PERIOD Gen1 642-QUARRY-SC_OPS.AD\PE00G002.PLT 32
   PLOTFILE PERIOD Gen2 642-QUARRY-SC_OPS.AD\PE00G003.PLT 33
   PLOTFILE PERIOD Gen3 642-QUARRY-SC_OPS.AD\PE00G004.PLT 34
   SUMMFILE 642-Quarry-SC_Ops.sum
OU FINISHED

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************
```

```
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/15/22
 *** AERMET - VERSION  14134 ***   ***
***        08:06:15

PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                            ***     MODEL SETUP
OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration
Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for     6
Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =   4709220.0 ;  Urban Roughness Length =
1.000 m

 **Model Uses Regulatory DEFAULT Options:
         1. Stack-tip Downwash.
         2. Model Accounts for ELEVated Terrain Effects.
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay.
         6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
         CCVR_Sub - Meteorological data includes CCVR
substitutions
         TEMP_Sub - Meteorological data includes TEMP
substitutions

 **Model Accepts FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_2.5

 **Model Calculates PERIOD Averages Only

 **This Run Includes:      6 Source(s);       4 Source Group(s);
and     774 Receptor(s)
```

```
                with:      6 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total
of     0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
          Model Outputs Tables of PERIOD Averages by Receptor
          Model Outputs External File(s) of High Values for
Plotting (PLOTFILE Keyword)
          Model Outputs Separate Summary File of High Ranked
Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:
c for Calm Hours

m for Missing Hours

b for Both Calm and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =
1.00 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units =
GRAMS/SEC                                ;  Emission Rate Unit
Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.7 MB of
RAM.

 **Input Runstream File:          aermod.inp
 **Output Print File:             aermod.out

 **Detailed Error/Message File:   642-Quarry-SC_Ops.err
 **File for Summary of Results:   642-Quarry-SC_Ops.sum
```

```
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/15/22
 *** AERMET - VERSION  14134 ***   ***
***        08:06:15

PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN


                                                  *** POINT
SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE
STACK   STACK    STACK     STACK    BLDG   URBAN  CAP/  EMIS RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.
HEIGHT  TEMP.   EXIT VEL. DIAMETER  EXISTS SOURCE HOR   SCALAR
     ID         CATS.               (METERS) (METERS) (METERS)
(METERS) (DEG.K)  (M/SEC)  (METERS)                       VARY BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -


 STCK1           0   0.97005E-05  564657.3 4152458.7     7.5
3.58   769.26    47.20     0.33    YES     YES   NO  HRDOW
 STCK2           0   0.97005E-05  564658.2 4152458.0     7.5
3.58   769.26    47.20     0.33    YES     YES   NO  HRDOW
 STCK3           0   0.97005E-05  564660.7 4152455.9     7.5
3.58   769.26    47.20     0.33    YES     YES   NO  HRDOW
 STCK4           0   0.97005E-05  564661.6 4152455.2     7.5
3.58   769.26    47.20     0.33    YES     YES   NO  HRDOW
 STCK5           0   0.97005E-05  564663.9 4152452.6     7.5
3.58   769.26    47.20     0.33    YES     YES   NO  HRDOW
 STCK6           0   0.97005E-05  564664.8 4152451.9     7.4
3.58   769.26    47.20     0.33    YES     YES   NO  HRDOW
```

```
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/15/22
 *** AERMET - VERSION  14134 ***   ***
***        08:06:15

PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN


                                          *** SOURCE IDs
DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                                SOURCE
IDs
 -----------                                                -------
---


  GEN_ALL    STCK1       , STCK2       , STCK3       ,
STCK4       , STCK5       , STCK6       ,

  GEN1       STCK1       , STCK2       ,

  GEN2       STCK3       , STCK4       ,

  GEN3       STCK5       , STCK6       ,
```

```
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/15/22
 *** AERMET - VERSION  14134 ***   ***
***        08:06:15

PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN


                                          *** SOURCE IDs DEFINED
AS URBAN SOURCES ***

  URBAN ID   URBAN POP                                    SOURCE
IDs
  --------   ---------                                    -------
---


              4709220.   STCK1       , STCK2       ,
STCK3       , STCK4       , STCK5       , STCK6       ,
```

```
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/15/22
 *** AERMET - VERSION  14134 ***   ***
***        08:06:15

PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                        *** DIRECTION SPECIFIC
BUILDING DIMENSIONS ***


 SOURCE ID: STCK1
  IFV    BH      BW      BL     XADJ    YADJ     IFV    BH
BW      BL     XADJ    YADJ
    1   30.5,  164.4,  103.6,  -88.0,   67.6,      2   30.5,
162.1,   88.5,  -91.9,   63.2,
    3   30.5,  154.8,   86.8,  -93.0,   56.8,      4   30.5,
142.8,   91.2, -100.1,   48.8,
    5   30.5,  137.7,  107.5, -113.5,   35.4,      6   30.5,
80.9,   59.1, -128.1,   50.6,
    7   30.5,   83.2,   65.8, -139.2,   33.4,      8   30.5,
83.0,   72.5, -147.3,   15.2,
    9   30.5,   80.3,   78.7, -150.8,   -3.4,     10   30.5,
75.2,   82.5, -149.8,  -22.0,
   11   30.5,   67.8,   83.8, -144.2,  -39.9,     12   30.5,
86.8,  154.8, -134.2,  -49.6,
   13   30.5,   91.2,  142.8, -120.2,  -54.5,     14   30.5,
107.5,  137.7, -104.3,  -59.7,
   15   30.5,  126.4,  139.1,  -91.1,  -64.9,     16   30.5,
141.9,  136.2,  -75.1,  -68.3,
   17   30.5,  154.1,  129.1,  -56.8,  -70.2,     18   30.5,
161.7,  118.2,  -36.8,  -70.0,
   19   30.5,  164.4,  103.6,  -15.6,  -67.6,     20   30.5,
162.1,   88.5,    3.4,  -63.2,
   21   30.5,  154.8,   86.8,    6.2,  -56.8,     22   30.5,
142.8,   91.2,    8.9,  -48.8,
   23   30.5,  137.7,  107.5,    6.0,  -35.4,     24   30.5,
139.1,  126.4,    1.7,  -21.5,
   25   30.5,  136.2,  141.9,   -2.6,   -7.0,     26   30.5,
129.1,  154.1,   -6.9,    7.8,
   27   30.5,  118.2,  161.7,  -10.9,   22.3,     28   30.5,
103.6,  164.4,  -14.6,   36.2,
   29   30.5,   67.8,   83.8,   60.3,   39.9,     30   30.5,
86.8,  154.8,  -20.6,   49.6,
   31   30.5,   91.2,  142.8,  -22.6,   54.5,     32   30.5,
107.5,  137.7,  -33.4,   59.7,
   33   30.5,  126.4,  139.1,  -48.0,   64.9,     34   30.5,
141.9,  136.2,  -61.1,   68.3,
   35   30.5,  154.1,  129.1,  -72.4,   70.2,     36   30.5,
161.7,  118.2,  -81.4,   70.0,
```

```
 SOURCE ID: STCK2
  IFV    BH      BW      BL     XADJ    YADJ      IFV    BH
BW      BL     XADJ    YADJ
    1   30.5,  164.4,  103.6,  -87.5,   68.6,       2   30.5,
162.1,   88.5,  -91.5,   64.3,
    3   30.5,  154.8,   86.8,  -92.9,   58.0,       4   30.5,
142.8,   91.2, -100.2,   50.0,
    5   30.5,  137.7,  107.5, -113.7,   36.6,       6   30.5,
80.9,    59.1, -128.5,   51.7,
    7   30.5,   83.2,   65.8, -139.9,   34.5,       8   30.5,
83.0,    72.5, -148.1,   16.1,
    9   30.5,   80.3,   78.7, -151.8,   -2.7,      10   30.5,
75.2,    82.5, -150.8,  -21.4,
   11   30.5,   67.8,   83.8, -145.3,  -39.5,      12   30.5,
86.8,   154.8, -135.4,  -49.5,
   13   30.5,   91.2,  142.8, -121.4,  -54.6,      14   30.5,
107.5,  137.7, -105.5,  -59.9,
   15   30.5,  126.4,  139.1,  -92.2,  -65.3,      16   30.5,
141.9,  136.2,  -76.1,  -68.9,
   17   30.5,  154.1,  129.1,  -57.7,  -71.0,      18   30.5,
161.7,  118.2,  -37.5,  -70.9,
   19   30.5,  164.4,  103.6,  -16.2,  -68.6,      20   30.5,
162.1,   88.5,    3.0,  -64.3,
   21   30.5,  154.8,   86.8,    6.1,  -58.0,      22   30.5,
142.8,   91.2,    9.0,  -50.0,
   23   30.5,  137.7,  107.5,    6.2,  -36.6,      24   30.5,
139.1,  126.4,    2.1,  -22.6,
   25   30.5,  136.2,  141.9,   -2.0,   -8.0,      26   30.5,
129.1,  154.1,   -6.1,    6.9,
   27   30.5,  118.2,  161.7,  -10.0,   21.6,      28   30.5,
103.6,  164.4,  -13.5,   35.6,
   29   30.5,   88.5,  162.1,  -16.7,   47.3,      30   30.5,
86.8,   154.8,  -19.4,   49.5,
   31   30.5,   91.2,  142.8,  -21.4,   54.6,      32   30.5,
107.5,  137.7,  -32.3,   59.9,
   33   30.5,  126.4,  139.1,  -46.9,   65.3,      34   30.5,
141.9,  136.2,  -60.1,   68.9,
   35   30.5,  154.1,  129.1,  -71.5,   71.0,      36   30.5,
161.7,  118.2,  -80.7,   70.9,


 SOURCE ID: STCK3
  IFV    BH      BW      BL     XADJ    YADJ      IFV    BH
BW      BL     XADJ    YADJ
    1   30.5,  164.4,  103.6,  -85.9,   71.5,       2   30.5,
162.1,   88.5,  -90.5,   67.3,
    3   30.5,  154.8,   86.8,  -92.3,   61.2,       4   30.5,
142.8,   91.2, -100.2,   53.2,
    5   30.5,  137.7,  107.5, -114.3,   39.8,       6   30.5,
80.9,    59.1, -129.6,   54.8,
```

```
     7   30.5,   83.2,   65.8, -141.5,   37.2,       8   30.5,
83.0,   72.5, -150.2,   18.6,
     9   30.5,   80.3,   78.7, -154.2,   -0.7,      10   30.5,
75.2,   82.5, -153.6,  -19.8,
    11   30.5,   67.8,   83.8, -148.4,  -38.4,      12   30.5,
86.8,  154.8, -138.6,  -48.9,
    13   30.5,   91.2,  142.8, -124.6,  -54.6,      14   30.5,
107.5,  137.7, -108.6,  -60.5,
    15   30.5,  126.4,  139.1,  -95.2,  -66.5,      16   30.5,
141.9,  136.2,  -78.8,  -70.6,
    17   30.5,  154.1,  129.1,  -60.1,  -73.1,      18   30.5,
161.7,  118.2,  -39.5,  -73.4,
    19   30.5,  164.4,  103.6,  -17.8,  -71.5,      20   30.5,
162.1,   88.5,    1.9,  -67.3,
    21   30.5,  154.8,   86.8,    5.5,  -61.2,      22   30.5,
142.8,   91.2,    9.0,  -53.2,
    23   30.5,  137.7,  107.5,    6.8,  -39.8,      24   30.5,
139.1,  126.4,    3.3,  -25.7,
    25   30.5,  136.2,  141.9,   -0.4,  -10.8,      26   30.5,
129.1,  154.1,   -4.0,    4.5,
    27   30.5,  118.2,  161.7,   -7.5,   19.6,      28   30.5,
103.6,  164.4,  -10.7,   34.0,
    29   30.5,   88.5,  162.1,  -13.7,   46.2,      30   30.5,
86.8,  154.8,  -16.2,   48.9,
    31   30.5,   91.2,  142.8,  -18.2,   54.6,      32   30.5,
107.5,  137.7,  -29.1,   60.5,
    33   30.5,  126.4,  139.1,  -43.9,   66.5,      34   30.5,
141.9,  136.2,  -57.3,   70.6,
    35   30.5,  154.1,  129.1,  -69.0,   73.1,      36   30.5,
161.7,  118.2,  -78.6,   73.4,


 SOURCE ID: STCK4
  IFV    BH      BW      BL     XADJ    YADJ      IFV    BH
BW      BL     XADJ    YADJ
     1   30.5,  164.4,  103.6,  -85.3,   72.5,       2   30.5,
162.1,   88.5,  -90.1,   68.5,
     3   30.5,  154.8,   86.8,  -92.2,   62.4,       4   30.5,
142.8,   91.2, -100.2,   54.4,
     5   30.5,  137.7,  107.5, -114.5,   40.9,       6   30.5,
139.1,  126.4, -130.1,   26.8,
     7   30.5,   83.2,   65.8, -142.1,   38.2,       8   30.5,
83.0,   72.5, -150.9,   19.5,
     9   30.5,   80.3,   78.7, -155.2,    0.1,      10   30.5,
75.2,   82.5, -154.7,  -19.3,
    11   30.5,   67.8,   83.8, -149.5,  -38.1,      12   30.5,
86.8,  154.8, -139.8,  -48.8,
    13   30.5,   91.2,  142.8, -125.8,  -54.6,      14   30.5,
107.5,  137.7, -109.8,  -60.8,
    15   30.5,  126.4,  139.1,  -96.3,  -66.9,      16   30.5,
141.9,  136.2,  -79.8,  -71.2,
    17   30.5,  154.1,  129.1,  -61.0,  -73.9,      18   30.5,
```

```
161.7,  118.2,  -40.3,  -74.3,
   19   30.5,  164.4,  103.6,  -18.3,  -72.5,     20   30.5,
162.1,   88.5,    1.6,  -68.5,
   21   30.5,  154.8,   86.8,    5.4,  -62.4,     22   30.5,
142.8,   91.2,    9.0,  -54.4,
   23   30.5,  137.7,  107.5,    7.0,  -40.9,     24   30.5,
139.1,  126.4,    3.7,  -26.8,
   25   30.5,  136.2,  141.9,    0.3,  -11.8,     26   30.5,
129.1,  154.1,   -3.2,    3.6,
   27   30.5,  118.2,  161.7,   -6.5,   18.8,     28   30.5,
103.6,  164.4,   -9.7,   33.5,
   29   30.5,   88.5,  162.1,  -12.6,   45.8,     30   30.5,
86.8,  154.8,  -15.0,   48.8,
   31   30.5,   91.2,  142.8,  -17.0,   54.6,     32   30.5,
107.5,  137.7,  -27.9,   60.8,
   33   30.5,  126.4,  139.1,  -42.8,   66.9,     34   30.5,
141.9,  136.2,  -56.3,   71.2,
   35   30.5,  154.1,  129.1,  -68.1,   73.9,     36   30.5,
161.7,  118.2,  -77.9,   74.3,
```

```
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/15/22
 *** AERMET - VERSION  14134 ***   ***
***        08:06:15

PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                                *** DIRECTION SPECIFIC
BUILDING DIMENSIONS ***


 SOURCE ID: STCK5
  IFV    BH      BW      BL     XADJ    YADJ     IFV    BH
BW      BL     XADJ    YADJ
    1   30.5,  164.4,  103.6,  -83.1,   75.1,      2   30.5,
162.1,   88.5,  -88.5,   71.5,
    3   30.5,  154.8,   86.8,  -91.0,   65.6,      4   30.5,
142.8,   91.2,  -99.7,   57.8,
    5   30.5,  137.7,  107.5, -114.6,   44.3,      6   30.5,
139.1,  126.4, -130.7,   30.1,
    7   30.5,   83.2,   65.8, -143.4,   41.4,      8   30.5,
83.0,   72.5, -152.7,   22.4,
    9   30.5,   80.3,   78.7, -157.4,    2.7,     10   30.5,
75.2,   82.5, -157.3,  -17.1,
   11   30.5,   67.8,   83.8, -152.5,  -36.4,     12   30.5,
86.8,  154.8, -143.0,  -47.7,
   13   30.5,   91.2,  142.8, -129.2,  -54.1,     14   30.5,
107.5,  137.7, -113.2,  -60.8,
   15   30.5,  126.4,  139.1,  -99.6,  -67.5,     16   30.5,
141.9,  136.2,  -83.0,  -72.4,
   17   30.5,  154.1,  129.1,  -63.9,  -75.6,     18   30.5,
161.7,  118.2,  -42.8,  -76.6,
   19   30.5,  164.4,  103.6,  -20.5,  -75.1,     20   30.5,
162.1,   88.5,   -0.1,  -71.5,
   21   30.5,  154.8,   86.8,    4.3,  -65.6,     22   30.5,
142.8,   91.2,    8.5,  -57.8,
   23   30.5,  137.7,  107.5,    7.1,  -44.3,     24   30.5,
139.1,  126.4,    4.3,  -30.1,
   25   30.5,  136.2,  141.9,    1.5,  -15.0,     26   30.5,
129.1,  154.1,   -1.4,    0.7,
   27   30.5,  118.2,  161.7,   -4.3,   16.2,     28   30.5,
103.6,  164.4,   -7.0,   31.3,
   29   30.5,   88.5,  162.1,   -9.6,   44.2,     30   30.5,
86.8,  154.8,  -11.8,   47.7,
   31   30.5,   91.2,  142.8,  -13.7,   54.1,     32   30.5,
107.5,  137.7,  -24.5,   60.8,
   33   30.5,  126.4,  139.1,  -39.4,   67.5,     34   30.5,
141.9,  136.2,  -53.1,   72.4,
   35   30.5,  154.1,  129.1,  -65.2,   75.6,     36   30.5,
161.7,  118.2,  -75.3,   76.5,
```

```
 SOURCE ID: STCK6
  IFV    BH      BW      BL      XADJ    YADJ      IFV    BH
BW      BL     XADJ    YADJ
    1   30.5,  164.4,  103.6,  -82.6,   76.2,       2   30.5,
162.1,   88.5,  -88.1,   72.6,
    3   30.5,  154.8,   86.8,  -90.9,   66.8,       4   30.5,
142.8,   91.2,  -99.7,   58.9,
    5   30.5,  137.7,  107.5, -114.8,   45.5,       6   30.5,
139.1,  126.4, -131.2,   31.2,
    7   30.5,   83.2,   65.8, -144.0,   42.4,       8   30.5,
83.0,   72.5, -153.5,   23.3,
    9   30.5,   80.3,   78.7, -158.4,    3.4,      10   30.5,
75.2,   82.5, -158.4,  -16.6,
   11   30.5,   67.8,   83.8, -153.6,  -36.0,      12   30.5,
86.8,  154.8, -144.2,  -47.5,
   13   30.5,   91.2,  142.8, -130.4,  -54.1,      14   30.5,
107.5,  137.7, -114.4,  -61.1,
   15   30.5,  126.4,  139.1, -100.8,  -68.0,      16   30.5,
141.9,  136.2,  -84.1,  -73.0,
   17   30.5,  154.1,  129.1,  -64.8,  -76.4,      18   30.5,
161.7,  118.2,  -43.6,  -77.5,
   19   30.5,  164.4,  103.6,  -21.1,  -76.2,      20   30.5,
162.1,   88.5,   -0.5,  -72.6,
   21   30.5,  154.8,   86.8,    4.1,  -66.8,      22   30.5,
142.8,   91.2,    8.5,  -58.9,
   23   30.5,  137.7,  107.5,    7.3,  -45.5,      24   30.5,
139.1,  126.4,    4.8,  -31.2,
   25   30.5,  136.2,  141.9,    2.1,  -16.0,      26   30.5,
129.1,  154.1,   -0.6,   -0.2,
   27   30.5,  118.2,  161.7,   -3.4,   15.5,      28   30.5,
103.6,  164.4,   -6.0,   30.8,
   29   30.5,   88.5,  162.1,   -8.4,   43.8,      30   30.5,
86.8,  154.8,  -10.6,   47.5,
   31   30.5,   91.2,  142.8,  -12.5,   54.1,      32   30.5,
107.5,  137.7,  -23.4,   61.1,
   33   30.5,  126.4,  139.1,  -38.3,   68.0,      34   30.5,
141.9,  136.2,  -52.1,   73.0,
   35   30.5,  154.1,  129.1,  -64.3,   76.4,      36   30.5,
161.7,  118.2,  -74.6,   77.5,
```

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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/15/22
 *** AERMET - VERSION  14134 ***   ***
***        08:06:15

PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                  * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = STCK1        ; SOURCE TYPE = POINT    :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
WEEKDAY
    1  .1000E+01    2  .1000E+01    3  .1000E+01    4  .1000E+01
5  .1000E+01    6  .1000E+01    7  .1000E+01    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .1000E+01   20  .1000E+01
21  .1000E+01   22  .1000E+01   23  .1000E+01   24  .1000E+01
                                              DAY OF WEEK =
SATURDAY
    1  .1000E+01    2  .1000E+01    3  .1000E+01    4  .1000E+01
5  .1000E+01    6  .1000E+01    7  .1000E+01    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .1000E+01   20  .1000E+01
21  .1000E+01   22  .1000E+01   23  .1000E+01   24  .1000E+01
                                              DAY OF WEEK =
SUNDAY
    1  .1000E+01    2  .1000E+01    3  .1000E+01    4  .1000E+01
5  .1000E+01    6  .1000E+01    7  .1000E+01    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .1000E+01   20  .1000E+01
21  .1000E+01   22  .1000E+01   23  .1000E+01   24  .1000E+01
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*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/15/22
*** AERMET - VERSION 14134 *** ***
*** 08:06:15

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = STCK2 ; SOURCE TYPE = POINT :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.1000E+01	2	.1000E+01	3	.1000E+01	4	.1000E+01	5	.1000E+01	6	.1000E+01	7	.1000E+01	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.1000E+01	20	.1000E+01	21	.1000E+01	22	.1000E+01	23	.1000E+01	24	.1000E+01
DAY OF WEEK = SATURDAY															
1	.1000E+01	2	.1000E+01	3	.1000E+01	4	.1000E+01	5	.1000E+01	6	.1000E+01	7	.1000E+01	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.1000E+01	20	.1000E+01	21	.1000E+01	22	.1000E+01	23	.1000E+01	24	.1000E+01
DAY OF WEEK = SUNDAY															
1	.1000E+01	2	.1000E+01	3	.1000E+01	4	.1000E+01	5	.1000E+01	6	.1000E+01	7	.1000E+01	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.1000E+01	20	.1000E+01	21	.1000E+01	22	.1000E+01	23	.1000E+01	24	.1000E+01

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = STCK3 ; SOURCE TYPE = POINT :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.1000E+01	2	.1000E+01	3	.1000E+01	4	.1000E+01	5	.1000E+01	6	.1000E+01	7	.1000E+01	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.1000E+01	20	.1000E+01	21	.1000E+01	22	.1000E+01	23	.1000E+01	24	.1000E+01
DAY OF WEEK = SATURDAY															
1	.1000E+01	2	.1000E+01	3	.1000E+01	4	.1000E+01	5	.1000E+01	6	.1000E+01	7	.1000E+01	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.1000E+01	20	.1000E+01	21	.1000E+01	22	.1000E+01	23	.1000E+01	24	.1000E+01
DAY OF WEEK = SUNDAY															
1	.1000E+01	2	.1000E+01	3	.1000E+01	4	.1000E+01	5	.1000E+01	6	.1000E+01	7	.1000E+01	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.1000E+01	20	.1000E+01	21	.1000E+01	22	.1000E+01	23	.1000E+01	24	.1000E+01

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = STCK4 ; SOURCE TYPE = POINT :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.1000E+01	2	.1000E+01	3	.1000E+01	4	.1000E+01	5	.1000E+01	6	.1000E+01	7	.1000E+01	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.1000E+01	20	.1000E+01	21	.1000E+01	22	.1000E+01	23	.1000E+01	24	.1000E+01
DAY OF WEEK = SATURDAY															
1	.1000E+01	2	.1000E+01	3	.1000E+01	4	.1000E+01	5	.1000E+01	6	.1000E+01	7	.1000E+01	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.1000E+01	20	.1000E+01	21	.1000E+01	22	.1000E+01	23	.1000E+01	24	.1000E+01
DAY OF WEEK = SUNDAY															
1	.1000E+01	2	.1000E+01	3	.1000E+01	4	.1000E+01	5	.1000E+01	6	.1000E+01	7	.1000E+01	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.1000E+01
17	.1000E+01	18	.1000E+01	19	.1000E+01	20	.1000E+01	21	.1000E+01	22	.1000E+01	23	.1000E+01	24	.1000E+01

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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/15/22
 *** AERMET - VERSION  14134 ***   ***
***        08:06:15

PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                   * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = STCK5        ; SOURCE TYPE = POINT    :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                              DAY OF WEEK =
WEEKDAY
    1  .1000E+01    2  .1000E+01    3  .1000E+01    4  .1000E+01
5  .1000E+01    6  .1000E+01    7  .1000E+01    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .1000E+01   20  .1000E+01
21  .1000E+01   22  .1000E+01   23  .1000E+01   24  .1000E+01
                                              DAY OF WEEK =
SATURDAY
    1  .1000E+01    2  .1000E+01    3  .1000E+01    4  .1000E+01
5  .1000E+01    6  .1000E+01    7  .1000E+01    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .1000E+01   20  .1000E+01
21  .1000E+01   22  .1000E+01   23  .1000E+01   24  .1000E+01
                                              DAY OF WEEK =
SUNDAY
    1  .1000E+01    2  .1000E+01    3  .1000E+01    4  .1000E+01
5  .1000E+01    6  .1000E+01    7  .1000E+01    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .1000E+01   20  .1000E+01
21  .1000E+01   22  .1000E+01   23  .1000E+01   24  .1000E+01
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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/15/22
 *** AERMET - VERSION  14134 ***   ***
***        08:06:15

PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                   * SOURCE EMISSION RATE SCALARS WHICH VARY
DIURNALLY AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = STCK6        ; SOURCE TYPE = POINT    :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                             DAY OF WEEK =
WEEKDAY
    1  .1000E+01    2  .1000E+01    3  .1000E+01    4  .1000E+01
5  .1000E+01    6  .1000E+01    7  .1000E+01    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .1000E+01   20  .1000E+01
21  .1000E+01   22  .1000E+01   23  .1000E+01   24  .1000E+01
                                             DAY OF WEEK =
SATURDAY
    1  .1000E+01    2  .1000E+01    3  .1000E+01    4  .1000E+01
5  .1000E+01    6  .1000E+01    7  .1000E+01    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .1000E+01   20  .1000E+01
21  .1000E+01   22  .1000E+01   23  .1000E+01   24  .1000E+01
                                             DAY OF WEEK =
SUNDAY
    1  .1000E+01    2  .1000E+01    3  .1000E+01    4  .1000E+01
5  .1000E+01    6  .1000E+01    7  .1000E+01    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .1000E+01
   17  .1000E+01   18  .1000E+01   19  .1000E+01   20  .1000E+01
21  .1000E+01   22  .1000E+01   23  .1000E+01   24  .1000E+01
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 564274.0, 4152132.0,      54.3,     172.7,        1.5);
( 564299.0, 4152132.0,      54.1,     172.7,        1.5);
     ( 564324.0, 4152132.0,      53.4,     172.7,        1.5);
( 564349.0, 4152132.0,      51.7,     172.7,        1.5);
     ( 564374.0, 4152132.0,      50.2,     172.7,        1.5);
( 564399.0, 4152132.0,      48.6,     172.7,        1.5);
     ( 564424.0, 4152132.0,      40.9,     172.7,        1.5);
( 564449.0, 4152132.0,      30.8,     172.7,        1.5);
     ( 564474.0, 4152132.0,      30.6,     172.7,        1.5);
( 564499.0, 4152132.0,      30.1,     172.7,        1.5);
     ( 564524.0, 4152132.0,      26.9,     172.7,        1.5);
( 564549.0, 4152132.0,      23.5,     172.7,        1.5);
     ( 564574.0, 4152132.0,      19.2,     172.7,        1.5);
( 564599.0, 4152132.0,      15.2,     172.7,        1.5);
     ( 564624.0, 4152132.0,      14.0,     172.7,        1.5);
( 564649.0, 4152132.0,      13.4,     172.7,        1.5);
     ( 564674.0, 4152132.0,      13.0,     172.7,        1.5);
( 564699.0, 4152132.0,      11.6,     172.7,        1.5);
     ( 564724.0, 4152132.0,       9.1,     172.7,        1.5);
( 564749.0, 4152132.0,       8.6,     172.7,        1.5);
     ( 564774.0, 4152132.0,       9.6,     172.7,        1.5);
( 564799.0, 4152132.0,       7.8,     172.7,        1.5);
     ( 564824.0, 4152132.0,       4.6,     172.7,        1.5);
( 564849.0, 4152132.0,       4.3,     172.7,        1.5);
     ( 564874.0, 4152132.0,       4.1,     172.7,        1.5);
( 564899.0, 4152132.0,       4.2,     172.7,        1.5);
     ( 564924.0, 4152132.0,       3.7,     172.7,        1.5);
( 564274.0, 4152157.0,      48.9,     172.7,        1.5);
     ( 564299.0, 4152157.0,      50.4,     172.7,        1.5);
( 564324.0, 4152157.0,      49.4,     172.7,        1.5);
     ( 564349.0, 4152157.0,      48.8,     172.7,        1.5);
( 564374.0, 4152157.0,      48.8,     172.7,        1.5);
     ( 564399.0, 4152157.0,      48.1,     172.7,        1.5);
( 564424.0, 4152157.0,      44.3,     172.7,        1.5);
     ( 564449.0, 4152157.0,      34.7,     172.7,        1.5);
( 564474.0, 4152157.0,      28.7,     172.7,        1.5);
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    ( 564499.0, 4152157.0,       25.2,      172.7,         1.5);
( 564524.0, 4152157.0,       23.5,      172.7,         1.5);
    ( 564549.0, 4152157.0,       20.1,      172.7,         1.5);
( 564574.0, 4152157.0,       19.2,      172.7,         1.5);
    ( 564599.0, 4152157.0,       15.1,      172.7,         1.5);
( 564624.0, 4152157.0,       13.6,      172.7,         1.5);
    ( 564649.0, 4152157.0,       13.6,      172.7,         1.5);
( 564674.0, 4152157.0,       13.2,      172.7,         1.5);
    ( 564699.0, 4152157.0,        9.3,      172.7,         1.5);
( 564724.0, 4152157.0,        8.2,      172.7,         1.5);
    ( 564749.0, 4152157.0,        9.4,      172.7,         1.5);
( 564774.0, 4152157.0,        8.4,      172.7,         1.5);
    ( 564799.0, 4152157.0,        5.5,      172.7,         1.5);
( 564824.0, 4152157.0,        4.8,      172.7,         1.5);
    ( 564849.0, 4152157.0,        4.1,      172.7,         1.5);
( 564874.0, 4152157.0,        4.0,      172.7,         1.5);
    ( 564899.0, 4152157.0,        3.8,      172.7,         1.5);
( 564924.0, 4152157.0,        3.8,      172.7,         1.5);
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( 564299.0, 4152182.0,       46.2,      172.7,         1.5);
    ( 564324.0, 4152182.0,       44.7,      172.7,         1.5);
( 564349.0, 4152182.0,       44.5,      172.7,         1.5);
    ( 564374.0, 4152182.0,       45.5,      172.7,         1.5);
( 564399.0, 4152182.0,       45.6,      172.7,         1.5);
    ( 564424.0, 4152182.0,       42.7,      172.7,         1.5);
( 564449.0, 4152182.0,       37.0,      172.7,         1.5);
    ( 564474.0, 4152182.0,       28.3,      172.7,         1.5);
( 564499.0, 4152182.0,       23.3,      172.7,         1.5);
    ( 564524.0, 4152182.0,       20.7,      172.7,         1.5);
( 564549.0, 4152182.0,       18.8,      172.7,         1.5);
    ( 564574.0, 4152182.0,       16.3,      172.7,         1.5);
( 564599.0, 4152182.0,       14.5,      172.7,         1.5);
    ( 564624.0, 4152182.0,       13.9,      172.7,         1.5);
( 564649.0, 4152182.0,       12.8,      172.7,         1.5);
    ( 564674.0, 4152182.0,       10.2,      172.7,         1.5);
( 564699.0, 4152182.0,        8.8,      172.7,         1.5);
    ( 564724.0, 4152182.0,        9.0,      172.7,         1.5);
( 564749.0, 4152182.0,        9.0,      172.7,         1.5);
    ( 564774.0, 4152182.0,        5.8,      172.7,         1.5);
( 564799.0, 4152182.0,        5.0,      172.7,         1.5);
    ( 564824.0, 4152182.0,        5.0,      172.7,         1.5);
( 564849.0, 4152182.0,        4.3,      172.7,         1.5);
    ( 564874.0, 4152182.0,        3.9,      172.7,         1.5);
( 564899.0, 4152182.0,        3.7,      172.7,         1.5);
    ( 564924.0, 4152182.0,        3.8,      172.7,         1.5);
( 564274.0, 4152207.0,       40.6,      172.7,         1.5);
    ( 564299.0, 4152207.0,       38.4,      172.7,         1.5);
( 564324.0, 4152207.0,       38.0,      172.7,         1.5);
    ( 564349.0, 4152207.0,       38.8,      172.7,         1.5);
( 564374.0, 4152207.0,       41.0,      172.7,         1.5);
    ( 564399.0, 4152207.0,       41.4,      172.7,         1.5);
( 564424.0, 4152207.0,       38.7,      172.7,         1.5);
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    ( 564449.0, 4152207.0,      34.2,     172.7,       1.5);
( 564474.0, 4152207.0,      28.0,     172.7,       1.5);
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
( 564499.0, 4152207.0,      23.0,     172.7,       1.5);
( 564524.0, 4152207.0,      19.6,     172.7,       1.5);
( 564549.0, 4152207.0,      17.4,     172.7,       1.5);
( 564574.0, 4152207.0,      13.7,     172.7,       1.5);
( 564599.0, 4152207.0,      13.8,     172.7,       1.5);
( 564624.0, 4152207.0,      13.3,     172.7,       1.5);
( 564649.0, 4152207.0,      11.7,     172.7,       1.5);
( 564674.0, 4152207.0,       9.2,     172.7,       1.5);
( 564699.0, 4152207.0,       9.4,     172.7,       1.5);
( 564724.0, 4152207.0,       9.8,     172.7,       1.5);
( 564749.0, 4152207.0,       6.2,     172.7,       1.5);
( 564774.0, 4152207.0,       5.9,     172.7,       1.5);
( 564799.0, 4152207.0,       5.2,     172.7,       1.5);
( 564824.0, 4152207.0,       4.8,     172.7,       1.5);
( 564849.0, 4152207.0,       4.2,     172.7,       1.5);
( 564874.0, 4152207.0,       3.9,     172.7,       1.5);
( 564899.0, 4152207.0,       3.7,     172.7,       1.5);
( 564924.0, 4152207.0,       3.6,     172.7,       1.5);
( 564274.0, 4152232.0,      34.3,     172.7,       1.5);
( 564299.0, 4152232.0,      32.8,     172.7,       1.5);
( 564324.0, 4152232.0,      34.6,     172.7,       1.5);
( 564349.0, 4152232.0,      34.8,     172.7,       1.5);
( 564374.0, 4152232.0,      36.7,     172.7,       1.5);
( 564399.0, 4152232.0,      35.6,     172.7,       1.5);
( 564424.0, 4152232.0,      31.8,     172.7,       1.5);
( 564449.0, 4152232.0,      28.8,     172.7,       1.5);
( 564474.0, 4152232.0,      25.6,     172.7,       1.5);
( 564499.0, 4152232.0,      22.1,     172.7,       1.5);
( 564524.0, 4152232.0,      19.2,     172.7,       1.5);
( 564549.0, 4152232.0,      17.3,     172.7,       1.5);
( 564574.0, 4152232.0,      13.2,     172.7,       1.5);
( 564599.0, 4152232.0,      13.5,     172.7,       1.5);
( 564624.0, 4152232.0,      12.7,     172.7,       1.5);
( 564649.0, 4152232.0,      10.1,     172.7,       1.5);
( 564674.0, 4152232.0,      10.0,     172.7,       1.5);
( 564699.0, 4152232.0,      10.3,     172.7,       1.5);
```

```
    ( 564724.0, 4152232.0,        6.6,      172.7,        1.5);
( 564749.0, 4152232.0,        6.2,      172.7,        1.5);
    ( 564774.0, 4152232.0,        5.7,      172.7,        1.5);
( 564799.0, 4152232.0,        5.7,      172.7,        1.5);
    ( 564824.0, 4152232.0,        4.7,      172.7,        1.5);
( 564849.0, 4152232.0,        4.1,      172.7,        1.5);
    ( 564874.0, 4152232.0,        4.2,      172.7,        1.5);
( 564899.0, 4152232.0,        3.8,      172.7,        1.5);
    ( 564924.0, 4152232.0,        3.8,      172.7,        1.5);
( 564274.0, 4152257.0,       29.7,      172.7,        1.5);
    ( 564299.0, 4152257.0,       30.1,      172.7,        1.5);
( 564324.0, 4152257.0,       30.4,      172.7,        1.5);
    ( 564349.0, 4152257.0,       29.8,      172.7,        1.5);
( 564374.0, 4152257.0,       29.0,      172.7,        1.5);
    ( 564399.0, 4152257.0,       26.3,      172.7,        1.5);
( 564424.0, 4152257.0,       24.4,      172.7,        1.5);
    ( 564449.0, 4152257.0,       23.3,      172.7,        1.5);
( 564474.0, 4152257.0,       22.1,      172.7,        1.5);
    ( 564499.0, 4152257.0,       20.0,      172.7,        1.5);
( 564524.0, 4152257.0,       19.6,      172.7,        1.5);
    ( 564549.0, 4152257.0,       13.4,      172.7,        1.5);
( 564574.0, 4152257.0,       13.3,      172.7,        1.5);
    ( 564599.0, 4152257.0,       12.8,      172.7,        1.5);
( 564624.0, 4152257.0,       10.7,      172.7,        1.5);
    ( 564649.0, 4152257.0,       10.6,      172.7,        1.5);
( 564674.0, 4152257.0,       10.3,      172.7,        1.5);
    ( 564699.0, 4152257.0,        7.1,      172.7,        1.5);
( 564724.0, 4152257.0,        6.7,      172.7,        1.5);
    ( 564749.0, 4152257.0,        5.7,      172.7,        1.5);
( 564774.0, 4152257.0,        5.3,      172.7,        1.5);
    ( 564799.0, 4152257.0,        5.0,      172.7,        1.5);
( 564824.0, 4152257.0,        4.9,      172.7,        1.5);
    ( 564849.0, 4152257.0,        4.6,      172.7,        1.5);
( 564874.0, 4152257.0,        4.0,      172.7,        1.5);
    ( 564899.0, 4152257.0,        3.8,      172.7,        1.5);
( 564924.0, 4152257.0,        3.6,      172.7,        1.5);
    ( 564274.0, 4152282.0,       27.7,      172.7,        1.5);
( 564299.0, 4152282.0,       26.0,      172.7,        1.5);
    ( 564324.0, 4152282.0,       24.7,      172.7,        1.5);
( 564349.0, 4152282.0,       24.6,      172.7,        1.5);
    ( 564374.0, 4152282.0,       23.7,      172.7,        1.5);
( 564399.0, 4152282.0,       22.4,      172.7,        1.5);
    ( 564424.0, 4152282.0,       21.3,      172.7,        1.5);
( 564449.0, 4152282.0,       20.0,      172.7,        1.5);
    ( 564474.0, 4152282.0,       18.4,      172.7,        1.5);
( 564499.0, 4152282.0,       17.7,      172.7,        1.5);
    ( 564524.0, 4152282.0,       12.3,      172.7,        1.5);
( 564549.0, 4152282.0,       13.0,      172.7,        1.5);
    ( 564574.0, 4152282.0,       11.7,      172.7,        1.5);
( 564599.0, 4152282.0,       12.3,      172.7,        1.5);
    ( 564624.0, 4152282.0,        9.8,      172.7,        1.5);
( 564649.0, 4152282.0,        7.9,      172.7,        1.5);
```

