CEQA Class 32
Categorical Exemption Memorandum

To: Mr. Mel Lee, AICP, City of Costa Mesa

From: Kristen Bogue, Michael Baker International

Date: October 21, 2020

Subject: No. 1 Collision Project – CEQA Class 32 Categorical Exemption Memorandum

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This memorandum serves as the technical documentation of an environmental analysis performed by Michael Baker International (Michael Baker) for the No. 1 Collision Project (project), located in the City of Costa Mesa. The intent of the analysis is to document whether the project is eligible for a Class 32 Categorical Exemption (CE) under California Environmental Quality Act (CEQA) Guidelines Section 15332. This memorandum provides an introduction, project description, and evaluation of the project's consistency with the requirements for a Class 32 CE. The project is also evaluated based on exceptions to categorical exemptions per CEQA Guidelines Section 15300.2.

CEQA Guidelines Section 15332 states that a Class 32 CE is allowed when:

a) *The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.*
b) *The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.*
c) *The project site has no value as habitat for endangered, rare or threatened species.*
d) *Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.*
e) *The site can be adequately served by all required utilities and public services.*

However, CEQA Guidelines Section 15300.2 lists the following exceptions to categorical exemptions:

a) *Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.*
b) *Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.*

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c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.
d) Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.
e) Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.
f) Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

PROJECT LOCATION AND SETTING

The City of Costa Mesa (City) encompasses approximately 16 square miles and is located in the western portion of Orange County; refer to Exhibit 1, *Regional Vicinity*. Surrounding jurisdictions include Santa Ana to the north, Irvine and Newport Beach to the east, Newport Beach to the south, and Huntington Beach and Fountain Valley to the west.

The proposed No. 1 Collision facility (the project) is located at 2750 and 2770 Bristol Street in the northeastern portion of the City. As shown on Exhibit 2, *Site Vicinity*, the site is generally bound by a vacant disturbed land to the north, State Route 73 (SR-73) to the east, commercial uses across Bristol Street to the west, and a dog daycare to the south. Regional access to the site is provided via SR-73, State Route 55 (SR-55), and Interstate 405 (I-405). Local access to the site is provided via Bristol Street.

EXISTING CONDITIONS

The approximate 1.5-acre project site was formerly used as a car wash and oil change facility, and, prior to this, a gasoline service station. Currently, the car wash and oil change facility are no longer in use. Existing on-site structures include two single-story masonry buildings (totaling approximately 12,122 square feet). Historically, the site was used as a gasoline service station. The four former underground storage tanks (USTs) and associated fuel islands have been removed from the site. The site is designated General Commercial with a 0.20 to 0.75 allowed floor-area ratio (FAR), and zoned Local Business District (C1).[1,2]

PROJECT DESCRIPTION

The project proposes the demolition of the existing carwash facility and construction of a 37,485-square foot luxury high-end collision repair center within a single two-story building; refer to Exhibit 3, *Site Plan*. The ground floor encompasses 31,498 square feet and would include a waiting area, offices, body shop areas, detail shop areas, holding bays, mechanical bays, wash bays,

1 City of Costa Mesa, *2015-2035 General Plan Figure LU-3 Land Use Policy Map*, June 2016, https://www.costamesaca.gov/home/showdocument?id=34712, accessed July 14, 2020.

2 City of Costa Mesa, *City of Costa Mesa Zoning Map*, November 1, 2016, https://www.costamesaca.gov/home/showdocument?id=7259, accessed July 14, 2020.

parts/tools/equipment storage, as well as drive aisle. The second floor encompasses 5,987 square feet, including an employee board and training room, offices, employee lunchroom and locker room, and parts storage. The roof would be utilized for employee parking and temporary vehicle storage. For the purposes of FAR considerations, the project proposes a total of approximately 37,485 square feet of gross floor area.[3]

The proposed building would be up to 29 feet in height and would include the following setbacks: 25-foot front yard setback, 26.6-foot side yard setback to the north, 30-foot side yard setback to the south, and 20-foot rear yard setback.

Parking

As shown on Exhibit 3, the project proposes a total of 86 parking spaces on-site, including 38 standard size parking spaces, 48 temporary vehicle storage spaces, and five bicycle parking spaces. Available surface parking would be accommodated along Bristol Street and the northern portion of the project site, which would include 15 customer parking spaces and four temporary storage spaces (toward the rear of the property). Rooftop parking would accommodate 23 employee parking spaces and 44 temporary vehicle storage spaces. Rooftop employee parking would be segregated from temporary vehicle storage spaces.

Landscaping

Approximately 2,411 square feet of ornamental landscaping is proposed at the project frontage along Bristol Street and smaller landscaped areas along the project site perimeter. The project also proposes gating with knox box access to allow employees after-hours access.

Operations

The project proposes the operation of a luxury brand collision center specializing in European engineered automobiles, such as Mercedes Benz, BMW, Land Rover, and Audi. Proposed automobile services include body repair, service repair, detailing, and carwash services. The facility anticipates generating approximately 8 to 12 customers a day. Services would be accommodated by appointment only. The business would employ a maximum of 23 persons.

Regular business hours would be from 8:00 a.m. to 5:00 p.m., Monday through Friday. However, after-hours access would be accommodated for employees, as needed. The project does not propose after-hours work/operations.

CONSTRUCTION

Demolition and construction activities are anticipated to occur over a period of 12 months, beginning March 2021 through February 2022. Demolition is anticipated to take approximately four weeks, grading would take approximately three weeks, building construction would take

[3] Gross floor area is defined as the total building area of all floors within the walls of all structures except elevator and other vertical shafts (including stairwells) and elevator equipment areas. Parking structures are not considered building area for the purposes of calculating allowable floor area ratios. The service drive is counted as gross floor area.

approximately ten months, and painting would take approximately one month. Approximately 600 cubic yards of soil import would be required.

DISCRETIONARY APPROVALS

The proposed collision repair center would be consistent with the site's C1 zoning; however, the project would require Development Review for the proposed building, a Minor Conditional Use Permit to accommodate the proposed parking, and a Lot Line Adjustment. Project approval would be determined by the City's Zoning Administrator.

CLASS 32 EXEMPTION CRITERIA ANALYSIS

Criterion (a) *The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.*

General Plan Consistency

Based on the City of Costa Mesa's *2015-2035 General Plan* (General Plan), the project site is designated General Commercial. Attachment A, *Land Use Consistency Table* evaluates the project's consistency with applicable General Plan land use policies. As detailed, the project would be consistent with applicable General Plan land use policies.

Zoning Consistency

The *City of Costa Mesa Zoning Map* zones the project site as Local Business District (C1). Pursuant to the *Costa Mesa Municipal Code* (Municipal Code), the C1 zoning district is intended to meet the local business needs of the community by providing a wide range of goods and services in a variety of locations throughout the city. C1 development standards are aimed at reducing impacts on surrounding properties, especially in areas near residential uses. Municipal Code Table 13-44, *Commercial Property Development Standards*, details the following development standards specific to C1 districts that are applicable to the proposed project.[4]

Floor Area Ratio**.** The General Commercial designation allows a minimum 0.20 FAR and maximum 0.75 FAR. The project involves constructing an approximately 37,485 square-foot (gross floor area) two-story collision repair center on an approximately 65,514-square foot site, which equates to a 0.57 FAR. Thus, the project would be consistent with the FAR requirements for the General Commercial designation.

Setbacks. Development in C1 zones are required to have a front yard setback of 20 feet, and side yard setbacks of 15 feet on one side and zero on the other except if the side property line is adjacent to a residential zone, which would require a side setback from the residential property line of two times the proposed building height at all locations. Additionally, no rear yard setbacks are required in C1 zones except if the rear property line is adjacent to a residential zone, which

[4] City of Costa Mesa, *Commercial Development Standards*, June 20, 2012, https://www.costamesaca.gov/home/showdocument?id=8425, accessed July 28, 2020.

would also require a rear setback from the residential property line of two times the proposed building height at all locations, similar to the side setback requirements.

As discussed, the project proposes a 25-foot front yard setback along Bristol Street, 26.6-foot side yard setback to the north, 30-foot side yard setback to the south, and 20-foot rear yard setback. The front yard setback would include a landscaped planter area, parking spaces, and bicycle parking spaces, and the north side yard setback would include ornamental trees and parking spaces. The project is not adjacent to a residential zone. As such, the project would comply with required front, side, and rear yard setback requirements.

Building Height. The maximum building height in C1 zones is 30 feet (two stories). The proposed storage buildings would have a height of 29 feet and, thus, would be consistent with the allowed building height.

Parking Requirements. Pursuant to the Municipal Code Table 13-89, *Non-Residential Parking Standards*, retail uses are required to provide four parking space per 1,000 square feet of gross floor area with a minimum of 6 spaces. As such, the project would be required to provide a minimum of 130 parking spaces.

As shown on Exhibit 3, the project proposes a total of 86 parking spaces on-site, including 38 standard size parking spaces and 48 temporary vehicle storage spaces, in addition to providing five bicycle parking spaces. Available surface parking would be accommodated along Bristol Street and the northern portion of the project site, which would include 15 customer parking spaces and four temporary storage spaces (toward the rear side of the property). Rooftop parking would accommodate 23 employee parking spaces and 44 temporary vehicle storage spaces. Rooftop employee parking would be segregated from temporary vehicle storage spaces. Therefore, the project would require approval by the City's Zoning Administrator under the proposed Minor Conditional Use Permit. Upon approval of the Minor Conditional Use Permit, the project would provide adequate parking spaces.

As analyzed, the project would be consistent with the General Commercial designation, applicable General Plan land use policies, and C1 zone development standards. Thus, the project would meet Criterion (a) requirements.

Criterion (b) *The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.*

The project site is approximately 65,514 square feet, or 1.5 acres, and is located within the City of Costa Mesa. The site is surrounded by disturbed, vacant land to the north, transportation uses (SR-73) to the east, commercial uses to the west, and a dog daycare to the south. As such, the project would meet Criterion (b) requirements.

Criterion (c) *The project site has no value as habitat for endangered, rare or threatened species.*

As stated, the project site is in an urbanized area of Costa Mesa and is surrounded by transportation and commercial uses. The project site was formerly used as a carwash and oil change facility and is mostly paved, with ornamental trees along the site perimeter. Given the highly disturbed nature of the project site, the site has no value as habitat for endangered, rare or threatened species. Thus, the proposed project would meet Criterion (c) requirements.

Criterion (d) *Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.*

Traffic

In September 2013, Senate Bill 743 became effective, which identifies vehicle miles traveled (VMT) as the most appropriate CEQA transportation metric for the purposes of CEQA. The Governor's Office of Planning and Research (OPR) published the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Technical Advisory), dated December 2018, to provide advice and recommendations, which agencies and other entities may use at their discretion. Pursuant to CEQA Guidelines Section 15064.3(b)(3), the Technical Advisory identifies screening thresholds that may be utilized by lead agencies to screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing.

This analysis is based on the *Collision 1 Trip Generation and VMT Memorandum* (Trip Generation and VMT Memo), prepared by the City's Department of Public Services/Transportation Services Division, dated September 23, 2020; refer to Attachment B, *Trip Generation and VMT Memorandum*). The Trip Generation and VMT Memo utilizes the Technical Advisory guidance and evaluates the project's potential VMT impacts based on the following VMT screening threshold.

Screening Criteria 1: Project Size

Land use projects that generate less than 110 daily trips and local-serving retail projects, defined as commercial projects with local-serving retail uses less than 50,000 square feet (i.e. not larger regional-serving uses, such as Costco and Walmart), are presumed to have less than significant VMT impacts absent substantial evidence to the contrary. Therefore, these projects are screened out from completing a VMT analysis based on project size.

According to the Trip Generation and VMT Memo, the project site is considered a "Very Low Traffic Use" of less than three (3) daily trips per 1,000 square feet, based on the project's FAR of 0.57. As such, the project is forecast to generate approximately 94 daily trips. Thus, the project is presumed to have a less than significant VMT impact, as the proposed commercial project would generate less than 110 daily trips and would be a local-serving retail project (less than 50,000 square feet), and is screened out from further VMT analysis. Impact in this regard are less than significant.

Noise

The analysis below is based on Michael Baker's *No. 1 Collision Project Noise Technical Memorandum* (Noise Memorandum), dated October 8, 2020; refer to Attachment C, *Noise Memorandum*).

Short-Term Construction Impacts

Construction activities generally are temporary and have a short duration, resulting in periodic increases in the ambient noise environment. Ground-borne noise and other types of construction-related noise impacts would typically occur during the clearing and site grading phases. Generally, these phases have the shortest duration of all construction phases. High ground borne noise levels and other miscellaneous noise levels can be created during this phase due to the operation of graders, tractors, and backhoes.

The nearest sensitive receptors are residential uses (i.e. Bristol Bay Apartments) approximately 315 feet to the northwest of the project site across Bristol Street. At this distance, construction noise levels could range between approximately 61 dBA and 74 dBA; refer to Noise Memorandum Table 4, *Maximum Noise Levels Generated by Construction Equipment*. Although sensitive receptors may be exposed to increased noise levels during project construction, Municipal Code Section 13-279 permits construction activities between 7:00 a.m. to 7:00 p.m. Monday through Friday, and 9:00 a.m. to 6:00 p.m. on Saturday. Construction activities are not allowed on Sundays or Federal holidays. In addition, construction equipment would be used throughout the project site and would not be concentrated at the point closest to the sensitive receptors. Traffic noise along Bristol Street would also mask the construction noise. As such, construction noise impacts would be less than significant.

Long-Term Operational Impacts

Mobile Noise

As detailed in Attachment C, the project proposes to develop a luxury high-end collision repair center and would result in approximately 94 daily trips based on the Trip Generation and VMT Memo. According to the *Costa Mesa General Plan Update Traffic Analysis* (February 2016)[5], Bristol Street south of Bear Street (the nearest roadway segment to the project site) experiences approximately 26,000 average daily traffic (ADT). A doubling in roadway traffic volumes is required to generate any noticeable increase in roadway noise levels.[6] As such, the project's 94 daily trips would result in a negligible increase in daily traffic compared to existing conditions, which would not materially affect roadway noise levels within or surrounding the project area. As such, project operational noise would not introduce an intrusive noise source compared to existing conditions. Therefore, noise associated with operational impacts would be less than significant.

Mechanical Noise

The mechanical noise from the project would result from the use of vacuum stations and air compressors associated with the project's auto repair services as well as mechanical equipment (i.e., from heating, ventilation and air conditioning [HVAC] units) for the proposed building. The project would perform all auto repair work inside the new building. Therefore, noise generated

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[5] City of Costa Mesa, *Environmental Impact Report for the 2015-2035 Costa Mesa General Plan, Appendix C – Traffic Study*, https://www.costamesaca.gov/city-hall/city-departments/development-services/planning/general-plan/2015-2035-general-plan-eir, accessed September 23, 2020.

[6] It takes a doubling of traffic in order to create a noticeable increase in traffic noise (i.e. 3 dB) per the California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.

from vacuum stations and air compressors would be inaudible at off-site sensitive receptors. Typically, HVAC noise is 55 dBA at 50 feet from the source. The project would site HVAC units on eastern side of the rooftop of the building, which would be approximately 555 feet from the nearest sensitive receptors to the northwest of project site. At this distance, HVAC noise would be reduced to 34 dBA and would not exceed the City's most stringent exterior noise standard (50 dBA between the hours of 11:00 p.m. and 7:00 a.m.) or interior noise standard (45 dBA between the hours of 11:00 p.m. and 7:00 a.m.)[7] per Municipal Code Section 13-280. Thus, the proposed project would not result in noise impacts to nearby sensitive receptors from on-site mechanical equipment (HVAC units). Impacts in this regard would be less than significant.

Parking Lot Noise

The project would include a total of 86 parking spaces on-site, including 38 standard size parking spaces and 48 temporary vehicle storage spaces. Surface parking spaces would be accommodated along Bristol Street and the northern portion of the project site, including 15 customer parking spaces and four temporary storage spaces. Rooftop parking would accommodate 23 employee parking spaces and 44 temporary vehicle storage spaces.

Noise associated with parking lots is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the Community Noise Equivalent Level (CNEL) scale. However, the instantaneous maximum sound levels generated by a car door slamming, engine starting up, and car pass-bys may be an annoyance to adjacent noise-sensitive receptors. Estimates of the maximum noise levels associated with some parking lot activities are presented in Noise Memorandum Table 5, *Typical Noise Levels Generated by Parking Lots*. As shown in Noise Memorandum Table 5, parking lot activities can result in noise levels up to 61 dBA at a distance of 50 feet. It is noted that parking lot noise are instantaneous noise levels compared to noise standards in the CNEL scale, which are averaged over time. As a result, actual noise levels over time resulting from parking lot activities would be far lower than what is identified in Noise Memorandum Table 5. The closest parking spaces would be located approximately 345 feet from the nearest sensitive receptors to the northwest of the project site. At this distance, parking lot noise would be reduced to 36 dBA and would not exceed the City's most stringent exterior noise standard (50 dBA between the hours of 11:00 p.m. and 7:00 a.m.) or interior noise standard (45 dBA between the hours of 11:00 p.m. and 7:00 a.m.)[8] per Municipal Code Section 13-280. Therefore, parking lot noise associated with the project is not expected to exceed the City's noise standards and the impacts would be less than significant in this regard.

Ground borne Vibration Impacts

Construction Vibration Impacts

Project construction can generate varying degrees of ground borne vibration, depending on the construction procedure and the construction equipment used. The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations. In

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7 Assuming a 20-dBA outdoor-indoor noise attenuation rate per the U.S. Department of Housing and Urban Development, *The Noise Guidebook*, page 14, March 2009.

8 Ibid.

general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.20 inch/second) appears to be conservative.

Ground borne vibration decreases rapidly with distance. As indicated in Noise Memorandum Table 6, *Typical Vibration Levels for Construction Equipment*, based on the FTA data, vibration velocities from typical heavy construction equipment operations that would be used during project construction range from 0.003 to 0.089 in/sec PPV at 25 feet from the source of activity. The nearest structure is a commercial building located approximately 30 feet to the south of the project site. At the distance of 30 feet, vibration velocities from typical heavy construction equipment operations would range from 0.002 to 0.160 in/sec PPV. Therefore, construction activities would not be capable of exceeding the 0.2 in/sec PPV significance threshold for vibration and a less than significant impact would occur in this regard.

Operational Vibration Impacts

The proposed collision repair center would not involve activities, such as rail traffic or heavy truck operations, that could result in significant ground-borne vibration during operations. Therefore, operations of the proposed project would not result in significant vibration impacts at surrounding uses. A less than significant impact would occur is this regard.

Airport Noise Impacts

The nearest airport to the project site is the John Wayne Airport, located approximately four miles to the northeast of the project site at 18601 Airport Way, Santa Ana, CA 92707. According to the Airport Land Use Commission (ALUC) for Orange County's *Airport Environs Land Use Plan for John Wayne Airport* (AELUP for John Wayne Airport), the project is located within John Wayne Airport's planning area and thus, would be subject to be referred to the ALUC for review, if necessary.[9] Concerning noise-related impact, however, the project site is located outside of the John Wayne Airport 65 dBA noise contour.[10] Further, the proposed 29-foot commercial building would conform to noise, safety, and height restriction standards set forth by the ALUC and as outlined in Section 2.0, *Planning Guidelines*, and Section 3.0, *Land Use Policies*, of the AELUP for John Wayne Airport. Impacts in this regard would be less than significant.

Air Quality

The analysis below is based on Michael Baker's *No. 1 Collision Project – Air Quality Technical Memorandum* (Air Quality Memorandum), dated October 8, 2020; refer to Attachment D, *Air Quality Memorandum*).

Air Quality Plan Consistency

The City is located within the South Coast Air Basin (Basin), which is under the South Coast Air Quality Management District's (SCAQMD) jurisdiction. On March 3, 2017, the SCAQMD

9 Airport Land Use Commission, *Airport Environs Land Use Plan for John Wayne Airport*, amended April 17, 2008.

10 John Wayne Airport, *John Wayne Airport 2019 Annual 60-75 (5 dB intervals) CNEL Noise Contours*, https://www.ocair.com/reportspublications/AccessNoise/noiseabatementquarterly/2019/na2019-q4.pdf, accessed September 2, 2020.

Governing Board adopted the *2016 Air Quality Management Plan for the South Coast Air Basin* (2016 AQMP). The 2016 AQMP incorporates the latest scientific and technical information and planning assumptions, including the latest applicable growth assumptions, updated emission inventory methodologies for various source categories. Additionally, the 2016 AQMP utilized information and data from the Southern California Association of Government's (SCAG) and its *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016 RTP/SCS). While SCAG has recently adopted the 2020-2045 RTP/SCS (Connect SoCal), SCAQMD has not released an updated AQMP. As such, this consistency analysis is based off the 2016 AQMP and the RTP/SCS that was adopted at the time, the 2016-2040 RTP/SCS. The SCAQMD considers projects that are consistent with the AQMP, which is intended to bring the Basin into attainment for all criteria pollutants, to also have less than significant cumulative impacts.

Criteria for determining consistency with the AQMP are defined by several indicators. As detailed in Attachment D, the project's short-term construction, long-term operational, and localized air emissions for carbon monoxide (CO), nitrous oxides (NO_X), and particulate matter (PM_{10} and $PM_{2.5}$) would not exceed SCAQMD thresholds. Therefore, the proposed project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new air quality violations, or delay timely attainment of air quality standards or the interim emissions reductions specified in the 2016 AQMP.

The proposed project is consistent with the General Plan designation and development density planned for the project site. Furthermore, with approval of a Minor Conditional Use Permit to accommodate the proposed parking, the proposed project would also be consistent with the zoning for the project site. The project does not include the removal or addition of residences and population forecasts would not be altered by the project. Therefore, the project would not exceed the population or job growth projections used by the SCAQMD to develop the 2016 AQMP. Overall, project construction and operations would not require mitigation related to air quality emissions and would be consistent with SCAQMD and SCAG's goals and policies and is considered consistent with the 2016 AQMP.

Short-Term Construction Impacts

The project involves construction activities associated with demolition, grading, building construction, paving, and architectural coating applications. The project would be constructed over approximately 12 months, beginning in March 2021. Grading activities would require approximately 600 cubic yards of soil import. In accordance with the SCAQMD Guidelines, the California Emissions Estimator Model version 2016.3.2 (CalEEMod) was utilized to model construction emissions for reactive organic gas (ROG), NO_X, CO, sulfur oxides (SO_X), PM_{10}, and $PM_{2.5}$. As indicated in Air Quality Memorandum Table 3, *Short-Term Construction Emissions*, the project's total construction emissions for all criteria pollutants would be below the SCAQMD significance thresholds, including those currently designated as nonattainment in the Basin ($PM_{2.5}$, PM_{10}, and ozone [O_3] precursors [NO_x and ROG]). Thus, total construction related air emissions would be less than significant.

Long-Term Operational Impacts

Long-term project operations would generate mobile, area, and energy source emissions. Project-generated vehicle emissions were estimated using CalEEMod as well as the California

Air Resources Board (CARB) EMission FACtor Model 2017 (EMFAC2017). Based on the Trip Generation and VMT Memo, the proposed project would generate approximately 94 daily vehicle trips. Area source emissions would be generated from consumer products, architectural coating, hearths, and landscaping, and energy source emissions would be generated as a result of electricity and natural gas usage associated with the project. As indicated in Air Quality Memorandum Table 4, *Long-Term Operational Air Emissions*, the project's long-term operational emissions would not exceed the SCAQMD thresholds for any criteria pollutants, including those currently designated as nonattainment in the Basin ($PM_{2.5}$, PM_{10}, and O_3 precursors [NO_x and ROG]). Thus, long-term operational air quality impacts would be less than significant in this regard.

Air Quality Health Impacts

Adverse health effects induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individual [e.g., age, gender]). In particular, O_3 precursors, VOCs and NO_X, affect air quality on a regional scale. Health effects related to O_3 are therefore the product of emissions generated by numerous sources throughout a region.

As noted in the Brief of Amicus Curiae by the SCAQMD (April 6, 2015) for the *Sierra Club vs. County of Fresno*[11], the SCAQMD acknowledged it would be extremely difficult, if not impossible to quantify health impacts of criteria pollutants for various reasons including modeling limitations as well as where in the atmosphere air pollutants interact and form. Further, as noted in the Brief of Amicus Curiae by the San Joaquin Valley Air Pollution Control District (SJVAPCD) (April 13, 2015) for the *Sierra Club vs. County of Fresno*[12], SJVAPCD acknowledged that currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts.

As such, the SCAQMD concludes that it is not currently possible to accurately quantify O_3-related health impacts caused by NO_X or VOC emissions from relatively small projects (defined as projects with regional scope) due to photochemistry and regional model limitations. Thus, as the project would not exceed SCAQMD thresholds for construction and operational air emissions, the project would have a less than significant impact for air quality health impacts.

Sensitive Receptors

The nearest sensitive receptors are residential uses (i.e. Bristol Bay Apartments) located approximately 315 feet to the northwest of the project site across Bristol Street. In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing localized significance thresholds for construction and operations impacts (stationary sources only).

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[11] South Coast Air Quality Management District, *Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.

[12] San Joaquin Valley Air Pollution Control District, *Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.

Construction Localized Significance Thresholds

Air Quality Memorandum Table 5, *Localized Significance of Construction Emissions*, shows the localized construction-related emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ compared to the localized significance thresholds (LST) for Source Receptor Area (SRA) 18, North Coastal Orange County. As shown, the project's localized construction emissions would not exceed the LSTs for SRA 18. Therefore, localized significance impacts from construction would be less than significant.

Operational Localized Significance Thresholds

According to the SCAQMD's *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]), LSTs would apply to the operational phase of a proposed project if the project includes stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site (e.g., warehouse or transfer facilities). The proposed project does not include such uses. Thus, due to the lack of such emissions, no long-term localized significance threshold analysis is necessary. Operational LST impacts would be less than significant in this regard.

Carbon Monoxide Hotspots

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affecting residents, school children, hospital patients, the elderly, etc.). The Basin is designated as an attainment/maintenance area for the Federal CO standards and an attainment area for State standards. In 2007, the Basin was re-designated as attainment and CO is no longer addressed in the SCAQMD's AQMP. The Basin is designated as an attainment/maintenance area for the Federal CO standards.

A detailed CO analysis was conducted in the Federal Attainment Plan for Carbon Monoxide (CO Plan) for the SCAQMD's *2003 Air Quality Management Plan*, which is the most recent AQMP that addresses CO concentrations. The locations selected for microscale modeling in the CO Plan are worst-case intersections in the Basin and would likely experience the highest CO concentrations. Thus, CO analysis within the CO Plan is utilized in a comparison to the proposed project, since it represents a worst-case scenario with heavy traffic volumes within the Basin.

Of these locations, the Wilshire Boulevard/Veteran Avenue intersection in Los Angeles County experienced the highest CO concentration (4.6 parts per million [ppm]), which is well below the 35-ppm 1-hr CO Federal standard. The Wilshire Boulevard/Veteran Avenue intersection is one of the most congested intersections in Southern California with an ADT volume of approximately 100,000 vehicles per day. As the CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection, it can be reasonably inferred that CO hotspots would not be experienced at any intersections within the City near the project site due to the comparatively low volume of traffic (a maximum of 94 average daily trips) that would occur as a result of project implementation. Therefore, impacts would be less than significant in this regard.

Odors

California Health & Safety Code, Division 26, Part 4, Chapter 3, Section 41700 prohibit the emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of the public. Projects required to obtain permits from SCAQMD, typically industrial and some commercial projects, are evaluated by SCAQMD staff for potential odor nuisance and conditions may be applied (or control equipment required) where necessary to prevent occurrence of public nuisance. The proposed project would not require such a permit from SCAQMD.

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses identified by the SCAQMD as being associated with odors. Construction activities associated with the project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. However, construction-related odors would be short-term in nature and cease upon project completion. In addition, the project would be required to comply with the California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. This would further reduce the detectable odors from heavy-duty equipment exhaust. The project would also comply with the SCAQMD Regulation XI, *Rule 1113 – Architectural Coating*, which would minimize odor impacts from ROG emissions during architectural coating. Therefore, the project would not emit emissions, including odors, adversely affecting a substantial number of people and impacts would be less than significant.

Water Quality

As part of Section 402 of the Clean Water Act (CWA), the Environmental Protection Agency has established regulations under the National Pollutant Discharge Elimination System (NPDES) program to control direct stormwater discharges. In California, the State Water Regional Control Board (SWRCB) administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The NPDES program regulates industrial pollutant discharges, which include construction activities. The SWRCB works in coordination with the Regional Water Quality Control Boards (RWQCB) to preserve, protect, enhance, and restore water quality. The project site is within the jurisdiction of the Santa Ana RWQCB. The Santa Ana RWQCB addresses the obligation to implement the CWA by periodically issuing permits for the County of Orange and the incorporated cities of Orange County.

In May 2009, the Santa Ana RWQCB issued Order R8-2009-0030 (NPDES No. CAS618030, as amended by Order No. R8-2010-0062), *Waste Discharge Requirements for the County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County within the Santa Ana Region Areawide Urban Storm Water Runoff* (Orange County MS4 Permit).

The City of Costa Mesa is a co-permittee on the Orange County MS4 Permit and is required to adhere to the CWA requirements.[13]

The project site is predominantly paved. No underground storm drains existing on-site and existing drainage flows from the southeast corner of the site to the north and west. On-site stormwater runoff is collected in a v-gutter and directed into Bristol Street, then flow southerly towards an existing City storm drain catch basin on the east side of the Bristol Street. As detailed in the project's *County of Orange/Santa Ana Region Priority Project Water Quality Management Plan* (WQMP), prepared by Jones, Cahl & Associates, dated July 27, 2020, development of the proposed project would nominally decrease impervious surfaces from approximately 94.8 to 93.9 percent (a 0.9 percent decrease); refer to Attachment E, *Water Quality Management Plan*.

Currently, on-site drainage would sheet flow from the southeast corner of the site to the north and west to be collected in a v-gutter, before being directed into Bristol Street through a curb drain. Runoff would then be directed south to an existing storm drain catch basin on the east side of the Bristol Street. The proposed drainage would continue to follow the existing on-site drainage conditions. Drainage would flow from a high point at the southeast corner of the project site to the two proposed on-site bioretention planters with underdrains, which would remove pollutants of concern, in the northwest corner of the site. After biotreatment, the treated runoff would flow to a proposed storm drain manhole that would pump the treated runoff out to Bristol Street, where the runoff would continue on its original path to a storm drain catch basin along the street.

In addition, the project Applicant would be required to implement several non-structural and structural best management practices (BMPs) as detailed in the WQMP pursuant to the MS4 Permit requirement. Non-structural BMPs required of the project include, among others, education for property owners, tenants, and occupants; activity restrictions (e.g., prohibiting vehicle washing, maintenance, or repair on-site; common area landscape management; BMP maintenance; Uniform Fire Code implementation; common area litter control; employee training; and street sweeping in private streets and parking lots. Structural BMPs required of the project include designated trash and waste storage areas, implementation of water efficient irrigation systems and landscape design, water conservation, smart controllers, and source control; and installation of maintenance bays. Overall, project development would not substantially change the permeability or hydrology of the site as the proposed impervious surfaces would decrease by approximately 0.9-percent and drainage path and runoff exiting the site would be similar to existing conditions; refer to Section II, *Project Description*, of the WQMP. Additionally, the two bioretention planters along the project frontage would remove stormwater runoff pollutants prior to flows leaving the site and entering the City's drainage facilities in Bristol Street, which would improve water quality compared to the existing conditions. Therefore, the project would not generate additional stormwater runoff and would not degrade the quality of runoff from the site.

Conclusion

As detailed above, construction and operations of the project would result in less than significant impacts related to traffic, noise, air quality, and water quality. Overall, the project would meet

[13] California Regional Water Quality Control Board Santa Ana Region, *Order No. R8-2009-0030, NPDES No. CAS618030, As amended by Order No. R8-2010-0062, Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the Incorporated Cities of Orange County within the Santa Ana Region Areawide Urban Storm Water Runoff*, May 2009.

Criterion (d) requirements.

Criterion (e) *The site can be adequately served by all required utilities and public services.*

The project site is currently served by existing utilities and public services. Similar to adjacent uses, the City of Costa Mesa Public Services Department would provide wastewater and storm water services, and oversee solid waste collection services for commercial waste collection and recycling, and Mesa Water District would provide water services at the project site. Additionally, Southern California Edison and Southern California Gas Company would provide electricity and gas services, respectively.

The project would install utility improvements on-site to connect to existing utility infrastructure. The project Applicant would also be responsible for paying connection fees to utility providers. As the project is consistent with the land use designation and density for the site, payment of standard sewer connection fees and ongoing user fees would ensure that sufficient capacity is available. As such, the project would meet Criterion (e) requirements.

EXCEPTIONS TO CATEGORICAL EXEMPTIONS ANALYSIS

The following are exceptions to the Class 32 Categorical Exemption:

Exception (a) A categorical exemption shall not be used for a project under Classes 3, 4, 5, 6, and 11, if the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

The project is proposing a categorical exemption under Class 32. Therefore, Exception (a) would not apply to the project.

Exception (b) A categorical exemption shall not be used for a project when the cumulative impact of successive projects of the same type in the same place, over time is significant.

The project proposes a high-end collision repair center within an existing commercial area of the City. No successive projects of the same type in the same place would occur over time. The project is consistent with applicable General Plan land use policies and, with approval of a Minor Conditional Use Permit to accommodate the proposed parking, is permitted under the City's Zoning Code. Therefore, potential cumulative effects are not anticipated and Exception (b) would not apply to the project.

Exception (c) A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

The project would not result in any significant effects on the environment due to unusual circumstances. The project site was formerly used as a carwash and oil change facility and is located in a commercial area of Costa Mesa. The site is not located within a sensitive resource area and no site-specific environmental constraints, such as biological resources, cultural resources, geology and soils, and hazards and hazardous materials exist on-site. The project is a permitted use under the site's General Commercial designation and would meet all development standards under the C1 zoning district with approval of a Minor Conditional Use Permit to accommodate the proposed parking. Therefore, Exception (c) would not apply to the proposed project.

Exception (d) A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a State scenic highway.

Based on the California Department of Transportation's California Scenic Highway Mapping System, there are no scenic highways near the project site.[14] The closest officially designated or eligible State scenic highway is Highway 1 (Coast Highway) located approximately four miles to the south. Given the distance of the project site to Coast Highway and intervening topography, vegetation, and structures, the project would not be visible from Coast Highway. As such, the proposed project would have no impact on scenic resources within a State scenic highway and Exception (d) would not apply.

Exception (e) A categorical exemption shall not be used for a project located on a site which is included on any list complied pursuant to Section 65962.5 of the Government Code.

Government Code Section 65962.5 requires the Department of Toxic Substance Control and State Water Resources Control Board to compile and update a regulatory sites listing (per the criteria of the Section). The California Department of Health Services is also required to compile and update, as appropriate, a list of all public drinking water wells that contain detectable levels of organic contaminants and that are subject to water analysis pursuant to Health and Safety Code Section 116395. Section 65962.5 requires the local enforcement agency, as designated pursuant to Section 18051 of Title 14 of the California Code of Regulations (CCR), to compile, as appropriate, a list of all solid waste disposal facilities from which there is a known migration of hazardous waste.

The project site is not currently listed pursuant to Government Code Section 65962.5 (Cortese List).[15] The project site (2750 Bristol Street) was previously listed on the California Department of Toxic Substance Control Hazardous Waste and Substances' (DTSC's) Cortese List. This former case was a result of a past release from multiple underground storage tanks (USTs) associated with a former gasoline service station that was present on-site before the current car wash facility.

As detailed in the project's *Additional Phase II Environmental Site Assessment, Installation of Groundwater Monitoring Well, & Groundwater Sampling Report 1st Quarter 2006 at South Pacific Car Wash, 2750 South Bristol Street, Costa Mesa, CA 92626*, prepared by Western

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[14] California Department of Transportation, *California Scenic Highway Mapping System*, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm, accessed August 3, 2020.

[15] California Environmental Protection Agency, *Cortese Listing*, https://calepa.ca.gov/sitecleanup/corteselist/, accessed July 17, 2020.

Environmental Engineers Co., dated April 37, 2006, soil, soil vapor, and groundwater beneath the project site have been impacted by petroleum hydrocarbons and fuel oxygenates as a result of leaked USTs associated with the former gasoline service station's operation; refer to Attachment F, *Hazardous Material Documentation*. Multiple subsurface investigations and groundwater monitoring events were conducted on-site following the removal of USTs, dispenser islands, and product piping associated with the former gasoline service station in 2003. Elevated concentrations of hydrocarbons, including total petroleum hydrocarbons as gasoline (TPHg), tertiary-amyl methyl ether (TAME), and methyl tertiary-butyl ether (MTBE) in excess of regulatory screening levels were detected in soil and groundwater beneath the site. As a result, remediation system (In-Situ Air Sparging with Soil Vapor Extraction [SVE]) was installed on-site in 2005. The remediation system featured three soil vapor extraction wells as well as numerous groundwater monitoring wells from prior investigations. Hydrocarbon concentrations in groundwater continued to decrease in subsequent testing as a result of the remediation, and benzene, toluene, ethylbenzene, total xylenes, ethyl tertiary-butyl ether (ETBE), di-isopropyl ether (DIPE), TAME, and tertiary-butyl alcohol (TBA) have not been detected in groundwater since 2006. Results from the last groundwater monitoring event in March 2010 indicated the absence of elevated concentrations of petroleum hydrocarbons or fuel oxygenates in soil or groundwater samples collected on-site. The Orange County Health Care Agency (OCHCA) issued a case closure letter dated June 4, 2010 to indicate that the impacted soil, soil vapor, and groundwater as result of the former gasoline service station have been remediated to levels below regulatory screening levels. The case closure summary (as part of the closure letter) indicates that the corrective action would protect public health for the commercial land use (automobile services).

Additional consultation with Mearns Consulting LLC was conducted to consider the project as proposed. Based on a letter from Mearns Consulting LLC dated August 13, 2020 (refer to Attachment F), the OCHCA case closure letter from 2010 is applicable to the proposed project, since the land use (automotive) has not changed.[16] Therefore, the proposed project is encompassed in the context of what was described in the OCHCA case closure letter dated June 4, 2010. As such, the project site is no longer listed on the DTSC's Cortese List pursuant to Government Code Section 65962 and Exception (e) would not apply.

It is acknowledged that the proposed project would be required to comply with all existing laws and regulations governing the use/handling/transport of hazardous materials, including those imposed by the OCHCA. With compliance with existing federal, state, and local laws and regulations, impacts in this regard would be less than significant.

Exception (f) A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

According to the City's *Draft Environmental Impact Report for the Year 2015–2035 General Plan* (General Plan EIR) Table CUL-1, *City of Costa Mesa Historic Resources Inventory*, the project site is not identified as a historical resource. Thus, the building is not likely to yield information important in prehistory or history, or embody distinctive characteristics of a type, period, or method of construction, possess high artistic value, or represent a significant and distinguishable entity. As such, demolition of the existing building as part of the proposed project would not result in a

[16] Mearns Consulting LLC, *Additional Information, 2750 Bristol Street, Costa Mesa, California 92626*, August 13, 2020.

substantial adverse change in the significance of a historic resource and Exception (f) would not apply.

CONCLUSION

Based on this analysis, the proposed No. 1 Collision Project meets all criteria for a Class 32 Categorical Exemption pursuant to CEQA Guidelines Section 15332.

REFERENCES

Airport Land Use Commission, *Airport Environs Land Use Plan for John Wayne Airport*, amended April 17, 2008.

California Department of Transportation, *California Scenic Highway Mapping System*, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm, accessed August 3, 2020.

California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.

California Environmental Protection Agency, *Cortese Listing*, https://calepa.ca.gov/sitecleanup/corteselist/, accessed July 17, 2020.

California Regional Water Quality Control Board Santa Ana Region, *Order No. R8-2009-0030, NPDES No. CAS618030, As amended by Order No. R8-2010-0062, Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the Incorporated Cities of Orange County within the Santa Ana Region Areawide Urban Storm Water Runoff*, May 2009.

City of Costa Mesa, *2015-2035 General Plan*, 2016.

City of Costa Mesa, *2015-2035 General Plan Figure LU-3 Land Use Policy Map*, June 2016, https://www.costamesaca.gov/home/showdocument?id=34712, accessed July 14, 2020.

City of Costa Mesa, Draft Environmental Impact Report for the Year 2015–2035 General Plan, June 26, 2016

City of Costa Mesa, *City of Costa Mesa Zoning Map*, November 1, 2016, https://www.costamesaca.gov/home/showdocument?id=7259, accessed July 14, 2020.

City of Costa Mesa, *Commercial Development Standards*, June 20, 2012, https://www.costamesaca.gov/home/showdocument?id=8425, accessed July 28, 2020.

City of Costa Mesa Department of Public Services/Transportation Services Division, *Collision 1 Trip Generation and VMT Memorandum*, September 23, 2020.

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Governor's Office of Planning and Research, *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018.

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John Wayne Airport, *John Wayne Airport 2019 Annual 60-75 (5 dB intervals) CNEL Noise Contours*, https://www.ocair.com/reportspublications/AccessNoise/noiseabatementquarterly/2019/na2019-q4.pdf, accessed September 2, 2020.

Mearns Consulting LLC, *Additional Information, 2750 Bristol Street, Costa Mesa, California 92626*, August 13, 2020.

Michael Baker International, *No. 1 Collision Project – Air Quality Technical Memorandum*, October 8, 2020.

Michael Baker International, *No. 1 Collision Project Noise Technical Memorandum*, October 8, 2020.

San Joaquin Valley Air Pollution Control District, *Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.

South Coast Air Quality Management District, *Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.

Western Environmental Engineers Co., *Additional Phase II Environmental Site Assessment, Installation of Groundwater Monitoring Well, & Groundwater Sampling Report 1st Quarter 2006 at South Pacific Car Wash, 2750 South Bristol Street, Costa Mesa, CA 92626*, April 37, 2006.

U.S. Department of Housing and Urban Development, *The Noise Guidebook*, page 14, March 2009.

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EXHIBITS

NOT TO SCALE

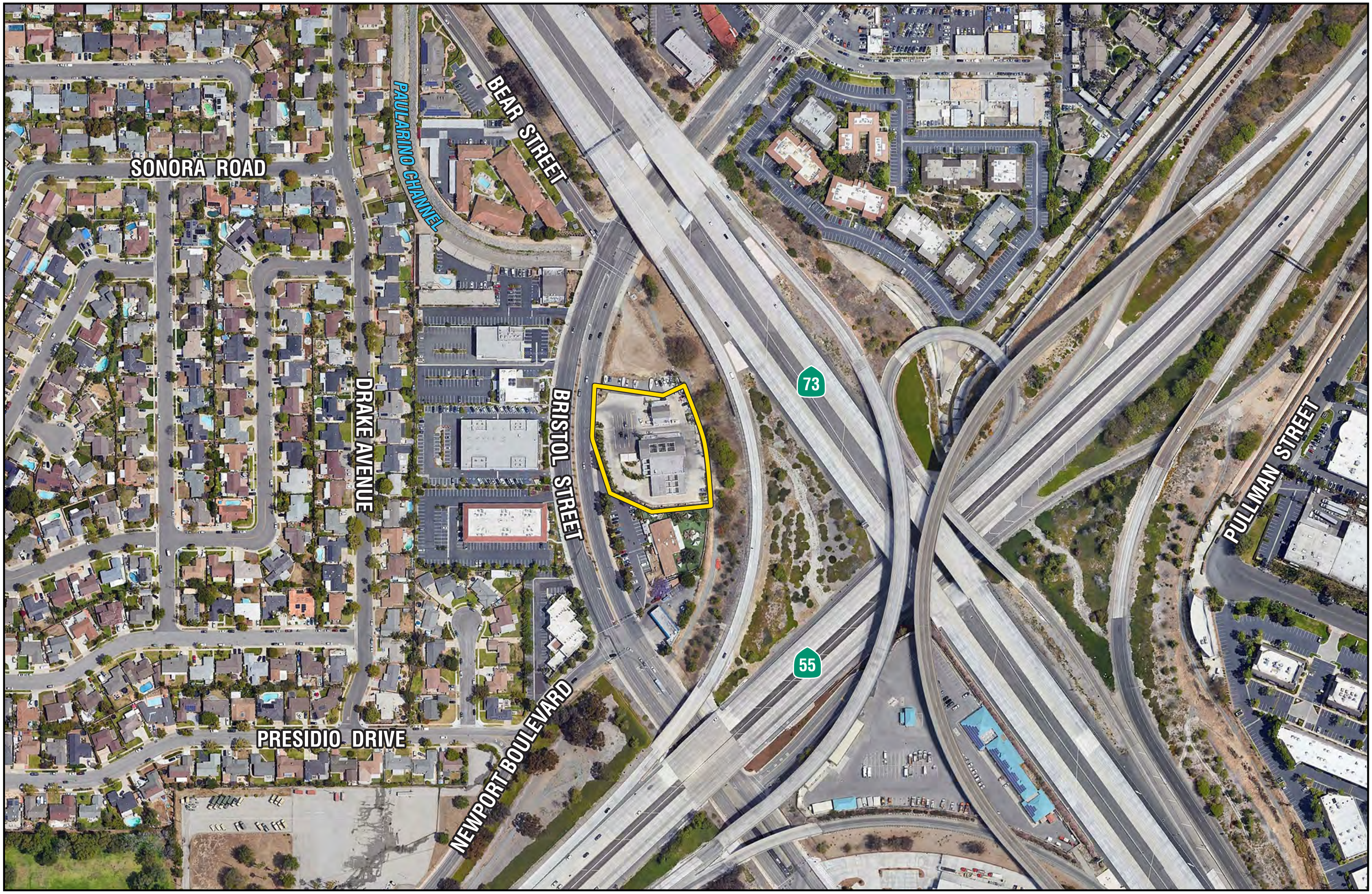
Michael Baker INTERNATIONAL

07/20 JN 179643

NO. 1 COLLISION
CEQA CLASS 32 CATEGORICAL EXEMPTION

Regional Vicinity

Exhibit 1



Source: Google Earth Pro, July 2020

NOT TO SCALE

Michael Baker INTERNATIONAL

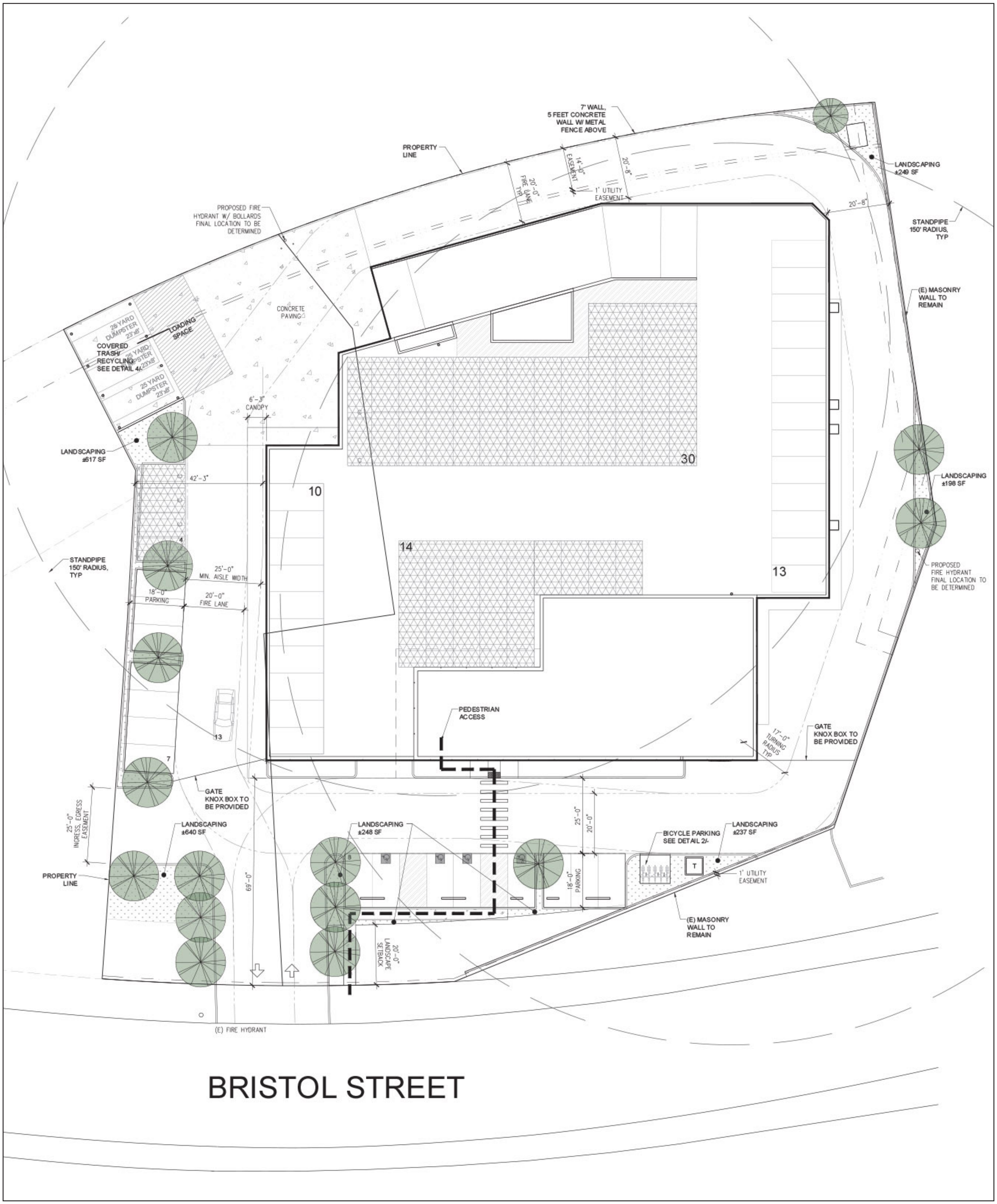
PROJECT SITE

07/20 JN 179643

NO. 1 COLLISION
CEQA CLASS 32 CATEGORICAL EXEMPTION

Site Vicinity

Exhibit 3



Source: AHT Architects, Inc., August 2020

NOT TO SCALE

Michael Baker INTERNATIONAL

08/20 JN 179643

NO. 1 COLLISION
CEQA CLASS 32 CATEGORICAL EXEMPTION

Site Plan

Exhibit 3

ATTACHMENT A
Land Use Consistency Table

Attachment A
Land Use Consistency Table

Applicable General Plan Land Use Policies	Project Consistency
Goal LU-2: Preserve and Protect Residential Neighborhoods *Objective LU-2A. Promote land use patterns and development that contribute to community and neighborhood identity.*	
Policy LU-2.9: Require appropriate building setbacks, structure orientation, and placement windows to consider the privacy of adjacent residential structures within the same project and on adjacent properties.	Consistent. The project site is generally bound by a vacant disturbed land to the north, State Route 73 (SR-73) to the east, commercial uses across Bristol Street to the west, and a dog daycare to the south; refer to Exhibit 2, *Site Vicinity*. The project site is not located adjacent to residential structures. As such, the project would be consistent with this policy.
Goal LU-3: Development that Maintains Neighborhood Integrity and Character *Objective LU-3A. Establish policies, standards, and procedures to minimize blighting influences, and maintain the integrity of stable neighborhoods.*	
Policy LU-3.8: Ensure that new development reflects existing design standards, qualities, and features that are in context with nearby development and surrounding residential neighborhoods.	Consistent. The proposed luxury collision repair center would be constructed with concrete blocks in various colors and finishes. Large garage doors would contrast the concrete building exterior and be made of glass and polished metal. Given the nature of the proposed use, the building interiors would have an industrial aesthetic with exposed unfinished concrete. The project would also be consistent with applicable development standards for C1 zoning districts as detailed under the analysis for Criterion (a) *Zoning Consistency*. Further, the project requires design review by the City's Zoning Administrator to determine whether the project meets existing development and design standards. Approval of the design review would ensure the project is developed in context with nearby industrial and commercial development in terms of design standards, qualities, and features. The project would be consistent in this regard.
Policy LU-3.10: Minimize effects of new development on the privacy and character of surrounding neighborhoods.	Consistent. Refer to Policies LU-2.9 and LU-3.8.
Policy LU-3.12: Ensure that new development reflects existing design standards, qualities, and features that are in context with nearby development.	Consistent. Refer to Policy LU-3.8.
Policy LU-3.16: The City shall refer certain projects to the Airport Land Use Commission for Orange County, as required by Section 21676 of the California Public Utilities Code to determine consistency of the project(s) with the Airport Environs Land Use Plan for John Wayne Airport.	Consistent. According to the Airport Land Use Commission (ALUC) for Orange County's *Airport Environs Land Use Plan for John Wayne Airport* (AELUP for John Wayne Airport), the project is located within John Wayne Airport's planning area and thus, would be subject to the ALUC for review, if necessary. However, the proposed project is consistent with the General Plan designation for the site, and the project site is located outside of the John Wayne Airport 65 dBA noise contour. Further, the proposed 29-foot commercial building would conform to noise, safety, and height restriction standards set forth by the ALUC and as outlined in Section 2.0, *Planning Guidelines*, and Section 3.0, *Land Use Policies*, of the AELUP for John Wayne Airport. Refer to Criterion (d) for further discussion on the project's potential impacts on noise. As such, the project would be consistent in this regard.

Goal LU-4: New Development that is Sensitive to Costa Mesa's Environmental Resources *Objective LU-4A. Encourage new development and redevelopment that protects and improves the quality of Costa Mesa's natural environment and resources.*	
Policy LU-4.1: Ensure that appropriate watershed protection activities are applied to all new development and significant redevelopment projects that are subject to the National Pollutant Discharge Elimination System Stormwater Permit during the planning, project review, and permitting processes.	Consistent. As discussed in Criteria (d), the project would be required to comply with the Santa Ana Regional Water Quality Resource Board's *Waste Discharge Requirements for the County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County within the Santa Ana Region Areawide Urban Storm Water Runoff* (Orange County MS4 Permit) requirement. The project would be required to implement several non-structural and structural best management practices (BMPs) as detailed in the project's *County of Orange/Santa Ana Region Priority Project Water Quality Management Plan* (WQMP). Further, the project would include two on-site low impact development (LID) bioretention planters with underdrains, which would remove pollutants of concern while keeping a low footprint and overall maintenance schedule. As such, the project would be consistent in this regard.
Policy LU-4.4: Promote site development that limits impact on and protects the natural integrity of topography, drainage systems, and water bodies, and protect the integrity of the bluff crest.	Consistent. As discussed in Criterion (d), the proposed project would not adversely impact topography, drainage systems, and water bodies, or the integrity of the bluff crest. The project would be consistent in this regard.
Policy LU-4.5: Promote integration of stormwater quality protection into construction and post-construction activities, as required by the NPDES Stormwater Permit and the City's Local Implementation Plan.	Consistent. Refer to Policy LU-4.1.
Policy LU-4.6: Incorporate the principles of sustainability into land use planning, infrastructure, and development processes to reduce greenhouse gas emissions consistent with State goals.	Consistent. The project would be consistent with 2019 Title 24 Standards and 2019 California Green Building Standards Code (CALGreen Code), which includes building efficiency, energy efficiency, and water efficiency features. In addition, as discussed in Criterion (d), the project is an infill development located across the street of a local bus stop serving Orange County Bus Route 57. The project would also provide five bicycle parking spaces on-site to promote an alternative transportation option for employees. These features would promote sustainability and reduce GHG emissions.
Goal LU-5: Adequate Community Services, Transportation System, and Infrastructure to Meet Growth *Objective LU-5A. Ensure availability of adequate community facilities and provision of the highest level of public services possible, taking into consideration budgetary constraints and effects on the surrounding area.*	
Policy LU-5.10: Building densities/intensities for proposed new development projects shall not exceed the trip budget for applicable land use classifications, as identified in the Land Use Element. Building intensities for proposed new development projects shall not exceed the applicable floor area standards, except for the following conditions: (a) Limited deviations from the graduated floor-area ratio standards for the commercial and industrial land use designations may be approved through a discretionary review process. No deviation shall exceed a 0.05 increase in the FAR in the moderate traffic category, and no deviation shall be allowed in the very low, low, and high traffic categories. Deviations from the FAR standards shall not cause the daily trip generation for the property to be exceeded when	Consistent. According to the City's Municipal Code Table 13-44, *Commercial Property Development Standards*, the Very Low Traffic FAR of 0.75 or less applies to the proposed project (since the project site is designated as General Commercial). The General Commercial designation allows a minimum 0.20 FAR and maximum 0.75 FAR. The project involves constructing an approximately 37,485 square-foot (gross floor area) two-story collision repair center on an approximately 65,514-square foot site, which equates to a 0.57 FAR. Thus, the project would be consistent with the FAR requirements for the General Commercial designation. Thus, the project would be consistent with the allowed FAR and would not result in a deviation in the very low traffic category.

compared to the existing daily trip generation for the site without the proposed project or maximum allowable traffic generation for the Moderate Traffic FAR category, whichever is greater. (b) Additions to existing nonconforming nonresidential developments may be allowed if the additions do not affect the overall traffic generation characteristics of the development and if the additions do not substantially affect the existing height and bulk of the development. Additions to nonresidential developments shall be limited to those land uses with traffic generation rates based on variables other than building area square footage. Examples of such additions include, but are not limited to: 1) Hotels/motels: Increases in the size of hotel rooms or lobbies where no increase in the total number of rooms is proposed, and 2) theaters: Increases to "back-stage" support areas or lobbies where no increase in the total number of seats is proposed. (c) In the above conditions, the new development shall be compatible with surrounding land uses. (d) Additional criteria for approving deviations from the FAR standards may be established by policy of the City Council.	
Source: City of Costa Mesa, *2015-2035 General Plan*, 2016.	

ATTACHMENT B
Trip Generation and VMT Memorandum

CITY OF COSTA MESA

Department of Public Services/Transportation Services Division

INTER OFFICE MEMORANDUM

TO: JENNIFER LE, ACTING ECONOMIC & DEVELOPMENT SERVICES DIRECTOR

FROM: JENNIFER ROSALES, TRANSPORTATION SERVICES MANAGER

DATE: SEPTEMBER 23, 2020

SUBJECT: **COLLISION 1 TRIP GENERATION AND VMT MEMORANDUM**

The proposed No. 1 Collision facility (the project) is located at 2750 and 2770 Bristol Street in the northeastern portion of the City. The approximate 1.5-acre project site was formerly used as a car wash and oil change facility, and, prior to this, a gasoline service station. Currently, the car wash and oil change facility are no longer in use.

The project proposes the demolition of the existing carwash facility and construction of a 37,485-square foot luxury high-end collision repair center within a single two-story building. The ground floor encompasses 31,498 square feet and includes a waiting area, offices, body shop areas, detail shop areas, holding bays, mechanical bays, wash bays, parts/tools/equipment storage, as well as a drive aisle. The second floor encompasses 5,987 square feet, including an employee board and training room, offices, employee lunchroom and locker room, and parts storage. The roof would be utilized for employee parking and temporary vehicle storage. For the purposes of Floor Area Ratio (FAR) considerations, the project proposes a total of approximately 32,757 square feet of gross floor area, or 0.50 FAR.

The project proposes the operation of a luxury brand collision center specializing in European engineered automobiles, such as Mercedes Benz, BMW, Land Rover, and Audi. Proposed automobile services include body repair, service repair, detailing, and carwash services. The facility anticipates generating approximately 8 to 12 customers a day. Services would be accommodated by appointment only. The project proposes a total of employees including technicians to be about 23.

The City's Transportation Services Division has reviewed the proposed project and determined that the project with maximum FAR of 0.75 meets the Very Low Traffic Use of less than three (3) daily trips per 1,000 square feet. The estimated number of daily trips for the proposed project is 94 daily trips.

For the purposes of Vehicle Miles Traveled (VMT) for California Environmental Quality Act (CEQA) impact analysis, the proposed project would have a less than significant impact since the estimated daily trips for the project is less than 110 daily vehicle trips. In addition, the proposed project site is located in a Low VMT zone.

If you have any questions regarding the trip generation estimates, then please contact me at (714) 754-5180.

Sincerely,

JENNIFER ROSALES, Manager
Transportation Services

c File

ATTACHMENT C
Noise Memorandum

Noise Technical Memorandum

To: Mel Lee, City of Costa Mesa

From: Zhe Chen, Michael Baker International

Date: October 21, 2020

Subject: No.1 Collision Project – Noise Technical Memorandum

PURPOSE

The purpose of this technical memorandum is to evaluate potential short- and long-term noise and groundborne vibration impacts as a result of the proposed No.1 Collision Project (project), located in Costa Mesa, California.

PROJECT LOCATION

The City of Costa Mesa (City) encompasses approximately 16 square miles and is located in the western portion of Orange County. Surrounding jurisdictions include Santa Ana to the north, Irvine and Newport Beach to the east, Newport Beach to the south, and Huntington Beach and Fountain Valley to the west.

The proposed project is located at 2750 and 2770 Bristol Street in the northeastern portion of the City. The site is generally bound by a vacant disturbed land to the north, State Route 73 (SR-73) to the east, commercial uses across Bristol Street to the west, and a dog daycare to the south. Regional access to the site is provided via SR-73, State Route 55 (SR-55), and Interstate 405 (I-405). Local access to the site is provided via Bristol Street.

EXISTING CONDITIONS

The approximate 1.5-acre project site was formerly used as a car wash and oil change facility, and, prior to this, a gasoline service station. Currently, the car wash and oil change facility are no longer in use. Existing on-site structures include two single-story masonry buildings (totaling approximately 12,122 square feet). Historically, the site was used as a gasoline service station. The four former underground storage tanks (USTs) and associated fuel islands have been removed from the site. The site is designated General Commercial with a 0.20 to 0.75 allowed floor-area ratio (FAR), and zoned Local Business District (C1).[1,2]

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[1] City of Costa Mesa, *2015-2035 General Plan Figure LU-3 Land Use Policy Map*, June 2016, https://www.costamesaca.gov/home/showdocument?id=34712, accessed July 14, 2020.

[2] City of Costa Mesa, *City of Costa Mesa Zoning Map*, November 1, 2016, https://www.costamesaca.gov/home/showdocument?id=7259, accessed July 14, 2020.

PROJECT DESCRIPTION

The project proposes the demolition of the existing carwash facility and construction of a 37,485-square foot luxury high-end collision repair center within a single two-story building. The ground floor encompasses 31,498 square feet and would include a waiting area, offices, body shop areas, detail shop areas, holding bays, mechanical bays, wash bays, parts/tools/equipment storage, as well as drive aisle. The second floor encompasses 5,987 square feet, including an employee board and training room, offices, employee lunchroom and locker room, and parts storage. The roof would be utilized for employee parking and temporary vehicle storage. For the purposes of FAR considerations, the project proposes a total of approximately 37,485 square feet of gross floor area.[3]

The proposed building would be up to 29 feet in height and would include the following setbacks: 25-foot front yard setback, 26.6-foot side yard setback to the left, 30-foot side yard setback to the right, and 20-foot rear yard setback.

Parking

The project proposes a total of 86 parking spaces on-site, including 38 standard size parking spaces, 48 temporary vehicle storage spaces, and five bicycle parking spaces. Available surface parking would be accommodated along Bristol Street and the northern portion of the project site, which would include 15 customer parking spaces and four temporary storage spaces (toward the rear of the property). Rooftop parking would accommodate 23 employee parking spaces and 44 temporary vehicle storage spaces. Rooftop employee parking would be segregated from temporary vehicle storage spaces.

Landscaping

Approximately 2,411 square feet of ornamental landscaping is proposed at the project frontage along Bristol Street and smaller landscaped areas along the project site perimeter. The project also proposes gating with knox box access to allow employees after-hours access.

Operations

The project proposes the operation of a luxury brand collision center specializing in European engineered automobiles, such as Mercedes Benz, BMW, Land Rover, and Audi. Proposed automobile services include body repair, service repair, detailing, and carwash services. The facility anticipates generating approximately 8 to 12 customers a day. Services would be accommodated by appointment only. The business would employ a maximum of 23 persons.

Regular business hours would be from 8 a.m. to 5 p.m., Monday through Friday. However, after-hours access would be accommodated for employees, as needed.

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[3] Gross floor area is defined as the total building area of all floors within the walls of all structures except elevator and other vertical shafts (including stairwells) and elevator equipment areas. Parking structures are not considered building area for the purposes of calculating allowable floor area ratios. The service drive is counted as gross floor area.

Construction

Construction activities are anticipated to occur over a period of 12 months, beginning March 2021 through February 2022. Demolition would take 4 weeks, grading is anticipated to take 3 weeks, building construction would take 10 months, paving would take 2 weeks, and painting would take 4 weeks. Approximately 600 cubic yards of soil import would be required.

Discretionary Approvals

The proposed collision repair center would be consistent with the site's C1 zoning; however, the project would require a Minor Conditional Use Permit to accommodate the proposed FAR and parking. Project approval would be determined by the City's Zoning Administrator.

FUNDAMENTALS OF SOUND AND ENVIRONMENTAL NOISE

Sound is mechanical energy transmitted by pressure waves in a compressible medium, such as air, and is characterized by both its amplitude and frequency (or pitch). The human ear does not hear all frequencies equally. In particular, the ear de-emphasizes low and very high frequencies. To better approximate the sensitivity of human hearing, the A-weighted decibel scale (dBA) has been developed. On this scale, the human range of hearing extends from approximately three dBA to around 140 dBA.

Noise is generally defined as unwanted or excessive sound, which can vary in intensity by over one million times within the range of human hearing; therefore, a logarithmic scale, known as the decibel scale (dB), is used to quantify sound intensity. It is difficult to specify noise levels that are generally acceptable to everyone; noise that is considered a nuisance to one person may be unnoticed by another. Standards may be based on documented complaints in response to documented noise levels or based on studies of the ability of people to sleep, talk, or work under various noise conditions. However, all such studies recognize that individual responses vary considerably. Standards usually address the needs of the majority of the general population.

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Noise generated by mobile sources typically attenuates (is reduced) at a rate between 3 dBA and 4.5 dBA per doubling of distance. The rate depends on the ground surface and the number or type of objects between the noise source and the receiver. Hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of 3 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of about 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuates at a rate between 6 dBA and about 7.5 dBA per doubling of distance.

There are a number of metrics used to characterize community noise exposure, which fluctuate constantly over time. One such metric, the equivalent sound level (L_{eq}), represents a constant sound that, over the specified period, has the same sound energy as the time-varying sound. Noise exposure over a longer period of time is often evaluated based on the Day-Night Sound Level (L_{dn} or DNL). This is a measure of 24-hour noise levels that incorporates a 10-dBA penalty for sounds occurring between 10:00 p.m. and 7:00 a.m. The penalty is intended to reflect the increased human sensitivity to noises occurring during nighttime hours, particularly at times when people are sleeping and there are lower ambient noise conditions. Typical L_{dn} noise levels for light and medium density residential areas range from 55 dBA to 65 dBA. Similarly, Community Noise Equivalent Level (CNEL) is a measure of 24-hour noise levels that incorporates a 5-dBA penalty for sounds occurring between 7:00 p.m. and 10:00 p.m. and a 10-dBA penalty for sounds occurring between 10:00 p.m. and 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively.

FUNDAMENTALS OF ENVIRONMENTAL GROUNDBORNE VIBRATION

Sources of earth-borne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or man-made causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions). Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

Table 1, *Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels*, displays the reactions of people and the effects on buildings produced by continuous vibration levels. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage.