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    ( 564674.0, 4152282.0,        7.2,      172.7,         1.5);
( 564699.0, 4152282.0,        7.0,      172.7,         1.5);
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*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/15/22
*** AERMET - VERSION 14134 *** ***
*** 08:06:15

PAGE 15
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

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     ( 564724.0, 4152282.0,       6.8,     172.7,       1.5);
( 564749.0, 4152282.0,       6.4,     172.7,       1.5);
     ( 564774.0, 4152282.0,       5.2,     172.7,       1.5);
( 564799.0, 4152282.0,       4.8,     172.7,       1.5);
     ( 564824.0, 4152282.0,       4.9,     172.7,       1.5);
( 564849.0, 4152282.0,       4.7,     172.7,       1.5);
     ( 564874.0, 4152282.0,       4.6,     172.7,       1.5);
( 564899.0, 4152282.0,       3.5,     172.7,       1.5);
     ( 564924.0, 4152282.0,       3.4,     172.7,       1.5);
( 564274.0, 4152307.0,      25.1,     172.7,       1.5);
     ( 564299.0, 4152307.0,      23.4,     172.7,       1.5);
( 564324.0, 4152307.0,      22.4,     172.7,       1.5);
     ( 564349.0, 4152307.0,      21.9,     172.7,       1.5);
( 564374.0, 4152307.0,      21.2,     172.7,       1.5);
     ( 564399.0, 4152307.0,      20.2,     172.7,       1.5);
( 564424.0, 4152307.0,      18.8,     172.7,       1.5);
     ( 564449.0, 4152307.0,      17.4,     172.7,       1.5);
( 564474.0, 4152307.0,      15.8,     172.7,       1.5);
     ( 564499.0, 4152307.0,      13.7,     172.7,       1.5);
( 564524.0, 4152307.0,      13.2,     172.7,       1.5);
     ( 564549.0, 4152307.0,      11.1,     172.7,       1.5);
( 564574.0, 4152307.0,       9.4,     172.7,       1.5);
     ( 564599.0, 4152307.0,       8.5,     172.7,       1.5);
( 564624.0, 4152307.0,       7.8,     172.7,       1.5);
     ( 564649.0, 4152307.0,       7.2,     172.7,       1.5);
( 564674.0, 4152307.0,       7.3,     172.7,       1.5);
     ( 564699.0, 4152307.0,       7.4,     172.7,       1.5);
( 564724.0, 4152307.0,       7.0,     172.7,       1.5);
     ( 564749.0, 4152307.0,       6.6,     172.7,       1.5);
( 564774.0, 4152307.0,       6.2,     172.7,       1.5);
     ( 564799.0, 4152307.0,       5.3,     172.7,       1.5);
( 564824.0, 4152307.0,       4.6,     172.7,       1.5);
     ( 564849.0, 4152307.0,       4.8,     172.7,       1.5);
( 564874.0, 4152307.0,       4.3,     172.7,       1.5);
     ( 564899.0, 4152307.0,       3.6,     172.7,       1.5);
( 564924.0, 4152307.0,       3.8,     172.7,       1.5);
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( 564299.0, 4152332.0,       21.8,      172.7,        1.5);
    ( 564324.0, 4152332.0,       20.7,      172.7,        1.5);
( 564349.0, 4152332.0,       19.8,      172.7,        1.5);
    ( 564374.0, 4152332.0,       18.8,      172.7,        1.5);
( 564399.0, 4152332.0,       17.9,      172.7,        1.5);
    ( 564424.0, 4152332.0,       16.9,      172.7,        1.5);
( 564449.0, 4152332.0,       15.3,      172.7,        1.5);
    ( 564474.0, 4152332.0,       13.8,      172.7,        1.5);
( 564499.0, 4152332.0,       12.8,      172.7,        1.5);
    ( 564524.0, 4152332.0,       11.0,      172.7,        1.5);
( 564549.0, 4152332.0,        9.3,      172.7,        1.5);
    ( 564574.0, 4152332.0,        8.4,      172.7,        1.5);
( 564599.0, 4152332.0,        8.0,      172.7,        1.5);
    ( 564624.0, 4152332.0,        7.4,      172.7,        1.5);
( 564649.0, 4152332.0,        7.2,      172.7,        1.5);
    ( 564674.0, 4152332.0,        7.2,      172.7,        1.5);
( 564699.0, 4152332.0,        7.3,      172.7,        1.5);
    ( 564724.0, 4152332.0,        7.4,      172.7,        1.5);
( 564749.0, 4152332.0,        7.0,      172.7,        1.5);
    ( 564774.0, 4152332.0,        6.5,      172.7,        1.5);
( 564799.0, 4152332.0,        6.0,      172.7,        1.5);
    ( 564824.0, 4152332.0,        5.2,      172.7,        1.5);
( 564849.0, 4152332.0,        4.6,      172.7,        1.5);
    ( 564874.0, 4152332.0,        4.2,      172.7,        1.5);
( 564899.0, 4152332.0,        4.0,      172.7,        1.5);
    ( 564924.0, 4152332.0,        4.2,      172.7,        1.5);
( 564274.0, 4152357.0,       20.9,      172.7,        1.5);
    ( 564299.0, 4152357.0,       19.9,      172.7,        1.5);
( 564324.0, 4152357.0,       19.0,      172.7,        1.5);
    ( 564349.0, 4152357.0,       18.0,      172.7,        1.5);
( 564374.0, 4152357.0,       17.0,      172.7,        1.5);
    ( 564399.0, 4152357.0,       15.9,      172.7,        1.5);
( 564424.0, 4152357.0,       14.6,      172.7,        1.5);
    ( 564449.0, 4152357.0,       12.0,      172.7,        1.5);
( 564474.0, 4152357.0,       12.2,      172.7,        1.5);
    ( 564499.0, 4152357.0,       10.5,      172.7,        1.5);
( 564524.0, 4152357.0,        9.1,      172.7,        1.5);
    ( 564549.0, 4152357.0,        8.7,      172.7,        1.5);
( 564574.0, 4152357.0,        8.0,      172.7,        1.5);
    ( 564599.0, 4152357.0,        7.6,      172.7,        1.5);
( 564624.0, 4152357.0,        7.2,      172.7,        1.5);
    ( 564649.0, 4152357.0,        7.3,      172.7,        1.5);
( 564674.0, 4152357.0,        7.0,      172.7,        1.5);
    ( 564699.0, 4152357.0,        6.7,      172.7,        1.5);
( 564724.0, 4152357.0,        7.3,      172.7,        1.5);
    ( 564749.0, 4152357.0,        7.1,      172.7,        1.5);
( 564774.0, 4152357.0,        6.5,      172.7,        1.5);
    ( 564799.0, 4152357.0,        6.4,      172.7,        1.5);
( 564824.0, 4152357.0,        5.6,      172.7,        1.5);
    ( 564849.0, 4152357.0,        5.0,      172.7,        1.5);
( 564874.0, 4152357.0,        4.6,      172.7,        1.5);
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    ( 564899.0, 4152357.0,        4.3,     172.7,        1.5);
( 564924.0, 4152357.0,        4.4,     172.7,        1.5);
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
    ( 564274.0, 4152382.0,      18.8,     172.7,        1.5);
( 564299.0, 4152382.0,      18.3,     172.7,        1.5);
    ( 564324.0, 4152382.0,      17.4,     172.7,        1.5);
( 564349.0, 4152382.0,      16.5,     172.7,        1.5);
    ( 564374.0, 4152382.0,      15.5,     172.7,        1.5);
( 564399.0, 4152382.0,      14.3,     172.7,        1.5);
    ( 564424.0, 4152382.0,      12.5,     172.7,        1.5);
( 564449.0, 4152382.0,      11.1,     172.7,        1.5);
    ( 564474.0, 4152382.0,      10.2,     172.7,        1.5);
( 564499.0, 4152382.0,       9.7,     172.7,        1.5);
    ( 564524.0, 4152382.0,       9.0,     172.7,        1.5);
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    ( 564574.0, 4152382.0,       7.9,     172.7,        1.5);
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( 564699.0, 4152382.0,       7.1,     172.7,        1.5);
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( 564749.0, 4152382.0,       6.3,     172.7,        1.5);
    ( 564774.0, 4152382.0,       6.5,     172.7,        1.5);
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( 564849.0, 4152382.0,       5.6,     172.7,        1.5);
    ( 564874.0, 4152382.0,       4.8,     172.7,        1.5);
( 564899.0, 4152382.0,       4.5,     172.7,        1.5);
    ( 564924.0, 4152382.0,       4.3,     172.7,        1.5);
( 564274.0, 4152407.0,      17.6,     172.7,        1.5);
    ( 564299.0, 4152407.0,      16.9,     172.7,        1.5);
( 564324.0, 4152407.0,      16.0,     172.7,        1.5);
    ( 564349.0, 4152407.0,      15.2,     172.7,        1.5);
( 564374.0, 4152407.0,      14.5,     172.7,        1.5);
    ( 564399.0, 4152407.0,      13.1,     172.7,        1.5);
( 564424.0, 4152407.0,      11.1,     172.7,        1.5);
    ( 564449.0, 4152407.0,      10.0,     172.7,        1.5);
( 564474.0, 4152407.0,       9.9,     172.7,        1.5);
    ( 564499.0, 4152407.0,       9.2,     172.7,        1.5);
( 564524.0, 4152407.0,       8.5,     172.7,        1.5);
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( 564724.0, 4152407.0,        6.9,      172.7,        1.5);
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( 564774.0, 4152407.0,        6.5,      172.7,        1.5);
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( 564824.0, 4152407.0,        6.1,      172.7,        1.5);
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( 564874.0, 4152407.0,        5.5,      172.7,        1.5);
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( 564924.0, 4152407.0,        4.6,      172.7,        1.5);
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( 564349.0, 4152432.0,       14.2,      172.7,        1.5);
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( 564499.0, 4152432.0,        9.2,      172.7,        1.5);
    ( 564524.0, 4152432.0,        8.6,      172.7,        1.5);
( 564674.0, 4152432.0,        7.0,      172.7,        1.5);
    ( 564699.0, 4152432.0,        6.8,      172.7,        1.5);
( 564724.0, 4152432.0,        6.4,      172.7,        1.5);
    ( 564749.0, 4152432.0,        6.4,      172.7,        1.5);
( 564774.0, 4152432.0,        6.4,      172.7,        1.5);
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( 564824.0, 4152432.0,        5.9,      172.7,        1.5);
    ( 564849.0, 4152432.0,        5.8,      172.7,        1.5);
( 564874.0, 4152432.0,        5.6,      172.7,        1.5);
    ( 564899.0, 4152432.0,        5.2,      172.7,        1.5);
( 564924.0, 4152432.0,        4.8,      172.7,        1.5);
    ( 564274.0, 4152457.0,       15.5,      172.7,        1.5);
( 564299.0, 4152457.0,       14.9,      172.7,        1.5);
    ( 564324.0, 4152457.0,       13.9,      172.7,        1.5);
( 564349.0, 4152457.0,       13.2,      172.7,        1.5);
    ( 564374.0, 4152457.0,       12.1,      172.7,        1.5);
( 564399.0, 4152457.0,       11.3,      172.7,        1.5);
    ( 564424.0, 4152457.0,       10.8,      172.7,        1.5);
( 564449.0, 4152457.0,       10.1,      172.7,        1.5);
    ( 564474.0, 4152457.0,        9.7,      172.7,        1.5);
( 564499.0, 4152457.0,        9.1,      172.7,        1.5);
    ( 564699.0, 4152457.0,        6.5,      172.7,        1.5);
( 564724.0, 4152457.0,        6.3,      172.7,        1.5);
    ( 564749.0, 4152457.0,        6.3,      172.7,        1.5);
( 564774.0, 4152457.0,        6.3,      172.7,        1.5);
    ( 564799.0, 4152457.0,        5.8,      172.7,        1.5);
( 564824.0, 4152457.0,        6.1,      172.7,        1.5);
    ( 564849.0, 4152457.0,        5.5,      172.7,        1.5);
( 564874.0, 4152457.0,        5.4,      172.7,        1.5);
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    ( 564899.0, 4152457.0,        5.5,      172.7,        1.5);
( 564924.0, 4152457.0,        5.2,      172.7,        1.5);
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*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

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(564349.0, 4152482.0, 12.1, 172.7, 1.5);
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(564399.0, 4152482.0, 10.5, 172.7, 1.5);
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(564449.0, 4152482.0, 9.7, 172.7, 1.5);
(564474.0, 4152482.0, 9.3, 172.7, 1.5);
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(564699.0, 4152482.0, 6.7, 172.7, 1.5);
(564724.0, 4152482.0, 6.1, 172.7, 1.5);
(564749.0, 4152482.0, 6.2, 172.7, 1.5);
(564774.0, 4152482.0, 6.2, 172.7, 1.5);
(564799.0, 4152482.0, 5.9, 172.7, 1.5);
(564824.0, 4152482.0, 5.8, 172.7, 1.5);
(564849.0, 4152482.0, 5.8, 172.7, 1.5);
(564874.0, 4152482.0, 5.2, 172.7, 1.5);
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(564324.0, 4152507.0, 12.0, 172.7, 1.5);
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(564724.0, 4152507.0, 6.6, 172.7, 1.5);

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( 564774.0, 4152507.0,       5.8,     172.7,       1.5);
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( 564824.0, 4152507.0,       5.8,     172.7,       1.5);
    ( 564849.0, 4152507.0,       5.0,     172.7,       1.5);
( 564874.0, 4152507.0,       4.5,     172.7,       1.5);
    ( 564899.0, 4152507.0,       4.7,     172.7,       1.5);
( 564924.0, 4152507.0,       5.0,     172.7,       1.5);
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( 564299.0, 4152532.0,      11.9,     172.7,       1.5);
    ( 564324.0, 4152532.0,      11.3,     172.7,       1.5);
( 564349.0, 4152532.0,      10.9,     172.7,       1.5);
    ( 564374.0, 4152532.0,      10.1,     172.7,       1.5);
( 564399.0, 4152532.0,       9.9,     172.7,       1.5);
    ( 564424.0, 4152532.0,       9.7,     172.7,       1.5);
( 564449.0, 4152532.0,       9.4,     172.7,       1.5);
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( 564499.0, 4152532.0,       8.7,     172.7,       1.5);
    ( 564524.0, 4152532.0,       8.6,     172.7,       1.5);
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( 564649.0, 4152532.0,       7.8,     172.7,       1.5);
    ( 564674.0, 4152532.0,       7.8,     172.7,       1.5);
( 564699.0, 4152532.0,       7.7,     172.7,       1.5);
    ( 564724.0, 4152532.0,       7.1,     172.7,       1.5);
( 564749.0, 4152532.0,       6.3,     172.7,       1.5);
    ( 564774.0, 4152532.0,       5.7,     172.7,       1.5);
( 564799.0, 4152532.0,       5.8,     172.7,       1.5);
    ( 564824.0, 4152532.0,       6.0,     172.7,       1.5);
( 564849.0, 4152532.0,       4.7,     172.7,       1.5);
    ( 564874.0, 4152532.0,       4.9,     172.7,       1.5);
( 564899.0, 4152532.0,       4.9,     172.7,       1.5);
    ( 564924.0, 4152532.0,       5.1,     172.7,       1.5);
( 564274.0, 4152557.0,      11.8,     172.7,       1.5);
    ( 564299.0, 4152557.0,      11.3,     172.7,       1.5);
( 564324.0, 4152557.0,      10.8,     172.7,       1.5);
    ( 564349.0, 4152557.0,      10.3,     172.7,       1.5);
( 564374.0, 4152557.0,       9.9,     172.7,       1.5);
    ( 564399.0, 4152557.0,       9.7,     172.7,       1.5);
( 564424.0, 4152557.0,       9.4,     172.7,       1.5);
    ( 564449.0, 4152557.0,       9.2,     172.7,       1.5);
( 564474.0, 4152557.0,       9.0,     172.7,       1.5);
    ( 564499.0, 4152557.0,       9.6,     172.7,       1.5);
( 564524.0, 4152557.0,       9.5,     172.7,       1.5);
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    ( 564599.0, 4152557.0,       8.4,     172.7,       1.5);
( 564624.0, 4152557.0,       8.3,     172.7,       1.5);
    ( 564649.0, 4152557.0,       8.0,     172.7,       1.5);
( 564674.0, 4152557.0,       8.1,     172.7,       1.5);
    ( 564699.0, 4152557.0,       7.9,     172.7,       1.5);
( 564724.0, 4152557.0,       7.6,     172.7,       1.5);
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    ( 564749.0, 4152557.0,       7.3,     172.7,       1.5);
( 564774.0, 4152557.0,       6.1,     172.7,       1.5);
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
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( 564849.0, 4152557.0,       4.7,     172.7,       1.5);
( 564874.0, 4152557.0,       4.6,     172.7,       1.5);
( 564899.0, 4152557.0,       4.8,     172.7,       1.5);
( 564924.0, 4152557.0,       5.1,     172.7,       1.5);
( 564274.0, 4152582.0,      11.3,     172.7,       1.5);
( 564299.0, 4152582.0,      10.8,     172.7,       1.5);
( 564324.0, 4152582.0,      10.2,     172.7,       1.5);
( 564349.0, 4152582.0,       9.9,     172.7,       1.5);
( 564374.0, 4152582.0,       9.7,     172.7,       1.5);
( 564399.0, 4152582.0,       9.6,     172.7,       1.5);
( 564424.0, 4152582.0,       9.4,     172.7,       1.5);
( 564449.0, 4152582.0,       9.2,     172.7,       1.5);
( 564474.0, 4152582.0,       9.1,     172.7,       1.5);
( 564499.0, 4152582.0,       9.9,     172.7,       1.5);
( 564524.0, 4152582.0,       9.8,     172.7,       1.5);
( 564549.0, 4152582.0,       9.5,     172.7,       1.5);
( 564574.0, 4152582.0,       9.5,     172.7,       1.5);
( 564599.0, 4152582.0,       8.3,     172.7,       1.5);
( 564624.0, 4152582.0,       8.6,     172.7,       1.5);
( 564649.0, 4152582.0,       8.1,     172.7,       1.5);
( 564674.0, 4152582.0,       7.9,     172.7,       1.5);
( 564699.0, 4152582.0,       7.6,     172.7,       1.5);
( 564724.0, 4152582.0,       7.7,     172.7,       1.5);
( 564749.0, 4152582.0,       7.6,     172.7,       1.5);
( 564774.0, 4152582.0,       6.8,     172.7,       1.5);
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( 564849.0, 4152582.0,       4.8,     172.7,       1.5);
( 564874.0, 4152582.0,       4.6,     172.7,       1.5);
( 564899.0, 4152582.0,       4.6,     172.7,       1.5);
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( 564299.0, 4152607.0,      10.4,     172.7,       1.5);
( 564324.0, 4152607.0,       9.9,     172.7,       1.5);
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( 564424.0, 4152607.0,        9.3,      172.7,         1.5);
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( 564474.0, 4152607.0,        9.6,      172.7,         1.5);
    ( 564499.0, 4152607.0,        9.6,      172.7,         1.5);
( 564524.0, 4152607.0,        9.7,      172.7,         1.5);
    ( 564549.0, 4152607.0,        9.6,      172.7,         1.5);
( 564574.0, 4152607.0,        9.3,      172.7,         1.5);
    ( 564599.0, 4152607.0,        8.8,      172.7,         1.5);
( 564624.0, 4152607.0,        7.7,      172.7,         1.5);
    ( 564649.0, 4152607.0,        7.6,      172.7,         1.5);
( 564674.0, 4152607.0,        7.6,      172.7,         1.5);
    ( 564699.0, 4152607.0,        7.6,      172.7,         1.5);
( 564724.0, 4152607.0,        7.7,      172.7,         1.5);
    ( 564749.0, 4152607.0,        6.7,      172.7,         1.5);
( 564774.0, 4152607.0,        4.7,      172.7,         1.5);
    ( 564799.0, 4152607.0,        4.6,      172.7,         1.5);
( 564824.0, 4152607.0,        4.7,      172.7,         1.5);
    ( 564849.0, 4152607.0,        4.8,      172.7,         1.5);
( 564874.0, 4152607.0,        4.8,      172.7,         1.5);
    ( 564899.0, 4152607.0,        4.6,      172.7,         1.5);
( 564924.0, 4152607.0,        4.6,      172.7,         1.5);
    ( 564274.0, 4152632.0,       10.6,      172.7,         1.5);
( 564299.0, 4152632.0,       10.0,      172.7,         1.5);
    ( 564324.0, 4152632.0,        9.7,      172.7,         1.5);
( 564349.0, 4152632.0,        9.4,      172.7,         1.5);
    ( 564374.0, 4152632.0,        9.2,      172.7,         1.5);
( 564399.0, 4152632.0,        9.0,      172.7,         1.5);
    ( 564424.0, 4152632.0,        9.1,      172.7,         1.5);
( 564449.0, 4152632.0,        9.5,      172.7,         1.5);
    ( 564474.0, 4152632.0,        9.7,      172.7,         1.5);
( 564499.0, 4152632.0,        9.5,      172.7,         1.5);
    ( 564524.0, 4152632.0,        9.5,      172.7,         1.5);
( 564549.0, 4152632.0,        9.4,      172.7,         1.5);
    ( 564574.0, 4152632.0,        9.0,      172.7,         1.5);
( 564599.0, 4152632.0,        8.8,      172.7,         1.5);
    ( 564624.0, 4152632.0,        8.3,      172.7,         1.5);
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    ( 564674.0, 4152632.0,        7.6,      172.7,         1.5);
( 564699.0, 4152632.0,        7.6,      172.7,         1.5);
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    ( 564774.0, 4152632.0,        4.7,      172.7,         1.5);
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( 564849.0, 4152632.0,        4.7,      172.7,         1.5);
    ( 564874.0, 4152632.0,        4.6,      172.7,         1.5);
( 564899.0, 4152632.0,        4.7,      172.7,         1.5);
    ( 564924.0, 4152632.0,        4.6,      172.7,         1.5);
( 564274.0, 4152657.0,       10.5,      172.7,         1.5);
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( 564324.0, 4152657.0,        9.6,      172.7,        1.5);
```

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

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*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

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*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/15/22
*** AERMET - VERSION 14134 *** *** *** 08:06:15

PAGE 21
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

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*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/15/22
*** AERMET - VERSION 14134 *** ***
*** 08:06:15

PAGE 22
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1 =YES; 0=NO)

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1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/15/22
 *** AERMET - VERSION  14134 ***   ***
***        08:06:15

PAGE  23
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                                    *** UP TO THE FIRST 24 HOURS
OF METEOROLOGICAL DATA ***

   Surface file:   C:\Lakes\405industrialRd_MIT\Met data-San
Carlos Airport\724938.SFC               Met Version:  14134
   Profile file:   C:\Lakes\405industrialRd_MIT\Met data-San
Carlos Airport\724938.PFL
   Surface format: FREE
   Profile format: FREE
   Surface station no.:    93231                  Upper air
station no.:    23230
                  Name: SAN_CARLOS_AIRPORT
Name: OAKLAND/WSO_AP
                  Year:   2009
Year:   2009

 First 24 hours of scalar data
 YR MO DY JDY HR     H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN
Z0  BOWEN ALBEDO  REF WS   WD     HT  REF TA     HT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 09 01 01   1 01 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 02 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 03 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 04 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 05 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 06 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 07   -3.0  0.063 -9.000 -9.000 -999.   38.      7.5
0.04   0.55   1.00    1.76    5.   10.0  281.1    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   0.74    0.00    0.   10.0  280.1    2.0
 09 01 01   1 09 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   0.38  999.00  999.   -9.0  280.1    2.0
 09 01 01   1 10    5.5  0.179  0.236  0.014   87.  181.    -95.0
0.04   0.55   0.26    2.36   61.   10.0  280.1    2.0
 09 01 01   1 11   12.1 -9.000 -9.000 -9.000  156. -999. -99999.0
0.04   0.55   0.21    0.00    0.   10.0  280.1    2.0
```

```
 09 01 01   1 12   16.0  0.328  0.455  0.016  215.  451.   -201.4
0.04   0.55   0.20    4.36  336.   10.0  281.1    2.0
 09 01 01   1 13   16.6  0.226  0.493  0.015  262.  263.    -63.2
0.04   0.55   0.19    2.86  293.   10.0  281.1    2.0
 09 01 01   1 14   69.0 -9.000 -9.000 -9.000  402. -999. -99999.0
0.04   0.55   0.20    0.00    0.   10.0  282.1    2.0
 09 01 01   1 15   49.6  0.205  0.847  0.017  445.  223.    -15.9
0.04   0.55   0.23    2.36  999.   10.0  283.1    2.0
 09 01 01   1 16   18.0  0.192  0.607  0.016  451.  202.    -35.7
0.04   0.55   0.31    2.36  999.   10.0  283.1    2.0
 09 01 01   1 17  -17.1  0.203 -9.000 -9.000 -999.  220.     44.6
0.04   0.55   0.55    3.36  999.   10.0  282.1    2.0
 09 01 01   1 18  -11.3  0.104 -9.000 -9.000 -999.   86.      9.1
0.04   0.55   1.00    2.86  337.   10.0  282.1    2.0
 09 01 01   1 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00    0.00    0.   10.0  281.1    2.0
 09 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00    0.00    0.   10.0  281.1    2.0
 09 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00    0.00    0.   10.0  280.1    2.0
 09 01 01   1 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.04   0.55   1.00  999.00  999.   -9.0  999.0   -9.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW
sigmaV
 09 01 01 01   10.0 1 -999.  -99.00  -999.0
99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
```

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/15/22
*** AERMET - VERSION 14134 *** *** *** 08:06:15

PAGE 24
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN_ALL ***
INCLUDING SOURCE(S): STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564274.00	4152132.00	0.00002	564299.00	4152132.00	0.00002
564324.00	4152132.00	0.00003	564349.00	4152132.00	0.00003
564374.00	4152132.00	0.00004	564399.00	4152132.00	0.00004
564424.00	4152132.00	0.00005	564449.00	4152132.00	0.00006
564474.00	4152132.00	0.00007	564499.00	4152132.00	0.00009
564524.00	4152132.00	0.00010	564549.00	4152132.00	0.00011
564574.00	4152132.00	0.00012	564599.00	4152132.00	0.00012
564624.00	4152132.00	0.00013	564649.00	4152132.00	0.00013
564674.00	4152132.00	0.00013	564699.00	4152132.00	0.00012
564724.00	4152132.00	0.00012	564749.00	4152132.00	0.00011
564774.00	4152132.00	0.00011	564799.00	4152132.00	0.00011
564824.00	4152132.00	0.00011	564849.00	4152132.00	0.00011
564874.00	4152132.00	0.00011	564899.00	4152132.00	0.00011

564924.00	4152132.00	0.00011
564274.00	4152157.00	0.00002
564299.00	4152157.00	0.00002
564324.00	4152157.00	0.00003
564349.00	4152157.00	0.00003
564374.00	4152157.00	0.00004
564399.00	4152157.00	0.00004
564424.00	4152157.00	0.00005
564449.00	4152157.00	0.00006
564474.00	4152157.00	0.00008
564499.00	4152157.00	0.00009
564524.00	4152157.00	0.00010
564549.00	4152157.00	0.00012
564574.00	4152157.00	0.00013
564599.00	4152157.00	0.00014
564624.00	4152157.00	0.00014
564649.00	4152157.00	0.00014
564674.00	4152157.00	0.00014
564699.00	4152157.00	0.00013
564724.00	4152157.00	0.00013
564749.00	4152157.00	0.00012
564774.00	4152157.00	0.00012
564799.00	4152157.00	0.00012
564824.00	4152157.00	0.00012
564849.00	4152157.00	0.00012
564874.00	4152157.00	0.00012
564899.00	4152157.00	0.00012
564924.00	4152157.00	0.00012
564274.00	4152182.00	0.00002
564299.00	4152182.00	0.00002
564324.00	4152182.00	0.00003
564349.00	4152182.00	0.00003
564374.00	4152182.00	0.00004
564399.00	4152182.00	0.00004
564424.00	4152182.00	0.00005
564449.00	4152182.00	0.00006
564474.00	4152182.00	0.00008
564499.00	4152182.00	0.00009
564524.00	4152182.00	0.00011
564549.00	4152182.00	0.00013
564574.00	4152182.00	0.00014
564599.00	4152182.00	0.00015
564624.00	4152182.00	0.00015
564649.00	4152182.00	0.00015
564674.00	4152182.00	0.00015
564699.00	4152182.00	0.00015
564724.00	4152182.00	0.00014
564749.00	4152182.00	0.00013
564774.00	4152182.00	0.00013
564799.00	4152182.00	0.00013
564824.00	4152182.00	0.00013
564849.00	4152182.00	0.00013

564874.00	4152182.00	0.00013
564899.00	4152182.00	0.00013

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/15/22
*** AERMET - VERSION 14134 *** *** *** 08:06:15

PAGE 25
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN_ALL ***
INCLUDING SOURCE(S): STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564924.00	4152182.00	0.00014	564274.00	4152207.00	0.00002
564299.00	4152207.00	0.00002	564324.00	4152207.00	0.00003
564349.00	4152207.00	0.00003	564374.00	4152207.00	0.00004
564399.00	4152207.00	0.00004	564424.00	4152207.00	0.00005
564449.00	4152207.00	0.00006	564474.00	4152207.00	0.00008
564499.00	4152207.00	0.00010	564524.00	4152207.00	0.00011
564549.00	4152207.00	0.00013	564574.00	4152207.00	0.00015
564599.00	4152207.00	0.00016	564624.00	4152207.00	0.00017
564649.00	4152207.00	0.00017	564674.00	4152207.00	0.00016
564699.00	4152207.00	0.00016	564724.00	4152207.00	0.00015
564749.00	4152207.00	0.00014	564774.00	4152207.00	0.00014
564799.00	4152207.00	0.00014	564824.00	4152207.00	0.00014
564849.00	4152207.00	0.00014	564874.00	4152207.00	0.00015

564899.00	4152207.00	0.00015
564924.00	4152207.00	0.00015
564274.00	4152232.00	0.00002
564299.00	4152232.00	0.00002
564324.00	4152232.00	0.00003
564349.00	4152232.00	0.00003
564374.00	4152232.00	0.00004
564399.00	4152232.00	0.00004
564424.00	4152232.00	0.00005
564449.00	4152232.00	0.00006
564474.00	4152232.00	0.00008
564499.00	4152232.00	0.00010
564524.00	4152232.00	0.00012
564549.00	4152232.00	0.00014
564574.00	4152232.00	0.00016
564599.00	4152232.00	0.00018
564624.00	4152232.00	0.00018
564649.00	4152232.00	0.00018
564674.00	4152232.00	0.00018
564699.00	4152232.00	0.00017
564724.00	4152232.00	0.00016
564749.00	4152232.00	0.00016
564774.00	4152232.00	0.00015
564799.00	4152232.00	0.00015
564824.00	4152232.00	0.00016
564849.00	4152232.00	0.00016
564874.00	4152232.00	0.00016
564899.00	4152232.00	0.00016
564924.00	4152232.00	0.00015
564274.00	4152257.00	0.00002
564299.00	4152257.00	0.00002
564324.00	4152257.00	0.00003
564349.00	4152257.00	0.00003
564374.00	4152257.00	0.00004
564399.00	4152257.00	0.00004
564424.00	4152257.00	0.00005
564449.00	4152257.00	0.00006
564474.00	4152257.00	0.00008
564499.00	4152257.00	0.00010
564524.00	4152257.00	0.00012
564549.00	4152257.00	0.00015
564574.00	4152257.00	0.00017
564599.00	4152257.00	0.00019
564624.00	4152257.00	0.00020
564649.00	4152257.00	0.00020
564674.00	4152257.00	0.00019
564699.00	4152257.00	0.00018
564724.00	4152257.00	0.00017
564749.00	4152257.00	0.00017
564774.00	4152257.00	0.00017
564799.00	4152257.00	0.00017
564824.00	4152257.00	0.00018

564849.00	4152257.00	0.00018
564874.00	4152257.00	0.00017

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/15/22
*** AERMET - VERSION 14134 *** *** *** 08:06:15

PAGE 26
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN_ALL ***
INCLUDING SOURCE(S): STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564899.00	4152257.00	0.00017	564924.00	4152257.00	0.00016
564274.00	4152282.00	0.00002	564299.00	4152282.00	0.00002
564324.00	4152282.00	0.00003	564349.00	4152282.00	0.00003
564374.00	4152282.00	0.00004	564399.00	4152282.00	0.00004
564424.00	4152282.00	0.00005	564449.00	4152282.00	0.00006
564474.00	4152282.00	0.00008	564499.00	4152282.00	0.00010
564524.00	4152282.00	0.00013	564549.00	4152282.00	0.00016
564574.00	4152282.00	0.00021	564599.00	4152282.00	0.00026
564624.00	4152282.00	0.00027	564649.00	4152282.00	0.00024
564674.00	4152282.00	0.00021	564699.00	4152282.00	0.00019
564724.00	4152282.00	0.00018	564749.00	4152282.00	0.00018
564774.00	4152282.00	0.00018	564799.00	4152282.00	0.00019
564824.00	4152282.00	0.00019	564849.00	4152282.00	0.00019

564874.00	4152282.00	0.00018
564899.00	4152282.00	0.00017
564924.00	4152282.00	0.00016
564274.00	4152307.00	0.00002
564299.00	4152307.00	0.00002
564324.00	4152307.00	0.00003
564349.00	4152307.00	0.00003
564374.00	4152307.00	0.00004
564399.00	4152307.00	0.00004
564424.00	4152307.00	0.00005
564449.00	4152307.00	0.00006
564474.00	4152307.00	0.00008
564499.00	4152307.00	0.00010
564524.00	4152307.00	0.00014
564549.00	4152307.00	0.00022
564574.00	4152307.00	0.00031
564599.00	4152307.00	0.00034
564624.00	4152307.00	0.00034
564649.00	4152307.00	0.00031
564674.00	4152307.00	0.00026
564699.00	4152307.00	0.00021
564724.00	4152307.00	0.00019
564749.00	4152307.00	0.00019
564774.00	4152307.00	0.00020
564799.00	4152307.00	0.00021
564824.00	4152307.00	0.00020
564849.00	4152307.00	0.00020
564874.00	4152307.00	0.00019
564899.00	4152307.00	0.00018
564924.00	4152307.00	0.00017
564274.00	4152332.00	0.00002
564299.00	4152332.00	0.00002
564324.00	4152332.00	0.00003
564349.00	4152332.00	0.00003
564374.00	4152332.00	0.00004
564399.00	4152332.00	0.00004
564424.00	4152332.00	0.00005
564449.00	4152332.00	0.00006
564474.00	4152332.00	0.00008
564499.00	4152332.00	0.00011
564524.00	4152332.00	0.00017
564549.00	4152332.00	0.00025
564574.00	4152332.00	0.00032
564599.00	4152332.00	0.00036
564624.00	4152332.00	0.00035
564649.00	4152332.00	0.00031
564674.00	4152332.00	0.00027
564699.00	4152332.00	0.00023
564724.00	4152332.00	0.00020
564749.00	4152332.00	0.00021
564774.00	4152332.00	0.00022
564799.00	4152332.00	0.00022

564824.00	4152332.00	0.00021
564849.00	4152332.00	0.00021

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/15/22
*** AERMET - VERSION 14134 *** *** *** 08:06:15

PAGE 27
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN_ALL ***
INCLUDING SOURCE(S): STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152332.00	0.00020	564899.00	4152332.00	0.00019
564924.00	4152332.00	0.00019	564274.00	4152357.00	0.00002
564299.00	4152357.00	0.00002	564324.00	4152357.00	0.00003
564349.00	4152357.00	0.00003	564374.00	4152357.00	0.00003
564399.00	4152357.00	0.00004	564424.00	4152357.00	0.00005
564449.00	4152357.00	0.00006	564474.00	4152357.00	0.00009
564499.00	4152357.00	0.00011	564524.00	4152357.00	0.00017
564549.00	4152357.00	0.00024	564574.00	4152357.00	0.00033
564599.00	4152357.00	0.00041	564624.00	4152357.00	0.00041
564649.00	4152357.00	0.00034	564674.00	4152357.00	0.00027
564699.00	4152357.00	0.00023	564724.00	4152357.00	0.00021
564749.00	4152357.00	0.00023	564774.00	4152357.00	0.00024
564799.00	4152357.00	0.00023	564824.00	4152357.00	0.00023

564849.00	4152357.00	0.00023
564874.00	4152357.00	0.00022
564899.00	4152357.00	0.00022
564924.00	4152357.00	0.00021
564274.00	4152382.00	0.00002
564299.00	4152382.00	0.00002
564324.00	4152382.00	0.00003
564349.00	4152382.00	0.00003
564374.00	4152382.00	0.00003
564399.00	4152382.00	0.00004
564424.00	4152382.00	0.00005
564449.00	4152382.00	0.00007
564474.00	4152382.00	0.00009
564499.00	4152382.00	0.00011
564524.00	4152382.00	0.00016
564549.00	4152382.00	0.00024
564574.00	4152382.00	0.00036
564649.00	4152382.00	0.00036
564674.00	4152382.00	0.00029
564699.00	4152382.00	0.00021
564724.00	4152382.00	0.00021
564749.00	4152382.00	0.00024
564774.00	4152382.00	0.00026
564799.00	4152382.00	0.00028
564824.00	4152382.00	0.00028
564849.00	4152382.00	0.00027
564874.00	4152382.00	0.00026
564899.00	4152382.00	0.00025
564924.00	4152382.00	0.00023
564274.00	4152407.00	0.00002
564299.00	4152407.00	0.00002
564324.00	4152407.00	0.00003
564349.00	4152407.00	0.00003
564374.00	4152407.00	0.00003
564399.00	4152407.00	0.00004
564424.00	4152407.00	0.00005
564449.00	4152407.00	0.00008
564474.00	4152407.00	0.00008
564499.00	4152407.00	0.00010
564524.00	4152407.00	0.00014
564549.00	4152407.00	0.00023
564674.00	4152407.00	0.00020
564699.00	4152407.00	0.00016
564724.00	4152407.00	0.00022
564749.00	4152407.00	0.00031
564774.00	4152407.00	0.00036
564799.00	4152407.00	0.00036
564824.00	4152407.00	0.00033
564849.00	4152407.00	0.00031
564874.00	4152407.00	0.00029
564899.00	4152407.00	0.00026
564924.00	4152407.00	0.00024

564274.00	4152432.00	0.00002
564299.00	4152432.00	0.00002

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/15/22
*** AERMET - VERSION 14134 *** ***
*** 08:06:15