Table 1
Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels

Peak Particle Velocity (inches/second)	Approximate Vibration Velocity Level (VdB)	Human Reaction	Effect on Buildings
0.006–0.019	64–74	Range of threshold of perception.	Vibrations unlikely to cause damage of any type.
0.08	87	Vibrations readily perceptible.	Recommended upper level to which ruins and ancient monuments should be subjected.
0.1	92	Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities.	Virtually no risk of architectural damage to normal buildings.
0.2	94	Vibrations may begin to annoy people in buildings.	Threshold at which there is a risk of architectural damage to normal dwellings.
0.4–0.6	98–104	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges.	Architectural damage and possibly minor structural damage.

Source: California Department of Transportation, *Transportation Related Earthborne Vibrations,* 2002.

Ground vibration can be a concern in instances where buildings shake and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. Common sources for groundborne vibration are planes, trains, and construction activities such as earth-moving which requires the use of heavy-duty earth moving equipment. For the purposes of this analysis, a PPV descriptor with units of inches per section (in/sec) is used to evaluate construction-generated vibration for building damage and human complaints.

REGULATORY SETTING

State of California

The State Office of Planning and Research Noise Element Guidelines include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The Noise Element Guidelines contain a land use compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of CNEL. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

City of Costa Mesa

City of Costa Mesa General Plan Noise Element

The City of Costa Mesa *2015-2035 General Plan Noise Element* (Noise Element) identifies noise sources in the City and defines strategies for reducing the negative impact of these noise sources on the community. In addition, the Noise Element identifies baseline and projected noise levels within the City, which can guide future land use decisions in a manner that limits noise and its effect on the community. The Noise Element includes noise standards for various land use categories in the City as show in Table 2, *City of Costa Mesa Land Use Compatibility for Community Noise Environments*.

Table 2
City of Costa Mesa Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure (CNEL)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential: Low Density	50 – 60	60 – 70	70 – 75	>=75
Residential: Multiple Family	50 – 65	65 – 70	70 – 75	>=75
Mixed Use	50 – 65	65 – 70	70 – 75	>=75
Transient Lodging – Motel, Hotels	50 – 65	65 – 70	70 – 80	>=80
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 60	60 – 65	65 – 80	>=80
Auditoriums, Concert Halls, Amphitheaters	NA	50 – 70	NA	>=80
Sports Arenas, Outdoor Spectator Sports	NA	50 – 75	NA	>=80
Playgrounds, Neighborhood Parks	50 – 67.5	NA	67.5 – 75	>=75
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 70	NA	70 – 80	>=80
Office Buildings, Business Commercial and Professional	50 – 67.5	67.5 – 77.5	77.5 – 85	>=85 unless appropriately insulated
Industrial, Manufacturing, Utilities, Agriculture	50 – 70	70 – 80	80 – 85	NA

CNEL = community noise equivalent level; NA = not applicable

NORMALLY ACCEPTABLE: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
CONDITIONALLY ACCEPTABLE: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features have been included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
NORMALLY UNACCEPTABLE: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise-insulation features must be included in the design.
CLEARLY UNACCEPTABLE: New construction or development should generally not be undertaken.

Source: City of Costa Mesa, *Costa Mesa 2015-2035 General Plan: Noise Element*, 2016.

The Noise Element also outlines the goals, objectives, and policies for noise control within the City. The following goals, objectives, and policies are applicable to the project:

Goal N-1 Noise Hazards and Conditions: The City of Costa Mesa aims to protect residents, local workers, and property from injury, damage, or destruction from noise hazards and to work toward improved noise abatement.

Objective N-1A: Control noise levels within the City for the protection of residential areas, park areas, and other sensitive land uses from excessive and unhealthful noise.

Policy N-1.1: Enforce the maximum acceptable exterior noise levels for residential areas at 65 CNEL.

Goal N-2 Noise and Land Use Compatibility: Integrate the known impacts of excessive noise on aspects of land use planning and siting of residential and non-residential projects.

Objective N-2A: Plan for the reduction in noise impacts on sensitive receptors and land uses.

Policy N-2.2: Require, as a part of the environmental review process, that full consideration be given to the existing and projected noise environment.

Policy N-2.4: Require that all proposed projects are compatible with adopted noise/land use compatibility criteria.

Policy N-2.5: Enforce applicable interior and exterior noise standards.

Costa Mesa Municipal Code

Chapter 13, Noise Control, of the *Costa Mesa Municipal Code* (Municipal Code) sets forth all noise regulations controlling unnecessary, excessive, and annoying noise and vibration in the City.

Section 13-279, *Exceptions for construction*, of the Municipal Code specifies the following construction-related noise standards:

The provisions of this chapter shall not apply to the following:

a) Emergency machinery, vehicles, or work; or

b) Construction equipment, vehicles, or work between the following approved hours, provided that all required permits for such construction, repair, or remodeling have been obtained from the appropriate city departments.

HOURS FOR CONSTRUCTION ACTIVITIES

Time Period	Days
7:00 a.m. through 7:00 p.m.	Mondays through Fridays
9:00 a.m. through 6:00 p.m.	Saturdays
Prohibited all hours	Sundays and the following specified federal holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day

c) Waiver procedure. An applicant may request approval of a minor modification for a temporary waiver for construction equipment, vehicles, or work outside these permitted hours. The minor modification may be granted by the development services director or his/her designee. Any temporary waiver shall take into consideration the unusual circumstances requiring construction activity outside the permitted hours and the short-term impacts upon nearby residential and business communities.

a. Minor modification findings shall indicate whether or not the extended construction hours will be materially detrimental to the health, safety, and general welfare of persons residing or working within the immediate vicinity of the construction site.

d) Unless a temporary waiver is approved, construction activity outside the permitted hours shall still be subject to the city's noise regulations. (Ord. No. 97-11, § 2, 5-5-97; Ord. No. 10-3, § 1a., 2-16-10)

Section 13-280, *Exterior Noise Standards*, of the Municipal Code specifies the following exterior noise standards.

a) *The following noise standards, unless otherwise specifically indicated, shall apply to all residential property within the city:*

RESIDENTIAL EXTERIOR NOISE STANDARDS

Noise Level	Time Period
55 dB(A)	*7:00 a.m. -11:00 p.m.*
50 dB(A)	*11:00 p.m. – 7:00 a.m.*

In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five (5) dB(A).

b) *It is unlawful for any person at any location within the city to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured on any other residential property, either within or outside the city, to exceed:*

1. *The noise standard for a cumulative period of more than thirty (30) minutes in any hour;*

2. *The noise standard plus five (5) dB(A) for a cumulative period of more than fifteen (15) minutes in any hour;*

3. *The noise standard plus ten (10) dB(A) for a cumulative period of more than five (5) minutes in any hour;*

4. *The noise standard plus fifteen (15) dB(A) for a cumulative period of more than one (1) minute in any hour; or*

5. *The noise standard plus twenty (20) dB(A) for any period of time.*

c) *In the event the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.*

d) *The exterior noise standards shown in subsection (a) shall not apply to the following exterior areas of multi-family residential development or live/work units located within a mixed-use overlay district where the base zoning district is nonresidential, approved pursuant to a master plan, and subject to the land use regulations of an urban plan:*

1. *Private balconies or patios regardless of size;*

2. *Private or community roof decks/roof terraces;*

3. *Internal courtyards and landscaped walkways that do not include resident-serving, active recreational uses such as community pool, spa, tennis courts, barbeque, and picnic areas.*

e) In high-rise residential developments in the North Costa Mesa Specific Plan, the exterior noise standards shown in subsection (a) shall only apply to the common outdoor recreational amenity areas located on the ground level. Recreational amenity areas located above the ground level and private balconies and patios shall be exempt from this standard. (Ord. No. 97-11, § 2, 5-5-97; Ord. No. 06-9, § 1k., 4-18-06; Ord. No. 07-2, § 1m., 2-6-07)

Section 13-281, *Interior Noise Standards*, of the Municipal Code specifies the following interior noise standards.

a) The following interior noise standards, unless otherwise specifically indicated, shall apply to all residential property within the city:

Residential Interior Noise Standards

Noise Level	Time Period
55 dB(A)	*7:00 a.m. -11:00 p.m.*
45 dB(A)	*11:00 p.m. – 7:00 a.m.*

In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five (5) dB(A).

b) It is unlawful for any person at any location within the city to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level when measured within any other dwelling unit on any residential property, either within or outside the city, to exceed:

1. *The interior noise standard for a cumulative period of more than five (5) minutes in any hour;*
2. *The interior noise standard plus five (5) dB(A) for a cumulative period of more than one (1) minute in any hour; or*
3. *The interior noise standard plus ten (10) dB(A) for any period of time.*

c) In the event the ambient noise level exceeds either of the first two (2) noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the third noise limit category the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level. (Ord. No. 97-11, § 2, 5-5-97)

EXISTING NOISE ENVIRONMENT

Existing Ambient Noise Levels

In order to quantify existing ambient noise levels in the project area, Michael Baker International conducted two short-term noise measurements in the project vicinity on September 29, 2020;

refer to Exhibit 1, *Noise Measurement Locations*. The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the project site. The 10-minute measurements were taken between 10:02 a.m. and 10:31 a.m. Short-term (L_{eq}) measurements are considered representative of the noise levels throughout the day. Noise measurements were taken during "off-peak" (9:00 a.m. through 3:00 p.m.) traffic noise hours as this provides a more conservative baseline. During rush hour traffic, vehicle speeds and heavy truck volumes are often low. Free-flowing traffic conditions just before or after rush hour often yield higher noise levels.[4] The average noise levels measured at each location are identified in Table 3, *Noise Measurements*. As shown in Table 3, the ambient recorded noise levels in the project vicinity ranged from 51.8 dBA to 62.0 dBA L_{eq}. Refer to Appendix A, *Noise Data,* for the results of the field measurements.

Table 3
Noise Measurements

Site No.	Location	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)	Time
1	At the end of San Lucas Lane Cul-de-sac.	51.8	48.6	61.8	10:02 a.m.
2	Resident parking lot of the Bristol Bay Apartments, adjacent to Bristol Street.	62.0	51.6	80.4	10:21 a.m.
Source: Michael Baker International, September 29, 2020.					

Existing Roadway Noise Levels

The majority of the existing noise in the project area is generated from traffic along surrounding roadways including Bristol Street, SR-73, and SR-55. According to the Noise Element, traffic noise levels in the project vicinity fall within the 70 CNEL and 65 CNEL noise contours.

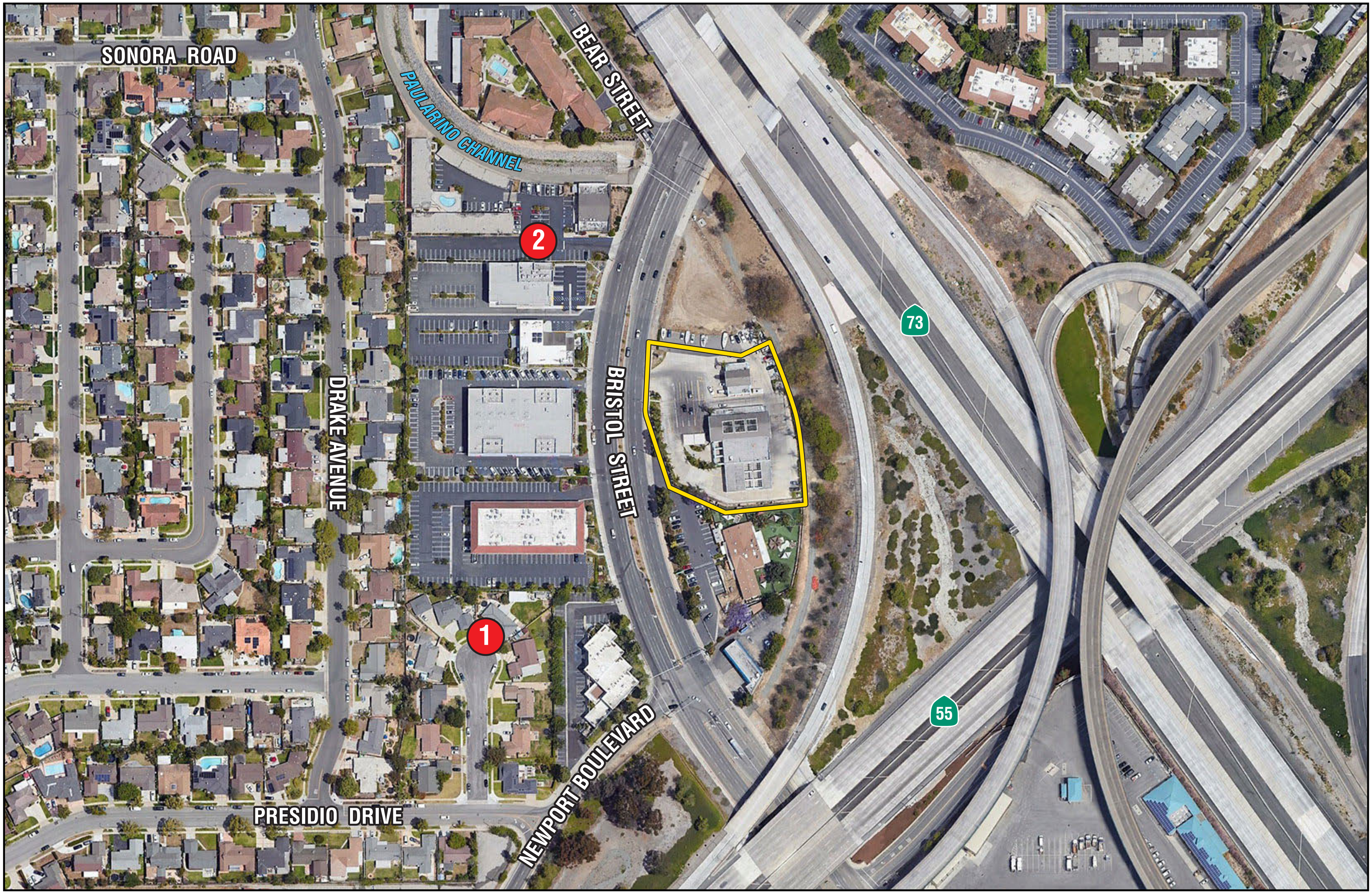
Existing Stationary Noise Levels

The project area is highly urbanized, consisting of commercial, industrial, and residential uses. The primary sources of stationary noise in the project vicinity are urban-related activities (i.e., mechanical equipment, parking areas, and pedestrians). The noise associated with these sources may represent a single-event noise occurrence, short-term or long-term/continuous noise.

Sensitive Receptors

Certain land uses are particularly sensitive to noise, including schools, hospitals, rest homes, long-term medical and mental care facilities, and parks and recreation areas. Residential areas are also considered noise sensitive, especially during the nighttime hours. The nearest sensitive receptors are residential uses (i.e. Bristol Bay Apartments) located approximately 315 feet to the northwest of the project site across Bristol Street.

[4] California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.



Source: Google Earth Pro, July 2020

NOT TO SCALE

Michael Baker INTERNATIONAL

10/20 JN 179643

Project Site

1 Noise Measurement Locations

NO. 1 COLLISION PROJECT
NOISE TECHNICAL MEMORANDUM

Noise Measurement Locations

Exhibit 1

CEQA THRESHOLDS

The environmental analysis in this memorandum is patterned after the Initial Study Checklist (Appendix G) within the California Environmental Quality Act (CEQA) Guidelines. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this analysis. Accordingly, a project may have a significant adverse impact related to noise and vibration if it would do any of the following:

- 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 applicable standards of other agencies (refer to Impact NOI-1);
- Generation of excessive groundborne vibration or groundborne noise levels (refer to Impact NOI-2); and/or
- 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 (refer to Impact NOI-3).

IMPACT ANALYSIS

Impact NOI-1: 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 applicable standards of other agencies?

Less Than Significant Impact

Short-term Construction

Construction activities generally are temporary and have a short duration, resulting in periodic increases in the ambient noise environment. Ground-borne noise and other types of construction-related noise impacts would typically occur during the site grading phase. Generally, this phase has the shortest duration of all construction phases. High groundborne noise levels and other miscellaneous noise levels can be created during this phase due to the operation of graders, tractors, and backhoes. Typical noise levels generated by construction equipment are shown in Table 4, *Maximum Noise Levels Generated by Construction Equipment*.

Table 4
Maximum Noise Levels Generated by Construction Equipment

Type of Equipment	Acoustical Use Factor[1]	L_{max} at 50 Feet (dBA)	L_{max} at 315 Feet (dBA)
Concrete Saw	20	90	74
Crane	16	79	63
Concrete Mixer Truck	40	79	63
Backhoe	40	78	62
Dozer	40	82	66
Excavator	40	81	65
Forklift	40	78	62
Paver	50	77	61
Roller	20	80	64
Tractor	40	84	68
Water Truck	40	80	64
Grader	40	85	69
General Industrial Equipment	50	85	69

Note:
1. Acoustical Use Factor (percent): Estimates the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

Source: Federal Highway Administration, *Roadway Construction Noise Model (FHWA-HEP-05-054),* January 2006.

It should be noted that the noise levels identified in Table 4 are maximum sound levels (L_{max}), which are the highest individual sound occurring at an individual time period. Operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be due to random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts).

The nearest sensitive receptors are residential uses approximately 315 feet to the northwest of the project site across Bristol Street. At this distance, construction noise levels could range between approximately 61 dBA and 74 dBA; refer to Table 4. Although sensitive receptors may be exposed to increased noise levels during project construction, Municipal Code Section 13-279 permits construction activities between 7:00 a.m. to 7:00 p.m. Monday through Friday, and 9:00 a.m. to 6:00 p.m. on Saturday. Construction activities are not allowed on Sundays or Federal holidays. In addition, construction equipment would be used throughout the project site and would not be concentrated at the point closest to the sensitive receptors. Traffic noise along Bristol Street would also mask the construction noise. As such, construction noise impacts would be less than significant.

Long-Term Operational Impacts

Mobile Noise

The project proposes to develop a 37,485-square foot luxury high-end collision repair center and would result in approximately 94 daily trips.[5] According to the *Costa Mesa General Plan Update*

[5] City of Costa Mesa Department of Public Services/Transportation Services Division, *Collision 1 Trip Generation and VMT Memorandum,* September 23, 2020.

Traffic Analysis (February 2016)[6], Bristol Street south of Bear Street (the nearest roadway segment to the project site) experiences approximately 26,000 average daily traffic (ADT). A doubling in roadway traffic volumes is required to generate any noticeable increase in roadway noise levels.[7] As such, the project's 94 daily trips would result in a negligible increase in daily traffic compared to existing conditions, which would not materially affect roadway noise levels within or surrounding the project area. As such, project operational noise would not introduce an intrusive noise source compared to existing conditions. Therefore, noise associated with operational impacts would be less than significant.

Stationary Noise

Mechanical Noise

The mechanical noise from the project would result from the use of vacuum stations and air compressors associated with the project's auto repair services and the mechanical equipment (i.e., from heating, ventilation and air conditioning [HVAC] units) for the proposed building. The project would perform all auto repair work inside the proposed building. Therefore, noise generated from vacuum stations and air compressors would be inaudible at off-site sensitive receptors. Typically, HVAC noise is 55 dBA at 50 feet from the source. The project would site HVAC units on eastern side of the rooftop of the building, which would be approximately 555 feet from the nearest sensitive receptors to the northwest of project site. At this distance, HVAC noise would be reduced to 34 dBA and would not exceed the City's most stringent exterior noise standard (50 dBA between the hours of 11:00 p.m. and 7:00 a.m.) or interior noise standard (45 dBA between the hours of 11:00 p.m. and 7:00 a.m.)[8] per Municipal Code Section 13-280. Thus, the proposed project would not result in noise impacts to nearby sensitive receptors from on-site mechanical equipment (HVAC units). Impacts in this regard would be less than significant.

Parking Lot Noise

The project would include a total of 86 parking spaces on-site, including 38 standard size parking spaces and 48 temporary vehicle storage spaces. Surface parking spaces would be accommodated along Bristol Street and the northern portion of the project site, including 15 customer parking spaces and four temporary storage spaces. Rooftop parking would accommodate 23 employee parking spaces and 44 temporary vehicle storage spaces.

Noise associated with parking lots is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the CNEL scale. However, the instantaneous maximum sound levels generated by a car door slamming, engine starting up, and car pass-bys may be an annoyance to adjacent noise-sensitive receptors. Estimates of the maximum noise levels associated with some parking lot activities are presented in Table 5, *Typical Noise Levels Generated by Parking Lots*.

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[6] City of Costa Mesa, *Environmental Impact Report for the 2015-2035 Costa Mesa General Plan, Appendix C – Traffic Study*, https://www.costamesaca.gov/city-hall/city-departments/development-services/planning/general-plan/2015-2035-general-plan-eir, accessed September 23, 2020.

[7] It takes a doubling of traffic in order to create a noticeable increase in traffic noise (i.e. 3 dB) per the California Department of Transportation (Caltrans) *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (September 2013).

[8] Assuming a 20-dBA outdoor-indoor noise attenuation rate per the U.S. Department of Housing and Urban Development, *The Noise Guidebook*, March 2009, page 14.

Table 5
Typical Noise Levels Generated by Parking Lots

Noise Source	Maximum Noise Levels at 50 Feet from Source
Car door slamming	61 dBA L_{eq}
Car starting	60 dBA L_{eq}
Car idling	53 dBA L_{eq}
Source: Kariel, H. G., *Noise in Rural Recreational Environments*, Canadian Acoustics 19(5), 3-10, 1991.	

As shown in Table 5, parking lot activities can result in noise levels up to 61 dBA at a distance of 50 feet. It is noted that parking lot noise are instantaneous noise levels compared to noise standards in the CNEL scale, which are averaged over time. As a result, actual noise levels over time resulting from parking lot activities would be far lower than what is identified in Table 5. The closest parking spaces would be located approximately 345 feet from the nearest sensitive receptors to the northwest of the project site. At this distance, parking lot noise would be reduced to 36 dBA and would not exceed the City's most stringent exterior noise standard (50 dBA between the hours of 11:00 p.m. and 7:00 a.m.) or interior noise standard (45 dBA between the hours of 11:00 p.m. and 7:00 a.m.)[9] per Municipal Code Section 13-280. Therefore, parking lot noise associated with the project is not expected to exceed the City's noise standards and the impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

Impact NOI-2: Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact.

Short-Term Construction

Project construction can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures.

The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations. In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.20 in/sec) appears to be conservative. The types of construction vibration impact include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for

[9] Ibid.

extended periods of time. Building damage can be cosmetic or structural. Typical vibration produced by construction equipment is illustrated in Table 6, *Typical Vibration Levels for Construction Equipment*.

Table 6
Typical Vibration Levels for Construction Equipment

Equipment	Approximate peak particle velocity at 25 feet (inches/second)[1]	Approximate peak particle velocity at 30 feet (inches/second)[1]
Vibratory roller	0.210	0.160
Large bulldozer	0.089	0.068
Loaded trucks	0.076	0.058
Small bulldozer	0.003	0.002
Jackhammer	0.035	0.027

Notes:
1. Calculated using the following formula:

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

where: PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance
PPV (ref) = the reference vibration level in in/sec from Table 7-4 of the FTA *Transit Noise and Vibration Impact Assessment Manual.*
D = the distance from the equipment to the receiver

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018. Table 7-4 *Vibration Source Levels for Construction Equipment.*

Groundborne vibration decreases rapidly with distance. As indicated in Table 6, based on the FTA data, vibration velocities from typical heavy construction equipment operations that would be used during project construction range from 0.003 to 0.089 in/sec PPV at 25 feet from the source of activity. The nearest structure is a commercial building located approximately 30 feet to the south of the project site. At the distance of 30 feet, vibration velocities from typical heavy construction equipment operations would range from 0.002 to 0.160 in/sec PPV. Therefore, construction activities would not be capable of exceeding the 0.2 in/sec PPV significance threshold for vibration and a less than significant impact would occur in this regard.

Long-Term Operational Impacts

The project proposes a two-story 37,485-square foot luxury high-end collision repair center that would not generate ground-borne vibration. The proposed project would not involve rail traffic or heavy truck operations, and therefore would not result in vibration impacts at surrounding uses. A less than significant impact would occur is this regard.

Mitigation Measures: No mitigation is required.

Impact NOI-3: 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?

No Impact. The nearest airport to the project site is the John Wayne Airport, located approximately four miles to the northeast of the project site at 18601 Airport Way, Santa Ana, CA 92707. According to the Airport Land Use Commission (ALUC) for Orange County's *Airport*

Environs Land Use Plan for John Wayne Airport (AELUP for John Wayne Airport), the project is located within John Wayne Airport's planning area and thus, would be subject to be referred to the ALUC for review, if necessary.[10] Concerning noise-related impact, however, the project site is located outside of the John Wayne Airport 65 dBA noise contour.[11] Further, the proposed 29-foot commercial building would conform to noise, safety, and height restriction standards set forth by the ALUC and as outlined in Section 2.0, *Planning Guidelines*, and Section 3.0, *Land Use Policies*, of the AELUP for John Wayne Airport. Therefore, no impacts would occur in this regard.

<u>Mitigation Measures</u>: No mitigation is required.

CONCLUSION

Project implementation would result in less than significant short- and long-term noise impacts and thus would be consistent with the goals, objectives, and policies of the City's General Plan Noise Element. No mitigation measures would be required.

REFERENCES

California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, 2013.

City of Costa Mesa, *Costa Mesa 2015-2035 General Plan: Noise Element*, 2016.

City of Costa Mesa, *2015-2035 General Plan Figure LU-3 Land Use Policy Map*, June 2016, https://www.costamesaca.gov/home/showdocument?id=34712, accessed July 14, 2020.

City of Costa Mesa, *City of Costa Mesa Zoning Map*, November 1, 2016, https://www.costamesaca.gov/home/showdocument?id=7259, accessed July 14, 2020.

City of Costa Mesa, *Environmental Impact Report for the 2015-2035 Costa Mesa General Plan, Appendix C – Traffic Study*, https://www.costamesaca.gov/city-hall/city-departments/development-services/planning/general-plan/2015-2035-general-plan-eir, accessed September 23, 2020.

City of Costa Mesa Department of Public Services/Transportation Services Division, *Collision 1 Trip Generation and VMT Memorandum,* September 23, 2020.

Federal Highway Administration, *Roadway Construction Noise Model (FHWA-HEP-05-054),* dated January 2006.

Federal Highway Administration, *Roadway Construction Noise Model User's Guide*, June 2006.

Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, May 2006. Table 12-2.

Google Earth, 2020.

[10] Airport Land Use Commission, *Airport Environs Land Use Plan for John Wayne Airport*, April 17, 2008.

[11] John Wayne Airport, *John Wayne Airport 2019 Annual 60-75 (5 dB intervals) CNEL Noise Contours*, https://www.ocair.com/reportspublications/AccessNoise/noiseabatementquarterly/2019/na2019-q4.pdf, accessed September 2, 2020.

John Wayne Airport, *John Wayne Airport 2019 Annual 60-75 (5 dB intervals) CNEL Noise Contours,* https://www.ocair.com/reportspublications/AccessNoise/noiseabatementquarterly/2019/na2019-q4.pdf, accessed September 2, 2020.

Kariel, H. G., *Noise in Rural Recreational Environments*, Canadian Acoustics 19(5), 3-10, 1991.

U.S. Department of Housing and Urban Development, *The Noise Guidebook*, March 2009, page 14.

Appendix A
Noise Data

Site Number: No 1 Collision Costa Mesa Site #1			
Recorded By: Pierre Glaize			
Job Number: 179643			
Date: 09/29/2020			
Time: 10:02 a.m.			
Location: End of San Lucas Lane Cul-de-sac.			
Source of Peak Noise: Traffic along Highway 55 and San Lucas Lane			
Noise Data			
Leq (dB)	**Lmax(dB)**	**Lmin (dB)**	**Peak (dB)**
51.8	61.8	48.6	88.0

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Brüel & Kjær**	**2250**	**3011133**	**04/08/2019**	
	Microphone	**Brüel & Kjær**	**4189**	**3086765**	**04/08/2019**	
	Preamp	**Brüel & Kjær**	**ZC 0032**	**25380**	**04/08/2019**	
	Calibrator	**Brüel & Kjær**	**4231**	**2545667**	**04/08/2019**	

Weather Data			
Est.	**Duration:** 10 minutes		**Sky:** Sunny
	Note: dBA Offset = -.02		**Sensor Height (ft):** 5 ft
	Wind Ave Speed (mph / m/s)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (inches)**
	3 mph	70°F	29.99

Photo of Measurement Location

2250

Instrument:		2250
Application:		BZ7225 Version 4.7.4
Start Time:		09/29/2020 10:02:03
End Time:		09/29/2020 10:12:03
Elapsed Time:		00:10:00
Bandwidth:		1/3-octave
Max Input Level:		142.17

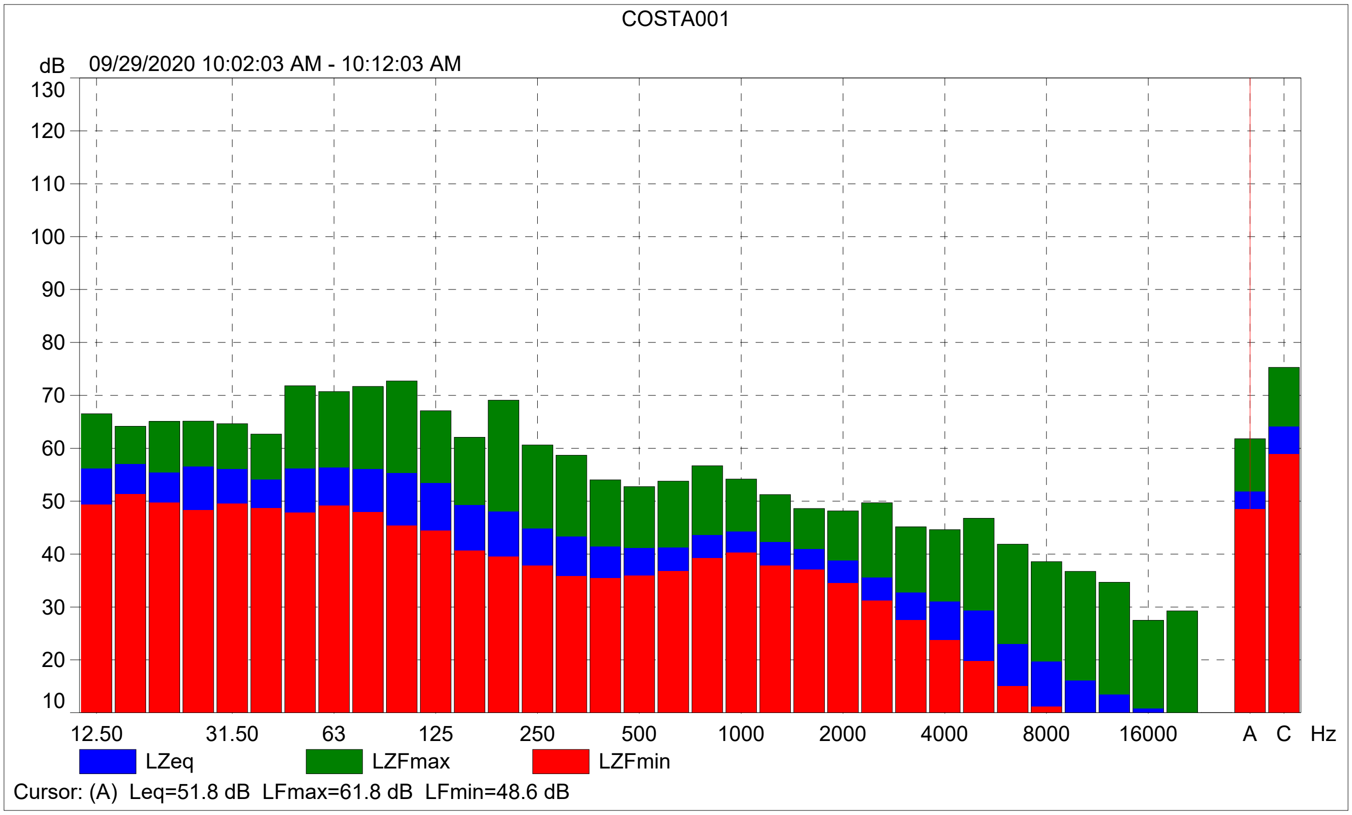
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

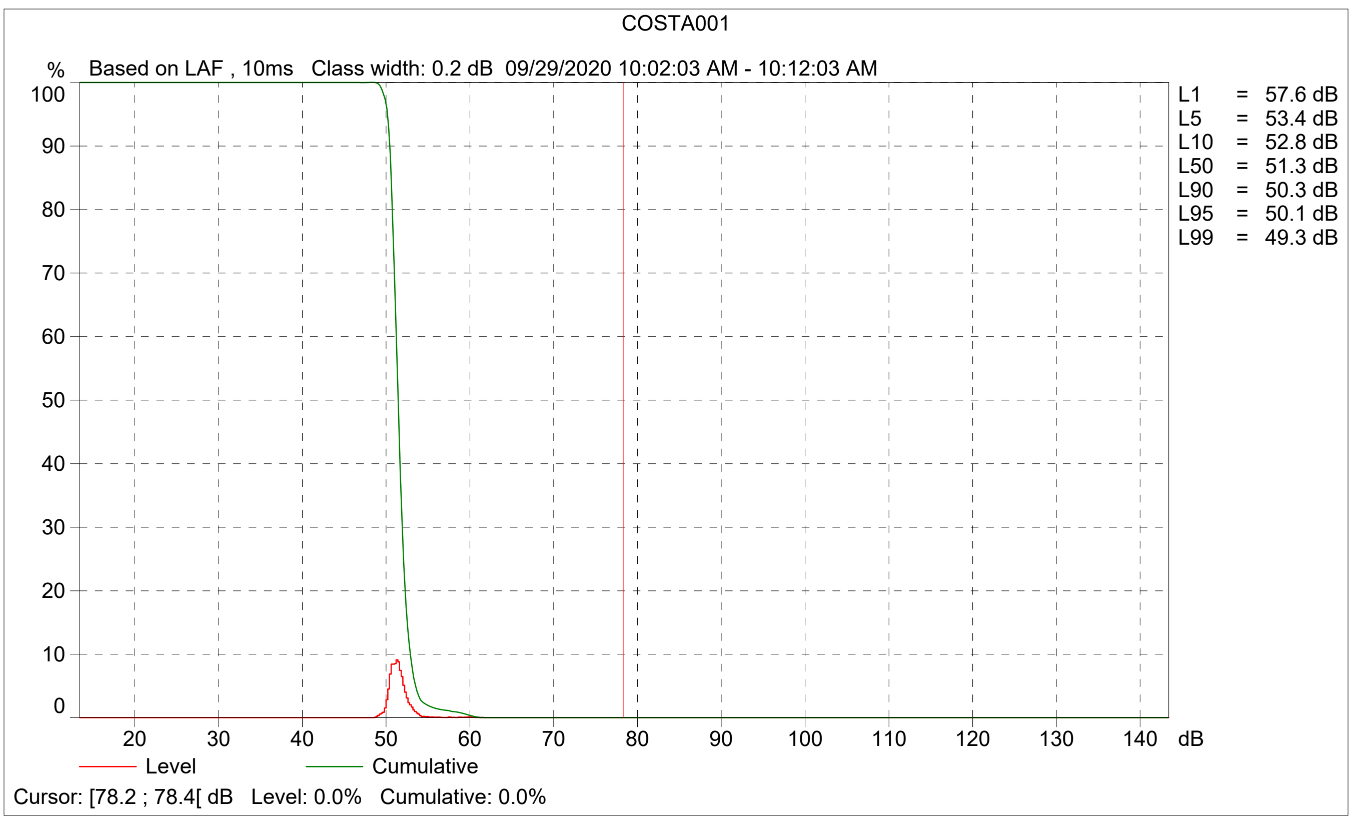
Instrument Serial Number:		3011133
Microphone Serial Number:		3086765
Input:		Top Socket
Windscreen Correction:		UA-1650
Sound Field Correction:		Free-field

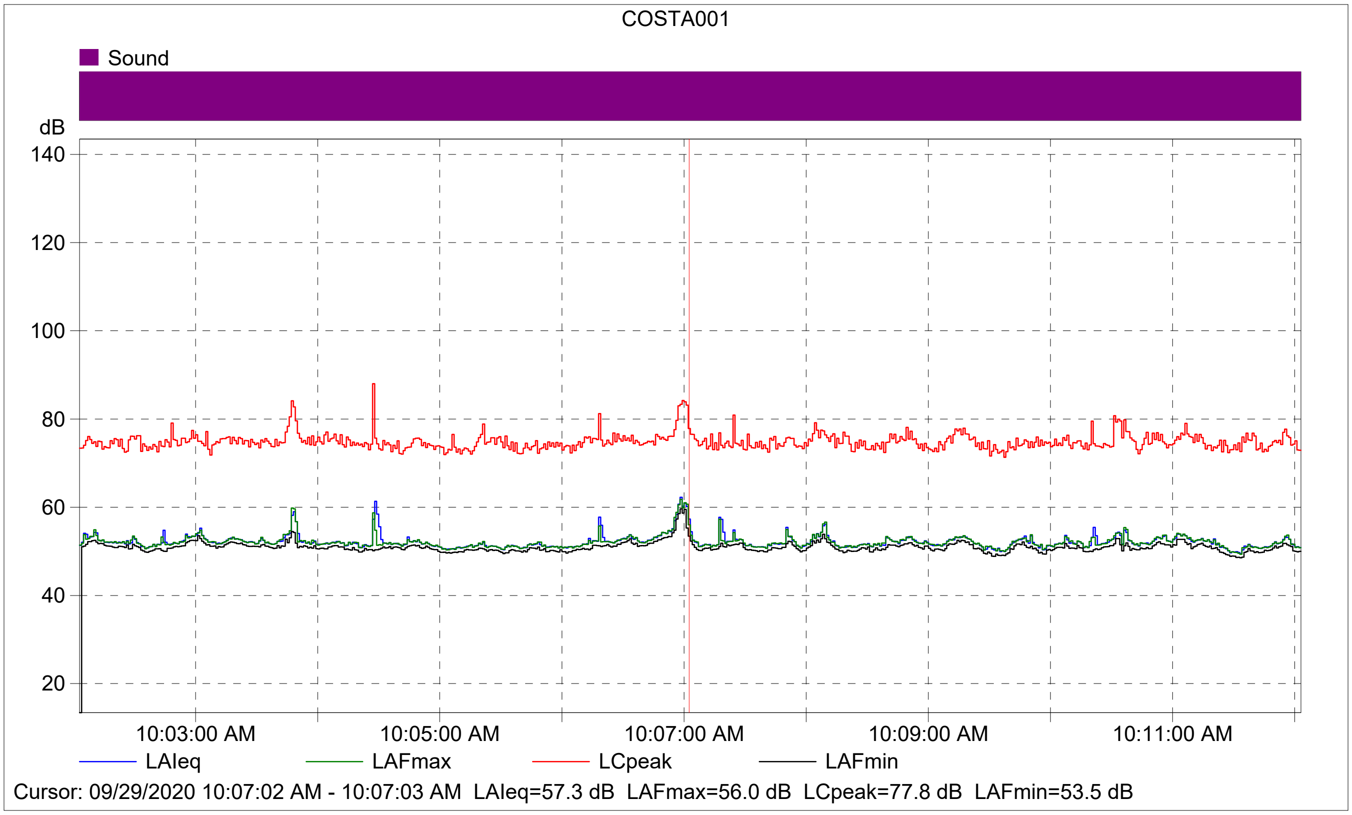
Calibration Time:		09/29/2020 10:00:50
Calibration Type:		External reference
Sensitivity:		43.3950312435627 mV/Pa

COSTA001

	Start time	End time	Elapsed time	Overload [%]	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value				0.00	51.8	61.8	48.6
Time	10:02:03 AM	10:12:03 AM	0:10:00				
Date	09/29/2020	09/29/2020					

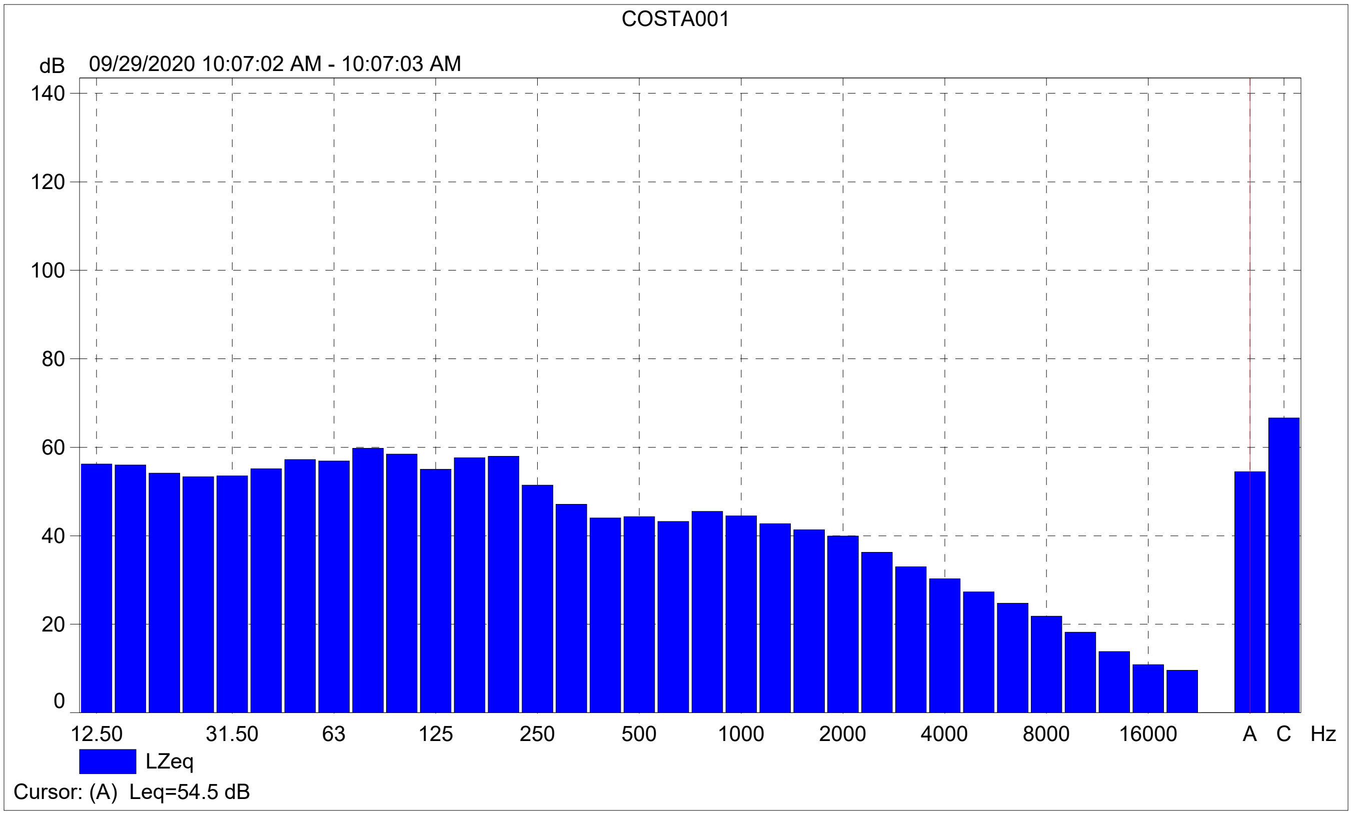

COSTA001
dB 09/29/2020 10:02:03 AM - 10:12:03 AM
130
120
110
100
90
80
70
60
50
40
30
20
10
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=51.8 dB LFmax=61.8 dB LFmin=48.6 dB

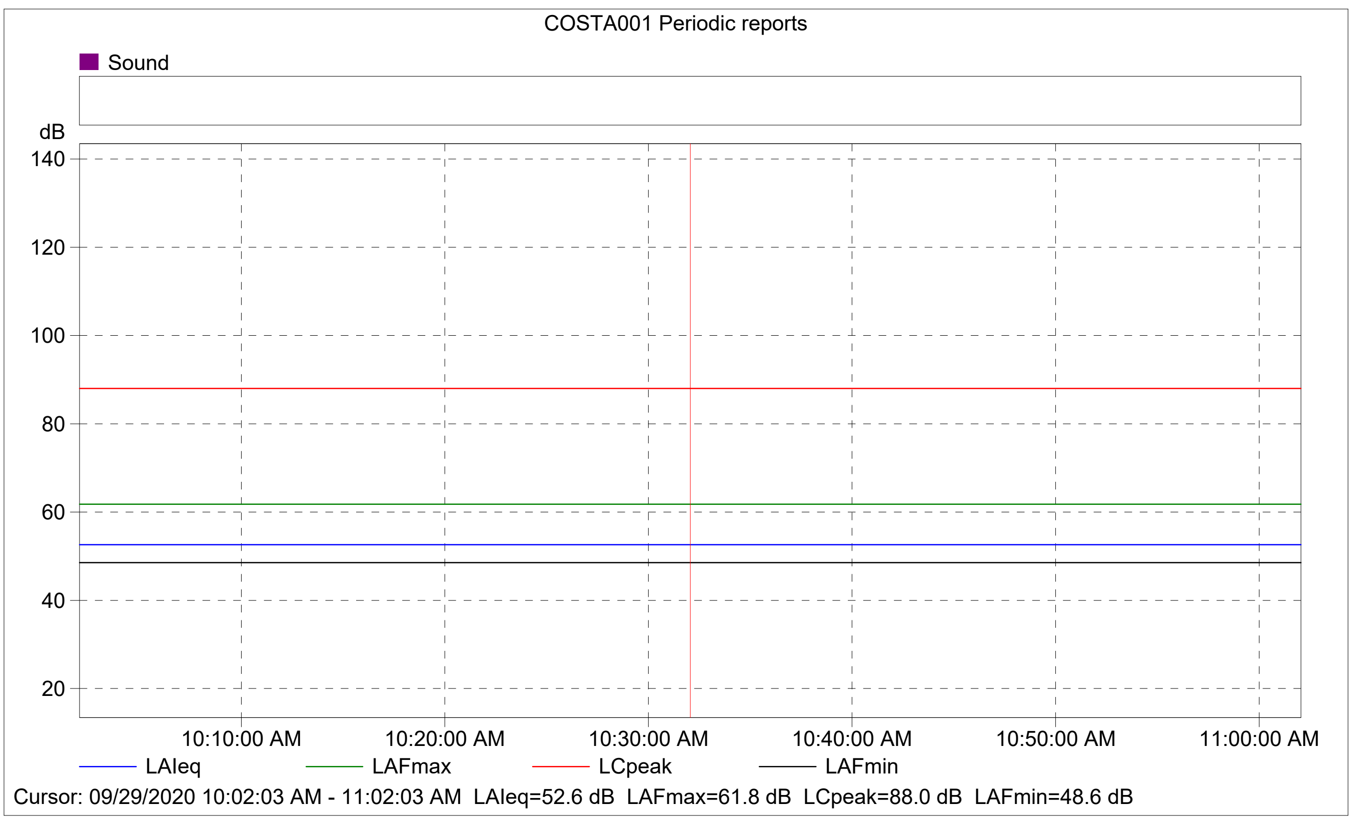

COSTA001
% Based on LAF , 10ms Class width: 0.2 dB 09/29/2020 10:02:03 AM - 10:12:03 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 57.6 dB
L5 = 53.4 dB
L10 = 52.8 dB
L50 = 51.3 dB
L90 = 50.3 dB
L95 = 50.1 dB
L99 = 49.3 dB
Level
Cumulative
Cursor: [78.2 ; 78.4[dB Level: 0.0% Cumulative: 0.0%



COSTA001

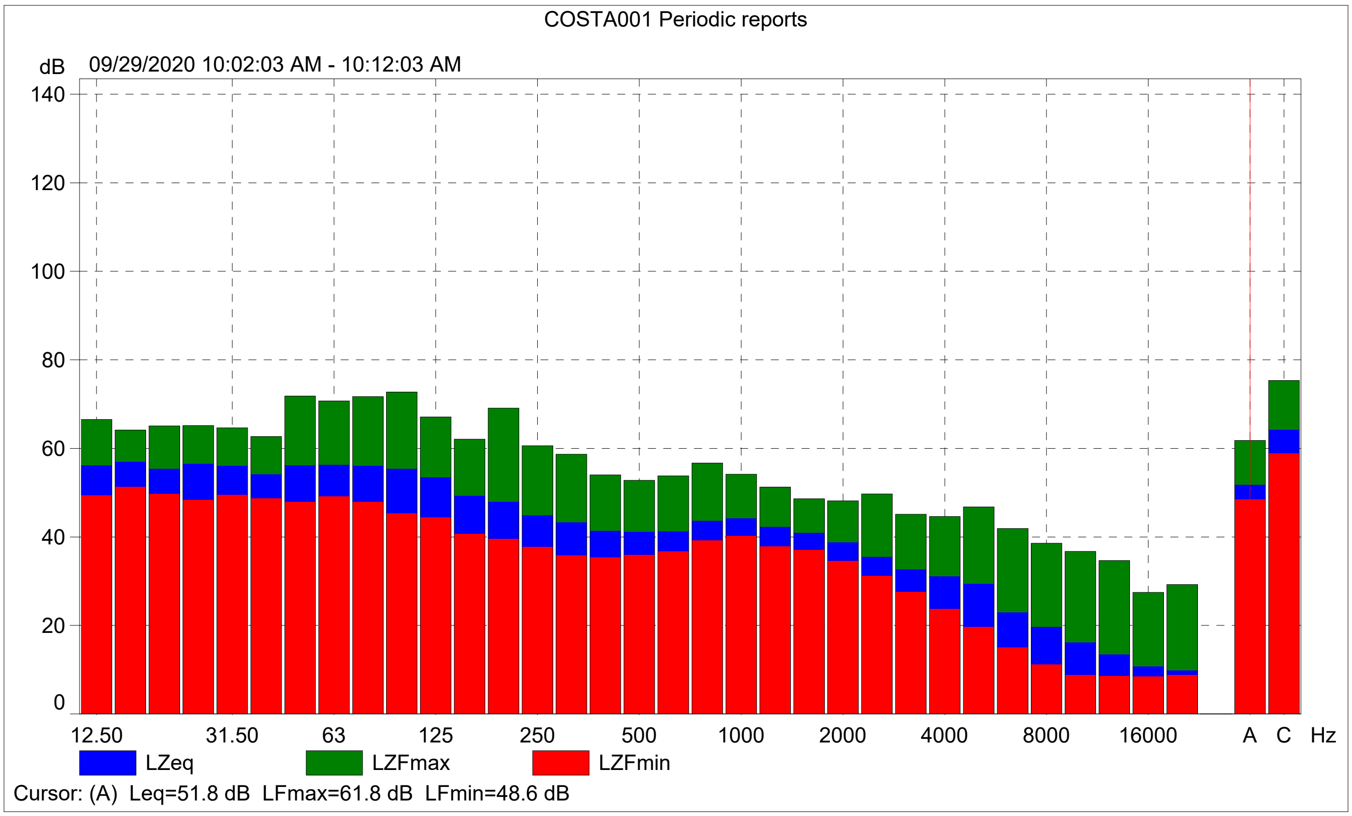
	Start time	Elapsed time	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			57.3	56.0	53.5
Time	10:07:02 AM	0:00:01			
Date	09/29/2020				


COSTA001
dB
09/29/2020 10:07:02 AM - 10:07:03 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
Cursor: (A) Leq=54.5 dB

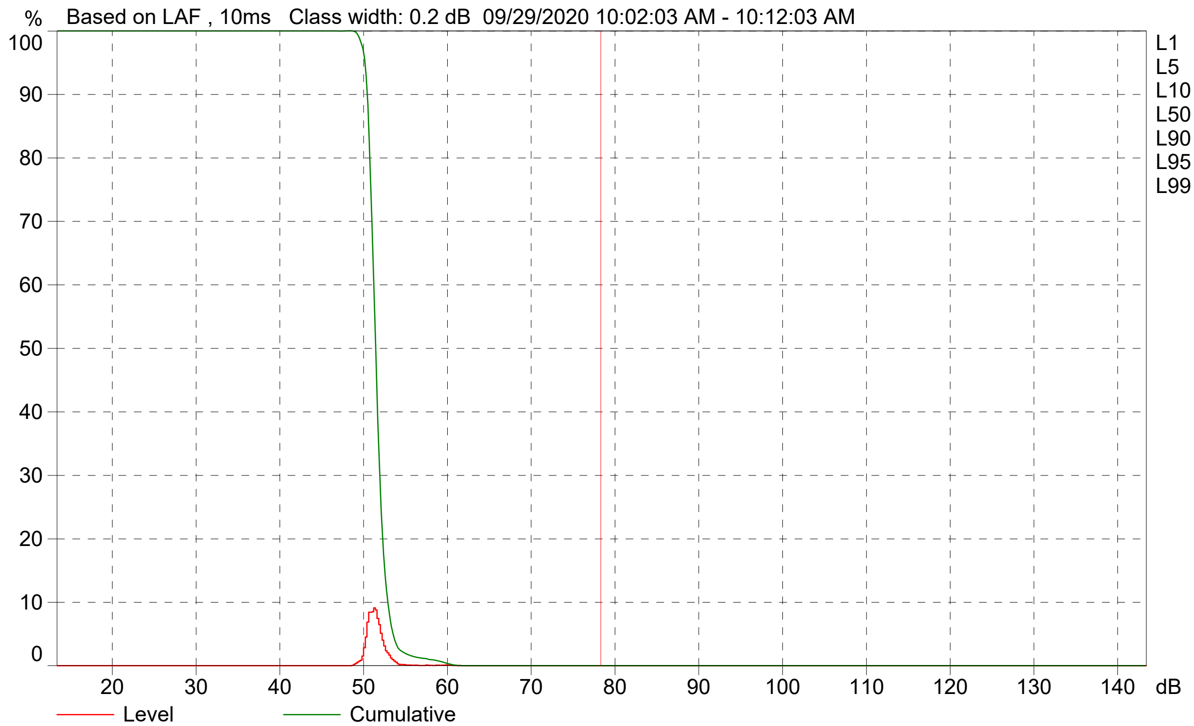

COSTA001 Periodic reports
Sound
dB
140
120
100
80
60
40
20
10:10:00 AM
10:20:00 AM
10:30:00 AM
10:40:00 AM
10:50:00 AM
11:00:00 AM
LAIeq
LAFmax
LCpeak
LAFmin
Cursor: 09/29/2020 10:02:03 AM - 11:02:03 AM LAIeq=52.6 dB LAFmax=61.8 dB LCpeak=88.0 dB LAFmin=48.6 dB

COSTA001 Periodic reports

	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	52.6	61.8	48.6
Time	10:02:03 AM	0:10:00				
Date	09/29/2020					



COSTA001 Periodic reports



L1 = 57.6 dB
L5 = 53.4 dB
L10 = 52.8 dB
L50 = 51.3 dB
L90 = 50.3 dB
L95 = 50.1 dB
L99 = 49.3 dB

Cursor: [78.2 ; 78.4[dB Level: 0.0% Cumulative: 0.0%

Site Number: No 1 Collision Costa Mesa Site #2			
Recorded By: Pierre Glaize			
Job Number: 179643			
Date: 09/29/20			
Time: 10:21 a.m.			
Location: Resident parking lot of the Bristol Bay Apartments, adjacent to Bristol Street.			
Source of Peak Noise: Traffic along Bristol Street and small airplane/helicopters above.			
Noise Data			
Leq (dB)	**Lmax(dB)**	**Lmin (dB)**	**Peak (dB)**
62.0	80.4	51.6	100.2

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Brüel & Kjær**	**2250**	**3011133**	**04/08/2019**	
	Microphone	**Brüel & Kjær**	**4189**	**3086765**	**04/08/2019**	
	Preamp	**Brüel & Kjær**	**ZC 0032**	**25380**	**04/08/2019**	
	Calibrator	**Brüel & Kjær**	**4231**	**2545667**	**04/08/2019**	

Weather Data			
Est.	**Duration:** 10 minutes		**Sky:** Sunny
	Note: dBA Offset = -0.02		**Sensor Height (ft):** 5 ft
	Wind Ave Speed (mph / m/s)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (inches)**
	0 mph	73°F	29.98

Photo of Measurement Location

2250

Instrument:		2250
Application:		BZ7225 Version 4.7.4
Start Time:		09/29/2020 10:21:16
End Time:		09/29/2020 10:31:16
Elapsed Time:		00:10:00
Bandwidth:		1/3-octave
Max Input Level:		142.17

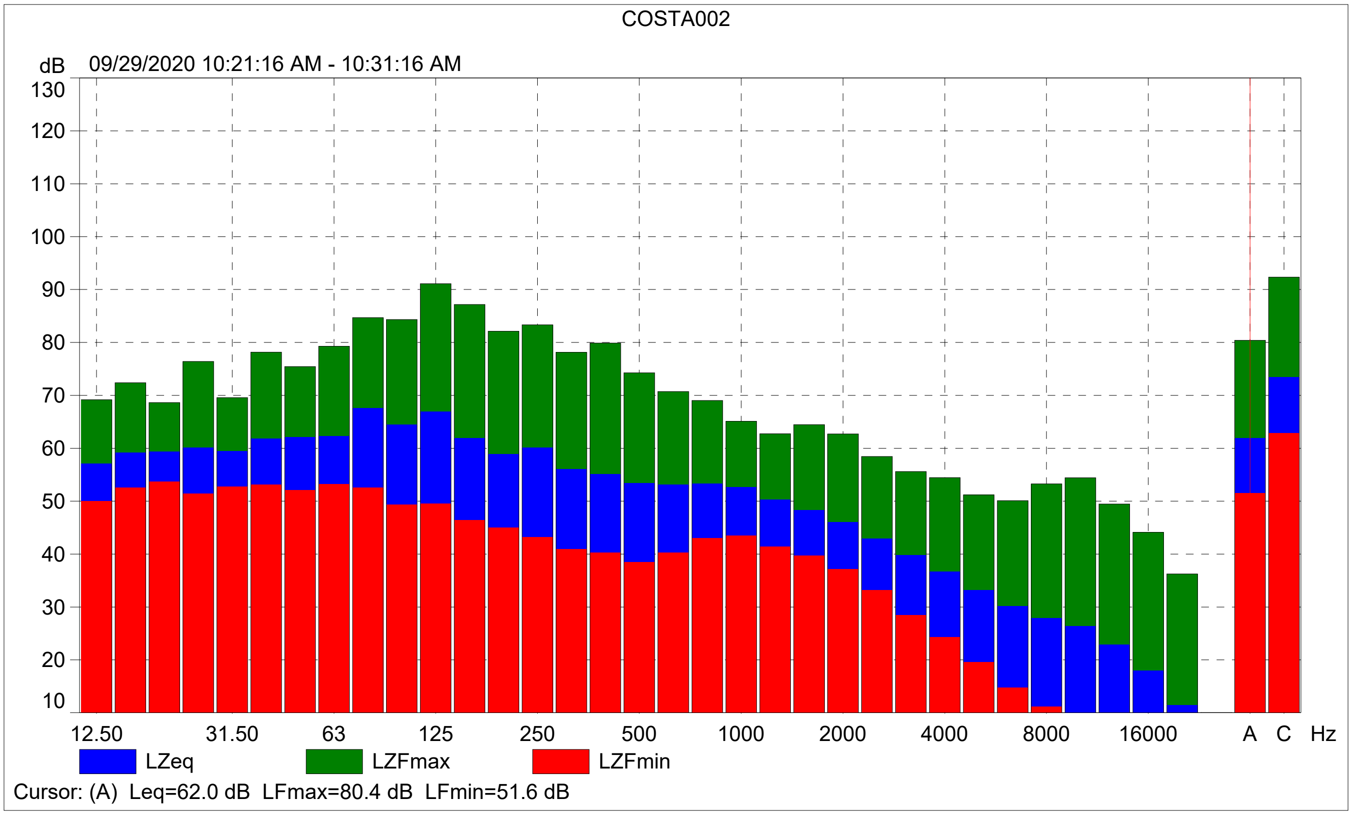
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

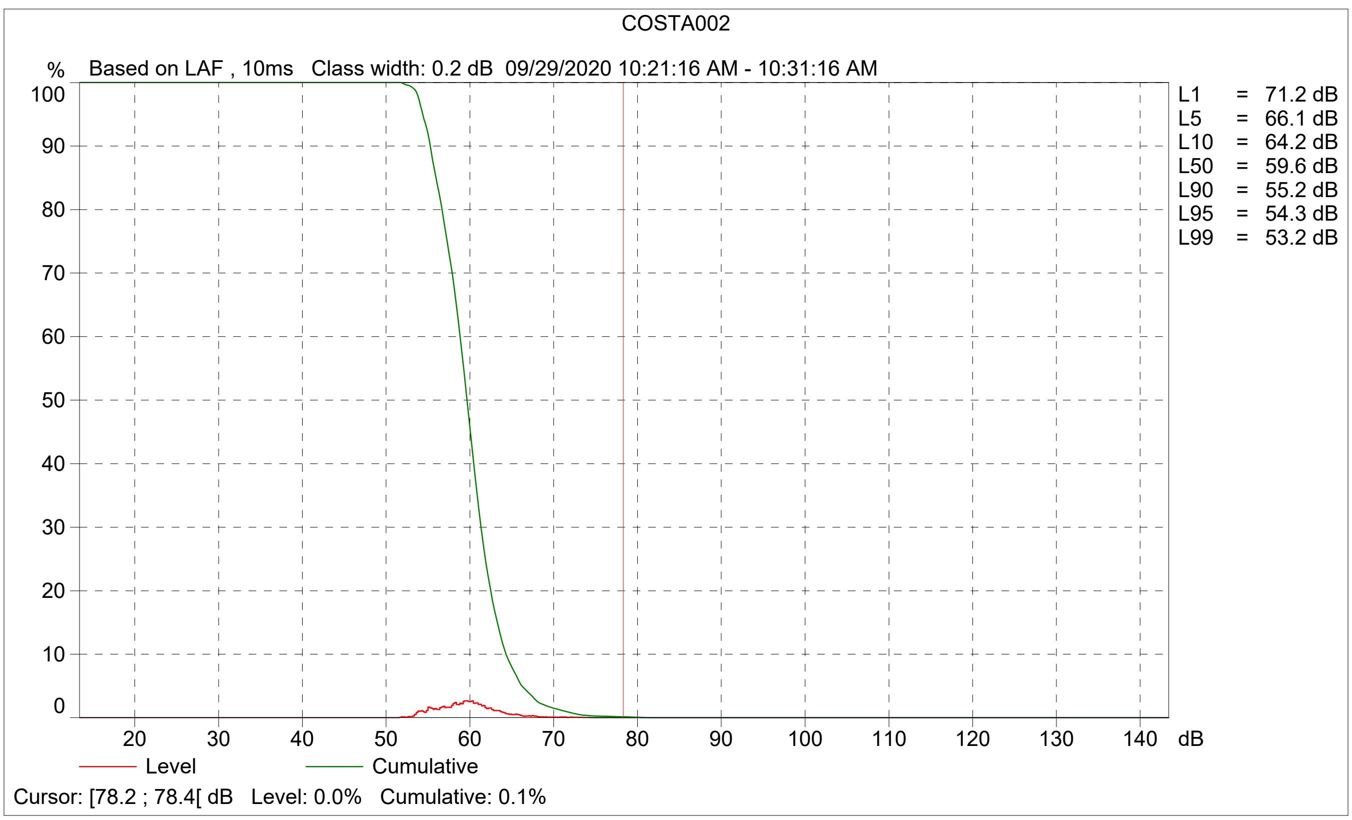
Instrument Serial Number:		3011133
Microphone Serial Number:		3086765
Input:		Top Socket
Windscreen Correction:		UA-1650
Sound Field Correction:		Free-field

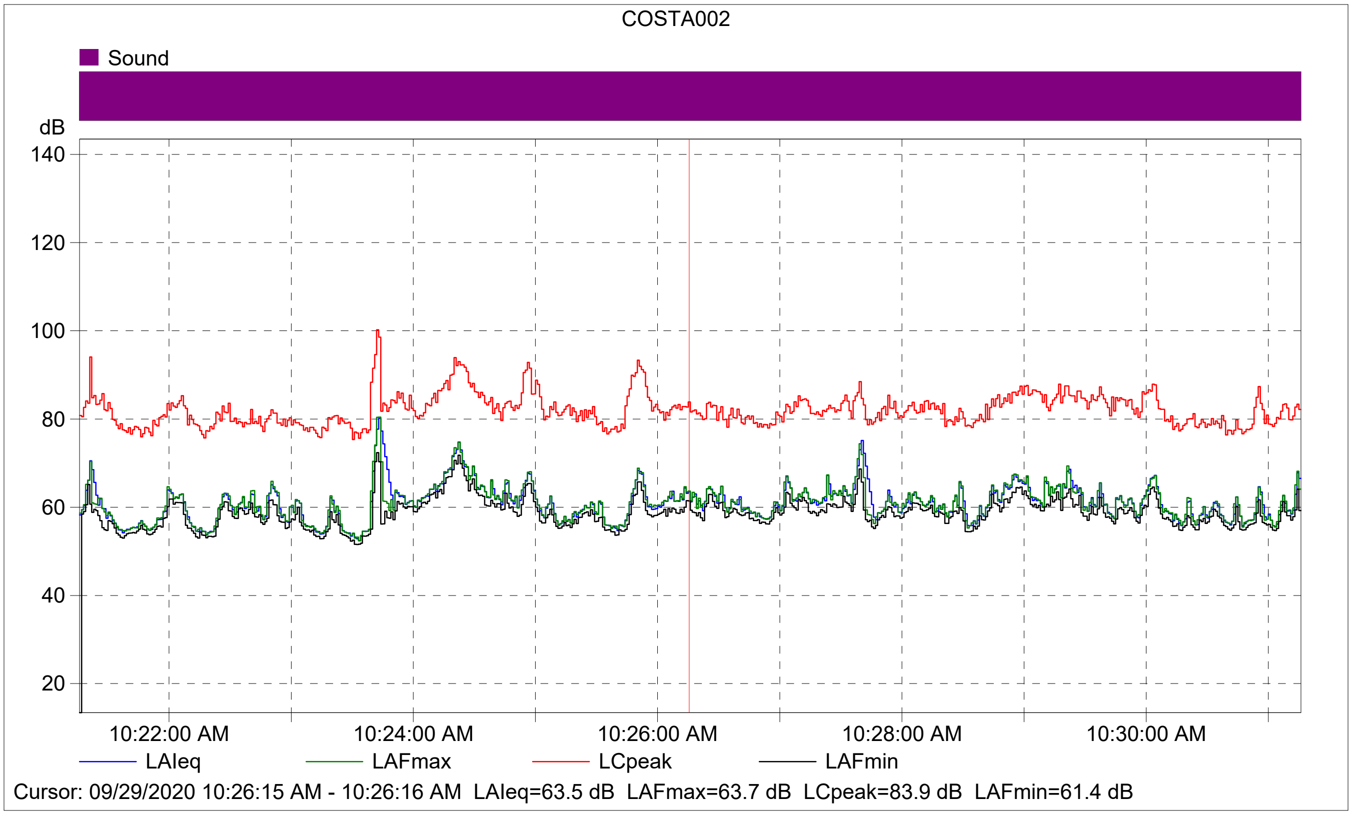
Calibration Time:		09/29/2020 10:00:50
Calibration Type:		External reference
Sensitivity:		43.3950312435627 mV/Pa

COSTA002

	Start time	End time	Elapsed time	Overload [%]	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value				0.00	62.0	80.4	51.6
Time	10:21:16 AM	10:31:16 AM	0:10:00				
Date	09/29/2020	09/29/2020					