PAGE 28
*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN_ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564324.00	4152432.00	0.00003	564349.00	4152432.00	0.00003
564374.00	4152432.00	0.00003	564399.00	4152432.00	0.00004
564424.00	4152432.00	0.00006	564449.00	4152432.00	0.00007
564474.00	4152432.00	0.00008	564499.00	4152432.00	0.00010
564524.00	4152432.00	0.00014	564674.00	4152432.00	0.00015
564699.00	4152432.00	0.00019	564724.00	4152432.00	0.00041
564749.00	4152432.00	0.00048	564774.00	4152432.00	0.00045
564799.00	4152432.00	0.00040	564824.00	4152432.00	0.00035
564849.00	4152432.00	0.00031	564874.00	4152432.00	0.00028
564899.00	4152432.00	0.00026	564924.00	4152432.00	0.00024
564274.00	4152457.00	0.00002	564299.00	4152457.00	0.00002
564324.00	4152457.00	0.00003	564349.00	4152457.00	0.00003
564374.00	4152457.00	0.00003	564399.00	4152457.00	0.00004

564424.00	4152457.00	0.00006
564449.00	4152457.00	0.00007
564474.00	4152457.00	0.00008
564499.00	4152457.00	0.00011
564699.00	4152457.00	0.00028
564724.00	4152457.00	0.00042
564749.00	4152457.00	0.00044
564774.00	4152457.00	0.00041
564799.00	4152457.00	0.00036
564824.00	4152457.00	0.00031
564849.00	4152457.00	0.00028
564874.00	4152457.00	0.00026
564899.00	4152457.00	0.00024
564924.00	4152457.00	0.00022
564274.00	4152482.00	0.00002
564299.00	4152482.00	0.00002
564324.00	4152482.00	0.00003
564349.00	4152482.00	0.00003
564374.00	4152482.00	0.00003
564399.00	4152482.00	0.00004
564424.00	4152482.00	0.00005
564449.00	4152482.00	0.00008
564474.00	4152482.00	0.00009
564499.00	4152482.00	0.00011
564674.00	4152482.00	0.00009
564699.00	4152482.00	0.00012
564724.00	4152482.00	0.00021
564749.00	4152482.00	0.00026
564774.00	4152482.00	0.00028
564799.00	4152482.00	0.00027
564824.00	4152482.00	0.00025
564849.00	4152482.00	0.00023
564874.00	4152482.00	0.00022
564899.00	4152482.00	0.00020
564924.00	4152482.00	0.00019
564274.00	4152507.00	0.00002
564299.00	4152507.00	0.00002
564324.00	4152507.00	0.00003
564349.00	4152507.00	0.00003
564374.00	4152507.00	0.00003
564399.00	4152507.00	0.00004
564424.00	4152507.00	0.00005
564449.00	4152507.00	0.00007
564474.00	4152507.00	0.00010
564499.00	4152507.00	0.00011
564524.00	4152507.00	0.00013
564649.00	4152507.00	0.00020
564674.00	4152507.00	0.00011
564699.00	4152507.00	0.00010
564724.00	4152507.00	0.00011
564749.00	4152507.00	0.00013
564774.00	4152507.00	0.00016

564799.00	4152507.00	0.00017
564824.00	4152507.00	0.00017

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN_ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152507.00	0.00017	564874.00	4152507.00	0.00017
564899.00	4152507.00	0.00017	564924.00	4152507.00	0.00016
564274.00	4152532.00	0.00002	564299.00	4152532.00	0.00002
564324.00	4152532.00	0.00003	564349.00	4152532.00	0.00003
564374.00	4152532.00	0.00004	564399.00	4152532.00	0.00004
564424.00	4152532.00	0.00005	564449.00	4152532.00	0.00006
564474.00	4152532.00	0.00009	564499.00	4152532.00	0.00010
564524.00	4152532.00	0.00011	564549.00	4152532.00	0.00013
564624.00	4152532.00	0.00021	564649.00	4152532.00	0.00014
564674.00	4152532.00	0.00012	564699.00	4152532.00	0.00010
564724.00	4152532.00	0.00009	564749.00	4152532.00	0.00009
564774.00	4152532.00	0.00010	564799.00	4152532.00	0.00011
564824.00	4152532.00	0.00012	564849.00	4152532.00	0.00012

564874.00	4152532.00	0.00013
564899.00	4152532.00	0.00013
564924.00	4152532.00	0.00013
564274.00	4152557.00	0.00002
564299.00	4152557.00	0.00002
564324.00	4152557.00	0.00003
564349.00	4152557.00	0.00003
564374.00	4152557.00	0.00004
564399.00	4152557.00	0.00005
564424.00	4152557.00	0.00005
564449.00	4152557.00	0.00007
564474.00	4152557.00	0.00008
564499.00	4152557.00	0.00011
564524.00	4152557.00	0.00012
564549.00	4152557.00	0.00013
564574.00	4152557.00	0.00014
564599.00	4152557.00	0.00014
564624.00	4152557.00	0.00013
564649.00	4152557.00	0.00012
564674.00	4152557.00	0.00011
564699.00	4152557.00	0.00009
564724.00	4152557.00	0.00008
564749.00	4152557.00	0.00008
564774.00	4152557.00	0.00007
564799.00	4152557.00	0.00007
564824.00	4152557.00	0.00008
564849.00	4152557.00	0.00009
564874.00	4152557.00	0.00009
564899.00	4152557.00	0.00010
564924.00	4152557.00	0.00010
564274.00	4152582.00	0.00002
564299.00	4152582.00	0.00003
564324.00	4152582.00	0.00003
564349.00	4152582.00	0.00003
564374.00	4152582.00	0.00004
564399.00	4152582.00	0.00005
564424.00	4152582.00	0.00006
564449.00	4152582.00	0.00007
564474.00	4152582.00	0.00008
564499.00	4152582.00	0.00009
564524.00	4152582.00	0.00011
564549.00	4152582.00	0.00012
564574.00	4152582.00	0.00012
564599.00	4152582.00	0.00012
564624.00	4152582.00	0.00011
564649.00	4152582.00	0.00010
564674.00	4152582.00	0.00009
564699.00	4152582.00	0.00009
564724.00	4152582.00	0.00008
564749.00	4152582.00	0.00007
564774.00	4152582.00	0.00006
564799.00	4152582.00	0.00006

564824.00	4152582.00	0.00006
564849.00	4152582.00	0.00006

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN_ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152582.00	0.00007	564899.00	4152582.00	0.00007
564924.00	4152582.00	0.00008	564274.00	4152607.00	0.00002
564299.00	4152607.00	0.00003	564324.00	4152607.00	0.00003
564349.00	4152607.00	0.00004	564374.00	4152607.00	0.00005
564399.00	4152607.00	0.00005	564424.00	4152607.00	0.00006
564449.00	4152607.00	0.00007	564474.00	4152607.00	0.00008
564499.00	4152607.00	0.00009	564524.00	4152607.00	0.00009
564549.00	4152607.00	0.00010	564574.00	4152607.00	0.00010
564599.00	4152607.00	0.00010	564624.00	4152607.00	0.00009
564649.00	4152607.00	0.00009	564674.00	4152607.00	0.00008
564699.00	4152607.00	0.00008	564724.00	4152607.00	0.00007
564749.00	4152607.00	0.00007	564774.00	4152607.00	0.00006
564799.00	4152607.00	0.00005	564824.00	4152607.00	0.00005

564849.00	4152607.00	0.00005
564874.00	4152607.00	0.00005
564899.00	4152607.00	0.00006
564924.00	4152607.00	0.00006
564274.00	4152632.00	0.00003
564299.00	4152632.00	0.00003
564324.00	4152632.00	0.00004
564349.00	4152632.00	0.00004
564374.00	4152632.00	0.00005
564399.00	4152632.00	0.00006
564424.00	4152632.00	0.00006
564449.00	4152632.00	0.00007
564474.00	4152632.00	0.00008
564499.00	4152632.00	0.00008
564524.00	4152632.00	0.00008
564549.00	4152632.00	0.00008
564574.00	4152632.00	0.00008
564599.00	4152632.00	0.00008
564624.00	4152632.00	0.00008
564649.00	4152632.00	0.00008
564674.00	4152632.00	0.00008
564699.00	4152632.00	0.00007
564724.00	4152632.00	0.00007
564749.00	4152632.00	0.00006
564774.00	4152632.00	0.00006
564799.00	4152632.00	0.00005
564824.00	4152632.00	0.00005
564849.00	4152632.00	0.00005
564874.00	4152632.00	0.00005
564899.00	4152632.00	0.00005
564924.00	4152632.00	0.00005
564274.00	4152657.00	0.00003
564299.00	4152657.00	0.00003
564324.00	4152657.00	0.00004
564349.00	4152657.00	0.00004
564374.00	4152657.00	0.00005
564399.00	4152657.00	0.00006
564424.00	4152657.00	0.00006
564449.00	4152657.00	0.00007
564474.00	4152657.00	0.00007
564499.00	4152657.00	0.00008
564524.00	4152657.00	0.00008
564549.00	4152657.00	0.00008
564574.00	4152657.00	0.00008
564599.00	4152657.00	0.00007
564624.00	4152657.00	0.00007
564649.00	4152657.00	0.00007
564674.00	4152657.00	0.00007
564699.00	4152657.00	0.00007
564724.00	4152657.00	0.00006
564749.00	4152657.00	0.00006
564774.00	4152657.00	0.00005

564799.00	4152657.00	0.00005
564824.00	4152657.00	0.00005

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/15/22
*** AERMET - VERSION 14134 *** *** *** 08:06:15

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN_ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152657.00	0.00004	564874.00	4152657.00	0.00004
564899.00	4152657.00	0.00004	564924.00	4152657.00	0.00004
564274.00	4152682.00	0.00003	564299.00	4152682.00	0.00004
564324.00	4152682.00	0.00004	564349.00	4152682.00	0.00005
564374.00	4152682.00	0.00005	564399.00	4152682.00	0.00006
564424.00	4152682.00	0.00006	564449.00	4152682.00	0.00007
564474.00	4152682.00	0.00007	564499.00	4152682.00	0.00007
564524.00	4152682.00	0.00007	564549.00	4152682.00	0.00007
564574.00	4152682.00	0.00007	564599.00	4152682.00	0.00007
564624.00	4152682.00	0.00007	564649.00	4152682.00	0.00007
564674.00	4152682.00	0.00007	564699.00	4152682.00	0.00006
564724.00	4152682.00	0.00006	564749.00	4152682.00	0.00006
564774.00	4152682.00	0.00005	564799.00	4152682.00	0.00005

564824.00	4152682.00	0.00004
564849.00	4152682.00	0.00004
564874.00	4152682.00	0.00004
564899.00	4152682.00	0.00004
564924.00	4152682.00	0.00004
564274.00	4152707.00	0.00003
564299.00	4152707.00	0.00004
564324.00	4152707.00	0.00004
564349.00	4152707.00	0.00005
564374.00	4152707.00	0.00005
564399.00	4152707.00	0.00006
564424.00	4152707.00	0.00006
564449.00	4152707.00	0.00006
564474.00	4152707.00	0.00006
564499.00	4152707.00	0.00006
564524.00	4152707.00	0.00006
564549.00	4152707.00	0.00006
564574.00	4152707.00	0.00006
564599.00	4152707.00	0.00006
564624.00	4152707.00	0.00006
564649.00	4152707.00	0.00006
564674.00	4152707.00	0.00006
564699.00	4152707.00	0.00006
564724.00	4152707.00	0.00006
564749.00	4152707.00	0.00005
564774.00	4152707.00	0.00005
564799.00	4152707.00	0.00005
564824.00	4152707.00	0.00004
564849.00	4152707.00	0.00004
564874.00	4152707.00	0.00004
564899.00	4152707.00	0.00004
564924.00	4152707.00	0.00003
564274.00	4152732.00	0.00004
564299.00	4152732.00	0.00004
564324.00	4152732.00	0.00004
564349.00	4152732.00	0.00005
564374.00	4152732.00	0.00005
564399.00	4152732.00	0.00005
564424.00	4152732.00	0.00006
564449.00	4152732.00	0.00006
564474.00	4152732.00	0.00006
564499.00	4152732.00	0.00006
564524.00	4152732.00	0.00006
564549.00	4152732.00	0.00006
564574.00	4152732.00	0.00006
564599.00	4152732.00	0.00006
564624.00	4152732.00	0.00006
564649.00	4152732.00	0.00006
564674.00	4152732.00	0.00006
564699.00	4152732.00	0.00006
564724.00	4152732.00	0.00005
564749.00	4152732.00	0.00005

564774.00	4152732.00	0.00005
564799.00	4152732.00	0.00004

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/15/22
*** AERMET - VERSION 14134 *** *** *** 08:06:15

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN_ALL ***
INCLUDING SOURCE(S): STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564824.00	4152732.00	0.00004	564849.00	4152732.00	0.00004
564874.00	4152732.00	0.00004	564899.00	4152732.00	0.00003
564924.00	4152732.00	0.00003	564274.00	4152757.00	0.00004
564299.00	4152757.00	0.00004	564324.00	4152757.00	0.00004
564349.00	4152757.00	0.00005	564374.00	4152757.00	0.00005
564399.00	4152757.00	0.00005	564424.00	4152757.00	0.00005
564449.00	4152757.00	0.00005	564474.00	4152757.00	0.00005
564499.00	4152757.00	0.00005	564524.00	4152757.00	0.00005
564549.00	4152757.00	0.00005	564574.00	4152757.00	0.00005
564599.00	4152757.00	0.00005	564624.00	4152757.00	0.00005
564649.00	4152757.00	0.00005	564674.00	4152757.00	0.00005
564699.00	4152757.00	0.00005	564724.00	4152757.00	0.00005
564749.00	4152757.00	0.00005	564774.00	4152757.00	0.00004

564799.00	4152757.00	0.00004
564824.00	4152757.00	0.00004
564849.00	4152757.00	0.00004
564874.00	4152757.00	0.00003
564899.00	4152757.00	0.00003
564924.00	4152757.00	0.00003
564274.00	4152782.00	0.00004
564299.00	4152782.00	0.00004
564324.00	4152782.00	0.00004
564349.00	4152782.00	0.00004
564374.00	4152782.00	0.00005
564399.00	4152782.00	0.00005
564424.00	4152782.00	0.00005
564449.00	4152782.00	0.00005
564474.00	4152782.00	0.00005
564499.00	4152782.00	0.00005
564524.00	4152782.00	0.00005
564549.00	4152782.00	0.00005
564574.00	4152782.00	0.00005
564599.00	4152782.00	0.00005
564624.00	4152782.00	0.00005
564649.00	4152782.00	0.00005
564674.00	4152782.00	0.00005
564699.00	4152782.00	0.00005
564724.00	4152782.00	0.00005
564749.00	4152782.00	0.00004
564774.00	4152782.00	0.00004
564799.00	4152782.00	0.00004
564824.00	4152782.00	0.00004
564849.00	4152782.00	0.00003
564874.00	4152782.00	0.00003
564899.00	4152782.00	0.00003
564924.00	4152782.00	0.00003
564633.05	4152455.77	0.00026
564645.05	4152455.77	0.00021
564647.05	4152455.77	0.00020
564649.05	4152455.77	0.00019
564631.05	4152457.77	0.00026
564633.05	4152457.77	0.00026
564635.05	4152457.77	0.00025
564645.05	4152457.77	0.00021
564647.05	4152457.77	0.00020
564649.05	4152457.77	0.00019
564651.05	4152457.77	0.00018
564629.05	4152459.77	0.00026
564631.05	4152459.77	0.00025
564633.05	4152459.77	0.00025
564635.05	4152459.77	0.00024
564637.05	4152459.77	0.00023
564643.05	4152459.77	0.00021
564645.05	4152459.77	0.00020
564647.05	4152459.77	0.00019

564649.05	4152459.77	0.00018
564651.05	4152459.77	0.00018

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/15/22
*** AERMET - VERSION 14134 *** ***
*** 08:06:15

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN_ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 ,
STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564653.05	4152459.77	0.00017	564631.05	4152461.77	0.00024
564633.05	4152461.77	0.00024	564635.05	4152461.77	0.00023
564637.05	4152461.77	0.00022	564639.05	4152461.77	0.00022
564641.05	4152461.77	0.00021	564643.05	4152461.77	0.00020
564645.05	4152461.77	0.00019	564647.05	4152461.77	0.00019
564649.05	4152461.77	0.00018	564651.05	4152461.77	0.00017
564653.05	4152461.77	0.00016	564655.05	4152461.77	0.00016
564633.05	4152463.77	0.00023	564635.05	4152463.77	0.00022
564637.05	4152463.77	0.00022	564639.05	4152463.77	0.00021
564641.05	4152463.77	0.00020	564643.05	4152463.77	0.00020
564645.05	4152463.77	0.00019	564647.05	4152463.77	0.00018
564649.05	4152463.77	0.00018	564651.05	4152463.77	0.00017
564653.05	4152463.77	0.00016	564655.05	4152463.77	0.00015

564635.05	4152465.77	0.00022
564637.05	4152465.77	0.00021
564639.05	4152465.77	0.00021
564641.05	4152465.77	0.00020
564643.05	4152465.77	0.00019
564645.05	4152465.77	0.00019
564647.05	4152465.77	0.00018
564649.05	4152465.77	0.00017
564651.05	4152465.77	0.00016
564653.05	4152465.77	0.00016
564637.05	4152467.77	0.00021
564639.05	4152467.77	0.00020
564641.05	4152467.77	0.00019
564643.05	4152467.77	0.00019
564645.05	4152467.77	0.00018
564647.05	4152467.77	0.00017
564649.05	4152467.77	0.00017
564651.05	4152467.77	0.00016
564639.05	4152469.77	0.00019
564641.05	4152469.77	0.00019
564643.05	4152469.77	0.00018
564645.05	4152469.77	0.00018
564647.05	4152469.77	0.00017
564649.05	4152469.77	0.00016
564641.05	4152471.77	0.00018
564643.05	4152471.77	0.00018
564645.05	4152471.77	0.00017
564647.05	4152471.77	0.00017

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/15/22
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN1 ***
INCLUDING SOURCE(S): STCK1 , STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564274.00	4152132.00	0.00001	564299.00	4152132.00	0.00001
564324.00	4152132.00	0.00001	564349.00	4152132.00	0.00001
564374.00	4152132.00	0.00001	564399.00	4152132.00	0.00002
564424.00	4152132.00	0.00002	564449.00	4152132.00	0.00002
564474.00	4152132.00	0.00003	564499.00	4152132.00	0.00003
564524.00	4152132.00	0.00003	564549.00	4152132.00	0.00004
564574.00	4152132.00	0.00004	564599.00	4152132.00	0.00004
564624.00	4152132.00	0.00004	564649.00	4152132.00	0.00004
564674.00	4152132.00	0.00004	564699.00	4152132.00	0.00004
564724.00	4152132.00	0.00004	564749.00	4152132.00	0.00004
564774.00	4152132.00	0.00004	564799.00	4152132.00	0.00004
564824.00	4152132.00	0.00004	564849.00	4152132.00	0.00004
564874.00	4152132.00	0.00004	564899.00	4152132.00	0.00004
564924.00	4152132.00	0.00004	564274.00	4152157.00	0.00001

564299.00	4152157.00	0.00001
564324.00	4152157.00	0.00001
564349.00	4152157.00	0.00001
564374.00	4152157.00	0.00001
564399.00	4152157.00	0.00002
564424.00	4152157.00	0.00002
564449.00	4152157.00	0.00002
564474.00	4152157.00	0.00003
564499.00	4152157.00	0.00003
564524.00	4152157.00	0.00004
564549.00	4152157.00	0.00004
564574.00	4152157.00	0.00004
564599.00	4152157.00	0.00005
564624.00	4152157.00	0.00005
564649.00	4152157.00	0.00005
564674.00	4152157.00	0.00005
564699.00	4152157.00	0.00004
564724.00	4152157.00	0.00004
564749.00	4152157.00	0.00004
564774.00	4152157.00	0.00004
564799.00	4152157.00	0.00004
564824.00	4152157.00	0.00004
564849.00	4152157.00	0.00004
564874.00	4152157.00	0.00004
564899.00	4152157.00	0.00004
564924.00	4152157.00	0.00004
564274.00	4152182.00	0.00001
564299.00	4152182.00	0.00001
564324.00	4152182.00	0.00001
564349.00	4152182.00	0.00001
564374.00	4152182.00	0.00001
564399.00	4152182.00	0.00001
564424.00	4152182.00	0.00002
564449.00	4152182.00	0.00002
564474.00	4152182.00	0.00003
564499.00	4152182.00	0.00003
564524.00	4152182.00	0.00004
564549.00	4152182.00	0.00004
564574.00	4152182.00	0.00005
564599.00	4152182.00	0.00005
564624.00	4152182.00	0.00005
564649.00	4152182.00	0.00005
564674.00	4152182.00	0.00005
564699.00	4152182.00	0.00005
564724.00	4152182.00	0.00005
564749.00	4152182.00	0.00004
564774.00	4152182.00	0.00004
564799.00	4152182.00	0.00004
564824.00	4152182.00	0.00004
564849.00	4152182.00	0.00004
564874.00	4152182.00	0.00004
564899.00	4152182.00	0.00005

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN1 ***
INCLUDING SOURCE(S): STCK1 , STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564924.00	4152182.00	0.00005	564274.00	4152207.00	0.00001
564299.00	4152207.00	0.00001	564324.00	4152207.00	0.00001
564349.00	4152207.00	0.00001	564374.00	4152207.00	0.00001
564399.00	4152207.00	0.00002	564424.00	4152207.00	0.00002
564449.00	4152207.00	0.00002	564474.00	4152207.00	0.00003
564499.00	4152207.00	0.00003	564524.00	4152207.00	0.00004
564549.00	4152207.00	0.00005	564574.00	4152207.00	0.00005
564599.00	4152207.00	0.00006	564624.00	4152207.00	0.00006
564649.00	4152207.00	0.00006	564674.00	4152207.00	0.00006
564699.00	4152207.00	0.00005	564724.00	4152207.00	0.00005
564749.00	4152207.00	0.00005	564774.00	4152207.00	0.00005
564799.00	4152207.00	0.00005	564824.00	4152207.00	0.00005
564849.00	4152207.00	0.00005	564874.00	4152207.00	0.00005
564899.00	4152207.00	0.00005	564924.00	4152207.00	0.00005

564274.00	4152232.00	0.00001
564299.00	4152232.00	0.00001
564324.00	4152232.00	0.00001
564349.00	4152232.00	0.00001
564374.00	4152232.00	0.00001
564399.00	4152232.00	0.00001
564424.00	4152232.00	0.00002
564449.00	4152232.00	0.00002
564474.00	4152232.00	0.00003
564499.00	4152232.00	0.00003
564524.00	4152232.00	0.00004
564549.00	4152232.00	0.00005
564574.00	4152232.00	0.00006
564599.00	4152232.00	0.00006
564624.00	4152232.00	0.00006
564649.00	4152232.00	0.00006
564674.00	4152232.00	0.00006
564699.00	4152232.00	0.00006
564724.00	4152232.00	0.00005
564749.00	4152232.00	0.00005
564774.00	4152232.00	0.00005
564799.00	4152232.00	0.00005
564824.00	4152232.00	0.00005
564849.00	4152232.00	0.00005
564874.00	4152232.00	0.00005
564899.00	4152232.00	0.00005
564924.00	4152232.00	0.00005
564274.00	4152257.00	0.00001
564299.00	4152257.00	0.00001
564324.00	4152257.00	0.00001
564349.00	4152257.00	0.00001
564374.00	4152257.00	0.00001
564399.00	4152257.00	0.00001
564424.00	4152257.00	0.00002
564449.00	4152257.00	0.00002
564474.00	4152257.00	0.00003
564499.00	4152257.00	0.00003
564524.00	4152257.00	0.00004
564549.00	4152257.00	0.00005
564574.00	4152257.00	0.00006
564599.00	4152257.00	0.00007
564624.00	4152257.00	0.00007
564649.00	4152257.00	0.00007
564674.00	4152257.00	0.00006
564699.00	4152257.00	0.00006
564724.00	4152257.00	0.00006
564749.00	4152257.00	0.00006
564774.00	4152257.00	0.00006
564799.00	4152257.00	0.00006
564824.00	4152257.00	0.00006
564849.00	4152257.00	0.00006
564874.00	4152257.00	0.00006

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN1 ***
INCLUDING SOURCE(S): STCK1 , STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564899.00	4152257.00	0.00006	564924.00	4152257.00	0.00005
564274.00	4152282.00	0.00001	564299.00	4152282.00	0.00001
564324.00	4152282.00	0.00001	564349.00	4152282.00	0.00001
564374.00	4152282.00	0.00001	564399.00	4152282.00	0.00001
564424.00	4152282.00	0.00002	564449.00	4152282.00	0.00002
564474.00	4152282.00	0.00003	564499.00	4152282.00	0.00003
564524.00	4152282.00	0.00004	564549.00	4152282.00	0.00005
564574.00	4152282.00	0.00007	564599.00	4152282.00	0.00009
564624.00	4152282.00	0.00009	564649.00	4152282.00	0.00008
564674.00	4152282.00	0.00007	564699.00	4152282.00	0.00006
564724.00	4152282.00	0.00006	564749.00	4152282.00	0.00006
564774.00	4152282.00	0.00006	564799.00	4152282.00	0.00006
564824.00	4152282.00	0.00007	564849.00	4152282.00	0.00006
564874.00	4152282.00	0.00006	564899.00	4152282.00	0.00006

564924.00	4152282.00	0.00005
564274.00	4152307.00	0.00001
564299.00	4152307.00	0.00001
564324.00	4152307.00	0.00001
564349.00	4152307.00	0.00001
564374.00	4152307.00	0.00001
564399.00	4152307.00	0.00001
564424.00	4152307.00	0.00002
564449.00	4152307.00	0.00002
564474.00	4152307.00	0.00003
564499.00	4152307.00	0.00003
564524.00	4152307.00	0.00005
564549.00	4152307.00	0.00008
564574.00	4152307.00	0.00011
564599.00	4152307.00	0.00012
564624.00	4152307.00	0.00012
564649.00	4152307.00	0.00011
564674.00	4152307.00	0.00009
564699.00	4152307.00	0.00007
564724.00	4152307.00	0.00007
564749.00	4152307.00	0.00007
564774.00	4152307.00	0.00007
564799.00	4152307.00	0.00007
564824.00	4152307.00	0.00007
564849.00	4152307.00	0.00007
564874.00	4152307.00	0.00006
564899.00	4152307.00	0.00006
564924.00	4152307.00	0.00006
564274.00	4152332.00	0.00001
564299.00	4152332.00	0.00001
564324.00	4152332.00	0.00001
564349.00	4152332.00	0.00001
564374.00	4152332.00	0.00001
564399.00	4152332.00	0.00001
564424.00	4152332.00	0.00002
564449.00	4152332.00	0.00002
564474.00	4152332.00	0.00003
564499.00	4152332.00	0.00004
564524.00	4152332.00	0.00006
564549.00	4152332.00	0.00009
564574.00	4152332.00	0.00011
564599.00	4152332.00	0.00013
564624.00	4152332.00	0.00012
564649.00	4152332.00	0.00011
564674.00	4152332.00	0.00009
564699.00	4152332.00	0.00008
564724.00	4152332.00	0.00007
564749.00	4152332.00	0.00007
564774.00	4152332.00	0.00007
564799.00	4152332.00	0.00007
564824.00	4152332.00	0.00007
564849.00	4152332.00	0.00007

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN1 ***
INCLUDING SOURCE(S): STCK1 , STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152332.00	0.00007	564899.00	4152332.00	0.00006
564924.00	4152332.00	0.00006	564274.00	4152357.00	0.00001
564299.00	4152357.00	0.00001	564324.00	4152357.00	0.00001
564349.00	4152357.00	0.00001	564374.00	4152357.00	0.00001
564399.00	4152357.00	0.00001	564424.00	4152357.00	0.00002
564449.00	4152357.00	0.00002	564474.00	4152357.00	0.00003
564499.00	4152357.00	0.00004	564524.00	4152357.00	0.00006
564549.00	4152357.00	0.00008	564574.00	4152357.00	0.00012
564599.00	4152357.00	0.00014	564624.00	4152357.00	0.00014
564649.00	4152357.00	0.00012	564674.00	4152357.00	0.00009
564699.00	4152357.00	0.00008	564724.00	4152357.00	0.00007
564749.00	4152357.00	0.00008	564774.00	4152357.00	0.00008
564799.00	4152357.00	0.00008	564824.00	4152357.00	0.00008
564849.00	4152357.00	0.00007	564874.00	4152357.00	0.00007

564899.00	4152357.00	0.00007
564924.00	4152357.00	0.00007
564274.00	4152382.00	0.00001
564299.00	4152382.00	0.00001
564324.00	4152382.00	0.00001
564349.00	4152382.00	0.00001
564374.00	4152382.00	0.00001
564399.00	4152382.00	0.00001
564424.00	4152382.00	0.00002
564449.00	4152382.00	0.00002
564474.00	4152382.00	0.00003
564499.00	4152382.00	0.00004
564524.00	4152382.00	0.00005
564549.00	4152382.00	0.00008
564574.00	4152382.00	0.00013
564649.00	4152382.00	0.00013
564674.00	4152382.00	0.00010
564699.00	4152382.00	0.00007
564724.00	4152382.00	0.00007
564749.00	4152382.00	0.00008
564774.00	4152382.00	0.00009
564799.00	4152382.00	0.00009
564824.00	4152382.00	0.00009
564849.00	4152382.00	0.00009
564874.00	4152382.00	0.00008
564899.00	4152382.00	0.00008
564924.00	4152382.00	0.00008
564274.00	4152407.00	0.00001
564299.00	4152407.00	0.00001
564324.00	4152407.00	0.00001
564349.00	4152407.00	0.00001
564374.00	4152407.00	0.00001
564399.00	4152407.00	0.00001
564424.00	4152407.00	0.00002
564449.00	4152407.00	0.00003
564474.00	4152407.00	0.00003
564499.00	4152407.00	0.00003
564524.00	4152407.00	0.00005
564549.00	4152407.00	0.00008
564674.00	4152407.00	0.00007
564699.00	4152407.00	0.00006
564724.00	4152407.00	0.00008
564749.00	4152407.00	0.00010
564774.00	4152407.00	0.00012
564799.00	4152407.00	0.00012
564824.00	4152407.00	0.00011
564849.00	4152407.00	0.00010
564874.00	4152407.00	0.00009
564899.00	4152407.00	0.00009
564924.00	4152407.00	0.00008
564274.00	4152432.00	0.00001
564299.00	4152432.00	0.00001

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN1 ***
INCLUDING SOURCE(S): STCK1 , STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564324.00	4152432.00	0.00001	564349.00	4152432.00	0.00001
564374.00	4152432.00	0.00001	564399.00	4152432.00	0.00001
564424.00	4152432.00	0.00002	564449.00	4152432.00	0.00002
564474.00	4152432.00	0.00003	564499.00	4152432.00	0.00003
564524.00	4152432.00	0.00005	564674.00	4152432.00	0.00005
564699.00	4152432.00	0.00006	564724.00	4152432.00	0.00013
564749.00	4152432.00	0.00015	564774.00	4152432.00	0.00015
564799.00	4152432.00	0.00013	564824.00	4152432.00	0.00012
564849.00	4152432.00	0.00010	564874.00	4152432.00	0.00010
564899.00	4152432.00	0.00009	564924.00	4152432.00	0.00008
564274.00	4152457.00	0.00001	564299.00	4152457.00	0.00001
564324.00	4152457.00	0.00001	564349.00	4152457.00	0.00001
564374.00	4152457.00	0.00001	564399.00	4152457.00	0.00001
564424.00	4152457.00	0.00002	564449.00	4152457.00	0.00003

564474.00	4152457.00	0.00003
564499.00	4152457.00	0.00004
564699.00	4152457.00	0.00011
564724.00	4152457.00	0.00015
564749.00	4152457.00	0.00015
564774.00	4152457.00	0.00014
564799.00	4152457.00	0.00012
564824.00	4152457.00	0.00011
564849.00	4152457.00	0.00009
564874.00	4152457.00	0.00009
564899.00	4152457.00	0.00008
564924.00	4152457.00	0.00008
564274.00	4152482.00	0.00001
564299.00	4152482.00	0.00001
564324.00	4152482.00	0.00001
564349.00	4152482.00	0.00001
564374.00	4152482.00	0.00001
564399.00	4152482.00	0.00001
564424.00	4152482.00	0.00002
564449.00	4152482.00	0.00003
564474.00	4152482.00	0.00003
564499.00	4152482.00	0.00004
564674.00	4152482.00	0.00003
564699.00	4152482.00	0.00005
564724.00	4152482.00	0.00008
564749.00	4152482.00	0.00010
564774.00	4152482.00	0.00010
564799.00	4152482.00	0.00009
564824.00	4152482.00	0.00008
564849.00	4152482.00	0.00008
564874.00	4152482.00	0.00008
564899.00	4152482.00	0.00007
564924.00	4152482.00	0.00007
564274.00	4152507.00	0.00001
564299.00	4152507.00	0.00001
564324.00	4152507.00	0.00001
564349.00	4152507.00	0.00001
564374.00	4152507.00	0.00001
564399.00	4152507.00	0.00001
564424.00	4152507.00	0.00002
564449.00	4152507.00	0.00002
564474.00	4152507.00	0.00003
564499.00	4152507.00	0.00004
564524.00	4152507.00	0.00004
564649.00	4152507.00	0.00006
564674.00	4152507.00	0.00003
564699.00	4152507.00	0.00003
564724.00	4152507.00	0.00004
564749.00	4152507.00	0.00005
564774.00	4152507.00	0.00006
564799.00	4152507.00	0.00006
564824.00	4152507.00	0.00006

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN1 ***
INCLUDING SOURCE(S): STCK1 , STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152507.00	0.00006	564874.00	4152507.00	0.00006
564899.00	4152507.00	0.00006	564924.00	4152507.00	0.00006
564274.00	4152532.00	0.00001	564299.00	4152532.00	0.00001
564324.00	4152532.00	0.00001	564349.00	4152532.00	0.00001
564374.00	4152532.00	0.00001	564399.00	4152532.00	0.00001
564424.00	4152532.00	0.00002	564449.00	4152532.00	0.00002
564474.00	4152532.00	0.00003	564499.00	4152532.00	0.00003
564524.00	4152532.00	0.00004	564549.00	4152532.00	0.00004
564624.00	4152532.00	0.00007	564649.00	4152532.00	0.00004
564674.00	4152532.00	0.00004	564699.00	4152532.00	0.00003
564724.00	4152532.00	0.00003	564749.00	4152532.00	0.00003
564774.00	4152532.00	0.00004	564799.00	4152532.00	0.00004
564824.00	4152532.00	0.00004	564849.00	4152532.00	0.00004
564874.00	4152532.00	0.00004	564899.00	4152532.00	0.00004

564924.00	4152532.00	0.00004
564274.00	4152557.00	0.00001
564299.00	4152557.00	0.00001
564324.00	4152557.00	0.00001
564349.00	4152557.00	0.00001
564374.00	4152557.00	0.00001
564399.00	4152557.00	0.00002
564424.00	4152557.00	0.00002
564449.00	4152557.00	0.00002
564474.00	4152557.00	0.00003
564499.00	4152557.00	0.00003
564524.00	4152557.00	0.00004
564549.00	4152557.00	0.00004
564574.00	4152557.00	0.00005
564599.00	4152557.00	0.00004
564624.00	4152557.00	0.00004
564649.00	4152557.00	0.00004
564674.00	4152557.00	0.00003
564699.00	4152557.00	0.00003
564724.00	4152557.00	0.00003
564749.00	4152557.00	0.00002
564774.00	4152557.00	0.00002
564799.00	4152557.00	0.00003
564824.00	4152557.00	0.00003
564849.00	4152557.00	0.00003
564874.00	4152557.00	0.00003
564899.00	4152557.00	0.00003
564924.00	4152557.00	0.00003
564274.00	4152582.00	0.00001
564299.00	4152582.00	0.00001
564324.00	4152582.00	0.00001
564349.00	4152582.00	0.00001
564374.00	4152582.00	0.00001
564399.00	4152582.00	0.00002
564424.00	4152582.00	0.00002
564449.00	4152582.00	0.00002
564474.00	4152582.00	0.00003
564499.00	4152582.00	0.00003
564524.00	4152582.00	0.00004
564549.00	4152582.00	0.00004
564574.00	4152582.00	0.00004
564599.00	4152582.00	0.00004
564624.00	4152582.00	0.00004
564649.00	4152582.00	0.00003
564674.00	4152582.00	0.00003
564699.00	4152582.00	0.00003
564724.00	4152582.00	0.00003
564749.00	4152582.00	0.00002
564774.00	4152582.00	0.00002
564799.00	4152582.00	0.00002
564824.00	4152582.00	0.00002
564849.00	4152582.00	0.00002

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN1 ***
INCLUDING SOURCE(S): STCK1 , STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152582.00	0.00002	564899.00	4152582.00	0.00003
564924.00	4152582.00	0.00003	564274.00	4152607.00	0.00001
564299.00	4152607.00	0.00001	564324.00	4152607.00	0.00001
564349.00	4152607.00	0.00001	564374.00	4152607.00	0.00001
564399.00	4152607.00	0.00002	564424.00	4152607.00	0.00002
564449.00	4152607.00	0.00002	564474.00	4152607.00	0.00003
564499.00	4152607.00	0.00003	564524.00	4152607.00	0.00003
564549.00	4152607.00	0.00003	564574.00	4152607.00	0.00003
564599.00	4152607.00	0.00003	564624.00	4152607.00	0.00003
564649.00	4152607.00	0.00003	564674.00	4152607.00	0.00003
564699.00	4152607.00	0.00003	564724.00	4152607.00	0.00002
564749.00	4152607.00	0.00002	564774.00	4152607.00	0.00002
564799.00	4152607.00	0.00002	564824.00	4152607.00	0.00002
564849.00	4152607.00	0.00002	564874.00	4152607.00	0.00002

564899.00	4152607.00	0.00002
564924.00	4152607.00	0.00002
564274.00	4152632.00	0.00001
564299.00	4152632.00	0.00001
564324.00	4152632.00	0.00001
564349.00	4152632.00	0.00001
564374.00	4152632.00	0.00002
564399.00	4152632.00	0.00002
564424.00	4152632.00	0.00002
564449.00	4152632.00	0.00002
564474.00	4152632.00	0.00002
564499.00	4152632.00	0.00003
564524.00	4152632.00	0.00003
564549.00	4152632.00	0.00003
564574.00	4152632.00	0.00003
564599.00	4152632.00	0.00003
564624.00	4152632.00	0.00003
564649.00	4152632.00	0.00003
564674.00	4152632.00	0.00003
564699.00	4152632.00	0.00002
564724.00	4152632.00	0.00002
564749.00	4152632.00	0.00002
564774.00	4152632.00	0.00002
564799.00	4152632.00	0.00002
564824.00	4152632.00	0.00002
564849.00	4152632.00	0.00002
564874.00	4152632.00	0.00002
564899.00	4152632.00	0.00002
564924.00	4152632.00	0.00002
564274.00	4152657.00	0.00001
564299.00	4152657.00	0.00001
564324.00	4152657.00	0.00001
564349.00	4152657.00	0.00001
564374.00	4152657.00	0.00002
564399.00	4152657.00	0.00002
564424.00	4152657.00	0.00002
564449.00	4152657.00	0.00002
564474.00	4152657.00	0.00002
564499.00	4152657.00	0.00002
564524.00	4152657.00	0.00002
564549.00	4152657.00	0.00003
564574.00	4152657.00	0.00003
564599.00	4152657.00	0.00002
564624.00	4152657.00	0.00002
564649.00	4152657.00	0.00002
564674.00	4152657.00	0.00002
564699.00	4152657.00	0.00002
564724.00	4152657.00	0.00002
564749.00	4152657.00	0.00002
564774.00	4152657.00	0.00002
564799.00	4152657.00	0.00002
564824.00	4152657.00	0.00002

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN1 ***
INCLUDING SOURCE(S): STCK1 , STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152657.00	0.00001	564874.00	4152657.00	0.00001
564899.00	4152657.00	0.00001	564924.00	4152657.00	0.00001
564274.00	4152682.00	0.00001	564299.00	4152682.00	0.00001
564324.00	4152682.00	0.00001	564349.00	4152682.00	0.00002
564374.00	4152682.00	0.00002	564399.00	4152682.00	0.00002
564424.00	4152682.00	0.00002	564449.00	4152682.00	0.00002
564474.00	4152682.00	0.00002	564499.00	4152682.00	0.00002
564524.00	4152682.00	0.00002	564549.00	4152682.00	0.00002
564574.00	4152682.00	0.00002	564599.00	4152682.00	0.00002
564624.00	4152682.00	0.00002	564649.00	4152682.00	0.00002
564674.00	4152682.00	0.00002	564699.00	4152682.00	0.00002
564724.00	4152682.00	0.00002	564749.00	4152682.00	0.00002
564774.00	4152682.00	0.00002	564799.00	4152682.00	0.00002
564824.00	4152682.00	0.00001	564849.00	4152682.00	0.00001

564874.00	4152682.00	0.00001
564899.00	4152682.00	0.00001
564924.00	4152682.00	0.00001
564274.00	4152707.00	0.00001
564299.00	4152707.00	0.00001
564324.00	4152707.00	0.00001
564349.00	4152707.00	0.00002
564374.00	4152707.00	0.00002
564399.00	4152707.00	0.00002
564424.00	4152707.00	0.00002
564449.00	4152707.00	0.00002
564474.00	4152707.00	0.00002
564499.00	4152707.00	0.00002
564524.00	4152707.00	0.00002
564549.00	4152707.00	0.00002
564574.00	4152707.00	0.00002
564599.00	4152707.00	0.00002
564624.00	4152707.00	0.00002
564649.00	4152707.00	0.00002
564674.00	4152707.00	0.00002
564699.00	4152707.00	0.00002
564724.00	4152707.00	0.00002
564749.00	4152707.00	0.00002
564774.00	4152707.00	0.00002
564799.00	4152707.00	0.00002
564824.00	4152707.00	0.00001
564849.00	4152707.00	0.00001
564874.00	4152707.00	0.00001
564899.00	4152707.00	0.00001
564924.00	4152707.00	0.00001
564274.00	4152732.00	0.00001
564299.00	4152732.00	0.00001
564324.00	4152732.00	0.00001
564349.00	4152732.00	0.00002
564374.00	4152732.00	0.00002
564399.00	4152732.00	0.00002
564424.00	4152732.00	0.00002
564449.00	4152732.00	0.00002
564474.00	4152732.00	0.00002
564499.00	4152732.00	0.00002
564524.00	4152732.00	0.00002
564549.00	4152732.00	0.00002
564574.00	4152732.00	0.00002
564599.00	4152732.00	0.00002
564624.00	4152732.00	0.00002
564649.00	4152732.00	0.00002
564674.00	4152732.00	0.00002
564699.00	4152732.00	0.00002
564724.00	4152732.00	0.00002
564749.00	4152732.00	0.00002
564774.00	4152732.00	0.00002
564799.00	4152732.00	0.00001

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN1 ***
INCLUDING SOURCE(S): STCK1 , STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564824.00	4152732.00	0.00001	564849.00	4152732.00	0.00001
564874.00	4152732.00	0.00001	564899.00	4152732.00	0.00001
564924.00	4152732.00	0.00001	564274.00	4152757.00	0.00001
564299.00	4152757.00	0.00001	564324.00	4152757.00	0.00001
564349.00	4152757.00	0.00001	564374.00	4152757.00	0.00002
564399.00	4152757.00	0.00002	564424.00	4152757.00	0.00002
564449.00	4152757.00	0.00002	564474.00	4152757.00	0.00002
564499.00	4152757.00	0.00002	564524.00	4152757.00	0.00002
564549.00	4152757.00	0.00002	564574.00	4152757.00	0.00002
564599.00	4152757.00	0.00002	564624.00	4152757.00	0.00002
564649.00	4152757.00	0.00002	564674.00	4152757.00	0.00002
564699.00	4152757.00	0.00002	564724.00	4152757.00	0.00002
564749.00	4152757.00	0.00002	564774.00	4152757.00	0.00001
564799.00	4152757.00	0.00001	564824.00	4152757.00	0.00001

564849.00	4152757.00	0.00001
564874.00	4152757.00	0.00001
564899.00	4152757.00	0.00001
564924.00	4152757.00	0.00001
564274.00	4152782.00	0.00001
564299.00	4152782.00	0.00001
564324.00	4152782.00	0.00001
564349.00	4152782.00	0.00001
564374.00	4152782.00	0.00001
564399.00	4152782.00	0.00002
564424.00	4152782.00	0.00002
564449.00	4152782.00	0.00002
564474.00	4152782.00	0.00002
564499.00	4152782.00	0.00002
564524.00	4152782.00	0.00002
564549.00	4152782.00	0.00002
564574.00	4152782.00	0.00002
564599.00	4152782.00	0.00002
564624.00	4152782.00	0.00002
564649.00	4152782.00	0.00002
564674.00	4152782.00	0.00002
564699.00	4152782.00	0.00002
564724.00	4152782.00	0.00002
564749.00	4152782.00	0.00001
564774.00	4152782.00	0.00001
564799.00	4152782.00	0.00001
564824.00	4152782.00	0.00001
564849.00	4152782.00	0.00001
564874.00	4152782.00	0.00001
564899.00	4152782.00	0.00001
564924.00	4152782.00	0.00001
564633.05	4152455.77	0.00009
564645.05	4152455.77	0.00007
564647.05	4152455.77	0.00007
564649.05	4152455.77	0.00006
564631.05	4152457.77	0.00009
564633.05	4152457.77	0.00009
564635.05	4152457.77	0.00008
564645.05	4152457.77	0.00007
564647.05	4152457.77	0.00006
564649.05	4152457.77	0.00006
564651.05	4152457.77	0.00006
564629.05	4152459.77	0.00009
564631.05	4152459.77	0.00008
564633.05	4152459.77	0.00008
564635.05	4152459.77	0.00008
564637.05	4152459.77	0.00008
564643.05	4152459.77	0.00007
564645.05	4152459.77	0.00007
564647.05	4152459.77	0.00006
564649.05	4152459.77	0.00006
564651.05	4152459.77	0.00006

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN1 ***
INCLUDING SOURCE(S): STCK1 , STCK2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564653.05	4152459.77	0.00005	564631.05	4152461.77	0.00008
564633.05	4152461.77	0.00008	564635.05	4152461.77	0.00008
564637.05	4152461.77	0.00007	564639.05	4152461.77	0.00007
564641.05	4152461.77	0.00007	564643.05	4152461.77	0.00007
564645.05	4152461.77	0.00006	564647.05	4152461.77	0.00006
564649.05	4152461.77	0.00006	564651.05	4152461.77	0.00006
564653.05	4152461.77	0.00005	564655.05	4152461.77	0.00005
564633.05	4152463.77	0.00008	564635.05	4152463.77	0.00007
564637.05	4152463.77	0.00007	564639.05	4152463.77	0.00007
564641.05	4152463.77	0.00007	564643.05	4152463.77	0.00006
564645.05	4152463.77	0.00006	564647.05	4152463.77	0.00006
564649.05	4152463.77	0.00006	564651.05	4152463.77	0.00005
564653.05	4152463.77	0.00005	564655.05	4152463.77	0.00005
564635.05	4152465.77	0.00007	564637.05	4152465.77	0.00007

564639.05	4152465.77	0.00007
564641.05	4152465.77	0.00007
564643.05	4152465.77	0.00006
564645.05	4152465.77	0.00006
564647.05	4152465.77	0.00006
564649.05	4152465.77	0.00006
564651.05	4152465.77	0.00005
564653.05	4152465.77	0.00005
564637.05	4152467.77	0.00007
564639.05	4152467.77	0.00007
564641.05	4152467.77	0.00006
564643.05	4152467.77	0.00006
564645.05	4152467.77	0.00006
564647.05	4152467.77	0.00006
564649.05	4152467.77	0.00005
564651.05	4152467.77	0.00005
564639.05	4152469.77	0.00006
564641.05	4152469.77	0.00006
564643.05	4152469.77	0.00006
564645.05	4152469.77	0.00006
564647.05	4152469.77	0.00005
564649.05	4152469.77	0.00005
564641.05	4152471.77	0.00006
564643.05	4152471.77	0.00006
564645.05	4152471.77	0.00006
564647.05	4152471.77	0.00005

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN2 ***
INCLUDING SOURCE(S): STCK3 , STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564274.00	4152132.00	0.00001	564299.00	4152132.00	0.00001
564324.00	4152132.00	0.00001	564349.00	4152132.00	0.00001
564374.00	4152132.00	0.00001	564399.00	4152132.00	0.00001
564424.00	4152132.00	0.00002	564449.00	4152132.00	0.00002
564474.00	4152132.00	0.00002	564499.00	4152132.00	0.00003
564524.00	4152132.00	0.00003	564549.00	4152132.00	0.00004
564574.00	4152132.00	0.00004	564599.00	4152132.00	0.00004
564624.00	4152132.00	0.00004	564649.00	4152132.00	0.00004
564674.00	4152132.00	0.00004	564699.00	4152132.00	0.00004
564724.00	4152132.00	0.00004	564749.00	4152132.00	0.00004
564774.00	4152132.00	0.00004	564799.00	4152132.00	0.00004
564824.00	4152132.00	0.00004	564849.00	4152132.00	0.00004
564874.00	4152132.00	0.00004	564899.00	4152132.00	0.00004
564924.00	4152132.00	0.00004	564274.00	4152157.00	0.00001

564299.00	4152157.00	0.00001
564324.00	4152157.00	0.00001
564349.00	4152157.00	0.00001
564374.00	4152157.00	0.00001
564399.00	4152157.00	0.00001
564424.00	4152157.00	0.00002
564449.00	4152157.00	0.00002
564474.00	4152157.00	0.00003
564499.00	4152157.00	0.00003
564524.00	4152157.00	0.00003
564549.00	4152157.00	0.00004
564574.00	4152157.00	0.00004
564599.00	4152157.00	0.00005
564624.00	4152157.00	0.00005
564649.00	4152157.00	0.00005
564674.00	4152157.00	0.00005
564699.00	4152157.00	0.00004
564724.00	4152157.00	0.00004
564749.00	4152157.00	0.00004
564774.00	4152157.00	0.00004
564799.00	4152157.00	0.00004
564824.00	4152157.00	0.00004
564849.00	4152157.00	0.00004
564874.00	4152157.00	0.00004
564899.00	4152157.00	0.00004
564924.00	4152157.00	0.00004
564274.00	4152182.00	0.00001
564299.00	4152182.00	0.00001
564324.00	4152182.00	0.00001
564349.00	4152182.00	0.00001
564374.00	4152182.00	0.00001
564399.00	4152182.00	0.00001
564424.00	4152182.00	0.00002
564449.00	4152182.00	0.00002
564474.00	4152182.00	0.00003
564499.00	4152182.00	0.00003
564524.00	4152182.00	0.00004
564549.00	4152182.00	0.00004
564574.00	4152182.00	0.00005
564599.00	4152182.00	0.00005
564624.00	4152182.00	0.00005
564649.00	4152182.00	0.00005
564674.00	4152182.00	0.00005
564699.00	4152182.00	0.00005
564724.00	4152182.00	0.00005
564749.00	4152182.00	0.00004
564774.00	4152182.00	0.00004
564799.00	4152182.00	0.00004
564824.00	4152182.00	0.00004
564849.00	4152182.00	0.00004
564874.00	4152182.00	0.00004
564899.00	4152182.00	0.00004

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN2 ***
INCLUDING SOURCE(S): STCK3 , STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564924.00	4152182.00	0.00005	564274.00	4152207.00	0.00001
564299.00	4152207.00	0.00001	564324.00	4152207.00	0.00001
564349.00	4152207.00	0.00001	564374.00	4152207.00	0.00001
564399.00	4152207.00	0.00001	564424.00	4152207.00	0.00002
564449.00	4152207.00	0.00002	564474.00	4152207.00	0.00003
564499.00	4152207.00	0.00003	564524.00	4152207.00	0.00004
564549.00	4152207.00	0.00004	564574.00	4152207.00	0.00005
564599.00	4152207.00	0.00005	564624.00	4152207.00	0.00006
564649.00	4152207.00	0.00006	564674.00	4152207.00	0.00005
564699.00	4152207.00	0.00005	564724.00	4152207.00	0.00005
564749.00	4152207.00	0.00005	564774.00	4152207.00	0.00005
564799.00	4152207.00	0.00005	564824.00	4152207.00	0.00005
564849.00	4152207.00	0.00005	564874.00	4152207.00	0.00005
564899.00	4152207.00	0.00005	564924.00	4152207.00	0.00005

564274.00	4152232.00	0.00001
564299.00	4152232.00	0.00001
564324.00	4152232.00	0.00001
564349.00	4152232.00	0.00001
564374.00	4152232.00	0.00001
564399.00	4152232.00	0.00001
564424.00	4152232.00	0.00002
564449.00	4152232.00	0.00002
564474.00	4152232.00	0.00003
564499.00	4152232.00	0.00003
564524.00	4152232.00	0.00004
564549.00	4152232.00	0.00005
564574.00	4152232.00	0.00005
564599.00	4152232.00	0.00006
564624.00	4152232.00	0.00006
564649.00	4152232.00	0.00006
564674.00	4152232.00	0.00006
564699.00	4152232.00	0.00006
564724.00	4152232.00	0.00005
564749.00	4152232.00	0.00005
564774.00	4152232.00	0.00005
564799.00	4152232.00	0.00005
564824.00	4152232.00	0.00005
564849.00	4152232.00	0.00005
564874.00	4152232.00	0.00005
564899.00	4152232.00	0.00005
564924.00	4152232.00	0.00005
564274.00	4152257.00	0.00001
564299.00	4152257.00	0.00001
564324.00	4152257.00	0.00001
564349.00	4152257.00	0.00001
564374.00	4152257.00	0.00001
564399.00	4152257.00	0.00001
564424.00	4152257.00	0.00002
564449.00	4152257.00	0.00002
564474.00	4152257.00	0.00003
564499.00	4152257.00	0.00003
564524.00	4152257.00	0.00004
564549.00	4152257.00	0.00005
564574.00	4152257.00	0.00006
564599.00	4152257.00	0.00006
564624.00	4152257.00	0.00007
564649.00	4152257.00	0.00007
564674.00	4152257.00	0.00006
564699.00	4152257.00	0.00006
564724.00	4152257.00	0.00006
564749.00	4152257.00	0.00006
564774.00	4152257.00	0.00006
564799.00	4152257.00	0.00006
564824.00	4152257.00	0.00006
564849.00	4152257.00	0.00006
564874.00	4152257.00	0.00006

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/15/22
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN2 ***
INCLUDING SOURCE(S): STCK3 , STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564899.00	4152257.00	0.00006	564924.00	4152257.00	0.00005
564274.00	4152282.00	0.00001	564299.00	4152282.00	0.00001
564324.00	4152282.00	0.00001	564349.00	4152282.00	0.00001
564374.00	4152282.00	0.00001	564399.00	4152282.00	0.00001
564424.00	4152282.00	0.00002	564449.00	4152282.00	0.00002
564474.00	4152282.00	0.00003	564499.00	4152282.00	0.00003
564524.00	4152282.00	0.00004	564549.00	4152282.00	0.00005
564574.00	4152282.00	0.00007	564599.00	4152282.00	0.00009
564624.00	4152282.00	0.00009	564649.00	4152282.00	0.00008
564674.00	4152282.00	0.00007	564699.00	4152282.00	0.00006
564724.00	4152282.00	0.00006	564749.00	4152282.00	0.00006
564774.00	4152282.00	0.00006	564799.00	4152282.00	0.00006
564824.00	4152282.00	0.00006	564849.00	4152282.00	0.00006
564874.00	4152282.00	0.00006	564899.00	4152282.00	0.00006

564924.00	4152282.00	0.00005
564274.00	4152307.00	0.00001
564299.00	4152307.00	0.00001
564324.00	4152307.00	0.00001
564349.00	4152307.00	0.00001
564374.00	4152307.00	0.00001
564399.00	4152307.00	0.00001
564424.00	4152307.00	0.00002
564449.00	4152307.00	0.00002
564474.00	4152307.00	0.00003
564499.00	4152307.00	0.00003
564524.00	4152307.00	0.00005
564549.00	4152307.00	0.00007
564574.00	4152307.00	0.00010
564599.00	4152307.00	0.00011
564624.00	4152307.00	0.00011
564649.00	4152307.00	0.00010
564674.00	4152307.00	0.00009
564699.00	4152307.00	0.00007
564724.00	4152307.00	0.00006
564749.00	4152307.00	0.00006
564774.00	4152307.00	0.00007
564799.00	4152307.00	0.00007
564824.00	4152307.00	0.00007
564849.00	4152307.00	0.00007
564874.00	4152307.00	0.00006
564899.00	4152307.00	0.00006
564924.00	4152307.00	0.00006
564274.00	4152332.00	0.00001
564299.00	4152332.00	0.00001
564324.00	4152332.00	0.00001
564349.00	4152332.00	0.00001
564374.00	4152332.00	0.00001
564399.00	4152332.00	0.00001
564424.00	4152332.00	0.00002
564449.00	4152332.00	0.00002
564474.00	4152332.00	0.00003
564499.00	4152332.00	0.00004
564524.00	4152332.00	0.00006
564549.00	4152332.00	0.00008
564574.00	4152332.00	0.00011
564599.00	4152332.00	0.00012
564624.00	4152332.00	0.00012
564649.00	4152332.00	0.00010
564674.00	4152332.00	0.00009
564699.00	4152332.00	0.00007
564724.00	4152332.00	0.00007
564749.00	4152332.00	0.00007
564774.00	4152332.00	0.00007
564799.00	4152332.00	0.00007
564824.00	4152332.00	0.00007
564849.00	4152332.00	0.00007

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN2 ***
INCLUDING SOURCE(S): STCK3 , STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152332.00	0.00007	564899.00	4152332.00	0.00006
564924.00	4152332.00	0.00006	564274.00	4152357.00	0.00001
564299.00	4152357.00	0.00001	564324.00	4152357.00	0.00001
564349.00	4152357.00	0.00001	564374.00	4152357.00	0.00001
564399.00	4152357.00	0.00001	564424.00	4152357.00	0.00002
564449.00	4152357.00	0.00002	564474.00	4152357.00	0.00003
564499.00	4152357.00	0.00004	564524.00	4152357.00	0.00006
564549.00	4152357.00	0.00008	564574.00	4152357.00	0.00011
564599.00	4152357.00	0.00014	564624.00	4152357.00	0.00014
564649.00	4152357.00	0.00011	564674.00	4152357.00	0.00009
564699.00	4152357.00	0.00008	564724.00	4152357.00	0.00007
564749.00	4152357.00	0.00008	564774.00	4152357.00	0.00008
564799.00	4152357.00	0.00008	564824.00	4152357.00	0.00008
564849.00	4152357.00	0.00008	564874.00	4152357.00	0.00007

564899.00	4152357.00	0.00007
564924.00	4152357.00	0.00007
564274.00	4152382.00	0.00001
564299.00	4152382.00	0.00001
564324.00	4152382.00	0.00001
564349.00	4152382.00	0.00001
564374.00	4152382.00	0.00001
564399.00	4152382.00	0.00001
564424.00	4152382.00	0.00002
564449.00	4152382.00	0.00002
564474.00	4152382.00	0.00003
564499.00	4152382.00	0.00004
564524.00	4152382.00	0.00005
564549.00	4152382.00	0.00008
564574.00	4152382.00	0.00012
564649.00	4152382.00	0.00012
564674.00	4152382.00	0.00010
564699.00	4152382.00	0.00007
564724.00	4152382.00	0.00007
564749.00	4152382.00	0.00008
564774.00	4152382.00	0.00009
564799.00	4152382.00	0.00009
564824.00	4152382.00	0.00009
564849.00	4152382.00	0.00009
564874.00	4152382.00	0.00009
564899.00	4152382.00	0.00008
564924.00	4152382.00	0.00008
564274.00	4152407.00	0.00001
564299.00	4152407.00	0.00001
564324.00	4152407.00	0.00001
564349.00	4152407.00	0.00001
564374.00	4152407.00	0.00001
564399.00	4152407.00	0.00001
564424.00	4152407.00	0.00002
564449.00	4152407.00	0.00003
564474.00	4152407.00	0.00003
564499.00	4152407.00	0.00004
564524.00	4152407.00	0.00005
564549.00	4152407.00	0.00008
564674.00	4152407.00	0.00006
564699.00	4152407.00	0.00005
564724.00	4152407.00	0.00007
564749.00	4152407.00	0.00010
564774.00	4152407.00	0.00012
564799.00	4152407.00	0.00012
564824.00	4152407.00	0.00011
564849.00	4152407.00	0.00010
564874.00	4152407.00	0.00010
564899.00	4152407.00	0.00009
564924.00	4152407.00	0.00008
564274.00	4152432.00	0.00001
564299.00	4152432.00	0.00001

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN2 ***
INCLUDING SOURCE(S): STCK3 , STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564324.00	4152432.00	0.00001	564349.00	4152432.00	0.00001
564374.00	4152432.00	0.00001	564399.00	4152432.00	0.00001
564424.00	4152432.00	0.00002	564449.00	4152432.00	0.00002
564474.00	4152432.00	0.00003	564499.00	4152432.00	0.00003
564524.00	4152432.00	0.00005	564674.00	4152432.00	0.00005
564699.00	4152432.00	0.00006	564724.00	4152432.00	0.00013
564749.00	4152432.00	0.00016	564774.00	4152432.00	0.00015
564799.00	4152432.00	0.00013	564824.00	4152432.00	0.00012
564849.00	4152432.00	0.00010	564874.00	4152432.00	0.00009
564899.00	4152432.00	0.00009	564924.00	4152432.00	0.00008
564274.00	4152457.00	0.00001	564299.00	4152457.00	0.00001
564324.00	4152457.00	0.00001	564349.00	4152457.00	0.00001
564374.00	4152457.00	0.00001	564399.00	4152457.00	0.00001
564424.00	4152457.00	0.00002	564449.00	4152457.00	0.00002

564474.00	4152457.00	0.00003
564499.00	4152457.00	0.00004
564699.00	4152457.00	0.00009
564724.00	4152457.00	0.00014
564749.00	4152457.00	0.00015
564774.00	4152457.00	0.00014
564799.00	4152457.00	0.00012
564824.00	4152457.00	0.00010
564849.00	4152457.00	0.00009
564874.00	4152457.00	0.00009
564899.00	4152457.00	0.00008
564924.00	4152457.00	0.00007
564274.00	4152482.00	0.00001
564299.00	4152482.00	0.00001
564324.00	4152482.00	0.00001
564349.00	4152482.00	0.00001
564374.00	4152482.00	0.00001
564399.00	4152482.00	0.00001
564424.00	4152482.00	0.00002
564449.00	4152482.00	0.00003
564474.00	4152482.00	0.00003
564499.00	4152482.00	0.00003
564674.00	4152482.00	0.00003
564699.00	4152482.00	0.00004
564724.00	4152482.00	0.00007
564749.00	4152482.00	0.00009
564774.00	4152482.00	0.00009
564799.00	4152482.00	0.00009
564824.00	4152482.00	0.00008
564849.00	4152482.00	0.00008
564874.00	4152482.00	0.00007
564899.00	4152482.00	0.00007
564924.00	4152482.00	0.00006
564274.00	4152507.00	0.00001
564299.00	4152507.00	0.00001
564324.00	4152507.00	0.00001
564349.00	4152507.00	0.00001
564374.00	4152507.00	0.00001
564399.00	4152507.00	0.00001
564424.00	4152507.00	0.00002
564449.00	4152507.00	0.00002
564474.00	4152507.00	0.00003
564499.00	4152507.00	0.00004
564524.00	4152507.00	0.00004
564649.00	4152507.00	0.00007
564674.00	4152507.00	0.00003
564699.00	4152507.00	0.00003
564724.00	4152507.00	0.00004
564749.00	4152507.00	0.00005
564774.00	4152507.00	0.00005
564799.00	4152507.00	0.00006
564824.00	4152507.00	0.00006

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
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*** AERMET - VERSION 14134 *** ***
*** 08:06:15

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN2 ***
INCLUDING SOURCE(S): STCK3 , STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152507.00	0.00006	564874.00	4152507.00	0.00006
564899.00	4152507.00	0.00006	564924.00	4152507.00	0.00005
564274.00	4152532.00	0.00001	564299.00	4152532.00	0.00001
564324.00	4152532.00	0.00001	564349.00	4152532.00	0.00001
564374.00	4152532.00	0.00001	564399.00	4152532.00	0.00001
564424.00	4152532.00	0.00002	564449.00	4152532.00	0.00002
564474.00	4152532.00	0.00003	564499.00	4152532.00	0.00003
564524.00	4152532.00	0.00004	564549.00	4152532.00	0.00005
564624.00	4152532.00	0.00007	564649.00	4152532.00	0.00005
564674.00	4152532.00	0.00004	564699.00	4152532.00	0.00003
564724.00	4152532.00	0.00003	564749.00	4152532.00	0.00003
564774.00	4152532.00	0.00003	564799.00	4152532.00	0.00004
564824.00	4152532.00	0.00004	564849.00	4152532.00	0.00004
564874.00	4152532.00	0.00004	564899.00	4152532.00	0.00004

564924.00	4152532.00	0.00004
564274.00	4152557.00	0.00001
564299.00	4152557.00	0.00001
564324.00	4152557.00	0.00001
564349.00	4152557.00	0.00001
564374.00	4152557.00	0.00001
564399.00	4152557.00	0.00002
564424.00	4152557.00	0.00002
564449.00	4152557.00	0.00002
564474.00	4152557.00	0.00003
564499.00	4152557.00	0.00004
564524.00	4152557.00	0.00004
564549.00	4152557.00	0.00004
564574.00	4152557.00	0.00005
564599.00	4152557.00	0.00005
564624.00	4152557.00	0.00004
564649.00	4152557.00	0.00004
564674.00	4152557.00	0.00004
564699.00	4152557.00	0.00003
564724.00	4152557.00	0.00003
564749.00	4152557.00	0.00003
564774.00	4152557.00	0.00002
564799.00	4152557.00	0.00002
564824.00	4152557.00	0.00003
564849.00	4152557.00	0.00003
564874.00	4152557.00	0.00003
564899.00	4152557.00	0.00003
564924.00	4152557.00	0.00003
564274.00	4152582.00	0.00001
564299.00	4152582.00	0.00001
564324.00	4152582.00	0.00001
564349.00	4152582.00	0.00001
564374.00	4152582.00	0.00001
564399.00	4152582.00	0.00002
564424.00	4152582.00	0.00002
564449.00	4152582.00	0.00002
564474.00	4152582.00	0.00003
564499.00	4152582.00	0.00003
564524.00	4152582.00	0.00004
564549.00	4152582.00	0.00004
564574.00	4152582.00	0.00004
564599.00	4152582.00	0.00004
564624.00	4152582.00	0.00004
564649.00	4152582.00	0.00003
564674.00	4152582.00	0.00003
564699.00	4152582.00	0.00003
564724.00	4152582.00	0.00003
564749.00	4152582.00	0.00002
564774.00	4152582.00	0.00002
564799.00	4152582.00	0.00002
564824.00	4152582.00	0.00002
564849.00	4152582.00	0.00002

*** AERMOD - VERSION 21112 ***   *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
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*** AERMET - VERSION 14134 ***   ***
***   08:06:15

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: GEN2   ***
INCLUDING SOURCE(S):
STCK3   , STCK4   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5   IN MICROGRAMS/M**3   **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152582.00	0.00002	564899.00	4152582.00	0.00002
564924.00	4152582.00	0.00003	564274.00	4152607.00	0.00001
564299.00	4152607.00	0.00001	564324.00	4152607.00	0.00001
564349.00	4152607.00	0.00001	564374.00	4152607.00	0.00002
564399.00	4152607.00	0.00002	564424.00	4152607.00	0.00002
564449.00	4152607.00	0.00002	564474.00	4152607.00	0.00003
564499.00	4152607.00	0.00003	564524.00	4152607.00	0.00003
564549.00	4152607.00	0.00003	564574.00	4152607.00	0.00003
564599.00	4152607.00	0.00003	564624.00	4152607.00	0.00003
564649.00	4152607.00	0.00003	564674.00	4152607.00	0.00003
564699.00	4152607.00	0.00003	564724.00	4152607.00	0.00002
564749.00	4152607.00	0.00002	564774.00	4152607.00	0.00002
564799.00	4152607.00	0.00002	564824.00	4152607.00	0.00002
564849.00	4152607.00	0.00002	564874.00	4152607.00	0.00002

564899.00	4152607.00	0.00002
564924.00	4152607.00	0.00002
564274.00	4152632.00	0.00001
564299.00	4152632.00	0.00001
564324.00	4152632.00	0.00001
564349.00	4152632.00	0.00001
564374.00	4152632.00	0.00002
564399.00	4152632.00	0.00002
564424.00	4152632.00	0.00002
564449.00	4152632.00	0.00002
564474.00	4152632.00	0.00003
564499.00	4152632.00	0.00003
564524.00	4152632.00	0.00003
564549.00	4152632.00	0.00003
564574.00	4152632.00	0.00003
564599.00	4152632.00	0.00003
564624.00	4152632.00	0.00003
564649.00	4152632.00	0.00003
564674.00	4152632.00	0.00003
564699.00	4152632.00	0.00002
564724.00	4152632.00	0.00002
564749.00	4152632.00	0.00002
564774.00	4152632.00	0.00002
564799.00	4152632.00	0.00002
564824.00	4152632.00	0.00002
564849.00	4152632.00	0.00002
564874.00	4152632.00	0.00002
564899.00	4152632.00	0.00002
564924.00	4152632.00	0.00002
564274.00	4152657.00	0.00001
564299.00	4152657.00	0.00001
564324.00	4152657.00	0.00001
564349.00	4152657.00	0.00002
564374.00	4152657.00	0.00002
564399.00	4152657.00	0.00002
564424.00	4152657.00	0.00002
564449.00	4152657.00	0.00002
564474.00	4152657.00	0.00002
564499.00	4152657.00	0.00003
564524.00	4152657.00	0.00003
564549.00	4152657.00	0.00003
564574.00	4152657.00	0.00003
564599.00	4152657.00	0.00002
564624.00	4152657.00	0.00002
564649.00	4152657.00	0.00002
564674.00	4152657.00	0.00002
564699.00	4152657.00	0.00002
564724.00	4152657.00	0.00002
564749.00	4152657.00	0.00002
564774.00	4152657.00	0.00002
564799.00	4152657.00	0.00002
564824.00	4152657.00	0.00002

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN2 ***
INCLUDING SOURCE(S): STCK3 , STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152657.00	0.00001	564874.00	4152657.00	0.00001
564899.00	4152657.00	0.00001	564924.00	4152657.00	0.00001
564274.00	4152682.00	0.00001	564299.00	4152682.00	0.00001
564324.00	4152682.00	0.00001	564349.00	4152682.00	0.00002
564374.00	4152682.00	0.00002	564399.00	4152682.00	0.00002
564424.00	4152682.00	0.00002	564449.00	4152682.00	0.00002
564474.00	4152682.00	0.00002	564499.00	4152682.00	0.00002
564524.00	4152682.00	0.00002	564549.00	4152682.00	0.00002
564574.00	4152682.00	0.00002	564599.00	4152682.00	0.00002
564624.00	4152682.00	0.00002	564649.00	4152682.00	0.00002
564674.00	4152682.00	0.00002	564699.00	4152682.00	0.00002
564724.00	4152682.00	0.00002	564749.00	4152682.00	0.00002
564774.00	4152682.00	0.00002	564799.00	4152682.00	0.00002
564824.00	4152682.00	0.00002	564849.00	4152682.00	0.00001

564874.00	4152682.00	0.00001
564899.00	4152682.00	0.00001
564924.00	4152682.00	0.00001
564274.00	4152707.00	0.00001
564299.00	4152707.00	0.00001
564324.00	4152707.00	0.00001
564349.00	4152707.00	0.00002
564374.00	4152707.00	0.00002
564399.00	4152707.00	0.00002
564424.00	4152707.00	0.00002
564449.00	4152707.00	0.00002
564474.00	4152707.00	0.00002
564499.00	4152707.00	0.00002
564524.00	4152707.00	0.00002
564549.00	4152707.00	0.00002
564574.00	4152707.00	0.00002
564599.00	4152707.00	0.00002
564624.00	4152707.00	0.00002
564649.00	4152707.00	0.00002
564674.00	4152707.00	0.00002
564699.00	4152707.00	0.00002
564724.00	4152707.00	0.00002
564749.00	4152707.00	0.00002
564774.00	4152707.00	0.00002
564799.00	4152707.00	0.00002
564824.00	4152707.00	0.00001
564849.00	4152707.00	0.00001
564874.00	4152707.00	0.00001
564899.00	4152707.00	0.00001
564924.00	4152707.00	0.00001
564274.00	4152732.00	0.00001
564299.00	4152732.00	0.00001
564324.00	4152732.00	0.00001
564349.00	4152732.00	0.00002
564374.00	4152732.00	0.00002
564399.00	4152732.00	0.00002
564424.00	4152732.00	0.00002
564449.00	4152732.00	0.00002
564474.00	4152732.00	0.00002
564499.00	4152732.00	0.00002
564524.00	4152732.00	0.00002
564549.00	4152732.00	0.00002
564574.00	4152732.00	0.00002
564599.00	4152732.00	0.00002
564624.00	4152732.00	0.00002
564649.00	4152732.00	0.00002
564674.00	4152732.00	0.00002
564699.00	4152732.00	0.00002
564724.00	4152732.00	0.00002
564749.00	4152732.00	0.00002
564774.00	4152732.00	0.00002
564799.00	4152732.00	0.00001

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN2 ***
INCLUDING SOURCE(S): STCK3 , STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564824.00	4152732.00	0.00001	564849.00	4152732.00	0.00001
564874.00	4152732.00	0.00001	564899.00	4152732.00	0.00001
564924.00	4152732.00	0.00001	564274.00	4152757.00	0.00001
564299.00	4152757.00	0.00001	564324.00	4152757.00	0.00001
564349.00	4152757.00	0.00002	564374.00	4152757.00	0.00002
564399.00	4152757.00	0.00002	564424.00	4152757.00	0.00002
564449.00	4152757.00	0.00002	564474.00	4152757.00	0.00002
564499.00	4152757.00	0.00002	564524.00	4152757.00	0.00002
564549.00	4152757.00	0.00002	564574.00	4152757.00	0.00002
564599.00	4152757.00	0.00002	564624.00	4152757.00	0.00002
564649.00	4152757.00	0.00002	564674.00	4152757.00	0.00002
564699.00	4152757.00	0.00002	564724.00	4152757.00	0.00002
564749.00	4152757.00	0.00002	564774.00	4152757.00	0.00001
564799.00	4152757.00	0.00001	564824.00	4152757.00	0.00001

564849.00	4152757.00	0.00001
564874.00	4152757.00	0.00001
564899.00	4152757.00	0.00001
564924.00	4152757.00	0.00001
564274.00	4152782.00	0.00001
564299.00	4152782.00	0.00001
564324.00	4152782.00	0.00001
564349.00	4152782.00	0.00002
564374.00	4152782.00	0.00002
564399.00	4152782.00	0.00002
564424.00	4152782.00	0.00002
564449.00	4152782.00	0.00002
564474.00	4152782.00	0.00002
564499.00	4152782.00	0.00002
564524.00	4152782.00	0.00002
564549.00	4152782.00	0.00002
564574.00	4152782.00	0.00002
564599.00	4152782.00	0.00002
564624.00	4152782.00	0.00002
564649.00	4152782.00	0.00002
564674.00	4152782.00	0.00002
564699.00	4152782.00	0.00002
564724.00	4152782.00	0.00002
564749.00	4152782.00	0.00001
564774.00	4152782.00	0.00001
564799.00	4152782.00	0.00001
564824.00	4152782.00	0.00001
564849.00	4152782.00	0.00001
564874.00	4152782.00	0.00001
564899.00	4152782.00	0.00001
564924.00	4152782.00	0.00001
564633.05	4152455.77	0.00009
564645.05	4152455.77	0.00007
564647.05	4152455.77	0.00007
564649.05	4152455.77	0.00006
564631.05	4152457.77	0.00009
564633.05	4152457.77	0.00008
564635.05	4152457.77	0.00008
564645.05	4152457.77	0.00007
564647.05	4152457.77	0.00006
564649.05	4152457.77	0.00006
564651.05	4152457.77	0.00006
564629.05	4152459.77	0.00009
564631.05	4152459.77	0.00008
564633.05	4152459.77	0.00008
564635.05	4152459.77	0.00008
564637.05	4152459.77	0.00008
564643.05	4152459.77	0.00007
564645.05	4152459.77	0.00007
564647.05	4152459.77	0.00006
564649.05	4152459.77	0.00006
564651.05	4152459.77	0.00006

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/15/22
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN2 ***
INCLUDING SOURCE(S): STCK3 , STCK4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564653.05	4152459.77	0.00005	564631.05	4152461.77	0.00008
564633.05	4152461.77	0.00008	564635.05	4152461.77	0.00008
564637.05	4152461.77	0.00007	564639.05	4152461.77	0.00007
564641.05	4152461.77	0.00007	564643.05	4152461.77	0.00007
564645.05	4152461.77	0.00006	564647.05	4152461.77	0.00006
564649.05	4152461.77	0.00006	564651.05	4152461.77	0.00006
564653.05	4152461.77	0.00005	564655.05	4152461.77	0.00005
564633.05	4152463.77	0.00008	564635.05	4152463.77	0.00007
564637.05	4152463.77	0.00007	564639.05	4152463.77	0.00007
564641.05	4152463.77	0.00007	564643.05	4152463.77	0.00006
564645.05	4152463.77	0.00006	564647.05	4152463.77	0.00006
564649.05	4152463.77	0.00006	564651.05	4152463.77	0.00005
564653.05	4152463.77	0.00005	564655.05	4152463.77	0.00005
564635.05	4152465.77	0.00007	564637.05	4152465.77	0.00007

564639.05	4152465.77	0.00007
564641.05	4152465.77	0.00007
564643.05	4152465.77	0.00006
564645.05	4152465.77	0.00006
564647.05	4152465.77	0.00006
564649.05	4152465.77	0.00006
564651.05	4152465.77	0.00005
564653.05	4152465.77	0.00005
564637.05	4152467.77	0.00007
564639.05	4152467.77	0.00007
564641.05	4152467.77	0.00006
564643.05	4152467.77	0.00006
564645.05	4152467.77	0.00006
564647.05	4152467.77	0.00006
564649.05	4152467.77	0.00005
564651.05	4152467.77	0.00005
564639.05	4152469.77	0.00006
564641.05	4152469.77	0.00006
564643.05	4152469.77	0.00006
564645.05	4152469.77	0.00006
564647.05	4152469.77	0.00006
564649.05	4152469.77	0.00005
564641.05	4152471.77	0.00006
564643.05	4152471.77	0.00006
564645.05	4152471.77	0.00006
564647.05	4152471.77	0.00005