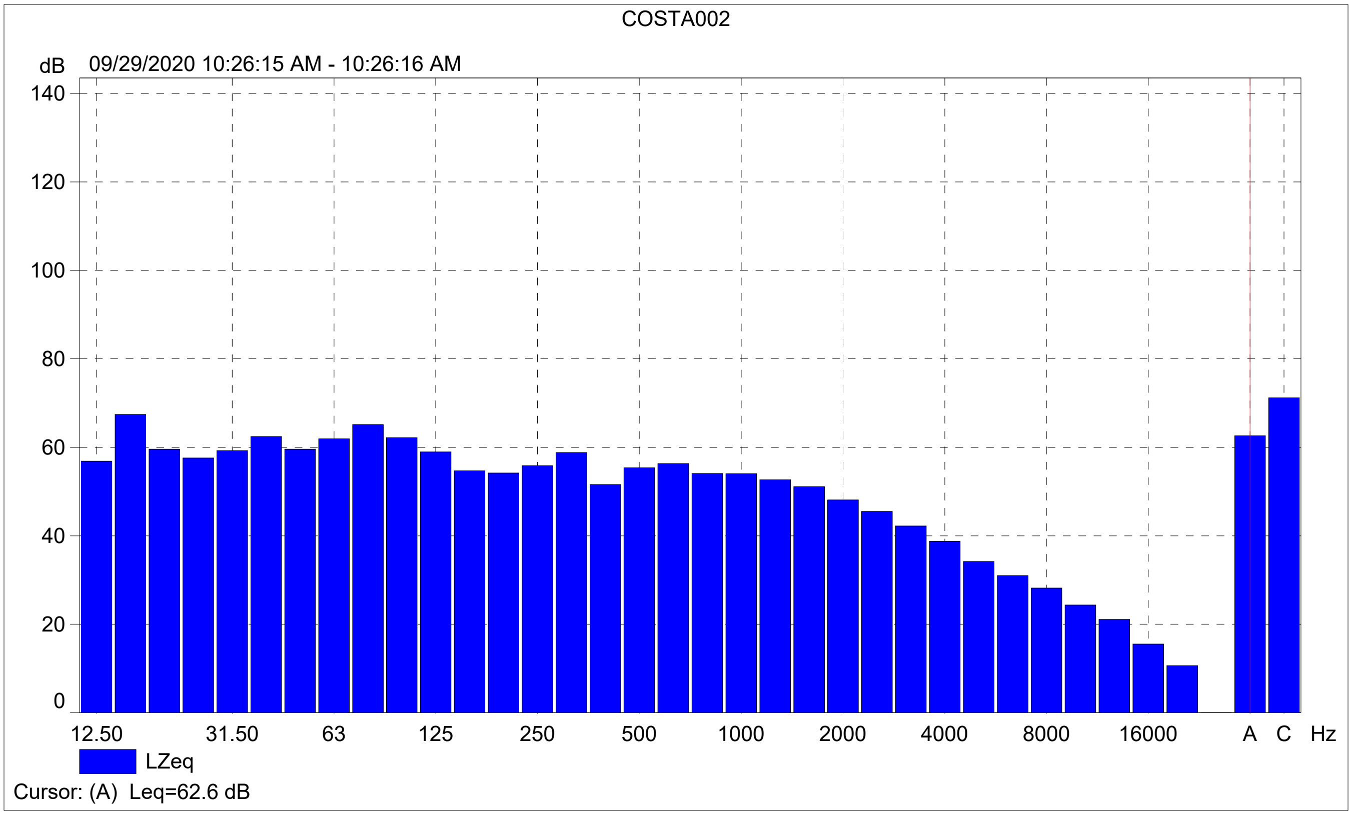

COSTA002
dB 09/29/2020 10:21:16 AM - 10:31:16 AM
130
120
110
100
90
80
70
60
50
40
30
20
10
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=62.0 dB LFmax=80.4 dB LFmin=51.6 dB

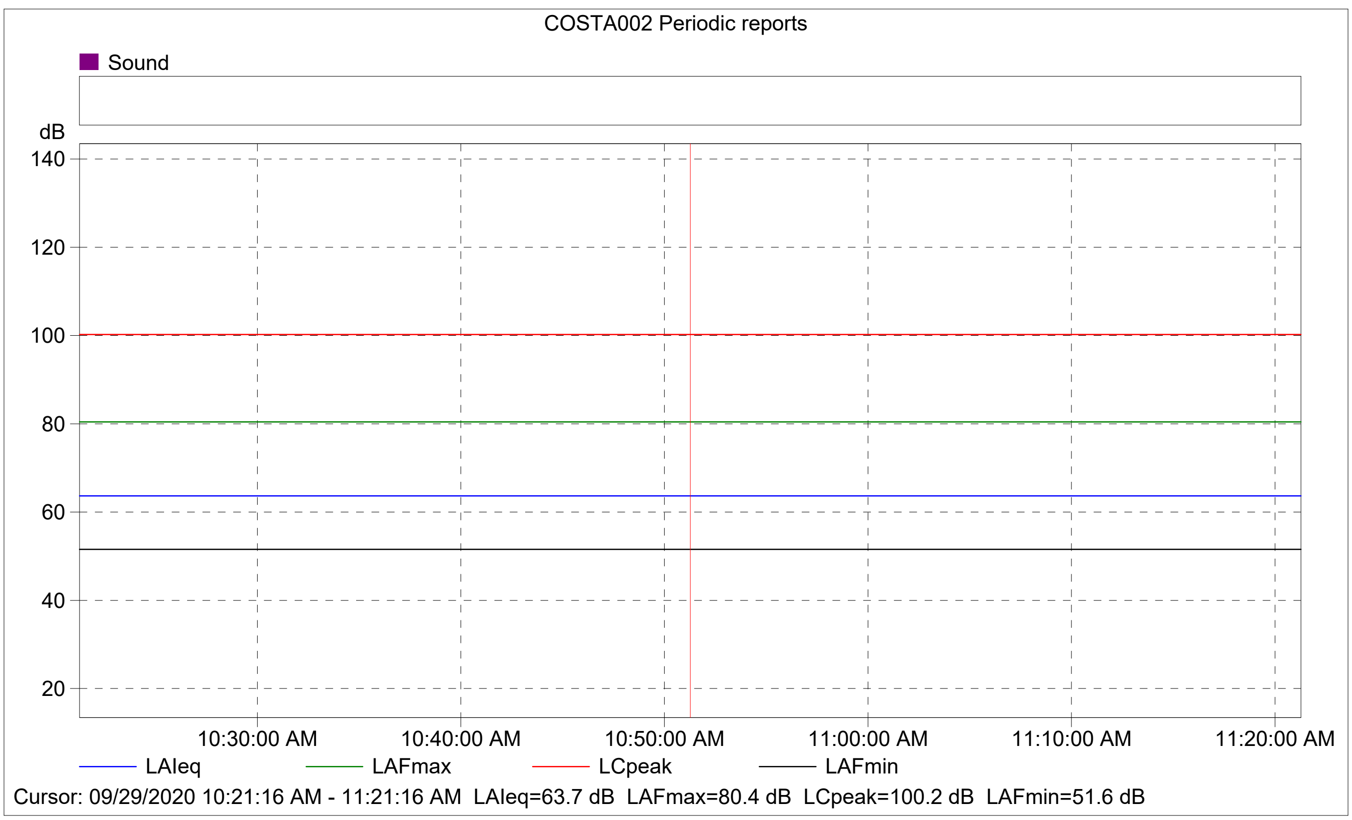

COSTA002
% Based on LAF , 10ms Class width: 0.2 dB 09/29/2020 10:21:16 AM - 10:31:16 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 71.2 dB
L5 = 66.1 dB
L10 = 64.2 dB
L50 = 59.6 dB
L90 = 55.2 dB
L95 = 54.3 dB
L99 = 53.2 dB
Level
Cumulative
Cursor: [78.2 ; 78.4[dB Level: 0.0% Cumulative: 0.1%



COSTA002

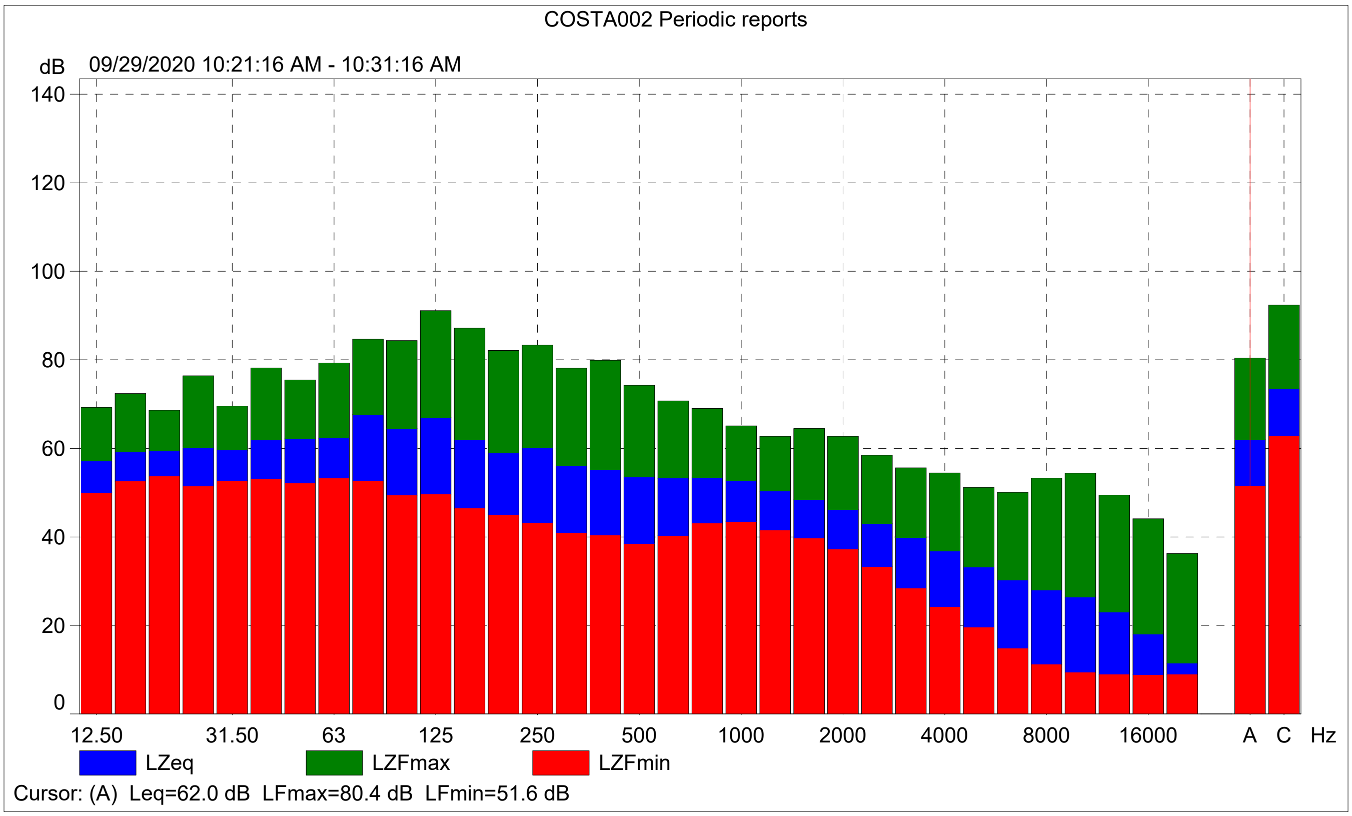
	Start time	Elapsed time	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			63.5	63.7	61.4
Time	10:26:15 AM	0:00:01			
Date	09/29/2020				

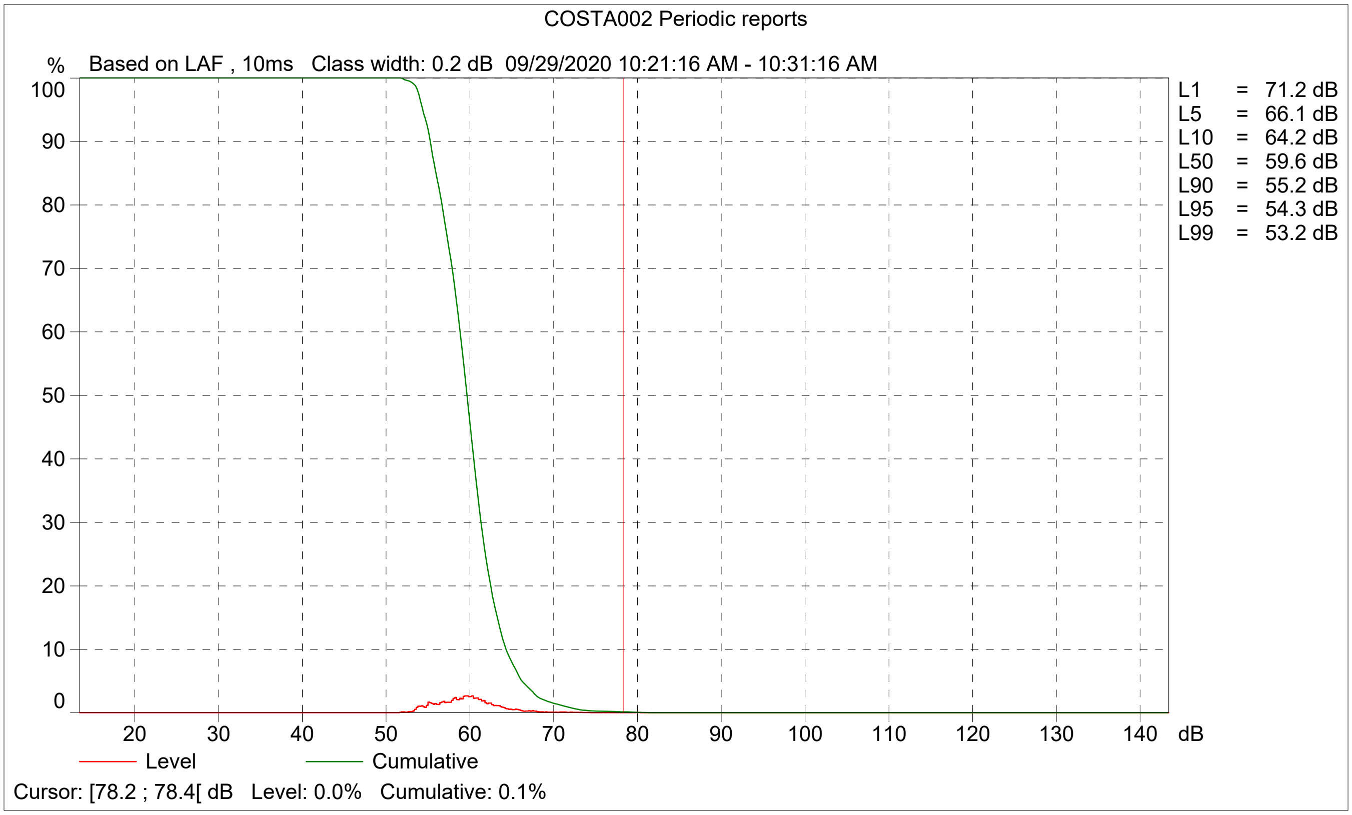

COSTA002
dB 09/29/2020 10:26:15 AM - 10:26:16 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
Cursor: (A) Leq=62.6 dB


COSTA002 Periodic reports
Sound
dB
140
120
100
80
60
40
20
10:30:00 AM
10:40:00 AM
10:50:00 AM
11:00:00 AM
11:10:00 AM
11:20:00 AM
LAIeq
LAFmax
LCpeak
LAFmin
Cursor: 09/29/2020 10:21:16 AM - 11:21:16 AM LAIeq=63.7 dB LAFmax=80.4 dB LCpeak=100.2 dB LAFmin=51.6 dB

COSTA002 Periodic reports

	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	63.7	80.4	51.6
Time	10:21:16 AM	0:10:00				
Date	09/29/2020					





COSTA002 Periodic reports
%
Based on LAF , 10ms Class width: 0.2 dB 09/29/2020 10:21:16 AM - 10:31:16 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 71.2 dB
L5 = 66.1 dB
L10 = 64.2 dB
L50 = 59.6 dB
L90 = 55.2 dB
L95 = 54.3 dB
L99 = 53.2 dB
Level
Cumulative
Cursor: [78.2 ; 78.4[dB Level: 0.0% Cumulative: 0.1%

ATTACHMENT D
Air Quality Memorandum

Air Quality Technical Memorandum

To: Mel Lee, City of Costa Mesa

From: Zhe Chen, Michael Baker International

Date: October 21, 2020

Subject: No.1 Collision Project – Air Quality Technical Memorandum

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PURPOSE

The purpose of this technical memorandum is to evaluate potential short- and long-term air quality impacts resulting from the construction and operation of the proposed No.1 Collision Project (project), located in Costa Mesa, California.

PROJECT LOCATION

The City of Costa Mesa (City) encompasses approximately 16 square miles and is located in the western portion of Orange County. Surrounding jurisdictions include Santa Ana to the north, Irvine and Newport Beach to the east, Newport Beach to the south, and Huntington Beach and Fountain Valley to the west.

The proposed project is located at 2750 and 2770 Bristol Street in the northeastern portion of the City. The site is generally bound by a vacant disturbed land to the north, State Route 73 (SR-73) to the east, commercial uses across Bristol Street to the west, and a dog daycare to the south. Regional access to the site is provided via SR-73, State Route 55 (SR-55), and Interstate 405 (I-405). Local access to the site is provided via Bristol Street.

EXISTING CONDITIONS

The approximate 1.5-acre project site was formerly used as a car wash and oil change facility, and, prior to this, a gasoline service station. Currently, the car wash and oil change facility are no longer in use. Existing on-site structures include two single-story masonry buildings (totaling approximately 12,122 square feet). Historically, the site was used as a gasoline service station. The four former underground storage tanks (USTs) and associated fuel islands have been removed from the site. The site is designated General Commercial with a 0.20 to 0.75 allowed floor-area ratio (FAR), and zoned Local Business District (C1).[1,2]

[1] City of Costa Mesa, *2015-2035 General Plan Figure LU-3 Land Use Policy Map*, June 2016, https://www.costamesaca.gov/home/showdocument?id=34712, accessed July 14, 2020.
[2] City of Costa Mesa, *City of Costa Mesa Zoning Map*, November 1, 2016, https://www.costamesaca.gov/home/showdocument?id=7259, accessed July 14, 2020.

PROJECT DESCRIPTION

The project proposes the demolition of the existing carwash facility and construction of a 37,485-square foot luxury high-end collision repair center within a single two-story building. The ground floor encompasses 31,498 square feet and would include a waiting area, offices, body shop areas, detail shop areas, holding bays, mechanical bays, wash bays, parts/tools/equipment storage, as well as drive aisle. The second floor encompasses 5,987 square feet, including an employee board and training room, offices, employee lunchroom and locker room, and parts storage. The roof would be utilized for employee parking and temporary vehicle storage. For the purposes of FAR considerations, the project proposes a total of approximately 37,485 square feet of gross floor area.[3]

The proposed building would be up to 29 feet in height and would include the following setbacks: 25-foot front yard setback, 26.6-foot side yard setback to the left, 30-foot side yard setback to the right, and 20-foot rear yard setback.

Parking

The project proposes a total of 86 parking spaces on-site, including 38 standard size parking spaces, 48 temporary vehicle storage spaces, and five bicycle parking spaces. Available surface parking would be accommodated along Bristol Street and the northern portion of the project site, which would include 15 customer parking spaces and four temporary storage spaces (toward the rear of the property). Rooftop parking would accommodate 23 employee parking spaces and 44 temporary vehicle storage spaces. Rooftop employee parking would be segregated from temporary vehicle storage spaces.

Landscaping

Approximately 2,411 square feet of ornamental landscaping is proposed at the project frontage along Bristol Street and smaller landscaped areas along the project site perimeter. The project also proposes gating with knox box access to allow employees after-hours access.

Operations

The project proposes the operation of a luxury brand collision center specializing in European engineered automobiles, such as Mercedes Benz, BMW, Land Rover, and Audi. Proposed automobile services include body repair, service repair, detailing, and carwash services. The facility anticipates generating approximately 8 to 12 customers a day. Services would be accommodated by appointment only. The business would employ a maximum of 23 persons.

Regular business hours would be from 8 a.m. to 5 p.m., Monday through Friday. However, after-hours access would be accommodated for employees, as needed.

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[3] Gross floor area is defined as the total building area of all floors within the walls of all structures except elevator and other vertical shafts (including stairwells) and elevator equipment areas. Parking structures are not considered building area for the purposes of calculating allowable floor area ratios. The service drive is counted as gross floor area.

Construction

Construction activities are anticipated to occur over a period of 12 months, beginning March 2021 through February 2022. Demolition would take 4 weeks, grading is anticipated to take 3 weeks, building construction would take 10 months, paving would take 2 weeks, and painting would take 4 weeks. Approximately 600 cubic yards of soil import would be required.

Discretionary Approvals

The proposed collision repair center would be consistent with the site's C1 zoning; however, the project would require a Minor Conditional Use Permit to accommodate the proposed FAR and parking. Project approval would be determined by the City's Zoning Administrator.

REGULATORY SETTING

South Coast Air Quality Management District

Air Quality Thresholds

The project site is located in South Coast Air Basin (Basin), which is currently in nonattainment status with State standards for ozone (O_3), particulate matter 2.5 microns in diameter or less ($PM_{2.5}$), and particulate matter 10 microns in diameter or less (PM_{10}), as well as Federal O_3 and $PM_{2.5}$ standards. The South Coast Air Quality Management District (SCAQMD) has established methods to guide local agency reviews of land use projects to ensure that they would not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any Federal attainment plan.

State standards are promulgated by the California Air Resources Board (CARB) as mandated by the California Clean Air Act (CCAA). SCAQMD has developed criteria pollutant emission thresholds for volatile organic compounds (VOCs), nitrogen oxides (NO_X), carbon monoxide (CO), sulfur dioxide (often used interchangeably with sulfur oxides [SO_X]), PM_{10}, and $PM_{2.5}$, which are used to determine whether or not the proposed project would violate an air quality standard or contribute to an existing violation during operations and/or construction. The SCAQMD *1993 CEQA Air Quality Handbook* (CEQA Air Quality Handbook) provides significance thresholds for both construction and operation of projects within the SCAQMD jurisdictional boundaries. If the SCAQMD thresholds are exceeded, a potentially significant impact could result at the project level or cumulatively region-wide. However, ultimately the lead agency determines the thresholds of significance for impacts. The City applies the thresholds recommended by SCAQMD in the CEQA Air Quality Handbook. If a project proposes development that would generate emissions in excess of the established thresholds, as outlined in Table 1, *South Coast Air Quality Management District Emissions Thresholds*, a significant air quality impact may occur and additional analysis is warranted to fully assess the significance of impacts.

Table 1
South Coast Air Quality Management District Regional Emissions Thresholds

Phase	Pollutant (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction	75	100	550	150	150	55
Operational	55	55	550	150	150	55

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter up to 10 microns; $PM_{2.5}$ = particulate matter up to 2.5 microns

Source: South Coast Air Quality Management District, *CEQA Air Quality Handbook,* November 1993.

Localized Significance Thresholds

Localized Significance Thresholds (LSTs) were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated July 2008) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with project-specific level proposed projects. The SCAQMD provides the LST lookup tables for one-, two-, and five-acre projects emitting CO, NO_X, PM_{10}, or $PM_{2.5}$. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways. The SCAQMD recommends that any project over five acres should perform air quality dispersion modeling to assess impacts to nearby sensitive receptors.

Cumulative Emissions Thresholds

The SCAQMD's *2016 Air Quality Management Plan* (2016 AQMP) was prepared to accommodate growth, meet State and Federal air quality standards, and minimize the fiscal impact that pollution control measures have on the local economy. According to the SCAQMD CEQA Air Quality Handbook, project-related emissions that fall below the established construction and operational thresholds should be considered less than significant unless there is pertinent information to the contrary. If a project exceeds these emission thresholds, the SCAQMD CEQA Air Quality Handbook states that the significance of a project's contribution to cumulative impacts should be determined based on whether the rate of growth in average daily trips exceeds the rate of growth in population.

City of Costa Mesa General Plan

The City of Costa Mesa *2015-2035 General Plan* (General Plan) Conservation Element contains the following goal and policies that address air quality and are applicable to the proposed project:

Goal CON-4: Improved Air Quality

Policy CON-4.A.1: Support regional policies and efforts that improve air quality to protect human and environmental health, and minimize disproportionate impacts on sensitive population groups.

Policy CON-4.A.2: Encourage businesses, industries and residents to reduce the impact of direct, indirect, and cumulative impacts of stationary and non-stationary pollution sources.

Policy CON-4.A.3: Require that sensitive uses such as schools, childcare centers, parks and playgrounds, housing, and community gathering places are protected from adverse impacts of emissions.

Policy CON-4.A.4: Continue to participate in regional planning efforts with the Southern California Association of Governments, nearby jurisdictions, and the South Coast Air Quality Management District to meet or exceed air quality standards.

EXISTING AIR QUALITY CONDITIONS

Local Ambient Air Quality

The SCAQMD monitors air quality at 37 monitoring stations throughout the Basin. Each monitoring station is located within a Source Receptor Area (SRA). The communities within an SRA are expected to have similar climatology and ambient air pollutant concentrations. The project site is located in the North Coastal Orange County SRA (SRA 18). The closest monitoring station to the project site is the Costa Mesa – Mesa Verde Drive station, which is located approximately 2.11 miles west of the site. Local air quality data from 2016 to 2018 is presented in Table 2, *Summary of Local Air Quality Data*.

CEQA THRESHOLDS

The environmental analysis in this memorandum is patterned after the Initial Study Checklist (Appendix G) within the California Environmental Quality Act (CEQA) Guidelines. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this analysis. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Conflict with or obstruct implementation of the applicable air quality plan (refer to Impact AQ-1);
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable Federal or State ambient air quality standard (refer to Impact AQ-2);
- Expose sensitive receptors to substantial pollutant concentrations (refer to Impact AQ-3); and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people (refer to Impact AQ-4).

Table 2
Summary of Local Air Quality Data

Pollutant	Primary Standard		Year	Maximum Concentration[1]	Number of Days State/Federal Std. Exceeded
	California	Federal			
Carbon Monoxide (CO)[2] (1-Hour)	20 ppm for 1 hour	35 ppm for 1 hour	2016 2017 2018	2.058 ppm 1.723 *	0/0 0/0 *
Ozone (O_3)[2] (1-Hour)	0.09 ppm for 1 hour	N/A	2016 2017 2018	0.090 ppm 0.088 *	0/0 0/0 *
Ozone (O_3)[2] (8-Hour)	0.070 ppm for 8 hours	0.070 ppm for 8 hours	2016 2017 2018	0.069 ppm 0.080 *	0/0 5/4 *
Nitrogen Dioxide (NO_x)[2]	0.18 ppm for 1 hour	0.100 ppm for 1 hour	2016 2017 2018	0.059 ppm 0.045 *	0/0 0/0 0/0
Particulate Matter (PM_{10})[3,4,5]	50 μg/m³ for 24 hours	150 μg/m³ for 24 hours	2016 2017 2018	74.0 μg/m³ 95.7 94.6	3/0 5/0 2/0
Fine Particulate Matter ($PM_{2.5}$)[3,5]	No Separate State Standard	35 μg/m³ for 24 hours	2016 2017 2018	45.5 μg/m³ 56.2 68.0	1/1 7/7 7/7

ppm = parts per million
μg/m³ = micrograms per cubic meter
* = insufficient data available to determine the value
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$ = particulate matter 2.5 microns in diameter or less
NA = Not Applicable

Notes:
1. Maximum concentration is measured over the same period as the California Standard.
2. Measurements taken at the Costa Mesa – Mesa Verde Drive Monitoring Station located at 2850 Mesa Verde Dr East, Costa Mesa, California 92626.
3. Measurements taken at the Anaheim-Pampas Lane Monitoring Station located at 1630 Pampas Lane, Anaheim, California 92802.
4. PM_{10} exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
5. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

Sources:
California Air Resources Board, *ADAM Air Quality Data Statistics*, http://www.arb.ca.gov/adam/, accessed on September 29, 2020.
California Air Resources Board, *AQMIS2: Air Quality Data*, https://www.arb.ca.gov/aqmis2/aqdselect.php, accessed on September 29, 2020.

PROJECT IMPACT ANALYSIS

Impact AQ-1: Would the Project Conflict with or Obstruct Implementation of the Applicable Air Quality Plan?

Less Than Significant Impact. The City is located within the Basin, which is bounded by the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east and by the Pacific Ocean to the south and west. The SCAQMD has jurisdiction in the Basin, which has a history of recorded air quality violations and is an area where both State and Federal ambient air quality standards are exceeded. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The air quality in the Riverside County portion of the Basin does not meet the ambient air quality standards for O_3, PM_{10}, and $PM_{2.5}$ and is therefore classified as a nonattainment area for these pollutants. The SCAQMD is required, pursuant to the Federal Clean Air Act, to reduce emissions of the air pollutants for which the Basin is in nonattainment.

On March 3, 2017, the SCAQMD Governing Board adopted the *2016 Air Quality Management Plan for the South Coast Air Basin* (2016 AQMP). The 2016 AQMP incorporates the latest scientific and technical information and planning assumptions, including the latest applicable growth assumptions, updated emission inventory methodologies for various source categories. Additionally, the 2016 AQMP utilized information and data from the Southern California Association of Government's (SCAG) and its *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016 RTP/SCS). While SCAG has recently adopted the 2020-2045 RTP/SCS (Connect SoCal), SCAQMD has not released an updated AQMP. As such, this consistency analysis is based off the 2016 AQMP and the RTP/SCS that was adopted at the time, the 2016-2040 RTP/SCS. The SCAQMD considers projects that are consistent with the AQMP, which is intended to bring the Basin into attainment for all criteria pollutants, to also have less than significant cumulative impacts.

Criteria for determining consistency with the AQMP are defined by the following indicators:

Criterion 1:

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) *Would the project result in an increase in the frequency or severity of existing air quality violations?*

   Since the consistency criteria identified under the first criterion pertains to pollutant concentrations, rather than to total regional emissions, an analysis of the project's pollutant emissions relative to localized pollutant concentrations is used as the basis for evaluating project consistency. As discussed in Impact Statements AQ-2 and AQ-3 below, the project's short-term construction, long-term operational, and localized air emissions CO, NO_X, and particulate matter (PM_{10} and $PM_{2.5}$) would not exceed SCAQMD thresholds. Therefore, the proposed project would not result in an increase in the frequency or severity of existing air quality violations. Because reactive organic gasses (ROGs) are not a criteria pollutant, there is no ambient standard or localized threshold for ROGs. Due to the role ROGs plays in O_3 formation, it is classified as a precursor pollutant and only a regional emissions threshold has been established.

b) *Would the project cause or contribute to new air quality violations?*

   As discussed below in Impact Statements AQ-2 and AQ-3, the project's short-term construction, long-term operational, and localized air emissions would not exceed SCAQMD thresholds. Therefore, the proposed project would not have the potential to cause or affect a violation of the ambient air quality standards.

c) *Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?*

   The proposed project would result in less than significant impacts with regard to localized concentrations during project construction, as well as short-term construction and long-term operational emissions. As such, the proposed project would not delay the timely attainment of air quality standards or 2016 AQMP emissions reductions.

Criterion 2:

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the Basin focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether or not the proposed project exceeds the assumptions utilized in preparing the forecasts presented in the 2016 AQMP. Determining whether or not a project exceeds the assumptions reflected in the 2016 AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

a) *Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the AQMP?*

A project is consistent with the 2016 AQMP in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the 2016 AQMP. In the case of the 2016 AQMP, three sources of data form the basis for the projections of air pollutant emissions: the City's General Plan, SCAG's *Growth Management* Chapter of the *Regional Comprehensive Plan and Guide* (RCPG), and SCAG's RTP/SCS. The RTP/SCS also provides socioeconomic forecast projections of regional population growth.

The project site is designated General Commercial by the General Plan and zoned Local Business District (C1) in the *City of Costa Mesa Zoning Code* (Zoning Code). According to the General Plan, General Commercial uses consist of a wide range of commercial uses that serve both local and regional needs, including markets, drug stores, retail shops, financial institutions, service establishments, support office uses, smaller retail stores, theaters, restaurants, hotels and motels, and automobile sales and service establishments. Based on the Zoning Code, C1 zoning district is intended to meet the local business needs of the community by providing a wide range of goods and services in a variety of locations throughout the City. The project proposes to develop a 37,485-square foot luxury high-end collision repair center within a single two-story building and would require a Minor Conditional Use Permit to accommodate the proposed FAR and parking. As such, with the Minor Conditional Use Permit, the proposed project would be consistent with the land use designation, zoning, and development density planned for the project site.

Furthermore, the project does not include the removal or addition of residences and population forecasts would not be altered by the project. Therefore, the project would not cause SCAG's 2040 population forecast to be exceeded and the population, housing, and employment forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the City. Therefore, the project would not exceed the population or job growth projections used by the SCAQMD to develop the 2016 AQMP.

As described above, the proposed project is consistent with the types, intensity, and patterns of land use envisioned for the site vicinity in the General Plan, RCPG, and RTP/SCS. As the SCAQMD has incorporated these same projections into the 2016

AQMP, it can be concluded that the proposed project would be consistent with the projections.

b) *Would the project implement all feasible air quality mitigation measures?*

The proposed project would not require mitigation and would result in less than significant air quality impacts. Compliance with all feasible emission reduction rules and measures identified by the SCAQMD would be required as identified in Impact Statements AQ-2 and AQ-3. As such, the proposed project meets this AQMP consistency criterion.

c) *Would the project be consistent with the land use planning strategies set forth in the AQMP?*

Land use planning strategies set forth in the 2016 AQMP are primarily based on the RTP/SCS. The project is an infill development and is located across the street of a local bus stop serving Orange County Bus Route 57. Further, the project would provide five bicycle parking spaces on-site to promote an alternative transportation option for employees. Therefore, the project would be consistent with the actions and strategies of the 2016-2040 RTP/SCS. In addition, as discussed above, with the Minor Conditional Use Permit, the project would be consistent with the General Plan land use designations. Furthermore, project consistency with the RTP/SCS and the 2016 AQMP would promote the City's goal to protect air quality by incorporating General Plan Conservation Element goal and policies. As such, the proposed project meets this AQMP consistency criterion.

In conclusion, the determination of the 2016 AQMP consistency is primarily concerned with the long-term influence of a project on air quality in the Basin. The proposed project would not result in a long-term impact on the region's ability to meet State and Federal air quality standards. Also, the proposed project would be consistent with the goals and policies of the 2016 AQMP for control of fugitive dust. As discussed above, the proposed project would be consistent with SCAQMD and SCAG's goals and policies and is considered consistent with the 2016 AQMP.

Mitigation Measures: No mitigation is required.

Impact AQ-2: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable Federal or State ambient air quality standard?

Less Than Significant Impact.

Criteria Pollutants

Criteria pollutants are pollutants regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. The Basin is currently in State nonattainment status for O_3, $PM_{2.5}$, and PM_{10}, as well as Federal nonattainment status for O_3 and $PM_{2.5}$. Criteria pollutants, their typical sources, and effects are identified below:

Carbon Monoxide (CO). CO is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. CO replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of carbon monoxide.

Ozone (O_3). O_3 occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" O_3 layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays. "Bad" O_3 is a photochemical pollutant, and needs VOCs, NO_X, and sunlight to form; therefore, VOCs and NO_X are O_3 precursors. To reduce O_3 concentrations, it is necessary to control the emissions of these O_3 precursors. Significant O_3 formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High O_3 concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While O_3 in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level O_3 (in the troposphere) can adversely affect the human respiratory system and other tissues. O_3 is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children, and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of O_3. Short-term exposure (lasting for a few hours) to O_3 at elevated levels can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue, as well as chest pain, dry throat, headache, and nausea.

Nitrogen Dioxide (NO_2). NO_X are a family of highly reactive gases that are a primary precursor to the formation of ground-level O_3 and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_X) is a reddish-brown gas that can cause breathing difficulties at elevated levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations). NO_2 can irritate and damage the lungs and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO_2 concentrations that are typically much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

Coarse Particulate Matter (PM_{10}). PM_{10} refers to suspended particulate matter, which is smaller than 10 microns or ten one-millionths of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract. On June 19, 2003, the California Air Resources Board (CARB) adopted amendments to the Statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25).

Fine Particulate Matter ($PM_{2.5}$). Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both State and Federal $PM_{2.5}$ standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the U.S. Environmental Protection Agency (EPA) announced new $PM_{2.5}$ standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the United States Supreme Court reversed this decision and upheld the EPA's new standards. On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates the Basin as a nonattainment area for Federal $PM_{2.5}$ standards. On June 20, 2002, CARB adopted amendments for Statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the Statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging.

Sulfur Dioxide (SO_2). SO_2 is a colorless, irritating gas with a rotten egg smell; it is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with SO_X. Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics.

Volatile Organic Compounds (VOC). VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form O_3 to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include: CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The SCAQMD uses the terms VOC and ROG (see below) interchangeably.

Reactive Organic Gases (ROG). Similar to VOC, ROG are also precursors in forming O_3 and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and nitrogen oxides react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The SCAQMD uses the terms ROG and VOC interchangeably.

Short-Term Construction Emissions

The project involves construction activities associated with demolition, grading, building construction, paving, and architectural coating applications. The project would be constructed over approximately 12 months, beginning in March 2021. Grading activities would require approximately 600 cubic yards of soil import. Exhaust emission factors for typical diesel-powered heavy equipment are based on the program defaults of the most recent version of the California Emissions Estimator Model (CalEEMod), version 2016.3.2. Variables factored into estimating the total construction emissions include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported on- or off-site. The analysis of daily construction emissions has been prepared utilizing CalEEMod. Refer to Attachment A, *Air Quality Emissions Data*, for the CalEEMod outputs and results. Table 3, *Short-Term Construction Emissions*, presents the anticipated daily short-term construction emissions. Based on the anticipated daily short-term construction emissions, the project would not exceed SCAQMD thresholds and impacts in this regard would be less than significant.

Table 3
Short-Term Construction Emissions

Emissions Source	Pollutant (pounds/day)[1]					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Year 1						
Construction Related Emissions[2]	2.07	20.21	15.03	0.03	2.66	1.58
Year 2						
Construction Related Emissions[2]	10.71	19.99	22.67	0.04	1.33	1.00
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Is Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***

Notes:
1. Emissions were calculated using CalEEMod, version 2016.3.2. Winter emissions represent the worst-case.
2. Modeling assumptions include compliance with SCAQMD Rule 403 which requires: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stock piles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.

Source: Refer to Attachment A, *Air Quality Emissions Data*, for detailed model input/output data.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust emissions that may have a substantial, temporary impact on local air quality. In addition, fugitive dust may be a nuisance to those living and working in the project area. Fugitive dust emissions are associated with land clearing, ground excavation, cut-and-fill, and truck travel on unpaved roadways (including demolition as well as construction activities). Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Fugitive dust from grading and construction is expected to be short-term and would cease upon project completion. It should be noted that most of this material is inert silicates, rather than the complex organic particulates released from combustion sources, which are more harmful to health.

Dust (larger than 10 microns) generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM_{10} (particulate matter smaller than 10 microns) generated as a part of fugitive dust emissions. PM_{10} poses a serious health hazard alone or in combination with other pollutants. $PM_{2.5}$ is mostly produced by mechanical processes. These include automobile tire wear, industrial processes such as cutting and grinding, and re-suspension of particles from the ground or road surfaces by wind and human activities such as construction or agriculture. $PM_{2.5}$ is mostly derived from combustion sources, such as automobiles, trucks, and other vehicle exhaust, as well as from stationary sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_X and sulfur oxides (SO_X) combining with ammonia. $PM_{2.5}$ components from material in the earth's crust, such as dust, are also present, with the amount varying in different locations.

Construction activities would comply with SCAQMD Rule 403, which requires that excessive fugitive dust emissions be controlled by regular watering or other dust prevention measures. Adherence to SCAQMD 403 would greatly reduce PM_{10} and $PM_{2.5}$ concentrations. It should be noted that these reductions were applied in CalEEMod. As shown in Table 3, the total PM_{10} and $PM_{2.5}$ emissions would not exceed the SCAQMD thresholds during construction.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the project site, emissions produced on-site as the equipment is used, and emissions from trucks transporting materials to/from the site. As presented in Table 3, construction equipment and worker vehicle exhaust emissions would be below the established SCAQMD thresholds.

ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are O_3 precursors. As required, all architectural coatings for the proposed project structures would comply with SCAQMD Regulation XI, Rule 1113 – Architectural Coating. Rule 1113 provides specifications on painting practices as well as regulates the ROG content of paint. ROG emissions associated with the proposed project would be below SCAQMD thresholds; refer to Table 3.

Total Daily Construction Emissions

In accordance with the SCAQMD Guidelines, CalEEMod was utilized to model construction emissions for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. As indicated in Table 3, the project's total construction emissions for all criteria pollutants would be below the SCAQMD significance thresholds, including those currently designated as nonattainment in the Basin ($PM_{2.5}$, PM_{10}, and O_3 precursors [NO_x and ROG]). Thus, total construction related air emissions would be less than significant in this regard.

Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by State, Federal, and international agencies and was identified as a toxic air contaminant by the CARB in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (August 2000), serpentinite and ultramafic rocks are not known to occur within the project area. Thus, there would be no impact in this regard.

Long-Term (Operational) Emissions

Mobile Source Emissions

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern (NO_X and ROG react with sunlight to form O_3 [photochemical smog], and wind currents readily transport SO_X, PM_{10}, and $PM_{2.5}$); however, CO tends to be a localized pollutant, dispersing rapidly at the source.

Project-generated vehicle emissions were estimated using CalEEMod as well as the CARB's EMission FACtor Model 2017 (EMFAC2017). Based on the *Collision 1 Trip Generation and VMT Memorandum* prepared by City of Costa Mesa Department of Public Services/Transportation Services Division (dated September 23, 2020), the proposed project would generate approximately 94 daily vehicle trips.[4] Table 4, *Long-Term Operational Air Emissions*, presents the anticipated mobile source emissions. As shown in Table 4, emissions generated by vehicle traffic associated with the project would not exceed established SCAQMD thresholds.

Table 4
Long-Term Operational Air Emissions

Emissions Source	Pollutant (pounds/day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Proposed Project Summer Emissions						
Area Source Emissions	0.85	<0.01	0.01	0.00	<0.01	<0.01
Energy Emissions	<0.01	0.03	0.03	<0.01	<0.01	<0.01
Mobile Emissions	0.23	0.59	2.68	0.01	0.84	0.23
Total Emissions[2]	**1.08**	**0.62**	**2.72**	**0.01**	**0.84**	**0.23**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Is Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***
Proposed Project Winter Emissions						
Area Source Emissions	0.85	<0.01	0.01	0.00	<0.01	<0.01
Energy Emissions	<0.01	0.03	0.03	<0.01	<0.01	<0.01
Mobile Emissions	0.23	0.62	2.57	0.01	0.84	0.23
Total Emissions[2]	**1.09**	**0.65**	**2.61**	**0.01**	**0.84**	**0.23**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Is Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***

Notes:
1. Emissions were calculated using CalEEMod, version 2016.3.2 and the California Air Resources Board EMission FACtor model 2017 (EMFAC2017).
2. The numbers may be slightly off due to rounding.

Source: Refer to Attachment A, *Air Quality Emissions Data*, for detailed model input/output data.

[4] City of Costa Mesa Department of Public Services/Transportation Services Division, *Collision 1 Trip Generation and VMT Memorandum,* September 23, 2020.

Area Source Emissions

Area source emissions would be generated from consumer products, architectural coating, hearths, and landscaping. In addition, the project would involve auto repair services and generate emissions from paint and dust. However, dust would be generated inside the building and filtered by the ventilation system, and the project would use waterborne paint to minimize ROG emissions from paint. As shown in Table 4, area source emissions from the proposed project would not exceed SCAQMD thresholds for ROG, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$.

Energy Source Emissions

Energy source emissions would be generated as a result of electricity and natural gas (non-hearth) usage associated with the proposed project. The primary use of electricity and natural gas by the project would be for space heating and cooling, water heating, ventilation, lighting, appliances, and electronics. As shown in Table 4, energy source emissions from the proposed project would not exceed SCAQMD thresholds for ROG, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$.

Total Operational Emissions

As indicated in Table 4, the project's long-term operational emissions would not exceed the SCAQMD thresholds for any criteria pollutants, including those currently designated as nonattainment in the Basin ($PM_{2.5}$, PM_{10}, and O_3 precursors [NO_x and ROG]). Thus, long-term operational air quality impacts would be less than significant in this regard.

Air Quality Health Impacts

Adverse health effects induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individual [e.g., age, gender]). In particular, O_3 precursors, VOCs and NO_X, affect air quality on a regional scale. Health effects related to O_3 are therefore the product of emissions generated by numerous sources throughout a region. Existing models have limited sensitivity to small changes in criteria pollutant concentrations, and, as such, translating project-generated criteria pollutants to specific health effects or additional days of nonattainment would produce meaningless results. In other words, the project's less than significant increases in regional air pollution from criteria air pollutants would have nominal or negligible impacts on human health.

As noted in the Brief of Amicus Curiae by the SCAQMD (April 6, 2015) for the *Sierra Club vs. County of Fresno*[5], the SCAQMD acknowledged it would be extremely difficult, if not impossible to quantify health impacts of criteria pollutants for various reasons including modeling limitations as well as where in the atmosphere air pollutants interact and form. Further, as noted in the Brief of Amicus Curiae by the San Joaquin Valley Air Pollution Control District (SJVAPCD) (April 13, 2015) for the *Sierra Club vs. County of Fresno*[6], SJVAPCD acknowledged that currently available

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[5] South Coast Air Quality Management District, *Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.

[6] San Joaquin Valley Air Pollution Control District, *Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.

modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts.

The SCAQMD acknowledges that health effects quantification from O_3, as an example, is correlated with the increases in ambient level of O_3 in the air (concentration) that an individual person breathes. The SCAQMD's Brief of Amicus Curiae states that it would take a large amount of additional emissions to cause a modeled increase in ambient O_3 levels over the entire region. The SCAQMD states that based on their own modeling in the SCAQMD's *2012 Air Quality Management Plan*, a reduction of 432 tons (864,000 pounds) per day of NO_X and a reduction of 187 tons (374,000 pounds) per day of VOCs would reduce O_3 levels at highest monitored sites by only nine parts per billion. As such, the SCAQMD concludes that it is not currently possible to accurately quantify O_3-related health impacts caused by NO_X or VOC emissions from relatively small projects (defined as projects with regional scope) due to photochemistry and regional model limitations. Thus, as the project would not exceed SCAQMD thresholds for construction and operational air emissions, the project would have a less than significant impact for air quality health impacts.

Mitigation Measures: No mitigation is required.

Impact AQ-3: Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact.

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The nearest sensitive receptors are residential uses (i.e. Bristol Bay Apartments) located approximately 315 feet to the northwest of the project site across Bristol Street. In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing localized significance thresholds for construction and operations impacts (stationary sources only).

Localized Significance Thresholds

LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized air quality impacts. The SCAQMD provides the LST lookup tables for one-, two-, and five-acre projects emitting CO, NO_X, $PM_{2.5}$, or PM_{10}. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways. The project is located within SRA 18, North Coastal Orange County.

Construction LST

The SCAQMD guidance on applying CalEEMod to LSTs specifies the number of acres a particular piece of equipment would likely disturb per day. Based on default information provided by CalEEMod, the project is anticipated to disturb up to 5.63 acres during the grading phase. The grading phase would take approximately 15 days in total to complete. As such, the project would actively disturb an average of less than one acre per day (5.63 acres divided by 15 days). Therefore, the LST thresholds for one acre were utilized for the construction LST analysis. The closest sensitive receptors are residential uses (i.e., Bristol Bay Apartments) located approximately 315 feet to the northwest of the project site across Bristol Street. These sensitive land uses may be potentially affected by air pollutant emissions generated during on-site construction activities. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. As the nearest sensitive uses are located approximately 315 feet (96 meters) from the project site, the LST values for 50 meters were conservatively used.

Table 5, *Localized Significance of Construction Emissions*, shows the localized construction-related emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ compared to the LSTs for SRA 18, North Coastal Orange County. It is noted that the localized emissions presented in Table 5 are less than those in Table 3 because localized emissions include only on-site emissions (i.e., from construction equipment and fugitive dust), and do not include off-site emissions (i.e., from hauling activities). As shown in Table 5, the project's localized construction emissions would not exceed the LSTs for SRA 18. Therefore, localized significance impacts from construction would be less than significant.

Table 5
Localized Significance of Construction Emissions

Source	Pollutant (pounds/day)[4]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Year 1 Construction On-Site Emissions[1,3]	19.70	14.49	2.46	1.52
Year 2 Construction On-Site Emissions[2,3]	12.50	12.73	0.59	0.57
Localized Significance Threshold[4]	93	738	13	5
Thresholds Exceeded?	***No***	***No***	***No***	***No***

Notes:
1. Maximum on-site daily emissions occur during demolition phase for NOx and CO, and grading phase for PM_{10} and $PM_{2.5}$ in Year 1.
2. Maximum on-site daily emissions occur during building construction phase for NOx, CO, PM_{10}, and $PM_{2.5}$ in Year 2.
3. The construction emissions in this table include reduction/credits based on the application of dust control techniques as required by SCAQMD Rule 403. The dust control techniques include the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces twice daily; cover stock piles with tarps; water all haul roads three times daily; and limit speeds on unpaved roads to 15 miles per hour.
4. The Localized Significance Threshold was determined using Appendix C of the SCAQMD Final Localized Significant Threshold Methodology guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Threshold was based on the anticipated daily acreage disturbance for construction (less than 1 acre; therefore the 1-acre threshold was used), the distance to sensitive receptors (50 meters), and the source receptor area (SRA 18).

Refer to Attachment A, *Air Quality Emissions Data*, for assumptions used in this analysis.

Operational LST

According to SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a proposed project if the project includes stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site (e.g., warehouse or transfer facilities). The proposed project does not include such uses. Thus, due to the lack of such emissions, no long-term localized significance threshold analysis is necessary. Operational LST impacts would be less than significant in this regard.

Carbon Monoxide Hotspots

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affecting residents, school children, hospital patients, the elderly, etc.).

The Basin is designated as an attainment/maintenance area for the Federal CO standards and an attainment area for State standards. There has been a decline in CO emissions even though vehicle miles traveled on U.S. urban and rural roads have increased. Nationwide estimated anthropogenic CO emissions have decreased 68 percent between 1990 and 2014. In 2014, mobile sources accounted for 82 percent of the nation's total anthropogenic CO emissions.[7] CO emissions have continued to decline since this time. The Basin was re-designated as attainment in 2007 and is no longer addressed in the SCAQMD's AQMP. Three major control programs have contributed to the reduced per-vehicle CO emissions: exhaust standards, cleaner burning fuels, and motor vehicle inspection/maintenance programs.

A detailed CO analysis was conducted in the Federal Attainment Plan for Carbon Monoxide (CO Plan) for the SCAQMD's *2003 Air Quality Management Plan*, which is the most recent AQMP that addresses CO concentrations. The locations selected for microscale modeling in the CO Plan are worst-case intersections in the Basin and would likely experience the highest CO concentrations. Thus, CO analysis within the CO Plan is utilized in a comparison to the proposed project, since it represents a worst-case scenario with heavy traffic volumes within the Basin.

Of these locations, the Wilshire Boulevard/Veteran Avenue intersection in Los Angeles County experienced the highest CO concentration (4.6 parts per million [ppm]), which is well below the 35-ppm 1-hr CO Federal standard. The Wilshire Boulevard/Veteran Avenue intersection is one of the most congested intersections in Southern California with an ADT volume of approximately 100,000 vehicles per day. As the CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection, it can be reasonably inferred that CO hotspots would not be experienced at any intersections within the City near the project site due to the comparatively low volume of traffic (a maximum of 94 average daily trips) that would occur as a result of project implementation. Therefore, impacts would be less than significant in this regard.

Mitigation Measures: No mitigation is required.

Impact AQ-4: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. California Health & Safety Code, Division 26, Part 4, Chapter 3, Section 41700 prohibit the emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of the public. Projects required to obtain permits from SCAQMD, typically industrial and some commercial projects, are evaluated by SCAQMD staff for potential odor nuisance and conditions may be applied (or control equipment required) where necessary to prevent occurrence of public nuisance. The proposed project would not require such a permit from SCAQMD.

[7] United States Environmental Protection Agency¸ *Carbon Monoxide Emissions*, https://cfpub.epa.gov/roe/indicator_pdf.cfm?i=10, accessed August 4, 2020.

According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses identified by the SCAQMD as being associated with odors. The project would involve auto repair services and generate odors from paint. However, the project would use waterborne paint to minimize ROG emissions and associated odors from paint. In addition, painting would be performed inside the proposed building and the odors would mostly be filtered by the ventilation system. Therefore, impacts would be less than significant.

Construction activities associated with the project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. However, construction-related odors would be short-term in nature and cease upon project completion. In addition, the project would be required to comply with the California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. This would further reduce the detectable odors from heavy-duty equipment exhaust. The project would also comply with the SCAQMD Regulation XI, *Rule 1113 – Architectural Coating*, which would minimize odor impacts from ROG emissions during architectural coating. Therefore, the project would not emit emissions, including odors, adversely affecting a substantial number of people and impacts would be less than significant.

Mitigation Measures: No mitigation is required.

REFERENCES

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San Joaquin Valley Air Pollution Control District, Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno, 2014.

Appendix A
Air Quality Emissions Data

No.1 Collision

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	4.96	1000sqft	0.11	4,960.00	0
Unrefrigerated Warehouse-No Rail	32.52	1000sqft	1.22	32,525.00	0
Parking Lot	19.00	Space	0.17	7,600.00	0
Unenclosed Parking Structure	67.00	Space	0.00	26,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - total lot acreage is 1.5-acre, unenclosed parking represents rooftop parking, office/warehouse breakdown comes from site plan

Construction Phase - per construction questionnaire

Trips and VMT - hauling distance per construction questionnaire

Demolition - building dimension 145'*85'*15', 0.25/27*0.5 ton waste per cubic feet

Grading -

Architectural Coating - SCAQMD Rule 1113

Vehicle Trips - 94 daily trips per trip gen memo

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Energy Mitigation - 2019 Title 24

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	2,064.00	456.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblAreaCoating	Area_Parking	2064	456
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	200.00	216.00
tblConstructionPhase	NumDays	4.00	15.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.8460e-003	0.00
tblFleetMix	MCY	4.8550e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	8.9600e-004	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	2.0990e-003	0.00
tblFleetMix	SBUS	7.0900e-004	0.00
tblFleetMix	UBUS	1.8280e-003	0.00
tblGrading	MaterialImported	0.00	600.00
tblLandUse	LandUseSquareFeet	32,520.00	32,525.00
tblLandUse	LotAcreage	0.75	1.22
tblLandUse	LotAcreage	0.60	0.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00

tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripNumber	85.00	55.00
tblTripsAndVMT	VendorTripNumber	12.00	7.00
tblTripsAndVMT	WorkerTripNumber	30.00	18.00
tblTripsAndVMT	WorkerTripNumber	6.00	4.00
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tblVehicleEF	HHD	3.3200e-004	9.3000e-004
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tblVehicleEF	HHD	0.22	0.22
tblVehicleEF	HHD	3.5900e-004	9.9300e-004
tblVehicleEF	HHD	0.08	5.0000e-006
tblVehicleEF	LDA	4.7080e-003	2.3280e-003
tblVehicleEF	LDA	5.1030e-003	0.05
tblVehicleEF	LDA	0.61	0.63
tblVehicleEF	LDA	1.10	2.05
tblVehicleEF	LDA	264.19	257.52
tblVehicleEF	LDA	56.82	52.62

tblVehicleEF	LDA	0.05	0.03
tblVehicleEF	LDA	0.07	0.17
tblVehicleEF	LDA	1.9930e-003	1.5810e-003
tblVehicleEF	LDA	2.2640e-003	1.8330e-003
tblVehicleEF	LDA	1.8370e-003	1.4560e-003
tblVehicleEF	LDA	2.0810e-003	1.6860e-003
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.10	0.09
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.01	8.8060e-003
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.07	0.21
tblVehicleEF	LDA	2.6460e-003	2.5470e-003
tblVehicleEF	LDA	5.8700e-004	5.2100e-004
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.10	0.09
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.08	0.23
tblVehicleEF	LDA	5.0460e-003	2.4790e-003
tblVehicleEF	LDA	4.5230e-003	0.04
tblVehicleEF	LDA	0.69	0.68
tblVehicleEF	LDA	0.94	1.77
tblVehicleEF	LDA	278.35	268.06
tblVehicleEF	LDA	56.82	52.11
tblVehicleEF	LDA	0.04	0.03
tblVehicleEF	LDA	0.06	0.16
tblVehicleEF	LDA	1.9930e-003	1.5810e-003
tblVehicleEF	LDA	2.2640e-003	1.8330e-003
tblVehicleEF	LDA	1.8370e-003	1.4560e-003
tblVehicleEF	LDA	2.0810e-003	1.6860e-003

tblVehicleEF	LDA	0.06	0.07
tblVehicleEF	LDA	0.10	0.09
tblVehicleEF	LDA	0.05	0.06
tblVehicleEF	LDA	0.01	9.2950e-003
tblVehicleEF	LDA	0.04	0.19
tblVehicleEF	LDA	0.06	0.19
tblVehicleEF	LDA	2.7880e-003	2.6520e-003
tblVehicleEF	LDA	5.8400e-004	5.1600e-004
tblVehicleEF	LDA	0.06	0.07
tblVehicleEF	LDA	0.10	0.09
tblVehicleEF	LDA	0.05	0.06
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	0.04	0.19
tblVehicleEF	LDA	0.07	0.21
tblVehicleEF	LDA	4.6070e-003	2.2810e-003
tblVehicleEF	LDA	5.2210e-003	0.05
tblVehicleEF	LDA	0.59	0.61
tblVehicleEF	LDA	1.13	2.12
tblVehicleEF	LDA	259.61	253.63
tblVehicleEF	LDA	56.82	52.74
tblVehicleEF	LDA	0.05	0.03
tblVehicleEF	LDA	0.07	0.18
tblVehicleEF	LDA	1.9930e-003	1.5810e-003
tblVehicleEF	LDA	2.2640e-003	1.8330e-003
tblVehicleEF	LDA	1.8370e-003	1.4560e-003
tblVehicleEF	LDA	2.0810e-003	1.6860e-003
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.11	0.10
tblVehicleEF	LDA	0.03	0.05
tblVehicleEF	LDA	0.01	8.6410e-003
tblVehicleEF	LDA	0.04	0.23
tblVehicleEF	LDA	0.07	0.21

tblVehicleEF	LDA	2.6000e-003	2.5090e-003
tblVehicleEF	LDA	5.8700e-004	5.2200e-004
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.11	0.10
tblVehicleEF	LDA	0.03	0.05
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	0.04	0.23
tblVehicleEF	LDA	0.08	0.23
tblVehicleEF	LDT1	0.01	5.4220e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.50	1.13
tblVehicleEF	LDT1	2.77	2.25
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tblVehicleEF	LDT1	69.74	63.35
tblVehicleEF	LDT1	0.14	0.09
tblVehicleEF	LDT1	0.16	0.24
tblVehicleEF	LDT1	3.1320e-003	2.1320e-003
tblVehicleEF	LDT1	3.4000e-003	2.4680e-003
tblVehicleEF	LDT1	2.8840e-003	1.9610e-003
tblVehicleEF	LDT1	3.1270e-003	2.2690e-003
tblVehicleEF	LDT1	0.14	0.11
tblVehicleEF	LDT1	0.27	0.18
tblVehicleEF	LDT1	0.11	0.10
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.17	0.62
tblVehicleEF	LDT1	0.19	0.33
tblVehicleEF	LDT1	3.3150e-003	3.0150e-003
tblVehicleEF	LDT1	7.4600e-004	6.2700e-004
tblVehicleEF	LDT1	0.14	0.11
tblVehicleEF	LDT1	0.27	0.18
tblVehicleEF	LDT1	0.11	0.10
tblVehicleEF	LDT1	0.05	0.03

tblVehicleEF	LDT1	0.17	0.62
tblVehicleEF	LDT1	0.21	0.36
tblVehicleEF	LDT1	0.01	5.7300e-003
tblVehicleEF	LDT1	0.01	0.06
tblVehicleEF	LDT1	1.65	1.23
tblVehicleEF	LDT1	2.37	1.93
tblVehicleEF	LDT1	346.09	315.43
tblVehicleEF	LDT1	69.74	62.74
tblVehicleEF	LDT1	0.12	0.08
tblVehicleEF	LDT1	0.15	0.23
tblVehicleEF	LDT1	3.1320e-003	2.1320e-003
tblVehicleEF	LDT1	3.4000e-003	2.4680e-003
tblVehicleEF	LDT1	2.8840e-003	1.9610e-003
tblVehicleEF	LDT1	3.1270e-003	2.2690e-003
tblVehicleEF	LDT1	0.22	0.17
tblVehicleEF	LDT1	0.29	0.19
tblVehicleEF	LDT1	0.16	0.14
tblVehicleEF	LDT1	0.04	0.02
tblVehicleEF	LDT1	0.16	0.57
tblVehicleEF	LDT1	0.17	0.29
tblVehicleEF	LDT1	3.4820e-003	3.1210e-003
tblVehicleEF	LDT1	7.3900e-004	6.2100e-004
tblVehicleEF	LDT1	0.22	0.17
tblVehicleEF	LDT1	0.29	0.19
tblVehicleEF	LDT1	0.16	0.14
tblVehicleEF	LDT1	0.05	0.04
tblVehicleEF	LDT1	0.16	0.57
tblVehicleEF	LDT1	0.18	0.32
tblVehicleEF	LDT1	0.01	5.3230e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.45	1.10
tblVehicleEF	LDT1	2.85	2.31

tblVehicleEF	LDT1	324.17	300.66
tblVehicleEF	LDT1	69.74	63.48
tblVehicleEF	LDT1	0.14	0.09
tblVehicleEF	LDT1	0.16	0.25
tblVehicleEF	LDT1	3.1320e-003	2.1320e-003
tblVehicleEF	LDT1	3.4000e-003	2.4680e-003
tblVehicleEF	LDT1	2.8840e-003	1.9610e-003
tblVehicleEF	LDT1	3.1270e-003	2.2690e-003
tblVehicleEF	LDT1	0.13	0.12
tblVehicleEF	LDT1	0.31	0.20
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.20	0.73
tblVehicleEF	LDT1	0.20	0.33
tblVehicleEF	LDT1	3.2600e-003	2.9750e-003
tblVehicleEF	LDT1	7.4700e-004	6.2800e-004
tblVehicleEF	LDT1	0.13	0.12
tblVehicleEF	LDT1	0.31	0.20
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.05	0.03
tblVehicleEF	LDT1	0.20	0.73
tblVehicleEF	LDT1	0.21	0.37
tblVehicleEF	LDT2	6.4770e-003	3.6520e-003
tblVehicleEF	LDT2	6.3660e-003	0.06
tblVehicleEF	LDT2	0.79	0.85
tblVehicleEF	LDT2	1.35	2.61
tblVehicleEF	LDT2	369.39	329.20
tblVehicleEF	LDT2	78.41	68.88
tblVehicleEF	LDT2	0.08	0.06
tblVehicleEF	LDT2	0.11	0.27
tblVehicleEF	LDT2	1.9860e-003	1.5690e-003
tblVehicleEF	LDT2	2.3340e-003	1.7540e-003

tblVehicleEF	LDT2	1.8270e-003	1.4440e-003
tblVehicleEF	LDT2	2.1460e-003	1.6130e-003
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	0.06	0.38
tblVehicleEF	LDT2	0.09	0.29
tblVehicleEF	LDT2	3.7000e-003	3.2570e-003
tblVehicleEF	LDT2	8.0700e-004	6.8200e-004
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.38
tblVehicleEF	LDT2	0.09	0.32
tblVehicleEF	LDT2	6.9310e-003	3.8780e-003
tblVehicleEF	LDT2	5.6450e-003	0.06
tblVehicleEF	LDT2	0.88	0.92
tblVehicleEF	LDT2	1.16	2.24
tblVehicleEF	LDT2	388.48	339.75
tblVehicleEF	LDT2	78.41	68.21
tblVehicleEF	LDT2	0.07	0.06
tblVehicleEF	LDT2	0.10	0.25
tblVehicleEF	LDT2	1.9860e-003	1.5690e-003
tblVehicleEF	LDT2	2.3340e-003	1.7540e-003
tblVehicleEF	LDT2	1.8270e-003	1.4440e-003
tblVehicleEF	LDT2	2.1460e-003	1.6130e-003
tblVehicleEF	LDT2	0.08	0.10
tblVehicleEF	LDT2	0.11	0.12
tblVehicleEF	LDT2	0.07	0.10
tblVehicleEF	LDT2	0.02	0.02

tblVehicleEF	LDT2	0.06	0.36
tblVehicleEF	LDT2	0.08	0.26
tblVehicleEF	LDT2	3.8920e-003	3.3610e-003
tblVehicleEF	LDT2	8.0300e-004	6.7500e-004
tblVehicleEF	LDT2	0.08	0.10
tblVehicleEF	LDT2	0.11	0.12
tblVehicleEF	LDT2	0.07	0.10
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.06	0.36
tblVehicleEF	LDT2	0.08	0.29
tblVehicleEF	LDT2	6.3380e-003	3.5810e-003
tblVehicleEF	LDT2	6.5150e-003	0.07
tblVehicleEF	LDT2	0.76	0.82
tblVehicleEF	LDT2	1.39	2.68
tblVehicleEF	LDT2	363.05	325.31
tblVehicleEF	LDT2	78.41	69.03
tblVehicleEF	LDT2	0.07	0.06
tblVehicleEF	LDT2	0.11	0.27
tblVehicleEF	LDT2	1.9860e-003	1.5690e-003
tblVehicleEF	LDT2	2.3340e-003	1.7540e-003
tblVehicleEF	LDT2	1.8270e-003	1.4440e-003
tblVehicleEF	LDT2	2.1460e-003	1.6130e-003
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	0.07	0.45
tblVehicleEF	LDT2	0.09	0.30
tblVehicleEF	LDT2	3.6360e-003	3.2180e-003
tblVehicleEF	LDT2	8.0700e-004	6.8300e-004
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.11	0.13

tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.07	0.45
tblVehicleEF	LDT2	0.10	0.33
tblVehicleEF	LHD1	5.4910e-003	5.5990e-003
tblVehicleEF	LHD1	0.01	4.5130e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.82	0.51
tblVehicleEF	LHD1	2.60	1.04
tblVehicleEF	LHD1	9.01	9.00
tblVehicleEF	LHD1	602.65	655.78
tblVehicleEF	LHD1	32.51	12.06
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tblVehicleEF	LHD1	1.20	0.73
tblVehicleEF	LHD1	1.00	0.33
tblVehicleEF	LHD1	8.6000e-004	7.8400e-004
tblVehicleEF	LHD1	0.01	9.7030e-003
tblVehicleEF	LHD1	0.01	6.9260e-003
tblVehicleEF	LHD1	9.4900e-004	2.4300e-004
tblVehicleEF	LHD1	8.2200e-004	7.5100e-004
tblVehicleEF	LHD1	2.5220e-003	2.4260e-003
tblVehicleEF	LHD1	9.6970e-003	6.6010e-003
tblVehicleEF	LHD1	8.7300e-004	2.2400e-004
tblVehicleEF	LHD1	3.1810e-003	2.1290e-003
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.8680e-003	1.3620e-003
tblVehicleEF	LHD1	0.06	0.04
tblVehicleEF	LHD1	0.30	0.44
tblVehicleEF	LHD1	0.26	0.07
tblVehicleEF	LHD1	9.0000e-005	8.7000e-005