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/15/22
*** AERMET - VERSION 14134 *** *** *** 08:06:15

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN3 ***
INCLUDING SOURCE(S): STCK5 , STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564274.00	4152132.00	0.00001	564299.00	4152132.00	0.00001
564324.00	4152132.00	0.00001	564349.00	4152132.00	0.00001
564374.00	4152132.00	0.00001	564399.00	4152132.00	0.00001
564424.00	4152132.00	0.00002	564449.00	4152132.00	0.00002
564474.00	4152132.00	0.00002	564499.00	4152132.00	0.00003
564524.00	4152132.00	0.00003	564549.00	4152132.00	0.00004
564574.00	4152132.00	0.00004	564599.00	4152132.00	0.00004
564624.00	4152132.00	0.00004	564649.00	4152132.00	0.00004
564674.00	4152132.00	0.00004	564699.00	4152132.00	0.00004
564724.00	4152132.00	0.00004	564749.00	4152132.00	0.00004
564774.00	4152132.00	0.00004	564799.00	4152132.00	0.00004
564824.00	4152132.00	0.00003	564849.00	4152132.00	0.00003
564874.00	4152132.00	0.00004	564899.00	4152132.00	0.00004
564924.00	4152132.00	0.00004	564274.00	4152157.00	0.00001

564299.00	4152157.00	0.00001
564324.00	4152157.00	0.00001
564349.00	4152157.00	0.00001
564374.00	4152157.00	0.00001
564399.00	4152157.00	0.00001
564424.00	4152157.00	0.00002
564449.00	4152157.00	0.00002
564474.00	4152157.00	0.00002
564499.00	4152157.00	0.00003
564524.00	4152157.00	0.00003
564549.00	4152157.00	0.00004
564574.00	4152157.00	0.00004
564599.00	4152157.00	0.00004
564624.00	4152157.00	0.00005
564649.00	4152157.00	0.00005
564674.00	4152157.00	0.00005
564699.00	4152157.00	0.00004
564724.00	4152157.00	0.00004
564749.00	4152157.00	0.00004
564774.00	4152157.00	0.00004
564799.00	4152157.00	0.00004
564824.00	4152157.00	0.00004
564849.00	4152157.00	0.00004
564874.00	4152157.00	0.00004
564899.00	4152157.00	0.00004
564924.00	4152157.00	0.00004
564274.00	4152182.00	0.00001
564299.00	4152182.00	0.00001
564324.00	4152182.00	0.00001
564349.00	4152182.00	0.00001
564374.00	4152182.00	0.00001
564399.00	4152182.00	0.00001
564424.00	4152182.00	0.00002
564449.00	4152182.00	0.00002
564474.00	4152182.00	0.00002
564499.00	4152182.00	0.00003
564524.00	4152182.00	0.00004
564549.00	4152182.00	0.00004
564574.00	4152182.00	0.00004
564599.00	4152182.00	0.00005
564624.00	4152182.00	0.00005
564649.00	4152182.00	0.00005
564674.00	4152182.00	0.00005
564699.00	4152182.00	0.00005
564724.00	4152182.00	0.00005
564749.00	4152182.00	0.00004
564774.00	4152182.00	0.00004
564799.00	4152182.00	0.00004
564824.00	4152182.00	0.00004
564849.00	4152182.00	0.00004
564874.00	4152182.00	0.00004
564899.00	4152182.00	0.00004

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 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\642-Quarry-
Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
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 *** AERMET - VERSION  14134 ***   ***
***        08:06:15

PAGE  55
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

                              *** THE PERIOD ( 43872 HRS) AVERAGE
CONCENTRATION   VALUES FOR SOURCE GROUP: GEN3     ***
                                  INCLUDING SOURCE(S):
STCK5       , STCK6       ,

                                             *** DISCRETE
CARTESIAN RECEPTOR POINTS ***

                                        ** CONC OF PM_2.5   IN
MICROGRAMS/M**3                          **

       X-COORD (M)   Y-COORD (M)        CONC
X-COORD (M)   Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         564924.00    4152182.00        0.00004
564274.00    4152207.00        0.00001
         564299.00    4152207.00        0.00001
564324.00    4152207.00        0.00001
         564349.00    4152207.00        0.00001
564374.00    4152207.00        0.00001
         564399.00    4152207.00        0.00001
564424.00    4152207.00        0.00002
         564449.00    4152207.00        0.00002
564474.00    4152207.00        0.00003
         564499.00    4152207.00        0.00003
564524.00    4152207.00        0.00004
         564549.00    4152207.00        0.00004
564574.00    4152207.00        0.00005
         564599.00    4152207.00        0.00005
564624.00    4152207.00        0.00006
         564649.00    4152207.00        0.00006
564674.00    4152207.00        0.00005
         564699.00    4152207.00        0.00005
564724.00    4152207.00        0.00005
         564749.00    4152207.00        0.00005
564774.00    4152207.00        0.00005
         564799.00    4152207.00        0.00005
564824.00    4152207.00        0.00005
         564849.00    4152207.00        0.00005
564874.00    4152207.00        0.00005
         564899.00    4152207.00        0.00005
564924.00    4152207.00        0.00005
```

564274.00	4152232.00	0.00001
564299.00	4152232.00	0.00001
564324.00	4152232.00	0.00001
564349.00	4152232.00	0.00001
564374.00	4152232.00	0.00001
564399.00	4152232.00	0.00001
564424.00	4152232.00	0.00002
564449.00	4152232.00	0.00002
564474.00	4152232.00	0.00003
564499.00	4152232.00	0.00003
564524.00	4152232.00	0.00004
564549.00	4152232.00	0.00005
564574.00	4152232.00	0.00005
564599.00	4152232.00	0.00006
564624.00	4152232.00	0.00006
564649.00	4152232.00	0.00006
564674.00	4152232.00	0.00006
564699.00	4152232.00	0.00006
564724.00	4152232.00	0.00005
564749.00	4152232.00	0.00005
564774.00	4152232.00	0.00005
564799.00	4152232.00	0.00005
564824.00	4152232.00	0.00005
564849.00	4152232.00	0.00005
564874.00	4152232.00	0.00005
564899.00	4152232.00	0.00005
564924.00	4152232.00	0.00005
564274.00	4152257.00	0.00001
564299.00	4152257.00	0.00001
564324.00	4152257.00	0.00001
564349.00	4152257.00	0.00001
564374.00	4152257.00	0.00001
564399.00	4152257.00	0.00001
564424.00	4152257.00	0.00002
564449.00	4152257.00	0.00002
564474.00	4152257.00	0.00003
564499.00	4152257.00	0.00003
564524.00	4152257.00	0.00004
564549.00	4152257.00	0.00005
564574.00	4152257.00	0.00006
564599.00	4152257.00	0.00006
564624.00	4152257.00	0.00006
564649.00	4152257.00	0.00006
564674.00	4152257.00	0.00006
564699.00	4152257.00	0.00006
564724.00	4152257.00	0.00006
564749.00	4152257.00	0.00005
564774.00	4152257.00	0.00005
564799.00	4152257.00	0.00006
564824.00	4152257.00	0.00006
564849.00	4152257.00	0.00006
564874.00	4152257.00	0.00006

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/15/22
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN3 ***
INCLUDING SOURCE(S): STCK5 , STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564899.00	4152257.00	0.00006	564924.00	4152257.00	0.00005
564274.00	4152282.00	0.00001	564299.00	4152282.00	0.00001
564324.00	4152282.00	0.00001	564349.00	4152282.00	0.00001
564374.00	4152282.00	0.00001	564399.00	4152282.00	0.00001
564424.00	4152282.00	0.00002	564449.00	4152282.00	0.00002
564474.00	4152282.00	0.00003	564499.00	4152282.00	0.00003
564524.00	4152282.00	0.00004	564549.00	4152282.00	0.00005
564574.00	4152282.00	0.00007	564599.00	4152282.00	0.00008
564624.00	4152282.00	0.00009	564649.00	4152282.00	0.00008
564674.00	4152282.00	0.00007	564699.00	4152282.00	0.00006
564724.00	4152282.00	0.00006	564749.00	4152282.00	0.00006
564774.00	4152282.00	0.00006	564799.00	4152282.00	0.00006
564824.00	4152282.00	0.00006	564849.00	4152282.00	0.00006
564874.00	4152282.00	0.00006	564899.00	4152282.00	0.00006

564924.00	4152282.00	0.00005
564274.00	4152307.00	0.00001
564299.00	4152307.00	0.00001
564324.00	4152307.00	0.00001
564349.00	4152307.00	0.00001
564374.00	4152307.00	0.00001
564399.00	4152307.00	0.00001
564424.00	4152307.00	0.00002
564449.00	4152307.00	0.00002
564474.00	4152307.00	0.00002
564499.00	4152307.00	0.00003
564524.00	4152307.00	0.00004
564549.00	4152307.00	0.00007
564574.00	4152307.00	0.00010
564599.00	4152307.00	0.00011
564624.00	4152307.00	0.00011
564649.00	4152307.00	0.00010
564674.00	4152307.00	0.00008
564699.00	4152307.00	0.00007
564724.00	4152307.00	0.00006
564749.00	4152307.00	0.00006
564774.00	4152307.00	0.00007
564799.00	4152307.00	0.00007
564824.00	4152307.00	0.00007
564849.00	4152307.00	0.00007
564874.00	4152307.00	0.00006
564899.00	4152307.00	0.00006
564924.00	4152307.00	0.00006
564274.00	4152332.00	0.00001
564299.00	4152332.00	0.00001
564324.00	4152332.00	0.00001
564349.00	4152332.00	0.00001
564374.00	4152332.00	0.00001
564399.00	4152332.00	0.00001
564424.00	4152332.00	0.00002
564449.00	4152332.00	0.00002
564474.00	4152332.00	0.00003
564499.00	4152332.00	0.00004
564524.00	4152332.00	0.00005
564549.00	4152332.00	0.00008
564574.00	4152332.00	0.00010
564599.00	4152332.00	0.00011
564624.00	4152332.00	0.00011
564649.00	4152332.00	0.00010
564674.00	4152332.00	0.00009
564699.00	4152332.00	0.00007
564724.00	4152332.00	0.00007
564749.00	4152332.00	0.00007
564774.00	4152332.00	0.00007
564799.00	4152332.00	0.00007
564824.00	4152332.00	0.00007
564849.00	4152332.00	0.00007

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
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*** 08:06:15

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN3 ***
INCLUDING SOURCE(S): STCK5 , STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152332.00	0.00007	564899.00	4152332.00	0.00007
564924.00	4152332.00	0.00006	564274.00	4152357.00	0.00001
564299.00	4152357.00	0.00001	564324.00	4152357.00	0.00001
564349.00	4152357.00	0.00001	564374.00	4152357.00	0.00001
564399.00	4152357.00	0.00001	564424.00	4152357.00	0.00002
564449.00	4152357.00	0.00002	564474.00	4152357.00	0.00003
564499.00	4152357.00	0.00004	564524.00	4152357.00	0.00005
564549.00	4152357.00	0.00008	564574.00	4152357.00	0.00010
564599.00	4152357.00	0.00013	564624.00	4152357.00	0.00013
564649.00	4152357.00	0.00011	564674.00	4152357.00	0.00009
564699.00	4152357.00	0.00007	564724.00	4152357.00	0.00007
564749.00	4152357.00	0.00007	564774.00	4152357.00	0.00008
564799.00	4152357.00	0.00008	564824.00	4152357.00	0.00008
564849.00	4152357.00	0.00008	564874.00	4152357.00	0.00008

564899.00	4152357.00	0.00007
564924.00	4152357.00	0.00007
564274.00	4152382.00	0.00001
564299.00	4152382.00	0.00001
564324.00	4152382.00	0.00001
564349.00	4152382.00	0.00001
564374.00	4152382.00	0.00001
564399.00	4152382.00	0.00001
564424.00	4152382.00	0.00002
564449.00	4152382.00	0.00002
564474.00	4152382.00	0.00003
564499.00	4152382.00	0.00004
564524.00	4152382.00	0.00005
564549.00	4152382.00	0.00008
564574.00	4152382.00	0.00011
564649.00	4152382.00	0.00012
564674.00	4152382.00	0.00010
564699.00	4152382.00	0.00007
564724.00	4152382.00	0.00007
564749.00	4152382.00	0.00008
564774.00	4152382.00	0.00009
564799.00	4152382.00	0.00010
564824.00	4152382.00	0.00010
564849.00	4152382.00	0.00009
564874.00	4152382.00	0.00009
564899.00	4152382.00	0.00008
564924.00	4152382.00	0.00008
564274.00	4152407.00	0.00001
564299.00	4152407.00	0.00001
564324.00	4152407.00	0.00001
564349.00	4152407.00	0.00001
564374.00	4152407.00	0.00001
564399.00	4152407.00	0.00001
564424.00	4152407.00	0.00002
564449.00	4152407.00	0.00003
564474.00	4152407.00	0.00003
564499.00	4152407.00	0.00003
564524.00	4152407.00	0.00005
564549.00	4152407.00	0.00007
564674.00	4152407.00	0.00006
564699.00	4152407.00	0.00005
564724.00	4152407.00	0.00007
564749.00	4152407.00	0.00011
564774.00	4152407.00	0.00013
564799.00	4152407.00	0.00012
564824.00	4152407.00	0.00011
564849.00	4152407.00	0.00010
564874.00	4152407.00	0.00010
564899.00	4152407.00	0.00009
564924.00	4152407.00	0.00008
564274.00	4152432.00	0.00001
564299.00	4152432.00	0.00001

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
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*** AERMET - VERSION 14134 *** ***
*** 08:06:15

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN3 ***
INCLUDING SOURCE(S): STCK5 , STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564324.00	4152432.00	0.00001	564349.00	4152432.00	0.00001
564374.00	4152432.00	0.00001	564399.00	4152432.00	0.00001
564424.00	4152432.00	0.00002	564449.00	4152432.00	0.00002
564474.00	4152432.00	0.00003	564499.00	4152432.00	0.00003
564524.00	4152432.00	0.00005	564674.00	4152432.00	0.00005
564699.00	4152432.00	0.00006	564724.00	4152432.00	0.00014
564749.00	4152432.00	0.00017	564774.00	4152432.00	0.00015
564799.00	4152432.00	0.00013	564824.00	4152432.00	0.00012
564849.00	4152432.00	0.00010	564874.00	4152432.00	0.00009
564899.00	4152432.00	0.00008	564924.00	4152432.00	0.00008
564274.00	4152457.00	0.00001	564299.00	4152457.00	0.00001
564324.00	4152457.00	0.00001	564349.00	4152457.00	0.00001
564374.00	4152457.00	0.00001	564399.00	4152457.00	0.00001
564424.00	4152457.00	0.00002	564449.00	4152457.00	0.00002

564474.00	4152457.00	0.00003
564499.00	4152457.00	0.00004
564699.00	4152457.00	0.00008
564724.00	4152457.00	0.00013
564749.00	4152457.00	0.00014
564774.00	4152457.00	0.00013
564799.00	4152457.00	0.00012
564824.00	4152457.00	0.00010
564849.00	4152457.00	0.00009
564874.00	4152457.00	0.00008
564899.00	4152457.00	0.00008
564924.00	4152457.00	0.00007
564274.00	4152482.00	0.00001
564299.00	4152482.00	0.00001
564324.00	4152482.00	0.00001
564349.00	4152482.00	0.00001
564374.00	4152482.00	0.00001
564399.00	4152482.00	0.00001
564424.00	4152482.00	0.00002
564449.00	4152482.00	0.00003
564474.00	4152482.00	0.00003
564499.00	4152482.00	0.00004
564674.00	4152482.00	0.00003
564699.00	4152482.00	0.00003
564724.00	4152482.00	0.00005
564749.00	4152482.00	0.00008
564774.00	4152482.00	0.00009
564799.00	4152482.00	0.00008
564824.00	4152482.00	0.00008
564849.00	4152482.00	0.00007
564874.00	4152482.00	0.00007
564899.00	4152482.00	0.00007
564924.00	4152482.00	0.00006
564274.00	4152507.00	0.00001
564299.00	4152507.00	0.00001
564324.00	4152507.00	0.00001
564349.00	4152507.00	0.00001
564374.00	4152507.00	0.00001
564399.00	4152507.00	0.00001
564424.00	4152507.00	0.00002
564449.00	4152507.00	0.00003
564474.00	4152507.00	0.00003
564499.00	4152507.00	0.00004
564524.00	4152507.00	0.00004
564649.00	4152507.00	0.00008
564674.00	4152507.00	0.00004
564699.00	4152507.00	0.00004
564724.00	4152507.00	0.00003
564749.00	4152507.00	0.00004
564774.00	4152507.00	0.00005
564799.00	4152507.00	0.00005
564824.00	4152507.00	0.00005

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R ***
06/15/22
*** AERMET - VERSION 14134 *** ***
*** 08:06:15

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN3 ***
INCLUDING SOURCE(S):
STCK5 , STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152507.00	0.00005	564874.00	4152507.00	0.00005
564899.00	4152507.00	0.00005	564924.00	4152507.00	0.00005
564274.00	4152532.00	0.00001	564299.00	4152532.00	0.00001
564324.00	4152532.00	0.00001	564349.00	4152532.00	0.00001
564374.00	4152532.00	0.00001	564399.00	4152532.00	0.00001
564424.00	4152532.00	0.00002	564449.00	4152532.00	0.00002
564474.00	4152532.00	0.00003	564499.00	4152532.00	0.00004
564524.00	4152532.00	0.00004	564549.00	4152532.00	0.00005
564624.00	4152532.00	0.00008	564649.00	4152532.00	0.00005
564674.00	4152532.00	0.00004	564699.00	4152532.00	0.00004
564724.00	4152532.00	0.00003	564749.00	4152532.00	0.00003
564774.00	4152532.00	0.00003	564799.00	4152532.00	0.00003
564824.00	4152532.00	0.00004	564849.00	4152532.00	0.00004
564874.00	4152532.00	0.00004	564899.00	4152532.00	0.00004

564924.00	4152532.00	0.00004
564274.00	4152557.00	0.00001
564299.00	4152557.00	0.00001
564324.00	4152557.00	0.00001
564349.00	4152557.00	0.00001
564374.00	4152557.00	0.00001
564399.00	4152557.00	0.00002
564424.00	4152557.00	0.00002
564449.00	4152557.00	0.00002
564474.00	4152557.00	0.00003
564499.00	4152557.00	0.00004
564524.00	4152557.00	0.00004
564549.00	4152557.00	0.00004
564574.00	4152557.00	0.00005
564599.00	4152557.00	0.00005
564624.00	4152557.00	0.00005
564649.00	4152557.00	0.00004
564674.00	4152557.00	0.00004
564699.00	4152557.00	0.00003
564724.00	4152557.00	0.00003
564749.00	4152557.00	0.00003
564774.00	4152557.00	0.00002
564799.00	4152557.00	0.00002
564824.00	4152557.00	0.00002
564849.00	4152557.00	0.00003
564874.00	4152557.00	0.00003
564899.00	4152557.00	0.00003
564924.00	4152557.00	0.00003
564274.00	4152582.00	0.00001
564299.00	4152582.00	0.00001
564324.00	4152582.00	0.00001
564349.00	4152582.00	0.00001
564374.00	4152582.00	0.00001
564399.00	4152582.00	0.00002
564424.00	4152582.00	0.00002
564449.00	4152582.00	0.00002
564474.00	4152582.00	0.00003
564499.00	4152582.00	0.00003
564524.00	4152582.00	0.00004
564549.00	4152582.00	0.00004
564574.00	4152582.00	0.00004
564599.00	4152582.00	0.00004
564624.00	4152582.00	0.00004
564649.00	4152582.00	0.00003
564674.00	4152582.00	0.00003
564699.00	4152582.00	0.00003
564724.00	4152582.00	0.00003
564749.00	4152582.00	0.00002
564774.00	4152582.00	0.00002
564799.00	4152582.00	0.00002
564824.00	4152582.00	0.00002
564849.00	4152582.00	0.00002

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN3 ***
INCLUDING SOURCE(S): STCK5 , STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564874.00	4152582.00	0.00002	564899.00	4152582.00	0.00002
564924.00	4152582.00	0.00002	564274.00	4152607.00	0.00001
564299.00	4152607.00	0.00001	564324.00	4152607.00	0.00001
564349.00	4152607.00	0.00001	564374.00	4152607.00	0.00002
564399.00	4152607.00	0.00002	564424.00	4152607.00	0.00002
564449.00	4152607.00	0.00002	564474.00	4152607.00	0.00003
564499.00	4152607.00	0.00003	564524.00	4152607.00	0.00003
564549.00	4152607.00	0.00003	564574.00	4152607.00	0.00003
564599.00	4152607.00	0.00003	564624.00	4152607.00	0.00003
564649.00	4152607.00	0.00003	564674.00	4152607.00	0.00003
564699.00	4152607.00	0.00003	564724.00	4152607.00	0.00002
564749.00	4152607.00	0.00002	564774.00	4152607.00	0.00002
564799.00	4152607.00	0.00002	564824.00	4152607.00	0.00002
564849.00	4152607.00	0.00002	564874.00	4152607.00	0.00002

564899.00	4152607.00	0.00002
564924.00	4152607.00	0.00002
564274.00	4152632.00	0.00001
564299.00	4152632.00	0.00001
564324.00	4152632.00	0.00001
564349.00	4152632.00	0.00001
564374.00	4152632.00	0.00002
564399.00	4152632.00	0.00002
564424.00	4152632.00	0.00002
564449.00	4152632.00	0.00002
564474.00	4152632.00	0.00003
564499.00	4152632.00	0.00003
564524.00	4152632.00	0.00003
564549.00	4152632.00	0.00003
564574.00	4152632.00	0.00003
564599.00	4152632.00	0.00003
564624.00	4152632.00	0.00003
564649.00	4152632.00	0.00003
564674.00	4152632.00	0.00003
564699.00	4152632.00	0.00002
564724.00	4152632.00	0.00002
564749.00	4152632.00	0.00002
564774.00	4152632.00	0.00002
564799.00	4152632.00	0.00002
564824.00	4152632.00	0.00002
564849.00	4152632.00	0.00002
564874.00	4152632.00	0.00002
564899.00	4152632.00	0.00002
564924.00	4152632.00	0.00002
564274.00	4152657.00	0.00001
564299.00	4152657.00	0.00001
564324.00	4152657.00	0.00001
564349.00	4152657.00	0.00002
564374.00	4152657.00	0.00002
564399.00	4152657.00	0.00002
564424.00	4152657.00	0.00002
564449.00	4152657.00	0.00002
564474.00	4152657.00	0.00002
564499.00	4152657.00	0.00003
564524.00	4152657.00	0.00003
564549.00	4152657.00	0.00003
564574.00	4152657.00	0.00003
564599.00	4152657.00	0.00002
564624.00	4152657.00	0.00002
564649.00	4152657.00	0.00002
564674.00	4152657.00	0.00002
564699.00	4152657.00	0.00002
564724.00	4152657.00	0.00002
564749.00	4152657.00	0.00002
564774.00	4152657.00	0.00002
564799.00	4152657.00	0.00002
564824.00	4152657.00	0.00002

*** AERMOD - VERSION 21112 *** *** C:\Lakes\642-Quarry-Rd_San-Carlos_Construction_20220601\642-Quarry-R *** 06/15/22
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN3 ***
INCLUDING SOURCE(S): STCK5 , STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564849.00	4152657.00	0.00002	564874.00	4152657.00	0.00001
564899.00	4152657.00	0.00001	564924.00	4152657.00	0.00001
564274.00	4152682.00	0.00001	564299.00	4152682.00	0.00001
564324.00	4152682.00	0.00001	564349.00	4152682.00	0.00002
564374.00	4152682.00	0.00002	564399.00	4152682.00	0.00002
564424.00	4152682.00	0.00002	564449.00	4152682.00	0.00002
564474.00	4152682.00	0.00002	564499.00	4152682.00	0.00002
564524.00	4152682.00	0.00002	564549.00	4152682.00	0.00002
564574.00	4152682.00	0.00002	564599.00	4152682.00	0.00002
564624.00	4152682.00	0.00002	564649.00	4152682.00	0.00002
564674.00	4152682.00	0.00002	564699.00	4152682.00	0.00002
564724.00	4152682.00	0.00002	564749.00	4152682.00	0.00002
564774.00	4152682.00	0.00002	564799.00	4152682.00	0.00002
564824.00	4152682.00	0.00001	564849.00	4152682.00	0.00001

564874.00	4152682.00	0.00001
564899.00	4152682.00	0.00001
564924.00	4152682.00	0.00001
564274.00	4152707.00	0.00001
564299.00	4152707.00	0.00001
564324.00	4152707.00	0.00001
564349.00	4152707.00	0.00002
564374.00	4152707.00	0.00002
564399.00	4152707.00	0.00002
564424.00	4152707.00	0.00002
564449.00	4152707.00	0.00002
564474.00	4152707.00	0.00002
564499.00	4152707.00	0.00002
564524.00	4152707.00	0.00002
564549.00	4152707.00	0.00002
564574.00	4152707.00	0.00002
564599.00	4152707.00	0.00002
564624.00	4152707.00	0.00002
564649.00	4152707.00	0.00002
564674.00	4152707.00	0.00002
564699.00	4152707.00	0.00002
564724.00	4152707.00	0.00002
564749.00	4152707.00	0.00002
564774.00	4152707.00	0.00002
564799.00	4152707.00	0.00002
564824.00	4152707.00	0.00001
564849.00	4152707.00	0.00001
564874.00	4152707.00	0.00001
564899.00	4152707.00	0.00001
564924.00	4152707.00	0.00001
564274.00	4152732.00	0.00001
564299.00	4152732.00	0.00001
564324.00	4152732.00	0.00002
564349.00	4152732.00	0.00002
564374.00	4152732.00	0.00002
564399.00	4152732.00	0.00002
564424.00	4152732.00	0.00002
564449.00	4152732.00	0.00002
564474.00	4152732.00	0.00002
564499.00	4152732.00	0.00002
564524.00	4152732.00	0.00002
564549.00	4152732.00	0.00002
564574.00	4152732.00	0.00002
564599.00	4152732.00	0.00002
564624.00	4152732.00	0.00002
564649.00	4152732.00	0.00002
564674.00	4152732.00	0.00002
564699.00	4152732.00	0.00002
564724.00	4152732.00	0.00002
564749.00	4152732.00	0.00002
564774.00	4152732.00	0.00002
564799.00	4152732.00	0.00001

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN3 ***
INCLUDING SOURCE(S): STCK5 , STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564824.00	4152732.00	0.00001	564849.00	4152732.00	0.00001
564874.00	4152732.00	0.00001	564899.00	4152732.00	0.00001
564924.00	4152732.00	0.00001	564274.00	4152757.00	0.00001
564299.00	4152757.00	0.00001	564324.00	4152757.00	0.00002
564349.00	4152757.00	0.00002	564374.00	4152757.00	0.00002
564399.00	4152757.00	0.00002	564424.00	4152757.00	0.00002
564449.00	4152757.00	0.00002	564474.00	4152757.00	0.00002
564499.00	4152757.00	0.00002	564524.00	4152757.00	0.00002
564549.00	4152757.00	0.00002	564574.00	4152757.00	0.00002
564599.00	4152757.00	0.00002	564624.00	4152757.00	0.00002
564649.00	4152757.00	0.00002	564674.00	4152757.00	0.00002
564699.00	4152757.00	0.00002	564724.00	4152757.00	0.00002
564749.00	4152757.00	0.00002	564774.00	4152757.00	0.00001
564799.00	4152757.00	0.00001	564824.00	4152757.00	0.00001

564849.00	4152757.00	0.00001
564874.00	4152757.00	0.00001
564899.00	4152757.00	0.00001
564924.00	4152757.00	0.00001
564274.00	4152782.00	0.00001
564299.00	4152782.00	0.00001
564324.00	4152782.00	0.00001
564349.00	4152782.00	0.00002
564374.00	4152782.00	0.00002
564399.00	4152782.00	0.00002
564424.00	4152782.00	0.00002
564449.00	4152782.00	0.00002
564474.00	4152782.00	0.00002
564499.00	4152782.00	0.00002
564524.00	4152782.00	0.00002
564549.00	4152782.00	0.00002
564574.00	4152782.00	0.00002
564599.00	4152782.00	0.00002
564624.00	4152782.00	0.00002
564649.00	4152782.00	0.00002
564674.00	4152782.00	0.00002
564699.00	4152782.00	0.00002
564724.00	4152782.00	0.00002
564749.00	4152782.00	0.00001
564774.00	4152782.00	0.00001
564799.00	4152782.00	0.00001
564824.00	4152782.00	0.00001
564849.00	4152782.00	0.00001
564874.00	4152782.00	0.00001
564899.00	4152782.00	0.00001
564924.00	4152782.00	0.00001
564633.05	4152455.77	0.00009
564645.05	4152455.77	0.00007
564647.05	4152455.77	0.00007
564649.05	4152455.77	0.00007
564631.05	4152457.77	0.00009
564633.05	4152457.77	0.00009
564635.05	4152457.77	0.00008
564645.05	4152457.77	0.00007
564647.05	4152457.77	0.00007
564649.05	4152457.77	0.00007
564651.05	4152457.77	0.00006
564629.05	4152459.77	0.00009
564631.05	4152459.77	0.00009
564633.05	4152459.77	0.00008
564635.05	4152459.77	0.00008
564637.05	4152459.77	0.00008
564643.05	4152459.77	0.00007
564645.05	4152459.77	0.00007
564647.05	4152459.77	0.00007
564649.05	4152459.77	0.00006
564651.05	4152459.77	0.00006

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GEN3 ***
INCLUDING SOURCE(S): STCK5 , STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
564653.05	4152459.77	0.00006	564631.05	4152461.77	0.00008
564633.05	4152461.77	0.00008	564635.05	4152461.77	0.00008
564637.05	4152461.77	0.00008	564639.05	4152461.77	0.00007
564641.05	4152461.77	0.00007	564643.05	4152461.77	0.00007
564645.05	4152461.77	0.00007	564647.05	4152461.77	0.00007
564649.05	4152461.77	0.00006	564651.05	4152461.77	0.00006
564653.05	4152461.77	0.00006	564655.05	4152461.77	0.00006
564633.05	4152463.77	0.00008	564635.05	4152463.77	0.00008
564637.05	4152463.77	0.00007	564639.05	4152463.77	0.00007
564641.05	4152463.77	0.00007	564643.05	4152463.77	0.00007
564645.05	4152463.77	0.00007	564647.05	4152463.77	0.00006
564649.05	4152463.77	0.00006	564651.05	4152463.77	0.00006
564653.05	4152463.77	0.00006	564655.05	4152463.77	0.00005
564635.05	4152465.77	0.00007	564637.05	4152465.77	0.00007

564639.05	4152465.77	0.00007
564641.05	4152465.77	0.00007
564643.05	4152465.77	0.00007
564645.05	4152465.77	0.00006
564647.05	4152465.77	0.00006
564649.05	4152465.77	0.00006
564651.05	4152465.77	0.00006
564653.05	4152465.77	0.00006
564637.05	4152467.77	0.00007
564639.05	4152467.77	0.00007
564641.05	4152467.77	0.00007
564643.05	4152467.77	0.00007
564645.05	4152467.77	0.00006
564647.05	4152467.77	0.00006
564649.05	4152467.77	0.00006
564651.05	4152467.77	0.00006
564639.05	4152469.77	0.00007
564641.05	4152469.77	0.00007
564643.05	4152469.77	0.00006
564645.05	4152469.77	0.00006
564647.05	4152469.77	0.00006
564649.05	4152469.77	0.00006
564641.05	4152471.77	0.00006
564643.05	4152471.77	0.00006
564645.05	4152471.77	0.00006
564647.05	4152471.77	0.00006

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL URBAN

*** THE SUMMARY OF MAXIMUM PERIOD (43872 HRS) RESULTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

NETWORK
GROUP ID AVERAGE CONC
RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE GRID-ID
- -

GEN_ALL 1ST HIGHEST VALUE IS 0.00048 AT (564749.00, 4152432.00, 6.38, 172.72, 1.50) DC
2ND HIGHEST VALUE IS 0.00045 AT (564774.00, 4152432.00, 6.37, 172.72, 1.50) DC
3RD HIGHEST VALUE IS 0.00044 AT (564749.00, 4152457.00, 6.32, 172.72, 1.50) DC
4TH HIGHEST VALUE IS 0.00042 AT (564724.00, 4152457.00, 6.34, 172.72, 1.50) DC
5TH HIGHEST VALUE IS 0.00041 AT (564624.00, 4152357.00, 7.23, 172.72, 1.50) DC
6TH HIGHEST VALUE IS 0.00041 AT (564774.00, 4152457.00, 6.28, 172.72, 1.50) DC
7TH HIGHEST VALUE IS 0.00041 AT (564724.00, 4152432.00, 6.44, 172.72, 1.50) DC
8TH HIGHEST VALUE IS 0.00041 AT (564599.00, 4152357.00, 7.65, 172.72, 1.50) DC
9TH HIGHEST VALUE IS 0.00040 AT (564799.00, 4152432.00, 6.09, 172.72, 1.50) DC
10TH HIGHEST VALUE IS 0.00036 AT (564774.00, 4152407.00, 6.53, 172.72, 1.50) DC

GEN1 1ST HIGHEST VALUE IS 0.00015 AT (564749.00, 4152432.00, 6.38, 172.72, 1.50) DC
2ND HIGHEST VALUE IS 0.00015 AT (564749.00, 4152457.00, 6.32, 172.72, 1.50) DC
3RD HIGHEST VALUE IS 0.00015 AT (564724.00, 4152457.00, 6.34, 172.72, 1.50) DC
4TH HIGHEST VALUE IS 0.00015 AT (564774.00, 4152432.00, 6.37, 172.72, 1.50) DC

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          5TH HIGHEST VALUE IS        0.00014 AT (  564624.00,
4152357.00,      7.23,   172.72,     1.50)  DC
          6TH HIGHEST VALUE IS        0.00014 AT (  564599.00,
4152357.00,      7.65,   172.72,     1.50)  DC
          7TH HIGHEST VALUE IS        0.00014 AT (  564774.00,
4152457.00,      6.28,   172.72,     1.50)  DC
          8TH HIGHEST VALUE IS        0.00013 AT (  564799.00,
4152432.00,      6.09,   172.72,     1.50)  DC
          9TH HIGHEST VALUE IS        0.00013 AT (  564724.00,
4152432.00,      6.44,   172.72,     1.50)  DC
         10TH HIGHEST VALUE IS        0.00013 AT (  564574.00,
4152382.00,      7.94,   172.72,     1.50)  DC

GEN2      1ST HIGHEST VALUE IS        0.00016 AT (  564749.00,
4152432.00,      6.38,   172.72,     1.50)  DC
          2ND HIGHEST VALUE IS        0.00015 AT (  564774.00,
4152432.00,      6.37,   172.72,     1.50)  DC
          3RD HIGHEST VALUE IS        0.00015 AT (  564749.00,
4152457.00,      6.32,   172.72,     1.50)  DC
          4TH HIGHEST VALUE IS        0.00014 AT (  564724.00,
4152457.00,      6.34,   172.72,     1.50)  DC
          5TH HIGHEST VALUE IS        0.00014 AT (  564774.00,
4152457.00,      6.28,   172.72,     1.50)  DC
          6TH HIGHEST VALUE IS        0.00014 AT (  564624.00,
4152357.00,      7.23,   172.72,     1.50)  DC
          7TH HIGHEST VALUE IS        0.00014 AT (  564599.00,
4152357.00,      7.65,   172.72,     1.50)  DC
          8TH HIGHEST VALUE IS        0.00013 AT (  564724.00,
4152432.00,      6.44,   172.72,     1.50)  DC
          9TH HIGHEST VALUE IS        0.00013 AT (  564799.00,
4152432.00,      6.09,   172.72,     1.50)  DC
         10TH HIGHEST VALUE IS        0.00012 AT (  564574.00,
4152382.00,      7.94,   172.72,     1.50)  DC

GEN3      1ST HIGHEST VALUE IS        0.00017 AT (  564749.00,
4152432.00,      6.38,   172.72,     1.50)  DC
          2ND HIGHEST VALUE IS        0.00015 AT (  564774.00,
4152432.00,      6.37,   172.72,     1.50)  DC
          3RD HIGHEST VALUE IS        0.00014 AT (  564724.00,
4152432.00,      6.44,   172.72,     1.50)  DC
          4TH HIGHEST VALUE IS        0.00014 AT (  564749.00,
4152457.00,      6.32,   172.72,     1.50)  DC
          5TH HIGHEST VALUE IS        0.00013 AT (  564799.00,
4152432.00,      6.09,   172.72,     1.50)  DC
          6TH HIGHEST VALUE IS        0.00013 AT (  564774.00,
4152457.00,      6.28,   172.72,     1.50)  DC
          7TH HIGHEST VALUE IS        0.00013 AT (  564724.00,
4152457.00,      6.34,   172.72,     1.50)  DC
          8TH HIGHEST VALUE IS        0.00013 AT (  564774.00,
4152407.00,      6.53,   172.72,     1.50)  DC
          9TH HIGHEST VALUE IS        0.00013 AT (  564624.00,
4152357.00,      7.23,   172.72,     1.50)  DC
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        10TH HIGHEST VALUE IS       0.00013 AT (  564599.00,
4152357.00,     7.65,   172.72,    1.50)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  FLGPOL  URBAN

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of             0 Fatal Error Message(s)
 A Total of             0 Warning Message(s)
 A Total of         20266 Informational Message(s)

 A Total of         43872 Hours Were Processed

 A Total of          7316 Calm Hours Identified

 A Total of         12950 Missing Hours Identified ( 29.52 Percent)

 CAUTION!:  Number of Missing Hours Exceeds 10 Percent of Total!
            Data May Not Be Acceptable for Regulatory Applications.
            See Section 5.3.2 of "Meteorological Monitoring Guidance
            for Regulatory Modeling Applications" (EPA-454/R-99-005).


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
               ***  NONE  ***


    ************************************
    *** AERMOD Finishes Successfully ***
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642 Quarry Road Project IS/MND

Appendix E: Lab Biosafety Level Criteria

Biosafety in Microbiological and Biomedical Laboratories

6th Edition

U.S. Department of Health and Human Services
Public Health Service
Centers for Disease Control and Prevention
National Institutes of Health

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Section IV—Laboratory Biosafety Level Criteria

The essential elements of the Biosafety Levels 1–4 are standard microbiological practices, special practices, safety equipment, and laboratory facilities as discussed in Section III; these elements apply to activities involving infectious microorganisms, toxins, and laboratory animals. The four levels are organized in ascending order by the degree of protection provided to personnel, the environment, and the community. Special practices address any unique risks associated with the handling of agents requiring increasing levels of containment. Appropriate safety equipment and laboratory facilities enhance worker and environmental protection.

The features of each Biosafety Level (BSL) are summarized in Table 1 of this section. Adjustments to the containment levels described are based on an assessment of all risks, as detailed in Section II. Each facility ensures that worker safety and health concerns are coordinated with the Institutional Biosafety Committee (IBC), or equivalent resource, and/or other applicable institutional safety committee(s) and that all hazards are addressed as part of the protocol review process. Additional occupational health information is provided in Section VII.

Biosafety Level 1

Biosafety Level 1 (BSL-1) is suitable for work involving well-characterized agents not known to consistently cause disease in immunocompetent adult humans and that present minimal potential hazard to laboratory personnel and the environment. BSL-1 laboratories are not necessarily separated from the general traffic patterns in the building. Work is typically conducted on open benchtops using standard microbiological practices. Special containment equipment or facility design is not generally required but may be used as determined by appropriate risk assessment. Laboratory personnel receive specific training in the procedures conducted in the laboratory and are supervised by a scientist with training in microbiology or a related science.

The following standard practices, safety equipment, and facility specifications are recommended for BSL-1.

A. Standard Microbiological Practices

1. The laboratory supervisor enforces the institutional policies that control safety in and access to the laboratory.
2. The laboratory supervisor ensures that laboratory personnel receive appropriate training regarding their duties, potential hazards, manipulations of infectious agents, necessary precautions to minimize exposures, and hazard/exposure evaluation procedures (e.g., physical hazards, splashes, aerosolization) and that appropriate records are maintained.

Personnel receive annual updates and additional training when equipment, procedures, or policies change. All persons entering the facility are advised of the potential hazards, are instructed on the appropriate safeguards, and read and follow instructions on practices and procedures. An institutional policy regarding visitor training, occupational health requirements, and safety communication is considered.

3. Personal health status may affect an individual's susceptibility to infection and ability to receive available immunizations or prophylactic interventions. Therefore, all personnel, and particularly those of reproductive age and/or those having conditions that may predispose them to increased risk for infection (e.g., organ transplant, medical immunosuppressive agents), are provided information regarding immune competence and susceptibility to infectious agents. Individuals having such conditions are encouraged to self-identify to the institution's healthcare provider for appropriate counseling and guidance. See Section VII.

4. A safety manual specific to the facility is prepared or adopted in consultation with the facility director and appropriate safety professionals. The safety manual is available, accessible, and periodically reviewed and updated, as necessary.

    a. The safety manual contains sufficient information to describe the biosafety and containment procedures for the organisms and biological materials in use, appropriate agent-specific decontamination methods, and the work performed.

    b. The safety manual contains or references protocols for emergency situations, including exposures, medical emergencies, facility malfunctions, and other potential emergencies. Training in emergency response procedures is provided to emergency response personnel and other responsible staff according to institutional policies.

5. A sign is posted at the entrance to the laboratory when infectious materials are present. Posted information includes: the laboratory's Biosafety Level, the supervisor's or other responsible personnel's name and telephone number, PPE requirements, general occupational health requirements (e.g., immunizations, respiratory protection), and required procedures for entering and exiting the laboratory. Agent information is posted in accordance with the institutional policy.

6. Long hair is restrained so that it cannot contact hands, specimens, containers, or equipment.

7. Gloves are worn to protect hands from exposure to hazardous materials.
    a. Glove selection is based on an appropriate risk assessment.
    b. Gloves are not worn outside the laboratory.
    c. Change gloves when contaminated, glove integrity is compromised, or when otherwise necessary.
    d. Do not wash or reuse disposable gloves, and dispose of used gloves with other contaminated laboratory waste.
8. Gloves and other PPE are removed in a manner that minimizes personal contamination and transfer of infectious materials outside of the areas where infectious materials and/or animals are housed or manipulated.
9. Persons wash their hands after working with potentially hazardous materials and before leaving the laboratory.
10. Eating, drinking, smoking, handling contact lenses, applying cosmetics, and storing food for human consumption are not permitted in laboratory areas. Food is stored outside the laboratory area.
11. Mouth pipetting is prohibited. Mechanical pipetting devices are used.
12. Policies for the safe handling of sharps, such as needles, scalpels, pipettes, and broken glassware are developed, implemented, and followed; policies are consistent with applicable state, federal, and local requirements. Whenever practical, laboratory supervisors adopt improved engineering and work practice controls that reduce risk of sharps injuries. Precautions are always taken with sharp items. These include:
    a. Plasticware is substituted for glassware whenever possible.
    b. Use of needles and syringes or other sharp instruments is limited in the laboratory and is restricted to situations where there is no alternative (e.g., parenteral injection, blood collection, or aspiration of fluids from laboratory animals or diaphragm bottles). Active or passive needle-based safety devices are to be used whenever possible.
        i. Uncapping of needles is performed in such a manner to reduce the potential for recoil causing an accidental needlestick.
        ii. Needles are not bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal.
        iii. If absolutely necessary to remove a needle from a syringe (e.g., to prevent lysing blood cells) or recap a needle

(e.g., loading syringes in one room and injecting animals in another), a hands-free device or comparable safety procedure must be used (e.g., a needle remover on a sharps container, the use of forceps to hold the cap when recapping a needle).

iv. Used, disposable needles and syringes are carefully placed in puncture-resistant containers used for sharps disposal immediately after use. The sharps disposal container is located as close to the point of use as possible.

c. Non-disposable sharps are placed in a hard-walled container for transport to a processing area for decontamination, preferably by autoclaving.

d. Broken glassware is not handled directly. Instead, it is removed using a brush and dustpan, tongs, or forceps.

13. Perform all procedures to minimize the creation of splashes and/or aerosols.

14. Decontaminate work surfaces after completion of work and after any spill or splash of potentially infectious material with appropriate disinfectant. Spills involving infectious materials are contained, decontaminated, and cleaned up by staff who are properly trained and equipped to work with infectious material. A spill procedure is developed and posted within the laboratory.

15. Decontaminate all cultures, stocks, and other potentially infectious materials before disposal using an effective method, consistent with applicable institutional, local, and state requirements. Depending on where the decontamination will be performed, the following methods are used prior to transport:

    a. Materials to be decontaminated outside of the immediate laboratory are placed in a durable, leak-proof container and secured for transport. For infectious materials, the outer surface of the container is disinfected prior to moving materials and the transport container has a universal biohazard label.

    b. Materials to be removed from the facility for decontamination are packed in accordance with applicable local, state, and federal regulations.

16. An effective integrated pest management program is implemented. See Appendix G.

17. Animals and plants not associated with the work being performed are not permitted in the laboratory.

B. Special Practices

None required.

C. Safety Equipment (Primary Barriers and Personal Protective Equipment)

1. Special containment devices or equipment, such as biosafety cabinets (BSCs), are not generally required.
2. Protective laboratory coats, gowns, or uniforms are worn to prevent contamination of personal clothing.
3. Protective eyewear is worn by personnel when conducting procedures that have the potential to create splashes and sprays of microorganisms or other hazardous materials. Eye protection and face protection are disposed of with other contaminated laboratory waste or decontaminated after use.
4. In circumstances where research animals are present in the laboratory, the risk assessment considers appropriate eye, face, and respiratory protection, as well as potential animal allergens.

D. Laboratory Facilities (Secondary Barriers)

1. Laboratories have doors for access control.
2. Laboratories have a sink for handwashing.
3. An eyewash station is readily available in the laboratory.
4. The laboratory is designed so that it can be easily cleaned.
    a. Carpets and rugs in laboratories are not appropriate.
    b. Spaces between benches, cabinets, and equipment are accessible for cleaning.
5. Laboratory furniture can support anticipated loads and uses.
    a. Benchtops are impervious to water and resistant to heat, organic solvents, acids, alkalis, and other chemicals.
    b. Chairs used in laboratory work are covered with a non-porous material that can be easily cleaned and decontaminated with appropriate disinfectant.
6. Laboratory windows that open to the exterior are fitted with screens.
7. Illumination is adequate for all activities and avoids reflections and glare that could impede vision.

Biosafety Level 2

Biosafety Level 2 (BSL-2) builds upon BSL-1. BSL-2 is suitable for work with agents associated with human disease and pose moderate hazards to personnel and the environment. BSL-2 differs from BSL-1 primarily because: 1) laboratory personnel receive specific training in handling pathogenic agents and are supervised by scientists competent in handling infectious agents and associated procedures; 2) access to the laboratory is restricted when work is being conducted; and 3) all procedures in which infectious aerosols or splashes may be created are conducted in BSCs or other physical containment equipment.

The following standard and special practices, safety equipment, and facility specifications are recommended for BSL-2.

A. Standard Microbiological Practices

1. The laboratory supervisor enforces the institutional policies that control safety in and access to the laboratory.
2. The laboratory supervisor ensures that laboratory personnel receive appropriate training regarding their duties, potential hazards, manipulations of infectious agents, necessary precautions to minimize exposures, and hazard/exposure evaluation procedures (e.g., physical hazards, splashes, aerosolization) and that appropriate records are maintained. Personnel receive annual updates and additional training when equipment, procedures, or policies change. All persons entering the facility are advised of the potential hazards, are instructed on the appropriate safeguards, and read and follow instructions on practices and procedures. An institutional policy regarding visitor training, occupational health requirements, and safety communication is considered.
3. Personal health status may affect an individual's susceptibility to infection and ability to receive available immunizations or prophylactic interventions. Therefore, all personnel, and particularly those of reproductive age and/or those having conditions that may predispose them to increased risk for infection (e.g., organ transplant, medical immunosuppressive agents), are provided information regarding immune competence and susceptibility to infectious agents. Individuals having such conditions are encouraged to self-identify to the institution's healthcare provider for appropriate counseling and guidance. See Section VII.
4. A safety manual specific to the facility is prepared or adopted in consultation with the facility director and appropriate safety professionals. The safety manual is available, accessible, and periodically reviewed and updated as necessary.

   a. The safety manual contains sufficient information to describe the biosafety and containment procedures for the organisms and biological materials in use, appropriate agent-specific decontamination methods, and the work performed.

   b. The safety manual contains or references protocols for emergency situations, including exposures, medical emergencies, facility malfunctions, and other potential emergencies. Training in emergency response procedures is provided to emergency response personnel and other responsible staff according to institutional policies.

5. A sign incorporating the universal biohazard symbol is posted at the entrance to the laboratory when infectious materials are present. Posted information includes: the laboratory's Biosafety Level, the supervisor's or other responsible personnel's name and telephone number, PPE requirements, general occupational health requirements (e.g., immunizations, respiratory protection), and required procedures for entering and exiting the laboratory. Agent information is posted in accordance with the institutional policy.

6. Long hair is restrained so that it cannot contact hands, specimens, containers, or equipment.

7. Gloves are worn to protect hands from exposure to hazardous materials.

   a. Glove selection is based on an appropriate risk assessment.

   b. Gloves are not worn outside the laboratory.

   c. Change gloves when contaminated, glove integrity is compromised, or when otherwise necessary.

   d. Do not wash or reuse disposable gloves, and dispose of used gloves with other contaminated laboratory waste.

8. Gloves and other PPE are removed in a manner that minimizes personal contamination and transfer of infectious materials outside of the areas where infectious materials and/or animals are housed or manipulated.

9. Persons wash their hands after working with potentially hazardous materials and before leaving the laboratory.

10. Eating, drinking, smoking, handling contact lenses, applying cosmetics, and storing food for human consumption are not permitted in laboratory areas. Food is stored outside the laboratory area.

11. Mouth pipetting is prohibited. Mechanical pipetting devices are used.

12. Policies for the safe handling of sharps, such as needles, scalpels, pipettes, and broken glassware are developed, implemented, and followed; policies are consistent with applicable state, federal, and local requirements. Whenever practical, laboratory supervisors adopt improved engineering and work practice controls that reduce risk of sharps injuries. Precautions are always taken with sharp items. These include:
    a. Plasticware is substituted for glassware whenever possible.
    b. Use of needles and syringes or other sharp instruments is limited in the laboratory and is restricted to situations where there is no alternative (e.g., parenteral injection, blood collection, or aspiration of fluids from laboratory animals or diaphragm bottles). Active or passive needle-based safety devices are to be used whenever possible.
        i. Uncapping of needles is performed in such a manner to reduce the potential for recoil causing an accidental needlestick.
        ii. Needles are not bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal.
        iii. If absolutely necessary to remove a needle from a syringe (e.g., to prevent lysing blood cells) or recap a needle (e.g., loading syringes in one room and injecting animals in another), a hands-free device or comparable safety procedure must be used (e.g., a needle remover on a sharps container, the use of forceps to hold the cap when recapping a needle).
        iv. Used, disposable needles and syringes are carefully placed in puncture-resistant containers used for sharps disposal immediately after use. The sharps disposal container is located as close to the point of use as possible.
    c. Non-disposable sharps are placed in a hard-walled container for transport to a processing area for decontamination, preferably by autoclaving.
    d. Broken glassware is not handled directly. Instead, it is removed using a brush and dustpan, tongs, or forceps.
13. Perform all procedures to minimize the creation of splashes and/or aerosols.

14. Decontaminate work surfaces after completion of work and after any spill or splash of potentially infectious material with appropriate disinfectant. Spills involving infectious materials are contained, decontaminated, and cleaned up by staff who are properly trained and equipped to work with infectious material. A spill procedure is developed and posted within the laboratory.
15. Decontaminate all cultures, stocks, and other potentially infectious materials before disposal using an effective method, consistent with applicable institutional, local, and state requirements. Depending on where the decontamination will be performed, the following methods are used prior to transport:
    a. Materials to be decontaminated outside of the immediate laboratory are placed in a durable, leak-proof container and secured for transport. For infectious materials, the outer surface of the container is disinfected prior to moving materials and the transport container has a universal biohazard label.
    b. Materials to be removed from the facility for decontamination are packed in accordance with applicable local, state, and federal regulations.
16. An effective integrated pest management program is implemented. See Appendix G.
17. Animals and plants not associated with the work being performed are not permitted in the laboratory.

B. Special Practices

1. Access to the laboratory is controlled when work is being conducted.
2. The laboratory supervisor is responsible for ensuring that laboratory personnel demonstrate proficiency in standard microbiological practices and techniques for working with agents requiring BSL-2 containment.
3. Laboratory personnel are provided medical surveillance, as appropriate, and offered available immunizations for agents handled or potentially present in the laboratory.
4. Properly maintained BSCs or other physical containment devices are used, when possible, whenever:
    a. Procedures with a potential for creating infectious aerosols or splashes are conducted. These include pipetting, centrifuging, grinding, blending, shaking, mixing, sonicating, opening containers of infectious materials, inoculating animals intranasally, and harvesting infected tissues from animals or eggs.

b. High concentrations or large volumes of infectious agents are used. Such materials may be centrifuged in the open laboratory using sealed rotors or centrifuge safety cups with loading and unloading of the rotors and centrifuge safety cups in the BSC or another containment device.