tblVehicleEF	LHD1	5.9160e-003	6.4010e-003
tblVehicleEF	LHD1	3.7400e-004	1.1900e-004
tblVehicleEF	LHD1	3.1810e-003	2.1290e-003
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.8680e-003	1.3620e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.30	0.44
tblVehicleEF	LHD1	0.28	0.08
tblVehicleEF	LHD1	5.4910e-003	5.6110e-003
tblVehicleEF	LHD1	0.01	4.5890e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.83	0.52
tblVehicleEF	LHD1	2.48	1.00
tblVehicleEF	LHD1	9.01	9.00
tblVehicleEF	LHD1	602.65	655.80
tblVehicleEF	LHD1	32.51	11.99
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	1.12	0.69
tblVehicleEF	LHD1	0.96	0.31
tblVehicleEF	LHD1	8.6000e-004	7.8400e-004
tblVehicleEF	LHD1	0.01	9.7030e-003
tblVehicleEF	LHD1	0.01	6.9260e-003
tblVehicleEF	LHD1	9.4900e-004	2.4300e-004
tblVehicleEF	LHD1	8.2200e-004	7.5100e-004
tblVehicleEF	LHD1	2.5220e-003	2.4260e-003
tblVehicleEF	LHD1	9.6970e-003	6.6010e-003
tblVehicleEF	LHD1	8.7300e-004	2.2400e-004
tblVehicleEF	LHD1	4.9650e-003	2.9790e-003
tblVehicleEF	LHD1	0.11	0.07
tblVehicleEF	LHD1	0.02	0.02

tblVehicleEF	LHD1	2.8120e-003	1.8560e-003
tblVehicleEF	LHD1	0.07	0.04
tblVehicleEF	LHD1	0.30	0.43
tblVehicleEF	LHD1	0.25	0.07
tblVehicleEF	LHD1	9.0000e-005	8.7000e-005
tblVehicleEF	LHD1	5.9160e-003	6.4020e-003
tblVehicleEF	LHD1	3.7200e-004	1.1900e-004
tblVehicleEF	LHD1	4.9650e-003	2.9790e-003
tblVehicleEF	LHD1	0.11	0.07
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	2.8120e-003	1.8560e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.30	0.43
tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	5.4910e-003	5.5970e-003
tblVehicleEF	LHD1	0.01	4.4920e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.81	0.51
tblVehicleEF	LHD1	2.61	1.05
tblVehicleEF	LHD1	9.01	9.00
tblVehicleEF	LHD1	602.65	655.78
tblVehicleEF	LHD1	32.51	12.08
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	1.18	0.72
tblVehicleEF	LHD1	1.00	0.33
tblVehicleEF	LHD1	8.6000e-004	7.8400e-004
tblVehicleEF	LHD1	0.01	9.7030e-003
tblVehicleEF	LHD1	0.01	6.9260e-003
tblVehicleEF	LHD1	9.4900e-004	2.4300e-004
tblVehicleEF	LHD1	8.2200e-004	7.5100e-004
tblVehicleEF	LHD1	2.5220e-003	2.4260e-003

tblVehicleEF	LHD1	9.6970e-003	6.6010e-003
tblVehicleEF	LHD1	8.7300e-004	2.2400e-004
tblVehicleEF	LHD1	3.2290e-003	2.2130e-003
tblVehicleEF	LHD1	0.12	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.8330e-003	1.3810e-003
tblVehicleEF	LHD1	0.06	0.04
tblVehicleEF	LHD1	0.33	0.48
tblVehicleEF	LHD1	0.26	0.07
tblVehicleEF	LHD1	9.0000e-005	8.7000e-005
tblVehicleEF	LHD1	5.9160e-003	6.4010e-003
tblVehicleEF	LHD1	3.7400e-004	1.1900e-004
tblVehicleEF	LHD1	3.2290e-003	2.2130e-003
tblVehicleEF	LHD1	0.12	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.8330e-003	1.3810e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.33	0.48
tblVehicleEF	LHD1	0.28	0.08
tblVehicleEF	LHD2	3.9270e-003	4.0620e-003
tblVehicleEF	LHD2	4.1730e-003	3.3390e-003
tblVehicleEF	LHD2	8.3570e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.36	0.37
tblVehicleEF	LHD2	1.31	0.72
tblVehicleEF	LHD2	13.72	13.58
tblVehicleEF	LHD2	614.66	666.20
tblVehicleEF	LHD2	27.22	9.64
tblVehicleEF	LHD2	0.10	0.09
tblVehicleEF	LHD2	0.80	0.83
tblVehicleEF	LHD2	0.55	0.24
tblVehicleEF	LHD2	1.1850e-003	1.2260e-003

tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.5110e-003	9.8980e-003
tblVehicleEF	LHD2	4.4600e-004	1.4100e-004
tblVehicleEF	LHD2	1.1340e-003	1.1730e-003
tblVehicleEF	LHD2	2.6590e-003	2.6250e-003
tblVehicleEF	LHD2	9.0860e-003	9.4560e-003
tblVehicleEF	LHD2	4.1000e-004	1.3000e-004
tblVehicleEF	LHD2	1.1830e-003	1.3680e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	7.4900e-004	8.9600e-004
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.08	0.28
tblVehicleEF	LHD2	0.11	0.05
tblVehicleEF	LHD2	1.3400e-004	1.3000e-004
tblVehicleEF	LHD2	5.9880e-003	6.4500e-003
tblVehicleEF	LHD2	2.9600e-004	9.5000e-005
tblVehicleEF	LHD2	1.1830e-003	1.3680e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	7.4900e-004	8.9600e-004
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.08	0.28
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	LHD2	3.9270e-003	4.0700e-003
tblVehicleEF	LHD2	4.2260e-003	3.3710e-003
tblVehicleEF	LHD2	8.0730e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.36	0.37
tblVehicleEF	LHD2	1.25	0.69
tblVehicleEF	LHD2	13.72	13.58
tblVehicleEF	LHD2	614.66	666.20

tblVehicleEF	LHD2	27.22	9.59
tblVehicleEF	LHD2	0.10	0.09
tblVehicleEF	LHD2	0.76	0.79
tblVehicleEF	LHD2	0.53	0.23
tblVehicleEF	LHD2	1.1850e-003	1.2260e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.5110e-003	9.8980e-003
tblVehicleEF	LHD2	4.4600e-004	1.4100e-004
tblVehicleEF	LHD2	1.1340e-003	1.1730e-003
tblVehicleEF	LHD2	2.6590e-003	2.6250e-003
tblVehicleEF	LHD2	9.0860e-003	9.4560e-003
tblVehicleEF	LHD2	4.1000e-004	1.3000e-004
tblVehicleEF	LHD2	1.8430e-003	1.9160e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.1140e-003	1.2200e-003
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.08	0.27
tblVehicleEF	LHD2	0.11	0.05
tblVehicleEF	LHD2	1.3400e-004	1.3000e-004
tblVehicleEF	LHD2	5.9880e-003	6.4500e-003
tblVehicleEF	LHD2	2.9500e-004	9.5000e-005
tblVehicleEF	LHD2	1.8430e-003	1.9160e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	1.1140e-003	1.2200e-003
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.08	0.27
tblVehicleEF	LHD2	0.12	0.05
tblVehicleEF	LHD2	3.9270e-003	4.0600e-003
tblVehicleEF	LHD2	4.1600e-003	3.3310e-003
tblVehicleEF	LHD2	8.4070e-003	0.01

tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.36	0.37
tblVehicleEF	LHD2	1.32	0.72
tblVehicleEF	LHD2	13.72	13.58
tblVehicleEF	LHD2	614.66	666.20
tblVehicleEF	LHD2	27.22	9.65
tblVehicleEF	LHD2	0.10	0.09
tblVehicleEF	LHD2	0.79	0.82
tblVehicleEF	LHD2	0.55	0.24
tblVehicleEF	LHD2	1.1850e-003	1.2260e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.5110e-003	9.8980e-003
tblVehicleEF	LHD2	4.4600e-004	1.4100e-004
tblVehicleEF	LHD2	1.1340e-003	1.1730e-003
tblVehicleEF	LHD2	2.6590e-003	2.6250e-003
tblVehicleEF	LHD2	9.0860e-003	9.4560e-003
tblVehicleEF	LHD2	4.1000e-004	1.3000e-004
tblVehicleEF	LHD2	1.1570e-003	1.3980e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	7.2000e-004	8.9100e-004
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.09	0.31
tblVehicleEF	LHD2	0.11	0.05
tblVehicleEF	LHD2	1.3400e-004	1.3000e-004
tblVehicleEF	LHD2	5.9880e-003	6.4500e-003
tblVehicleEF	LHD2	2.9600e-004	9.5000e-005
tblVehicleEF	LHD2	1.1570e-003	1.3980e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	7.2000e-004	8.9100e-004
tblVehicleEF	LHD2	0.05	0.05

tblVehicleEF	LHD2	0.09	0.31
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	MCY	0.51	0.35
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	18.81	18.60
tblVehicleEF	MCY	9.64	8.45
tblVehicleEF	MCY	182.85	214.46
tblVehicleEF	MCY	44.84	59.78
tblVehicleEF	MCY	1.13	1.12
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	2.2780e-003	2.1650e-003
tblVehicleEF	MCY	3.7580e-003	3.2010e-003
tblVehicleEF	MCY	2.1290e-003	2.0240e-003
tblVehicleEF	MCY	3.5380e-003	3.0140e-003
tblVehicleEF	MCY	1.18	1.15
tblVehicleEF	MCY	0.68	0.70
tblVehicleEF	MCY	0.70	0.72
tblVehicleEF	MCY	2.47	2.38
tblVehicleEF	MCY	0.61	2.00
tblVehicleEF	MCY	2.05	1.81
tblVehicleEF	MCY	2.2100e-003	2.1220e-003
tblVehicleEF	MCY	6.6600e-004	5.9200e-004
tblVehicleEF	MCY	1.18	1.15
tblVehicleEF	MCY	0.68	0.70
tblVehicleEF	MCY	0.70	0.72
tblVehicleEF	MCY	3.07	2.95
tblVehicleEF	MCY	0.61	2.00
tblVehicleEF	MCY	2.23	1.97
tblVehicleEF	MCY	0.50	0.34
tblVehicleEF	MCY	0.13	0.21
tblVehicleEF	MCY	18.33	17.90
tblVehicleEF	MCY	8.86	7.75

tblVehicleEF	MCY	182.85	213.15
tblVehicleEF	MCY	44.84	58.02
tblVehicleEF	MCY	0.98	0.98
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	2.2780e-003	2.1650e-003
tblVehicleEF	MCY	3.7580e-003	3.2010e-003
tblVehicleEF	MCY	2.1290e-003	2.0240e-003
tblVehicleEF	MCY	3.5380e-003	3.0140e-003
tblVehicleEF	MCY	1.98	1.73
tblVehicleEF	MCY	0.79	0.75
tblVehicleEF	MCY	1.24	1.13
tblVehicleEF	MCY	2.42	2.33
tblVehicleEF	MCY	0.58	1.87
tblVehicleEF	MCY	1.83	1.62
tblVehicleEF	MCY	2.2010e-003	2.1090e-003
tblVehicleEF	MCY	6.4700e-004	5.7400e-004
tblVehicleEF	MCY	1.98	1.73
tblVehicleEF	MCY	0.79	0.75
tblVehicleEF	MCY	1.24	1.13
tblVehicleEF	MCY	3.01	2.88
tblVehicleEF	MCY	0.58	1.87
tblVehicleEF	MCY	1.99	1.76
tblVehicleEF	MCY	0.51	0.35
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	18.82	18.70
tblVehicleEF	MCY	9.74	8.57
tblVehicleEF	MCY	182.85	214.66
tblVehicleEF	MCY	44.84	60.09
tblVehicleEF	MCY	1.10	1.09
tblVehicleEF	MCY	0.31	0.27
tblVehicleEF	MCY	2.2780e-003	2.1650e-003
tblVehicleEF	MCY	3.7580e-003	3.2010e-003

tblVehicleEF	MCY	2.1290e-003	2.0240e-003
tblVehicleEF	MCY	3.5380e-003	3.0140e-003
tblVehicleEF	MCY	1.26	1.28
tblVehicleEF	MCY	0.87	0.90
tblVehicleEF	MCY	0.67	0.76
tblVehicleEF	MCY	2.48	2.39
tblVehicleEF	MCY	0.70	2.30
tblVehicleEF	MCY	2.08	1.85
tblVehicleEF	MCY	2.2110e-003	2.1240e-003
tblVehicleEF	MCY	6.6900e-004	5.9500e-004
tblVehicleEF	MCY	1.26	1.28
tblVehicleEF	MCY	0.87	0.90
tblVehicleEF	MCY	0.67	0.76
tblVehicleEF	MCY	3.08	2.97
tblVehicleEF	MCY	0.70	2.30
tblVehicleEF	MCY	2.27	2.01
tblVehicleEF	MDV	0.01	4.7750e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.28	0.99
tblVehicleEF	MDV	2.55	2.97
tblVehicleEF	MDV	499.57	407.06
tblVehicleEF	MDV	104.47	83.79
tblVehicleEF	MDV	0.14	0.09
tblVehicleEF	MDV	0.23	0.33
tblVehicleEF	MDV	2.1350e-003	1.6940e-003
tblVehicleEF	MDV	2.4500e-003	1.8840e-003
tblVehicleEF	MDV	1.9680e-003	1.5620e-003
tblVehicleEF	MDV	2.2530e-003	1.7320e-003
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.02

tblVehicleEF	MDV	0.09	0.41
tblVehicleEF	MDV	0.19	0.37
tblVehicleEF	MDV	5.0040e-003	4.0240e-003
tblVehicleEF	MDV	1.0890e-003	8.2900e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	0.09	0.41
tblVehicleEF	MDV	0.21	0.41
tblVehicleEF	MDV	0.01	5.0630e-003
tblVehicleEF	MDV	0.01	0.07
tblVehicleEF	MDV	1.43	1.07
tblVehicleEF	MDV	2.19	2.55
tblVehicleEF	MDV	525.12	418.11
tblVehicleEF	MDV	104.47	83.01
tblVehicleEF	MDV	0.13	0.08
tblVehicleEF	MDV	0.22	0.30
tblVehicleEF	MDV	2.1350e-003	1.6940e-003
tblVehicleEF	MDV	2.4500e-003	1.8840e-003
tblVehicleEF	MDV	1.9680e-003	1.5620e-003
tblVehicleEF	MDV	2.2530e-003	1.7320e-003
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.17	0.14
tblVehicleEF	MDV	0.11	0.12
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.09	0.38
tblVehicleEF	MDV	0.17	0.34
tblVehicleEF	MDV	5.2610e-003	4.1340e-003
tblVehicleEF	MDV	1.0830e-003	8.2100e-004
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.17	0.14

tblVehicleEF	MDV	0.11	0.12
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	0.09	0.38
tblVehicleEF	MDV	0.19	0.37
tblVehicleEF	MDV	0.01	4.6830e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.23	0.95
tblVehicleEF	MDV	2.62	3.06
tblVehicleEF	MDV	491.18	402.99
tblVehicleEF	MDV	104.47	83.96
tblVehicleEF	MDV	0.14	0.08
tblVehicleEF	MDV	0.23	0.33
tblVehicleEF	MDV	2.1350e-003	1.6940e-003
tblVehicleEF	MDV	2.4500e-003	1.8840e-003
tblVehicleEF	MDV	1.9680e-003	1.5620e-003
tblVehicleEF	MDV	2.2530e-003	1.7320e-003
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.17	0.14
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.11	0.48
tblVehicleEF	MDV	0.20	0.38
tblVehicleEF	MDV	4.9200e-003	3.9840e-003
tblVehicleEF	MDV	1.0910e-003	8.3100e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.17	0.14
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.11	0.48
tblVehicleEF	MDV	0.22	0.42
tblVehicleEF	MH	0.03	8.5810e-003
tblVehicleEF	MH	0.02	0.02

tblVehicleEF	MH	2.16	0.99
tblVehicleEF	MH	5.59	1.90
tblVehicleEF	MH	1,102.49	1,442.60
tblVehicleEF	MH	59.08	17.72
tblVehicleEF	MH	1.23	1.37
tblVehicleEF	MH	0.79	0.23
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	1.0760e-003	2.3500e-004
tblVehicleEF	MH	3.2190e-003	3.3050e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	9.9000e-004	2.1600e-004
tblVehicleEF	MH	1.05	0.74
tblVehicleEF	MH	0.07	0.05
tblVehicleEF	MH	0.43	0.32
tblVehicleEF	MH	0.08	0.05
tblVehicleEF	MH	0.02	1.15
tblVehicleEF	MH	0.32	0.09
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.8800e-004	1.7500e-004
tblVehicleEF	MH	1.05	0.74
tblVehicleEF	MH	0.07	0.05
tblVehicleEF	MH	0.43	0.32
tblVehicleEF	MH	0.12	0.07
tblVehicleEF	MH	0.02	1.15
tblVehicleEF	MH	0.35	0.10
tblVehicleEF	MH	0.03	8.7560e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	2.22	1.01
tblVehicleEF	MH	5.25	1.80
tblVehicleEF	MH	1,102.49	1,442.64
tblVehicleEF	MH	59.08	17.55

tblVehicleEF	MH	1.13	1.29
tblVehicleEF	MH	0.76	0.22
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	1.0760e-003	2.3500e-004
tblVehicleEF	MH	3.2190e-003	3.3050e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	9.9000e-004	2.1600e-004
tblVehicleEF	MH	1.62	0.99
tblVehicleEF	MH	0.07	0.05
tblVehicleEF	MH	0.66	0.44
tblVehicleEF	MH	0.09	0.05
tblVehicleEF	MH	0.02	1.12
tblVehicleEF	MH	0.31	0.08
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.8200e-004	1.7400e-004
tblVehicleEF	MH	1.62	0.99
tblVehicleEF	MH	0.07	0.05
tblVehicleEF	MH	0.66	0.44
tblVehicleEF	MH	0.12	0.07
tblVehicleEF	MH	0.02	1.12
tblVehicleEF	MH	0.34	0.09
tblVehicleEF	MH	0.03	8.5290e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	2.14	0.98
tblVehicleEF	MH	5.64	1.91
tblVehicleEF	MH	1,102.49	1,442.59
tblVehicleEF	MH	59.08	17.75
tblVehicleEF	MH	1.20	1.35
tblVehicleEF	MH	0.79	0.23
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.03

tblVehicleEF	MH	1.0760e-003	2.3500e-004
tblVehicleEF	MH	3.2190e-003	3.3050e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	9.9000e-004	2.1600e-004
tblVehicleEF	MH	1.15	0.80
tblVehicleEF	MH	0.08	0.06
tblVehicleEF	MH	0.43	0.33
tblVehicleEF	MH	0.08	0.05
tblVehicleEF	MH	0.02	1.21
tblVehicleEF	MH	0.32	0.09
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.8900e-004	1.7600e-004
tblVehicleEF	MH	1.15	0.80
tblVehicleEF	MH	0.08	0.06
tblVehicleEF	MH	0.43	0.33
tblVehicleEF	MH	0.11	0.07
tblVehicleEF	MH	0.02	1.21
tblVehicleEF	MH	0.35	0.10
tblVehicleEF	MHD	0.02	4.8200e-003
tblVehicleEF	MHD	4.1830e-003	3.4120e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.36	0.38
tblVehicleEF	MHD	0.33	0.34
tblVehicleEF	MHD	5.78	1.25
tblVehicleEF	MHD	140.95	55.50
tblVehicleEF	MHD	1,135.28	1,052.30
tblVehicleEF	MHD	59.98	12.60
tblVehicleEF	MHD	0.52	0.35
tblVehicleEF	MHD	1.09	1.42
tblVehicleEF	MHD	10.59	1.26
tblVehicleEF	MHD	3.2100e-004	8.6400e-004
tblVehicleEF	MHD	5.1490e-003	0.03

tblVehicleEF	MHD	7.9400e-004	1.1600e-004
tblVehicleEF	MHD	3.0700e-004	8.2600e-004
tblVehicleEF	MHD	4.9220e-003	0.03
tblVehicleEF	MHD	7.3000e-004	1.0700e-004
tblVehicleEF	MHD	1.1590e-003	4.7900e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	7.2500e-004	3.3300e-004
tblVehicleEF	MHD	0.04	0.05
tblVehicleEF	MHD	0.02	0.10
tblVehicleEF	MHD	0.35	0.06
tblVehicleEF	MHD	1.3570e-003	5.2800e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.0100e-004	1.2500e-004
tblVehicleEF	MHD	1.1590e-003	4.7900e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	7.2500e-004	3.3300e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.10
tblVehicleEF	MHD	0.39	0.06
tblVehicleEF	MHD	0.02	4.5660e-003
tblVehicleEF	MHD	4.2400e-003	3.4420e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.26	0.31
tblVehicleEF	MHD	0.33	0.35
tblVehicleEF	MHD	5.50	1.19
tblVehicleEF	MHD	149.29	56.12
tblVehicleEF	MHD	1,135.28	1,052.30
tblVehicleEF	MHD	59.98	12.50
tblVehicleEF	MHD	0.54	0.35
tblVehicleEF	MHD	1.03	1.34

tblVehicleEF	MHD	10.55	1.26
tblVehicleEF	MHD	2.7000e-004	7.3000e-004
tblVehicleEF	MHD	5.1490e-003	0.03
tblVehicleEF	MHD	7.9400e-004	1.1600e-004
tblVehicleEF	MHD	2.5900e-004	6.9900e-004
tblVehicleEF	MHD	4.9220e-003	0.03
tblVehicleEF	MHD	7.3000e-004	1.0700e-004
tblVehicleEF	MHD	1.8110e-003	6.7700e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	1.0870e-003	4.5800e-004
tblVehicleEF	MHD	0.04	0.05
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.34	0.06
tblVehicleEF	MHD	1.4350e-003	5.3400e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.9600e-004	1.2400e-004
tblVehicleEF	MHD	1.8110e-003	6.7700e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	1.0870e-003	4.5800e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.37	0.06
tblVehicleEF	MHD	0.02	5.1860e-003
tblVehicleEF	MHD	4.1660e-003	3.4020e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.49	0.49
tblVehicleEF	MHD	0.33	0.34
tblVehicleEF	MHD	5.84	1.26
tblVehicleEF	MHD	129.42	54.65
tblVehicleEF	MHD	1,135.28	1,052.29

tblVehicleEF	MHD	59.98	12.62
tblVehicleEF	MHD	0.50	0.36
tblVehicleEF	MHD	1.07	1.39
tblVehicleEF	MHD	10.59	1.26
tblVehicleEF	MHD	3.9000e-004	1.0480e-003
tblVehicleEF	MHD	5.1490e-003	0.03
tblVehicleEF	MHD	7.9400e-004	1.1600e-004
tblVehicleEF	MHD	3.7300e-004	1.0030e-003
tblVehicleEF	MHD	4.9220e-003	0.03
tblVehicleEF	MHD	7.3000e-004	1.0700e-004
tblVehicleEF	MHD	1.1430e-003	4.8400e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	6.9800e-004	3.3300e-004
tblVehicleEF	MHD	0.04	0.05
tblVehicleEF	MHD	0.02	0.11
tblVehicleEF	MHD	0.36	0.06
tblVehicleEF	MHD	1.2480e-003	5.2000e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.0200e-004	1.2500e-004
tblVehicleEF	MHD	1.1430e-003	4.8400e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	6.9800e-004	3.3300e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.11
tblVehicleEF	MHD	0.39	0.07
tblVehicleEF	OBUS	0.01	8.7820e-003
tblVehicleEF	OBUS	7.6080e-003	6.7550e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.28	0.54
tblVehicleEF	OBUS	0.52	0.78

tblVehicleEF	OBUS	5.46	2.38
tblVehicleEF	OBUS	101.26	81.35
tblVehicleEF	OBUS	1,235.74	1,388.32
tblVehicleEF	OBUS	68.49	20.04
tblVehicleEF	OBUS	0.45	0.38
tblVehicleEF	OBUS	1.44	1.36
tblVehicleEF	OBUS	2.43	0.68
tblVehicleEF	OBUS	1.0100e-004	6.6700e-004
tblVehicleEF	OBUS	6.9700e-003	0.02
tblVehicleEF	OBUS	8.2900e-004	1.9900e-004
tblVehicleEF	OBUS	9.7000e-005	6.3800e-004
tblVehicleEF	OBUS	6.6520e-003	0.01
tblVehicleEF	OBUS	7.6200e-004	1.8300e-004
tblVehicleEF	OBUS	1.5340e-003	1.8310e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	7.9200e-004	9.7700e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.04	0.23
tblVehicleEF	OBUS	0.34	0.12
tblVehicleEF	OBUS	9.7800e-004	7.7500e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.8100e-004	1.9800e-004
tblVehicleEF	OBUS	1.5340e-003	1.8310e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	7.9200e-004	9.7700e-004
tblVehicleEF	OBUS	0.07	0.07
tblVehicleEF	OBUS	0.04	0.23
tblVehicleEF	OBUS	0.37	0.13
tblVehicleEF	OBUS	0.01	8.8340e-003
tblVehicleEF	OBUS	7.7360e-003	6.8750e-003

tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.26	0.53
tblVehicleEF	OBUS	0.53	0.79
tblVehicleEF	OBUS	5.16	2.26
tblVehicleEF	OBUS	106.28	81.25
tblVehicleEF	OBUS	1,235.74	1,388.34
tblVehicleEF	OBUS	68.49	19.83
tblVehicleEF	OBUS	0.47	0.37
tblVehicleEF	OBUS	1.35	1.28
tblVehicleEF	OBUS	2.39	0.67
tblVehicleEF	OBUS	8.5000e-005	5.6700e-004
tblVehicleEF	OBUS	6.9700e-003	0.02
tblVehicleEF	OBUS	8.2900e-004	1.9900e-004
tblVehicleEF	OBUS	8.1000e-005	5.4200e-004
tblVehicleEF	OBUS	6.6520e-003	0.01
tblVehicleEF	OBUS	7.6200e-004	1.8300e-004
tblVehicleEF	OBUS	2.3330e-003	2.5060e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	1.1860e-003	1.3300e-003
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.04	0.22
tblVehicleEF	OBUS	0.33	0.11
tblVehicleEF	OBUS	1.0260e-003	7.7400e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.7500e-004	1.9600e-004
tblVehicleEF	OBUS	2.3330e-003	2.5060e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	1.1860e-003	1.3300e-003
tblVehicleEF	OBUS	0.07	0.07
tblVehicleEF	OBUS	0.04	0.22

tblVehicleEF	OBUS	0.36	0.12
tblVehicleEF	OBUS	0.01	8.7300e-003
tblVehicleEF	OBUS	7.5760e-003	6.7200e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.30	0.56
tblVehicleEF	OBUS	0.52	0.77
tblVehicleEF	OBUS	5.52	2.40
tblVehicleEF	OBUS	94.33	81.50
tblVehicleEF	OBUS	1,235.74	1,388.31
tblVehicleEF	OBUS	68.49	20.07
tblVehicleEF	OBUS	0.43	0.39
tblVehicleEF	OBUS	1.42	1.34
tblVehicleEF	OBUS	2.43	0.68
tblVehicleEF	OBUS	1.2300e-004	8.0600e-004
tblVehicleEF	OBUS	6.9700e-003	0.02
tblVehicleEF	OBUS	8.2900e-004	1.9900e-004
tblVehicleEF	OBUS	1.1800e-004	7.7100e-004
tblVehicleEF	OBUS	6.6520e-003	0.01
tblVehicleEF	OBUS	7.6200e-004	1.8300e-004
tblVehicleEF	OBUS	1.5400e-003	1.8770e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	7.7300e-004	9.7800e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.04	0.24
tblVehicleEF	OBUS	0.34	0.12
tblVehicleEF	OBUS	9.1200e-004	7.7600e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.8200e-004	1.9900e-004
tblVehicleEF	OBUS	1.5400e-003	1.8770e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.07

tblVehicleEF	OBUS	7.7300e-004	9.7800e-004
tblVehicleEF	OBUS	0.07	0.07
tblVehicleEF	OBUS	0.04	0.24
tblVehicleEF	OBUS	0.38	0.13
tblVehicleEF	SBUS	0.84	0.08
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.07	7.5320e-003
tblVehicleEF	SBUS	7.94	2.97
tblVehicleEF	SBUS	0.75	0.97
tblVehicleEF	SBUS	7.34	1.05
tblVehicleEF	SBUS	1,132.35	357.72
tblVehicleEF	SBUS	1,090.38	1,111.78
tblVehicleEF	SBUS	53.84	6.09
tblVehicleEF	SBUS	9.37	3.71
tblVehicleEF	SBUS	4.27	5.92
tblVehicleEF	SBUS	12.37	0.61
tblVehicleEF	SBUS	9.5120e-003	5.6820e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	7.5100e-004	6.8000e-005
tblVehicleEF	SBUS	9.1010e-003	5.4370e-003
tblVehicleEF	SBUS	2.6840e-003	2.6450e-003
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	6.9100e-004	6.2000e-005
tblVehicleEF	SBUS	3.6290e-003	1.1160e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	0.95	0.36
tblVehicleEF	SBUS	1.8660e-003	5.9300e-004
tblVehicleEF	SBUS	0.11	0.13
tblVehicleEF	SBUS	0.01	0.06
tblVehicleEF	SBUS	0.39	0.04
tblVehicleEF	SBUS	0.01	3.4160e-003

tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.6500e-004	6.0000e-005
tblVehicleEF	SBUS	3.6290e-003	1.1160e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	1.36	0.51
tblVehicleEF	SBUS	1.8660e-003	5.9300e-004
tblVehicleEF	SBUS	0.13	0.15
tblVehicleEF	SBUS	0.01	0.06
tblVehicleEF	SBUS	0.42	0.05
tblVehicleEF	SBUS	0.84	0.08
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.06	6.7680e-003
tblVehicleEF	SBUS	7.82	2.93
tblVehicleEF	SBUS	0.76	0.98
tblVehicleEF	SBUS	5.84	0.87
tblVehicleEF	SBUS	1,183.85	368.34
tblVehicleEF	SBUS	1,090.38	1,111.81
tblVehicleEF	SBUS	53.84	5.78
tblVehicleEF	SBUS	9.67	3.81
tblVehicleEF	SBUS	4.02	5.59
tblVehicleEF	SBUS	12.34	0.61
tblVehicleEF	SBUS	8.0190e-003	4.7960e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	7.5100e-004	6.8000e-005
tblVehicleEF	SBUS	7.6720e-003	4.5880e-003
tblVehicleEF	SBUS	2.6840e-003	2.6450e-003
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	6.9100e-004	6.2000e-005
tblVehicleEF	SBUS	5.6260e-003	1.5260e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	0.94	0.36

tblVehicleEF	SBUS	2.8700e-003	8.0900e-004
tblVehicleEF	SBUS	0.11	0.13
tblVehicleEF	SBUS	0.01	0.06
tblVehicleEF	SBUS	0.34	0.04
tblVehicleEF	SBUS	0.01	3.5160e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.4000e-004	5.7000e-005
tblVehicleEF	SBUS	5.6260e-003	1.5260e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	1.36	0.51
tblVehicleEF	SBUS	2.8700e-003	8.0900e-004
tblVehicleEF	SBUS	0.13	0.16
tblVehicleEF	SBUS	0.01	0.06
tblVehicleEF	SBUS	0.37	0.04
tblVehicleEF	SBUS	0.84	0.08
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.07	7.6420e-003
tblVehicleEF	SBUS	8.10	3.03
tblVehicleEF	SBUS	0.75	0.96
tblVehicleEF	SBUS	7.60	1.07
tblVehicleEF	SBUS	1,061.23	343.05
tblVehicleEF	SBUS	1,090.38	1,111.77
tblVehicleEF	SBUS	53.84	6.12
tblVehicleEF	SBUS	8.96	3.57
tblVehicleEF	SBUS	4.20	5.82
tblVehicleEF	SBUS	12.37	0.62
tblVehicleEF	SBUS	0.01	6.9070e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	7.5100e-004	6.8000e-005
tblVehicleEF	SBUS	0.01	6.6080e-003
tblVehicleEF	SBUS	2.6840e-003	2.6450e-003

tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	6.9100e-004	6.2000e-005
tblVehicleEF	SBUS	3.5410e-003	1.1270e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	0.95	0.36
tblVehicleEF	SBUS	1.8040e-003	5.7900e-004
tblVehicleEF	SBUS	0.11	0.13
tblVehicleEF	SBUS	0.02	0.08
tblVehicleEF	SBUS	0.40	0.04
tblVehicleEF	SBUS	0.01	3.2770e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.7000e-004	6.1000e-005
tblVehicleEF	SBUS	3.5410e-003	1.1270e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	1.37	0.51
tblVehicleEF	SBUS	1.8040e-003	5.7900e-004
tblVehicleEF	SBUS	0.13	0.15
tblVehicleEF	SBUS	0.02	0.08
tblVehicleEF	SBUS	0.44	0.05
tblVehicleEF	UBUS	2.35	5.27
tblVehicleEF	UBUS	0.06	0.04
tblVehicleEF	UBUS	10.43	41.16
tblVehicleEF	UBUS	10.25	1.81
tblVehicleEF	UBUS	1,922.34	2,086.92
tblVehicleEF	UBUS	110.12	22.69
tblVehicleEF	UBUS	8.39	0.48
tblVehicleEF	UBUS	14.66	0.25
tblVehicleEF	UBUS	0.58	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.11	2.8080e-003
tblVehicleEF	UBUS	1.1660e-003	4.4000e-005
tblVehicleEF	UBUS	0.25	0.03

tblVehicleEF	UBUS	3.0000e-003	7.5850e-003
tblVehicleEF	UBUS	0.10	2.6830e-003
tblVehicleEF	UBUS	1.0720e-003	4.1000e-005
tblVehicleEF	UBUS	5.1000e-003	2.4450e-003
tblVehicleEF	UBUS	0.08	0.04
tblVehicleEF	UBUS	2.8840e-003	2.0490e-003
tblVehicleEF	UBUS	0.74	0.08
tblVehicleEF	UBUS	0.02	0.24
tblVehicleEF	UBUS	0.79	0.15
tblVehicleEF	UBUS	9.5950e-003	4.3240e-003
tblVehicleEF	UBUS	1.2860e-003	2.2500e-004
tblVehicleEF	UBUS	5.1000e-003	2.4450e-003
tblVehicleEF	UBUS	0.08	0.04
tblVehicleEF	UBUS	2.8840e-003	2.0490e-003
tblVehicleEF	UBUS	3.18	5.39
tblVehicleEF	UBUS	0.02	0.24
tblVehicleEF	UBUS	0.86	0.17
tblVehicleEF	UBUS	2.36	5.27
tblVehicleEF	UBUS	0.05	0.03
tblVehicleEF	UBUS	10.48	41.16
tblVehicleEF	UBUS	8.90	1.61
tblVehicleEF	UBUS	1,922.34	2,086.92
tblVehicleEF	UBUS	110.12	22.33
tblVehicleEF	UBUS	7.90	0.47
tblVehicleEF	UBUS	14.60	0.24
tblVehicleEF	UBUS	0.58	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.11	2.8080e-003
tblVehicleEF	UBUS	1.1660e-003	4.4000e-005
tblVehicleEF	UBUS	0.25	0.03
tblVehicleEF	UBUS	3.0000e-003	7.5850e-003
tblVehicleEF	UBUS	0.10	2.6830e-003

tblVehicleEF	UBUS	1.0720e-003	4.1000e-005
tblVehicleEF	UBUS	7.6030e-003	3.3370e-003
tblVehicleEF	UBUS	0.08	0.04
tblVehicleEF	UBUS	4.3100e-003	2.7270e-003
tblVehicleEF	UBUS	0.75	0.08
tblVehicleEF	UBUS	0.02	0.21
tblVehicleEF	UBUS	0.72	0.14
tblVehicleEF	UBUS	9.5960e-003	4.3240e-003
tblVehicleEF	UBUS	1.2630e-003	2.2100e-004
tblVehicleEF	UBUS	7.6030e-003	3.3370e-003
tblVehicleEF	UBUS	0.08	0.04
tblVehicleEF	UBUS	4.3100e-003	2.7270e-003
tblVehicleEF	UBUS	3.19	5.39
tblVehicleEF	UBUS	0.02	0.21
tblVehicleEF	UBUS	0.79	0.16
tblVehicleEF	UBUS	2.35	5.27
tblVehicleEF	UBUS	0.06	0.04
tblVehicleEF	UBUS	10.41	41.16
tblVehicleEF	UBUS	10.46	1.85
tblVehicleEF	UBUS	1,922.34	2,086.92
tblVehicleEF	UBUS	110.12	22.76
tblVehicleEF	UBUS	8.23	0.48
tblVehicleEF	UBUS	14.67	0.25
tblVehicleEF	UBUS	0.58	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.11	2.8080e-003
tblVehicleEF	UBUS	1.1660e-003	4.4000e-005
tblVehicleEF	UBUS	0.25	0.03
tblVehicleEF	UBUS	3.0000e-003	7.5850e-003
tblVehicleEF	UBUS	0.10	2.6830e-003
tblVehicleEF	UBUS	1.0720e-003	4.1000e-005
tblVehicleEF	UBUS	5.5780e-003	2.3220e-003

tblVehicleEF	UBUS	0.10	0.04
tblVehicleEF	UBUS	2.9770e-003	1.9370e-003
tblVehicleEF	UBUS	0.74	0.08
tblVehicleEF	UBUS	0.03	0.29
tblVehicleEF	UBUS	0.80	0.16
tblVehicleEF	UBUS	9.5950e-003	4.3240e-003
tblVehicleEF	UBUS	1.2900e-003	2.2500e-004
tblVehicleEF	UBUS	5.5780e-003	2.3220e-003
tblVehicleEF	UBUS	0.10	0.04
tblVehicleEF	UBUS	2.9770e-003	1.9370e-003
tblVehicleEF	UBUS	3.18	5.39
tblVehicleEF	UBUS	0.03	0.29
tblVehicleEF	UBUS	0.88	0.17
tblVehicleTrips	ST_TR	2.46	2.51
tblVehicleTrips	ST_TR	1.68	2.51
tblVehicleTrips	SU_TR	1.05	2.51
tblVehicleTrips	SU_TR	1.68	2.51
tblVehicleTrips	WD_TR	11.03	2.51
tblVehicleTrips	WD_TR	1.68	2.51

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.0601	20.2104	15.0705	0.0268	5.1177	1.0431	5.7612	2.5800	0.9735	3.1721	0.0000	2,597.1493	2,597.1493	0.6079	0.0000	2,612.3461
2022	10.6987	19.9872	22.7621	0.0407	0.3913	0.9400	1.3313	0.1048	0.8928	0.9975	0.0000	3,818.9575	3,818.9575	0.7793	0.0000	3,838.4409

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Maximum	**10.6987**	**20.2104**	**22.7621**	**0.0407**	**5.1177**	**1.0431**	**5.7612**	**2.5800**	**0.9735**	**3.1721**	**0.0000**	**3,818.9575**	**3,818.9575**	**0.7793**	**0.0000**	**3,838.4409**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.0601	20.2104	15.0705	0.0268	2.0212	1.0431	2.6646	0.9896	0.9735	1.5818	0.0000	2,597.1493	2,597.1493	0.6079	0.0000	2,612.3461
2022	10.6987	19.9872	22.7621	0.0407	0.3913	0.9400	1.3313	0.1048	0.8928	0.9975	0.0000	3,818.9575	3,818.9575	0.7793	0.0000	3,838.4409
Maximum	**10.6987**	**20.2104**	**22.7621**	**0.0407**	**2.0212**	**1.0431**	**2.6646**	**0.9896**	**0.9735**	**1.5818**	**0.0000**	**3,818.9575**	**3,818.9575**	**0.7793**	**0.0000**	**3,838.4409**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**56.21**	**0.00**	**43.66**	**59.24**	**0.00**	**38.14**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.8513	1.2000e-004	0.0126	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0270	0.0270	7.0000e-005		0.0288
Energy	5.1200e-003	0.0465	0.0391	2.8000e-004		3.5300e-003	3.5300e-003		3.5300e-003	3.5300e-003		55.8123	55.8123	1.0700e-003	1.0200e-003	56.1440
Mobile	0.2262	0.5877	2.6757	8.7400e-003	0.8270	8.1400e-003	0.8351	0.2209	7.6400e-003	0.2285		907.0396	907.0396	0.0561		908.4422
Total	**1.0826**	**0.6343**	**2.7274**	**9.0200e-003**	**0.8270**	**0.0117**	**0.8387**	**0.2209**	**0.0112**	**0.2321**		**962.8790**	**962.8790**	**0.0572**	**1.0200e-003**	**964.6150**

Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Area	0.8513	1.2000e-004	0.0126	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0270	0.0270	7.0000e-005		0.0288
Energy	3.6200e-003	0.0329	0.0276	2.0000e-004		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003		39.4897	39.4897	7.6000e-004	7.2000e-004	39.7243
Mobile	0.2262	0.5877	2.6757	8.7400e-003	0.8270	8.1400e-003	0.8351	0.2209	7.6400e-003	0.2285		907.0396	907.0396	0.0561		908.4422
Total	**1.0811**	**0.6207**	**2.7160**	**8.9400e-003**	**0.8270**	**0.0107**	**0.8376**	**0.2209**	**0.0102**	**0.2311**		**946.5563**	**946.5563**	**0.0569**	**7.2000e-004**	**948.1953**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.14**	**2.14**	**0.42**	**0.89**	**0.00**	**8.79**	**0.12**	**0.00**	**9.18**	**0.44**	**0.00**	**1.70**	**1.70**	**0.54**	**29.41**	**1.70**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/15/2021	4/9/2021	5	20	
2	Grading	Grading	4/10/2021	4/30/2021	5	15	
3	Building Construction	Building Construction	5/1/2021	2/28/2022	5	216	
4	Architectural Coating	Architectural Coating	1/3/2022	1/29/2022	5	20	
5	Paving	Paving	2/14/2022	2/25/2022	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5.63

Acres of Paving: 0.17

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 56,228; Non-Residential Outdoor: 18,743; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	55.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	75.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	18.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.9159	0.0000	0.9159	0.1387	0.0000	0.1387			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**0.9159**	**1.0409**	**1.9568**	**0.1387**	**0.9715**	**1.1101**		**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0122	0.4782	0.0882	1.2100e-003	0.0241	1.1300e-003	0.0252	6.6000e-003	1.0800e-003	7.6700e-003		130.4698	130.4698	0.0101		130.7211
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0549	0.0356	0.4897	1.4400e-003	0.1453	1.0700e-003	0.1464	0.0385	9.9000e-004	0.0395		143.9624	143.9624	3.8700e-003		144.0592
Total	**0.0671**	**0.5138**	**0.5780**	**2.6500e-003**	**0.1694**	**2.2000e-003**	**0.1716**	**0.0451**	**2.0700e-003**	**0.0472**		**274.4323**	**274.4323**	**0.0139**		**274.7803**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3393	0.0000	0.3393	0.0514	0.0000	0.0514			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.717 1	2,322.717 1	0.5940		2,337.565 8
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**0.3393**	**1.0409**	**1.3802**	**0.0514**	**0.9715**	**1.0229**	**0.0000**	**2,322.717 1**	**2,322.717 1**	**0.5940**		**2,337.565 8**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0122	0.4782	0.0882	1.2100e-003	0.0241	1.1300e-003	0.0252	6.6000e-003	1.0800e-003	7.6700e-003		130.4698	130.4698	0.0101		130.7211
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0549	0.0356	0.4897	1.4400e-003	0.1453	1.0700e-003	0.1464	0.0385	9.9000e-004	0.0395		143.9624	143.9624	3.8700e-003		144.0592
Total	**0.0671**	**0.5138**	**0.5780**	**2.6500e-003**	**0.1694**	**2.2000e-003**	**0.1716**	**0.0451**	**2.0700e-003**	**0.0472**		**274.4323**	**274.4323**	**0.0139**		**274.7803**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9191	0.0000	4.9191	2.5263	0.0000	2.5263			0.0000			0.0000

Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869		1,365.0648	1,365.0648	0.4415		1,376.1020
Total	**1.2884**	**14.3307**	**6.3314**	**0.0141**	**4.9191**	**0.6379**	**5.5570**	**2.5263**	**0.5869**	**3.1132**		**1,365.0648**	**1,365.0648**	**0.4415**		**1,376.1020**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0433	1.4627	0.3215	4.6500e-003	0.1092	4.8600e-003	0.1140	0.0299	4.6500e-003	0.0346		503.5458	503.5458	0.0324		504.3550
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0338	0.0219	0.3014	8.9000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		88.5923	88.5923	2.3800e-003		88.6518
Total	**0.0771**	**1.4846**	**0.6228**	**5.5400e-003**	**0.1986**	**5.5200e-003**	**0.2041**	**0.0536**	**5.2600e-003**	**0.0589**		**592.1380**	**592.1380**	**0.0348**		**593.0068**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8225	0.0000	1.8225	0.9360	0.0000	0.9360			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869	0.0000	1,365.0648	1,365.0648	0.4415		1,376.1020
Total	**1.2884**	**14.3307**	**6.3314**	**0.0141**	**1.8225**	**0.6379**	**2.4605**	**0.9360**	**0.5869**	**1.5229**	**0.0000**	**1,365.0648**	**1,365.0648**	**0.4415**		**1,376.1020**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0433	1.4627	0.3215	4.6500e-003	0.1092	4.8600e-003	0.1140	0.0299	4.6500e-003	0.0346		503.5458	503.5458	0.0324		504.3550
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0338	0.0219	0.3014	8.9000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		88.5923	88.5923	2.3800e-003		88.6518
Total	**0.0771**	**1.4846**	**0.6228**	**5.5400e-003**	**0.1986**	**5.5200e-003**	**0.2041**	**0.0536**	**5.2600e-003**	**0.0589**		**592.1380**	**592.1380**	**0.0348**		**593.0068**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**		**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.0195	0.6676	0.1584	1.7900e-003	0.0448	1.3400e-003	0.0462	0.0129	1.2900e-003	0.0142		190.7069	190.7069	0.0115		190.9953
Worker	0.0760	0.0493	0.6781	2.0000e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		199.3326	199.3326	5.3600e-003		199.4666
Total	**0.0955**	**0.7169**	**0.8365**	**3.7900e-003**	**0.2460**	**2.8200e-003**	**0.2488**	**0.0663**	**2.6500e-003**	**0.0689**		**390.0395**	**390.0395**	**0.0169**		**390.4619**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**	**0.0000**	**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0195	0.6676	0.1584	1.7900e-003	0.0448	1.3400e-003	0.0462	0.0129	1.2900e-003	0.0142		190.7069	190.7069	0.0115		190.9953
Worker	0.0760	0.0493	0.6781	2.0000e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		199.3326	199.3326	5.3600e-003		199.4666
Total	**0.0955**	**0.7169**	**0.8365**	**3.7900e-003**	**0.2460**	**2.8200e-003**	**0.2488**	**0.0663**	**2.6500e-003**	**0.0689**		**390.0395**	**390.0395**	**0.0169**		**390.4619**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**		**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0183	0.6337	0.1497	1.7700e-003	0.0448	1.1600e-003	0.0460	0.0129	1.1100e-003	0.0140		189.0414	189.0414	0.0111		189.3190
Worker	0.0713	0.0445	0.6270	1.9300e-003	0.2012	1.4400e-003	0.2026	0.0534	1.3200e-003	0.0547		192.1903	192.1903	4.8400e-003		192.3114
Total	**0.0895**	**0.6782**	**0.7768**	**3.7000e-003**	**0.2460**	**2.6000e-003**	**0.2486**	**0.0663**	**2.4300e-003**	**0.0687**		**381.2317**	**381.2317**	**0.0160**		**381.6305**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581

Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**	**0.0000**	**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0183	0.6337	0.1497	1.7700e-003	0.0448	1.1600e-003	0.0460	0.0129	1.1100e-003	0.0140		189.0414	189.0414	0.0111		189.3190
Worker	0.0713	0.0445	0.6270	1.9300e-003	0.2012	1.4400e-003	0.2026	0.0534	1.3200e-003	0.0547		192.1903	192.1903	4.8400e-003		192.3114
Total	**0.0895**	**0.6782**	**0.7768**	**3.7000e-003**	**0.2460**	**2.6000e-003**	**0.2486**	**0.0663**	**2.4300e-003**	**0.0687**		**381.2317**	**381.2317**	**0.0160**		**381.6305**

3.5 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.7401					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**8.9446**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0158	9.8900e-003	0.1393	4.3000e-004	0.0447	3.2000e-004	0.0450	0.0119	2.9000e-004	0.0122		42.7090	42.7090	1.0800e-003		42.7359
Total	**0.0158**	**9.8900e-003**	**0.1393**	**4.3000e-004**	**0.0447**	**3.2000e-004**	**0.0450**	**0.0119**	**2.9000e-004**	**0.0122**		**42.7090**	**42.7090**	**1.0800e-003**		**42.7359**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.7401					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**8.9446**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0158	9.8900e-003	0.1393	4.3000e-004	0.0447	3.2000e-004	0.0450	0.0119	2.9000e-004	0.0122		42.7090	42.7090	1.0800e-003		42.7359
Total	**0.0158**	**9.8900e-003**	**0.1393**	**4.3000e-004**	**0.0447**	**3.2000e-004**	**0.0450**	**0.0119**	**2.9000e-004**	**0.0122**		**42.7090**	**42.7090**	**1.0800e-003**		**42.7359**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205		1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.0445					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7322**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**		**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0515	0.0322	0.4529	1.3900e-003	0.1453	1.0400e-003	0.1464	0.0385	9.6000e-004	0.0395		138.8041	138.8041	3.5000e-003		138.8916
Total	**0.0515**	**0.0322**	**0.4529**	**1.3900e-003**	**0.1453**	**1.0400e-003**	**0.1464**	**0.0385**	**9.6000e-004**	**0.0395**		**138.8041**	**138.8041**	**3.5000e-003**		**138.8916**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205	0.0000	1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.0445					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7322**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**	**0.0000**	**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0515	0.0322	0.4529	1.3900e-003	0.1453	1.0400e-003	0.1464	0.0385	9.6000e-004	0.0395		138.8041	138.8041	3.5000e-003		138.8916
Total	**0.0515**	**0.0322**	**0.4529**	**1.3900e-003**	**0.1453**	**1.0400e-003**	**0.1464**	**0.0385**	**9.6000e-004**	**0.0395**		**138.8041**	**138.8041**	**3.5000e-003**		**138.8916**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2262	0.5877	2.6757	8.7400e-003	0.8270	8.1400e-003	0.8351	0.2209	7.6400e-003	0.2285		907.0396	907.0396	0.0561		908.4422
Unmitigated	0.2262	0.5877	2.6757	8.7400e-003	0.8270	8.1400e-003	0.8351	0.2209	7.6400e-003	0.2285		907.0396	907.0396	0.0561		908.4422

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	12.45	12.45	12.45	40,106	40,106
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	81.63	81.63	81.63	349,822	349,822
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	94.07	94.07	94.07	389,928	389,928

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Unenclosed Parking Structure	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Parking Lot	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Unrefrigerated Warehouse-No Rail	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Unenclosed Parking Structure	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.6200e-003	0.0329	0.0276	2.0000e-004		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003		39.4897	39.4897	7.6000e-004	7.2000e-004	39.7243
NaturalGas Unmitigated	5.1200e-003	0.0465	0.0391	2.8000e-004		3.5300e-003	3.5300e-003		3.5300e-003	3.5300e-003		55.8123	55.8123	1.0700e-003	1.0200e-003	56.1440

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	124.204	1.3400e-003	0.0122	0.0102	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004		14.6122	14.6122	2.8000e-004	2.7000e-004	14.6991
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	350.201	3.7800e-003	0.0343	0.0288	2.1000e-004		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003		41.2001	41.2001	7.9000e-004	7.6000e-004	41.4449
Total		**5.1200e-003**	**0.0465**	**0.0391**	**2.8000e-004**		**3.5400e-003**	**3.5400e-003**		**3.5400e-003**	**3.5400e-003**		**55.8123**	**55.8123**	**1.0700e-003**	**1.0300e-003**	**56.1440**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.0891849	9.6000e-004	8.7400e-003	7.3400e-003	5.0000e-005		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004		10.4923	10.4923	2.0000e-004	1.9000e-004	10.5547
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No	0.246477	2.6600e-003	0.0242	0.0203	1.4000e-004		1.8400e-003	1.8400e-003		1.8400e-003	1.8400e-003		28.9973	28.9973	5.6000e-004	5.3000e-004	29.1696
Total		**3.6200e-003**	**0.0329**	**0.0276**	**1.9000e-004**		**2.5000e-003**	**2.5000e-003**		**2.5000e-003**	**2.5000e-003**		**39.4897**	**39.4897**	**7.6000e-004**	**7.2000e-004**	**39.7243**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8513	1.2000e-004	0.0126	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0270	0.0270	7.0000e-005		0.0288
Unmitigated	0.8513	1.2000e-004	0.0126	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0270	0.0270	7.0000e-005		0.0288

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Architectural Coating	0.0958					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7544					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1700e-003	1.2000e-004	0.0126	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0270	0.0270	7.0000e-005		0.0288
Total	**0.8513**	**1.2000e-004**	**0.0126**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0270**	**0.0270**	**7.0000e-005**		**0.0288**

Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Architectural Coating	0.0958					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7544					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1700e-003	1.2000e-004	0.0126	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0270	0.0270	7.0000e-005		0.0288
Total	**0.8513**	**1.2000e-004**	**0.0126**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0270**	**0.0270**	**7.0000e-005**		**0.0288**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

No.1 Collision

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	4.96	1000sqft	0.11	4,960.00	0
Unrefrigerated Warehouse-No Rail	32.52	1000sqft	1.22	32,525.00	0
Parking Lot	19.00	Space	0.17	7,600.00	0
Unenclosed Parking Structure	67.00	Space	0.00	26,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - total lot acreage is 1.5-acre, unenclosed parking represents rooftop parking, office/warehouse breakdown comes from site plan

Construction Phase - per construction questionnaire

Trips and VMT - hauling distance per construction questionnaire

Demolition - building dimension 145'*85'*15', 0.25/27*0.5 ton waste per cubic feet

Grading -

Architectural Coating - SCAQMD Rule 1113

Vehicle Trips - 94 daily trips per trip gen memo

Construction Off-road Equipment Mitigation - SCAQMD Rule 403

Energy Mitigation - 2019 Title 24

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	2,064.00	456.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblAreaCoating	Area_Parking	2064	456
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	200.00	216.00
tblConstructionPhase	NumDays	4.00	15.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.8460e-003	0.00
tblFleetMix	MCY	4.8550e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	8.9600e-004	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	2.0990e-003	0.00
tblFleetMix	SBUS	7.0900e-004	0.00
tblFleetMix	UBUS	1.8280e-003	0.00
tblGrading	MaterialImported	0.00	600.00
tblLandUse	LandUseSquareFeet	32,520.00	32,525.00
tblLandUse	LotAcreage	0.75	1.22
tblLandUse	LotAcreage	0.60	0.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00

tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripNumber	85.00	55.00
tblTripsAndVMT	VendorTripNumber	12.00	7.00
tblTripsAndVMT	WorkerTripNumber	30.00	18.00
tblTripsAndVMT	WorkerTripNumber	6.00	4.00
tblVehicleEF	HHD	0.72	0.03
tblVehicleEF	HHD	0.09	0.14
tblVehicleEF	HHD	0.08	1.0000e-006
tblVehicleEF	HHD	2.55	5.67
tblVehicleEF	HHD	0.96	0.71
tblVehicleEF	HHD	2.84	0.01
tblVehicleEF	HHD	4,906.64	1,071.37
tblVehicleEF	HHD	1,590.87	1,472.58
tblVehicleEF	HHD	9.09	0.08
tblVehicleEF	HHD	20.90	5.84
tblVehicleEF	HHD	3.41	3.30
tblVehicleEF	HHD	19.73	2.20
tblVehicleEF	HHD	0.01	3.7940e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	7.7000e-005	1.0000e-006
tblVehicleEF	HHD	0.01	3.6300e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8170e-003	8.7660e-003
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	7.0000e-005	1.0000e-006
tblVehicleEF	HHD	9.9000e-005	5.0000e-006
tblVehicleEF	HHD	4.0680e-003	2.0100e-004
tblVehicleEF	HHD	0.64	0.41
tblVehicleEF	HHD	7.1000e-005	3.0000e-006

tblVehicleEF	HHD	0.12	0.07
tblVehicleEF	HHD	3.3200e-004	9.3000e-004
tblVehicleEF	HHD	0.07	4.0000e-006
tblVehicleEF	HHD	0.05	9.8130e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.3800e-004	1.0000e-006
tblVehicleEF	HHD	9.9000e-005	5.0000e-006
tblVehicleEF	HHD	4.0680e-003	2.0100e-004
tblVehicleEF	HHD	0.74	0.47
tblVehicleEF	HHD	7.1000e-005	3.0000e-006
tblVehicleEF	HHD	0.22	0.22
tblVehicleEF	HHD	3.3200e-004	9.3000e-004
tblVehicleEF	HHD	0.08	5.0000e-006
tblVehicleEF	HHD	0.67	0.03
tblVehicleEF	HHD	0.09	0.14
tblVehicleEF	HHD	0.08	1.0000e-006
tblVehicleEF	HHD	1.86	5.55
tblVehicleEF	HHD	0.97	0.71
tblVehicleEF	HHD	2.70	0.01
tblVehicleEF	HHD	5,197.96	1,068.30
tblVehicleEF	HHD	1,590.87	1,472.58
tblVehicleEF	HHD	9.09	0.08
tblVehicleEF	HHD	21.57	5.67
tblVehicleEF	HHD	3.22	3.12
tblVehicleEF	HHD	19.72	2.20
tblVehicleEF	HHD	0.01	3.3070e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	7.7000e-005	1.0000e-006
tblVehicleEF	HHD	0.01	3.1640e-003

tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8170e-003	8.7660e-003
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	7.0000e-005	1.0000e-006
tblVehicleEF	HHD	1.6000e-004	7.0000e-006
tblVehicleEF	HHD	4.2570e-003	2.0400e-004
tblVehicleEF	HHD	0.60	0.43
tblVehicleEF	HHD	1.1000e-004	5.0000e-006
tblVehicleEF	HHD	0.12	0.07
tblVehicleEF	HHD	3.2600e-004	9.1300e-004
tblVehicleEF	HHD	0.07	4.0000e-006
tblVehicleEF	HHD	0.05	9.7840e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.3500e-004	1.0000e-006
tblVehicleEF	HHD	1.6000e-004	7.0000e-006
tblVehicleEF	HHD	4.2570e-003	2.0400e-004
tblVehicleEF	HHD	0.70	0.50
tblVehicleEF	HHD	1.1000e-004	5.0000e-006
tblVehicleEF	HHD	0.22	0.22
tblVehicleEF	HHD	3.2600e-004	9.1300e-004
tblVehicleEF	HHD	0.07	4.0000e-006
tblVehicleEF	HHD	0.77	0.03
tblVehicleEF	HHD	0.09	0.14
tblVehicleEF	HHD	0.08	1.0000e-006
tblVehicleEF	HHD	3.51	5.85
tblVehicleEF	HHD	0.96	0.71
tblVehicleEF	HHD	2.86	0.01
tblVehicleEF	HHD	4,504.34	1,075.61
tblVehicleEF	HHD	1,590.87	1,472.58
tblVehicleEF	HHD	9.09	0.08
tblVehicleEF	HHD	19.97	6.06

tblVehicleEF	HHD	3.36	3.24
tblVehicleEF	HHD	19.73	2.20
tblVehicleEF	HHD	0.02	4.4660e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	7.7000e-005	1.0000e-006
tblVehicleEF	HHD	0.02	4.2720e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8170e-003	8.7660e-003
tblVehicleEF	HHD	0.01	0.03
tblVehicleEF	HHD	7.0000e-005	1.0000e-006
tblVehicleEF	HHD	9.3000e-005	5.0000e-006
tblVehicleEF	HHD	4.3390e-003	2.2300e-004
tblVehicleEF	HHD	0.69	0.38
tblVehicleEF	HHD	6.8000e-005	4.0000e-006
tblVehicleEF	HHD	0.12	0.07
tblVehicleEF	HHD	3.5900e-004	9.9300e-004
tblVehicleEF	HHD	0.07	4.0000e-006
tblVehicleEF	HHD	0.04	9.8540e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.3800e-004	1.0000e-006
tblVehicleEF	HHD	9.3000e-005	5.0000e-006
tblVehicleEF	HHD	4.3390e-003	2.2300e-004
tblVehicleEF	HHD	0.80	0.44
tblVehicleEF	HHD	6.8000e-005	4.0000e-006
tblVehicleEF	HHD	0.22	0.22
tblVehicleEF	HHD	3.5900e-004	9.9300e-004
tblVehicleEF	HHD	0.08	5.0000e-006
tblVehicleEF	LDA	4.7080e-003	2.3280e-003
tblVehicleEF	LDA	5.1030e-003	0.05

tblVehicleEF	LDA	0.61	0.63
tblVehicleEF	LDA	1.10	2.05
tblVehicleEF	LDA	264.19	257.52
tblVehicleEF	LDA	56.82	52.62
tblVehicleEF	LDA	0.05	0.03
tblVehicleEF	LDA	0.07	0.17
tblVehicleEF	LDA	1.9930e-003	1.5810e-003
tblVehicleEF	LDA	2.2640e-003	1.8330e-003
tblVehicleEF	LDA	1.8370e-003	1.4560e-003
tblVehicleEF	LDA	2.0810e-003	1.6860e-003
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.10	0.09
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.01	8.8060e-003
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.07	0.21
tblVehicleEF	LDA	2.6460e-003	2.5470e-003
tblVehicleEF	LDA	5.8700e-004	5.2100e-004
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.10	0.09
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.08	0.23
tblVehicleEF	LDA	5.0460e-003	2.4790e-003
tblVehicleEF	LDA	4.5230e-003	0.04
tblVehicleEF	LDA	0.69	0.68
tblVehicleEF	LDA	0.94	1.77
tblVehicleEF	LDA	278.35	268.06
tblVehicleEF	LDA	56.82	52.11
tblVehicleEF	LDA	0.04	0.03

tblVehicleEF	LDA	0.06	0.16
tblVehicleEF	LDA	1.9930e-003	1.5810e-003
tblVehicleEF	LDA	2.2640e-003	1.8330e-003
tblVehicleEF	LDA	1.8370e-003	1.4560e-003
tblVehicleEF	LDA	2.0810e-003	1.6860e-003
tblVehicleEF	LDA	0.06	0.07
tblVehicleEF	LDA	0.10	0.09
tblVehicleEF	LDA	0.05	0.06
tblVehicleEF	LDA	0.01	9.2950e-003
tblVehicleEF	LDA	0.04	0.19
tblVehicleEF	LDA	0.06	0.19
tblVehicleEF	LDA	2.7880e-003	2.6520e-003
tblVehicleEF	LDA	5.8400e-004	5.1600e-004
tblVehicleEF	LDA	0.06	0.07
tblVehicleEF	LDA	0.10	0.09
tblVehicleEF	LDA	0.05	0.06
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	0.04	0.19
tblVehicleEF	LDA	0.07	0.21
tblVehicleEF	LDA	4.6070e-003	2.2810e-003
tblVehicleEF	LDA	5.2210e-003	0.05
tblVehicleEF	LDA	0.59	0.61
tblVehicleEF	LDA	1.13	2.12
tblVehicleEF	LDA	259.61	253.63
tblVehicleEF	LDA	56.82	52.74
tblVehicleEF	LDA	0.05	0.03
tblVehicleEF	LDA	0.07	0.18
tblVehicleEF	LDA	1.9930e-003	1.5810e-003
tblVehicleEF	LDA	2.2640e-003	1.8330e-003
tblVehicleEF	LDA	1.8370e-003	1.4560e-003
tblVehicleEF	LDA	2.0810e-003	1.6860e-003

tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.11	0.10
tblVehicleEF	LDA	0.03	0.05
tblVehicleEF	LDA	0.01	8.6410e-003
tblVehicleEF	LDA	0.04	0.23
tblVehicleEF	LDA	0.07	0.21
tblVehicleEF	LDA	2.6000e-003	2.5090e-003
tblVehicleEF	LDA	5.8700e-004	5.2200e-004
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.11	0.10
tblVehicleEF	LDA	0.03	0.05
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	0.04	0.23
tblVehicleEF	LDA	0.08	0.23
tblVehicleEF	LDT1	0.01	5.4220e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.50	1.13
tblVehicleEF	LDT1	2.77	2.25
tblVehicleEF	LDT1	329.66	304.64
tblVehicleEF	LDT1	69.74	63.35
tblVehicleEF	LDT1	0.14	0.09
tblVehicleEF	LDT1	0.16	0.24
tblVehicleEF	LDT1	3.1320e-003	2.1320e-003
tblVehicleEF	LDT1	3.4000e-003	2.4680e-003
tblVehicleEF	LDT1	2.8840e-003	1.9610e-003
tblVehicleEF	LDT1	3.1270e-003	2.2690e-003
tblVehicleEF	LDT1	0.14	0.11
tblVehicleEF	LDT1	0.27	0.18
tblVehicleEF	LDT1	0.11	0.10
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.17	0.62

tblVehicleEF	LDT1	0.19	0.33
tblVehicleEF	LDT1	3.3150e-003	3.0150e-003
tblVehicleEF	LDT1	7.4600e-004	6.2700e-004
tblVehicleEF	LDT1	0.14	0.11
tblVehicleEF	LDT1	0.27	0.18
tblVehicleEF	LDT1	0.11	0.10
tblVehicleEF	LDT1	0.05	0.03
tblVehicleEF	LDT1	0.17	0.62
tblVehicleEF	LDT1	0.21	0.36
tblVehicleEF	LDT1	0.01	5.7300e-003
tblVehicleEF	LDT1	0.01	0.06
tblVehicleEF	LDT1	1.65	1.23
tblVehicleEF	LDT1	2.37	1.93
tblVehicleEF	LDT1	346.09	315.43
tblVehicleEF	LDT1	69.74	62.74
tblVehicleEF	LDT1	0.12	0.08
tblVehicleEF	LDT1	0.15	0.23
tblVehicleEF	LDT1	3.1320e-003	2.1320e-003
tblVehicleEF	LDT1	3.4000e-003	2.4680e-003
tblVehicleEF	LDT1	2.8840e-003	1.9610e-003
tblVehicleEF	LDT1	3.1270e-003	2.2690e-003
tblVehicleEF	LDT1	0.22	0.17
tblVehicleEF	LDT1	0.29	0.19
tblVehicleEF	LDT1	0.16	0.14
tblVehicleEF	LDT1	0.04	0.02
tblVehicleEF	LDT1	0.16	0.57
tblVehicleEF	LDT1	0.17	0.29
tblVehicleEF	LDT1	3.4820e-003	3.1210e-003
tblVehicleEF	LDT1	7.3900e-004	6.2100e-004
tblVehicleEF	LDT1	0.22	0.17
tblVehicleEF	LDT1	0.29	0.19

tblVehicleEF	LDT1	0.16	0.14
tblVehicleEF	LDT1	0.05	0.04
tblVehicleEF	LDT1	0.16	0.57
tblVehicleEF	LDT1	0.18	0.32
tblVehicleEF	LDT1	0.01	5.3230e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.45	1.10
tblVehicleEF	LDT1	2.85	2.31
tblVehicleEF	LDT1	324.17	300.66
tblVehicleEF	LDT1	69.74	63.48
tblVehicleEF	LDT1	0.14	0.09
tblVehicleEF	LDT1	0.16	0.25
tblVehicleEF	LDT1	3.1320e-003	2.1320e-003
tblVehicleEF	LDT1	3.4000e-003	2.4680e-003
tblVehicleEF	LDT1	2.8840e-003	1.9610e-003
tblVehicleEF	LDT1	3.1270e-003	2.2690e-003
tblVehicleEF	LDT1	0.13	0.12
tblVehicleEF	LDT1	0.31	0.20
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.20	0.73
tblVehicleEF	LDT1	0.20	0.33
tblVehicleEF	LDT1	3.2600e-003	2.9750e-003
tblVehicleEF	LDT1	7.4700e-004	6.2800e-004
tblVehicleEF	LDT1	0.13	0.12
tblVehicleEF	LDT1	0.31	0.20
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.05	0.03
tblVehicleEF	LDT1	0.20	0.73
tblVehicleEF	LDT1	0.21	0.37
tblVehicleEF	LDT2	6.4770e-003	3.6520e-003

tblVehicleEF	LDT2	6.3660e-003	0.06
tblVehicleEF	LDT2	0.79	0.85
tblVehicleEF	LDT2	1.35	2.61
tblVehicleEF	LDT2	369.39	329.20
tblVehicleEF	LDT2	78.41	68.88
tblVehicleEF	LDT2	0.08	0.06
tblVehicleEF	LDT2	0.11	0.27
tblVehicleEF	LDT2	1.9860e-003	1.5690e-003
tblVehicleEF	LDT2	2.3340e-003	1.7540e-003
tblVehicleEF	LDT2	1.8270e-003	1.4440e-003
tblVehicleEF	LDT2	2.1460e-003	1.6130e-003
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	0.06	0.38
tblVehicleEF	LDT2	0.09	0.29
tblVehicleEF	LDT2	3.7000e-003	3.2570e-003
tblVehicleEF	LDT2	8.0700e-004	6.8200e-004
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.38
tblVehicleEF	LDT2	0.09	0.32
tblVehicleEF	LDT2	6.9310e-003	3.8780e-003
tblVehicleEF	LDT2	5.6450e-003	0.06
tblVehicleEF	LDT2	0.88	0.92
tblVehicleEF	LDT2	1.16	2.24
tblVehicleEF	LDT2	388.48	339.75
tblVehicleEF	LDT2	78.41	68.21

tblVehicleEF	LDT2	0.07	0.06
tblVehicleEF	LDT2	0.10	0.25
tblVehicleEF	LDT2	1.9860e-003	1.5690e-003
tblVehicleEF	LDT2	2.3340e-003	1.7540e-003
tblVehicleEF	LDT2	1.8270e-003	1.4440e-003
tblVehicleEF	LDT2	2.1460e-003	1.6130e-003
tblVehicleEF	LDT2	0.08	0.10
tblVehicleEF	LDT2	0.11	0.12
tblVehicleEF	LDT2	0.07	0.10
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.36
tblVehicleEF	LDT2	0.08	0.26
tblVehicleEF	LDT2	3.8920e-003	3.3610e-003
tblVehicleEF	LDT2	8.0300e-004	6.7500e-004
tblVehicleEF	LDT2	0.08	0.10
tblVehicleEF	LDT2	0.11	0.12
tblVehicleEF	LDT2	0.07	0.10
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.06	0.36
tblVehicleEF	LDT2	0.08	0.29
tblVehicleEF	LDT2	6.3380e-003	3.5810e-003
tblVehicleEF	LDT2	6.5150e-003	0.07
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tblVehicleEF	LDT2	1.39	2.68
tblVehicleEF	LDT2	363.05	325.31
tblVehicleEF	LDT2	78.41	69.03
tblVehicleEF	LDT2	0.07	0.06
tblVehicleEF	LDT2	0.11	0.27
tblVehicleEF	LDT2	1.9860e-003	1.5690e-003
tblVehicleEF	LDT2	2.3340e-003	1.7540e-003
tblVehicleEF	LDT2	1.8270e-003	1.4440e-003

tblVehicleEF	LDT2	2.1460e-003	1.6130e-003
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tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.02	0.01
tblVehicleEF	LDT2	0.07	0.45
tblVehicleEF	LDT2	0.09	0.30
tblVehicleEF	LDT2	3.6360e-003	3.2180e-003
tblVehicleEF	LDT2	8.0700e-004	6.8300e-004
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.07	0.45
tblVehicleEF	LDT2	0.10	0.33
tblVehicleEF	LHD1	5.4910e-003	5.5990e-003
tblVehicleEF	LHD1	0.01	4.5130e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.82	0.51
tblVehicleEF	LHD1	2.60	1.04
tblVehicleEF	LHD1	9.01	9.00
tblVehicleEF	LHD1	602.65	655.78
tblVehicleEF	LHD1	32.51	12.06
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	1.20	0.73
tblVehicleEF	LHD1	1.00	0.33
tblVehicleEF	LHD1	8.6000e-004	7.8400e-004
tblVehicleEF	LHD1	0.01	9.7030e-003
tblVehicleEF	LHD1	0.01	6.9260e-003
tblVehicleEF	LHD1	9.4900e-004	2.4300e-004

tblVehicleEF	LHD1	8.2200e-004	7.5100e-004
tblVehicleEF	LHD1	2.5220e-003	2.4260e-003
tblVehicleEF	LHD1	9.6970e-003	6.6010e-003
tblVehicleEF	LHD1	8.7300e-004	2.2400e-004
tblVehicleEF	LHD1	3.1810e-003	2.1290e-003
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.8680e-003	1.3620e-003
tblVehicleEF	LHD1	0.06	0.04
tblVehicleEF	LHD1	0.30	0.44
tblVehicleEF	LHD1	0.26	0.07
tblVehicleEF	LHD1	9.0000e-005	8.7000e-005
tblVehicleEF	LHD1	5.9160e-003	6.4010e-003
tblVehicleEF	LHD1	3.7400e-004	1.1900e-004
tblVehicleEF	LHD1	3.1810e-003	2.1290e-003
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.8680e-003	1.3620e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.30	0.44
tblVehicleEF	LHD1	0.28	0.08
tblVehicleEF	LHD1	5.4910e-003	5.6110e-003
tblVehicleEF	LHD1	0.01	4.5890e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	0.83	0.52
tblVehicleEF	LHD1	2.48	1.00
tblVehicleEF	LHD1	9.01	9.00
tblVehicleEF	LHD1	602.65	655.80
tblVehicleEF	LHD1	32.51	11.99
tblVehicleEF	LHD1	0.08	0.06

tblVehicleEF	LHD1	1.12	0.69
tblVehicleEF	LHD1	0.96	0.31
tblVehicleEF	LHD1	8.6000e-004	7.8400e-004
tblVehicleEF	LHD1	0.01	9.7030e-003
tblVehicleEF	LHD1	0.01	6.9260e-003
tblVehicleEF	LHD1	9.4900e-004	2.4300e-004
tblVehicleEF	LHD1	8.2200e-004	7.5100e-004
tblVehicleEF	LHD1	2.5220e-003	2.4260e-003
tblVehicleEF	LHD1	9.6970e-003	6.6010e-003
tblVehicleEF	LHD1	8.7300e-004	2.2400e-004
tblVehicleEF	LHD1	4.9650e-003	2.9790e-003
tblVehicleEF	LHD1	0.11	0.07
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	2.8120e-003	1.8560e-003
tblVehicleEF	LHD1	0.07	0.04
tblVehicleEF	LHD1	0.30	0.43
tblVehicleEF	LHD1	0.25	0.07
tblVehicleEF	LHD1	9.0000e-005	8.7000e-005
tblVehicleEF	LHD1	5.9160e-003	6.4020e-003
tblVehicleEF	LHD1	3.7200e-004	1.1900e-004
tblVehicleEF	LHD1	4.9650e-003	2.9790e-003
tblVehicleEF	LHD1	0.11	0.07
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	2.8120e-003	1.8560e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.30	0.43
tblVehicleEF	LHD1	0.27	0.08
tblVehicleEF	LHD1	5.4910e-003	5.5970e-003
tblVehicleEF	LHD1	0.01	4.4920e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19

tblVehicleEF	LHD1	0.81	0.51
tblVehicleEF	LHD1	2.61	1.05
tblVehicleEF	LHD1	9.01	9.00
tblVehicleEF	LHD1	602.65	655.78
tblVehicleEF	LHD1	32.51	12.08
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	1.18	0.72
tblVehicleEF	LHD1	1.00	0.33
tblVehicleEF	LHD1	8.6000e-004	7.8400e-004
tblVehicleEF	LHD1	0.01	9.7030e-003
tblVehicleEF	LHD1	0.01	6.9260e-003
tblVehicleEF	LHD1	9.4900e-004	2.4300e-004
tblVehicleEF	LHD1	8.2200e-004	7.5100e-004
tblVehicleEF	LHD1	2.5220e-003	2.4260e-003
tblVehicleEF	LHD1	9.6970e-003	6.6010e-003
tblVehicleEF	LHD1	8.7300e-004	2.2400e-004
tblVehicleEF	LHD1	3.2290e-003	2.2130e-003
tblVehicleEF	LHD1	0.12	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.8330e-003	1.3810e-003
tblVehicleEF	LHD1	0.06	0.04
tblVehicleEF	LHD1	0.33	0.48
tblVehicleEF	LHD1	0.26	0.07
tblVehicleEF	LHD1	9.0000e-005	8.7000e-005
tblVehicleEF	LHD1	5.9160e-003	6.4010e-003
tblVehicleEF	LHD1	3.7400e-004	1.1900e-004
tblVehicleEF	LHD1	3.2290e-003	2.2130e-003
tblVehicleEF	LHD1	0.12	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.8330e-003	1.3810e-003
tblVehicleEF	LHD1	0.08	0.05

tblVehicleEF	LHD1	0.33	0.48
tblVehicleEF	LHD1	0.28	0.08
tblVehicleEF	LHD2	3.9270e-003	4.0620e-003
tblVehicleEF	LHD2	4.1730e-003	3.3390e-003
tblVehicleEF	LHD2	8.3570e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.36	0.37
tblVehicleEF	LHD2	1.31	0.72
tblVehicleEF	LHD2	13.72	13.58
tblVehicleEF	LHD2	614.66	666.20
tblVehicleEF	LHD2	27.22	9.64
tblVehicleEF	LHD2	0.10	0.09
tblVehicleEF	LHD2	0.80	0.83
tblVehicleEF	LHD2	0.55	0.24
tblVehicleEF	LHD2	1.1850e-003	1.2260e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.5110e-003	9.8980e-003
tblVehicleEF	LHD2	4.4600e-004	1.4100e-004
tblVehicleEF	LHD2	1.1340e-003	1.1730e-003
tblVehicleEF	LHD2	2.6590e-003	2.6250e-003
tblVehicleEF	LHD2	9.0860e-003	9.4560e-003
tblVehicleEF	LHD2	4.1000e-004	1.3000e-004
tblVehicleEF	LHD2	1.1830e-003	1.3680e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	7.4900e-004	8.9600e-004
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.08	0.28
tblVehicleEF	LHD2	0.11	0.05
tblVehicleEF	LHD2	1.3400e-004	1.3000e-004
tblVehicleEF	LHD2	5.9880e-003	6.4500e-003

tblVehicleEF	LHD2	2.9600e-004	9.5000e-005
tblVehicleEF	LHD2	1.1830e-003	1.3680e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	7.4900e-004	8.9600e-004
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.08	0.28
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	LHD2	3.9270e-003	4.0700e-003
tblVehicleEF	LHD2	4.2260e-003	3.3710e-003
tblVehicleEF	LHD2	8.0730e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.36	0.37
tblVehicleEF	LHD2	1.25	0.69
tblVehicleEF	LHD2	13.72	13.58
tblVehicleEF	LHD2	614.66	666.20
tblVehicleEF	LHD2	27.22	9.59
tblVehicleEF	LHD2	0.10	0.09
tblVehicleEF	LHD2	0.76	0.79
tblVehicleEF	LHD2	0.53	0.23
tblVehicleEF	LHD2	1.1850e-003	1.2260e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.5110e-003	9.8980e-003
tblVehicleEF	LHD2	4.4600e-004	1.4100e-004
tblVehicleEF	LHD2	1.1340e-003	1.1730e-003
tblVehicleEF	LHD2	2.6590e-003	2.6250e-003
tblVehicleEF	LHD2	9.0860e-003	9.4560e-003
tblVehicleEF	LHD2	4.1000e-004	1.3000e-004
tblVehicleEF	LHD2	1.8430e-003	1.9160e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02

tblVehicleEF	LHD2	1.1140e-003	1.2200e-003
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.08	0.27
tblVehicleEF	LHD2	0.11	0.05
tblVehicleEF	LHD2	1.3400e-004	1.3000e-004
tblVehicleEF	LHD2	5.9880e-003	6.4500e-003
tblVehicleEF	LHD2	2.9500e-004	9.5000e-005
tblVehicleEF	LHD2	1.8430e-003	1.9160e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	1.1140e-003	1.2200e-003
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.08	0.27
tblVehicleEF	LHD2	0.12	0.05
tblVehicleEF	LHD2	3.9270e-003	4.0600e-003
tblVehicleEF	LHD2	4.1600e-003	3.3310e-003
tblVehicleEF	LHD2	8.4070e-003	0.01
tblVehicleEF	LHD2	0.13	0.15
tblVehicleEF	LHD2	0.36	0.37
tblVehicleEF	LHD2	1.32	0.72
tblVehicleEF	LHD2	13.72	13.58
tblVehicleEF	LHD2	614.66	666.20
tblVehicleEF	LHD2	27.22	9.65
tblVehicleEF	LHD2	0.10	0.09
tblVehicleEF	LHD2	0.79	0.82
tblVehicleEF	LHD2	0.55	0.24
tblVehicleEF	LHD2	1.1850e-003	1.2260e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.5110e-003	9.8980e-003
tblVehicleEF	LHD2	4.4600e-004	1.4100e-004
tblVehicleEF	LHD2	1.1340e-003	1.1730e-003

tblVehicleEF	LHD2	2.6590e-003	2.6250e-003
tblVehicleEF	LHD2	9.0860e-003	9.4560e-003
tblVehicleEF	LHD2	4.1000e-004	1.3000e-004
tblVehicleEF	LHD2	1.1570e-003	1.3980e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	7.2000e-004	8.9100e-004
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.09	0.31
tblVehicleEF	LHD2	0.11	0.05
tblVehicleEF	LHD2	1.3400e-004	1.3000e-004
tblVehicleEF	LHD2	5.9880e-003	6.4500e-003
tblVehicleEF	LHD2	2.9600e-004	9.5000e-005
tblVehicleEF	LHD2	1.1570e-003	1.3980e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	7.2000e-004	8.9100e-004
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.09	0.31
tblVehicleEF	LHD2	0.12	0.06
tblVehicleEF	MCY	0.51	0.35
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	18.81	18.60
tblVehicleEF	MCY	9.64	8.45
tblVehicleEF	MCY	182.85	214.46
tblVehicleEF	MCY	44.84	59.78
tblVehicleEF	MCY	1.13	1.12
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	2.2780e-003	2.1650e-003
tblVehicleEF	MCY	3.7580e-003	3.2010e-003
tblVehicleEF	MCY	2.1290e-003	2.0240e-003

tblVehicleEF	MCY	3.5380e-003	3.0140e-003
tblVehicleEF	MCY	1.18	1.15
tblVehicleEF	MCY	0.68	0.70
tblVehicleEF	MCY	0.70	0.72
tblVehicleEF	MCY	2.47	2.38
tblVehicleEF	MCY	0.61	2.00
tblVehicleEF	MCY	2.05	1.81
tblVehicleEF	MCY	2.2100e-003	2.1220e-003
tblVehicleEF	MCY	6.6600e-004	5.9200e-004
tblVehicleEF	MCY	1.18	1.15
tblVehicleEF	MCY	0.68	0.70
tblVehicleEF	MCY	0.70	0.72
tblVehicleEF	MCY	3.07	2.95
tblVehicleEF	MCY	0.61	2.00
tblVehicleEF	MCY	2.23	1.97
tblVehicleEF	MCY	0.50	0.34
tblVehicleEF	MCY	0.13	0.21
tblVehicleEF	MCY	18.33	17.90
tblVehicleEF	MCY	8.86	7.75
tblVehicleEF	MCY	182.85	213.15
tblVehicleEF	MCY	44.84	58.02
tblVehicleEF	MCY	0.98	0.98
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	2.2780e-003	2.1650e-003
tblVehicleEF	MCY	3.7580e-003	3.2010e-003
tblVehicleEF	MCY	2.1290e-003	2.0240e-003
tblVehicleEF	MCY	3.5380e-003	3.0140e-003
tblVehicleEF	MCY	1.98	1.73
tblVehicleEF	MCY	0.79	0.75
tblVehicleEF	MCY	1.24	1.13
tblVehicleEF	MCY	2.42	2.33

tblVehicleEF	MCY	0.58	1.87
tblVehicleEF	MCY	1.83	1.62
tblVehicleEF	MCY	2.2010e-003	2.1090e-003
tblVehicleEF	MCY	6.4700e-004	5.7400e-004
tblVehicleEF	MCY	1.98	1.73
tblVehicleEF	MCY	0.79	0.75
tblVehicleEF	MCY	1.24	1.13
tblVehicleEF	MCY	3.01	2.88
tblVehicleEF	MCY	0.58	1.87
tblVehicleEF	MCY	1.99	1.76
tblVehicleEF	MCY	0.51	0.35
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	18.82	18.70
tblVehicleEF	MCY	9.74	8.57
tblVehicleEF	MCY	182.85	214.66
tblVehicleEF	MCY	44.84	60.09
tblVehicleEF	MCY	1.10	1.09
tblVehicleEF	MCY	0.31	0.27
tblVehicleEF	MCY	2.2780e-003	2.1650e-003
tblVehicleEF	MCY	3.7580e-003	3.2010e-003
tblVehicleEF	MCY	2.1290e-003	2.0240e-003
tblVehicleEF	MCY	3.5380e-003	3.0140e-003
tblVehicleEF	MCY	1.26	1.28
tblVehicleEF	MCY	0.87	0.90
tblVehicleEF	MCY	0.67	0.76
tblVehicleEF	MCY	2.48	2.39
tblVehicleEF	MCY	0.70	2.30
tblVehicleEF	MCY	2.08	1.85
tblVehicleEF	MCY	2.2110e-003	2.1240e-003
tblVehicleEF	MCY	6.6900e-004	5.9500e-004
tblVehicleEF	MCY	1.26	1.28

tblVehicleEF	MCY	0.87	0.90
tblVehicleEF	MCY	0.67	0.76
tblVehicleEF	MCY	3.08	2.97
tblVehicleEF	MCY	0.70	2.30
tblVehicleEF	MCY	2.27	2.01
tblVehicleEF	MDV	0.01	4.7750e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.28	0.99
tblVehicleEF	MDV	2.55	2.97
tblVehicleEF	MDV	499.57	407.06
tblVehicleEF	MDV	104.47	83.79
tblVehicleEF	MDV	0.14	0.09
tblVehicleEF	MDV	0.23	0.33
tblVehicleEF	MDV	2.1350e-003	1.6940e-003
tblVehicleEF	MDV	2.4500e-003	1.8840e-003
tblVehicleEF	MDV	1.9680e-003	1.5620e-003
tblVehicleEF	MDV	2.2530e-003	1.7320e-003
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.09	0.41
tblVehicleEF	MDV	0.19	0.37
tblVehicleEF	MDV	5.0040e-003	4.0240e-003
tblVehicleEF	MDV	1.0890e-003	8.2900e-004
tblVehicleEF	MDV	0.07	0.08
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tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	0.09	0.41
tblVehicleEF	MDV	0.21	0.41

tblVehicleEF	MDV	0.01	5.0630e-003
tblVehicleEF	MDV	0.01	0.07
tblVehicleEF	MDV	1.43	1.07
tblVehicleEF	MDV	2.19	2.55
tblVehicleEF	MDV	525.12	418.11
tblVehicleEF	MDV	104.47	83.01
tblVehicleEF	MDV	0.13	0.08
tblVehicleEF	MDV	0.22	0.30
tblVehicleEF	MDV	2.1350e-003	1.6940e-003
tblVehicleEF	MDV	2.4500e-003	1.8840e-003
tblVehicleEF	MDV	1.9680e-003	1.5620e-003
tblVehicleEF	MDV	2.2530e-003	1.7320e-003
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.17	0.14
tblVehicleEF	MDV	0.11	0.12
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.09	0.38
tblVehicleEF	MDV	0.17	0.34
tblVehicleEF	MDV	5.2610e-003	4.1340e-003
tblVehicleEF	MDV	1.0830e-003	8.2100e-004
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.17	0.14
tblVehicleEF	MDV	0.11	0.12
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	0.09	0.38
tblVehicleEF	MDV	0.19	0.37
tblVehicleEF	MDV	0.01	4.6830e-003
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tblVehicleEF	MDV	1.23	0.95
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tblVehicleEF	MDV	104.47	83.96
tblVehicleEF	MDV	0.14	0.08
tblVehicleEF	MDV	0.23	0.33
tblVehicleEF	MDV	2.1350e-003	1.6940e-003
tblVehicleEF	MDV	2.4500e-003	1.8840e-003
tblVehicleEF	MDV	1.9680e-003	1.5620e-003
tblVehicleEF	MDV	2.2530e-003	1.7320e-003
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.17	0.14
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.11	0.48
tblVehicleEF	MDV	0.20	0.38
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tblVehicleEF	MDV	1.0910e-003	8.3100e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.17	0.14
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tblVehicleEF	MDV	0.04	0.03
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tblVehicleEF	MDV	0.22	0.42
tblVehicleEF	MH	0.03	8.5810e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	2.16	0.99
tblVehicleEF	MH	5.59	1.90
tblVehicleEF	MH	1,102.49	1,442.60
tblVehicleEF	MH	59.08	17.72
tblVehicleEF	MH	1.23	1.37
tblVehicleEF	MH	0.79	0.23
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.03

tblVehicleEF	MH	1.0760e-003	2.3500e-004
tblVehicleEF	MH	3.2190e-003	3.3050e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	9.9000e-004	2.1600e-004
tblVehicleEF	MH	1.05	0.74
tblVehicleEF	MH	0.07	0.05
tblVehicleEF	MH	0.43	0.32
tblVehicleEF	MH	0.08	0.05
tblVehicleEF	MH	0.02	1.15
tblVehicleEF	MH	0.32	0.09
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.8800e-004	1.7500e-004
tblVehicleEF	MH	1.05	0.74
tblVehicleEF	MH	0.07	0.05
tblVehicleEF	MH	0.43	0.32
tblVehicleEF	MH	0.12	0.07
tblVehicleEF	MH	0.02	1.15
tblVehicleEF	MH	0.35	0.10
tblVehicleEF	MH	0.03	8.7560e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	2.22	1.01
tblVehicleEF	MH	5.25	1.80
tblVehicleEF	MH	1,102.49	1,442.64
tblVehicleEF	MH	59.08	17.55
tblVehicleEF	MH	1.13	1.29
tblVehicleEF	MH	0.76	0.22
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	1.0760e-003	2.3500e-004
tblVehicleEF	MH	3.2190e-003	3.3050e-003
tblVehicleEF	MH	0.02	0.03

tblVehicleEF	MH	9.9000e-004	2.1600e-004
tblVehicleEF	MH	1.62	0.99
tblVehicleEF	MH	0.07	0.05
tblVehicleEF	MH	0.66	0.44
tblVehicleEF	MH	0.09	0.05
tblVehicleEF	MH	0.02	1.12
tblVehicleEF	MH	0.31	0.08
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.8200e-004	1.7400e-004
tblVehicleEF	MH	1.62	0.99
tblVehicleEF	MH	0.07	0.05
tblVehicleEF	MH	0.66	0.44
tblVehicleEF	MH	0.12	0.07
tblVehicleEF	MH	0.02	1.12
tblVehicleEF	MH	0.34	0.09
tblVehicleEF	MH	0.03	8.5290e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	2.14	0.98
tblVehicleEF	MH	5.64	1.91
tblVehicleEF	MH	1,102.49	1,442.59
tblVehicleEF	MH	59.08	17.75
tblVehicleEF	MH	1.20	1.35
tblVehicleEF	MH	0.79	0.23
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	1.0760e-003	2.3500e-004
tblVehicleEF	MH	3.2190e-003	3.3050e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	9.9000e-004	2.1600e-004
tblVehicleEF	MH	1.15	0.80
tblVehicleEF	MH	0.08	0.06

tblVehicleEF	MH	0.43	0.33
tblVehicleEF	MH	0.08	0.05
tblVehicleEF	MH	0.02	1.21
tblVehicleEF	MH	0.32	0.09
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.8900e-004	1.7600e-004
tblVehicleEF	MH	1.15	0.80
tblVehicleEF	MH	0.08	0.06
tblVehicleEF	MH	0.43	0.33
tblVehicleEF	MH	0.11	0.07
tblVehicleEF	MH	0.02	1.21
tblVehicleEF	MH	0.35	0.10
tblVehicleEF	MHD	0.02	4.8200e-003
tblVehicleEF	MHD	4.1830e-003	3.4120e-003
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tblVehicleEF	MHD	0.36	0.38
tblVehicleEF	MHD	0.33	0.34
tblVehicleEF	MHD	5.78	1.25
tblVehicleEF	MHD	140.95	55.50
tblVehicleEF	MHD	1,135.28	1,052.30
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tblVehicleEF	MHD	1.09	1.42
tblVehicleEF	MHD	10.59	1.26
tblVehicleEF	MHD	3.2100e-004	8.6400e-004
tblVehicleEF	MHD	5.1490e-003	0.03
tblVehicleEF	MHD	7.9400e-004	1.1600e-004
tblVehicleEF	MHD	3.0700e-004	8.2600e-004
tblVehicleEF	MHD	4.9220e-003	0.03
tblVehicleEF	MHD	7.3000e-004	1.0700e-004
tblVehicleEF	MHD	1.1590e-003	4.7900e-004

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tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	7.2500e-004	3.3300e-004
tblVehicleEF	MHD	0.04	0.05
tblVehicleEF	MHD	0.02	0.10
tblVehicleEF	MHD	0.35	0.06
tblVehicleEF	MHD	1.3570e-003	5.2800e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.0100e-004	1.2500e-004
tblVehicleEF	MHD	1.1590e-003	4.7900e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	7.2500e-004	3.3300e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.10
tblVehicleEF	MHD	0.39	0.06
tblVehicleEF	MHD	0.02	4.5660e-003
tblVehicleEF	MHD	4.2400e-003	3.4420e-003
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.26	0.31
tblVehicleEF	MHD	0.33	0.35
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tblVehicleEF	MHD	149.29	56.12
tblVehicleEF	MHD	1,135.28	1,052.30
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tblVehicleEF	MHD	1.03	1.34
tblVehicleEF	MHD	10.55	1.26
tblVehicleEF	MHD	2.7000e-004	7.3000e-004
tblVehicleEF	MHD	5.1490e-003	0.03
tblVehicleEF	MHD	7.9400e-004	1.1600e-004

tblVehicleEF	MHD	2.5900e-004	6.9900e-004
tblVehicleEF	MHD	4.9220e-003	0.03
tblVehicleEF	MHD	7.3000e-004	1.0700e-004
tblVehicleEF	MHD	1.8110e-003	6.7700e-004
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tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	1.0870e-003	4.5800e-004
tblVehicleEF	MHD	0.04	0.05
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.34	0.06
tblVehicleEF	MHD	1.4350e-003	5.3400e-004
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tblVehicleEF	MHD	6.9600e-004	1.2400e-004
tblVehicleEF	MHD	1.8110e-003	6.7700e-004
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tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	1.0870e-003	4.5800e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.37	0.06
tblVehicleEF	MHD	0.02	5.1860e-003
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tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.49	0.49
tblVehicleEF	MHD	0.33	0.34
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tblVehicleEF	MHD	1,135.28	1,052.29
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tblVehicleEF	MHD	1.07	1.39

tblVehicleEF	MHD	10.59	1.26
tblVehicleEF	MHD	3.9000e-004	1.0480e-003
tblVehicleEF	MHD	5.1490e-003	0.03
tblVehicleEF	MHD	7.9400e-004	1.1600e-004
tblVehicleEF	MHD	3.7300e-004	1.0030e-003
tblVehicleEF	MHD	4.9220e-003	0.03
tblVehicleEF	MHD	7.3000e-004	1.0700e-004
tblVehicleEF	MHD	1.1430e-003	4.8400e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	6.9800e-004	3.3300e-004
tblVehicleEF	MHD	0.04	0.05
tblVehicleEF	MHD	0.02	0.11
tblVehicleEF	MHD	0.36	0.06
tblVehicleEF	MHD	1.2480e-003	5.2000e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.0200e-004	1.2500e-004
tblVehicleEF	MHD	1.1430e-003	4.8400e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	6.9800e-004	3.3300e-004
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	0.02	0.11
tblVehicleEF	MHD	0.39	0.07
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tblVehicleEF	OBUS	0.52	0.78
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tblVehicleEF	OBUS	101.26	81.35

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tblVehicleEF	OBUS	1.44	1.36
tblVehicleEF	OBUS	2.43	0.68
tblVehicleEF	OBUS	1.0100e-004	6.6700e-004
tblVehicleEF	OBUS	6.9700e-003	0.02
tblVehicleEF	OBUS	8.2900e-004	1.9900e-004
tblVehicleEF	OBUS	9.7000e-005	6.3800e-004
tblVehicleEF	OBUS	6.6520e-003	0.01
tblVehicleEF	OBUS	7.6200e-004	1.8300e-004
tblVehicleEF	OBUS	1.5340e-003	1.8310e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	7.9200e-004	9.7700e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.04	0.23
tblVehicleEF	OBUS	0.34	0.12
tblVehicleEF	OBUS	9.7800e-004	7.7500e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.8100e-004	1.9800e-004
tblVehicleEF	OBUS	1.5340e-003	1.8310e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	7.9200e-004	9.7700e-004
tblVehicleEF	OBUS	0.07	0.07
tblVehicleEF	OBUS	0.04	0.23
tblVehicleEF	OBUS	0.37	0.13
tblVehicleEF	OBUS	0.01	8.8340e-003
tblVehicleEF	OBUS	7.7360e-003	6.8750e-003
tblVehicleEF	OBUS	0.03	0.02

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tblVehicleEF	OBUS	0.53	0.79
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tblVehicleEF	OBUS	106.28	81.25
tblVehicleEF	OBUS	1,235.74	1,388.34
tblVehicleEF	OBUS	68.49	19.83
tblVehicleEF	OBUS	0.47	0.37
tblVehicleEF	OBUS	1.35	1.28
tblVehicleEF	OBUS	2.39	0.67
tblVehicleEF	OBUS	8.5000e-005	5.6700e-004
tblVehicleEF	OBUS	6.9700e-003	0.02
tblVehicleEF	OBUS	8.2900e-004	1.9900e-004
tblVehicleEF	OBUS	8.1000e-005	5.4200e-004
tblVehicleEF	OBUS	6.6520e-003	0.01
tblVehicleEF	OBUS	7.6200e-004	1.8300e-004
tblVehicleEF	OBUS	2.3330e-003	2.5060e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	1.1860e-003	1.3300e-003
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	0.04	0.22
tblVehicleEF	OBUS	0.33	0.11
tblVehicleEF	OBUS	1.0260e-003	7.7400e-004
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tblVehicleEF	OBUS	7.7500e-004	1.9600e-004
tblVehicleEF	OBUS	2.3330e-003	2.5060e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	1.1860e-003	1.3300e-003
tblVehicleEF	OBUS	0.07	0.07
tblVehicleEF	OBUS	0.04	0.22

tblVehicleEF	OBUS	0.36	0.12
tblVehicleEF	OBUS	0.01	8.7300e-003
tblVehicleEF	OBUS	7.5760e-003	6.7200e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.30	0.56
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tblVehicleEF	OBUS	1.2300e-004	8.0600e-004
tblVehicleEF	OBUS	6.9700e-003	0.02
tblVehicleEF	OBUS	8.2900e-004	1.9900e-004
tblVehicleEF	OBUS	1.1800e-004	7.7100e-004
tblVehicleEF	OBUS	6.6520e-003	0.01
tblVehicleEF	OBUS	7.6200e-004	1.8300e-004
tblVehicleEF	OBUS	1.5400e-003	1.8770e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	7.7300e-004	9.7800e-004
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tblVehicleEF	OBUS	9.1200e-004	7.7600e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.8200e-004	1.9900e-004
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tblVehicleEF	OBUS	0.02	0.02

tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	7.7300e-004	9.7800e-004
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tblVehicleEF	SBUS	0.02	0.04
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tblVehicleEF	SBUS	2.6840e-003	2.6450e-003
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tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.04
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tblVehicleEF	SBUS	2.6840e-003	2.6450e-003
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	6.9100e-004	6.2000e-005

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tblVehicleEF	UBUS	0.10	2.6830e-003
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tblVehicleEF	UBUS	0.08	0.04
tblVehicleEF	UBUS	2.8840e-003	2.0490e-003
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tblVehicleEF	UBUS	7.6030e-003	3.3370e-003
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tblVehicleEF	UBUS	0.06	0.04
tblVehicleEF	UBUS	10.41	41.16
tblVehicleEF	UBUS	10.46	1.85
tblVehicleEF	UBUS	1,922.34	2,086.92
tblVehicleEF	UBUS	110.12	22.76
tblVehicleEF	UBUS	8.23	0.48
tblVehicleEF	UBUS	14.67	0.25
tblVehicleEF	UBUS	0.58	0.08
tblVehicleEF	UBUS	0.01	0.03

tblVehicleEF	UBUS	0.11	2.8080e-003
tblVehicleEF	UBUS	1.1660e-003	4.4000e-005
tblVehicleEF	UBUS	0.25	0.03
tblVehicleEF	UBUS	3.0000e-003	7.5850e-003
tblVehicleEF	UBUS	0.10	2.6830e-003
tblVehicleEF	UBUS	1.0720e-003	4.1000e-005
tblVehicleEF	UBUS	5.5780e-003	2.3220e-003
tblVehicleEF	UBUS	0.10	0.04
tblVehicleEF	UBUS	2.9770e-003	1.9370e-003
tblVehicleEF	UBUS	0.74	0.08
tblVehicleEF	UBUS	0.03	0.29
tblVehicleEF	UBUS	0.80	0.16
tblVehicleEF	UBUS	9.5950e-003	4.3240e-003
tblVehicleEF	UBUS	1.2900e-003	2.2500e-004
tblVehicleEF	UBUS	5.5780e-003	2.3220e-003
tblVehicleEF	UBUS	0.10	0.04
tblVehicleEF	UBUS	2.9770e-003	1.9370e-003
tblVehicleEF	UBUS	3.18	5.39
tblVehicleEF	UBUS	0.03	0.29
tblVehicleEF	UBUS	0.88	0.17
tblVehicleTrips	ST_TR	2.46	2.51
tblVehicleTrips	ST_TR	1.68	2.51
tblVehicleTrips	SU_TR	1.05	2.51
tblVehicleTrips	SU_TR	1.68	2.51
tblVehicleTrips	WD_TR	11.03	2.51
tblVehicleTrips	WD_TR	1.68	2.51

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
2021	2.0657	20.2129	15.0320	0.0266	5.1177	1.0431	5.7612	2.5800	0.9736	3.1722	0.0000	2,583.6040	2,583.6040	0.6083	0.0000	2,598.8103
2022	10.7080	19.9919	22.6687	0.0404	0.3913	0.9400	1.3313	0.1048	0.8928	0.9976	0.0000	3,792.0040	3,792.0040	0.7796	0.0000	3,811.4934
Maximum	**10.7080**	**20.2129**	**22.6687**	**0.0404**	**5.1177**	**1.0431**	**5.7612**	**2.5800**	**0.9736**	**3.1722**	**0.0000**	**3,792.0040**	**3,792.0040**	**0.7796**	**0.0000**	**3,811.4934**

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
2021	2.0657	20.2129	15.0320	0.0266	2.0212	1.0431	2.6646	0.9896	0.9736	1.5818	0.0000	2,583.6040	2,583.6040	0.6083	0.0000	2,598.8103
2022	10.7080	19.9919	22.6687	0.0404	0.3913	0.9400	1.3313	0.1048	0.8928	0.9976	0.0000	3,792.0040	3,792.0040	0.7796	0.0000	3,811.4934
Maximum	**10.7080**	**20.2129**	**22.6687**	**0.0404**	**2.0212**	**1.0431**	**2.6646**	**0.9896**	**0.9736**	**1.5818**	**0.0000**	**3,792.0040**	**3,792.0040**	**0.7796**	**0.0000**	**3,811.4934**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**56.21**	**0.00**	**43.66**	**59.24**	**0.00**	**38.14**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Area	0.8513	1.2000e-004	0.0126	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0270	0.0270	7.0000e-005		0.0288
Energy	5.1200e-003	0.0465	0.0391	2.8000e-004		3.5300e-003	3.5300e-003		3.5300e-003	3.5300e-003		55.8123	55.8123	1.0700e-003	1.0200e-003	56.1440
Mobile	0.2345	0.6193	2.5686	8.4400e-003	0.8270	8.1500e-003	0.8351	0.2209	7.6500e-003	0.2286		875.9035	875.9035	0.0569		877.3247
Total	**1.0909**	**0.6659**	**2.6203**	**8.7200e-003**	**0.8270**	**0.0117**	**0.8387**	**0.2209**	**0.0112**	**0.2321**		**931.7428**	**931.7428**	**0.0580**	**1.0200e-003**	**933.4975**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.8513	1.2000e-004	0.0126	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0270	0.0270	7.0000e-005		0.0288
Energy	3.6200e-003	0.0329	0.0276	2.0000e-004		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003		39.4897	39.4897	7.6000e-004	7.2000e-004	39.7243
Mobile	0.2345	0.6193	2.5686	8.4400e-003	0.8270	8.1500e-003	0.8351	0.2209	7.6500e-003	0.2286		875.9035	875.9035	0.0569		877.3247
Total	**1.0894**	**0.6523**	**2.6088**	**8.6400e-003**	**0.8270**	**0.0107**	**0.8376**	**0.2209**	**0.0102**	**0.2311**		**915.4202**	**915.4202**	**0.0577**	**7.2000e-004**	**917.0779**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.14**	**2.04**	**0.44**	**0.92**	**0.00**	**8.78**	**0.12**	**0.00**	**9.17**	**0.44**	**0.00**	**1.75**	**1.75**	**0.53**	**29.41**	**1.76**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/15/2021	4/9/2021	5	20	
2	Grading	Grading	4/10/2021	4/30/2021	5	15	

3	Building Construction	Building Construction	5/1/2021	2/28/2022	5	216	
4	Architectural Coating	Architectural Coating	1/3/2022	1/29/2022	5	20	
5	Paving	Paving	2/14/2022	2/25/2022	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5.63

Acres of Paving: 0.17

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 56,228; Non-Residential Outdoor: 18,743; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	55.00	14.70	6.90	10.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	75.00	14.70	6.90	25.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	18.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.9159	0.0000	0.9159	0.1387	0.0000	0.1387			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.717 1	2,322.717 1	0.5940		2,337.565 8
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**0.9159**	**1.0409**	**1.9568**	**0.1387**	**0.9715**	**1.1101**		**2,322.717 1**	**2,322.717 1**	**0.5940**		**2,337.565 8**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Hauling	0.0128	0.4773	0.0994	1.1700e-003	0.0241	1.1600e-003	0.0252	6.6000e-003	1.1100e-003	7.7000e-003		126.2502	126.2502	0.0107		126.5175
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0600	0.0390	0.4401	1.3500e-003	0.1453	1.0700e-003	0.1464	0.0385	9.9000e-004	0.0395		134.6368	134.6368	3.6100e-003		134.7270
Total	**0.0727**	**0.5163**	**0.5395**	**2.5200e-003**	**0.1694**	**2.2300e-003**	**0.1716**	**0.0451**	**2.1000e-003**	**0.0472**		**260.8870**	**260.8870**	**0.0143**		**261.2445**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3393	0.0000	0.3393	0.0514	0.0000	0.0514			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**0.3393**	**1.0409**	**1.3802**	**0.0514**	**0.9715**	**1.0229**	**0.0000**	**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0128	0.4773	0.0994	1.1700e-003	0.0241	1.1600e-003	0.0252	6.6000e-003	1.1100e-003	7.7000e-003		126.2502	126.2502	0.0107		126.5175
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0600	0.0390	0.4401	1.3500e-003	0.1453	1.0700e-003	0.1464	0.0385	9.9000e-004	0.0395		134.6368	134.6368	3.6100e-003		134.7270

Total	**0.0727**	**0.5163**	**0.5395**	**2.5200e-003**	**0.1694**	**2.2300e-003**	**0.1716**	**0.0451**	**2.1000e-003**	**0.0472**		**260.8870**	**260.8870**	**0.0143**		**261.2445**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9191	0.0000	4.9191	2.5263	0.0000	2.5263			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869		1,365.0648	1,365.0648	0.4415		1,376.1020
Total	**1.2884**	**14.3307**	**6.3314**	**0.0141**	**4.9191**	**0.6379**	**5.5570**	**2.5263**	**0.5869**	**3.1132**		**1,365.0648**	**1,365.0648**	**0.4415**		**1,376.1020**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0444	1.4861	0.3408	4.5800e-003	0.1092	4.9200e-003	0.1141	0.0299	4.7000e-003	0.0346		495.8736	495.8736	0.0335		496.7121
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0369	0.0240	0.2708	8.3000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		82.8534	82.8534	2.2200e-003		82.9089
Total	**0.0813**	**1.5100**	**0.6116**	**5.4100e-003**	**0.1986**	**5.5800e-003**	**0.2042**	**0.0536**	**5.3100e-003**	**0.0589**		**578.7271**	**578.7271**	**0.0358**		**579.6210**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8225	0.0000	1.8225	0.9360	0.0000	0.9360			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869	0.0000	1,365.0648	1,365.0648	0.4415		1,376.1020
Total	**1.2884**	**14.3307**	**6.3314**	**0.0141**	**1.8225**	**0.6379**	**2.4605**	**0.9360**	**0.5869**	**1.5229**	**0.0000**	**1,365.0648**	**1,365.0648**	**0.4415**		**1,376.1020**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0444	1.4861	0.3408	4.5800e-003	0.1092	4.9200e-003	0.1141	0.0299	4.7000e-003	0.0346		495.8736	495.8736	0.0335		496.7121
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0369	0.0240	0.2708	8.3000e-004	0.0894	6.6000e-004	0.0901	0.0237	6.1000e-004	0.0243		82.8534	82.8534	2.2200e-003		82.9089
Total	**0.0813**	**1.5100**	**0.6116**	**5.4100e-003**	**0.1986**	**5.5800e-003**	**0.2042**	**0.0536**	**5.3100e-003**	**0.0589**		**578.7271**	**578.7271**	**0.0358**		**579.6210**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**		**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0205	0.6655	0.1773	1.7400e-003	0.0448	1.3900e-003	0.0462	0.0129	1.3300e-003	0.0142		185.1851	185.1851	0.0124		185.4949
Worker	0.0830	0.0539	0.6094	1.8700e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		186.4202	186.4202	5.0000e-003		186.5451
Total	**0.1035**	**0.7195**	**0.7867**	**3.6100e-003**	**0.2460**	**2.8700e-003**	**0.2489**	**0.0663**	**2.6900e-003**	**0.0689**		**371.6054**	**371.6054**	**0.0174**		**372.0400**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**	**0.0000**	**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0205	0.6655	0.1773	1.7400e-003	0.0448	1.3900e-003	0.0462	0.0129	1.3300e-003	0.0142		185.1851	185.1851	0.0124		185.4949
Worker	0.0830	0.0539	0.6094	1.8700e-003	0.2012	1.4800e-003	0.2027	0.0534	1.3600e-003	0.0547		186.4202	186.4202	5.0000e-003		186.5451
Total	**0.1035**	**0.7195**	**0.7867**	**3.6100e-003**	**0.2460**	**2.8700e-003**	**0.2489**	**0.0663**	**2.6900e-003**	**0.0689**		**371.6054**	**371.6054**	**0.0174**		**372.0400**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**		**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0192	0.6312	0.1676	1.7200e-003	0.0448	1.2000e-003	0.0460	0.0129	1.1500e-003	0.0141		183.5360	183.5360	0.0119		183.8340

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Worker	0.0781	0.0487	0.5625	1.8000e-003	0.2012	1.4400e-003	0.2026	0.0534	1.3200e-003	0.0547		179.7366	179.7366	4.5100e-003		179.8494
Total	**0.0973**	**0.6799**	**0.7301**	**3.5200e-003**	**0.2460**	**2.6400e-003**	**0.2486**	**0.0663**	**2.4700e-003**	**0.0687**		**363.2725**	**363.2725**	**0.0164**		**363.6833**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**	**0.0000**	**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0192	0.6312	0.1676	1.7200e-003	0.0448	1.2000e-003	0.0460	0.0129	1.1500e-003	0.0141		183.5360	183.5360	0.0119		183.8340
Worker	0.0781	0.0487	0.5625	1.8000e-003	0.2012	1.4400e-003	0.2026	0.0534	1.3200e-003	0.0547		179.7366	179.7366	4.5100e-003		179.8494
Total	**0.0973**	**0.6799**	**0.7301**	**3.5200e-003**	**0.2460**	**2.6400e-003**	**0.2486**	**0.0663**	**2.4700e-003**	**0.0687**		**363.2725**	**363.2725**	**0.0164**		**363.6833**

3.5 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.7401					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**8.9446**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0174	0.0108	0.1250	4.0000e-004	0.0447	3.2000e-004	0.0450	0.0119	2.9000e-004	0.0122		39.9415	39.9415	1.0000e-003		39.9665
Total	**0.0174**	**0.0108**	**0.1250**	**4.0000e-004**	**0.0447**	**3.2000e-004**	**0.0450**	**0.0119**	**2.9000e-004**	**0.0122**		**39.9415**	**39.9415**	**1.0000e-003**		**39.9665**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	8.7401					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**8.9446**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0174	0.0108	0.1250	4.0000e-004	0.0447	3.2000e-004	0.0450	0.0119	2.9000e-004	0.0122		39.9415	39.9415	1.0000e-003		39.9665
Total	**0.0174**	**0.0108**	**0.1250**	**4.0000e-004**	**0.0447**	**3.2000e-004**	**0.0450**	**0.0119**	**2.9000e-004**	**0.0122**		**39.9415**	**39.9415**	**1.0000e-003**		**39.9665**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205		1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.0445					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7322**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**		**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0564	0.0352	0.4062	1.3000e-003	0.1453	1.0400e-003	0.1464	0.0385	9.6000e-004	0.0395		129.8098	129.8098	3.2600e-003		129.8912
Total	**0.0564**	**0.0352**	**0.4062**	**1.3000e-003**	**0.1453**	**1.0400e-003**	**0.1464**	**0.0385**	**9.6000e-004**	**0.0395**		**129.8098**	**129.8098**	**3.2600e-003**		**129.8912**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205	0.0000	1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.0445					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7322**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**	**0.0000**	**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0564	0.0352	0.4062	1.3000e-003	0.1453	1.0400e-003	0.1464	0.0385	9.6000e-004	0.0395		129.8098	129.8098	3.2600e-003		129.8912
Total	**0.0564**	**0.0352**	**0.4062**	**1.3000e-003**	**0.1453**	**1.0400e-003**	**0.1464**	**0.0385**	**9.6000e-004**	**0.0395**		**129.8098**	**129.8098**	**3.2600e-003**		**129.8912**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2345	0.6193	2.5686	8.4400e-003	0.8270	8.1500e-003	0.8351	0.2209	7.6500e-003	0.2286		875.9035	875.9035	0.0569		877.3247
Unmitigated	0.2345	0.6193	2.5686	8.4400e-003	0.8270	8.1500e-003	0.8351	0.2209	7.6500e-003	0.2286		875.9035	875.9035	0.0569		877.3247

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	12.45	12.45	12.45	40,106	40,106
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	81.63	81.63	81.63	349,822	349,822
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	94.07	94.07	94.07	389,928	389,928

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by

General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Unenclosed Parking Structure	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Parking Lot	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Unrefrigerated Warehouse-No Rail	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Unenclosed Parking Structure	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.6200e-003	0.0329	0.0276	2.0000e-004		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003		39.4897	39.4897	7.6000e-004	7.2000e-004	39.7243
NaturalGas Unmitigated	5.1200e-003	0.0465	0.0391	2.8000e-004		3.5300e-003	3.5300e-003		3.5300e-003	3.5300e-003		55.8123	55.8123	1.0700e-003	1.0200e-003	56.1440

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	124.204	1.3400e-003	0.0122	0.0102	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004		14.6122	14.6122	2.8000e-004	2.7000e-004	14.6991
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	350.201	3.7800e-003	0.0343	0.0288	2.1000e-004		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003		41.2001	41.2001	7.9000e-004	7.6000e-004	41.4449
Total		**5.1200e-003**	**0.0465**	**0.0391**	**2.8000e-004**		**3.5400e-003**	**3.5400e-003**		**3.5400e-003**	**3.5400e-003**		**55.8123**	**55.8123**	**1.0700e-003**	**1.0300e-003**	**56.1440**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.0891849	9.6000e-004	8.7400e-003	7.3400e-003	5.0000e-005		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004		10.4923	10.4923	2.0000e-004	1.9000e-004	10.5547
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.246477	2.6600e-003	0.0242	0.0203	1.4000e-004		1.8400e-003	1.8400e-003		1.8400e-003	1.8400e-003		28.9973	28.9973	5.6000e-004	5.3000e-004	29.1696
Total		**3.6200e-003**	**0.0329**	**0.0276**	**1.9000e-004**		**2.5000e-003**	**2.5000e-003**		**2.5000e-003**	**2.5000e-003**		**39.4897**	**39.4897**	**7.6000e-004**	**7.2000e-004**	**39.7243**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8513	1.2000e-004	0.0126	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0270	0.0270	7.0000e-005		0.0288
Unmitigated	0.8513	1.2000e-004	0.0126	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0270	0.0270	7.0000e-005		0.0288

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0958					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7544					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1700e-003	1.2000e-004	0.0126	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0270	0.0270	7.0000e-005		0.0288
Total	**0.8513**	**1.2000e-004**	**0.0126**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0270**	**0.0270**	**7.0000e-005**		**0.0288**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

SubCategory	lb/day										lb/day					
Architectural Coating	0.0958					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7544					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1700e-003	1.2000e-004	0.0126	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0270	0.0270	7.0000e-005		0.0288
Total	**0.8513**	**1.2000e-004**	**0.0126**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0270**	**0.0270**	**7.0000e-005**		**0.0288**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ATTACHMENT E
Water Quality Management Plan

WQ 20-_____

County of Orange/Santa Ana Region Priority Project Water Quality Management Plan (WQMP)

Project Name:

NO. 1 COLLISION CALIFORNIA

2750 BRISTOL AVENUE, PM 91-116 PARCELS 1&2 , APN 418-182-06

Prepared for:

ROBERT A. WALKER

100-11100 CAMBIE ROAD

RICHMOND BC V6X 1K9

PHONE: (604) 232-2676

Prepared by:

JONES, CAHL & ASSOCIATES

18090 BEACH BLVD., SUITE 12

HUNTINGTON BEACH, CA 92648

PHONE: (714) 848-0566

EMAIL: JCA@JONESCAHL.COM

DATE PREPARED: JULY 27, 2020

Project Owner's Certification			
Planning Application No. (If applicable)		Grading Permit No.	
Tract/Parcel Map and Lot(s) No.	PM 91-116 PARCELS 1&2	Building Permit No.	
Address of Project Site and APN (If no address, specify Tract/Parcel Map and Lot Numbers)			2750 BRISTOL AVE. APN 418-182-06

This Water Quality Management Plan (WQMP) has been prepared for ROBERT A. WALKER by JONES, CAHL AND ASSOCIATES. The WQMP is intended to comply with the requirements of the County of Orange NPDES Stormwater Program requiring the preparation of the plan.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan , including the ongoing operation and maintenance of all best management practices (BMPs), and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with the current Orange County Drainage Area Management Plan (DAMP) and the intent of the non-point source NPDES Permit for Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the incorporated Cities of Orange County within the Santa Ana Region. Once the undersigned transfers its interest in the property, its successors-in-interest shall bear the aforementioned responsibility to implement and amend the WQMP. An appropriate number of approved and signed copies of this document shall be available on the subject site in perpetuity.

Owner:			
Title	Owner / CEO		
Company	ROBERT A. WALKER		
Address	100-11100 CAMBIE ROAD, RICHMOND BC V6X 1K9, CANADA		
Email	RWALKER@MBCOLLISION.CA		
Telephone #	(604) 232-2676		
I understand my responsibility to implement the provisions of this WQMP including the ongoing operation and maintenance of the best management practices (BMPs) described herein.			
Owner Signature		Date	

Preparer (Engineer): DANIEL RUBIO			
Title	President	PE Registration #	60934
Company	Jones, Cahl & Associates		
Address	18090 Beach Blvd, Suite 12, Huntington Beach, CA 92648		
Email	JCA@JONESCAHL.COM		
Telephone #	(714) 848-0566		
I hereby certify that this Water Quality Management Plan is in compliance with, and meets the requirements set forth in, Order No. R8-2009-0030/NPDES No. CAS618030, of the Santa Ana Regional Water Quality Control Board.			
Preparer Signature		Date	
Place Stamp Here			

Contents

Page No.

Attachments

Section I Permit(s) and Water Quality Conditions of Approval or Issuance

Provide discretionary or grading/building permit information and water quality conditions of approval, or permit issuance, applied to the project. If conditions are unknown, please request applicable conditions from staff. *Refer to Section 2.1 in the Technical Guidance Document (TGD) available on the OC Planning website (ocplanning.net).*

Project Infomation			
Permit/Application No. (If applicable)		Grading or Building Permit No. (If applicable)	
Address of Project Site (or Tract Map and Lot Number if no address) and APN	2750 BRISTOL AVENUE, COSTA MESA, CA APN. 418-182-06		

Water Quality Conditions of Approval or Issuance	
Water Quality Conditions of Approval or Issuance applied to this project. (Please list verbatim.)	

Conceptual WQMP	
Was a Conceptual Water Quality Management Plan previously approved for this project?	NO

Watershed-Based Plan Conditions	
Provide applicable conditions from watershed - based plans including WIHMPs and TMDLS.	NONE

Section II Project Description

II.1 Project Description

Provide a detailed project description including:

- Project areas;
- Land uses;
- Land cover;
- Design elements;
- A general description not broken down by drainage management areas (DMAs).

Include attributes relevant to determining applicable source controls. *Refer to Section 2.2 in the Technical Guidance Document (TGD) for information that must be included in the project description.*

Description of Proposed Project				
Development Category (From Model WQMP, Table 7.11-2; or -3):	All significant redevelopment projects, where significant redevelopment is defined as the addition or replacement of 5,000 or more square feet of impervious surface on an already developed site. Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of the facility, or emergency redevelopment activity required to protect public health and safety.			
Project Area (ft^2): 65,486 ft^2	Number of Dwelling Units: ___________		SIC Code: __________	
Project Area	Pervious		Impervious	
	Area (acres or sq ft)	Percentage	Area (acres or sq ft)	Percentage
Pre-Project Conditions	3,386 SF	5.2%	62,100 SF	94.8%
Post-Project Conditions	4,017 SF	6.1%	61,469 SF	93.9%
Drainage Patterns/Connections	EXISTING DRAINAGE FLOWS FROM THE SOUTHEAST CORNER OF THE LOT TO THE NORTH AND WEST. THE ONSITE RUNOFF IS COLLECTED IN A V-GUTTER AND DIRECTED INTO BRISTOL STREET THROUGH A CURB DRAIN. FROM BRISTOL THE RUNOFF IS DIRECTED SOUTH TO AN EXISTING STORM DRAIN CATCH			

	BASIN ON THE EAST SIDE OF THE STREET. PROPOSED DRAINAGE WILL MIRROR THE EXISTING ONSITE DRAINAGE CONDITIONS. DRAINAGE WILL FLOW FROM A HIGH POINT AT THE SOUTHEAST CORNER TO TWO ONSITE BIO-RETENTION PLANTERS WITH UNDERDRAINS. THE TWO PLANTERS WILL CONNECT TO A STORMDRAIN MANHOLE WHICH WILL PUMP THE TREATED RUNOFF OUT TO BRISTOL AVENUE. FROM BRISTOL IT WILL CONTINUE ON ITS ORIGINAL PATH TO A STORM DRAIN CATCH BASIN ALONG THE STREET.

Narrative Project Description: (Use as much space as necessary.)	The project cosists of the demolition of the existing car wash and the construction of a new Collision Repair Building. The new development will have a 30,000 square foot building with repair shops, offices, and parking on the roof. Pavement areas, covered trash/dumpster area and landscaped areas will cover the rest of the site. Existing utilities will be protected in place and used for the new development unless they are found to be unusable. Proposed drainage will mirror the existing onsite drainage conditions. Drainage will flow from a high point at the southeast corner into two onsite bio-retention planters with underdrains. The two planters will connect to a stormdrain manhole onsite which will pump the treated runoff out to Bristol Avenue. From Bristol it will continue on its original path to a storm drain catch basin along the street.

II.2 Potential Stormwater Pollutants

Determine and list expected stormwater pollutants based on land uses and site activities. *Refer to Section 2.2.2 and Table 2.1 in the Technical Guidance Document (TGD) for guidance.*

Pollutants of Concern			
Pollutant	Check One for each: E=Expected to be of concern N=Not Expected to be of concern		Additional Information and Comments
Suspended-Solid/ Sediment	E ☒	N ☐	
Nutrients	E ☒	N ☐	
Heavy Metals	E ☐	N ☒	
Pathogens (Bacteria/Virus)	E ☐	N ☒	
Pesticides	E ☒	N ☐	
Oil and Grease	E ☒	N ☐	
Toxic Organic Compounds	E ☐	N ☒	
Trash and Debris	E ☒	N ☐	

II.3 Hydrologic Conditions of Concern

Determine if streams located downstream from the project area are potentially susceptible to hydromodification impacts. *Refer to Section 2.2.3.1 in the Technical Guidance Document (TGD) for North Orange County or Section 2.2.3.2 for South Orange County.*

☒ No – Show map

☐ Yes – Describe applicable hydrologic conditions of concern below. *Refer to Section 2.2.3 in the Technical Guidance Document (TGD).*

II.4 Post Development Drainage Characteristics

Describe post development drainage characteristics. *Refer to Section 2.2.4 in the Technical Guidance Document (TGD).*

Proposed drainage will mirror the existing onsite drainage conditions. Drainage will flow from a high point at the southeast corner into two onsite bio-retention planters with underdrains. The two planters will connect to a stormdrain manhole onsite which will pump the treated runoff out to Bristol Avenue. From Bristol it will continue on its original path to a storm drain catch basin along the street.

II.5 Property Ownership/Management

Describe property ownership/management. *Refer to Section 2.2.5 in the Technical Guidance Document (TGD).*

Owner: Robert A. Walker
WALKER Group
Chief Executive Officer

Section III Site Description

III.1 Physical Setting

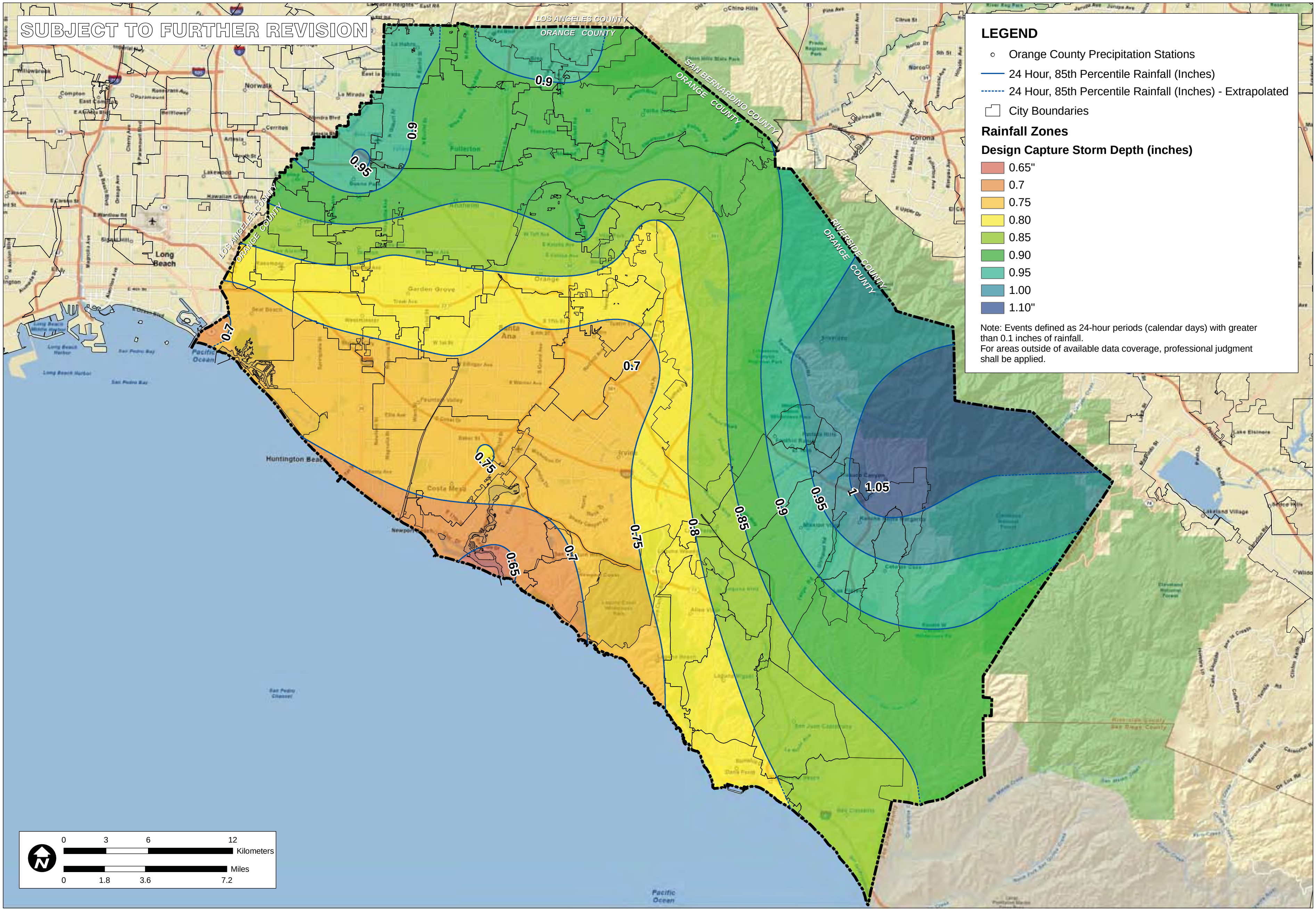
Fill out table with relevant information. *Refer to Section 2.3.1 in the Technical Guidance Document (TGD).*

Name of Planned Community/Planning Area (if applicable)	
Location/Address	2750 Bristol Ave.
	Costa Mesa, CA
General Plan Land Use Designation	General Commercial
Zoning	C1 – Local Business
Acreage of Project Site	1.504 Ac
Predominant Soil Type	Clayey Soils

III.2 Site Characteristics

Fill out table with relevant information and include information regarding BMP sizing, suitability, and feasibility, as applicable. *Refer to Section 2.3.2 in the Technical Guidance Document (TGD).*

Site Characteristics	
Precipitation Zone	0.75″
Topography	Flat



TITLE

RAINFALL ZONES

ORANGE COUNTY TECHNICAL GUIDANCE DOCUMENT

JOB

ORANGE CO. CA

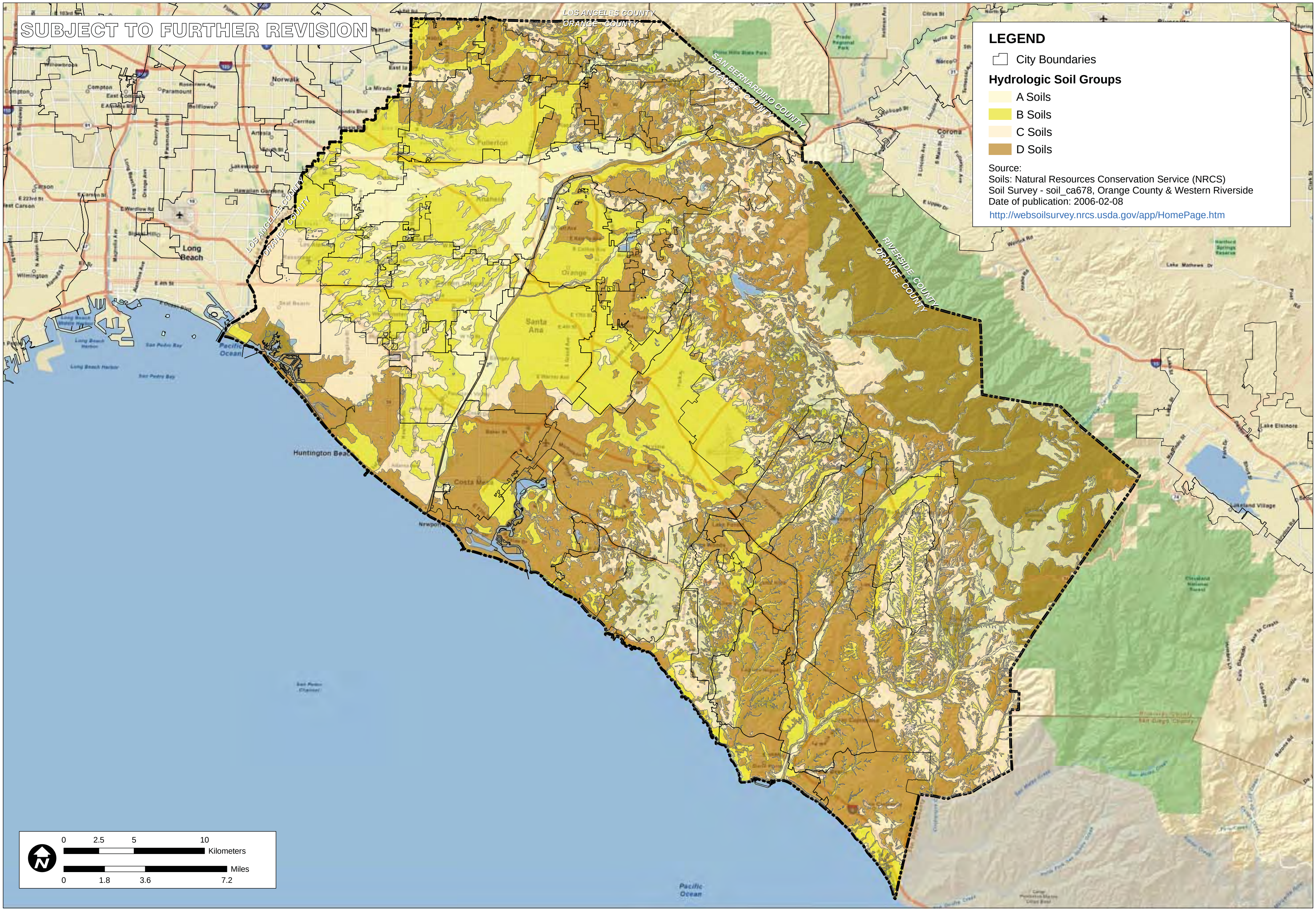
SCALE	1" = 1.8 miles
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	04/22/10
JOB NO.	9526-E

PACE Advanced Water Engineering

FIGURE

XVI-1

P:\9526E\6-GIS\Mxds\Reports\InfiltrationFeasability_20110215\9526E_FigureXVI-1_RainfallZones_20110215.mxd



TITLE: NRCS HYDROLOGIC SOILS GROUPS

JOB: ORANGE COUNTY INFILTRATION STUDY

ORANGE CO. CA

SCALE	1" = 1.8 miles
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	02/09/11
JOB NO.	9526-E

PACE Advanced Water Engineering

FIGURE XVI-2a

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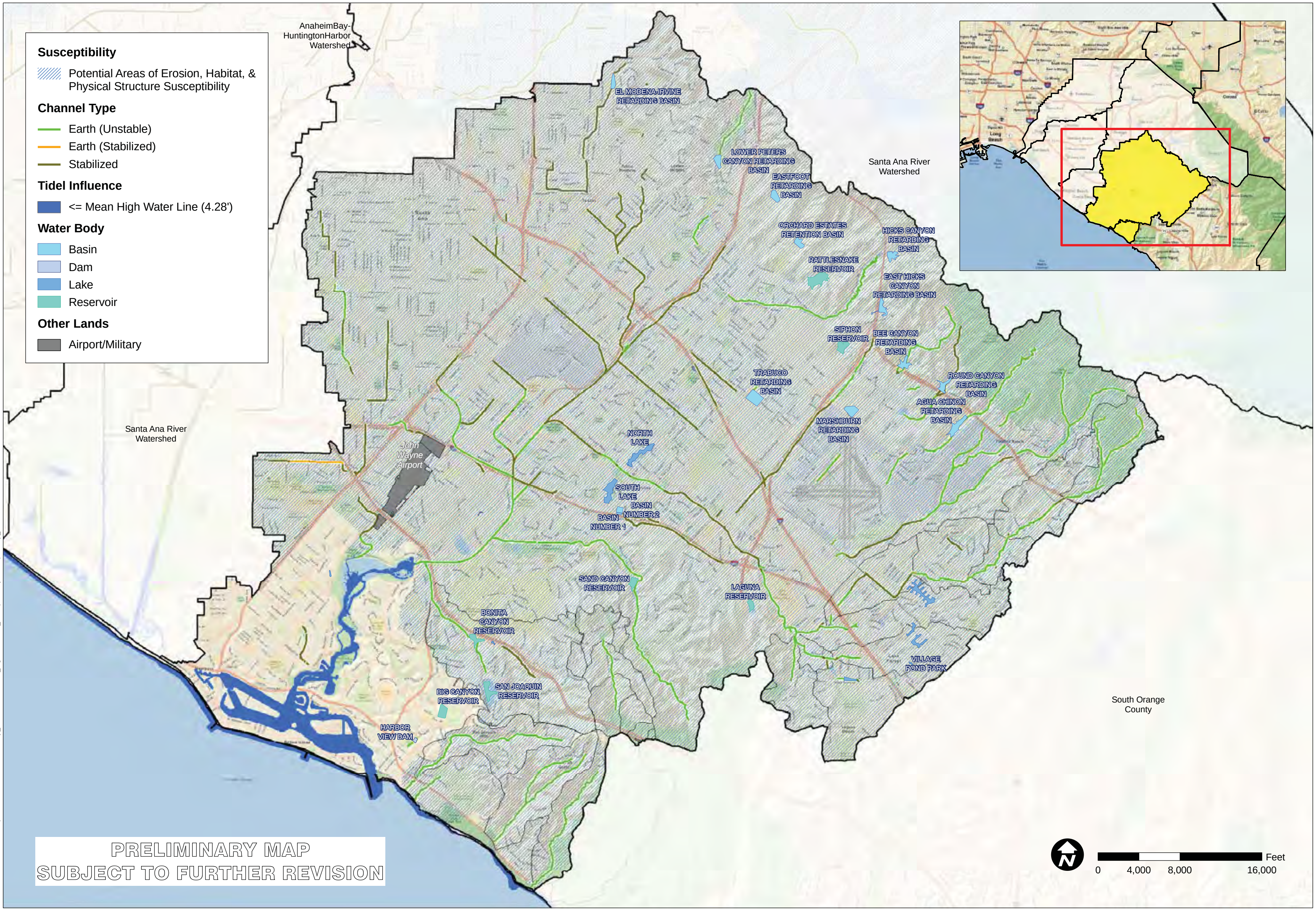
Drainage Patterns/Connections	Drainage flows from the southeast to the northwest where it connects with the street drainage at Bristol Avenue.
Soil Type, Geology, and Infiltration Properties	
Hydrogeologic (Groundwater) Conditions	
Geotechnical Conditions (relevant to infiltration)	None
Off-Site Drainage	Offsite drainage does not enter the site.
Utility and Infrastructure Information	Existing utilities will be protected and re-used where possible.