c. If it is not possible to perform a procedure within a BSC or other physical containment device, a combination of appropriate personal protective equipment and administrative controls are used, based on a risk assessment.

5. Laboratory equipment is decontaminated routinely; after spills, splashes, or other potential contamination; and before repair, maintenance, or removal from the laboratory.

6. A method for decontaminating all laboratory waste is available (e.g., autoclave, chemical disinfection, incineration, or other validated decontamination method).

7. Incidents that may result in exposure to infectious materials are immediately evaluated per institutional policies. All such incidents are reported to the laboratory supervisor and any other personnel designated by the institution. Appropriate records are maintained.

C. Safety Equipment (Primary Barriers and Personal Protective Equipment).

1. Protective laboratory coats, gowns, or uniforms designated for laboratory use are worn while working with hazardous materials and removed before leaving for non-laboratory areas (e.g., cafeteria, library, and administrative offices). Protective clothing is disposed of appropriately or deposited for laundering by the institution. Laboratory clothing is not taken home.

2. Eye protection and face protection (e.g., safety glasses, goggles, mask, face shield or other splatter guard) are used for manipulations or activities that may result in splashes or sprays of infectious or other hazardous materials. Eye protection and face protection are disposed of with other contaminated laboratory waste or decontaminated after use.

3. The risk assessment considers whether respiratory protection is needed for the work with hazardous materials. If needed, relevant staff are enrolled in a properly constituted respiratory protection program.

4. In circumstances where research animals are present in the laboratory, the risk assessment considers appropriate eye, face, and respiratory protection, as well as potential animal allergens.

D. Laboratory Facilities (Secondary Barriers)

1. Laboratory doors are self-closing and have locks in accordance with the institutional policies.
2. Laboratories have a sink for handwashing. It should be located near the exit door.
3. An eyewash station is readily available in the laboratory.
4. The laboratory is designed so that it can be easily cleaned.
    a. Carpets and rugs in laboratories are not appropriate.
    b. Spaces between benches, cabinets, and equipment are accessible for cleaning.
5. Laboratory furniture can support anticipated loads and uses.
    a. Benchtops are impervious to water and resistant to heat, organic solvents, acids, alkalis, and other chemicals.
    b. Chairs used in laboratory work are covered with a non-porous material that can be easily cleaned and decontaminated with appropriate disinfectant.
6. Laboratory windows that open to the exterior are not recommended. However, if a laboratory does have windows that open to the exterior, they are fitted with screens.
7. Illumination is adequate for all activities and avoids reflections and glare that could impede vision.
8. Vacuum lines in use are protected with liquid disinfectant traps and in-line HEPA filters or their equivalent. See Appendix A, Figure 11. Filters are replaced, as needed, or are on a replacement schedule determined by a risk assessment.
9. There are no specific requirements for ventilation systems. However, the planning of new facilities considers mechanical ventilation systems that provide an inward flow of air without recirculation to spaces outside of the laboratory.
10. BSCs and other primary containment barrier systems are installed and operated in a manner to ensure their effectiveness. See Appendix A.
    a. BSCs are installed so that fluctuations of the room air supply and exhaust do not interfere with proper operations. BSCs are located away from doors, windows that can be opened, heavily traveled laboratory areas, and other possible airflow disruptions.

b. BSCs can be connected to the laboratory exhaust system by either a canopy connection (Class IIA only) or directly exhausted to the outside through a hard connection (Class IIB, IIC, or III). Class IIA or IIC BSC exhaust can be safely recirculated back into the laboratory environment if no volatile toxic chemicals are used in the cabinet.

c. BSCs are certified at least annually to ensure correct performance, or as specified in Appendix A, Part 7.

Biosafety Level 3

Biosafety Level 3 (BSL-3) is suitable for work with indigenous or exotic agents that may cause serious or potentially lethal disease through the inhalation route of exposure. Laboratory personnel receive specific training in handling pathogenic and potentially lethal agents, and they are supervised by scientists competent in handling infectious agents and associated procedures.

A BSL-3 laboratory has special engineering and design features.

The following standard and special practices, safety equipment, and facility specifications are recommended for BSL-3.

A. Standard Microbiological Practices

1. The laboratory supervisor enforces the institutional policies that control safety in and access to the laboratory.
2. The laboratory supervisor ensures that laboratory personnel receive appropriate training regarding their duties, potential hazards, manipulations of infectious agents, necessary precautions to minimize exposures, and hazard/exposure evaluation procedures (e.g., physical hazards, splashes, aerosolization) and that appropriate records are maintained. Personnel receive annual updates and additional training when equipment, procedures, or policies change. All persons entering the facility are advised of the potential hazards, are instructed on the appropriate safeguards, and read and follow instructions on practices and procedures. An institutional policy regarding visitor training, occupational health requirements, and safety communication is considered.
3. Personal health status may affect an individual's susceptibility to infection and ability to receive available immunizations or prophylactic interventions. Therefore, all personnel, and particularly those of reproductive age and/or those having conditions that may predispose them to increased risk for infection (e.g., organ transplant, medical immunosuppressive agents), are provided information regarding immune competence and susceptibility to infectious agents. Individuals having

such conditions are encouraged to self-identify to the institution's healthcare provider for appropriate counseling and guidance. See Section VII.

4. A safety manual specific to the facility is prepared or adopted in consultation with the facility director and appropriate safety professionals. The safety manual is available, accessible, and periodically reviewed and updated as necessary.
    a. The safety manual contains sufficient information to describe the biosafety and containment procedures for the organisms and biological materials in use, appropriate agent-specific decontamination methods, and the work performed.
    b. The safety manual contains or references protocols for emergency situations, including exposures, medical emergencies, facility malfunctions, and other potential emergencies. Training in emergency response procedures is provided to emergency response personnel and other responsible staff according to institutional policies.
5. A sign incorporating the universal biohazard symbol is posted at the entrance to the laboratory when infectious materials are present. Posted information includes: the laboratory's Biosafety Level, the supervisor's or other responsible personnel's name and telephone number, PPE requirements, general occupational health requirements (e.g., immunizations, respiratory protection), and required procedures for entering and exiting the laboratory. Agent information is posted in accordance with the institutional policy.
6. Long hair is restrained so that it cannot contact hands, specimens, containers, or equipment.
7. Gloves are worn to protect hands from exposure to hazardous materials.
    a. Glove selection is based on an appropriate risk assessment.
    b. Gloves are not worn outside the laboratory.
    c. Change gloves when contaminated, glove integrity is compromised, or when otherwise necessary.
    d. Do not wash or reuse disposable gloves and dispose of used gloves with other contaminated laboratory waste.
8. Gloves and other PPE are removed in a manner that minimizes personal contamination and transfer of infectious materials outside of the areas where infectious materials and/or animals are housed or manipulated.

9. Persons wash their hands after working with potentially hazardous materials and before leaving the laboratory.
10. Eating, drinking, smoking, handling contact lenses, applying cosmetics, and storing food for human consumption are not permitted in laboratory areas. Food is stored outside the laboratory area.
11. Mouth pipetting is prohibited. Mechanical pipetting devices are used.
12. Policies for the safe handling of sharps, such as needles, scalpels, pipettes, and broken glassware are developed, implemented, and followed; policies are consistent with applicable state, federal, and local requirements. Whenever practical, laboratory supervisors adopt improved engineering and work practice controls that reduce risk of sharps injuries. Precautions are always taken with sharp items. These include:
    a. Plasticware is substituted for glassware whenever possible.
    b. Use of needles and syringes or other sharp instruments is limited in the laboratory and is restricted to situations where there is no alternative (e.g., parenteral injection, blood collection, or aspiration of fluids from laboratory animals or diaphragm bottles). Active or passive needle-based safety devices are to be used whenever possible.
        i. Uncapping of needles is performed in such a manner to reduce the potential for recoil causing an accidental needlestick.
        ii. Needles are not bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal.
        iii. If absolutely necessary to remove a needle from a syringe (e.g., to prevent lysing blood cells) or recap a needle (e.g., loading syringes in one room and injecting animals in another), a hands-free device or comparable safety procedure must be used (e.g., a needle remover on a sharps container, the use of forceps to hold the cap when recapping a needle).
        iv. Used, disposable needles and syringes are carefully placed in puncture-resistant containers used for sharps disposal immediately after use. The sharps disposal container is located as close to the point of use as possible.
    c. Non-disposable sharps are placed in a hard-walled container for transport to a processing area for decontamination, preferably by autoclaving.

    d. Broken glassware is not handled directly. Instead, it is removed using a brush and dustpan, tongs, or forceps.

13. Perform all procedures to minimize the creation of splashes and/or aerosols.
14. Decontaminate work surfaces after completion of work and after any spill or splash of potentially infectious material with appropriate disinfectant. Spills involving infectious materials are contained, decontaminated, and cleaned up by staff who are properly trained and equipped to work with infectious material. A spill procedure is developed and posted within the laboratory.
15. Decontaminate all cultures, stocks, and other potentially infectious materials before disposal using an effective method, consistent with applicable institutional, local, and state requirements. Depending on where the decontamination will be performed, the following methods are used prior to transport:
    a. Materials to be decontaminated outside of the immediate laboratory are placed in a durable, leak-proof container and secured for transport. For infectious materials, the outer surface of the container is disinfected prior to moving materials and the transport container has a universal biohazard label.
    b. Materials to be removed from the facility for decontamination are packed in accordance with applicable local, state, and federal regulations.
16. An effective integrated pest management program is implemented. See Appendix G.
17. Animals and plants not associated with the work being performed are not permitted in the laboratory.

B. Special Practices

1. All persons entering the laboratory are advised of the potential hazards and meet specific entry/exit requirements in accordance with institutional policies. Only persons whose presence in the facility or laboratory areas is required for scientific or support purposes are authorized to enter.
2. All persons who enter operational laboratory areas are provided information on signs and symptoms of disease and receive occupational medical services including medical evaluation, surveillance, and treatment, as appropriate, and offered available immunizations for agents handled or potentially present in the laboratory.

3. The laboratory supervisor is responsible for ensuring that laboratory personnel demonstrate proficiency in standard microbiological practices and techniques for working with agents requiring BSL-3 containment.
4. A system is established for reporting and documenting near misses, laboratory accidents, exposures, unanticipated absences due to potential Laboratory-associated infection, and for the medical surveillance of potential laboratory-associated illnesses.
5. Incidents that result in exposure to infectious materials are immediately evaluated per institutional policy. All such incidents are reported to the laboratory supervisor, institutional management, and appropriate safety, compliance, and security personnel according to institutional policy. Appropriate records are maintained.
6. Biological materials that require BSL-3 containment are placed in a durable leak-proof sealed primary container and then enclosed in a non-breakable, sealed secondary container prior to removal from the laboratory. Once removed, the primary container is opened within a BSC in BSL-3 containment unless a validated inactivation method is used. See Appendix K. The inactivation method is documented in-house with viability testing data to support the method.
7. All procedures involving the manipulation of infectious materials are conducted within a BSC or other physical containment device, when possible. No work with open vessels is conducted on the bench. If it is not possible to perform a procedure within a BSC or other physical containment device, a combination of personal protective equipment and other administrative and/or engineering controls, such as centrifuge safety cups or sealed rotors, are used, based on a risk assessment. Loading and unloading of the rotors and centrifuge safety cups take place in the BSC or another containment device.
8. Laboratory equipment is routinely decontaminated after spills, splashes, or other potential contamination, and before repair, maintenance, or removal from the laboratory.
    a. Equipment or material that might be damaged by high temperatures or steam is decontaminated using an effective and verified method, such as a gaseous or vapor method.
9. A method for decontaminating all laboratory waste is available in the facility, preferably within the laboratory (e.g., autoclave, chemical disinfection, or other validated decontamination method).

10. Decontamination of the entire laboratory is considered when there has been gross contamination of the space, significant changes in laboratory usage, major renovations, or maintenance shutdowns. Selection of the appropriate materials and methods used to decontaminate the laboratory is based on a risk assessment.
11. Decontamination processes are verified on a routine basis.

C. Safety Equipment (Primary Barriers and Personal Protective Equipment)

1. Laboratory workers wear protective clothing with a solid-front, such as tie-back or wrap-around gowns, scrub suits, or coveralls. Protective clothing is not worn outside of the laboratory. Reusable clothing is decontaminated before being laundered. Clothing is changed when contaminated.
2. Based on work being performed, additional PPE may be required.
   a. Eye protection and face protection (e.g., safety glasses, goggles, mask, face shield or other splash guard) are used for manipulations or activities that may result in splashes or sprays of infectious or other hazardous materials. Eye protection and face protection are disposed of with other contaminated laboratory waste or decontaminated after use.
   b. Two pairs of gloves are worn when appropriate.
   c. Respiratory protection is considered. Staff wearing respiratory protection are enrolled in a properly constituted respiratory protection program.
   d. Shoe covers are considered.
3. In circumstances where research animals are present in the laboratory, the risk assessment considers appropriate eye, face, and respiratory protection, as well as potential animal allergens.

D. Laboratory Facilities (Secondary Barriers)

1. The laboratory is separated from areas that are open to unrestricted traffic flow within the building.
   a. Laboratory access is restricted. Laboratory doors are lockable in accordance with institutional policies. Access to the laboratory is through two consecutive self-closing doors. A clothing change room and/or an anteroom may be included in the passageway between the two self-closing doors.
2. Laboratories have a sink for handwashing. The sink is hands-free or automatically operated and should be located near the exit door.

If a laboratory suite is segregated into different zones, a sink is also available for handwashing in each zone.

3. An eyewash station is readily available in the laboratory.
4. The laboratory is designed, constructed, and maintained to facilitate cleaning, decontamination, and housekeeping.
   a. Carpets and rugs are not permitted.
   b. Spaces between benches, cabinets, and equipment are accessible for cleaning.
   c. Seams, floors, walls, and ceiling surfaces are sealed. Spaces around doors and ventilation openings are capable of being sealed to facilitate space decontamination.
   d. Floors are slip-resistant, impervious to liquids, and resistant to chemicals. Flooring is seamless, sealed, or poured with integral cove bases.
   e. Walls and ceilings are constructed to produce a sealed smooth finish that can be easily cleaned and decontaminated.
5. Laboratory furniture can support anticipated loads and uses.
   a. Benchtops are impervious to water and resistant to heat, organic solvents, acids, alkalis, and other chemicals.
   b. Chairs used in laboratory work are covered with a non-porous material that can be easily cleaned and decontaminated with an appropriate disinfectant.
6. All windows in the laboratory are sealed.
7. Illumination is adequate for all activities and avoids reflections and glare that could impede vision.
8. Vacuum lines in use are protected with liquid disinfectant traps and in-line HEPA filters or their equivalent. See Appendix A, Figure 11. Filters are replaced, as needed, or are on a replacement schedule determined by a risk assessment. Vacuum lines not protected as described are capped. The placement of an additional HEPA filter immediately prior to a central vacuum pump is considered.
9. A ducted mechanical air ventilation system is required. This system provides sustained directional airflow by drawing air into the laboratory from “clean” areas toward “potentially contaminated” areas. The laboratory is designed such that under failure conditions the airflow will not be reversed at the containment barrier.

    a. A visual monitoring device that confirms directional airflow is provided at the laboratory entry. Audible alarms to notify personnel of airflow disruption are considered.

    b. The laboratory exhaust air is not re-circulated to any other area in the building.

    c. The laboratory exhaust air is dispersed away from occupied areas and from building air intake locations or the exhaust air is HEPA filtered.

10. BSCs and other primary containment barrier systems are installed and operated in a manner to ensure their effectiveness. See Appendix A.

    a. BSCs are installed so that fluctuations of the room air supply and exhaust do not interfere with proper operations. BSCs are located away from doors, heavily traveled laboratory areas, and other possible airflow disruptions.

    b. BSCs can be connected to the laboratory exhaust system by either a canopy connection (Class IIA only) or directly exhausted to the outside through a hard connection (Class IIB, IIC, or III). Class IIA or IIC BSC exhaust can be safely recirculated back into the laboratory environment if no volatile toxic chemicals are used in the cabinet.

    c. BSCs are certified at least annually to ensure correct performance, or as specified in Appendix A, Part 7.

    d. Class III BSCs are provided supply air in such a manner that prevents positive pressurization of the cabinet or the room.

11. Equipment that may produce infectious aerosols is used within primary barrier devices that exhaust air through HEPA filtration or other equivalent technology before being discharged into the laboratory. These HEPA filters are tested annually and replaced as needed.

12. Facility is constructed to allow decontamination of the entire laboratory when there has been gross contamination of the space, significant changes in usage, major renovations, or maintenance shutdowns. Selection of the appropriate materials and methods used to decontaminate the laboratory is based on the risk assessment.

    a. Facility design consideration is given to means of decontaminating large pieces of equipment before removal from the laboratory.

13. Enhanced environmental and personal protection may be necessary based on risk assessment and applicable local, state, or federal regulations. These laboratory enhancements may include one or more of the following: an anteroom for clean storage of equipment and supplies

with dress-in, shower-out capabilities; gas-tight dampers to facilitate laboratory isolation; final HEPA filtration of the laboratory exhaust air; laboratory effluent decontamination; containment of other piped services; or advanced access control devices, such as biometrics.

14. When present, HEPA filter housings have gas-tight isolation dampers, decontamination ports, and/or bag-in/bag-out (with appropriate decontamination procedures) capability. All HEPA filters are located as near as practicable to the laboratory to minimize the length of potentially contaminated ductwork. The HEPA filter housings allow for leak testing of each filter and assembly. The filters and housings are certified at least annually.

15. The BSL-3 facility design, operational parameters, and procedures are verified and documented prior to operation. Facilities are tested annually or after significant modification to ensure operational parameters are met. Verification criteria are modified as necessary by operational experience.

16. Appropriate communication systems are provided between the laboratory and the outside (e.g., voice, fax, and computer). Provisions for emergency communication and emergency access or egress are developed and implemented.

Biosafety Level 4

Biosafety Level 4 (BSL-4) is required for work with dangerous and exotic agents that pose a high individual risk of aerosol-transmitted laboratory infections and life-threatening diseases that are frequently fatal, agents for which there are no vaccines or treatments, or work with a related agent with unknown risk of transmission. Agents with a close or identical antigenic relationship to agents requiring BSL-4 containment are handled at this level until sufficient data are obtained to re-designate the level. Laboratory staff receive specific and thorough training in handling extremely hazardous infectious agents. Laboratory staff understand the primary and secondary containment functions of standard and special practices, containment equipment, and laboratory design characteristics. All laboratory staff and supervisors are competent in handling agents and procedures requiring BSL-4 containment. The laboratory supervisor controls access to the laboratory in accordance with institutional policies.

There are two models for BSL-4 laboratories:

1. Cabinet Laboratory: manipulation of agents is performed in a Class III BSC; and
2. Suit Laboratory: personnel wear a positive-pressure supplied-air protective suit.

BSL-4 cabinet and suit laboratories have special engineering and design features to prevent microorganisms from dissemination into the environment.

The following standard and special practices, safety equipment, and facility specifications are necessary for BSL-4.

A. Standard Microbiological Practices

1. The laboratory supervisor enforces the institutional policies that control safety in and access to the laboratory.
2. The laboratory supervisor ensures that laboratory personnel receive appropriate training regarding their duties, potential hazards, manipulations of infectious agents, necessary precautions to minimize exposures, and hazard/exposure evaluation procedures (e.g., physical hazards, splashes, aerosolization) and that appropriate records are maintained. Personnel receive annual updates and additional training when equipment, procedures, or policies change. All persons entering the facility are advised of the potential hazards, are instructed on the appropriate safeguards, and read and follow instructions on practices and procedures. An institutional policy regarding visitor training, occupational health requirements, and safety communication is considered.
3. Personal health status may affect an individual's susceptibility to infection and ability to receive available immunizations or prophylactic interventions. Therefore, all personnel, and particularly those of reproductive age and/or those having conditions that may predispose them to increased risk for infection (e.g., organ transplant, medical immunosuppressive agents), are provided information regarding immune competence and susceptibility to infectious agents. Individuals having such conditions are encouraged to self-identify to the institution's healthcare provider for appropriate counseling and guidance. See Section VII.
4. A safety manual specific to the facility is prepared or adopted in consultation with the facility director and appropriate safety professionals. The safety manual is available, accessible, and periodically reviewed and updated as necessary.
    a. The safety manual contains sufficient information to describe the biosafety and containment procedures for the organisms and biological materials in use, appropriate agent-specific decontamination methods, and the work performed.
    b. The safety manual contains or references protocols for emergency situations, including exposures, medical emergencies, facility

malfunctions, and other potential emergencies. Training in emergency response procedures is provided to emergency response personnel and other responsible staff according to institutional policies.

5. A sign incorporating the universal biohazard symbol is posted at the entrance to the laboratory when infectious materials are present. Posted information includes: the laboratory's Biosafety Level, the supervisor's or other responsible personnel's name and telephone number, PPE requirements, general occupational health requirements (e.g., immunizations, respiratory protection), and required procedures for entering and exiting the laboratory. Agent information is posted in accordance with the institutional policy.
6. Long hair is restrained so that it cannot contact hands, specimen, containers, or equipment
7. Gloves are worn to protect hands from exposure to hazardous materials.
    a. Glove selection is based on an appropriate risk assessment.
    b. Inner gloves are not worn outside the laboratory.
    c. Change inner gloves when contaminated, glove integrity is compromised, or when otherwise necessary.
    d. Do not wash or reuse disposable gloves,and dispose of used gloves with other contaminated laboratory waste.
8. Gloves and other PPE are removed in a manner that minimizes personal contamination and transfer of infectious materials outside of the areas where infectious materials and/or animals are housed or manipulated.
9. Eating, drinking, smoking, handling contact lenses, applying cosmetics, and storing food for human consumption are not permitted in laboratory areas. Food is stored outside the laboratory area.
10. Mouth pipetting is prohibited. Mechanical pipetting devices are used.
11. Policies for the safe handling of sharps, such as needles, scalpels, pipettes, and broken glassware are developed, implemented, and followed; policies are consistent with applicable state, federal, and local requirements. Whenever practical, laboratory supervisors adopt improved engineering and work practice controls that reduce risk of sharps injuries. Precautions are always taken with sharp items. These include:
    a. Plasticware is substituted for glassware whenever possible.

b. Use of needles and syringes or other sharp instruments is limited in the laboratory and is restricted to situations where there is no alternative (e.g., parenteral injection, blood collection, or aspiration of fluids from laboratory animals or diaphragm bottles). Active or passive needle-based safety devices are to be used whenever possible.

    i. Uncapping of needles is performed in such a manner to reduce the potential for recoil causing an accidental needlestick.

    ii. Needles are not bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal.

    iii. If absolutely necessary to remove a needle from a syringe (e.g., to prevent lysing blood cells) or recap a needle (e.g., loading syringes in one room and injecting animals in another), a hands-free device or comparable safety procedure must be used (e.g., a needle remover on a sharps container, the use of forceps to hold the cap when recapping a needle).

    iv. Used, disposable needles and syringes are carefully placed in puncture-resistant containers used for sharps disposal immediately after use. The sharps disposal container is located as close to the point of use as possible.

c. Non-disposable sharps are placed in a hard-walled container for transport to a processing area for decontamination, preferably by autoclaving.

d. Broken glassware is not handled directly. Instead, it is removed using a brush and dustpan, tongs, or forceps.

12. Perform all procedures to minimize the creation of splashes and/or aerosols.

13. Decontaminate work surfaces after completion of work and after any spill or splash of potentially infectious material with appropriate disinfectant. Spills involving infectious materials are contained, decontaminated, and cleaned up by staff who are properly trained and equipped to work with infectious material. A spill procedure is developed and posted within the laboratory.

14. Decontaminate all cultures, stocks, and other potentially infectious materials before disposal using an effective method, consistent with applicable institutional, local, and state requirements. A method for decontaminating all laboratory wastes is available in the laboratory

(e.g., autoclave, chemical disinfection, incineration, or other validated decontamination method). See B. Special Practices, #7 in the following sub-section for additional details.

15. An effective integrated pest management program is implemented. See Appendix G.

16. Animals and plants not associated with the work being performed are not permitted in the laboratory.

B. Special Practices

1. All persons entering the laboratory are advised of the potential hazards and meet specific entry/exit requirements in accordance with institutional policies. Only persons whose presence in the facility or individual laboratory rooms is required for scientific or support purposes are authorized to enter. Additional training/security requirements may be required prior to gaining independent access to BSL-4 laboratories.

2. All persons who enter operational laboratory areas are provided information on signs and symptoms of disease and receive occupational medical services including medical evaluation, surveillance, and treatment, as appropriate, and offered available immunizations for agents handled or potentially present in the laboratory.

    a. An essential adjunct to such an occupational medical services system is the availability of a facility for the isolation and medical care of personnel with potential or known Laboratory-associated infections.

3. Laboratory personnel and support staff are trained and approved to work in the facility. The laboratory supervisor is responsible for ensuring that, prior to working independently with agents requiring BSL-4 containment, laboratory personnel demonstrate high proficiency in standard and special microbiological practices and techniques for working with agents requiring BSL-4 containment. Personnel are required to read and follow instructions on practices, and procedural changes are addressed as part of the protocol review.

4. A system is established for reporting and documenting near misses, laboratory accidents, exposures, unanticipated absence due to potential Laboratory-associated infection, and for the medical surveillance of potential laboratory-associated illnesses.

5. Incidents that result in exposure to infectious materials are immediately evaluated per institutional policy. All such incidents are reported to the laboratory supervisor, institutional management, and appropriate safety,

compliance, and security personnel according to institutional policy. Appropriate records are maintained.

6. Biological materials that require BSL-4 containment are placed in a durable, leak-proof sealed primary container and then enclosed in a non-breakable, sealed secondary container prior to removal from the BSL-4 facility by authorized personnel. These materials are transferred through a disinfectant dunk tank, fumigation chamber, or decontamination shower for receipt by authorized personnel. Once removed, the primary container is not to be opened outside BSL-4 containment unless a validated inactivation method is used (e.g., gamma irradiation). See Appendix K. The inactivation method is documented in-house with viability testing data to support the method.
7. All waste is decontaminated by a verified method prior to removal from the laboratory.
8. Equipment is routinely decontaminated and is decontaminated after spills, splashes, or other potential contamination and before repair, maintenance, or removal from the laboratory.
   a. Equipment or material that might be damaged by high temperatures or steam is decontaminated using an effective and verified method, such as a gaseous or vapor method, in an airlock or chamber designed for this purpose.
9. A logbook, or other means of documenting the date and time of all persons entering and leaving the laboratory, is maintained.
10. An inventory system for agents stored within the laboratory is in place.
11. While the laboratory is operational, personnel enter and exit the laboratory through the clothing change and shower rooms except during emergencies. All personal clothing and jewelry (except eyeglasses) are removed in the outer clothing change room. All persons entering the laboratory use laboratory clothing, including undergarments, pants, shirts, socks, jumpsuits, shoes, and gloves, as appropriate. All persons leaving the laboratory take a personal body shower. Used laboratory clothing and other waste, including gloves, are not removed from the inner change room through the personal shower. These items are treated as contaminated materials and decontaminated before laundering or disposal.
12. After the laboratory has been completely decontaminated by verification of a validated method and all infectious agents are secured, necessary staff may enter and exit without following the clothing change and shower requirements described above.

13. Daily inspections of essential containment and life support systems are completed and documented before laboratory work is initiated to ensure that the laboratory is operating according to established parameters.
14. Only necessary equipment and supplies are stored inside the laboratory. All equipment and supplies taken inside the laboratory are decontaminated before removal from the laboratory.
    a. Supplies and materials that are not brought into the laboratory through the change room are brought in through a dunk tank, previously decontaminated double-door autoclave, fumigation chamber, or airlock. After securing the outer doors, personnel within the laboratory retrieve the materials by opening the interior doors of the autoclave, fumigation chamber, or airlock. The inner door is secured after materials are brought into the facility. The outer door of the autoclave or fumigation chamber is not opened until the autoclave, fumigation chamber, or airlock has been operated through a successful decontamination cycle.

C. Safety Equipment (Primary Barriers and Personal Protective Equipment)

Cabinet Laboratory

1. All procedures involving the manipulation of infectious materials are conducted within a Class III BSC.
2. A Class III BSC contains:
    a. Double-door, pass-through autoclave for decontaminating materials passing out of the Class III BSC(s). The autoclave doors are interlocked so that only one door can be opened at any time and are automatically controlled so that the outside door to the autoclave can only be opened after a successful decontamination cycle has been completed.
    b. A pass-through dunk tank, fumigation chamber, or equivalent decontamination method so that materials and equipment that cannot be decontaminated in the autoclave can be safely removed from the cabinet. Containment between the cabinet and the surrounding laboratory is maintained at all times.
    c. A HEPA filter on the supply air intake and two HEPA filters in series on the exhaust outlet of the unit. Supply air is provided in such a manner that prevents positive pressurization of the cabinet. There are gas-tight dampers on the supply and exhaust ducts of the cabinet to permit gas or vapor decontamination of the unit. Ports for injection of test medium are present on all HEPA filter housings.

    d. An interior constructed with smooth finishes that can be easily cleaned and decontaminated. All sharp edges on cabinet finishes are eliminated to reduce the potential for cuts and tears of gloves. Equipment to be placed in the Class III BSC is also free of sharp edges or other surfaces that may damage or puncture the cabinet gloves.
    e. Gloves that are inspected for damage prior to use and changed if necessary. Gloves are replaced annually during cabinet recertification.

3. The cabinet is designed to permit maintenance and repairs of cabinet mechanical systems (e.g., refrigeration, incubators, centrifuges) to be performed from the exterior of the cabinet whenever possible.
4. Manipulation of high concentrations or large volumes of infectious agents within the Class III BSC is performed using physical containment devices inside the cabinet whenever practical. Such materials are centrifuged inside the cabinet using sealed rotors or centrifuge safety cups.
5. The interior of the Class III BSC and all contaminated plenums, fans, and filters are decontaminated using a validated gaseous or vapor method when there have been significant changes in cabinet usage, before major renovations or maintenance shutdowns, and in other situations, as determined by risk assessment. Success of the decontamination is verified before accessing the interior spaces of the cabinet.
6. The Class III BSC is certified at least annually.
7. For Class III BSCs directly connected via a double-door, pass-through to a BSL-4 suit laboratory, materials may be placed into and removed from the Class III BSC via the suit laboratory.
8. Workers in the laboratory wear protective laboratory clothing with a solid front, such as tie-back or wrap-around gowns, scrubs, or coveralls. Shoe coverings are considered based on a risk assessment.
    a. Upon exit, all protective clothing is removed in the inner change room before showering.
    b. Prescription eyeglasses are decontaminated before removal through the personal body shower.
9. Disposable gloves are worn underneath cabinet gloves to protect the worker from exposure should a break or tear occur in a cabinet glove.

Suit Laboratory

1. All procedures involving the manipulation of infectious materials are conducted within a BSC or other physical containment devices. No work with open vessels is conducted on the bench.
2. Equipment that may produce aerosols is used within primary barrier devices that exhaust air through HEPA filtration before being discharged into the laboratory or facility exhaust system. These HEPA filters are tested annually and replaced as needed.
3. Materials centrifuged in the laboratory use sealed rotors or centrifuge safety cups. Loading and unloading of the rotors and centrifuge safety cups take place in the BSC or another containment device.
4. All procedures are conducted by personnel wearing a one-piece, positive-pressure supplied-air suit.
    a. All persons don laboratory clothing, such as scrubs, before entering the room used for donning positive-pressure suits.
    b. Procedures are in place to control and verify the operation of the one-piece positive-pressure supplied-air suit, including gloves, before each use.
    c. Decontamination of outer suit gloves is performed during the course of normal laboratory operations to remove gross contamination and minimize further contamination of the laboratory.
    d. Inner disposable gloves are worn to protect the laboratorian should a break or tear in the outer suit gloves occur. Disposable inner gloves are not worn outside the inner change area.
    e. Upon exit from the chemical shower, inner gloves and all laboratory clothing are removed and discarded or collected for autoclaving before laundering prior to entering the personal shower.
    f. Prescription eyeglasses are decontaminated before removal through the personal body shower.

D. Laboratory Facilities (Secondary Barriers)

Cabinet Laboratory

1. The BSL-4 cabinet facility may be located in a separate building or a clearly demarcated and isolated zone within a building.
    a. Facility access is restricted. Laboratory doors are lockable.

    b. Exit from the laboratory is by sequential passage through an inner (i.e., dirty) changing area, a personal shower, and an outer (i.e., clean) change room upon exiting the cabinet laboratory.

2. An automatically activated emergency power source is provided, at a minimum, for the laboratory exhaust system, alarms, lighting, entry and exit controls, BSCs, and door gaskets.

    a. Monitoring and control systems for air supply, exhaust, life support, alarms, entry and exit controls, and security systems are on an uninterrupted power supply (UPS).

3. A double-door autoclave, dunk tank, fumigation chamber, or ventilated airlock is provided at the containment barrier for the passage of materials, supplies, or equipment.

4. A hands-free sink is provided near the door of the cabinet laboratory(ies) and the inner change room. A sink is provided in the outer change room.

5. An eyewash station is readily available in the laboratory.

6. Walls, floors, and ceilings of the cabinet laboratory are constructed to form a sealed internal shell to facilitate fumigation and prohibit animal and insect intrusion. The internal surfaces of this shell are resistant to liquids and chemicals used for cleaning and decontamination of the area. Floors are monolithic, sealed, and coved.

    a. All penetrations in the internal shell of the cabinet laboratory and inner change room are sealed.

    b. Openings around doors into the cabinet laboratory and inner change room are minimized and capable of being sealed to facilitate decontamination.

7. Services and plumbing that penetrate the cabinet laboratory walls, floors, or ceiling are installed to ensure that no backflow from the laboratory occurs. These penetrations are fitted with two (in series) backflow prevention devices. Consideration is given to locating these devices outside of containment. Atmospheric venting systems are provided with two HEPA filters in series and are sealed up to the second filter.

8. Furniture is minimized, of simple construction, and capable of supporting anticipated loads and uses.

    a. Spaces between benches, cabinets, and equipment are accessible for cleaning and decontamination.

    b. Benchtops are impervious to water and resistant to heat, organic solvents, acids, alkalis, and other chemicals.

    c. Chairs used in laboratory work are covered with a non-porous material that can be easily cleaned and decontaminated.

9. Windows are break-resistant and sealed.

10. Illumination is adequate for all activities and avoids reflections and glare that could impede vision.

11. If Class II BSCs or other primary containment barrier systems are needed in the cabinet laboratory, they are installed and operated in a manner to ensure their effectiveness. See Appendix A.

    a. BSCs are installed so that fluctuations of the room air supply and exhaust do not interfere with proper operations. BSCs are located away from doors, heavily traveled laboratory areas, and other possible airflow disruptions.

    b. BSCs can be connected to the laboratory exhaust system by either a canopy connection (Class IIA only) or directly exhausted to the outside through a hard connection (Class IIB, IIC, or III). Cabinet exhaust air passes through two HEPA filters, including the HEPA in the BSC, prior to release outside. Class IIA or IIC BSC exhaust can be safely recirculated back into the laboratory environment if no volatile toxic chemicals are used in the cabinet.

    c. BSCs are certified at least annually to ensure correct performance, or as specified in Appendix A, Part 7.

12. Central vacuum systems are discouraged. If there is a central vacuum system, it does not serve areas outside the cabinet. Two in-line HEPA filters are placed near each use point and overflow collection is provided while in use. Filters are installed to permit in-place decontamination and replacement.

13. A dedicated, non-recirculating ventilation system is provided. Only cabinet laboratories with the same HVAC requirements (i.e., other BSL-4 cabinet laboratories, ABSL-4 cabinet facilities) may share ventilation systems if gas-tight dampers and HEPA filters isolate each individual laboratory system.

    a. The supply and exhaust components of the ventilation system are designed to maintain the laboratory at negative pressure to surrounding areas and provide differential pressure or directional airflow, as appropriate, between adjacent areas within the laboratory.

    b. Redundant supply fans are recommended. Redundant exhaust fans are required. Supply and exhaust fans are interlocked to prevent positive pressurization of the cabinet laboratory.

c. The ventilation system is monitored and alarmed to indicate malfunction or deviation from design parameters. A visual monitoring device is installed outside of containment so proper differential pressures within the laboratory may be verified prior to entry and during regular checklist procedures. Visual monitoring is also in place within containment.

d. Supply air to and exhaust air from the cabinet laboratory, inner change room, and fumigation/decontamination chambers pass through a HEPA filter. The air exhaust discharge is located away from occupied spaces and building air intakes.

e. All HEPA filters are located as near as practicable to the cabinet and laboratory to minimize the length of potentially contaminated ductwork. All HEPA filters are tested and certified annually.