III.3 Watershed Description

Fill out table with relevant information and include information regarding BMP sizing, suitability, and feasibility, as applicable. *Refer to Section 2.3.3 in the Technical Guidance Document (TGD).*

Receiving Waters	Newport Bay Upper and Newport Bay Lower Watershed
303(d) Listed Impairments	Newport Bay (Upper) – Chlordane, Copper, DDT, Indicator Bacteria, Metals, Nutrients, and PCBs Newport Bay (Lower) - Chlordane, Copper, DDT, Indicator Bacteria, Nutrients, PCBs, Pesticides, and Sediment Toxicity
Applicable TMDLs	Standards are not met and a TMDL is required, but not yet completed.
Pollutants of Concern for the Project	Sediment, Nutrients, Pesticides, Oil/Grease, Toxic Organic Compounds, Trash and Debris



TITLE
SUSCEPTIBILITY ANALYIS
NEWPORT BAY-
NEWPORT COASTAL STREAMS

JOB
ORANGE COUNTY
WATERSHED
MASTER PLANNING
ORANGE CO. CA

SCALE	DESIGNED	DRAWING	CHECKED	DATE	JOB NO.
1" = 4000'	TH	TH	BMP	04/30/10	9526-E

PACE Advanced Water Engineering

FIGURE
XVI-3d

P:\9526E16-GIS\Mxds\Reports\InfiltrationFeasability_20110215\9526E_FigureXVI-3d_NewportBaySusceptibility_20100430.mxd

Environmentally Sensitive and Special Biological Significant Areas	None

Section IV Best Management Practices (BMPs)

IV. 1 Project Performance Criteria

Describe project performance criteria. Several steps must be followed in order to determine what performance criteria will apply to a project. These steps include:

- If the project has an approved WIHMP or equivalent, then any watershed specific criteria must be used and the project can evaluate participation in the approved regional or sub-regional opportunities. (Please ask your assigned planner or plan checker regarding whether your project is part of an approved WIHMP or equivalent.)
- Determine applicable hydromodification control performance criteria. *Refer to Section 7.II-2.4.2.2 of the Model WQMP.*
- Determine applicable LID performance criteria. *Refer to Section 7.II-2.4.3 of the Model WQMP.*
- Determine applicable treatment control BMP performance criteria. *Refer to Section 7.II-*3.2.2 *of the Model WQMP.*
- Calculate the LID design storm capture volume for the project. *Refer to Section 7.II-2.4.3 of the Model WQMP.*

(NOC Permit Area only) Is there an approved WIHMP or equivalent for the project area that includes more stringent LID feasibility criteria or if there are opportunities identified for implementing LID on regional or sub-regional basis?	YES ☐	NO ☐
If yes, describe WIHMP feasibility criteria or regional/sub-regional LID opportunities.		

Project Performance Criteria	
If HCOC exists, list applicable hydromodification control performance criteria (Section 7.II-2.4.2.2 in MWQMP)	None
List applicable LID performance criteria (Section 7.II-2.4.3 from MWQMP)	Priority projects must infiltrate, harvest and use, evapotranspire, or biotreat/biofilter, the 85th percentile, 24-hour storm event (design capture volume) A properly designed biotreatment system may only be considered if infiltration, harvest and use, and evapotranspiration (et) cannot be feasibly implemented for the full design capture volume. In this case, infiltration, harvest and use, and et practices must be implemented to the greatest extent feasible and biotreatment may be provided for the remaining design capture volume.
List applicable treatment control BMP performance criteria (Section 7.II-3.2.2 from MWQMP)	If it is not feasible to meet lid performance criteria through retention and/or biotreatment provided on-site or at a sub-regional/regional scale, then treatment control bmps shall be provided on-site or offsite prior to discharge to waters of the us. Sizing of treatment control bmp(s) shall be based on either the unmet volume after claiming applicable water quality credits. If treatment control bmps can treat all of the remaining unmet volume and have a medium to high effectiveness for reducing the primary pocs, the project is considered to be in compliance; a waiver application and participation in an alternative program is not required.
Calculate LID design storm capture volume for Project.	DCV onsite: DCV = C x D x A C= (0.939 x 0.75) + 0.15 = 0.854 D = 0.75” A = 1.504 ac = 65,523 sf DCV = (0.854) x (0.75 in) x (65,523 sf) x (1’/12”) = 3,497 cf

DMA1

DCV = C x D x A

C= (0.9394 x 0.75) + 0.15 = 0.855

D = 0.75”

A = 32,069 sf

DCV = (0.855) x (0.75 in) x (32,069 sf) x (1’/12”) =

= 1,714 cf

DMA2

DCV = C x D x A

C= (0.938 x 0.75) + 0.15 = 0.8535

D = 0.75”

A = 33,417 sf

DCV = (0.8535) x (0.75 in) x (33,417 sf) x (1’/12”) =

= 1,783 cf

IV.2. Site Design and Drainage

Describe site design and drainage including

- A narrative of site design practices utilized or rationale for not using practices;
- A narrative of how site is designed to allow BMPs to be incorporated to the MEP
- A table of DMA characteristics and list of LID BMPs proposed in each DMA.
- Reference to the WQMP "BMP Exhibit."
- Calculation of Design Capture Volume (DCV) for each drainage area.
- A listing of GIS coordinates for LID and Treatment Control BMPs (unless not required by local jurisdiction).

Refer to Section 2.4.2 in the Technical Guidance Document (TGD).

Proposed drainage will mirror the existing onsite drainage conditions. Drainage will flow from a high point at the southeast corner into two onsite bio-retention planters with underdrains.

The drainage area to the north will be designated DMA-1 which will consist of 32,069 square feet of the site. It will flow from the southeast corner of the site, to the north and then be directed westward to an onsite Bio-Retention Basin with an underdrain. The basin will be 882 square feet in area and will be able to treat the full runoff from DMA-1.

The drainage area to the south will be designated DMA-2 which will consist of 33,417 square feet of the site. It will flow from the southeast corner of the site, to the west and then be directed northward to an onsite Bio-Retention Basin with an underdrain. The basin will be 916 square feet in area and will be able to treat the full runoff from DMA-2.

The two Bio-Retention Basins will connect to a stormdrain manhole onsite which will pump the treated runoff out to Bristol Avenue. From Bristol it will continue on its original path to the south to a storm drain catch basin along the street.

IV.3 LID BMP Selection and Project Conformance Analysis

Each sub-section below documents that the proposed design features conform to the applicable project performance criteria via check boxes, tables, calculations, narratives, and/or references to worksheets. *Refer to Section 2.4.2.3 in the Technical Guidance Document (TGD) for selecting LID BMPs and Section 2.4.3 in the Technical Guidance Document (TGD) for conducting conformance analysis with project performance criteria.*

IV.3.1 Hydrologic Source Controls (HSCs)

If required HSCs are included, fill out applicable check box forms. If the retention criteria are otherwise met with other LID BMPs, include a statement indicating HSCs not required.

Name	Included?
Localized on-lot infiltration	☐
Impervious area dispersion (e.g. roof top disconnection)	☐
Street trees (canopy interception)	☐
Residential rain barrels (not actively managed)	☐
Green roofs/Brown roofs	☐
Blue roofs	☐
Impervious area reduction (e.g. permeable pavers, site design)	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐

IV.3.2 Infiltration BMPs

Identify infiltration BMPs to be used in project. If design volume cannot be met, state why.

Name	Included?
Bioretention without underdrains	☐
Rain gardens	☐
Porous landscaping	☐
Infiltration planters	☐
Retention swales	☐
Infiltration trenches	☐
Infiltration basins	☐
Drywells	☐
Subsurface infiltration galleries	☐
French drains	☐
Permeable asphalt	☐
Permeable concrete	☐
Permeable concrete pavers	☐
Other:	☐
Other:	☐

Infiltration is not feasible onsite.

IV.3.3 Evapotranspiration, Rainwater Harvesting BMPs

If the full Design Storm Capture Volume cannot be met with infiltration BMPs, describe any evapotranspiration and/or rainwater harvesting BMPs included.

Name	**Included?**
All HSCs; *See Section IV.3.1*	☐
Surface-based infiltration BMPs	☐
Biotreatment BMPs	☐
Above-ground cisterns and basins	☐
Underground detention	☐
Other:	☐
Other:	☐
Other:	☐

Not a sufficient demand for harvest and use onsite.

IV.3.4 Biotreatment BMPs

If the full Design Storm Capture Volume cannot be met with infiltration BMPs, and/or evapotranspiration and rainwater harvesting BMPs, describe biotreatment BMPs included. Include sections for selection, suitability, sizing, and infeasibility, as applicable.

Name	Included?
Bioretention with underdrains	☒
Stormwater planter boxes with underdrains	☐
Rain gardens with underdrains	☐
Constructed wetlands	☐
Vegetated swales	☐
Vegetated filter strips	☐
Proprietary vegetated biotreatment systems	☐
Wet extended detention basin	☐
Dry extended detention basins	☐
Other:	☐
Other:	☐

Show calculations below to demonstrate if the LID Design Storm Capture Volume can be met with infiltration, evapotranspiration, rainwater harvesting and/or biotreatment BMPs. If not, document how much can be met with either infiltration BMPs, evapotranspiration, rainwater harvesting BMPs, or a combination, and document why it is not feasible to meet the full volume with these BMP categories.

CAPTURE EFFICIENCY METHOD (BIORETENTION WITH UNDERDRAIN)

<u>DMA-1</u>
STEP 1.

$DD = (d_p / K_{design}) \times 12$ in/ft
DD = Drawdown Time
d_p = depth of ping
K_{design} = infiltration rate

= (0.5′ / 2.5 in/hr) x 12 = 2.4 hr ← Use 3 hours (min)

STEP 2.

Adjusted DCV per Worksheet C (see Attachments)

= 434 cf

STEP 3.

A = Design Volume / d_p
A = required infiltration area
Design Volume = fraction of DCV
d_p = ponding depth

= 434 cf / 0.5′ = 868 sf required (882 sf Provided)

DMA-2

STEP 1.

DD = (d_p / K_{design}) x 12 in/ft
DD = Drawdown Time
d_p = depth of ponding
K_{design} = infiltration rate

= (0.5′ / 2.5 in/hr) x 12 = 2.4 hr ← Use 3 hours (min)

STEP 2.

Adjusted DCV per Worksheet C (see Attachments)

= 452 cf

STEP 3.

A = Design Volume / d_p
A = required infiltration area
Design Volume = fraction of DCV
d_p = ponding depth

= 452 cf / 0.5′ = 904 sf required (916 sf Provided)

IV.3.5 Hydromodification Control BMPs

Describe hydromodification control BMPs. *See Section 5 of the Technical Guidance Document (TGD).* Include sections for selection, suitability, sizing, and infeasibility, as applicable. Detail compliance with Prior Conditions of Approval (if applicable).

Hydromodification Control BMPs	
BMP Name	BMP Description

IV.3.6 Regional/Sub-Regional LID BMPs

Describe regional/sub-regional LID BMPs in which the project will participate. *Refer to Section 7.II-2.4.3.2 of the Model WQMP*.

Regional/Sub-Regional LID BMPs

IV.3.7 Treatment Control BMPs

Treatment control BMPs can only be considered if the project conformance analysis indicates that it is not feasible to retain the full design capture volume with LID BMPs. Describe treatment control BMPs including sections for selection, sizing, and infeasibility, as applicable.

Treatment Control BMPs

BMP Name	BMP Description

IV.3.8 Non-structural Source Control BMPs

Fill out non-structural source control check box forms or provide a brief narrative explaining if non-structural source controls were not used.

Non-Structural Source Control BMPs				
Identifier	**Name**	**Check One**		**If not applicable, state brief reason**
		Included	**Not Applicable**	
N1	Education for Property Owners, Tenants and Occupants	☒	☐	
N2	Activity Restrictions	☒	☐	
N3	Common Area Landscape Management	☒	☐	
N4	BMP Maintenance	☒	☐	
N5	Title 22 CCR Compliance (How development will comply)	☐	☒	Commercial Auto Repair Service
N6	Local Industrial Permit Compliance	☐	☒	Commercial Auto Repair Service
N7	Spill Contingency Plan	☐	☒	
N8	Underground Storage Tank Compliance	☐	☒	No Underground Storage
N9	Hazardous Materials Disclosure Compliance	☐	☒	No Hazardous Materials
N10	Uniform Fire Code Implementation	☒	☐	
N11	Common Area Litter Control	☒	☐	
N12	Employee Training	☒	☐	
N13	Housekeeping of Loading Docks	☐	☒	No Loading Docks
N14	Common Area Catch Basin Inspection	☐	☒	No Onsite Catch Basin
N15	Street Sweeping Private Streets and Parking Lots	☒	☐	
N16	Retail Gasoline Outlets	☐	☒	Commercial Auto Repair Service

IV.3.9 Structural Source Control BMPs

Fill out structural source control check box forms or provide a brief narrative explaining if structural source controls were not used.

Structural Source Control BMPs				
Identifier	**Name**	**Check One**		**If not applicable, state brief reason**
		Included	**Not Applicable**	
S1	Provide storm drain system stenciling and signage	☐	☒	
S2	Design and construct outdoor material storage areas to reduce pollution introduction	☐	☒	
S3	Design and construct trash and waste storage areas to reduce pollution introduction	☒	☐	
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control	☒	☐	
S5	Protect slopes and channels and provide energy dissipation	☐	☒	
	Incorporate requirements applicable to individual priority project categories (from SDRWQCB NPDES Permit)	☐	☐	
S6	Dock areas	☐	☒	
S7	Maintenance bays	☒	☐	
S8	Vehicle wash areas	☐	☒	
S9	Outdoor processing areas	☐	☒	
S10	Equipment wash areas	☐	☒	
S11	Fueling areas	☐	☒	
S12	Hillside landscaping	☐	☒	
S13	Wash water control for food preparation areas	☐	☒	
S14	Community car wash racks	☐	☒	

IV.4 Alternative Compliance Plan (If Applicable)

Describe an alternative compliance plan (if applicable). Include alternative compliance obligations (i.e., gallons, pounds) and describe proposed alternative compliance measures. *Refer to Section 7.II 3.0 in the WQMP.*

IV.4.1 Water Quality Credits

Determine if water quality credits are applicable for the project. *Refer to Section 3.1 of the Model WQMP for description of credits and Appendix VI of the Technical Guidance Document (TGD) for calculation methods for applying water quality credits.*

<table>
<tr><th colspan="5">Description of Proposed Project</th></tr>
<tr><td colspan="5">Project Types that Qualify for Water Quality Credits (Select all that apply):</td></tr>
<tr><td>☐Redevelopment projects that reduce the overall impervious footprint of the project site.</td><td colspan="2">☐Brownfield redevelopment, meaning redevelopment, expansion, or reuse of real property which may be complicated by the presence or potential presence of hazardous substances, pollutants or contaminants, and which have the potential to contribute to adverse ground or surface WQ if not redeveloped.</td><td colspan="2">☐ Higher density development projects which include two distinct categories (credits can only be taken for one category): those with more than seven units per acre of development (lower credit allowance); vertical density developments, for example, those with a Floor to Area Ratio (FAR) of 2 or those having more than 18 units per acre (greater credit allowance).</td></tr>
<tr><td colspan="2">☐ Mixed use development, such as a combination of residential, commercial, industrial, office, institutional, or other land uses which incorporate design principles that can demonstrate environmental benefits that would not be realized through single use projects (e.g. reduced vehicle trip traffic with the potential to reduce sources of water or air pollution).</td><td colspan="2">☐ Transit-oriented developments, such as a mixed use residential or commercial area designed to maximize access to public transportation; similar to above criterion, but where the development center is within one half mile of a mass transit center (e.g. bus, rail, light rail or commuter train station). Such projects would not be able to take credit for both categories, but may have greater credit assigned</td><td>☐ Redevelopment projects in an established historic district, historic preservation area, or similar significant city area including core City Center areas (to be defined through mapping).</td></tr>
<tr><td>☐Developments with dedication of undeveloped portions to parks, preservation areas and other pervious uses.</td><td>☐ Developments in a city center area.</td><td>☐ Developments in historic districts or historic preservation areas.</td><td>☐ Live-work developments, a variety of developments designed to support residential and vocational needs together – similar to criteria to mixed use development; would not be able to take credit for both categories.</td><td>☐In-fill projects, the conversion of empty lots and other underused spaces into more beneficially used spaces, such as residential or commercial areas.</td></tr>
</table>

Calculation of Water Quality Credits (if applicable)	

IV.4.2 Alternative Compliance Plan Information

Describe an alternative compliance plan (if applicable). Include alternative compliance obligations (i.e., gallons, pounds) and describe proposed alternative compliance measures. *Refer to Section 7.II 3.0 in the Model WQMP.*

Section V Inspection/Maintenance Responsibility for BMPs

Fill out information in table below. Prepare and attach an Operation and Maintenance Plan. Identify the funding mechanism through which BMPs will be maintained. Inspection and maintenance records must be kept for a minimum of five years for inspection by the regulatory agencies. *Refer to Section 7.II 4.0 in the Model WQMP.*

BMP Inspection/Maintenance			
BMP	**Reponsible Party(s)**	**Inspection/ Maintenance Activities Required**	**Minimum Frequency of Activities**
EDUCATION FOR PROPERTY OWNERS, TENANTS AND OCCUPANTS	OWNER		
ACTIVITY RESTRICTIONS	OWNER	Washing and storage restriction outlined in this WQMP shall be enforced at all times	Continuously
COMMON AREA LANDSCAPE MANAGEMENT	OWNER	All pesticides shall be applied in strict accordance to pesticide application laws as stated in the State of California Agricultural Code. All pesticide applicators shall be certified by the State as a Qualified Applicator or be directly supervised by a Qualified Applicator. All fertilizers shall be applied at the rate stipulated by the manufacturer. Fertilizer Applicators shall be trained in the proper procedures of determining fertilizer rates and calibration of application equipment.	Weekly during Routine landscaping activities.

		Fertilizer shall be applied in such a manner as to avoid application onto hardscape surfaces. Annual soil tests are recommended to advise on which fertilizer elements are needed to avoid application of unnecessary elements, or over application. The local water agency or resource conservation district can assist with detailed information concerning this BMP	
BMP MAINTENANCE	OWNER	The implementation of each non-structural BMP and scheduled cleaning of all structural BMP controls shall be the responsibility of the owner.	Weekly during Routine landscaping activities.
UNIFORM FIRE CODE IMPLEMENTATION	OWNER	Compliance with Article 80 of the Uniform Fire Code enforced by fire protection agency will be required.	Continuous
USE EFFICIENT IRRIGATION SYSTEMS & LANDSCAPE DESIGN, WATER CONSERVATION, SMART CONTROLLERS, AND SOURCE CONTROL	OWNER	Project plans include application methods to minimize irrigation water discharged into stormwater drainage systems.	Make sure all Irrigation systems are working properly. Repair as necessary.
Bio-Retention Planter	OWNER	Inspect the infiltration planter after major storms. Manually remove sediment and debris. Mow surrounding grass and remove trash. Manually remove vegetation and weeds.	Weekly during Routine landscaping activities.

Section VI BMP Exhibit (Site Plan)

VI.1 BMP Exhibit (Site Plan)

Include a BMP Exhibit (Site Plan), at a size no less than 24" by 36," which includes the following minimum information:

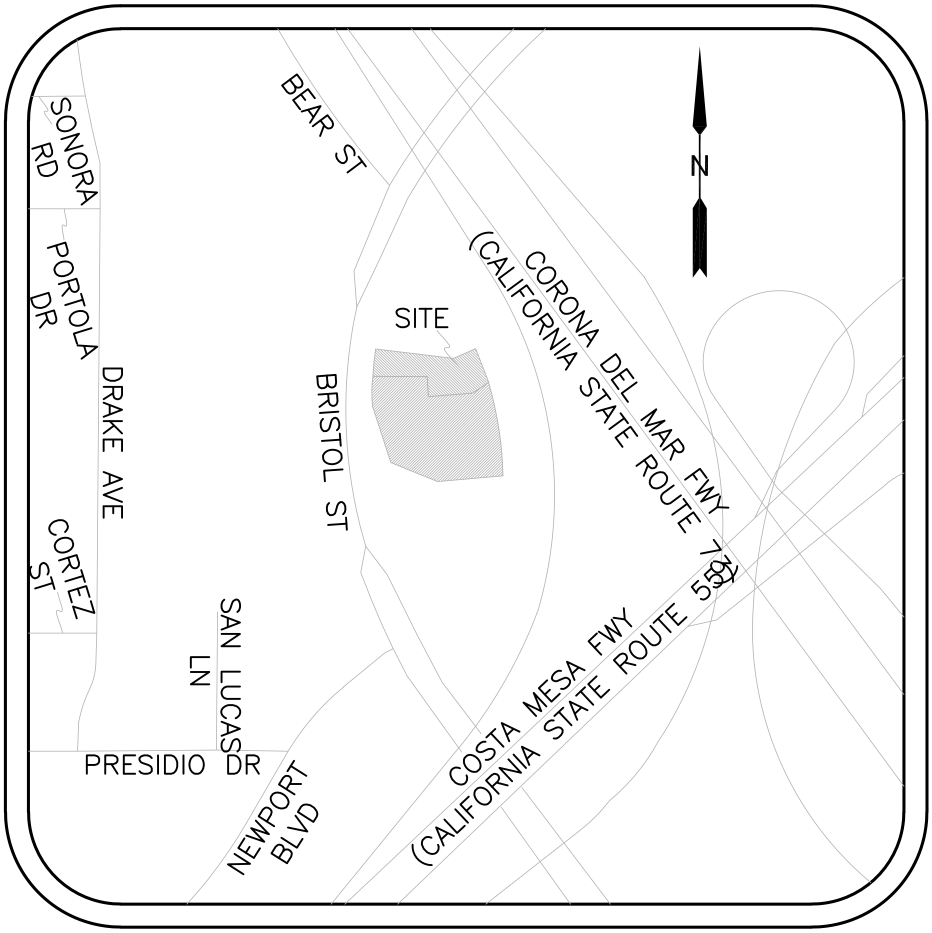
- Insert in the title block (lower right hand corner) of BMP Exhibit: the WQMP Number (assigned by staff) and the grading/building or Planning Application permit numbers
- Project location (address, tract/lot number(s), etc.)
- Site boundary
- Land uses and land covers, as applicable
- Suitability/feasibility constraints
- Structural BMP locations
- Drainage delineations and flow information
- Delineate the area being treated by each structural BMP
- Drainage connections
- BMP details
- Preparer name and stamp

Please do not include any areas outside of the project area or any information not related to drainage or water quality. The approved BMP Exhibit (Site Plan) shall be submitted as a plan sheet on all grading and building plan sets submitted for plan check review and approval. The BMP Exhibit shall be at the same size as the rest of the plan sheets in the submittal and shall have an approval stamp and signature prior to plan check submittal.

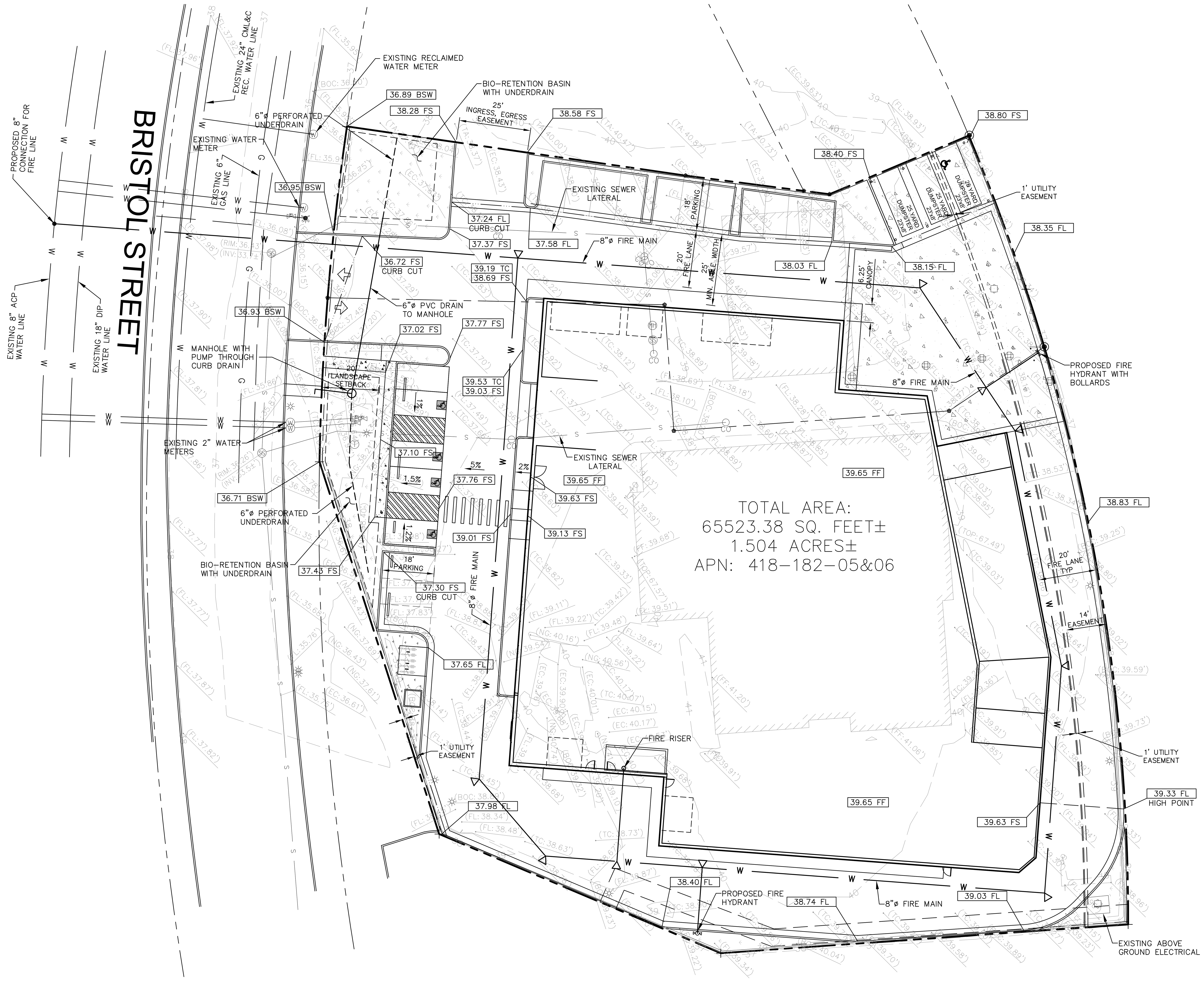
VI.2 Submittal and Recordation of Water Quality Management Plan

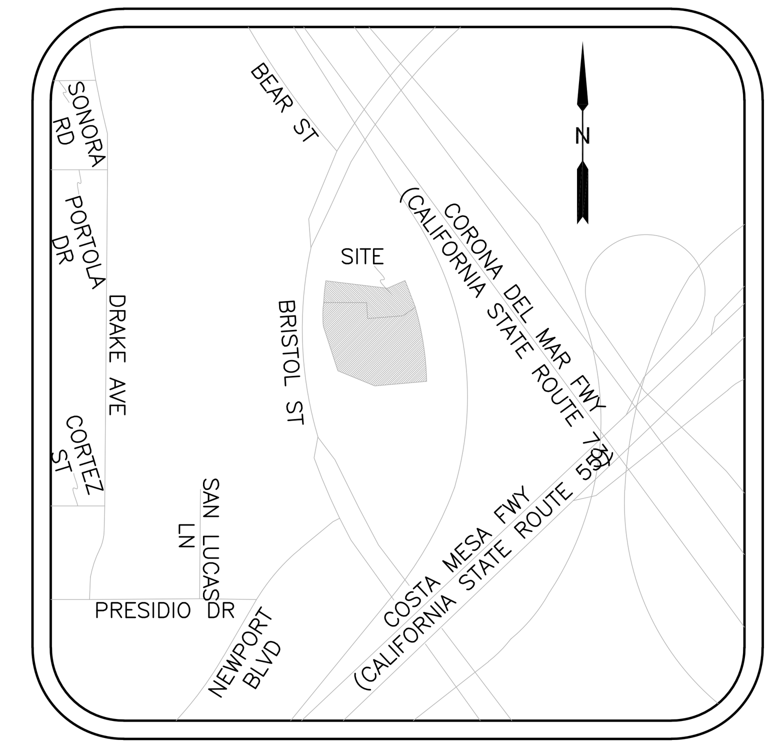
Following approval of the Final Project-Specific WQMP, three copies of the approved WQMP (including BMP Exhibit, Operations and Maintenance (O&M) Plan, and Appendices) shall be submitted. In addition, these documents shall be submitted in a PDF format.

Each approved WQMP (including BMP Exhibit, Operations and Maintenance (O&M) Plan, and Appendices) shall be recorded in the Orange County Clerk-Recorder's Office, prior to close-out of grading and/or building permit. Educational Materials are not required to be included.

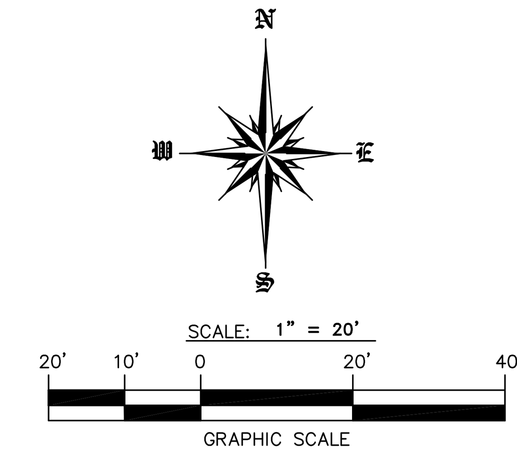


VICINITY MAP



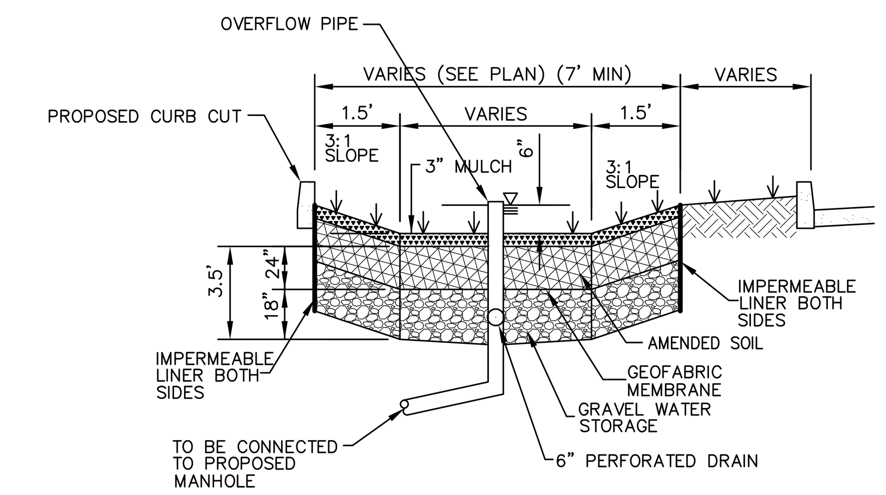


VICINITY MAP

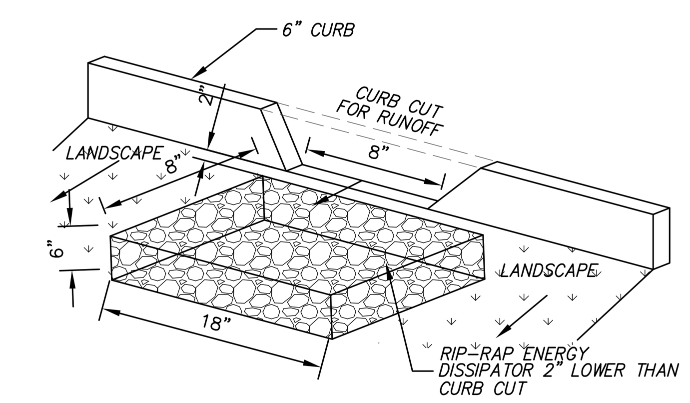


LEGEND

(XXX.XX)	EXISTING ELEVATIONS
(XXX)	EXISTING CONTOUR
	PROPERTY LINE
	ORIGINAL LOT LINE
X	CHAIN LINK FENCE
S	SEWER LINE
W	WATER LINE
	BLOCK WALL
	BUILDING
	CONCRETE
AC	ASPHALTIC CONCRETE
BSW	BACK OF SIDEWALK
CB	CATCH BASIN
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CP	SURVEY CONTROL POINT
+ ED	EXTRA DEPTH FOOTING
ED VLT	EDISON VAULT
ELEC BOX	ELECTRIC BOX
EP	EDGE OF PAVEMENT
FF	FINISHED FLOOR
FOW	FACE OF WALL
FL	FLOW LINE
FS	FINISHED SURFACE
GH SPK	GEARHEAD SPIKE
GTE VLT	GTE VAULT
H.P.	HIGH POINT
IRR VLV	IRRIGATION VALVE
INV	INVERT
LF	LINEAR FEET
LS	LANDSCAPE AREA
L.S.	LUMP SUM
MH	MANHOLE
NG	NATURAL GRADE
PP	POWER POLE
SF	SQUARE FEET
SMH	SEWER MANHOLE
STRP DRAIN	STRIP DRAIN
SW	SIDEWALK
TC	TOP OF CURB
TG	TOP OF GRATE
TS	TOP OF STEP
TOW	TOP OF WALL
WM	WATER METER
WV	WATER VALVE
WTR	WATER SERVICE



BIO-RETENTION BASIN
N.T.S.



DETAIL ①
NOT TO SCALE

TITLE LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF COSTA MESA, COUNTY OF ORANGE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCELS 1 AND 2 OF PARCEL MAP NO. 91-116, IN THE CITY OF COSTA MESA, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP ON FILE IN BOOK 291, PAGE(S) 38 TO 40 OF PARCEL MAPS, RECORDS OF SAID COUNTY.

EXCEPTING THEREFROM ALL OIL, GAS, MINERALS AND OTHER HYDROCARBON SUBSTANCES BELOW A DEPTH OF 500 FEET, BUT WITHOUT THE SURFACE OF ENTRY, AS RESERVED IN DEED RECORDED NOVEMBER 8, 1956 IN BOOK 3704, PAGE 305 OF OFFICIAL RECORDS.

EXISTING UTILITY NOTE:

EXISTING UTILITIES (DOMESTIC WATER, IRRIGATION AND SEWER) WILL BE PROTECTED IN PLACE AND USED TO SERVICE THE PROPOSED DEVELOPMENT IF DETERMINED ADEQUATE AND IN WORKING CONDITION.

JONES, CAHL & ASSOCIATES
CONSULTING ENGINEERS
18090 Beach Boulevard - Huntington Beach
California 92648 - (714) 848-0566
e-mail: jca@jonescahl.com

DESIGNED:	D.R.	SCALE:	1" = 20'
DRAWN:	C.H.	DATE:	8/5/2020
CHECKED:	D.R.	JOB NO.	20-2412

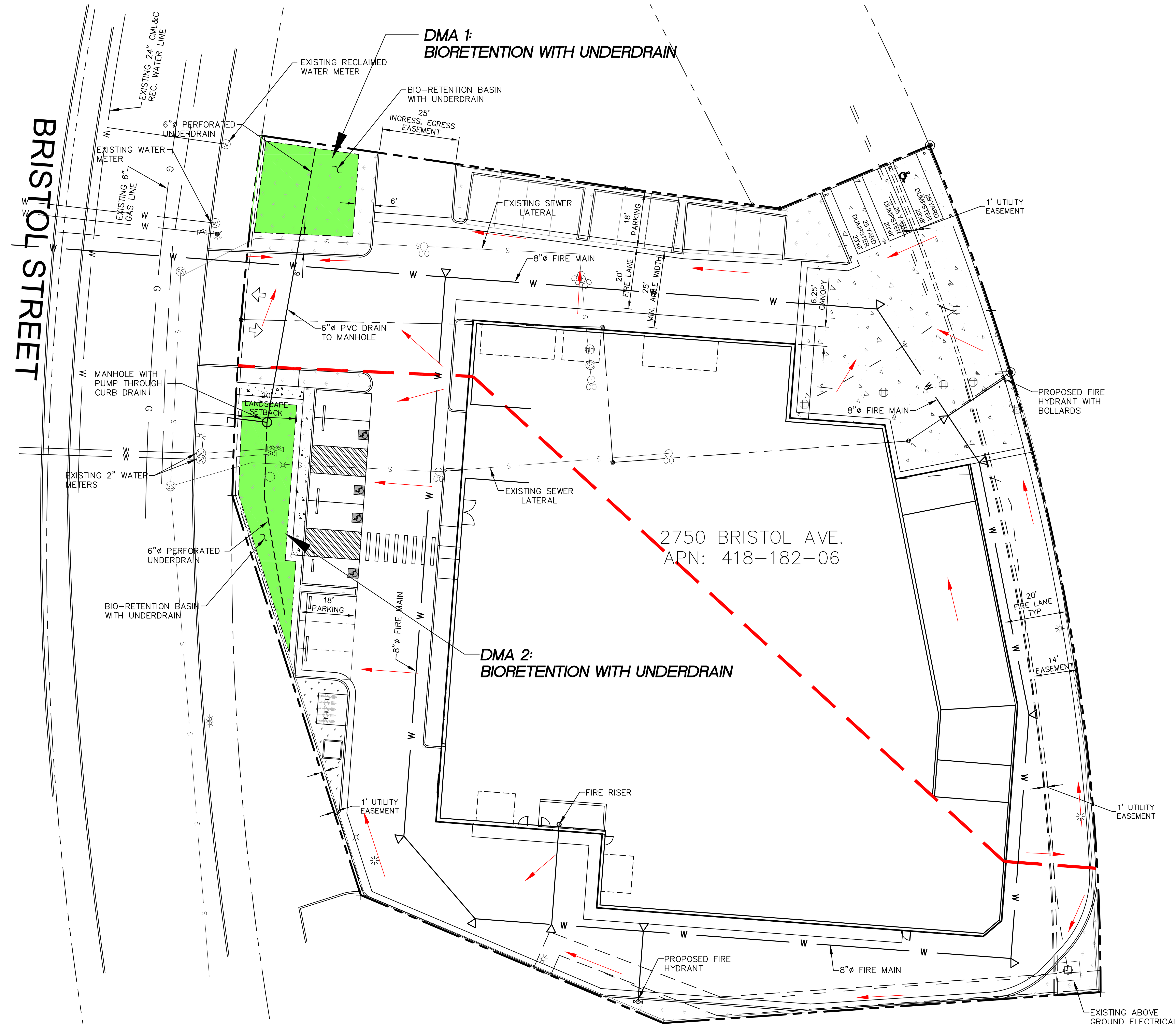
PREPARED UNDER THE DIRECTION OF:
DANIEL RUBIO P.L.S. 8239 DATE

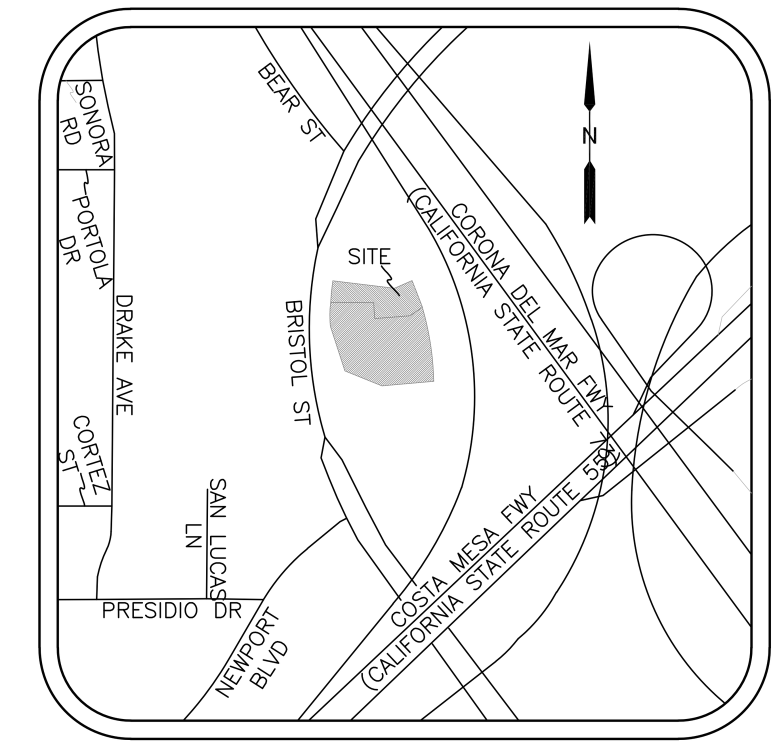
KUNZIK & SARA CONSTRUCTION

PRELIMINARY GRADING PLAN
2750 BRISTOL AVE.

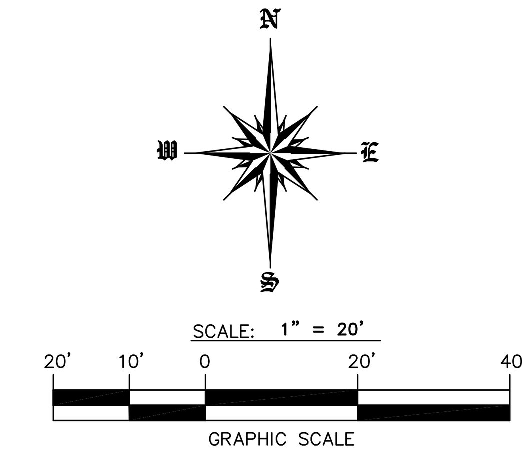
COSTA MESA CALIFORNIA

DWG. NO.	SHEET NO.	REV.
20-2412-GP	1 OF 2	0





VICINITY MAP



LEGEND

(XXX.XX)	EXISTING ELEVATIONS
(XXX)	EXISTING CONTOUR
	PROPERTY LINE
	ORIGINAL LOT LINE
— X —	CHAIN LINK FENCE
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TC	TOP OF CURB
TG	TOP OF GRATE
TS	TOP OF STEP
TOW	TOP OF WALL
WM	WATER METER
WV	WATER VALVE
WTR	WATER SERVICE

DMA 1:

TOTAL AREA = 32,069 SF
LANDSCAPE AREA = 1,944 SF (6.06%)
IMPERVIOUS AREA = 30,125 SF (93.94%)

DCV = C X d X A
C = (0.75 X .9394) + 0.15 = 0.855
d = 0.75"
A = 32,069 SF

DCV = (0.855) X (0.75 IN) X (32069 SF) / (12 IN/FT) = 1,714 CF

USING CAPTURE EFFICIENCY METHOD:

STEP 1.
DD = (DP / KDESIGN) X 12 IN/FT
DD = DRAWDOWN TIME
DP = DEPTH OF PONDING
KDESIGN = INFILTRATION RATE

= (0.5' / 2.5 IN/HR) X 12 = 2.4 HR USE 3 HOURS (MIN)

STEP 2.
ADJUSTED DCV =
d = 0.75"
T = 3 HR
X_1 (FROM CHART) = 0.25
X_2 = 0
d (FRACTION) = 0.75" X 0.25 = 0.19"

DCV = 434 CF

STEP 3.
A = DESIGN VOLUME / DP
A = REQUIRED INFILTRATION AREA
DESIGN VOLUME = FRACTION OF DCV
DP = PONDING DEPTH

= 434 CF / 0.5' = 868 SF REQUIRED
882 SF PROVIDED

DMA 2:

TOTAL AREA = 33,417 SF
LANDSCAPE AREA = 2,073 SF (6.20%)
IMPERVIOUS AREA = 31,344SF (93.8%)

DCV = C X d X A
C = (0.75 X .938) + 0.15 = 0.8535
d = 0.75"
A = 32,069 SF

DCV = (0.8535) X (0.75 IN) X (33417 SF) / (12 IN/FT) = 1,783 CF

USING CAPTURE EFFICIENCY METHOD:

STEP 1.
DD = (DP / KDESIGN) X 12 IN/FT
DD = DRAWDOWN TIME
DP = DEPTH OF PONDING
KDESIGN = INFILTRATION RATE

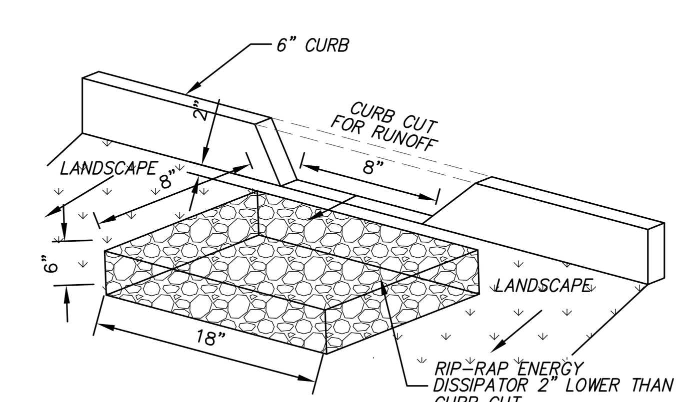
= (0.5' / 2.5 IN/HR) X 12 = 2.4 HR USE 3 HOURS (MIN)

STEP 2.
ADJUSTED DCV =
d = 0.75"
T = 3 HR
X_1 (FROM CHART) = 0.25
X_2 = 0
d (FRACTION) = 0.75" X 0.25 = 0.19"

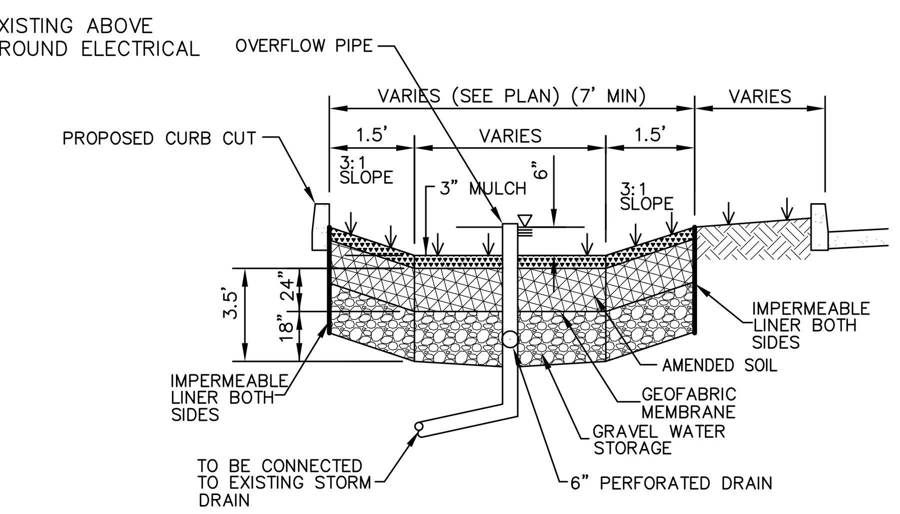
DCV = 452 CF

STEP 3.
A = DESIGN VOLUME / DP
A = REQUIRED INFILTRATION AREA
DESIGN VOLUME = FRACTION OF DCV
DP = PONDING DEPTH

= 452 CF / 0.5' = 904 SF REQUIRED
916 SF PROVIDED



DETAIL 1
NOT TO SCALE



BIO-RETENTION BASIN
N.T.S.

TITLE LEGAL DESCRIPTION

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JCA
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PREPARED UNDER THE DIRECTION OF:

DANIEL RUBIO P.L.S. 8239 DATE

KUNZIK & SARA CONSTRUCTION

WQMP MAP
2750 BRISTOL AVE.

COSTA MESA CALIFORNIA

DWG. NO.	SHEET NO.	REV.
20-2412-GP	2 OF 2	0

XIV.5. Biotreatment BMP Fact Sheets (BIO)

Conceptual criteria for biotreatment BMP selection, design, and maintenance are contained in **Appendix XII**. These criteria are generally applicable to the design of biotreatment BMPs in Orange County and BMP-specific guidance is provided in the following fact sheets.

Note: Biotreatment BMPs shall be designed to provide the maximum feasible infiltration and ET based on criteria contained in ***Appendix*** **XI.2**.

BIO-1: Bioretention with Underdrains

Also known as:

- *Rain gardens with underdrains*
- *Vegetated media filter*
- *Downspout planter boxes*

Bioretention
Source: Geosyntec Consultants

Bioretention stormwater treatment facilities are landscaped shallow depressions that capture and filter stormwater runoff. These facilities function as a soil and plant-based filtration device that removes pollutants through a variety of physical, biological, and chemical treatment processes. The facilities normally consist of a ponding area, mulch layer, planting soils, and plants. As stormwater passes down through the planting soil, pollutants are filtered, adsorbed, biodegraded, and sequestered by the soil and plants. Bioretention with an underdrain are utilized for areas with low permeability native soils or steep slopes where the underdrain system that routes the treated runoff to the storm drain system rather than depending entirely on infiltration. **Bioretention must be designed without an underdrain** in areas of high soil permeability.

Feasibility Screening Considerations

- If there are no hazards associated with infiltration (such as groundwater concerns, contaminant plumes or geotechnical concerns), **bioinfiltration facilities**, which achieve partial infiltration, should be used to maximize infiltration.
- Bioretention with underdrain facilities should be lined if contaminant plumes or geotechnical concerns exist. If high groundwater is the reason for infiltration infeasibility, bioretention facilities with underdrains do not need to be lined.

Opportunity Criteria

- Land use may include commercial, residential, mixed use, institutional, and subdivisions. Bioretention may also be applied in parking lot islands, cul-de-sacs, traffic circles, road shoulders, road medians, and next to buildings in planter boxes.
- Drainage area is ≤ 5 acres.
- Area is available for infiltration.

- Site must have adequate relief between land surface and the stormwater conveyance system to permit vertical percolation through the soil media and collection and conveyance in underdrain to stormwater conveyance system.

OC-Specific Design Criteria and Considerations

- ☐ Ponding depth should not exceed 18 inches; fencing may be required if ponding depth is greater than 6 inches to mitigate drowning.
- ☐ The minimum soil depth is 2 feet (3 feet is preferred).
- ☐ The maximum drawdown time of the bioretention ponding area is 48 hours. The maximum drawdown time of the planting media and gravel drainage layer is 96 hours, if applicable.
- ☐ Infiltration pathways may need to be restricted due to the close proximity of roads, foundations, or other infrastructure. A geomembrane liner, or other equivalent water proofing, may be placed along the vertical walls to reduce lateral flows. This liner should have a minimum thickness of 30 mils.
- ☐ If infiltration in bioretention location is hazardous due to groundwater or geotechnical concerns, a geomembrane liner must be installed at the base of the bioretention facility. This liner should have a minimum thickness of 30 mils.
- ☐ The planting media placed in the cell shall be designed per the recommendations contained in MISC-1: Planting/Storage Media
- ☐ Plant materials should be tolerant of summer drought, ponding fluctuations, and saturated soil conditions for 48 hours; native place species and/or hardy cultivars that are not invasive and do not require chemical inputs should be used to the maximum extent feasible
- ☐ The bioretention area should be covered with 2-4 inches (average 3 inches) or mulch at the start and an additional placement of 1-2 inches of mulch should be added annually.
- ☐ Underdrain should be sized with a 6 inch minimum diameter and have a 0.5% minimum slope. Underdrain should be slotted polyvinyl chloride (PVC) pipe; underdrain pipe should be more than 5 feet from tree locations (if space allows).
- ☐ A gravel blanket or bedding is required for the underdrain pipe(s). At least 0.5 feet of washed aggregate must be placed below, to the top, and to the sides of the underdrain pipe(s).
- ☐ An overflow device is required at the top of the bioretention area ponding depth.
- ☐ Dispersed flow or energy dissipation (i.e. splash rocks) for piped inlets should be provided at basin inlet to prevent erosion.
- ☐ Ponding area side slopes shall be no steeper than 3:1 (H:V) unless designed as a planter box BMP with appropriate consideration for trip and fall hazards.

Simple Sizing Method for Bioretention with Underdrain

If the Simple Design Capture Volume Sizing Method described in **Appendix** III.3.1 is used to size a bioretention with underdrain facility, the user selects the basin depth and then determines the appropriate surface area to capture the DCV. The sizing steps are as follows:

Step 1: Determine DCV

Calculate the DCV using the Simple Design Capture Volume Sizing Method described in **Appendix** III.3.1.

Step 2: Verify that the Ponding Depth will Draw Down within 48 Hours

The ponding area drawdown time can be calculated using the following equation:

$DD_P = (d_P / K_{MEDIA}) \times 12$ in/ft

Where:

DD_P = time to drain ponded water, hours

d_P = depth of ponding above bioretention area, ft (not to exceed 1.5 ft)

K_{MEDIA} = media design infiltration rate, in/hr (equivalent to the media hydraulic conductivity with a factor of safety of 2; K_{MEDIA} of 2.5 in/hr should be used unless other information is available)

If the drawdown time exceeds 48 hours, adjust ponding depth and/or media infiltration rate until 48 hour drawdown time is achieved.

Step 3: Determine the Depth of Water Filtered During Design Capture Storm

The depth of water filtered during the design capture storm can be estimated as the amount routed through the media during the storm, or the ponding depth, whichever is smaller.

$d_{FILTERED}$ = Minimum [$((K_{MEDIA} \times T_{ROUTING})/12)$, d_P]

Where:

$d_{FILTERED}$ = depth of water that may be considered to be filtered during the design storm event, ft

K_{MEDIA} = media design infiltration rate, in/hr (equivalent to the media hydraulic conductivity with a factor of safety of 2; K_{MEDIA} of 2.5 in/hr should be used unless other information is available)

$T_{ROUTING}$ = storm duration that may be assumed for routing calculations; this should be assumed to be no greater than 3 hours. If the designer desires to account for further routing effects, the Capture Efficiency Method for Volume-Based, Constant Drawdown BMPs (See **Appendix** III.3.2) should be used.

d_P = depth of ponding above bioretention area, ft (not to exceed 1.5 ft)

Step 4: Determine the Facility Surface Area

$A = DCV / (d_P + d_{FILTERED})$

Where:

A = required area of bioretention facility, sq-ft

DCV = design capture volume, cu-ft

$d_{FILTERED}$ = depth of water that may be considered to be filtered during the design storm event, ft

d_P = depth of ponding above bioretention area, ft (not to exceed 1.5 ft)

Capture Efficiency Method for Bioretention with Underdrains

If the bioretention geometry has already been defined and the user wishes to account more explicitly for routing, the user can determine the required footprint area using the Capture Efficiency Method for Volume-Based, Constant Drawdown BMPs (See **Appendix III.3.2**) to determine the fraction of the DCV that must be provided to manage 80 percent of average annual runoff volume. This method accounts for drawdown time different than 48 hours.

Step 1: Determine the drawdown time associated with the selected basin geometry

$DD = (d_p / K_{DESIGN}) \times 12$ in/ft

Where:

DD = time to completely drain infiltration basin ponding depth, hours

d_P = bioretention ponding depth, ft (should be less than or equal to 1.5 ft)

K_{DESIGN} = design media infiltration rate, in/hr (assume 2.5 inches per hour unless otherwise proposed)

If drawdown is less than 3 hours, the drawdown time should be rounded to 3 hours or the Capture Efficiency Method for Flow-based BMPs (See **Appendix III.3.3**) shall be used.

Step 2: Determine the Required Adjusted DCV for this Drawdown Time

Use the Capture Efficiency Method for Volume-Based, Constant Drawdown BMPs (See **Appendix III.3.2**) to calculate the fraction of the DCV the basin must hold to achieve 80 percent capture of average annual stormwater runoff volume based on the basin drawdown time calculated above.

Step 3: Determine the Basin Infiltrating Area Needed

The required infiltrating area (i.e. the surface area of the top of the media layer) can be calculated using the following equation:

A = Design Volume / d_p

Where:

A = required infiltrating area, sq-ft (measured at the media surface)

Design Volume = fraction of DCV, adjusted for drawdown, cu-ft (see Step 2)

d_p = ponding depth of water stored in bioretention area, ft (from Step 1)

This does not include the side slopes, access roads, etc. which would increase bioretention footprint. If the area required is greater than the selected basin area, adjust surface area or adjust ponding depth and recalculate required area until the required area is achieved.

Configuration for Use in a Treatment Train

- Bioretention areas may be preceeded in a treatment train by HSCs in the drainage area, which would reduce the required design volume of the bioretention cell. For example, bioretention could be used to manage overflow from a cistern.
- Bioretention areas can be used to provide pretreatment for underground infiltration systems.

Additional References for Design Guidance

- CASQA BMP Handbook for New and Redevelopment: http://www.cabmphandbooks.com/Documents/Development/TC-32.pdf
- SMC LID Manual (pp 68): http://www.lowimpactdevelopment.org/guest75/pub/All_Projects/SoCal_LID_Manual/SoCalLID_Manual_FINAL_040910.pdf
- Los Angeles County Stormwater BMP Design and Maintenance Manual, Chapter 5: http://dpw.lacounty.gov/DES/design_manuals/StormwaterBMPDesignandMaintenance.pdf
- San Diego County LID Handbook Appendix 4 (Factsheet 7): http://www.sdcounty.ca.gov/dplu/docs/LID-Appendices.pdf

  Los Angeles Unified School District (LAUSD) Stormwater Technical Manual, Chapter 4: http://www.laschools.org/employee/design/fs-studies-and-reports/download/white_paper_report_material/Storm_Water_Technical_Manual_2009-opt-red.pdf?version_id=76975850
- County of Los Angeles Low Impact Development Standards Manual, Chapter 5: http://dpw.lacounty.gov/wmd/LA_County_LID_Manual.pdf

Worksheet B: Simple Design Capture Volume Sizing Method

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter design capture storm depth from Figure III.1, *d* (inches)	d=	0.75	inches
2	Enter the effect of provided HSCs, d_{HSC} (inches) (Worksheet A)	d_{HSC}=	0	inches
3	Calculate the remainder of the design capture storm depth, $d_{remainder}$ (inches) (Line 1 – Line 2)	$d_{remainder}$=	0.75	inches
Step 2: Calculate the DCV				
1	Enter Project area tributary to BMP (s), *A* (acres)	A=	1.504	acres
2	Enter Project Imperviousness, *imp* (unitless)	imp=	93.4%	
3	Calculate runoff coefficient, $C = (0.75 \times imp) + 0.15$	C=	0.8507	
4	Calculate runoff volume, $V_{design} = (C \times d_{remainder} \times A \times 43560 \times (1/12))$	V_{design}=	3,484	cu-ft
Step 3: Design BMPs to ensure full retention of the DCV				
Step 3a: Determine design infiltration rate				
1	Enter measured infiltration rate, $K_{measured}$ (in/hr) (Appendix VII)	$K_{measured}$=	NA	In/hr
2	Enter combined safety factor from Worksheet H, S_{final} (unitless)	S_{final}=	NA	
3	Calculate design infiltration rate, $K_{design} = K_{measured} / S_{final}$	K_{design}=	NA	In/hr
Step 3b: Determine minimum BMP footprint				
4	Enter drawdown time, *T* (max 48 hours)	T=		Hours
5	Calculate max retention depth that can be drawn down within the drawdown time (feet), $D_{max} = K_{design} \times T \times (1/12)$	D_{max}=	1	feet
6	Calculate minimum area required for BMP (sq-ft), $A_{min} = V_{design} / d_{max}$	A_{min}=	3,484	sq-ft

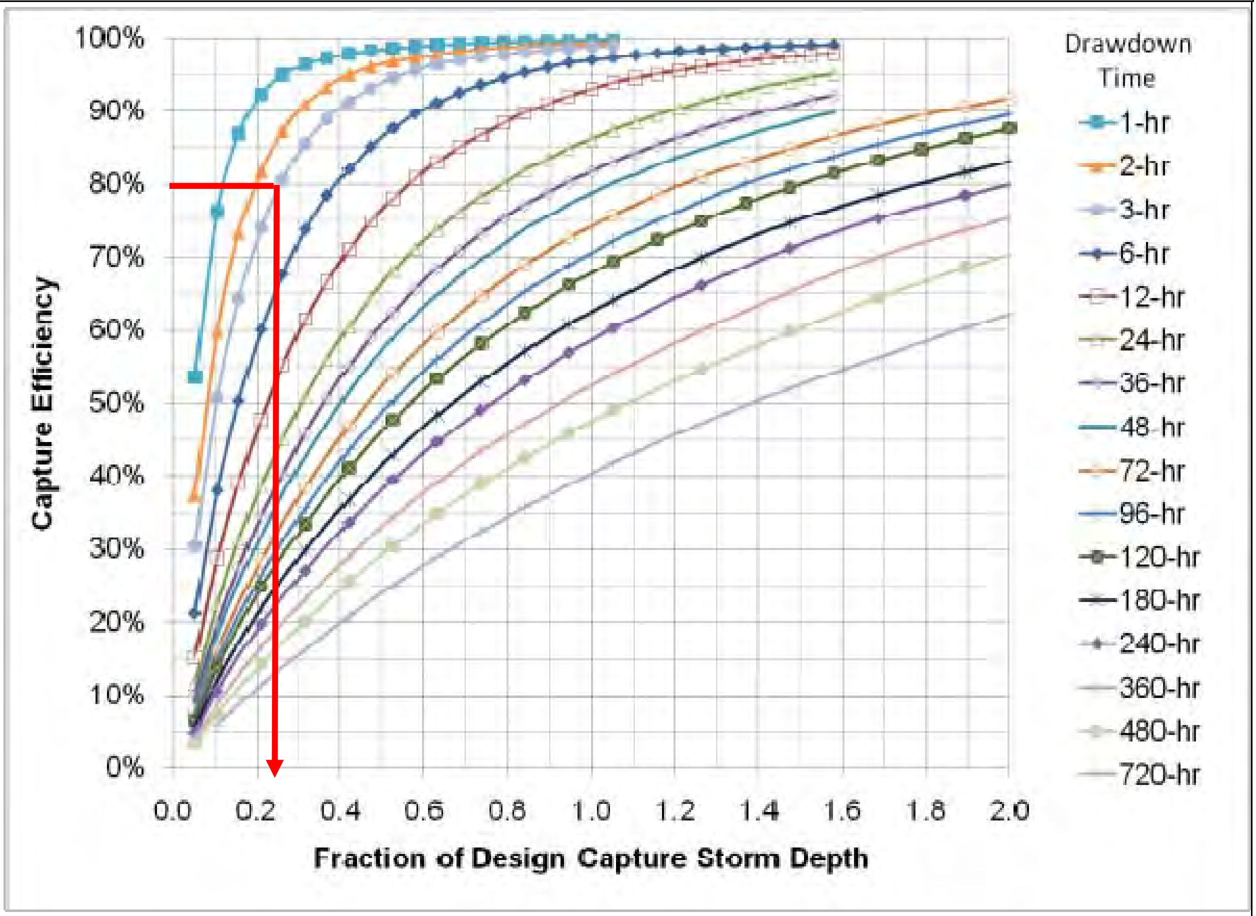
Worksheet C: Capture Efficiency Method for Volume-Based, Constant Drawdown BMPs

Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter design capture storm depth from Figure III.1, *d* (inches)	d=	0.75	inches
2	Enter calculated drawdown time of the proposed BMP based on equation provided in applicable BMP Fact Sheet, *T* (hours)	T=	3	hours
3	Using Figure III.2, determine the "fraction of design capture storm depth" at which the BMP drawdown time (T) line achieves 80% capture efficiency, X_1	X_1=	0.25	
4	Enter the effect depth of provided HSCs upstream, d_{HSC} (inches) (Worksheet A)	d_{HSC}=	0	inches
5	Enter capture efficiency corresponding to d_{HSC}, Y_2 (Worksheet A)	Y_2=	0	%
6	Using Figure III.2, determine the fraction of "design capture storm depth" at which the drawdown time (T) achieves the equivalent of the upstream capture efficiency(Y_2), X_2	X_2=	0	
7	Calculate the fraction of design volume that must be provided by BMP, *fraction* = X_1 - X_2	fraction=	0.25	
8	Calculate the resultant design capture storm depth (inches), $d_{fraction}$= *fraction* × *d*	$d_{fraction}$=	0.19	inches
Step 2: Calculate the DCV				
1	Enter Project area tributary to BMP (s), *A* (acres)	A=	1.504	acres
2	Enter Project Imperviousness, *imp* (unitless)	imp=	93.4%	
3	Calculate runoff coefficient, *C= (0.75 x imp) + 0.15*	C=	0.8507	
4	Calculate runoff volume, V_{design}= *(C x* $d_{rfraction}$ *x A x 43560 x (1/12))*	V_{design}=	883	cu-ft
Supporting Calculations				
Describe system:				

Worksheet C: Capture Efficiency Method for Volume-Based, Constant Drawdown BMPs

Provide drawdown time calculations per applicable BMP Fact Sheet:

Graphical Operations



Provide supporting graphical operations. See Example III.6.

CAPTURE EFFICIENCY METHOD (BIORETENTION WITH UNDERDRAIN)

STEP 1.

$DD = (d_p / K_{design}) \times 12$ in/ft

DD = Drawdown Time

d_p = depth of ponding

K_{design} = infiltration rate

= (0.5′ / 2.5 in/hr) x 12 = 2.4 hr ← Use 3 hours (min)

STEP 2.

Adjusted DCV per Worksheet C (see above)

= 883 cf

STEP 3.

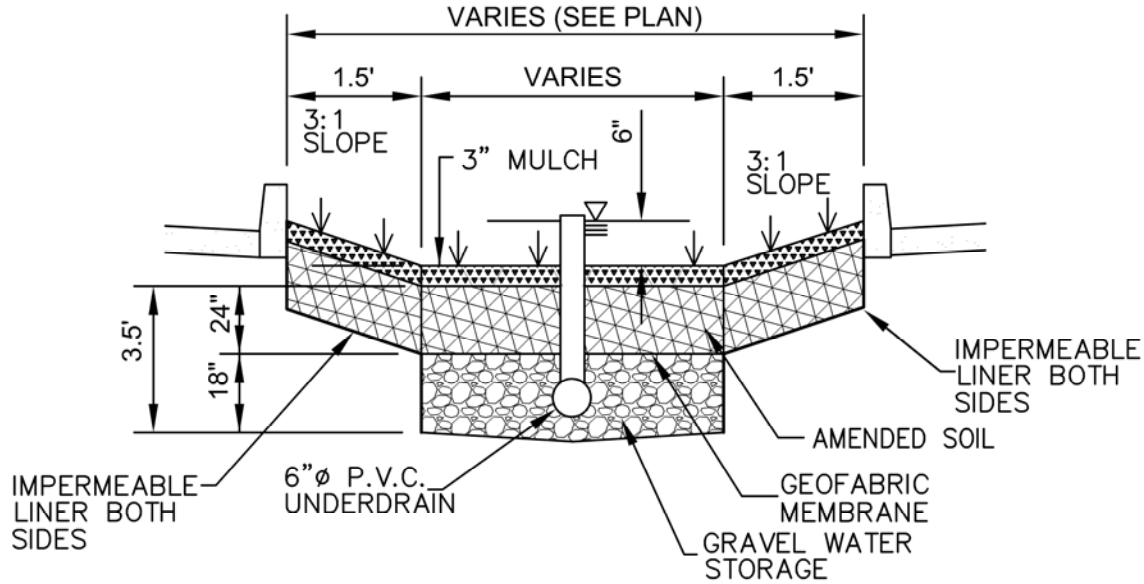
$A = \text{Design Volume} / d_p$

A = required infiltration area

Design Volume = fraction of DCV

d_p = ponding depth

= 883 cf / 0.5′ = 1,766 sf required



SECTION (A)
N.T.S.

Section VII Educational Materials

Refer to the Orange County Stormwater Program (ocwatersheds.com) for a library of materials available. Please only attach the educational materials specifically applicable to this project. Other materials specific to the project may be included as well and must be attached.

Education Materials			
Residential Material (http://www.ocwatersheds.com)	**Check If Applicable**	**Business Material (http://www.ocwatersheds.com)**	**Check If Applicable**
The Ocean Begins at Your Front Door	☒	Tips for the Automotive Industry	☒
Tips for Car Wash Fund-raisers	☐	Tips for Using Concrete and Mortar	☒
Tips for the Home Mechanic	☐	Tips for the Food Service Industry	☐
Homeowners Guide for Sustainable Water Use	☐	Proper Maintenance Practices for Your Business	☒
Household Tips	☐	**Other Material**	**Check If Attached**
Proper Disposal of Household Hazardous Waste	☐		
Recycle at Your Local Used Oil Collection Center (North County)	☐		☐
Recycle at Your Local Used Oil Collection Center (Central County)	☐		☐
Recycle at Your Local Used Oil Collection Center (South County)	☐		☐
Tips for Maintaining a Septic Tank System	☐		☐
Responsible Pest Control	☐		☐
Sewer Spill	☐		☐
Tips for the Home Improvement Projects	☐		☐
Tips for Horse Care	☐		☐
Tips for Landscaping and Gardening	☒		☐
Tips for Pet Care	☐		☐
Tips for Pool Maintenance	☐		☐
Tips for Residential Pool, Landscape and Hardscape Drains	☐		☐
Tips for Projects Using Paint	☐		☐

The Ocean Begins at Your Front Door

PROJECT POLLUTION PREVENTION

Orange County Stormwater Program

Aliso Viejo.	(949)	425-2535
Anaheim Public Works Operations	(714)	765-6860
Brea Engineering.	(714)	990-7666
Buena Park Public Works	(714)	562-3655
Costa Mesa Public Services.	(714)	754-5323
Cypress Public Works.	(714)	229-6740
Dana Point Public Works.	(949)	248-3584
Fountain Valley Public Works	(714)	593-4441
Fullerton Engineering Dept..	(714)	738-6853
Garden Grove Public Works	(714)	741-5956
Huntington Beach Public Works	(714)	536-5431
Irvine Public Works.	(949)	724-6315
La Habra Public Services.	(562)	905-9792
La Palma Public Works.	(714)	690-3310
Laguna Beach Water Quality.	(949)	497-0378
Laguna Hills Public Services	(949)	707-2650
Laguna Niguel Public Works	(949)	362-4337
Laguna Woods Public Works.	(949)	639-0500
Lake Forest Public Works	(949)	461-3480
Los Alamitos Community Dev..	(562)	431-3538
Mission Viejo Public Works	(949)	470-3056
Newport Beach, Code & Water Quality Enforcement.	(949)	644-3215
Orange Public Works.	(714)	532-6480
Placentia Public Works	(714)	993-8245
Rancho Santa Margarita	(949)	635-1800
San Clemente Environmental Programs	(949)	361-6143
San Juan Capistrano Engineering	(949)	234-4413
Santa Ana Public Works	(714)	647-3380
Seal Beach Engineering	(562)	431-2527 x317
Stanton Public Works.	(714)	379-9222 x204
Tustin Public Works/Engineering	(714)	573-3150
Villa Park Engineering	(714)	998-1500
Westminster Public Works/Engineering	(714)	898-3311 x446
Yorba Linda Engineering	(714)	961-7138
Orange County Stormwater Program	(877)	897-7455

Orange County 24-Hour
Water Pollution Problem Reporting Hotline
1-877-89-SPILL (1-877-897-7455)

On-line Water Pollution Problem Reporting Form
w w w . o c w a t e r s h e d s . c o m

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For More Information

California Environmental Protection Agency
www.calepa.ca.gov

- **Air Resources Board**
  www.arb.ca.gov
- **Department of Pesticide Regulation**
  www.cdpr.ca.gov
- **Department of Toxic Substances Control**
  www.dtsc.ca.gov
- **Integrated Waste Management Board**
  www.ciwmb.ca.gov
- **Office of Environmental Health Hazard Assessment**
  www.oehha.ca.gov
- **State Water Resources Control Board**
  www.waterboards.ca.gov

Earth 911 - Community-Specific Environmental Information 1-800-cleanup or visit www.1800cleanup.org

Health Care Agency's Ocean and Bay Water Closure and Posting Hotline
(714) 433-6400 or visit www.ocbeachinfo.com

Integrated Waste Management Dept. of Orange County (714) 834-6752 or visit www.oclandfills.com for information on household hazardous waste collection centers, recycling centers and solid waste collection

O.C. Agriculture Commissioner
(714) 447-7100 or visit www.ocagcomm.com

Stormwater Best Management Practice Handbook
Visit www.cabmphandbooks.com

UC Master Gardener Hotline
(714) 708-1646 or visit www.uccemg.com

The Orange County Stormwater Program has created and moderates an electronic mailing list to facilitate communications, take questions and exchange ideas among its users about issues and topics related to stormwater and urban runoff and the implementation of program elements. To join the list, please send an email to ocstormwaterinfo-join@list.ocwatersheds.com

Even if you live miles from the Pacific Ocean, you may be unknowingly polluting it.

Did You Know?

- Most people believe that the largest source of water pollution in urban areas comes from specific sources such as factories and sewage treatment plants. In fact, the largest source of water pollution comes from city streets, neighborhoods, construction sites and parking lots. This type of pollution is sometimes called "non-point source" pollution.
- There are two types of non-point source pollution: stormwater and urban runoff pollution.
- Stormwater runoff results from rainfall. When rainstorms cause large volumes of water to rinse the urban landscape, picking up pollutants along the way.
- Urban runoff can happen any time of the year when excessive water use from irrigation, vehicle washing and other sources carries trash, lawn clippings and other urban pollutants into storm drains.

Where Does It Go?

- Anything we use outside homes, vehicles and businesses – like motor oil, paint, pesticides, fertilizers and cleaners – can be blown or washed into storm drains.
- A little water from a garden hose or rain can also send materials into storm drains.
- Storm drains are separate from our sanitary sewer systems; unlike water in sanitary sewers (from sinks or toilets), water in storm drains is not treated before entering our waterways.

Sources of Non-Point Source Pollution

- Automotive leaks and spills.
- Improper disposal of used oil and other engine fluids.
- Metals found in vehicle exhaust, weathered paint, rust, metal plating and tires.
- Pesticides and fertilizers from lawns, gardens and farms.
- Improper disposal of cleaners, paint and paint removers.
- Soil erosion and dust debris from landscape and construction activities.
- Litter, lawn clippings, animal waste, and other organic matter.
- Oil stains on parking lots and paved surfaces.

The Effect on the Ocean

Non-point source pollution can have a serious impact on water quality in Orange County. Pollutants from the storm drain system can harm marine life as well as coastal and wetland habitats. They can also degrade recreation areas such as beaches, harbors and bays.

Stormwater quality management programs have been developed throughout Orange County to educate and encourage the public to protect water quality, monitor runoff in the storm drain system, investigate illegal dumping and maintain storm drains.

Support from Orange County residents and businesses is needed to improve water quality and reduce urban runoff pollution. Proper use and disposal of materials will help stop pollution before it reaches the storm drain and the ocean.

Dumping one quart of motor oil into a storm drain can contaminate 250,000 gallons of water.

The Ocean Begins at Your Front Door

Never allow pollutants to enter the street, gutter or storm drain!

Follow these simple steps to help reduce water pollution:

Household Activities

- Do not rinse spills with water. Use dry cleanup methods such as applying cat litter or another absorbent material, sweep and dispose of in the trash. Take items such as used or excess batteries, oven cleaners, automotive fluids, painting products and cathode ray tubes, like TVs and computer monitors, to a Household Hazardous Waste Collection Center (HHWCC).
- For a HHWCC near you call (714) 834-6752 or visit www.oclandfills.com.
- Do not hose down your driveway, sidewalk or patio to the street, gutter or storm drain. Sweep up debris and dispose of it in the trash.

Automotive

- Take your vehicle to a commercial car wash whenever possible. If you wash your vehicle at home, choose soaps, cleaners, or detergents labeled non-toxic, phosphate- free or biodegradable. Vegetable and citrus-based products are typically safest for the environment.
- Do not allow washwater from vehicle washing to drain into the street, gutter or storm drain. Excess washwater should be disposed of in the sanitary sewer (through a sink or toilet) or onto an absorbent surface like your lawn.
- Monitor your vehicles for leaks and place a pan under leaks. Keep your vehicles well maintained to stop and prevent leaks.
- Never pour oil or antifreeze in the street, gutter or storm drain. Recycle these substances at a service station, a waste oil collection center or used oil recycling center. For the nearest Used Oil Collection Center call 1-800-CLEANUP or visit www.1800cleanup.org.

Pool Maintenance

- Pool and spa water must be dechlorinated and free of excess acid, alkali or color to be allowed in the street, gutter or storm drain.
- When it is not raining, drain dechlorinated pool and spa water directly into the sanitary sewer.
- Some cities may have ordinances that do not allow pool water to be disposed of in the storm drain. Check with your city.

Landscape and Gardening

- Do not over-water. Water your lawn and garden by hand to control the amount of water you use or set irrigation systems to reflect seasonal water needs. If water flows off your yard onto your driveway or sidewalk, your system is over-watering. Periodically inspect and fix leaks and misdirected sprinklers.
- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead, dispose of waste by composting, hauling it to a permitted landfill, or as green waste through your city's recycling program.
- Follow directions on pesticides and fertilizer, (measure, do not estimate amounts) and do not use if rain is predicted within 48 hours.
- Take unwanted pesticides to a HHWCC to be recycled. For locations and hours of HHWCC, call (714) 834-6752 or visit www.oclandfills.com.

Trash

- Place trash and litter that cannot be recycled in securely covered trash cans.
- Whenever possible, buy recycled products.
- Remember: Reduce, Reuse, Recycle.

Pet Care

- Always pick up after your pet. Flush waste down the toilet or dispose of it in the trash. Pet waste, if left outdoors, can wash into the street, gutter or storm drain.
- If possible, bathe your pets indoors. If you must bathe your pet outside, wash it on your lawn or another absorbent/permeable surface to keep the washwater from entering the street, gutter or storm drain.
- Follow directions for use of pet care products and dispose of any unused products at a HHWCC.

Common Pollutants

Home Maintenance

- Detergents, cleaners and solvents
- Oil and latex paint
- Swimming pool chemicals
- Outdoor trash and litter

Lawn and Garden

- Pet and animal waste
- Pesticides
- Clippings, leaves and soil
- Fertilizer

Automobile

- Oil and grease
- Radiator fluids and antifreeze
- Cleaning chemicals
- Brake pad dust

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities such as pest control can lead to water pollution if you're not careful. Pesticide treatments must be planned and applied properly to ensure that pesticides do not enter the street, gutter or storm drain. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never dump pesticides into the ocean, so don't let it enter the storm drains. Pesticides can cause significant damage to our environment if used improperly. If you are thinking of using a pesticide to control a pest, there are some important things to consider.

For more information,
please call
University of California Cooperative Extension Master Gardeners at
(714) 708-1646
or visit these Web sites:
www.uccemg.org
www.ipm.ucdavis.edu

For instructions on collecting a specimen sample visit the Orange County Agriculture Commissioner's website at:
http://www.ocagcomm.com/ser_lab.asp

To report a spill, call the
Orange County 24-Hour Water Pollution Problem Reporting Hotline at 1-877-89-SPILL (1-877-897-7455).

For emergencies, dial 911.

Information From:
Cheryl Wilen, Area IPM Advisor; Darren Haver, Watershed Management Advisor; Mary Louise Flint, IPM Education and Publication Director; Pamela M. Geisel, Environmental Horticulture Advisor; Carolyn L. Unruh, University of California Cooperative Extension staff writer. Photos courtesy of the UC Statewide IPM Program and Darren Haver.

Funding for this brochure has been provided in full or in part through an agreement with the State Water Resources Control Board (SWRCB) pursuant to the Costa-Machado Water Act of 2000 (Prop. 13).

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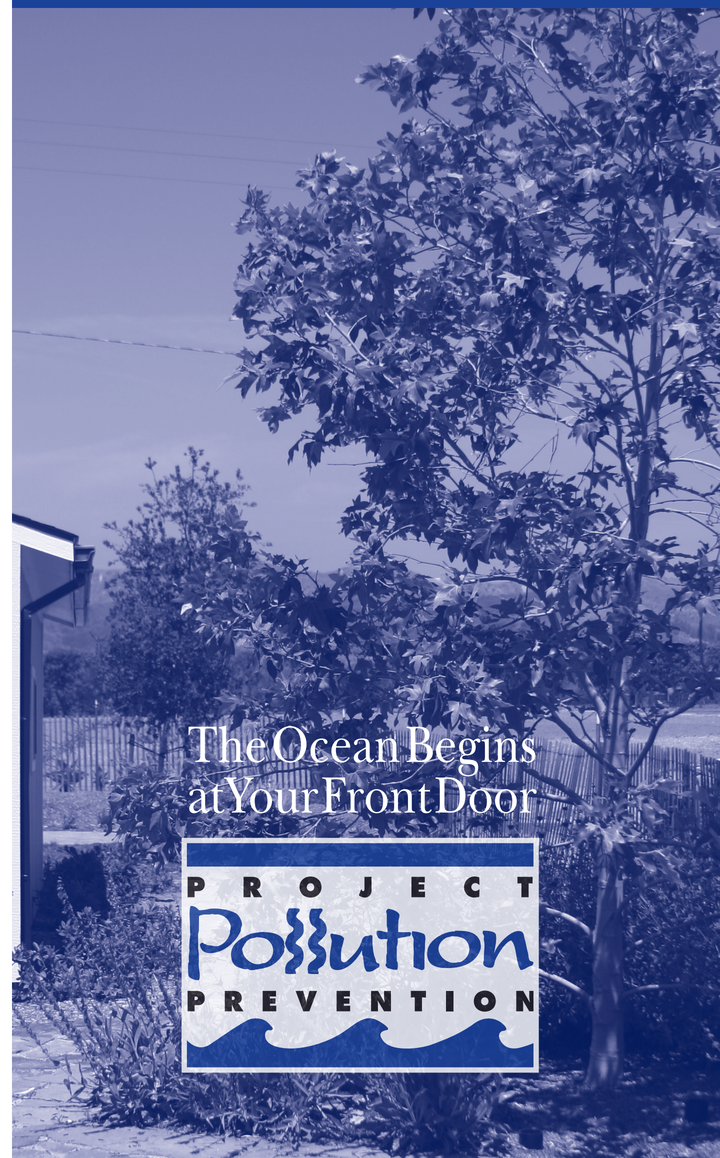
Help Prevent Ocean Pollution:

Responsible Pest Control



Tips for Pest Control

Key Steps to Follow:

Step 1: **Correctly identify the pest (insect, weed, rodent, or disease) and verify that it is actually causing the problem.**

Three life stages of the common lady beetle, a beneficial insect.

This is important because beneficial insects are often mistaken for pests and sprayed with pesticides needlessly.

Consult with a Certified Nursery Professional at a local nursery or garden center or send a sample of the pest to the Orange County Agricultural Commissioner's Office.

Determine if the pest is still present – even though you see damage, the pest may have left.

Step 2: **Determine how many pests are present and causing damage.**

Small pest populations may be controlled more safely using non-pesticide techniques. These include removing food sources, washing off leaves with a strong stream of water, blocking entry into the home using caulking and replacing problem plants with ones less susceptible to pests.

UC CE University of California Cooperative Extension

Integrated Pest Management (IPM) usually combines several least toxic pest control methods for long-term prevention and management of pest problems without harming you, your family, or the environment.

Step 3: **If a pesticide must be used, choose the least toxic chemical.**

Obtain information on the least toxic pesticides that are effective at controlling the target pest from the UC Statewide Integrated Pest Management (IPM) Program's Web site at www.ipm.ucdavis.edu.

Seek out the assistance of a Certified Nursery Professional at a local nursery or garden center when selecting a pesticide. Purchase the smallest amount of pesticide available.

Apply the pesticide to the pest during its most vulnerable life stage. This information can be found on the pesticide label.

Step 4: **Wear appropriate protective clothing.**

Follow pesticide labels regarding specific types of protective equipment you should wear. Protective clothing should always be washed separately from other clothing.

Step 5: **Continuously monitor external conditions when applying pesticides such as weather, irrigation, and the presence of children and animals.**

Never apply pesticides when rain is predicted within the next 48 hours. Also, do not water after applying pesticides unless the directions say it is necessary.

Apply pesticides when the air is still; breezy conditions may cause the spray or dust to drift away from your targeted area.

In case of an emergency call 911 and/or the regional poison control number at (714) 634-5988 or (800) 544-4404 (CA only).

For general questions you may also visit www.calpoison.org.

Step 6: **In the event of accidental spills, sweep up or use an absorbent agent to remove any excess pesticides. Avoid the use of water.**

Be prepared. Have a broom, dust pan, or dry absorbent material, such as cat litter, newspapers or paper towels, ready to assist in cleaning up spills.

Contain and clean up the spill right away. Place contaminated materials in a doubled plastic bag. All materials used to clean up the spill should be properly disposed of according to your local Household Hazardous Waste Disposal site.

Step 7: **Properly store and dispose of unused pesticides.**

Purchase Ready-To-Use (RTU) products to avoid storing large concentrated quantities of pesticides.

Store unused chemicals in a locked cabinet.

Unused pesticide chemicals may be disposed of at a Household Hazardous Waste Collection Center.

Empty pesticide containers should be triple rinsed prior to disposing of them in the trash.

Household Hazardous Waste Collection Center
(714) 834-6752
www.oclandfills.com

PROJECT POLLUTION PREVENTION

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities can lead to water pollution if you're not careful. Fertilizers, pesticides and other chemicals that are left on yards or driveways can be blown or washed into storm drains that flow to the ocean. Overwatering lawns can also send materials into storm drains. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never pour gardening products into the ocean, so don't let them enter the storm drains. Follow these easy tips to help prevent water pollution.

For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

UCCE Master Gardener Hotline:
(714) 708-1646

To report a spill,
call the
Orange County 24-Hour
Water Pollution Problem
Reporting Hotline
1-877-89-SPILL (1-877-897-7455).

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while landscaping or gardening. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

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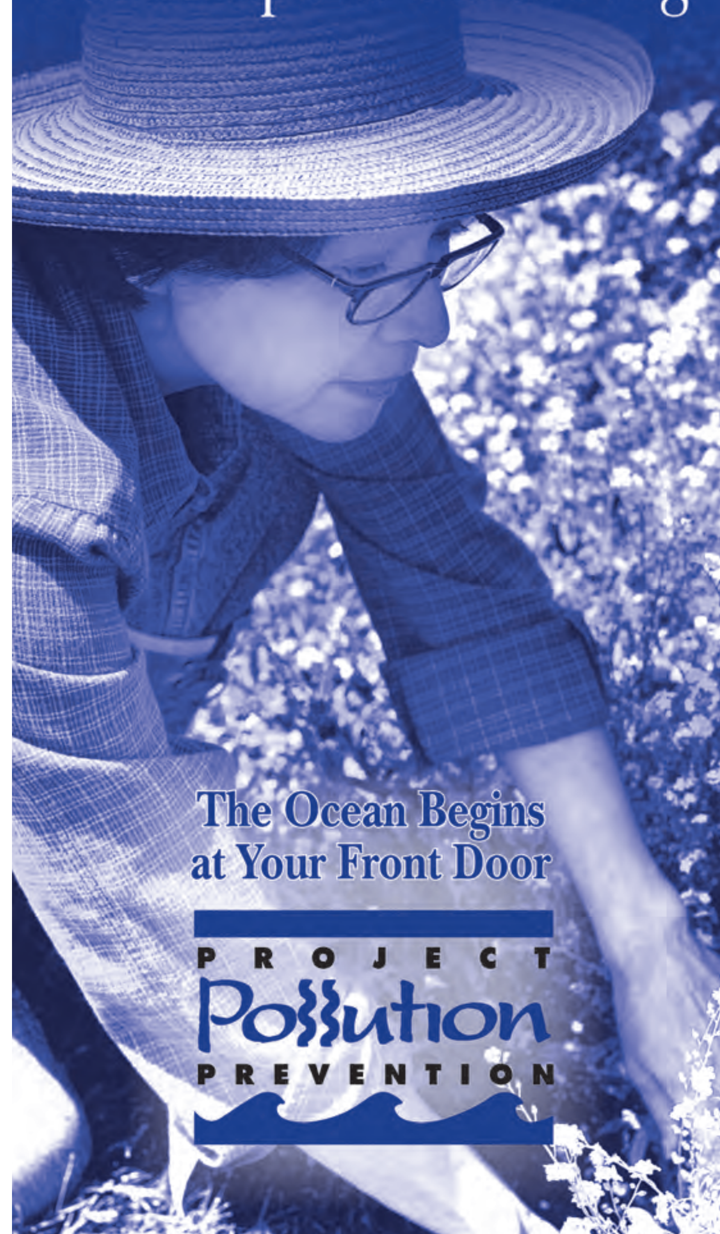
Help Prevent Ocean Pollution:

Tips for Landscape & Gardening



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Tips for Landscape & Gardening

Never allow gardening products or polluted water to enter the street, gutter or storm drain.

General Landscaping Tips

- Protect stockpiles and materials from wind and rain by storing them under tarps or secured plastic sheeting.
- Prevent erosion of slopes by planting fast-growing, dense ground covering plants. These will shield and bind the soil.
- Plant native vegetation to reduce the amount of water, fertilizers, and pesticide applied to the landscape.

- Never apply pesticides or fertilizers when rain is predicted within the next 48 hours.

Garden & Lawn Maintenance

- Do not overwater. Use irrigation practices such as drip irrigation, soaker hoses or micro spray systems. Periodically inspect and fix leaks and misdirected sprinklers.

- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead, dispose of green waste by composting, hauling it to a permitted landfill, or recycling it through your city's program.
- Use slow-release fertilizers to minimize leaching, and use organic fertilizers.
- Read labels and use only as directed. Do not over-apply pesticides or fertilizers. Apply to spots as needed, rather than blanketing an entire area.
- Store pesticides, fertilizers and other chemicals in a dry covered area to prevent exposure that may result in the deterioration of containers and packaging.

- Rinse empty pesticide containers and re-use rinse water as you would use the product. Do not dump rinse water down storm drains. Dispose of empty containers in the trash.
- When available, use non-toxic alternatives to traditional pesticides, and use pesticides specifically designed to control the pest you are targeting. For more information, visit **www.ipm.ucdavis.edu**.
- If fertilizer is spilled, sweep up the spill before irrigating. If the spill is liquid, apply an absorbent material such as cat litter, and then sweep it up and dispose of it in the trash.
- Take unwanted pesticides to a Household Hazardous Waste Collection Center to be recycled. Locations are provided below.

Household Hazardous Waste Collection Centers

Anaheim:	1071 N. Blue Gum St.
Huntington Beach:	17121 Nichols St.
Irvine:	6411 Oak Canyon
San Juan Capistrano:	32250 La Pata Ave.

For more information, call (714) 834-6752 or visit www.oclandfills.com

Engine and Parts Cleaning

- Clean parts in a self-contained unit, solvent sink, or parts washer to prevent solvents and grease from entering a sewer or storm drain.
- Allow parts to drain over a contained area, rather than allowing materials to drip or spill onto the floor. Never discharge the rinse solution into the storm drain or sanitary sewer system.
- Inspect part-washing units daily for leaks and make repairs immediately.
- Use water-based cleaning solutions instead of solvents. Recycle used solutions through a licensed hazardous waste hauler.
- Avoid using hose-off degreasers and never allow runoff to enter the street, gutter or storm drain. Instead, brush off loose debris and use damp rags to wipe down parts. Clean used rags through a rag service or dispose of them as hazardous waste.

Storage

- Materials and waste such as vehicle parts, fuels, solvents, batteries and oils should be stored off the ground and in areas where they will not be exposed to rainwater.
- Contain cracked batteries to prevent hazardous spills.
- If possible, provide overhead coverage for all outside hazardous materials or waste storage areas. If overhead coverage is not available, cover stored materials with an impervious material prior to a rain event.
- Label waste containers and drums in accordance with all local, state and federal laws and regulations. This will also help remind employees to separate wastes and to recycle them.
- Store liquid waste (hazardous or otherwise) in covered, labeled containers.

Waste Recycling and Disposal

- When possible, recycle and reuse solvents, paints, oil filters, antifreeze, motor oil, batteries, metal scraps, water-based paints, used tires, paper, cardboard, container glass, aluminum, tin, water and lubricants. For a list of recycling locations in your area, visit **www.ciwmb.ca.gov/recycle**.
- Combining different types of hazardous waste will limit your recycling options and can be dangerous. A licensed hazardous waste hauler can provide information on hazardous waste storage and disposal costs.

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common automotive activities can lead to water pollution if you are not careful. Automotive work areas must be maintained to ensure that oil, gas, antifreeze, lubricants, grease and other fluids do not enter the street, gutter or storm drain. Rain or other water could wash the materials into the storm drain and eventually into our waterways and the ocean. In addition, hazardous waste must not be poured into the sanitary sewer (sinks and toilets).

You would never dump vehicle fluids into the ocean, so don't let them enter the storm drains. Follow these tips to help prevent water pollution.

For more information, please call the **Orange County Stormwater Program** at **1-877-89-SPILL** (1-877-897-7455) or visit **www.ocwatersheds.com**

To report a spill, call the **Orange County 24-Hour Water Pollution Problem Reporting Hotline** at **1-877-89-SPILL** (1-877-897-7455)

For emergencies dial 911

The tips contained in this brochure provide useful information to help prevent water pollution while performing automotive work. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

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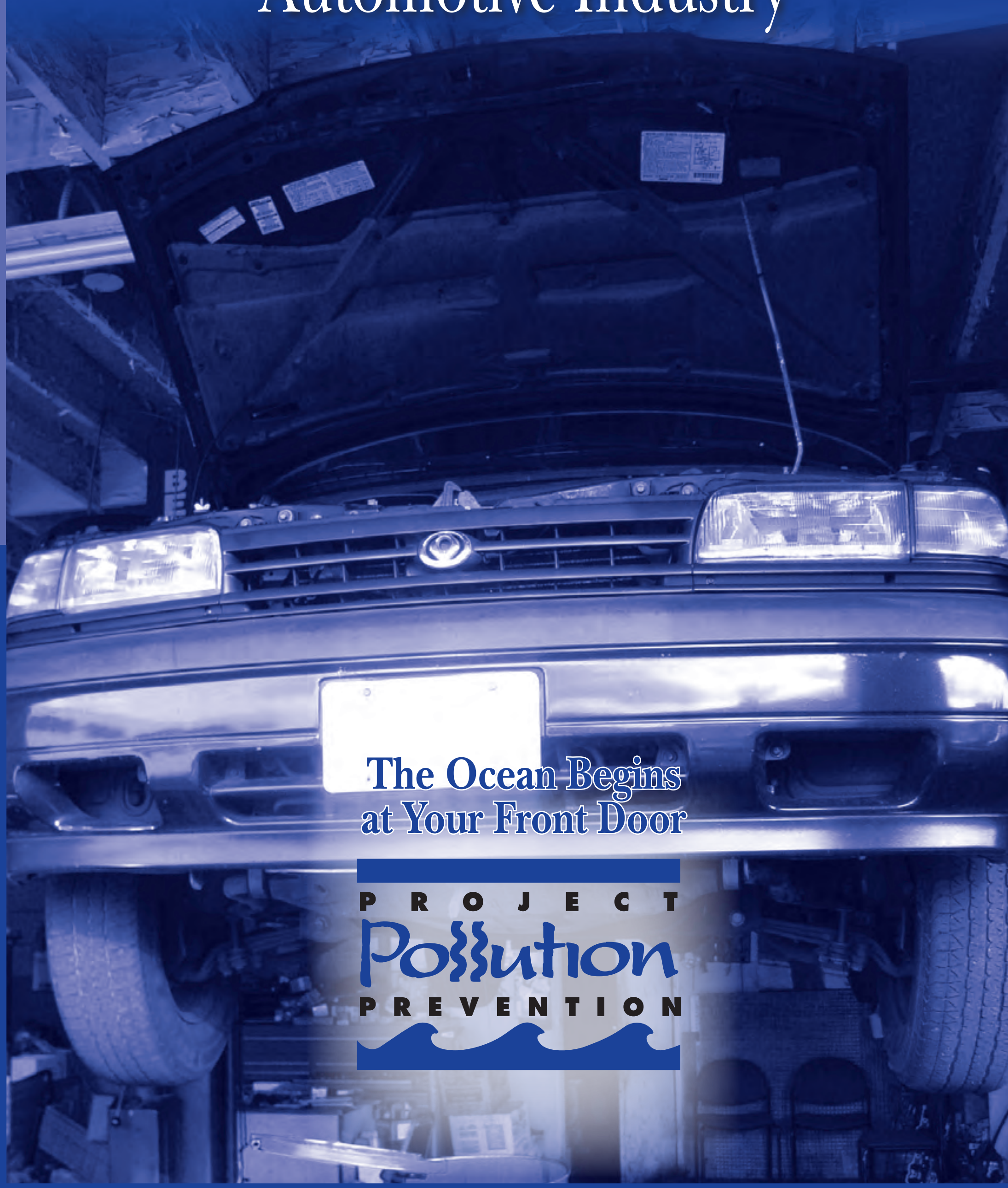
Help Prevent Ocean Pollution:

Tips for the Automotive Industry



The Ocean Begins at Your Front Door

PROJECT POLLUTION PREVENTION

Tips for the Automotive Industry

Local, state and federal laws prohibit businesses from allowing anything but rain to enter the storm drains. To help the automotive industry comply with requirements for reducing pollution and protecting water quality, this brochure describes the Best Management Practices (BMPs) and pollution prevention tips you and your employees should follow. Your compliance with these requirements will be examined during future inspections. Failure to comply may result in criminal prosecution or monetary fines. Please review this information and incorporate these practices into your daily activities.

Work Site

- Locate the storm drains on or near your property. Do not allow materials to flow into these drains.
- Examine your business for sources of pollution.
- Perform automotive projects under cover and in a controlled area.
- Identify specific activities with the potential to cause spills or release pollutants such as oil, grease, fuel, etc. Post signs and train employees on how to prevent and clean up spills during these activities.
- Sweep or vacuum the shop floor daily.
- Use a damp mop to clean work areas. Never hose down surfaces into the street, gutter or storm drain.
- Pour mop water into a sink, toilet or landscaped area. Never dispose of water in a parking lot, street, gutter or storm drain.
- Use non-toxic cleaning products whenever possible.

Preventing Leaks and Spills

- Train employees on how to properly clean up spills and waste.
- Document employee training.
- Keep a spill kit with absorbent materials in the work area.
- Empty drip pans into a labeled, sealed container, before they are full.
- Check equipment, wipe up spills and repair leaks on a daily basis.
- Place large pans under wrecked cars until all fluids are drained.
- Promptly dispose of collected fluids into a hazardous waste drum.
- To learn more, visit: **www.ocwatersheds.com/StormWater/documents_bmp_existing_development.asp#ind**

Cleaning Spills

- Clean up spills immediately by using absorbents such as rags, cat litter or sand. If the material spilled is hazardous, dispose of the rag, litter or sand in the same manner as hazardous waste. If the material spilled is non-hazardous, dispose of it in the trash.
- Immediately report spills that have entered the street, gutter or storm drain to the County's 24-Hour Water Pollution Problem Reporting Hotline at **(714) 567-6363** or visit **www.ocwatersheds.com** to fill out an incident report.
- Report emergencies to 911.

Fueling Areas

- Operate fueling areas so that spills can be contained and runoff cannot carry spills into the street, gutter or storm drain.
- Service drain filters beneath the fueling canopy and replace absorbents annually.
- Post signs instructing customers not to overfill or top-off gas tanks.

Vehicle Fluid Management

- Vehicle fluids are hazardous waste and must be stored and disposed of in accordance with all local, state and federal laws.
- Designate an area to drain vehicle fluids away from storm drains and sanitary drains.
- When possible, drain vehicle fluids indoors or within covered areas, and only over floors that are constructed of a non-porous material such as concrete. Asphalt and dirt floors absorb spilled or leaked fluids, making the cleanup extremely difficult.

Body Repair and Painting

- Clean work areas using dry methods. Use a shop vacuum or broom to sweep up dust, metal and debris. Consider investing in a sander with an attached vacuum system to capture dust at the source.
- Do not vacuum flammable liquids. Allow wet debris to dry overnight on the shop floor and sweep or vacuum it the next day. Liquid must not be discharged into the storm drain system.
- Paint only in approved, enclosed areas equipped with vacuum hoods and filters.
- Minimize paint and thinner waste by carefully calculating needs based on surface area and by using the proper sprayer cup size.

- Collect water used to control over-spray or dust in the paint booth and recycle or dispose of it properly.
- Clean spray guns in a self-contained unit and recycle or properly dispose of the cleaning solution.
- Prevent all washwater from entering the street, gutter or storm drain.

Vehicle and Equipment Cleaning

- Wash vehicles and equipment in designated areas. Never discharge washwater into the street, gutter or storm drain.
- Contact your local sewer agency for information on discharging to the sanitary sewer. Oil/water separators and washwater recycling systems may have special discharge requirements.
- Use a spray nozzle or rinse bucket to conserve water and minimize wastewater.
- Consider the use of a washwater recycling system to minimize wastewater from washing cars.
- Use a commercial car wash facility whenever possible.

PROJECT POLLUTION PREVENTION

Clean beaches and healthy creeks, rivers, bays, and ocean are important to Orange County. However, many common activities can lead to water pollution if you're not careful. Materials and excess concrete or mortar can be blown or washed into the storm drains that flow to the ocean. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

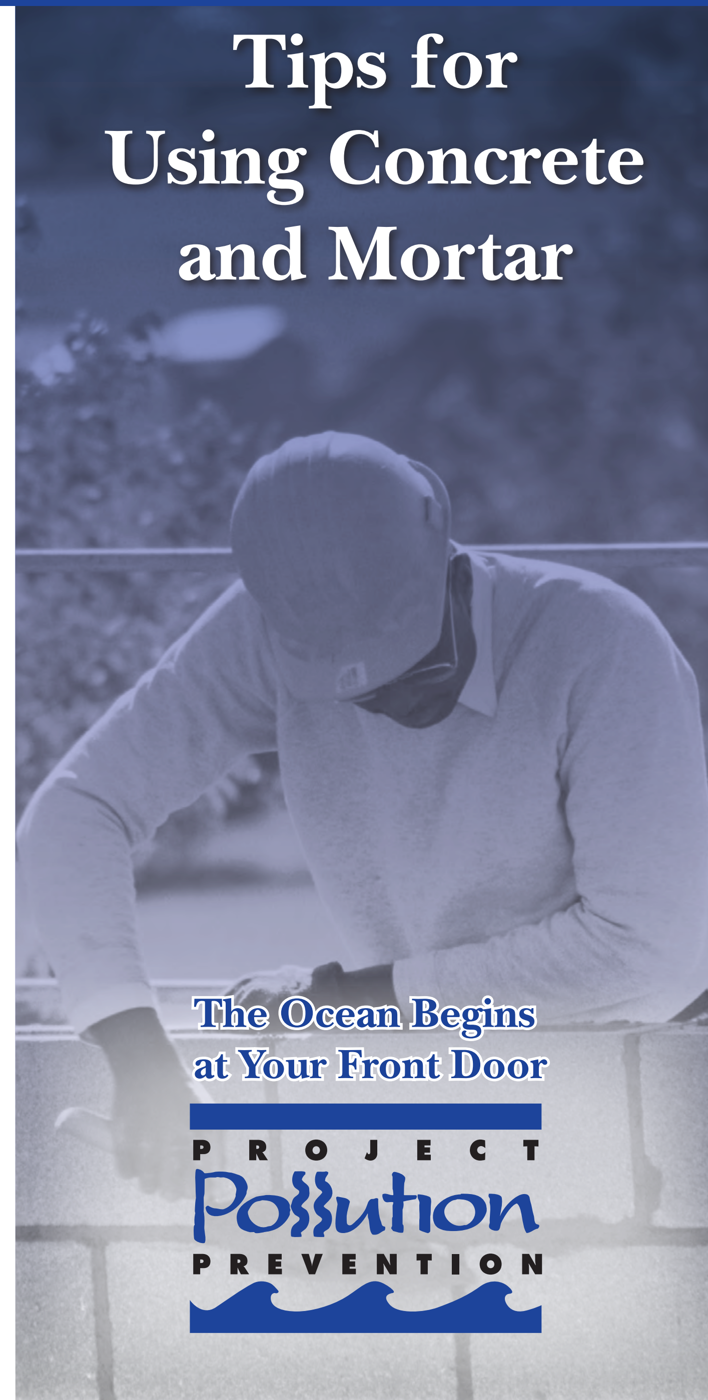
You would never throw building materials into the ocean, so don't let them enter the storm drains. Follow these easy tips to help prevent water pollution.

For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com.

To report a spill,
call the
Orange County 24-Hour
Water Pollution Reporting Hotline
at **1-877-89-SPILL** (1-877-897-7455).

For emergencies, dial 911.

The Tips contained in this brochure provide useful information about how you can keep materials and washwater from entering the storm drain system. If you have other suggestions for how water and materials may be contained, please contact your city's stormwater representative or call the Orange County Stormwater Program.



Tips for Using Concrete and Mortar

The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Tips for Using Concrete and Mortar

Never allow materials or washwater to enter the street or storm drain.

Before the Project

- Schedule projects for dry weather.
- Store materials under cover, with temporary roofs or plastic sheets, to eliminate or reduce the possibility that the materials can be carried from the project site to streets, storm drains or adjacent properties via rainfall, runoff or wind.
- Minimize waste by ordering only the amount of materials needed to complete the job.
- Take measures to block nearby storm drain inlets.

During the Project

- Set up and operate small mixers on tarps or heavy drop cloths.
- Do not mix more fresh concrete or cement than is needed for the job.

- When breaking up pavement, pick up all chunks and pieces and recycle them at a local construction and demolition recycling company. (See information to the right)
- When making saw cuts in pavement, protect nearby storm drain inlets during the saw-cutting operation and contain the slurry. Collect the slurry residue from the pavement or gutter and remove from the site.

Clean-Up

- Dispose of small amounts of dry concrete, grout or mortar in the trash.
- Never hose materials from exposed aggregate concrete, asphalt or similar treatments into a street, gutter, parking lot, or storm drain.
- Wash concrete mixers and equipment in designated washout areas where the water can flow into a containment area or onto dirt. Small amounts of dried material can be disposed of in the trash. Large amounts should be recycled at a local construction and demolition recycling company. (See information below)

- Recycle cement wash water by pumping it back into cement mixers for reuse.

Spills

- Never hose down pavement or impermeable surfaces where fluids have spilled. Use an absorbent material such as cat litter to soak up a spill, then sweep and dispose in the trash.
- Clean spills on dirt areas by digging up and properly disposing of contaminated dry soil in trash.
- Immediately report significant spills to the County's 24-Hour Water Pollution Problem Reporting Hotline at 714-567-6363 or log onto the County's website at www.ocwatersheds.com and fill out an incident reporting form.

For a list of construction and demolition recycling locations in your area visit www.ciwmb.ca.gov/Recycle/.

For additional information on how to control, prevent, remove, and reduce pollution refer to the Stormwater Best Management Practice Handbook, available on-line at www.cabmphandbooks.com.

Preventing water pollution at your commercial/industrial site

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many landscape and building maintenance activities can lead to water pollution if you're not careful. Paint, chemicals, plant clippings and other materials can be blown or washed into storm drains that flow to the ocean. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never pour soap or fertilizers into the ocean, so why would you let them enter the storm drains? Follow these easy tips to help prevent water pollution.

Some types of industrial facilities are required to obtain coverage under the State General Industrial Permit. For more information visit: **www.swrcb.ca.gov/stormwater/industrial.html**

For more information, please call the **Orange County Stormwater Program** at **1-877-89-SPILL** (1-877-897-7455) or visit **www.ocwatersheds.com**

To report a spill, call the **Orange County 24-Hour Water Pollution Problem Reporting Hotline** at **1-877-89-SPILL** (1-877-897-7455).

For emergencies, dial 911.

RECYCLE USED OIL

Printed on Recycled Paper

Help Prevent Ocean Pollution:

Proper Maintenance Practices for Your Business

The Ocean Begins at Your Front Door

PROJECT POLLUTION PREVENTION

Proper Maintenance Practices for your Business

Landscape Maintenance

- Compost grass clippings, leaves, sticks and other vegetation, or dispose of it at a permitted landfill or in green waste containers. Do not dispose of these materials in the street, gutter or storm drain.
- Irrigate slowly and inspect the system for leaks, overspraying and runoff. Adjust automatic timers to avoid overwatering.
- Follow label directions for the use and disposal of fertilizers and pesticides.
- Do not apply pesticides or fertilizers if rain is expected within 48 hours or if wind speeds are above 5 mph.
- Do not spray pesticides within 100 feet of waterways.
- Fertilizers should be worked into the soil rather than dumped onto the surface.
- If fertilizer is spilled on the pavement or sidewalk, sweep it up immediately and place it back in the container.

Building Maintenance

- Never allow washwater, sweepings or sediment to enter the storm drain.
- Sweep up dry spills and use cat litter, towels or similar materials to absorb wet spills. Dispose of it in the trash.
- If you wash your building, sidewalk or parking lot, you **must** contain the water. Use a shop vac to collect the water and contact your city or sanitation agency for proper disposal information. Do not let water enter the street, gutter or storm drain.
- Use drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of materials in the trash.
- Use a ground cloth or oversized tub for mixing paint and cleaning tools.
- Use a damp mop or broom to clean floors.
- Cover dumpsters to keep insects, animals, rainwater and sand from entering. Keep the area around the dumpster clear of trash and debris. Do not overfill the dumpster.
- Call your trash hauler to replace leaking dumpsters.
- Do not dump any toxic substance or liquid waste on the pavement, the ground, or near a storm drain. Even materials that seem harmless such as latex paint or biodegradable cleaners can damage the environment.

NEVER DISPOSE OF ANYTHING IN THE STORM DRAIN.

- Recycle paints, solvents and other materials. For more information about recycling and collection centers, visit **www.oclandfills.com**.
- Store materials indoors or under cover and away from storm drains.
- Use a construction and demolition recycling company to recycle lumber, paper, cardboard, metals, masonry, carpet, plastic, pipes, drywall, rocks, dirt, and green waste. For a listing of construction and demolition recycling locations in your area, visit **www.ciwmb.ca.gov/recycle.**
- Properly label materials. Familiarize employees with Material Safety Data Sheets.

PROJECT POLLUTION PREVENTION

ATTACHMENT F
Hazardous Material Documentation

WEECO WESTERN ENVIRONMENTAL ENGINEERS CO.

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Santa Ana, CA 92705

(714) 542-2644
Fax: (714) 542-2520

WEECO Project # 2006-1382J

Additional Phase II Environmental Site Assessment, Installation of Groundwater Monitoring Well & Groundwater Sampling Report 1st Quarter 2006 at South Pacific Car Wash 2750 South Bristol Street Costa Mesa, CA 92626 (Claim No. 017664) (OCHCA Case #03UT012)

Prepared for:
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I. Introduction

Western Environmental Engineers Company (WEECO) was contracted by Mr. Chanho Yang for the installation, development, and sampling of additional one (1) groundwater monitoring well, Phase II Environmental Site Assessment, and quarterly groundwater sampling investigation at South Pacific Car Wash facility located at 2750 South Bristol Street, Costa Mesa, CA (see Figure 1, Site Location Map). This work was performed essentially in compliance with the WEECO's workplan for Additional Phase II Environmental Site Assessment and Installation of Groundwater Monitoring Wells, dated January 23, 2006, and its subsequent approval by the County of Orange Health Care Agency, Environmental Health (OCHCA). The purpose of this report is to summarize the work performed, and the results of the laboratory analyses of the groundwater and soil samples performed to date. The locations of the monitoring well and soil boring [MW-6] in relation to the surrounding site features are depicted on Figure 2. Conclusions and recommendations, as appropriate, are provided based on the findings of the laboratory analyses, and field investigation.

II. Background

The property is located at 2750 South Bristol Street, Costa Mesa, California (see Figure 1). The property was used as a gasoline service station in the past. Currently, the property is used as a Car Wash facility.

On March 10, 2003, three (3) 15,000-gallon gasoline and one (1) 8,000-gallon diesel double-wall fiber glass underground storage tanks and six (6) fuel dispensers were removed from the subject site. The analyses of soil samples taken just after the tank removal by WEECO revealed that some of the soil samples were indicative of considerable soil hydrocarbon contamination.

On March 28, 2003, WEECO submitted the "Tank Closure Report" to the County of Orange Health Care Agency, Environmental Health.

On April 10, 2003, the County of Orange Health Care Agency, Environmental Health required us to prepare a Workplan for Preliminary Phase II Environmental Site Assessment at the subject site.

On January 12 & 13, 2004, thirteen (13) borings (Labeled B-1 through B-13) were drilled from the ground surface to thirty (30) feet bgs in the vicinity of the previous underground storage tank and dispenser islands areas. A total of sixty-six (66) soil and thirteen (13) groundwater samples were collected from the thirteen borings (labeled B-1 through B-13).

Based on the laboratory results for soil samples, concentrations of TPH (gasoline) were found to be within a range of 0.3 ppm to 1.15 ppm above their respective detection limits; concentrations of Benzene were found to be within a range between 12 ppb and 62 ppb above their respective detection limits; concentrations of Toluene were found to be within a range between 6 ppb and 12 ppb above their respective detection limits; concentrations of Ethylbenzene were found to be within a range between 10 ppb and 25 ppb above their respective detection limits; concentrations of Total Xylenes was found to be 56 ppb above their respective detection limits; and concentrations of MTBE were found to be within a range between 5 ppb and 943 ppb above its detection limit.

In accordance with the laboratory results for groundwater samples, concentrations of TPH (gasoline) were found to be within a range of 0.051 ppm to 2.45 ppm above its detection limit; concentrations of Benzene were found to be within a range between 1 ppb and 4 ppb above its detection limit; concentrations of Toluene were found to be within a range between 1 ppb and 7 ppb above its detection limit; concentrations of Ethylbenzene was found to be 1 ppb above its detection limit; concentrations of Total Xylenes was found to be 7 ppb above its detection limits; and concentrations of MTBE were found to be within a range between 2 ppb and 2,370 ppb above its detection limit.

On November 18, 2004 through January 28, 2005, five (5) borings were drilled from the surface to forty (40) feet below ground surface (bgs) in the vicinity of the former underground storage tank and dispenser islands areas, and a total of twenty-six (26) soil samples were collected from the five (5) borings. All soil borings were subsequently converted into groundwater monitoring wells on the property. These wells were located adjacent to the previously excavated underground storage tanks and dispenser islands area. In accordance with the laboratory results for soil samples, concentration of TPH (gasoline) was found to be 3.770 ppm; and concentrations of MTBE were found to be within a range between 6 ppb to 3,640 ppb, respectively. In accordance with the laboratory results for groundwater samples, concentration of TPH (gasoline) was found to be 2.2 ppm; concentration of TAME was found to be 5 ppb; and concentrations of MTBE were found to be within a range between 18 ppb to 2,100 ppb, respectively.

On February 24, 2005, the County of Orange Health Care Agency, Environmental Health required us to prepare a Workplan for Soil Vapor Extraction Pilot Test at the subject site.

On March 31, 2005, WEECO collected groundwater samples for the analysis of the first quarter, 2005 report. Laboratory analyses again indicated the presence of petroleum hydrocarbons in groundwater samples collected from MW-2, MW-4 and MW-5.

On April 29, 2005, WEECO submitted the "Workplan for In-Situ Air Sparging (IAS) with Soil Vapor Extraction (SVE) Pilot Test" to the County of Orange Health Care Agency, Environmental Health.

On May 12, the County of Orange Health Care Agency, Environmental Health approved our workplan for In-Situ Air Sparging (IAS) with Soil Vapor Extraction (SVE) Pilot Test.

On June 29, 2005, WEECO collected groundwater samples for the analysis of the second quarter, 2005 report. Laboratory analyses again indicated the presence of petroleum hydrocarbons in groundwater samples collected from MW-2, MW-4 and MW-5.

On September 28, 2005, WEECO collected groundwater samples for the analysis of the third quarter, 2005 report. Laboratory analyses again indicated the presence of petroleum hydrocarbons in groundwater samples collected from MW-1 through MW-5.

On October 24, 2005, WEECO performed the In-Situ Air Sparging (IAS) with Soil Vapor Extraction (SVE) Pilot Test.

On December 23, 2005, WEECO collected groundwater samples for the analysis of the fourth quarter, 2005 report. Laboratory analyses again indicated the presence of petroleum hydrocarbons in groundwater samples collected from MW-1 through MW-5.

On January 23, 2006, WEECO submitted the "Workplan for Additional Phase II Environmental Site Assessment and Installation of Groundwater Monitoring Well" to the County of Orange Health Care Agency, Environmental Health.

A summary of previous laboratory analyses performed on soil samples collected on March 10 &13, 2003, January 13 & 14, 2004, and November 18 through December 16, 2004 is depicted in Table 1.

TABLE 1: Summary of Previous Laboratory Results for Soil Samples

Sample ID	8015(m) for Gasoline (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	ETBE (mg/kg)	DIPE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)
TK1-S-16’	12.5	0.005	0.015	ND	ND	6.34	ND	ND	ND	ND
TK1-N-16’	ND	ND	ND	ND	ND	1.85	ND	ND	ND	ND
TK2-S-17’	ND	ND	ND	ND	ND	1.14	ND	ND	ND	620
TK2-N-16’	ND	ND	60	ND	170	0.49	ND	ND	ND	ND
TK3-S-17’	ND	ND	ND	ND	ND	1.59	ND	ND	ND	ND
TK3-N-17’	ND	ND	ND	ND	0.005	7.76	ND	ND	ND	610
TK4-S-18’	3,500	9.1	64.8	28.2	150	272	ND	ND	ND	ND
TK4-N-19’	ND	ND	ND	ND	ND	3.24	ND	ND	ND	ND
DS-1-2’	ND	ND	ND	ND	ND	0.345	ND	ND	ND	ND
DS-2-2’	ND	ND	ND	ND	ND	0.115	ND	ND	ND	ND
DS-3-2’	120	ND	0.1	0.43	6.3	0.2	ND	ND	ND	ND
DS-4-2’	90	ND	0.2	0.065	1.09	0.21	ND	ND	ND	ND
DS-5-2’	ND	ND	ND	ND	ND	0.235	ND	ND	ND	ND
DS-6-2’	830	0.27	19.2	9.68	56.6	3.84	ND	ND	50	ND
SP-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-1-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-1-10	ND	ND	ND	ND	ND	0.044	ND	ND	ND	ND
B-1-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-1-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-1-25	ND	ND	ND	ND	ND	0.013	ND	ND	ND	ND
B-1-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-2-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-2-25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-2-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-3-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-3-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-3-25	0.615	ND	ND	ND	ND	0.53	ND	ND	ND	ND
B-3-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-4-15	ND	ND	ND	ND	ND	0.06	ND	ND	ND	ND
B-4-20	ND	0.012	0.006	ND	ND	0.232	ND	ND	ND	ND
B-4-25	ND	ND	0.012	0.01	0.056	0.057	ND	ND	ND	ND
B-4-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-5-20	0.75	ND	ND	ND	ND	0.63	ND	ND	ND	ND

Sample ID	8015(m) for Gasoline (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	ETBE (mg/kg)	DIPE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)
B-5-25	0.4	ND	ND	ND	ND	0.306	ND	ND	ND	ND
B-5-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-6-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-6-20	ND	ND	ND	ND	ND	0.02	ND	ND	ND	ND
B-6-25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-6-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-7-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-7-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-7-15	ND	ND	ND	ND	ND	0.008	ND	ND	ND	ND
B-7-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-7-25	1.15	0.067	0.011	0.025	ND	0.943	ND	ND	ND	ND
B-7-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-8-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-8-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-8-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-8-20	ND	ND	ND	ND	ND	0.016	ND	ND	ND	ND
B-8-25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-8-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-9-5	ND	ND	ND	ND	ND	0.016	ND	ND	ND	ND
B-9-10	ND	ND	ND	ND	ND	0.006	ND	ND	ND	ND
B-9-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-9-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-9-25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-9-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-10-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-10-10	ND	ND	ND	ND	ND	0.005	ND	ND	ND	ND
B-10-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-10-20	ND	ND	ND	ND	ND	0.007	ND	ND	ND	ND
B-10-25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-10-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-11-5	0.350	ND	ND	ND	ND	0.346	ND	ND	ND	ND
B-11-10	ND	ND	ND	ND	ND	0.02	ND	ND	ND	ND
B-11-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-11-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-11-25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-11-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-12-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-12-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-12-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

A summary of previous laboratory analyses performed on groundwater samples collected on January 13 & 14, 2004 and in January 2005 through December 2005 is depicted in Table 2.

TABLE 2: Summary of Previous Laboratory Results for Groundwater Samples

Sample ID	8015(m) for Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	ETBE (µg/L)	DIPE (µg/L)	TAME (µg/L)	TBA (µg/L)
GW-1	ND	1	2	ND	ND	ND	ND	ND	ND	ND
GW-2	ND	ND	ND	ND	ND	3	ND	ND	ND	ND
GW-3	2,450	1	ND	ND	ND	2,370	ND	ND	ND	ND
GW-4	143	4	7	1	7	113	ND	ND	ND	ND
GW-5	480	ND	ND	ND	ND	440	ND	ND	ND	ND
GW-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
GW-7	ND	2	ND	ND	ND	35	ND	ND	ND	ND
GW-8	ND	1	1	ND	ND	4	ND	ND	ND	ND
GW-9	ND	ND	ND	ND	ND	15	ND	ND	ND	ND
GW-10	ND	ND	ND	ND	ND	6	ND	ND	ND	ND
GW-11	ND	ND	ND	ND	ND	2	ND	ND	ND	ND
GW-12	ND	ND	ND	ND	ND	2	ND	ND	ND	ND
GW-13	51	ND	ND	ND	ND	43	ND	ND	ND	ND
MW-1	ND	ND	ND	ND	ND	18	ND	ND	ND	ND
MW-1	ND	ND	5	2	14	4	ND	ND	ND	ND
MW-1	ND	ND	ND	ND	ND	3	ND	ND	ND	ND
MW-1	ND	ND	ND	ND	ND	2	ND	ND	ND	ND
MW-1	ND	ND	ND	ND	ND	3	ND	ND	ND	ND
MW-2	2,200	ND	ND	ND	ND	2,100	ND	ND	5	ND
MW-2	4,100	ND	ND	ND	ND	4,076	ND	ND	ND	ND
MW-2	3,100	ND	ND	ND	ND	3,040	ND	ND	ND	ND
MW-2	1,600	ND	ND	ND	ND	1,481	ND	ND	ND	ND
MW-2	650	ND	ND	ND	ND	576	ND	ND	ND	ND
MW-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	ND	ND	5	12	14	15	ND	ND	ND	ND
MW-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	ND	ND	ND	ND	ND	5	ND	ND	ND	ND
MW-3	ND	ND	ND	ND	ND	2	ND	ND	ND	ND
MW-4	ND	ND	ND	ND	ND	40	ND	ND	ND	ND
MW-4	420	ND	ND	ND	ND	416	ND	ND	ND	ND
MW-4	180	ND	ND	ND	ND	137	ND	ND	ND	ND
MW-4	200	ND	ND	ND	ND	195	ND	ND	ND	ND
MW-4	310	ND	ND	ND	ND	216	ND	ND	ND	ND
MW-5	ND	ND	ND	ND	ND	180	ND	ND	ND	ND
MW-5	250	ND	ND	ND	ND	252	ND	ND	ND	ND
MW-5	650	ND	ND	ND	ND	610	ND	ND	ND	ND

Sample ID	8015(m) for Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	ETBE (µg/L)	DIPE (µg/L)	TAME (µg/L)	TBA (µg/L)
MW-5	190	ND	ND	ND	ND	186	ND	ND	ND	ND
MW-5	480	ND	ND	ND	ND	430	ND	ND	ND	ND

- **ND**: "Not Detected" at the specified detection limit

III. Geology and Hydrogeology

The Orange County area lies within the Pacific Border physiographic province of the Western United States (Bloom, 1978). The dominant geologic formations of the area are of Tertiary and Quaternary ages. The Tertiary rocks are formed almost entirely of marine deposits and consist mainly of shale, siltstone and sandstone. The Quarternary rocks, mainly of Pleistocene age, contain almost all of the aquifers now tapped by water wells.

The property lies within the Coastal Plain – Orange County Basin of the South Coastal Hydrologic Study Area (HAS). The South Coastal HAS comprises the coastal drainage basins of California north of the Tijuana River Basin to the Ventura River Drainage basin in western Ventura County. The Coastal Plain – Orange County Basin consists of a 360-square mile coastal basin drained primarily by the Santa Ana River. The main water bearing material in this area is comprised of younger alluvium. Groundwater development in the area is described as intensive for irrigation, municipal, and industrial use and moderate for domestic use. Recharge to the basin was estimated at 221,000 acre-feet/year. Extractions in 1956 were estimated to be approximately 200,000 acre-feet. There is a potential for limited additional development; however, overdraft was also noted to be a problem in the basin (CDWR, 1975).

The following are the closest groundwater well locations from the subject site according to the Orange County Health Care Agency:

1. A well located at 2900 Bristol Street (last reviewed in July 1992). The depth to the groundwater was approximately 25.0 feet blow ground surface (bgs).

2. A well located at 3045 Bristol Street (last reviewed in November 2001). The depth to the groundwater was approximately 24.0 feet blow ground surface (bgs).

3. A well located at 2995 Bristol Street (last reviewed in September 1998). The depth to the groundwater was approximately 25.0 feet blow ground surface (bgs).

However, groundwater was encountered at 25 to 26 feet below ground surface (bgs) during the drilling activities.

IV. Groundwater Gradient and Flow Direction

Each of the groundwater monitoring wells was surveyed to determine it's relative elevation and depth to groundwater from the top of the respective casing.

Information obtained from the J.V. & Associates (Land Surveyor) indicates that approximate elevation of subject property is 39 feet above mean sea level (MSL): that elevation was assigned to the casing top of groundwater monitoring well number MW-5. Each of other casing elevations was surveyed to within 0.01 foot elevation. These elevations are presented relative to the assigned value of MW-5 as 39 feet above mean see level (MSL).

The soil material encountered throughout the borings was generally a combination of clayey sand (surface to 15 feet bgs) and sand (15 feet to 30 feet bgs). The color of the soil ranged from dark brown to light brown; the consistency of the soil was moist. Groundwater at the subject site was encountered at about 25-feet below ground surface (bgs), and the shallow groundwater aquifer is believed to exist between 25-40 feet below ground surface.

Casing elevations, depths to groundwater, and water surface elevations are presented in the following Table. All elevations are presented in feet above mean sea level (MSL).

Well No.	Casing Elevation	Depth to Groundwater	Water Elevation
MW-1	38.82	25.14	13.68
MW-2	38.95	25.76	13.19
MW-3	38.91	25.40	13.51
MW-4	39.56	26.46	13.10
MW-5	39.00	25.42	13.58
MW-6	40.70	26.02	14.68

Based on a close ratio of three point solution, the local groundwater essentially appears to migrate in a southeasterly direction from MW-1 to MW-4 of the site, whereas it is migrating northwesterly direction from MW-6 to MW-4 in the western half of the property, creating a sink-like situation in the vicinity of MW-4. The hydraulic gradient seems to be relatively flat. The diagram used to determine groundwater flow is found in Figure 2 (Groundwater Flow Direction).

V. Scope of Work Accomplished

WEECO's "Workplan" dated January 23, 2006 recommended additional drilling of one (1) boring. This boring was subsequently converted into groundwater monitoring well on the property. This groundwater monitoring well installed located approximately 40 feet southeast of existing groundwater location MW-4, once WEECO's workplan for installing the groundwater monitoring well was approved by the County of Orange Health Care Agency Environmental Health, and the groundwater monitoring well installation permit was obtained from the County of Orange Health Care Agency (see Attachment A).

(A) Phase II Environmental Site Assessment

1. Rationale for the Sampling Locations

On March 14, 2006, one (1) boring (MW-6) was drilled from the surface to thirty-five (35) feet below ground surface (bgs), as indicated on the Facility Map (Figure 2). Bulk samples were obtained at every five (5) foot intervals, and tube samples were taken at every 5-feet interval below ground surface (bgs). Boring location was selected in order to further define the vertical and horizontal extent of the subsurface contamination.

2. Soil Boring and Sampling

On March 14, 2006, a total of six (6) soil samples were collected from the one (1) boring. A B-61 Mobile drill rig was used, which was equipped with 8-inch diameter hollow-stem augers, and sampled by a California Spilit Spoon Sampler. The samples were collected in brass tubes using a B-61 and slide hammer sampler. Maximum depth of boring was 35 feet below ground surface. Groundwater was encountered at the time of drilling. Tube soil samples were taken at MW-6-5, MW-6-10, MW-6-15, MW-6-20, MW-6-25 and MW-6-30 feet bgs. For each boring, soil descriptions, sample type and depth, and related drilling information were summarized and recorded on each boring log, which were reviewed by a California Registered Civil Engineer. Logs of Borings are found in Attachment B. Soil cuttings were contained the DOT certified 55-gallon drums.

3. Sampling Procedures for Soil Sample Collection

Tube soil samples were obtained from the borings using a split barrel modified California sampler, which contained three (3) 1.5-inch ID by 3.0-inch long brass sampling tubes. The sampler was driven into the soil using a 140-pound downhole hammer, dropping approximately 30 inches from above. The number of blows required to advance the sampler by 18 inches was recorded on the boring log for each 6-inch increment, when possible. All soil samples were completely driven and filled; no head space nor hand-packing was allowed. The soil samples were retained in the brass tubes, which were sealed at both ends with Teflon sheeting and tight-fitting plastic caps. Each sample was labeled (with the sample number, sample depth and time), placed in a bag, stored in an ice chest, and cooled using ice and refrigerated blue ice packets. Chain-of-custody forms were filed to document the handling, transport, and delivery of samples to a California State Certified laboratory (See Attachment E).

All sampling equipment and sampling tubes were decontaminated prior to each sampling by repeated washing using a brush and Liquinox solution, a tap water rinse, and finally a deionized water rinse. The sampler and sampling tubes were either air-dried or dried with a clean towel. Clean augers were used for each boring.

Vapor readings were obtained at five (5) foot intervals from the bulk samples collected. The soil was collected in plastic ZIPLOC™ bags and placed in a warm area to allow for the volatilization of hydrocarbons. After volatilization, a Photoionization Detector (PID) was calibrated for 50 ppm hexane.

The soil samples were analyzed by EPA Method 8015(m) for TPH as gasoline, EPA Method 8260B for BTEX including methyl tertiary butyl ether (MTBE), Di-isopropyl ether (DIPE), Ethyl tertiary butyl ether (ETBE), Tertiary amyl methyl ether (TAME), and Tertiary butyl alcohol (TBA). The results of the laboratory analyses are summarized in Table 2. The Chain of Custody form and Laboratory Certificates of Analysis are found in Attachment E.