f. The HEPA filter housings are designed to allow for in situ decontamination and verification of the validated decontamination process prior to removal. The design of the HEPA filter housing has gas-tight isolation dampers, decontamination ports, and the ability to individually scan each filter in the assembly for leaks.

14. Pass-through dunk tanks, fumigation chambers, or equivalent decontamination methods are provided so that materials and equipment that cannot be decontaminated in the autoclave can be safely removed from the cabinet laboratory(ies). Access to the exit side of the pass-through is limited to those with authorized access to the BSL-4 laboratory and with specific clearance, if required.

15. Liquid effluents from cabinet laboratory sinks, floor drains, autoclave chambers, and other sources within the cabinet laboratory are decontaminated by a proven method, preferably heat treatment, before being discharged to the sanitary sewer.

    a. Decontamination of all liquid effluents is documented. The decontamination process for liquid effluents is validated physically and biologically. Biological validation is performed at least annually or more often, if required by institutional policy.

    b. Effluents from personal body showers and toilets may be discharged to the sanitary sewer without treatment.

16. A double-door, pass-through autoclave is provided for decontaminating materials passing out of the cabinet laboratory. Autoclaves that open outside of the laboratory are sealed to the wall through which the autoclave passes. This bioseal is durable, airtight, and capable of expansion and contraction. Positioning the bioseal so that the equipment

can be accessed and maintained from outside the laboratory is strongly recommended. The autoclave doors are interlocked so that only one can be opened at any time and are automatically controlled so that the outside door to the autoclave can only be opened after the decontamination cycle has been completed.

   a. Gas discharge from the autoclave chamber is HEPA-filtered or decontaminated. Autoclave decontamination processes are designed so that unfiltered air or steam exposed to infectious material cannot be released to the environment.

17. The facility design parameters and operational procedures are documented. The facility is tested to verify that the design and operational parameters have been met prior to operation. Facilities are also re-tested annually or after significant modification to ensure operational parameters are met. Verification criteria are modified, as necessary, by operational experience.

18. Appropriate communication systems are provided between the laboratory and the outside (e.g., voice, fax, video, and computer). Provisions for emergency communication and emergency access or egress are developed and implemented.

Suit Laboratory

1. The BSL-4 suit facility may be located in a separate building or a clearly demarcated and isolated zone within a building.

   a. Facility access is restricted. Laboratory doors are lockable.

   b. Entry into the laboratory is through an airlock fitted with airtight doors.

   c. Exit from the laboratory is by sequential passage through the chemical shower, inner (i.e., dirty) change room, personal shower, and outer (i.e., clean) changing area.

2. Personnel who enter this area wear a positive-pressure suit supplied with HEPA-filtered breathing air. The breathing air systems have redundant compressors, failure alarms, and emergency back-up capable of supporting all workers within the laboratory to allow the personnel to safely exit the laboratory.

3. A chemical shower is provided to decontaminate the surface of the positive-pressure suit before the worker leaves the laboratory. In the event of an emergency exit or failure of the chemical shower system, a method for decontaminating positive-pressure suits, such as a gravity-fed supply of chemical disinfectant, is provided.

4. An automatically activated emergency power source is provided at a minimum for the laboratory exhaust system, alarms, lighting, entry and exit controls, BSCs, and door gaskets.
    a. Monitoring and control systems for air supply, exhaust, life support, alarms, entry and exit controls, and security systems are on an uninterrupted power supply (UPS).
5. A double-door autoclave, dunk tank, or fumigation chamber is provided at the containment barrier for the passage of materials, supplies, or equipment in or out of the laboratory.
6. Hands-free sinks inside the suit laboratory are placed near procedure areas.
7. An eyewash station for use during maintenance is readily available in the laboratory area.
8. Walls, floors, and ceilings of the laboratory are constructed to form a sealed internal shell to facilitate fumigation and prohibit animal and insect intrusion. The internal surfaces of this shell are resistant to liquids and chemicals used for cleaning and decontamination of the area. Floors are monolithic, sealed, and coved.
    a. All penetrations in the internal shell of the laboratory, suit storage room, and the inner change room are sealed.
9. Services and plumbing that penetrate the laboratory walls, floors, or ceiling are installed to ensure that no backflow from the laboratory occurs. Breathing air systems are exempt from this provision. These penetrations are fitted with two (in series) backflow prevention devices. Consideration is given to locating these devices outside of containment. Atmospheric venting systems are provided with two HEPA filters in series and are sealed up to the second filter.
10. Decontamination of the entire laboratory is performed using a validated gaseous or vapor method when there have been significant changes in usage, before major renovations or maintenance shutdowns, and in other situations, as determined by risk assessment. Decontamination is verified prior to any change in the status of the laboratory.
11. Furniture is minimized, of simple construction, and capable of supporting anticipated loads and uses.
    a. Spaces between benches, cabinets, and equipment are accessible for cleaning, decontamination, and unencumbered movement of personnel.

b. Benchtops are impervious to water and resistant to heat, organic solvents, acids, alkalis, and other chemicals.

c. Chairs used in laboratory work are covered with a non-porous material that can be easily cleaned and decontaminated.

d. Sharp edges and corners are avoided.

12. Windows are break-resistant and sealed.

13. Illumination is adequate for all activities and avoids reflections and glare that could impede vision.

14. BSCs and other primary containment barrier systems are installed and operated in a manner to ensure their effectiveness. See Appendix A.

    a. BSCs are installed so that fluctuations of the room air supply and exhaust do not interfere with proper operations. BSCs are located away from doors, windows that can be opened, heavily traveled laboratory areas, and other possible airflow disruptions.

    b. BSCs can be connected to the laboratory exhaust system by either a canopy connection (Class IIA only) or directly exhausted to the outside through a hard connection (Class IIB, IIC, or III), which contains a HEPA filter.

    c. Class IIA or IIC BSC exhaust can be safely recirculated back into the laboratory environment if no volatile toxic chemicals are used in the cabinet.

    d. BSCs are certified at least annually to ensure correct performance, or as specified in Appendix A, Part 7.

    e. Class III BSCs are provided supply air in such a manner that prevents positive pressurization of the cabinet or the room.

15. Central vacuum systems are discouraged. If there is a central vacuum system, it does not serve areas outside the laboratory. Two in-line HEPA filters are placed near each use point and overflow collection is provided while in use. Filters are installed to permit in-place decontamination and replacement. Consideration is made to the provision of two HEPA filters in series as close to the vacuum pump as possible.

16. A dedicated, non-recirculating ventilation system is provided. Only laboratories or facilities with the same HVAC requirements (i.e., other BSL-4 laboratories, ABSL-4, ABSL-3Ag, ABSL-4Ag facilities) may share ventilation systems if gas-tight dampers and HEPA filters isolate each individual laboratory system.

a. The ventilation system is designed to maintain the laboratory at negative pressure to surrounding areas and provide differential pressure or directional airflow as appropriate between adjacent areas within the laboratory.

b. Redundant supply fans are recommended. Redundant exhaust fans are required. Supply and exhaust fans are interlocked to prevent positive pressurization of the laboratory.

c. The ventilation system is monitored and alarmed to indicate malfunction or deviation from design parameters. A visual monitoring device is installed outside of containment so proper differential pressures within the laboratory may be verified prior to entry and during regular checklist procedures. Visual monitoring is also in place within containment.

d. Supply air to the laboratory, including the decontamination shower, passes through a HEPA filter. All exhaust air from the suit laboratory, decontamination shower, and fumigation or decontamination chambers passes through two HEPA filters, in series, before discharge to the outside. The exhaust air discharge is located away from occupied spaces and air intakes.

e. All HEPA filters are located as near as practicable to the laboratory to minimize the length of potentially contaminated ductwork. All HEPA filters are tested and certified annually.

f. The HEPA filter housings are designed to allow for in situ decontamination of the filter and verification of the validated process prior to removal. The design of the HEPA filter housing has gas-tight isolation dampers, decontamination ports, and the ability to individually scan each filter in the assembly for leaks.

17. Pass-through dunk tanks, fumigation chambers, or equivalent decontamination methods are provided so that materials and equipment that cannot be decontaminated in the autoclave can be safely removed from the laboratory. Access to the exit side of the pass-through is limited to those individuals authorized to be in the facility and provided appropriate clearance if required.

18. Liquid effluents from chemical showers, sinks, floor drains, autoclave chambers, and other sources within the laboratory are decontaminated by a proven method, preferably heat treatment, before being discharged to the sanitary sewer.

    a. Decontamination of all liquid effluents is documented. The decontamination process for liquid effluents is validated physically and biologically. Biological validation is performed at least annually or more often if required by institutional policy.

b. Effluents from personal body showers and toilets may be discharged to the sanitary sewer without treatment.

19. A double-door, pass-through autoclave(s) is provided for decontaminating materials passing out of the laboratory. Autoclaves that open outside of the laboratory are sealed to the wall through which the autoclave passes. This bioseal is durable, airtight, and capable of expansion and contraction. Positioning the bioseal so that the equipment can be accessed and maintained from outside the laboratory is strongly recommended. The autoclave doors are interlocked so that only one can be opened at any time and be automatically controlled so that the outside door to the autoclave can only be opened after a successful decontamination cycle has been completed.

    a. Gas discharge from the autoclave chamber is HEPA-filtered or is decontaminated. Autoclave decontamination processes are designed so that unfiltered air or steam exposed to infectious material cannot be released to the environment.

20. The facility design parameters and operational procedures are documented. The facility is tested to verify that the design and operational parameters have been met prior to operation. Facilities are also re-tested annually or after significant modification to ensure operational parameters are maintained. Verification criteria are modified, as necessary, by operational experience.

21. Appropriate communication systems are provided between the laboratory and the outside (e.g., voice, fax, video, and computer). Provisions for emergency communication and emergency access or egress are developed and implemented.

Table 1. Summary of Laboratory Biosafety Levels (BSLs)

BSL	Agents	Special Practices[a]	Primary Barrier and Personal Protective Equipment[a]	Facilities (Secondary Barriers)[a]
1	Well-characterized agents not known to consistently cause disease in immunocompetent adult humans and present minimal potential hazard to laboratory personnel and the environment.	Standard microbiological practices	No primary barriers required; protective laboratory clothing; protective face, eyewear, as needed	Laboratory doors; sink for handwashing; laboratory bench; windows fitted with screens; lighting adequate for all activities
2	Agents associated with human disease and pose moderate hazards to personnel and the environment	Limited access; occupational medical services including medical evaluation, surveillance, and treatment, as appropriate; all procedures that may generate an aerosol or splash conducted in a BSC; decontamination process needed for laboratory equipment	BSCs or other primary containment device used for manipulations of agents that may cause splashes or aerosols; protective laboratory clothing; other PPE, including respiratory protection, as needed	Self-closing doors; sink located near exit; windows sealed or fitted with screens; autoclave available
3	Indigenous or exotic agents; may cause serious or potentially lethal disease through the inhalation route of exposure	Access limited to those with need to enter; viable material removed from laboratory in primary and secondary containers; opened only in BSL-3 or ABSL-3 laboratories; all procedures with infectious materials performed in a BSC	BSCs for all procedures with viable agents; solid front gowns, scrubs, or coveralls; two pairs of gloves, when appropriate; protective eyewear, respiratory protection, as needed	Physical separation from access corridors; access through two consecutive self-closing doors; hands-free sink near exit; windows are sealed; ducted air ventilation system with negative airflow into laboratory; autoclave available, preferably in laboratory

Continued on next page ►

BSL	Agents	Special Practices[a]	Primary Barrier and Personal Protective Equipment[a]	Facilities (Secondary Barriers)[a]
4	Dangerous and exotic agents that pose high individual risk of aerosol-transmitted laboratory infections and life-threatening disease that are frequently fatal, for which there are no vaccines or treatments; and related agents with unknown risk of transmission	Clothing change before entry; daily inspections of essential containment and life support systems; all wastes decontaminated prior to removal from laboratory; shower on exit	BSCs for all procedures with viable agents; solid front gowns, scrubs, or coveralls;[b] gloves;[b] full-body, air-supplied, positive-pressure suit[c]	Entry sequence; entry through airlock with airtight doors;[c] walls, floors, ceilings form sealed internal shell; dedicated, non-recirculating ventilation system required; double-door, pass-through autoclave required

a. Each successive BSL contains the recommendations of the preceding level(s) and the criteria in the cell.

b. Applies to Cabinet Laboratory

c. Applies to Suit Laboratory

642 Quarry Road Project IS/MND

Appendix F: Operational Noise Level Methodology

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Memo

To: Shannon Allen, City of San Carlos

CC: Kate Werner, MIG

From: Phil Gleason

Date: June 28, 2022

SUBJECT: 642 Quarry Road Operational Project Noise Level Methodology

This memorandum describes the methodology used to estimate noise from stationary roof top equipment and vehicular operations in the parking garage proposed for the research and development project at 642 Quarry Road in San Carlos and compares those noise levels against applicable standards established by the City of San Carlos.

Project Background

The 642 Quarry Road Project would increase noise levels in proximity of the project site due to the operation of motor vehicles in the proposed parking garage, and stationary sources (e.g., chillers, exhaust fans, air handling units, etc.) on the rooftops of the research and development buildings. Specifically, the proposed project's on-site noise sources would include:

- Three 1,250 kiloWatt generators proposed on the east side of the South Building
- Automobile activities in the parking garage (e.g., car horns, doors slamming, cares starting, etc.).
- Stationary sources on the top of the North Building and South Building, including:
    - Air Handling Units
    - Chillers
    - Chiller Towers
    - Heat Pumps
    - Exhaust Fans

Attachment 1 provides the project's site plan and the mechanical roof plans for the North and South Buildings, which depict the locations of stationary sources.

Noise Background

Noise may be defined as loud, unpleasant, or unwanted sound. The frequency (pitch), amplitude (intensity or loudness), and duration of noise all contribute to the effect on a listener, or receptor, and whether the receptor perceives the noise as objectionable, disturbing, or annoying.

The Decibel Scale (dB)

The decibel scale (dB) is a unit of measurement that indicates the relative amplitude of a sound. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a tenfold increase in acoustic energy, while 20 dBs is 100 times more intense, 30 dBs is 1,000 more intense, and so on. In general, there is a relationship between the subjective noisiness, or loudness of a sound, and its amplitude, or intensity, with each 10 dB increase in sound level perceived as approximately a doubling of loudness. Due to the logarithmic basis, decibels cannot be directly added or subtracted together using common arithmetic operations:

$$50\ decibels + 50\ decibels\ \neq 100\ decibels$$

Instead, the combined sound level from two or more sources must be combined logarithmically. For example, if one noise source produces a sound power level of 50 dBA, two of the same sources would combine to produce 53 dB as shown below.

$$10 *\ 10\,log\left(10^{\left(\frac{50}{10}\right)} +\ 10^{\left(\frac{50}{10}\right)}\right) = 53\ decibels$$

In general, when one source is 10 dB higher than another source, the quieter source does not add to the sound levels produced by the louder source because the louder source contains ten times more sound energy than the quieter source.

Sound Characterization

There are several methods of characterizing sound. The most common method is the "A-weighted sound level," or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is typically most sensitive. Thus, most environmental measurements are reported in dBA, meaning decibels on the A-scale.

Human hearing matches the logarithmic A-weighted scale, so that a sound of 60 dBA is perceived as twice as loud as a sound of 50 dBA. In a quiet environment, an increase of 3 dB is usually perceptible, however, in a complex noise environment such as along a busy street, a noise increase of less than 3 dB is usually not perceptible, and an increase of 5 dB is usually perceptible. Normal human speech is in the range from 50 to 65 dBA. Generally, as environmental noise exceeds 50 dBA, it becomes intrusive and above 65 dBA noise becomes excessive. Nighttime activities, including sleep, are more sensitive to noise and are considered affected over a range of 40 to 55 dBA.

Sound levels are typically not steady and can vary over a short time period. The equivalent noise level (L_{eq}) is used to represent the average character of the sound over a period of time. The L_{eq} represents the level of steady noise that would have the same acoustical energy as the sum of the time-varying noise measured over a given time period. L_{eq} is useful for evaluating shorter time periods over the course of a day. The most common L_{eq} averaging period is hourly, but L_{eq} can describe any series of noise events over a given time period.

Variable noise levels are values that are exceeded for a portion of the measured time period. Thus, L_{01} is the level exceeded one percent of the time and L90 is the level exceeded 90 percent of the time. The L_{90} value usually corresponds to the background sound level at the measurement location.

Noise exposure over the course of an entire day is described by the day/night average sound level, or DNL (also referred to as L_{dn}), and the community noise equivalent level, or CNEL. Both descriptors represent the 24-hour noise impact on a community. For DNL, the 24-hour day is divided into a 15-hour daytime period (7 AM to 10 PM) and a nine-hour nighttime period (10 PM to 7 AM) and a 10 dB "penalty" is added to measure nighttime noise levels when calculating the 24-hour average noise level. For example, a 45-dBA nighttime sound level would contribute as much to the overall day-night average as a 55-dBA daytime sound level. The CNEL descriptor is similar to DNL, except that it includes an additional 5 dBA penalty beyond the 10 dBA for sound events that occur during the evening time period (7 PM to 10 PM). The artificial penalties imposed during DNL and CNEL calculations are intended to account for a receptor's increased sensitivity to sound levels during quieter nighttime periods.

Sound Propagation

The energy contained in a sound pressure wave dissipates and is absorbed by the surrounding environment as the sound wave spreads out and travels away from the noise generating source. Theoretically, the sound level of a point source attenuates, or decreases, by 6 dB with each doubling of distance from a point source. Sound levels are also affected by certain environmental factors, such as ground cover (asphalt vs. grass or trees), atmospheric absorption, and attenuation by barriers. Outdoor noise is also attenuated by the building envelope so that sound levels inside a residence are from 10 to 20 dB less than outside, depending mainly on whether windows are open for ventilation or not.

For an ideal "point" source of sound, the energy contained in a sound pressure wave dissipates and is absorbed by the surrounding environment as the sound wave spreads out in a spherical pattern and travels away from the point source. Theoretically, the sound level attenuates, or decreases, by 6 dB with each doubling of distance from the point source. The change in noise levels between two distances can be calculated according to Equation 1 (California Department of Transportation (Caltrans), 2013) as follows:

Equation 1

$$dBA2 = dBA1 + 20\log(D1/D2)$$

Where:

dBA1 = Known noise level, such as a reference noise level
D1 = Distance associated with dBA1
dBA2 = Noise level at distance 2
D2 = Distance associated with dBA2

Existing Noise Environment

The City's General Plan EIR indicates that the segment of Old County Rd, north of Holly St (i.e., adjacent to the project site), was estimated to have an Ldn of 63 dBA back in 2009, which was anticipated to increase to 65 dBA Ldn in 2030 under General Plan buildout conditions.

Recent ambient noise monitoring was conducted as part of the environmental documentation being prepared for a project proposed at 601 Harbor Blvd, in the City of Belmont, approximately 375 feet north of the project site. One of the ambient noise measurements collected in September 2021 was located in the residential community approximately 475 feet west of the project site. That measurement indicates daytime noise levels in the community west of the project site are approximately 61.6 dBA (ICF, 2021). Another measurement made for that project, near the southeastern corner of the Harbor Blvd / Old County Rd intersection indicates that daytime noise levels at that location are approximately 65.8 dBA. Harbor Blvd is anticipated to have a higher roadway volume than Quarry Rd and therefore slightly higher noise levels. However, in general, the 65.8 dBA measurement is considered to be representative of noise levels at 642 Quarry Road.

Ambient noise monitoring was also conducted in 2017 as part of the City of Belmont's EIR for their General Plan Update and Belmont Village Specific Plan. The measurement BVSP-2 was located approximately 60 feet west of the El Camino Real median and had a 24-hour noise level of approximately 72 dBA Ldn (Belmont, 2017).[1] The residences located along 5th Ave are approximately 120 feet from the El Camino Real median; therefore, 24-hour noise levels at the 5th Ave residences are approximately 69 dBA Ldn.

[1] Noise measurements collected at BVSP-2 for approximately five days, from 2/19/17 to 2/23/27. The 24-hour noise level measurement referenced herein reflects the lowest 24-hour level measurement across those five days.

Sensitive Receptors

Noise sensitive receptors are areas where unwanted sound or increases in sound may have an adverse effect on people or land uses. Residential areas, hospitals, schools, and parks are examples of noise receptors that could be sensitive to changes in existing environmental noise levels. Noise sensitive receptors within 1,000 feet of the project site include:

- Potential future residential receptors that would be part of the project being proposed north of the project site at 608 Harbor Road in the City of Belmont, approximately 490 feet from of the project site.
- Single-family residences west of the project site on 5th Ave, 6th Ave, and Sunnyslope Ave, the closest of which is approximately 410 feet from the project site.

There are no schools within 1,000 feet of the project site.

Regulatory Information

The City's General Plan provides guidance for the control of noise to protect sensitive land uses. Figure 9-1 in the City's General Plan Noise Element provides land use and noise compatibility standards for various land uses in the City. For commercial land uses, noise levels up to 70 dBA Ldn are considered "Normally Acceptable." Single-family residential land uses are considered "Normally Acceptable" up to 50 dBA Ldn and "Conditionally Acceptable" up to 75 dBA Ldn, and multifamily residential land uses are considered "Normally Acceptable" up to 65 dBA Ldn and "Conditionally Acceptable" up to 75 dBA Ldn.

The General Plan Noise Element also includes the following policies that may be applicable to the noise sources of the proposed project, as discussed herein this memorandum:

- **Policy NOI-1.2:** Minimize noise impacts on noise-sensitive land uses. Noise-sensitive land uses include residential uses, retirement homes, hotel/motels, schools, libraries, community centers, places of public assembly, daycare facilities, churches, and hospitals.
- **Policy NOI-1.3:** Limit noise impacts on noise-sensitive land uses to noise level standards as indicated in [General Plan] Table 9-1.
- **Action NOI-1.4:** Require the evaluation of mitigation measures for projects that would cause the following criteria to be exceeded or would cause a significant adverse community response:
    a. Cause the Ldn at noise-sensitive uses to increase by 3 dB or more and exceed the "normally acceptable" level.
    b. Cause the Ldn at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable."
    c. Cause noise levels to exceed the limits in Table 9-1.

Table 9-1 of the City's General Plan is presented below in Table C-1. Only land uses relevant to the proposed project are shown.

Table C-1: San Carlos General Plan Non-Transportation Noise Standards

Land Use Receiving the Noise	Hourly Noise-Level Descriptor	Exterior Noise-Level Standard in Any Hour (dBA)		Interior Noise-Level Standard in Any Hour (dBA)	
		Daytime (7AM – 10PM)	Nighttime (10PM – 7AM)	Daytime (7AM – 10PM)	Nighttime (10PM – 7AM)
Residential	Leq	55	45	40	30
	Lmax	70	60	55	45

Source: City of San Carlos 2009, Table 9-1
Notes:
1. The Residential standards shall apply to all residentially zoned properties.
2. Each of the noise levels specified above shall be lowered by 5 dBA for tonal noises characterized by a whine, screech, or hum, noise consisting primarily of speech or music, or reoccurring impulsive noises.
3. In situations where the existing noise level exceeds the noise levels indicated in the above table, any new noise source must include mitigation that reduces the noise level of the noise source to the existing level.
4. The exterior noise standards are measured at any point on the receiving property where there is, or could be in the future, frequent human use and quiet would be beneficial.
5. These standards do not apply to temporary sources such as construction activities.

Methodology for Estimating Stationary Source Noise

Once constructed, the proposed project would generate noise from rooftop equipment associated with typical of operation of a research and development project. Specifically, both the North and South Buildings would feature the following equipment:

- Four (4) Air Handling Units (AHUs)
- Two (2) Heat Pump (HP) Banks
- One (1) Chiller (CH)
- One (1) Chiller Tower (CT)
- Eight (2) Exhaust Fans

The rooftop layout for the equipment differs slightly between the two buildings. As noted previously, Attachment 1 contains the mechanical rooftop plans for the two buildings.

The project's stationary noise sources were assumed to operate continuously during the daytime (i.e., from 7:00 AM to 10:00 PM) and at 50% during the nighttime (i.e., from 10:00 PM to 7:00 AM the following day). This is a reasonable assumption, as the building's systems would primarily be utilized during the daytime hours when tenants are utilizing the building and the building's equipment. The average, hourly noise levels associated with project noise source operations and corresponding noise levels were calculated using Equation 2 as follows (Caltrans, 2013):

Equation 2

$$\text{Hourly } L_{eq} = 10 * \text{Log}\,(P_h * 10^{(L_p/10)})$$

Where:

P_h = Percentage or fraction of hour the noise is generated

L_p = The noise level generated during the partial hour (P_h)

Reference and potential hourly average noise levels associated with the proposed project's noise sources are summarized in Table C-2. All reference noise levels are presented at a distance of 3 feet.

Table C-2: Project Noise Sources – Reference and Hourly L_{eq} Noise Levels

Noise Source	Reference dBA[(A)]	Duration[(B)]	Hourly L_{eq}[(C)]
Daytime			
Chiller	80.3	3,600	80.3
Chiller Tower	82.4	3,600	82.4
Heat Pump (HP) Bank	93.0	3,600	93.0
Air Handling Unit (AHU)	92.0	3,600	92.0
Exhaust Fan (EF)	89.0	3,600	89.0
Nighttime			
Chiller	80.3	1,800	77.3
Chiller Tower	82.4	1,800	79.4
Heat Pump (HP) Bank	93.0	1,800	90.0
Air Handling Unit (AHU)	92.0	1,800	89.0
Exhaust Fan (EF)	89.0	1,800	86.0

Source: Caltrans, 2013; Nortek, 2020; SPX 2022; Greenheck, 2022; Daikin, 2021; ClimaCool 2015.

(A) Reference dBA is based on a distance of 3 feet.
(B) Duration is used to estimate the percentage of time the noise is generated per Equation 2 (out of 3,600 seconds in an hour).
(C) Hourly L_{eq} estimated using Equation 2. Estimates do not include any attenuation from line of sight impediments, such as the rooftop, other structures in the vicinity of the project site, or other pieces of equipment.

Table C-2 provides reference noise levels associated with the project's noise sources. The total combined sound pressure level from multiple, identical sources of noise at a receiver location may be determined using Equation 3 (Caltrans, 2013).

Equation 3

$$SPL_{Total} = SPL_1 + 10 * Log(N)$$

Where:
SPL_1 = Sound pressure level of one source
N = Number of identical sources to be added

Methodology for Estimating Parking Garage Noise

Potential noise resulting from the project's parking garage were quantified using the following equations contained in the Federal Transit Administration's (FTA) Transit Noise and Vibration Impact Assessment manual (FTA 2018).

Equation 4 and 5

$$Leq(h) = SEL_{ref} + CN - 35.6$$

and

$$CN = 10 \times \log(NA/1{,}000)$$

Where:

Leq(h) = Hourly Leq at 50 feet
SEL_{ref} = Source Reference Level at 50 feet
CN = Volume Adjustment (SEL_{ref} is based on 1,000 cars in peak activity hour)
NA = Number of Automobiles per Hour

According to the FTA, the SEL_{ref} for parking garages is 92 dBA, based on 1,000 cars per hour during peak time periods.

The trip generation estimated for the project by Hexagon Transportation Consultants indicates that there would be approximately 423 and 400 net new vehicle trips to the site during the AM and PM peak hours, respectively (Hexagon 2022). The AM and PM peak hours reflect 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM, respectively. Utilizing the equation above, it is estimated that 423 hourly trips (worst-case) would result in an average hourly sound level of 52.7 dBA Leq at a distance of 50 feet. Daily (i.e., 24-hour) noise levels would be approximately 54 Ldn.

Noise Analysis

The following analyzes project consistency with General Plan Policy NOI-1.3 and General Plan Action NOI-1.4. Since the City's standards address noise specifically from non-transportation noise sources, as well as cumulative noise from project (e.g., stationary and transportation noise sources), these issues are discussed separately.

Hourly Project Daytime and Nighttime Operational Noise from Stationary Sources

The proposed project's potential stationary source noise levels were estimated using the reference and calculated hourly L_{eq} noise levels identified in Table C-2, adjusted for distance (per Equation 1) and the assumed amount of vehicle trips, truck activity, and HVAC unit operations per Equations 2 and 3.

The total combined noise levels resulting from the proposed project's stationary sources are discussed below. Refer to Attachment 2 for detailed information regarding the proposed project's noise level estimates for individual noise sources. The estimated noise levels do not account for potential reflection or any atmospheric or ground absorption or attenuation. The estimated noise levels also do not account for attenuation or potential shielding that would be provided by roof of the proposed structures or intervening equipment on the rooftops of the proposed buildings.

The proposed project's noise levels at the project site's western and northern receptor locations are shown in Table C-3, and Table C-4, and compared against the existing ambient environment at those locations.

Table C-3: Project Operations – Net Change in Long-term Noise Levels (Daytime)

Receptor Location	Noise Level (dBA, Hourly L_{eq})		Project Exceed Ambient?
	Project	Existing Ambient[(A)]	
Single Family Residential Receptors (5th Ave)	59.1	61.6	No
Multifamily Residential Receptors (608 Harbor Blvd)	57.0	65.8	No

Source: Attachment 2

(A) Data obtained from the Technical Noise Study prepared by ICF for the project proposed at 601 Harbor Blvd (ICF, 2021).

Table C-4: Project Operations – Net Change in Long-term Noise Levels (Nighttime)

Receptor Location	Noise Level (dBA, Hourly L_{eq})		Project Exceed Ambient?
	Project	Existing Ambient[(A)]	
Single Family Residential Receptors (5th Ave)	56.1	58.0	No
Multifamily Residential Receptors (608 Harbor Blvd)	54.0	58.0	No

Source: Attachment 2

(A) Data obtained from the Technical Noise Study prepared by ICF for the project proposed at 601 Harbor Blvd (ICF, 2021).

As shown in Table C-3 and Table C-4, the noise levels associated with the proposed project would not exceed the existing daytime and nighttime ambient noise levels. Therefore, stationary noise levels associated with the proposed project would be consistent with General Plan Policy NOI-1.3.

<u>24-hour Project Operational Noise Levels</u>

Action NOI-1.4 of the City's General Plan sets forth criteria for evaluating the significance of changes in 24-hour noise levels associated with the implementation of projects. As described under "Existing Ambient Noise Environment," 24-hour noise level measurements collected in 2017 at BVSP-2 indicate that the existing ambient noise environment at the 5th Ave residences is approximately 69 dBA Ldn, which is considered to be "Conditionally Acceptable." A 24-hour noise level reading of 69 dBA Ldn is also considered "Conditionally Acceptable" for multifamily residential land uses, such as the potential residential receptors that could be located at 608 Harbor Blvd should that project be approved. Thus, based on the criteria identified in General Plan Action NOI-1.4, a significant impact would occur if the project would increase long-term 24-hour noise levels by 3 dBA Ldn or more. Table C-5, below, summarizes 24-hour noise levels associated with the project and the extent to which the proposed project could change the existing ambient noise environment at sensitive receptor locations in proximity of the project site.

As shown in Table C-5, the proposed project would not increase the ambient noise environment by more than 3 dBA Leq at any sensitive receptor location. Therefore, the project would be consistent with General Plan Action NOI-1.4.

Table C-5: Project Operational Noise Levels (24-Hour)

Receptor Location	Noise Levels (Ldn)				More than 3 dBA Ldn?
	Project(A)	Existing Ambient(B)	Project + Ambient	Change	
Single Family Residential Receptors (5th Ave)	63.1	69.0	70.0	+1.0	No
Multifamily Residential Receptors (608 Harbor Blvd)	61.0	69.0	69.6	+0.6	No

Source: Attachment 2
Notes:
(A) The 24-hour project noise levels at 608 Harbor Blvd include noise generated from operation of automobiles in the parking garage. Parking garage noise is not included in the project noise levels for 5th Avenue, because the North Building would be located between the parking garage and those receptors, effectively blocking noise from the parking garage at that receptor location.
(B) Based on measurement BVSP-2 collected in 2017 as part of the EIR prepared for the Belmont General Plan and Belmont Village Specific Plan. Applying the 69.0 dBA Ldn noise level to 608 Harbor Blvd is considered conservative, because the daytime noise level measurements collected by ICF in 2021 indicate that daytime noise levels are higher than those in the Belmont community to the west of the project site. Thus, in actuality, 24-hour noise levels are likely higher and the incremental increase in ambient noise levels would be less than that which is stated.

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The following references were used to prepare this memorandum:

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Attachment 1

Site Plan and Mechanical Rooftop Plans

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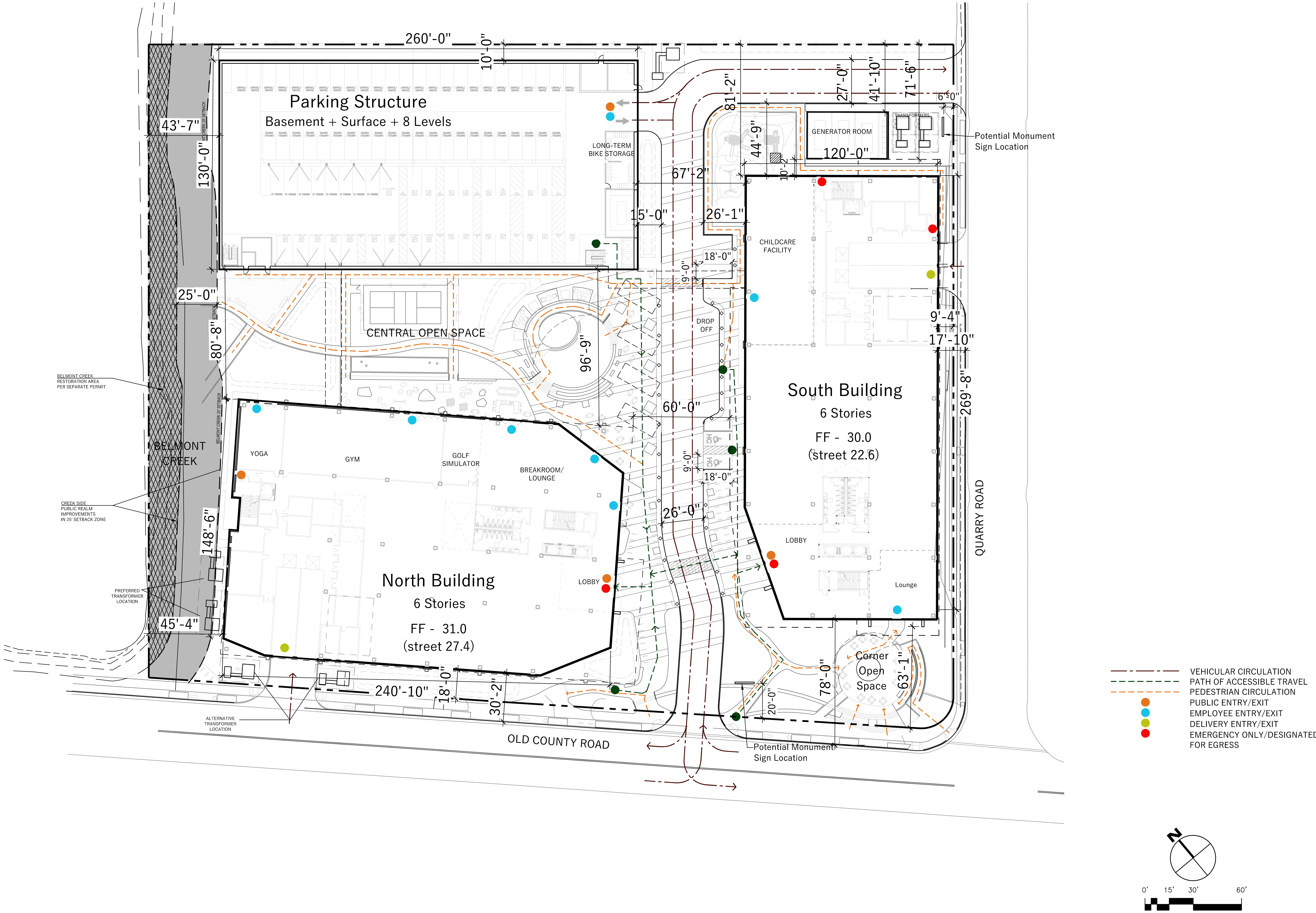


DES ARCHITECTS ENGINEERS

PRESIDIO BAY

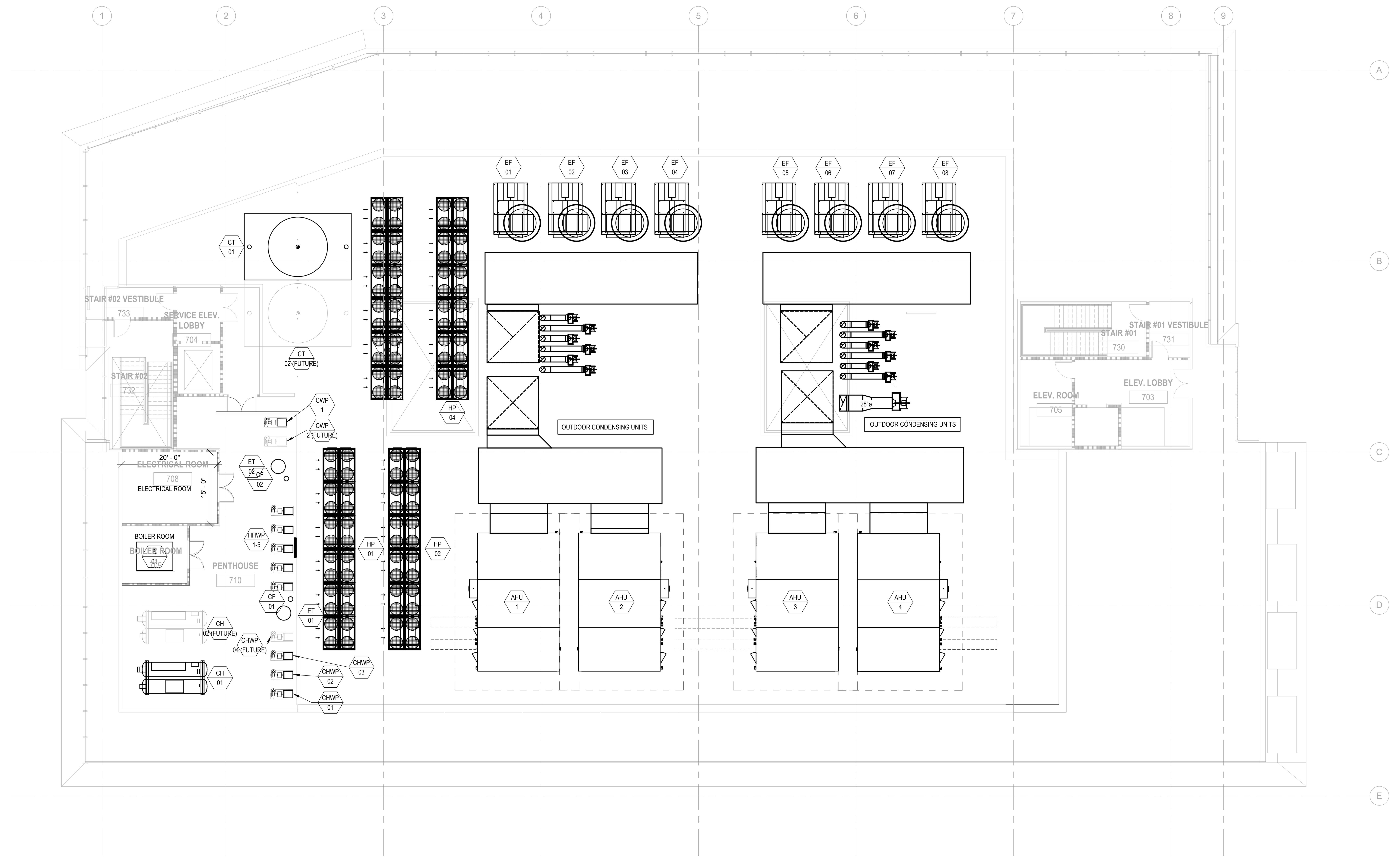
Conceptual Site Plan

642 QUARRY ROAD

PRE APPLICATION SUBMITTAL 08.31.2021
PLANNING SUBMITTAL 10.15.2021
ENTITLEMENT PLAN CHECK RESPONSE 1 01.13.2022

A3

Project Number: 10294.001



1 MECHANICAL OVERALL DUCTWORK PLAN - ROOF
3/32" = 1'-0"

SHEET NOTES
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12 .

KEYNOTES

LEGEND

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• INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY •

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642 QUARRY ROAD

BUILDING NORTH
642 Quarry Road
San Carlos, CA 94070

MECHANICAL OVERALL DUCTWORK PLAN LEVEL ROOF

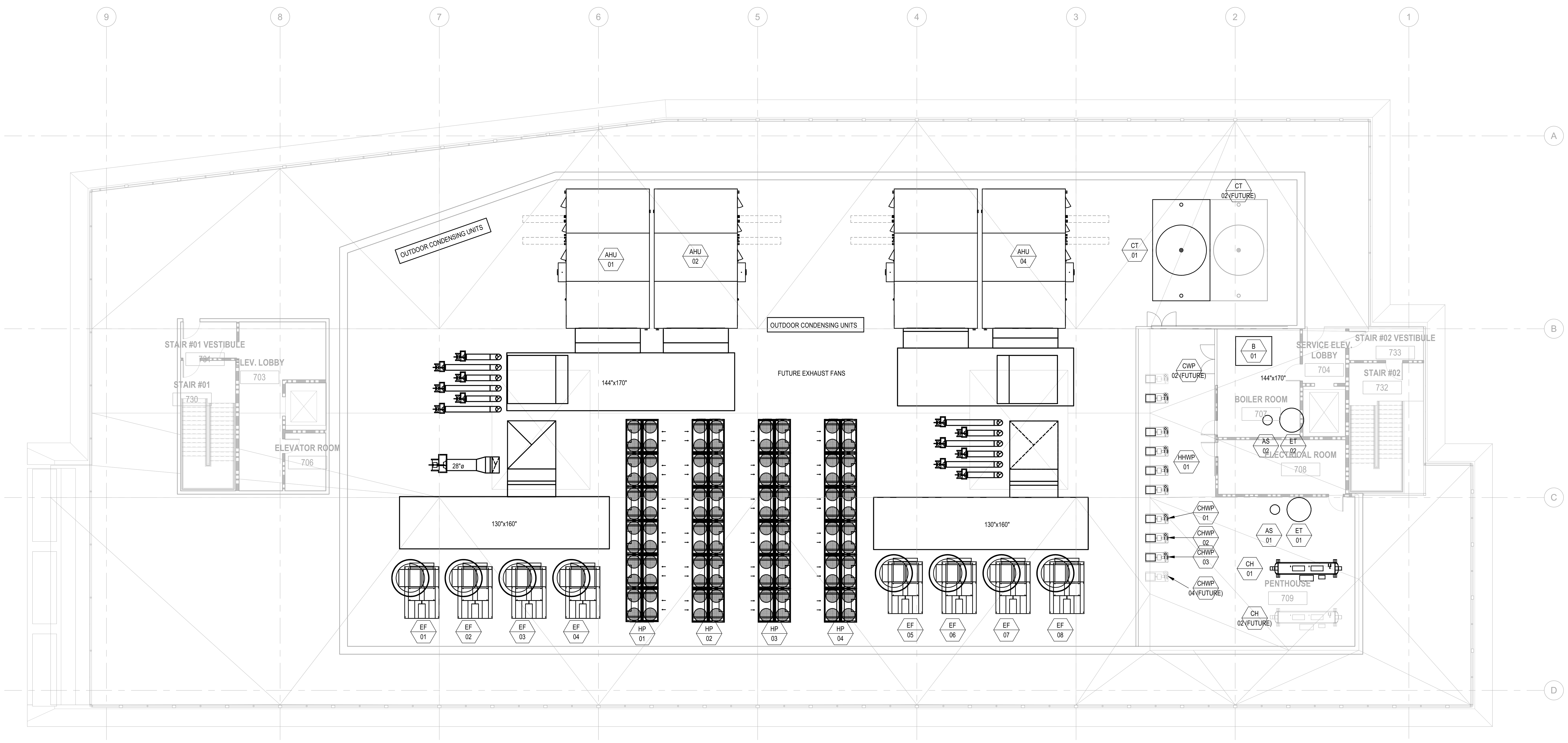
#	DATE:	DESCRIPTION:
	02/18/2022	SCHEMATIC DESIGN

DRAWN BY: EXP
REVIEWED BY: -
APPROVED BY: -
DES PROJECT NO.: 10294.002

ENGINEER OF RECORD
ARCHITECT OF RECORD

N
BLDG.

MH107
SHEET NO.



1 MECHANICAL OVERALL DUCTWORK PLAN - ROOF

3/32" = 1'-0"

SHEET NOTES	KEYNOTES	LEGEND
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642 QUARRY ROAD

BUILDING SOUTH
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MECHANICAL OVERALL DUCTWORK PLAN LEVEL ROOF

#	DATE:	DESCRIPTION:
	02/18/2022	SCHEMATIC DESIGN

DRAWN BY: EXP
REVIEWED BY: -
APPROVED BY: -
DES PROJECT NO.: 10294.002

ENGINEER OF RECORD
ARCHITECT OF RECORD

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BLDG.

MH107
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2/17/2022 3:22:28 PM BIM 360://PresidioBayVentures - 642 Quarry/21016057_M_642 QUARRY_BLDG S_2020_CENTRAL.rvt

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Attachment 2

Reference and Project Noise Level Data

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642 Quarry Rd, San Carlos, CA
Summary of Project Operational Noise
MIG - June 2022

Project Daytime Noise Levels (Hourly)

Receptor Direction	North Building Stationary Noise Level (Hourly Leq dBA)	South Building Stationary Noise Level (Hourly Leq dBA)	Combined Project Stationary
West (SFR)	56.7	55.5	59.1
North (MFR)	55.4	52.0	57.0

Project Nighttime Noise Levels (Hourly)

Receptor Direction	North Building Stationary Noise Level (Hourly Leq dBA)	South Building Stationary Noise Level (Hourly Leq dBA)	Combined Project Stationary
West (SFR)	54.9	53.9	57.4
North (MFR)	53.8	49.8	55.3

Project + Existing Daytime Noise Levels (Hourly)

Receptor Direction	Combined Project Noise Level (Hourly Leq dBA)	Existing Ambient Daytime Noise Level (Hourly Leq dBA)	Project + Existing Ambient Daytime Noise Level (Hourly Leq dBA)	Difference
West (SFR)	59.1	61.6	63.5	1.9
North (MFR)	57.0	65.8	66.3	0.5

Project + Existing Nighttime Noise Levels (Hourly)

Receptor Direction	Combined Project Noise Level (Hourly Leq dBA)	Existing Ambient Nighttime Noise Level (Hourly Leq dBA)	Project + Existing Ambient Nighttime	Difference
West (SFR)	57.4	58.0	60.7	2.7
North (MFR)	55.3	58.0	59.9	1.9

Project Ldn Noise Levels (24-hour)

Receptor Direction	Project 24-hour Noise Level (Ldn dBA)	Existing Ambient 24-hour Noise Level	Project + Existing Ambient 24-	Difference
West (SFR)	64.1	69	70.2	1.2
North (MFR)	62.0	69	69.8	0.8

Note: North MFR project 24-hour noise levels include stationary sources from north and south building, and from automobile activity in the parking garage.

642 Quarry Rd, San Carlos, CA
Reference Noise Levels
MIG - June 2022

Daytime Reference Noise Levels

Noise Source	Reference dBA @ 3 Feet	Duration (Seconds)	Estimated Hourly Leq @ 3 Feet
Chiller (CH)	*80.3*	*3,600*	*80.3*
Chiller Tower (CT)	*82.4*	*3,600*	*82.4*
Heat Pump - per bank (HP)	*93.0*	*3,600*	*93.0*
Air Handling Unit (AHU)	92.0	*3,600*	*92.0*
Exhaust Fan (EF)	89.0	*3,600*	*89.0*

Nighttime Reference Noise Levels

Noise Source	Reference dBA @ 3 Feet	Duration (Seconds)	Estimated Hourly Leq @ 3 Feet
Chiller (CH)	*80.3*	*1,800*	*77.3*
Chiller Tower (CT)	*82.4*	*1,800*	*79.4*
Heat Pump - per bank (HP)	*93.0*	*1,800*	*90.0*
Air Handling Unit (AHU)	92.0	*1,800*	*89.0*
Exhaust Fan (EF)	89.0	*3,600*	*89.0*

Parking Garage Reference Noise Level

Noise Source	Estimated 24-Hour Ldn @ 50 Feet
Parking Garage	54.0

642 Quarry Rd, San Carlos, CA
North Building Noise Levels (Day)
MIG - June 2022

Receptor Direction	Existing Ambient Noise Level	Project Noise Level (Hourly Leq dBA)	Combined Noise Level	Difference
West (SFR)	62.0	56.7	63.1	1.1
North (MFR)	66.0	55.4	66.4	0.4

On-Site Noise Source	Reference Noise Data		Western Receptor (Single Source)		Western Receptor (Multiple Sources)	
	Distance	Hourly Leq dBA	Distance	Hourly Leq dBA	No. Sources	Hourly Leq dBA
AHU (S)	3	92.0	515	47.3	2	50.3
AHU (N)	3	92.0	540	46.9	2	49.9
HP (W)	3	93.0	565	47.5	1	47.5
HP (E)	3	93.0	610	46.8	1	46.8
CH	3	80.3	580	34.6	1	34.6
CT	3	82.4	640	35.8	1	35.8
EF (N)	3	89.0	625	42.6	4	48.6
EF (S)	3	89.0	610	42.8	4	48.9

On-Site Noise Source	Reference Noise Data		Northern Receptor (Single Source)		Northern Receptor (Multiple Sources)	
	Distance	Hourly Leq dBA	Distance	Hourly Leq dBA	No. Sources	Hourly Leq dBA
AHU (S)	3	92.0	655	45.2	2	48.2
AHU (N)	3	92.0	615	45.8	2	48.8
HP (W)	3	93.0	570	47.4	1	47.4
HP (E)	3	93.0	575	47.3	1	47.3
CH	3	80.3	525	35.4	1	35.4
CT	3	82.4	550	37.1	1	37.1
EF (N)	3	89.0	615	42.8	4	48.8
EF (S)	3	89.0	675	42.0	4	48.0

642 Quarry Rd, San Carlos, CA
North Building Noise Levels (Night)
MIG - June 2022

Receptor Direction	Existing Ambient Noise Level	Project Noise Level (Hourly Leq dBA)	Combined Noise Level	Difference
West (SFR)	56.0	54.9	58.5	2.5
North (MFR)	56.0	53.8	58.1	2.1

On-Site Noise Source	Reference Noise Data		Western Receptor (Single Source)		Western Receptor (Multiple Sources)	
	Distance	Hourly Leq dBA	Distance	Hourly Leq dBA	No. Sources	Hourly Leq dBA
AHU (S)	3	89.0	515	44.3	2	47.3
AHU (N)	3	89.0	540	43.9	2	46.9
HP (W)	3	90.0	565	44.5	1	44.5
HP (E)	3	90.0	610	43.8	1	43.8
CH	3	77.3	580	31.6	1	31.6
CT	3	79.4	640	32.8	1	32.8
EF (N)	3	89.0	625	42.6	4	48.6
EF (S)	3	89.0	610	42.8	4	48.9

On-Site Noise Source	Reference Noise Data		Northern Receptor (Single Source)		Northern Receptor (Multiple Sources)	
	Distance	Hourly Leq dBA	Distance	Hourly Leq dBA	No. Sources	Hourly Leq dBA
AHU (S)	3	89.0	655	42.2	2	45.2
AHU (N)	3	89.0	615	42.8	2	45.8
HP (W)	3	90.0	570	44.4	1	44.4
HP (E)	3	90.0	575	44.3	1	44.3
CH	3	77.3	525	32.4	1	32.4
CT	3	79.4	550	34.1	1	34.1
EF (N)	3	89.0	615	42.8	4	48.8
EF (S)	3	89.0	675	42.0	4	48.0

642 Quarry Rd, San Carlos, CA
South Building Noise Levels (Day)
MIG - June 2022

Receptor Direction	Existing Ambient Noise Level	Project Noise Level (Hourly Leq dBA)	Combined Noise Level	Difference
West (SFR)	62.0	55.5	62.9	0.9
North (MFR)	66.0	52.0	66.2	0.2

On-Site Noise Source	Reference Noise Data		Western Receptor (Single Source)		Western Receptor (Multiple Sources)	
	Distance	Hourly Leq dBA	Distance	Hourly Leq dBA	No. Sources	Hourly Leq dBA
EF (W)	3	89.0	610	42.8	4	48.9
HP (W)	3	93.0	640	46.4	1	46.4
HP (E)	3	93.0	670	46.0	1	46.0
EF (E)	3	89.0	710	41.5	4	47.5
CH	3	80.3	770	32.1	1	32.1
CT	3	82.4	735	34.6	1	34.6
AHU (W)	3	92.0	630	45.6	2	48.6
AHU (E)	3	92.0	700	44.6	2	47.7

On-Site Noise Source	Reference Noise Data		Northern Receptor (Single Source)		Northern Receptor (Multiple Sources)	
	Distance	Hourly Leq dBA	Distance	Hourly Leq dBA	No. Sources	Hourly Leq dBA
EF (W)	3	89.0	930	39.2	4	45.2
HP (W)	3	93.0	905	43.4	1	43.4
HP (E)	3	93.0	910	43.4	1	43.4
EF (E)	3	89.0	925	39.2	4	45.2
CH	3	80.3	920	30.6	1	30.6
CT	3	82.4	855	33.3	1	33.3
AHU (W)	3	92.0	860	42.9	2	45.9
AHU (E)	3	92.0	860	42.9	2	45.9

642 Quarry Rd, San Carlos, CA
South Building Noise Levels (Night)
MIG - June 2022

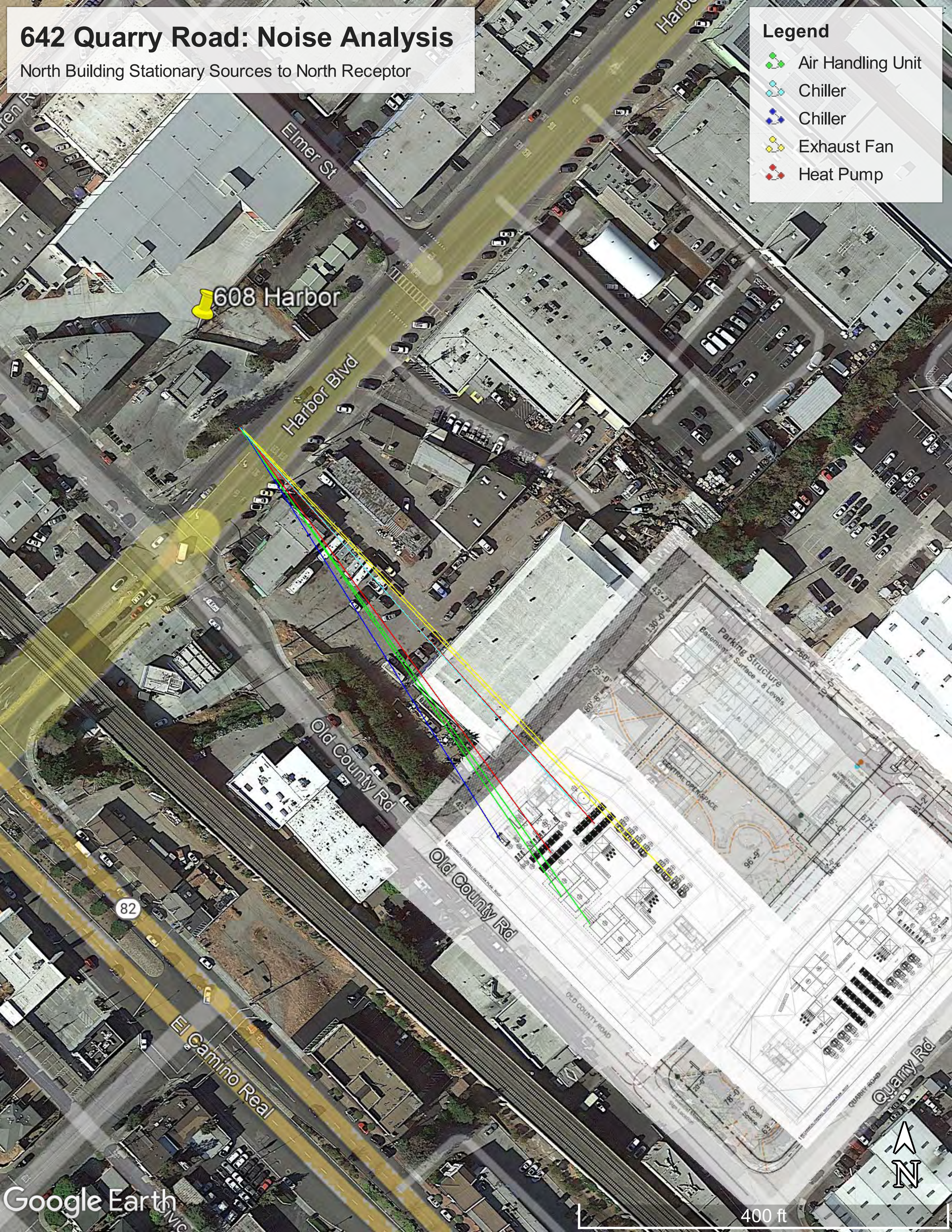
Receptor Direction	Existing Ambient Noise Level	Project Noise Level (Hourly Leq dBA)	Combined Noise Level	Difference
West (SFR)	56.0	53.9	58.1	2.1
North (MFR)	56.0	49.8	56.9	0.9

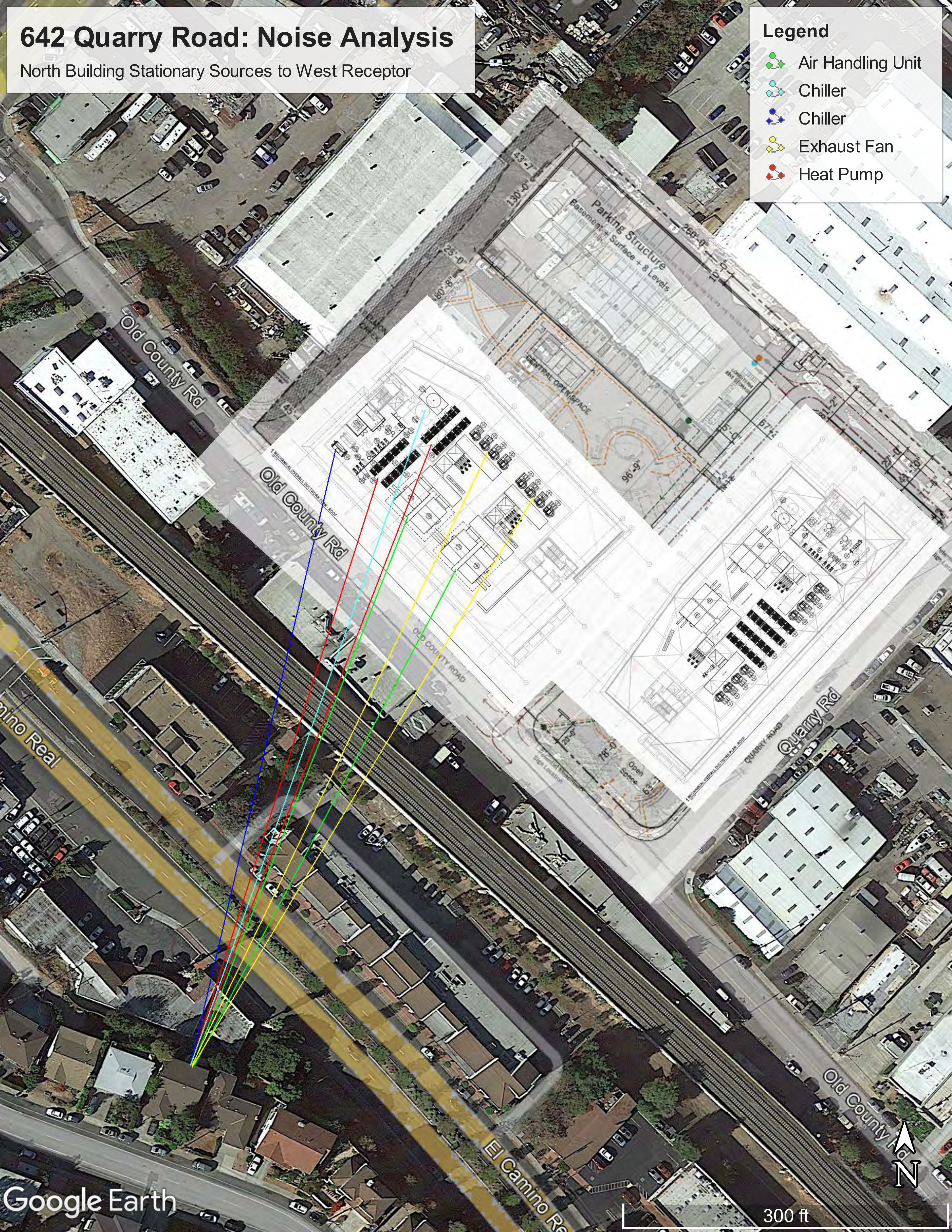
On-Site Noise Source	Reference Noise Data		Western Receptor (Single Source)		Western Receptor (Multiple Sources)	
	Distance	Hourly Leq dBA	Distance	Hourly Leq dBA	No. Sources	Hourly Leq dBA
EF (W)	3	89.0	610	42.8	4	48.9
HP (W)	3	90.0	640	43.4	1	43.4
HP (E)	3	90.0	670	43.0	1	43.0
EF (E)	3	89.0	710	41.5	4	47.5
CH	3	77.3	770	29.1	1	29.1
CT	3	79.4	735	31.6	1	31.6
AHU (W)	3	89.0	630	42.5	2	45.6
AHU (E)	3	89.0	700	41.6	2	44.6

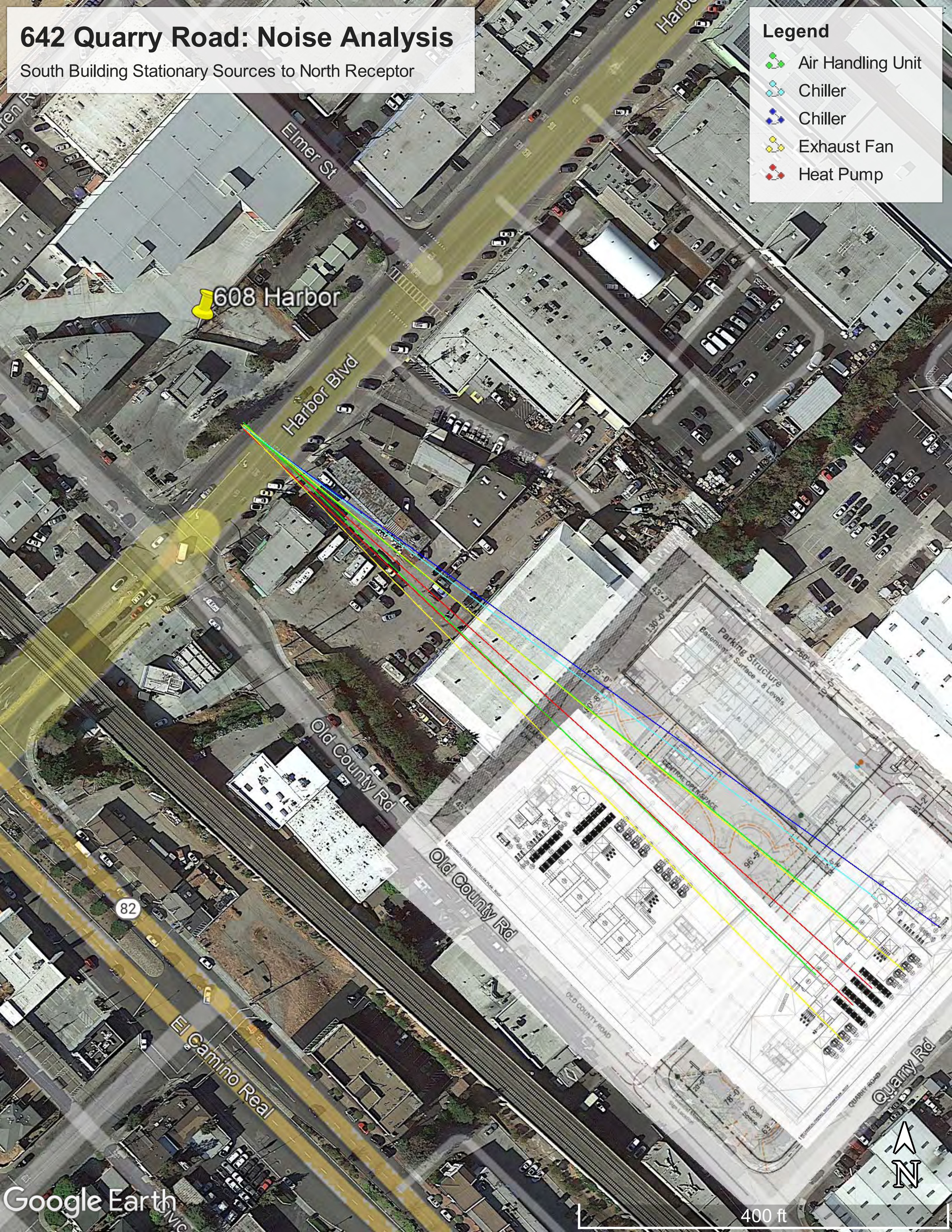
On-Site Noise Source	Reference Noise Data		Northern Receptor (Single Source)		Northern Receptor (Multiple Sources)	
	Distance	Hourly Leq dBA	Distance	Hourly Leq dBA	No. Sources	Hourly Leq dBA
EF (W)	3	89.0	930	39.2	4	45.2
HP (W)	3	90.0	905	40.4	1	40.4
HP (E)	3	90.0	910	40.4	1	40.4
EF (E)	3	89.0	925	39.2	4	45.2
CH	3	77.3	920	27.6	1	27.6
CT	3	79.4	855	30.3	1	30.3
AHU (W)	3	89.0	860	39.8	2	42.9
AHU (E)	3	89.0	860	39.8	2	42.9

642 Quarry Road: Noise Analysis

North Building Stationary Sources to North Receptor




642 Quarry Road: Noise Analysis
North Building Stationary Sources to West Receptor
Legend
Air Handling Unit
Chiller
Chiller
Exhaust Fan
Heat Pump
Parking Structure
Basement + Surface + 8 Levels
Old County Rd
Old County Rd
Old County Rd
OLD COUNTY ROAD
QUARRY ROAD
Quarry Rd
El Camino Real
300 ft
N
Google Earth


642 Quarry Road: Noise Analysis
South Building Stationary Sources to North Receptor
Legend
Air Handling Unit
Chiller
Chiller
Exhaust Fan
Heat Pump
608 Harbor
Elmer St
Harbor Blvd
Old County Rd
Old County Rd
Parking Structure
82
El Camino Real
Quarry Rd
N
400 ft
Google Earth


642 Quarry Road: Noise Analysis
South Building Stationary Sources to West Receptor
Legend
Air Handling Unit
Chiller
Chiller
Exhaust Fan
Heat Pump
Old County Rd
Old County Rd
Old County Rd
El Camino Real
El Camino Real
Quarry Rd
Civic Ln
Parking Structure
Google Earth
400 ft
N