(B) Groundwater Monitoring Wells Installation

1. <u>March 14, 2006 - Monitoring Wells Installation</u>

WEECO notified the County of Orange Health Care Agency Environmental Health at least 5-days and 48 hours, respectively, prior to the installation of monitoring well by Excell Drilling Company, a C-57 licensed drilling company. Prior to drilling, one (1) 24" x 24" squares were cut in the asphalt at the locations of the monitoring well. A Mobile B-61 drill rig was used to drill to 35 feet below ground surface (bgs) using 10.75" O.D. hollow stem augers. Soil cuttings were stored in 55-gallon drums.

Soil description, sample type and depth, and relevant drilling information was recorded on boring logs and reviewed by a Registered Civil Engineer (see Attachment B). Soil samples were collected at 5-feet vertical intervals from the boring location. Groundwater was encountered at approximately 30-feet below ground surface (bgs) for well location MW-6.

Monitoring wells were constructed, using a 4-inch internal diameter, schedule 40 polyvinyl chloride (PVC) casing and screen. No glue, solvent, or petroleum-based lubricants were used in the well construction. Horizontally machine-slotted screen (0.010 inch size) was placed at the appropriate depth zone, as shown in Attachment C.

Slot opening, length and density were 0.01-inch, 1-inch, and 4 slots per inch, respectively. The bottom of MW-6 was approximately 8.98-feet, respectively, below the water table. The well screen extended from the bottom of each boring to 5-feet above the water table (20 feet bgs). Blank casing was placed from the top of the screen to 20 feet below ground surface. The well casing has a bottom cap.

The annulus around the screened interval of the wells was backfilled with screened, washed #3 sand (filter pack). This filter pack extended three-feet above the top of the slotted portion of the well casing (to approximately 17 feet bgs). The filter material was tremied into the borehole to prevent bridging. Prior to installation of the bentonite seal, the well was purged and surged in order to aid in the settling of the filter pack.

Immediately above the filterpack, wetted bentonite chips were placed to act as a seal. The bentonite seal was approximately six feet thick. Above the bentonite seal, a bentonite grout seal was tremied into the remaining portion of the annular space. The well heads were capped with water tight plugs, and enclosed in street-rated, flush-mounted boxes.

On April 1, 2006, the monitoring well elevations were surveyed by J.V. & Associates (Engineers/Surveyors) of Riverside, CA. The elevation of MW-6 is 40.70-feet above Mean Sea Level (MSL). Attachment D contains the surveyor's data sheet.

2. March 17, 2006 - Monitoring Wells Development

MW-6 was developed using Excel's well development rig. Once the groundwater depth was measured, the well were purged and surged. This groundwater monitoring well was developed until the discharge water was relatively clear and free of solids. Approximately 30-gallons of water were removed from the wells, and stored in 55-gallon drums.

3. April 6, 2006 - Monitoring Well Sampling and Quarterly Sampling

The water levels in the wells were allowed to equilibrate for at least 48-hours following development prior to measuring water levels.

Water samples were collected in accordance with the State of California, State Water Resources Control Board, Leaking Underground Fuel Tank (LUFT) Field Manual. A Registered Civil Engineer was present on site to supervise all sampling activities.

Each well was purged using a plastic bailer. The water level and total depth of the well were measured using a conductance probe and a fiber measuring tape. Prior to use, the probe and tape were rinsed in a non-phosphate detergent solution, followed by a clean tap-water rinse, and then a distilled water rinse. Depth to groundwater prior to purging was 25.14 feet for MW-1, 25.76 feet for MW-2, 25.40 feet for MW-3, 26.46 feet for MW-4, 25.42 feet for MW-5 and 26.02 feet for MW-6.

The bailer was lowered into the well to a depth of approximately 35 to 40 feet bgs. Throughout the purging process, measurements were taken periodically for pH, conductivity, temperature, and turbidity. Purging continued until these parameters stabilized (i.e., three consecutive readings were within 10%). Turbidity of MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6 samples were 10, 10, 11, 12, 33 and 13 NTU, respectively; the temperature of six (6) groundwater samples was approximately 68° F; the pH of these samples ranged between 6.84 –

7.15; and the conductivity of these samples ranged between 1,292 – 2,492 μmhos. Each of the water samples was obtained by lowering a Teflon bailer into the well. Prior to sampling, the bailer was washed in non-phosphate detergent, rinsed in tap water, and then rinsed in distilled water. This procedure was repeated prior to the sampling of each well.

Groundwater was purged from wells MW-1 (29.1 gallons), MW-2 (27.9 gallons), MW-3 (28.6 gallons), MW-4 (26.5 gallons), MW-5 (28.6 gallons) and MW-6 (17.6 gallons). No free products were observed in any of the wells.

Under the supervision of the Registered Civil Engineer, the water samples were then collected from the bailer discharge hole, and contained in 40-ml vials. To minimize turbulence, the water was run down the side of the bottle until full. The bottles were sealed with teflon-lined cap; no head space was allowed in the sample container. The samples were labeled with the sample identification, date, time, and project number. The samples were then placed in plastic bags, and stored in an ice chest, and cooled using ice. A chain-of-custody form was filed to document the handling, transport, and delivery of the samples to a California state-certified laboratory. The samples were delivered to the laboratory within 4-hours of collection.

The groundwater samples were analyzed by EPA Method 8015(m) for TPH as gasoline, EPA Method 8260B for BTEX including methyl tertiary butyl ether (MTBE), Di-isopropyl ether (DIPE), Ethyl tertiary butyl ether (ETBE), Tertiary amyl methyl ether (TAME), and Tertiary butyl alcohol (TBA). The results of the laboratory analyses are summarized in Table 3. The Chain of Custody form and Laboratory Certificates of Analysis are found in Attachment E.

VI. Laboratory Analyses

All soil and groundwater samples were delivered to CHEMTEK Inc. Environmental Laboratories, a California State-certified laboratory whose certification by California Department of Health Services is found in Attachment F. The following laboratory analyses were performed on the soil and groundwater samples:

- Total Petroleum Hydrocarbons (TPH) for Gasoline by EPA Method 8015 (m).
- Volatile Organic Compounds (VOCs) for BTEX and MTBE with Fuel Oxygenates by EPA Method 8260B

These laboratory analyses were performed in accordance with the California Regional Water Quality Control Board, Santa Ana Region site assessment requirements. Certificates of Analysis for soil samples during this portion of the site assessment are found in Attachments E. A summary of all laboratory results is shown in Tables 2 and 3.

TABLE 2: Summary of Laboratory Analyses for Soil Samples

Sample ID	8015(m) for Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)	MTBE (ppm)	ETBE (ppm)	DIPE (ppm)	TAME (ppm)	TBA (ppm)
MW-6-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-6-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-6-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-6-20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-6-25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-6-30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND = Not detected above specified detection limits.
MTBE = Methyl Tertiary Butyl Ether, TBA = Tertiary Butyl Alcohol, TAME = Tertiary Amyl Methyl Ether
ppm = parts per million (mg/kg)

TABLE 3: Summary of Laboratory Analyses for Groundwater Samples

Well No. and Elevation (ft-msl)	Date Sampled	Depth to Groundwater (ft)	Groundwater Elevation (ft-msl)	Change in Elevation (ft)	Free Product Thickness (ft)	TPHg (µg/L)	MTBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)
MW-1 38.82	1/28/05	25.84	12.98		0	ND	18	ND	ND	ND	ND	ND	ND
	3/31/05	25.00	13.82	0.84	0	ND	4	ND	ND	ND	5	2	14
	6/29/05	24.88	13.94	0.12	0	ND	3	ND	ND	ND	ND	ND	ND
	9/28/05	25.03	13.79	-0.15	0	ND	2	ND	ND	ND	ND	ND	ND
	12/23/05	25.20	13.62	-0.17	0	ND	3	ND	ND	ND	ND	ND	ND
	4/6/06	**25.14**	**13.68**	**0.06**	**0**	**ND**	**3**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
MW-2 38.95	1/28/05	26.47	12.48		0	2,200	2,100	5	ND	ND	ND	ND	ND
	3/31/05	25.65	13.30	0.82	0	4,100	4,076	ND	ND	ND	ND	ND	ND
	6/29/05	25.53	13.42	0.12	0	3,100	3,040	ND	ND	ND	ND	ND	ND
	9/28/05	25.66	13.29	-0.13	0	1,600	1,481	ND	ND	ND	ND	ND	ND
	12/23/05	25.86	13.09	-0.2	0	650	576	ND	ND	ND	ND	ND	ND
	4/6/06	**25.76**	**13.19**	**0.1**	**0**	**200**	**156**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
MW-3 38.91	1/28/05	26.12	12.79		0	ND	ND	ND	ND	ND	ND	ND	ND
	3/31/05	25.25	13.66	0.87	0	ND	15	ND	ND	ND	5	2	14
	6/29/05	25.13	13.78	0.11	0	ND	ND	ND	ND	ND	ND	ND	ND
	9/28/05	25.30	13.61	-0.17	0	ND	5	ND	ND	ND	ND	ND	ND
	12/23/05	25.45	13.46	-0.15	0	ND	2	ND	ND	ND	ND	ND	ND
	4/6/06	**25.40**	**13.51**	**0.05**	**0**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
MW-4 39.56	1/28/05	27.14	12.42		0	ND	40	ND	ND	ND	ND	ND	ND
	3/31/05	26.34	13.22	0.80	0	420	416	ND	ND	ND	ND	ND	ND
	6/29/05	26.20	13.36	0.14	0	180	137	ND	ND	ND	ND	ND	ND
	9/28/05	26.38	13.18	-0.18	0	200	195	ND	ND	ND	ND	ND	ND
	12/23/05	26.55	13.01	-0.17	0	310	216	ND	ND	ND	ND	ND	ND
	4/6/06	**26.46**	**13.10**	**-0.09**	**0**	**120**	**89**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Well No. and Elevation (ft-msl)	Date Sampled	Depth to Groundwater (ft)	Groundwater Elevation (ft-msl)	Change in Elevation (ft)	Free Product Thickness (ft)	TPHg (µg/L)	MTBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)
MW-5 39.00	1/28/05	26.14	12.86		0	ND	180	ND	ND	ND	ND	ND	ND
	3/31/05	25.30	13.70	0.84	0	250	252	ND	ND	ND	ND	ND	ND
	6/29/05	25.19	13.81	0.11	0	650	610	ND	ND	ND	ND	ND	ND
	9/28/05	25.33	13.67	-0.14	0	190	186	ND	ND	ND	ND	ND	ND
	12/23/05	25.49	13.51	-0.16	0	480	430	ND	ND	ND	ND	ND	ND
	4/6/06	**25.42**	**13.58**	**0.07**	**0**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
MW-6 40.70	**4/6/06**	**26.02**	**14.08**		**0**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

ND = Not detected above specified detection limits.
MTBE = Methyl Tertiary Butyl Ether, TBA = Tertiary Butyl Alcohol, TAME = Tertiary Amyl Methyl Ether
ppb = parts per billion (µg/L)

VII. Conclusions and Recommendations

The laboratory analytical results were compared to the maximum contaminant levels as defined by the Santa Ana Regional Water Quality Control Board and United States Environmental Protection Agency (USEPA) Region IX, Drinking Water Standards & Health Advisories Table for Gasoline Using BTEX.

Recent developments and modifications by the Santa Ana Regional Water Quality Control Board (SARWQCB) have changed the acceptable levels for BTEX and MTBE (defined as "Low Risk" thresholds) of petroleum-impacted groundwater. These levels, along with State Drinking Water Maximum Contaminant Levels (MCLs) for BTEX and MTBE, are summarized in Table 2.

<u>TABLE 4:</u> ***State Drinking Water Maximum Contaminant Levels and "Low Risk Thresholds" (in ppb) for Groundwater based on LARWQCB Guidelines***

Constituent	MCLs	Low Risk Thresholds
Benzene	1 ppb	250 ppb
Toluene	150 ppb	300 ppb
Ethylbenzene	680 ppb	680 ppb
Xylenes	1,750 ppb	1,750 ppb
MTBE	5 ppb	13 ppb

The "low Risk" thresholds as defined by the SARWQCB are based on two criteria. The first is that the site is situated in an area which does not recharge presently utilized drinking water aquifers. The second is that the levels of contamination are sufficiently high, and that they cannot be assumed to be addressed by the passive bioremediation process. Since groundwater is in close proximity to soil samples at the subject site (which does not meet one of the above two criteria), the "low risk" thresholds for groundwater, as defined by the SARWQCB, can not be employed as soil cleaning standards.

Therefore, by comparing the results of the laboratory analyses of samples collected on January 28, March 31, June 29, September 28 & December 23, 2005 and April 6, 2006 presented in Table 3 with the regulatory levels presented in Table 4, WEECO concludes that the observed concentrations of TPH (gasoline) and particularly MTBE are considered to be quite high and consequently, the site can not be considered as clean, based on the State of California Water Resources Control Board "State Drinking Water Maximum Contaminant Levels and Low Risk Thresholds for Groundwater" for the samples collected from the six (6) groundwater monitoring wells at the subject site.

WEECO recommends that based on the results of this investigation, the contaminated soil and groundwater should be treated by vapor extraction and air-sparging, and quarterly monitoring of groundwater should be continued.

VIII. Limitation

The services performed, all findings obtained, the groundwater sample and soil sample obtained and analyzed, and all conclusions and recommendations made, are in accordance with generally and currently accepted engineering and technical principles and practices. The conclusions made in this report ONLY reflect the findings of the chemical analyses performed on the groundwater samples and soil samples taken at the specified location. The areas, where groundwater & soil sampling and analyses were not performed, are not covered in the conclusions and recommendations of this report. No warranties, expressed or implied, are made or intended in connection with this report, or by furnishing this report, or by any oral or written statement.

FIGURE (1)

Site Location Map

Figure (1) Subject Site Location Map

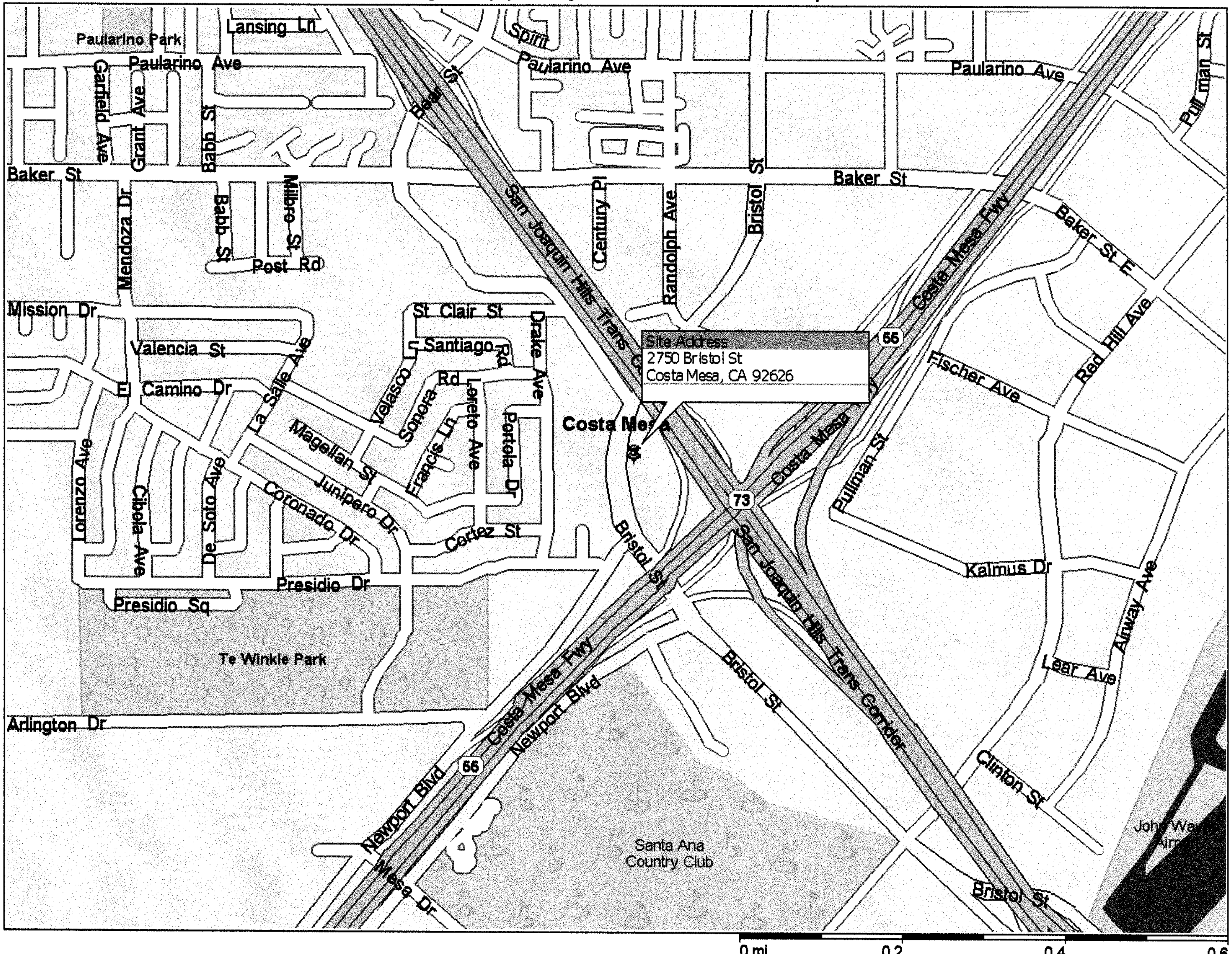
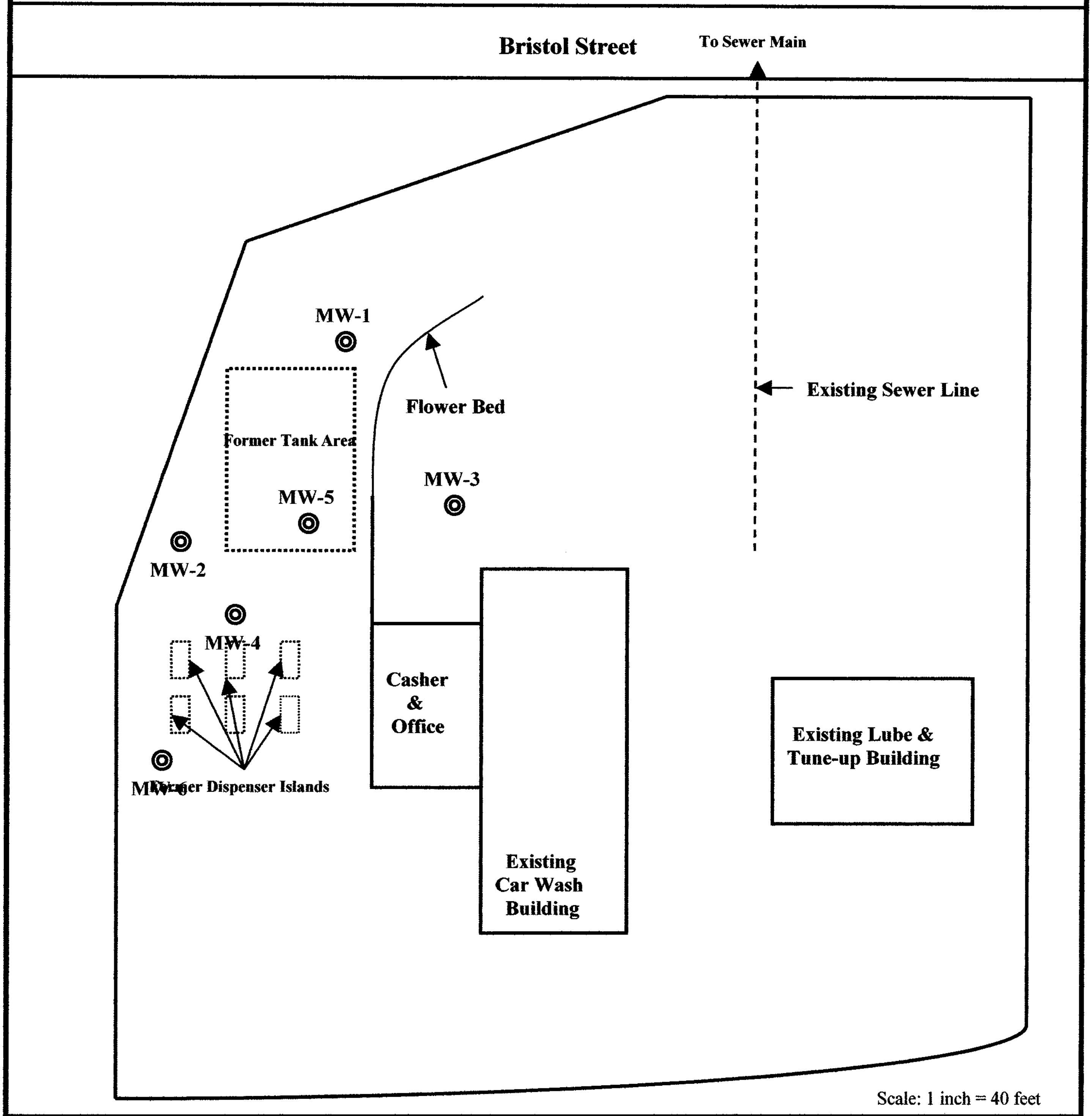


FIGURE (2)

Soil Boring and Groundwater Monitoring Wells Location

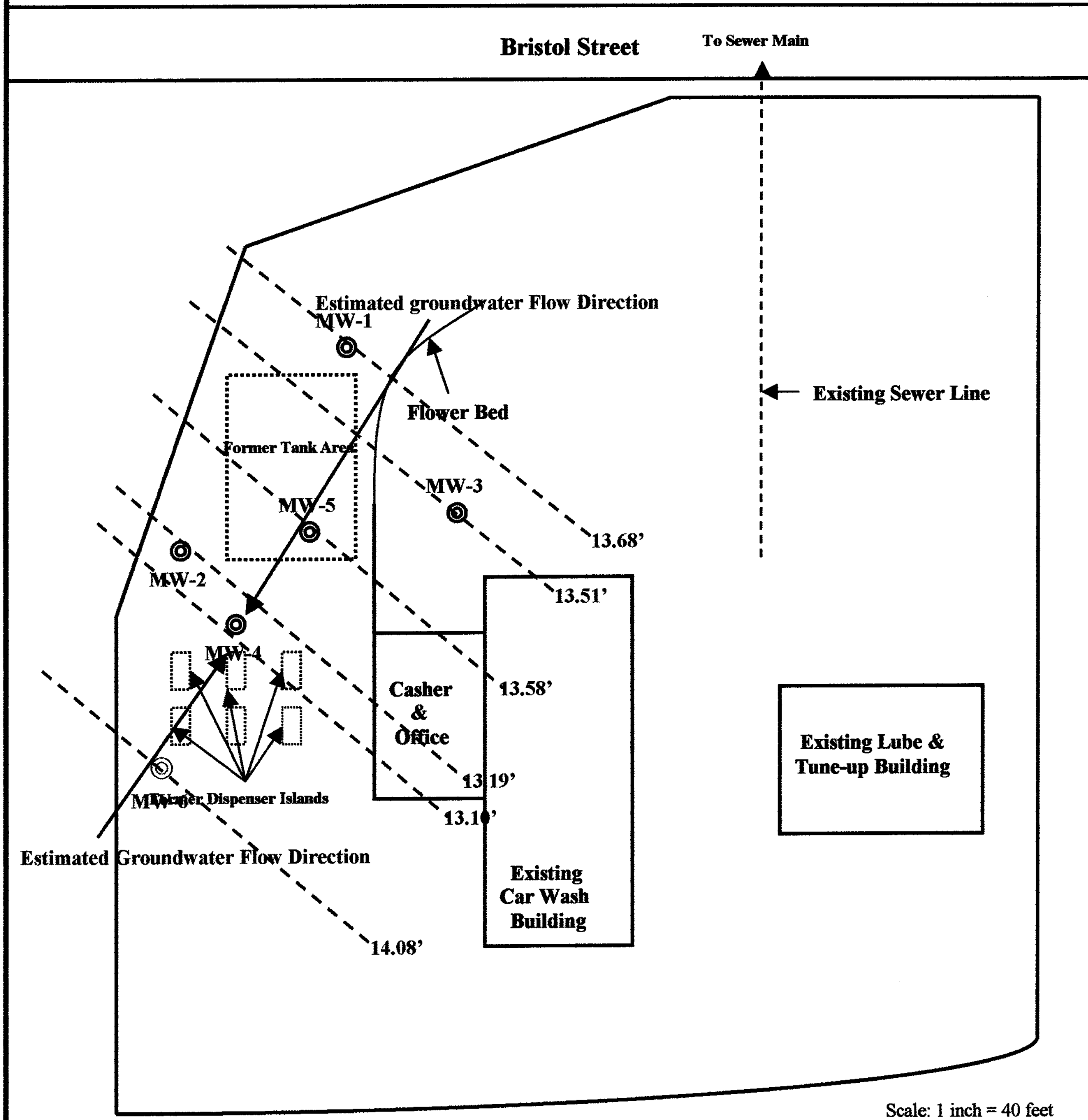


Site Address: South Pacific Car Wash
2750 S. Bristol Street
Costa Mesa, CA 92626

: Existing Groundwater Monitoring Wells Location

: New Groundwater Monitoring Well Location

Groundwater Monitoring Well Location



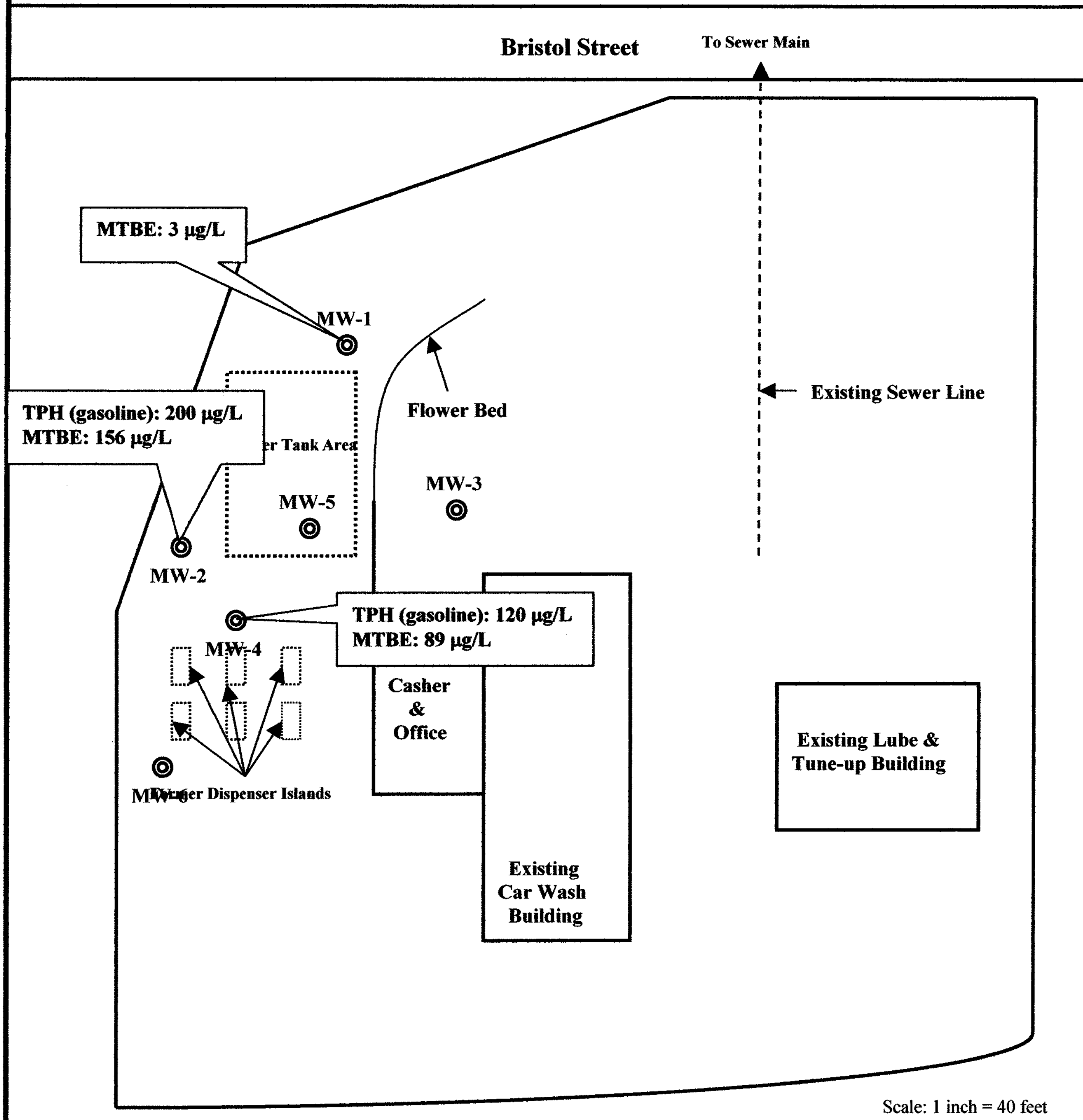
Site Address: South Pacific Car Wash
2750 S. Bristol Street
Costa Mesa, CA 92626

◎ : Groundwater Monitoring Wells Location

GROUNDWATER FLOW DIRECTION

FIGURE (4)

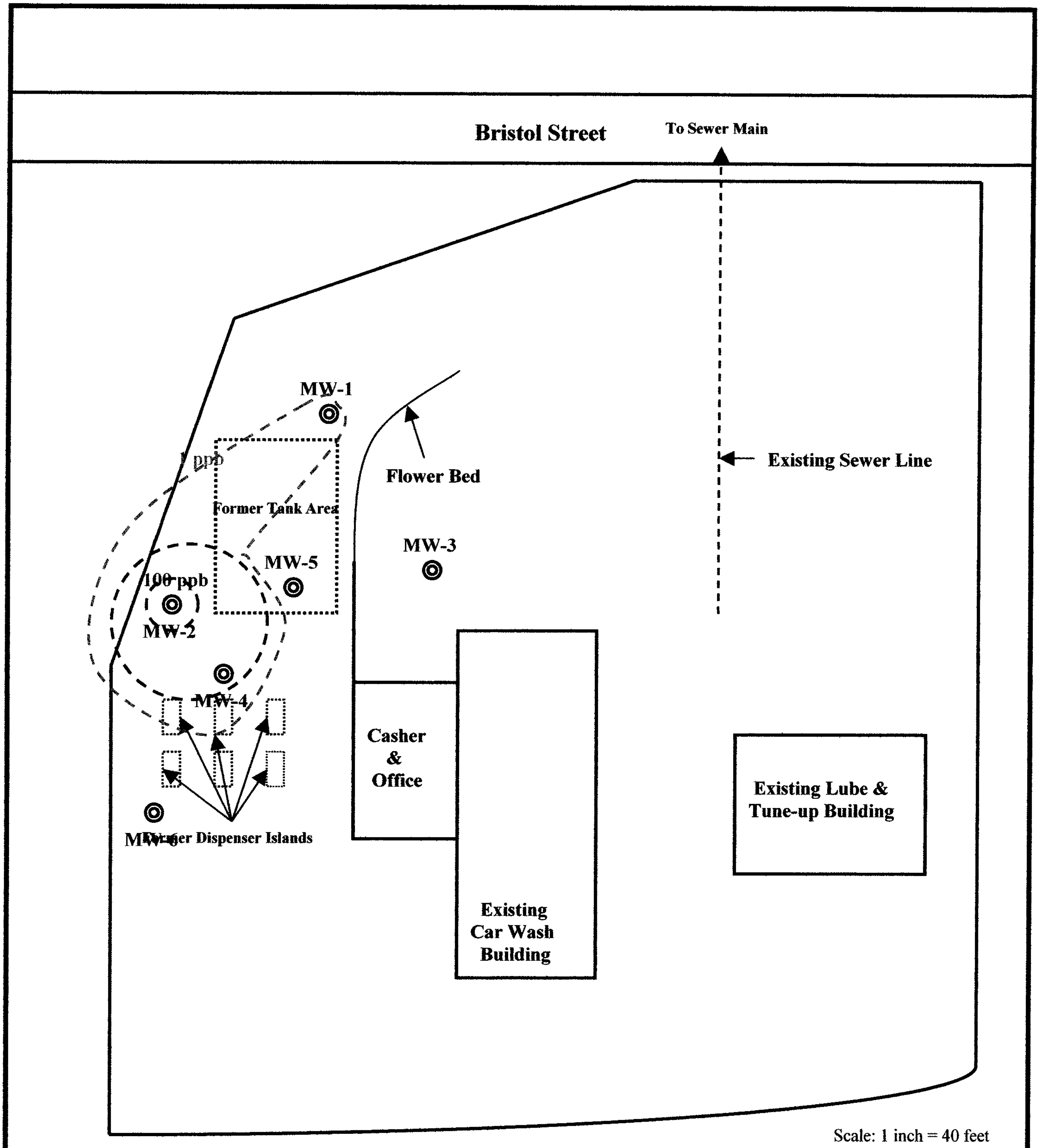
Isoconcentration Map for TPH (Gasoline), BTEX and MTBE for Groundwater



Site Address: South Pacific Car Wash
2750 S. Bristol Street
Costa Mesa, CA 92626

◎ **: Existing Groundwater Monitoring Wells Location**

Groundwater Concentration



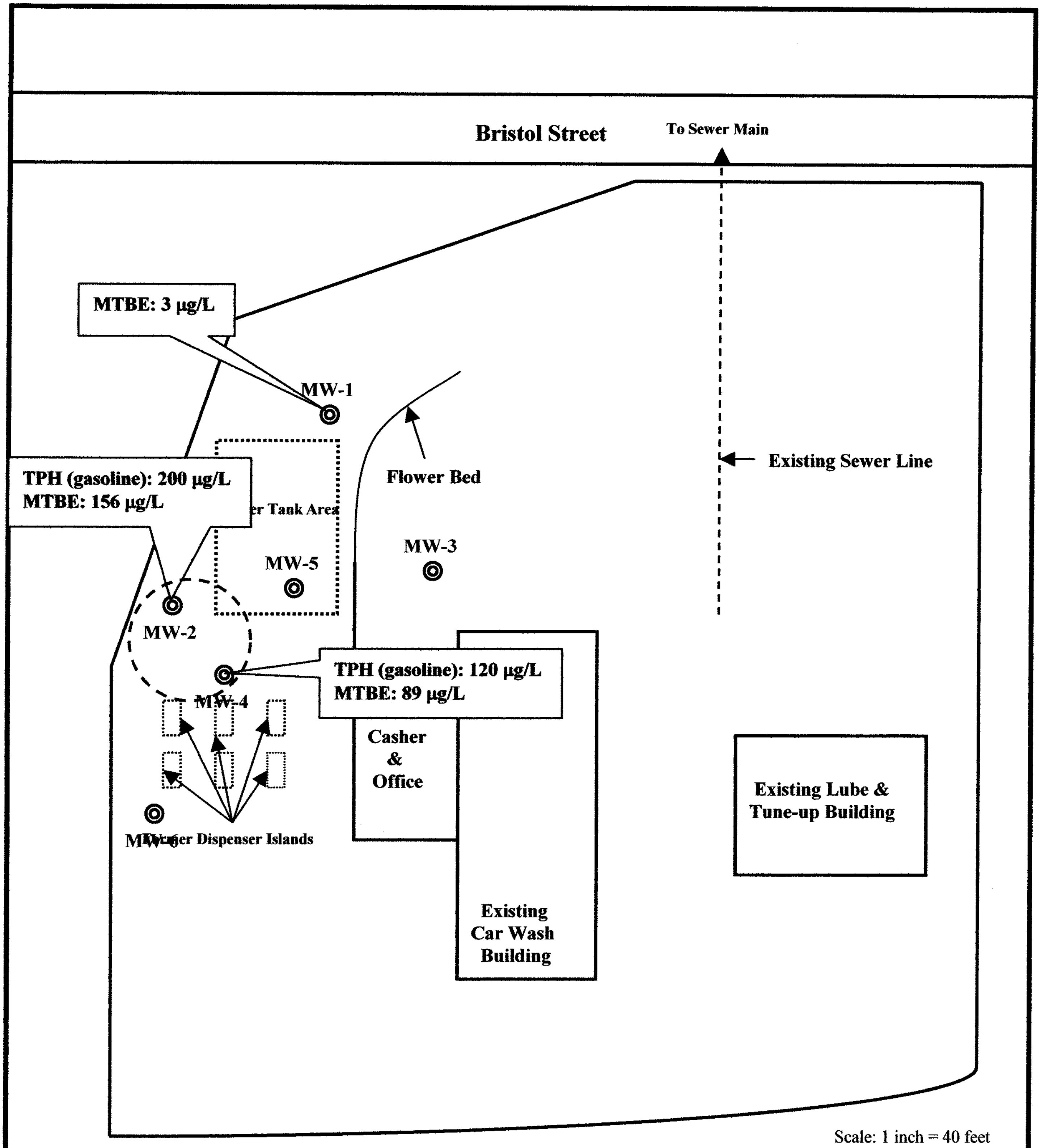
Site Address: South Pacific Car Wash
2750 S. Bristol Street
Costa Mesa, CA 92626

◎ **: Existing Groundwater Monitoring Wells Location**

Isoconcentration Map for MTBE

FIGURE (5)

Plume of Groundwater Contamination



Site Address: South Pacific Car Wash
2750 S. Bristol Street
Costa Mesa, CA 92626

◎ **: Existing Groundwater Monitoring Wells Location**

Plume of Groundwater Contamination

ATTACHMENT (A)

County of Orange Health Care Agency, Environmental Health
Well Installation Permit

APPLICATION FOR WELL CONSTRUCTION PERMIT

ORANGE COUNTY HEALTH CARE AGENCY
ENVIRONMENTAL HEALTH DIVISION
1241 E. DYER ROAD, SUITE 120
SANTA ANA, CA 92705-4720
(714) 433-6000
FAX: (714) 433-6481

WELL PERMIT NUMBER 06-03-10

CITY Costa Mesa
DATE 3/7/06

WELL LOCATION (ADDRESS IF AVAILABLE) 2750 South Bristol Street

NAME OF WELL OWNER South Pacific Car Wash
ADDRESS 2750 S. Bristol Street
CITY Costa Mesa ZIP 92626 TELEPHONE (714)433-0135

NAME OF CONSULTING FIRM Western Environmental Engineers Company
BUSINESS ADDRESS 1815 E. Wilshire Ave., # 905
CITY Santa Ana ZIP 92705 TELEPHONE (714) 542-2644

NAME OF DRILLING CO. Excel Drilling Co.
C-57 LICENSE NO. 784159
CITY Fountain Valley ZIP 92706 TELEPHONE (714) 962-1099

TYPE OF WELL (*CHECK*)
- ☐ PRIVATE DOMESTIC
- ☐ PUBLIC DOMESTIC
- ☐ IRRIGATION
- ☐ CATHODIC
- ☐ PROBE SURVEY
- ☒ MONITORING
- ☐ SOIL BORING
- ☐ OTHER ______
- TOTAL NUMBER 1

A. WELLS – SUBMIT A WELL CONSTRUCTION DIAGRAM (INCLUDE DIMENSIONS)

B. SOIL BORINGS AND PROBES –
TOTAL DEPTH 40'
SEALING MATERIAL Bentonite Grout

C. PROPOSED START DATE March 14, 2006

DIAGRAM OF WELL SITE (*Use additional sheets and/or attachments*)

☐ SITE PLAN ATTACHED

I hereby agree to comply in every respect with all requirements of the Health Care Agency and with all ordinances and laws of the County of Orange and of the State of California pertaining to well construction, reconstruction and destruction, including the requirements to maintain the integrity of all significant confining zones.

[signature] 3/7/06
APPLICANT'S SIGNATURE DATE

James Yoon
PRINT NAME

(714) 542-2644 (714) 542-2520
PHONE NUMBER FAX NUMBER

FOR ACCOUNTING USE ONLY:

HSO NO. 300579 CHECK NO. 2733
DATE 3-7-06 AMOUNT 333
INTL. [initials]

APPROVAL BY OTHER AGENCIES:

JURISDICTION ______
REMARKS ______

AUTHORIZED SIGNATURE DATE

DISPOSITION OF PERMIT (DO NOT FILL IN):

☒ **APPROVED** SUBJECT TO THE FOLLOWING CONDITIONS:

A. NOTIFY THIS AGENCY AT LEAST **48 HOURS**
- ☒ PRIOR TO START. If start date changes
- ☐ PRIOR TO SEALING THE ANNULAR SPACE OR FILLING OF THE CONDUCTOR CASING.

B. ☐ SUBMIT TO THE AGENCY WITHIN 30 DAYS AFTER COMPLETION OF WORK, A WELL COMPLETION REPORT AND/OR DRILLING LOGS. PLEASE REFERENCE PERMIT NO.

C. ☒ SECURE ALL MONITORING WELLS TO PREVENT TAMPERING.

D. ☐ OTHER ______

☐ **DENIED** ______

John Banoczi 3-7-06
PERMIT ISSUED BY DATE

JOHN BANOCZI 714/433-6287
PRINT NAME PHONE NUMBER

WHEN SIGNED BY ORANGE COUNTY HEALTH CARE AGENCY REPRESENTATIVE, THIS APPLICATION IS A PERMIT.

F272-09.0803 (R11/01)

ATTACHMENT (B)

Logs of Borings

LOG OF BORING

Drill Rig: B-61 8" HOLLOW STEM AUGER			Boring Diameter : 8 inches				Boring Number : MW-6
Drilling Date 3-14-2006	Logger: JY	Registered Civil Engineer: AA	This log is a representation of subsurface conditions at the time and place of drilling. The passage of time or other locations may cause consequential changes in conditions.				

BULK	TUBE	VAPOR READINGS	TIME	BLOW COUNTS	DEPTH, FEET	USCS	DESCRIPTION AND REMARKS
							6" Concrete Paving.
X	X	ND	9:35	7-7-7	5	CL	6" – 5 FT: Fine grained brown clay, moist.
X	X	ND	10:05	8-10-16	10	SM	5 FT - 10 FT: Coarse grained dark brown silty sand, moist.
X	X	ND	10:19	12-12-12	15	SM	10 FT – 15 FT: Coarse grained dark brown silty sand, moist.
X	X	ND	10:26	10-10-12	20	SP	15 FT – 20 FT: Coarse grained light brown sand, moist
X	X	ND	10:31	12-12-12	25	SP	20 FT – 25 FT: Coarse grained light brown sand, moist
X	X	ND	10:41	12-12-12	30	SP	25 FT – 30 FT: Coarse grained light brown sand, wet
					35		30 FT: Encountered Groundwater. Installed 35-feet groundwater monitoring well (20' blank & 15' screen).
					40		

WEECO Western Environmental Engineers Co. 1815 E. Wilshire Ave. (Suite #905) Santa Ana, California 92705	PROJECT NAME: Phase II E.S.A. & Groundwater Mointoring Well Installation ADDRESS: 2750 South Bristol Street Costa Mesa, CA 92626
	Project Number: 2006-1382J | Figure Number

ATTACHMENT (C)

Well Construction Diagram

ATTACHMENT (D)

Surveyor's Data Sheet

JV & Associates

Engineers • Surveyors

To: WEECO Western Environmental Engineers Co.
1815 W. Wilshire Avenue, Suite #215
Santa Ana, CA. 92705

Regarding: South Pacific Car Wash
2750 South Bristol Street
Costa Mesa, CA. 92626

GEOGRAPHIC DATA DETAILS

Datum – North American Datum 1983
Survey Method – Garmin E-Trex Vista
Projection: Geographic Projection

Description	Date of Survey	Latitude	Longitude	Accuracy
MW – 1	1-21-05	33.58235	117.88869	5'
MW – 2	---	33.58224	117.88870	---
MW – 3	---	33.58249	117.88875	---
MW – 4	---	33.58229	117.88850	---
MW – 5	---	33.58229	117.88864	---
MW – 6	4-01-06	33.58227	117.88839	---

Monitoring Well Elevations	Water Level Elevations
MW – 1 = 38.8	N/A
MW – 2 = 39.0	
MW – 3 = 38.9	
MW – 4 = 39.6	
MW – 5 = 39.0	
MW – 6 = 40.7	

Joe L. Valencia – Survey Manager
April 17, 2006

11993 Magnolia Avenue, Suite S • Riverside, California 92503-4969 • Phone (951) 353-0961 FAX (951) 353-1947

ATTACHMENT (E)

Chain of Custody Form and Laboratory Certificates of Analyses

CHEMTEK Environmental Laboratories Inc.
13554 Larwin Circle, Santa Fe Springs, CA 90670
Tel. (562) 926-9848 FAX (562) 926-8324 Email: ChemtekLabs@hotmail.com
CA Dept of Health Accredited. (ELAP No. 1435)

CHAIN OF CUSTODY RECORD

Job No.: 603046

G

Page: 1 of 1

CUSTOMER INFORMATION

COMPANY NAME: WEECO
PROJECT CONTACT: James Yoon
ADDRESS: 1815 E. Wilshire Ave. #905
CITY, STATE, ZIP: Santa Ana, CA 92705
PHONE: (714) 542-2644 FAX: (714) 542-2520

PROJECT INFORMATION

PROJECT NAME: South Pacific Car Wash
NUMBER:
SITE ADDRESS: 2750 S. Bristol street, Costa Mesa, CA
SAMPLED BY: James Yoon ☒ EDF

ANALYSIS REQUIRED

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	TYPE *	REMARKS AND PRECAUTIONS	NO. OF CONT	8015M TPH G	8015M TPH D	BTEX/MTBE 8021B 8260B	VOCs (8260b) FULL	OXYGENATES (8260B)	TRPH (418.1)	COD / TSS							
MW-6-5	3/14/06	9:35	SO		1	X		X		X									
MW-6-10	"	10:05	"		1	X		X		X									
MW-6-15	"	10:19	"		1	X		X		X									
MW-6-20	"	10:26	"		1	X		X		X									
MW-6-25	"	10:31	"		1	X		X		X									
MW-6-30	"	10:41	"		1	X		X		X									

	SIGNATURE	PRINT NAME	COMPANY NAME	DATE	TIME
RELINQUISHED BY:	[signature]	James Yoon	WEECO	3/14/06	530
RECEIVED BY:	[signature]	Martin Lu	Chemtek	3/14/06	530
RELINQUISHED BY:					
RECEIVED FOR LABORATORY BY:					

NOTE: Samples are discarded 30 days after results are reported unless other arrangements are made.

Distribution : **WHITE** with report / **YELLOW** to **CHEMTEK** / **PINK** to courier

*Type: SO-Soil GW-Ground Water WW-Waste Water AQ-Aqueous A-Air OT-Other

CHEMTEK Environmental Laboratories Inc.
13554 Larwin Circle, Santa Fe Springs, CA 90670
Tel. (562) 926-9848 FAX (562) 926-8324 Email: ChemtekLabs@hotmail.com
CA Dept of Health Accredited. (ELAP No. 1435)

CHAIN OF CUSTODY RECORD

Job No.: 604016

G

CUSTOMER INFORMATION

COMPANY NAME: WEECO
PROJECT CONTACT: James Yoon
ADDRESS: 1815 E. Wilshire Ave #905
CITY, STATE, ZIP: Santa Ana, CA 92705
PHONE: 714-542-2644 FAX: 714-542-2520

PROJECT INFORMATION

PROJECT NAME: South pacific Car Wash
NUMBER:
SITE ADDRESS: 2750 S, Bristol st, Costa Mesa, CA
SAMPLED BY: Charles Yoon
☑ EDF

ANALYSIS REQUIRED

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	TYPE *	REMARKS AND PRECAUTIONS	NO. OF CONT	8015M TPH G	8015M TPH D	BTEX/MTBE (8021B 8260B)	VOCs (8260b) FULL	OXYGENATES (8260B)	TRPH (418.1)	COD / TSS	PH, Conductivity	Turbidity					
MW-3	4/6/06	12:10	GW		2	X				X			X	X					
MW-1	〃	12:56	〃		2	X				X			X	X					
MW-5	〃	1:38	〃		2	X				X			X	X					
MW-2	〃	2:04	〃		2	X				X			X	X					
MW-4	〃	2:45	〃		2	X				X			X	X					
MW-6	〃	3:30	〃		2	X				X			X	X					

	SIGNATURE	PRINT NAME	COMPANY NAME	DATE	TIME
RELINQUISHED BY:	[signature]	CHARLES YOON	WEECO	4/6/06	6PM.
RECEIVED BY:	[signature]	Martin Li	Chemtek	4/6/06	6pm
RELINQUISHED BY:					
RECEIVED FOR LABORATORY BY:					

NOTE: Samples are discarded 30 days after results are reported unless other arrangements are made.

Distribution : **WHITE** with report / **YELLOW** to **CHEMTEK** / **PINK** to courier

*Type: SO-Soil GW-Ground Water WW-Waste Water AQ-Aqueous A-Air OT-Other

CHEMTEK ENVIRONMENTAL LABORATORIES INC.

"An environment-friendly company"
13554 Larwin Cir., Santa Fe Springs, CA 90670
Tel. (562) 926-9848 FAX (562) 926-8324
CA Dept of Health Accredited. (ELAP No. 1435)

CERTIFICATE OF ANALYSIS

Job No. 603046 **Date: 03-16-06**

This is the Certificate of Analysis for the following samples:

Client	:	Western Environmental Eng. Co.
Contact person	:	James Yoon
Project	:	South Pacific Car Wash
Project site	:	2750 S. Bristol Street Costa Mesa, CA
Date of sample	:	03-14-06
Date received	:	03-14-06
Number of samples	:	6
Sample type	:	soil

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY NUMBER
MW-6-5	603046-01A
MW-6-10	603046-02A
MW-6-15	603046-03A
MW-6-20	603046-04A
MW-6-25	603046-05A
MW-6-30	603046-06A

Reviewed and Approved:

Marlin

for Michael C.C. Lu
Laboratory Director

CHEMTEK ENVIRONMENTAL LAB.
LABORATORY ANALYSIS REPORT

Client : Western Environmental Eng. Co
Project : South Pacific Car Wash
Project Site : 2750 S. Bristol Street
Costa Mesa, CA

Job No. : 603046 Date: 03-16-06

Analysis: EPA 8015M (TPH Gas) Unit: ppm or mg/kg

Sample IDs : See below
Sample type : Soil
Sample date : 03-14-06
Analysis date: 03-15-06

Sample IDs Client	Sample Date	TPH Gas (ppm)
MW-6-5	03-14-06	ND
MW-6-10	03-14-06	ND
MW-6-15	03-14-06	ND
MW-6-20	03-14-06	ND
MW-6-25	03-14-06	ND
MW-6-30	03-14-06	ND
Method Detection Limit		0.50

DL: Detection Limit.
ND: Not detected at the specified limit.

CHEMTEK ENVIRONMENTAL LAB.
LABORATORY ANALYSIS REPORT

Client : Western Environmental Eng. Co
Project : South Pacific Car Wash
Project Site : 2750 S. Bristol Street
Costa Mesa, CA

Job No. : 603046 Date: 03-16-06

Analysis: EPA 8260B (Volatile Organics by GC-MS) Unit: ppb or ug/kg

Sample ID : See below
Sample matrix : Soil
Sample date : 03-14-06
Analysis date : 03-15-06

COMPOUND	MW-6-5	MW-6-10	MW-6-15	Detection Limit
	(ppb)	(ppb)	(ppb)	(ppb)
Benzene	ND	ND	ND	2
Toluene	ND	ND	ND	2
Ethylbenzene	ND	ND	ND	2
Total Xylenes	ND	ND	ND	5
Methyl Tert.Butyl Ether(MTBE)	ND	ND	ND	2
Ethyl Tert. Butyl Ether (ETBE)	ND	ND	ND	2
Diisopropyl Ether (DIPE)	ND	ND	ND	2
Tert. Amyl Methyl Ether (TAME)	ND	ND	ND	2
T-Butyl Alcohol (TBA)	ND	ND	ND	10

DL: Detection Limit.
ND: Not detected at the specified limit.

CHEMTEK ENVIRONMENTAL LAB.
LABORATORY ANALYSIS REPORT

Client : Western Environmental Eng. Co
Project : South Pacific Car Wash
Project Site : 2750 S. Bristol Street
Costa Mesa, CA

Job No. : 603046 Date: 03-16-06

Analysis: EPA 8260B (Volatile Organics by GC-MS) Unit: ppb or ug/kg

Sample ID : See below
Sample matrix : Soil

Sample date : 03-14-06
Analysis date : 03-15-06

COMPOUND	MW-6-20 (ppb)	MW-6-25 (ppb)	MW-6-30 (ppb)	Detection Limit (ppb)
Benzene	ND	ND	ND	2
Toluene	ND	ND	ND	2
Ethylbenzene	ND	ND	ND	2
Total Xylenes	ND	ND	ND	5
Methyl Tert.Butyl Ether(MTBE)	ND	ND	ND	2
Ethyl Tert. Butyl Ether (ETBE)	ND	ND	ND	2
Diisopropyl Ether (DIPE)	ND	ND	ND	2
Tert. Amyl Methyl Ether (TAME)	ND	ND	ND	2
T-Butyl Alcohol (TBA)	ND	ND	ND	10

DL: Detection Limit.
ND: Not detected at the specified limit.

CHEMTEK ENVIRONMENTAL LAB.
LABORATORY ANALYSIS REPORT

QA/QC REPORT

EPA 8015M (TPH Gas)
Unit: ppm or mg/kg

Job No. : 603046
Lab Sample ID : 603046-Blk
Date Performed : 03-15-06

Analyte	Orig. Result	SPK CONC	MS	% MS	MSD	% MSD	RPD	ACP %MS	ACP RPD
TPH Gas	ND	2.00	2.08	104.0	1.94	97.0	3.5	80-120	0-20

QA/QC REPORT

EPA 8260B
Unit: µg/kg

Job No. : 603046
Lab Sample ID : 603046-01A
Date Performed : 03-15-06

ANALYTE	Blank RESULT	SPK CONC	MS	% MS	MSD	% MSD	RPD	ACP %MS	ACP RPD
1,1-DCE	ND	50.0	44.2	88.4	54.1	108.2	16.6	70-130	0-30
Benzene	ND	50.0	54.0	108.0	53.1	106.2	2.5	70-130	0-30
TCE	ND	50.0	51.3	102.6	46.5	93.0	12.3	70-130	0-30
Toluene	ND	50.0	47.0	94.0	45.0	90.0	8.0	70-130	0-30
Chloro benzene	ND	50.0	45.0	90.0	45.0	90.0	0.0	70-130	0-30

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Tel. (562) 926-9848 FAX (562) 926-8324
CA Dept of Health Accredited. (ELAP No. 1435)

CERTIFICATE OF ANALYSIS

Job No.604016 Date: 04-11-06

This is the Certificate of Analysis for the following samples:

Client	: Western Environmental Eng. Co.
Contact person	: James Yoon
Project	: South Pacific Car Wash
Project site	: 2750 S. Bristol St. Costa Mesa, CA
Date of sample	: 04-06-06
Date received	: 04-06-06
Number of samples	: 6
Sample type	: Groundwater

Samples were labeled as follows:

SAMPLE IDENTIFICATION	LABORATORY NUMBER
MW-3	604016-01A
MW-1	604016-02A
MW-5	604016-03A
MW-2	604016-04A
MW-4	604016-05A
MW-6	604016-06A

Reviewed and Approved:

Martin L

for Michael C.C. Lu
Laboratory Direct

CHEMTEK ENVIRONMENTAL LAB.
LABORATORY ANALYSIS REPORT

Client : Western Environmental Eng. Co.
Project : South Pacific Car Wash
Project Site : 2750 S. Bristol St.
Costa Mesa, CA

Job No. : 604016 Date: 04-11-06

Analysis: EPA 8015M (TPH Gas) Unit: ppm or mg/l

Sample IDs : See below
Sample type : Ground Water
Sample date : 04-06-06
Analysis date: 04-06-06

Sample IDs Client	Sample Date	TPH Gas (ppm)
MW-3	04-07-06	ND
MW-1	04-07-06	ND
MW-5	04-07-06	ND
MW-2	04-07-06	0.20
MW-4	04-07-06	0.12
MW-6	04-07-06	ND
Method Blank		ND
Method Detection Limit		0.05

DF : Dilution Factor
ND : Not Detected at the specified limit.

CHEMTEK ENVIRONMENTAL LAB.
LABORATORY ANALYSIS REPORT

Client : Western Environmental Eng. Co.
Project : South Pacific Car Wash
Project Site : 2750 S. Bristol St.
Costa Mesa, CA

Job No. : 604016 Date: 04-11-06

Analysis: EPA 8260B (Volatile Organics by GC-MS) Unit: ppb or ug/l

Sample ID : See below
Sample matrix : Ground Water
Sample date : 04-06-06
Analysis date : 04-07-06

COMPOUND	MW-3 (ppb)	MW-1 (ppb)	MW-5 (ppb)	MW-2 (ppb)	MW-4 (ppb)	Detect. Limit (ppb)
Benzene	ND	ND	ND	ND	ND	1
Toluene	ND	ND	ND	ND	ND	1
Ethylbenzene	ND	ND	ND	ND	ND	1
Total Xylenes	ND	ND	ND	ND	ND	2
Methyl Tert.Butyl Ether(MTBE)	ND	3	ND	156	89	1
Ethyl Tert. Butyl Ether (ETBE)	ND	ND	ND	ND	ND	2
Diisopropyl Ether (DIPE)	ND	ND	ND	ND	ND	2
Tert. Amyl Methyl Ether (TAME)	ND	ND	ND	ND	ND	2
T-Butyl Alcohol (TBA)	ND	ND	ND	ND	ND	5

DL: Detection Limit.
ND: Not detected at the specified limit.

CHEMTEK ENVIRONMENTAL LAB.
LABORATORY ANALYSIS REPORT

Client : Western Environmental Eng. Co.
Project : South Pacific Car Wash
Project Site : 2750 S. Bristol St.
Costa Mesa, CA

Job No. : 604016 Date: 04-11-06

Analysis: EPA 8260B (Volatile Organics by GC-MS) Unit: ppb or ug/l

Sample ID : See below Sample date : 04-06-06
Sample matrix : Ground Water Analysis date : 04-07-06

COMPOUND	MW-6 (ppb)	Detect. Limit (ppb)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	2
Methyl Tert.Butyl Ether(MTBE)	ND	1
Ethyl Tert. Butyl Ether (ETBE)	ND	2
Diisopropyl Ether (DIPE)	ND	2
Tert. Amyl Methyl Ether (TAME)	ND	2
T-Butyl Alcohol (TBA)	ND	5

DL: Detection Limit.
ND: Not detected at the specified limit.

CHEMTEK ENVIRONMENTAL LAB.
LABORATORY ANALYSIS REPORT

QA/QC REPORT

EPA 8015M (TPH Gas)
Unit: ppm or mg/l

Job No. : 604016
Lab Sample ID : 604016-Blk
Date Performed : 04-06-06

Analyte	Orig. Result	SPK CONC	MS	% MS	MSD	% MSD	RPD	ACP %MS	ACP RPD
TPH Gas	ND	2.00	2.03	101.5	2.08	104.0	2.5	80-120	0-20

QA/QC REPORT

EPA 8260B
Unit: µg/L

Job No. : 604016
Lab Sample ID : 604016-01A
Date Performed : 04-07-06

ORIG. ANALYTE	SPK RESULT	CONC	% MS	MS	% MSD	MSD	ACP RPD	ACP %MS	RPD
1,1-DCE	ND	50.0	43.2	86.4	41.8	83.6	2.8	70-130	0-30
Benzene	ND	50.0	47.0	94.0	52.1	104.2	10.2	70-130	0-30
TCE	ND	50.0	58.6	117.2	54.7	109.4	7.8	70-130	0-30
Toluene	ND	50.0	45.6	91.2	47.5	95.0	3.8	70-130	0-30
Chloro benzene	ND	50.0	55.4	110.8	53.2	106.4	4.4	70-130	0-30

CHEMTEK ENVIRONMENTAL LAB.
LABORATORY ANALYSIS REPORT

Client : Western Environmental Eng. Co.
Project : South Pacific Car Wash
Project Site : 2750 S. Bristol St.
Costa Mesa, CA

Job No. : 604016 Date: 04-11-06

Analysis: Conductivity, pH, Turbidity
Method : EPA 120.1, EPA 150.1, SM 2130B

Sample ID : See Below
Sample Date : 04-06-06
Analysis Date: 04-06-06
Sample Matrix: GroundWater

Sample IDs Client	Lab	Conductivity (u-mho/cm)	Results pH (unit)	Turbidity (NTU)
MW-3	01A	2,492	7.15	11
MW-1	02A	2,290	6.91	10
MW-5	03A	1,292	6.84	33
MW-2	04A	1,950	6.93	10
MW-4	05A	2,288	6.96	12
MW-6	06A	2,448	6.92	13
Method Blank :		----	----	---
Detection Limit:		----	----	---

ND: Not Detected at the specified limit.

ATTACHMENT (F)

Monitoring Well Purging / Surging Data Sheet

WEECO WESTERN ENVIRONMENTAL ENGINEERS CO.

1815 E. Wilshire Ave., Suite 905
Santa Ana, CA 92705

(714) 542-2644
Fax: (714) 542-2520

WELL SAMPLING DATA LOG

Site Address: *2750 South Bristol Street, Costa Mesa, CA 92626*

Date: *4/6/2006* **Well No.:** *MW-1* **Sampler:** *Charles Yoon*

Well Data:

Total Well Depth: *40'* Time / Date Measured: *11:00 a.m.., April 6, 2006*

Depth to Water: *25.14'* Time / Data Measured: *11:03 a.m.., April 6, 2006*

Volume of Water in Well: *14.86* Feet, *9.7* Gallons

Well Diameter: *4* inches

Well Purging Data:

Purging Method: *3" PVC Bailer* Volume of Water Purged: *29.1* gallons

Time Started: *12:15 p.m.* Time Completed: *12:56 p.m.*

Parameters:

	Initial Reading	First Volume	Second Volume	Third Volume	Fourth Volume	Fifth Volume
Time	12:15	12:20	12:36	12:56		
Temperature	68.5	68.2	68.4	68.3		
Conductivity	2260	2260	2270	2270		
pH	6.93	6.91	6.89	6.92		
Turbidity	7	21	16	11		

Equipment Used: *3" PVC Rapid Wheeler & Bailer*

Sample Collection Date:

Sample Containers: *2 x 40-ml Vials*

Analyses Performed: *EPA Method 8015m (gasoline) and 8260B*

Water Quality: *No Free Product*

WEECO WESTERN ENVIRONMENTAL ENGINEERS CO.

1815 E. Wilshire Ave., Suite 905
Santa Ana, CA 92705

(714) 542-2644
Fax: (714) 542-2520

WELL SAMPLING DATA LOG

Site Address: *2750 South Bristol Street, Costa Mesa, CA 92626*

Date: *4/6/2006* **Well No.:** *MW-2* **Sampler:** *Charles Yoon*

Well Data:

Total Well Depth: *40'* Time / Date Measured: *11:07 a.m., April 6, 2006*

Depth to Water: *25.76'* Time / Data Measured: *11:10 a.m., April 6, 2006*

Volume of Water in Well: *14.24* Feet, *9.3* Gallons

Well Diameter: *4* inches

Well Purging Data:

Purging Method: *3" PVC Bailer* Volume of Water Purged: *27.9* gallons

Time Started: *1:43 p.m.* Time Completed: *2:04 p.m.*

Parameters:

	Initial Reading	First Volume	Second Volume	Third Volume	Fourth Volume	Fifth Volume
Time	*1:43*	*1:47*	*1:57*	*2:04*		
Temperature	*67.1*	*67.3*	*67.2*	*67.3*		
Conductivity	*1940*	*1940*	*1940*	*1940*		
pH	*6.93*	*6.94*	*6.91*	*6.93*		
Turbidity	*7*	*15*	*13*	*11*		

Equipment Used: *3" PVC Rapid Wheeler & Bailer*

Sample Collection Date:

Sample Containers: *2 x 40-ml Vials*

Analyses Performed: *EPA Method 8015m (gasoline) and 8260B*

Water Quality: *No Free Product.*

WEECO WESTERN ENVIRONMENTAL ENGINEERS CO.

1815 E. Wilshire Ave., Suite 905
Santa Ana, CA 92705

(714) 542-2644
Fax: (714) 542-2520

WELL SAMPLING DATA LOG

Site Address: *2750 South Bristol Street, Costa Mesa, CA 92626*

Date: *4/6/2006* **Well No.:** *MW-3* **Sampler:** *Charles Yoon*

Well Data:

Total Well Depth: *40'* Time / Date Measured: *11:13 a.m., April 6, 2006*

Depth to Water: *25.40'* Time / Data Measured: *11:16 a.m., April 6, 2006*

Volume of Water in Well: *14.60* Feet, *9.5* Gallons

Well Diameter: *4* inches

Well Purging Data:

Purging Method: *3" PVC Bailer* Volume of Water Purged: *28.6* gallons

Time Started: *11:30 a.m.* Time Completed: *12:10 p.m.*

Parameters:

	Initial Reading	First Volume	Second Volume	Third Volume	Fourth Volume	Fifth Volume
Time	11:30	11:34	11:52	12:10		
Temperature	66.5	66.3	66.2	66.4		
Conductivity	2480	2480	2480	2480		
pH	7.15	7.12	7.16	7.14		
Turbidity	6	33	25	13		

Equipment Used: *3" PVC Rapid Wheeler & Bailer*

Sample Collection Date:

Sample Containers: *2 x 40-ml Vials*

Analyses Performed: *EPA Method 8015m (gasoline) and 8260B*

Water Quality: *No Free Product.*

WEECO WESTERN ENVIRONMENTAL ENGINEERS CO.

1815 E. Wilshire Ave., Suite 905
Santa Ana, CA 92705

(714) 542-2644
Fax: (714) 542-2520

WELL SAMPLING DATA LOG

Site Address: *2750 South Bristol Street, Costa Mesa, CA 92626*

Date: *4/6/2006* **Well No.:** *MW-4* **Sampler:** *Charles Yoon*

Well Data:

Total Well Depth: *40'* Time / Date Measured: *10:50 a.m., April 6, 2006*

Depth to Water: *26.46'* Time / Data Measured: *10:54 a.m.., April 6, 2006*

Volume of Water in Well: *13.54* Feet, *8.8* Gallons

Well Diameter: *4* inches

Well Purging Data:

Purging Method: *3" PVC Bailer* Volume of Water Purged: *26.5* gallons

Time Started: *2:09 p.m.* Time Completed: *2:45 p.m.*

Parameters:

	Initial Reading	First Volume	Second Volume	Third Volume	Fourth Volume	Fifth Volume
Time	2:09	2:14	2:30	2:45		
Temperature	67.2	67.1	67.4	67.2		
Conductivity	2260	2260	2260	2260		
pH	6.98	6.94	6.96	6.92		
Turbidity	9	21	18	12		

Equipment Used: *3" PVC Rapid Wheeler & Bailer*

Sample Collection Date:

Sample Containers: *2 x 40-ml Vials*

Analyses Performed: *EPA Method 8015m (gasoline) and 8260B*

Water Quality: *No Free Product.*

ATTACHMENT (G)

Letter from County of Orange Health Care Agency, Environmental Health

JULIETTE A. POULSON, RN, MN
DIRECTOR

MIKE SPURGEON
DEPUTY AGENCY DIRECTOR
REGULATORY HEALTH SERVICES

STEVEN K. WONG, REHS, MPH
DIRECTOR
ENVIRONMENTAL HEALTH

MAILING ADDRESS:
1241 EAST DYER ROAD, SUITE 120
SANTA ANA, CA 92705-5611

TELEPHONE: (714) 433-6000
FAX: (714) 754-1732
E-MAIL: ehealth@ochca.com

COUNTY OF ORANGE
HEALTH CARE AGENCY

REGULATORY HEALTH SERVICES
ENVIRONMENTAL HEALTH

Excellence
Integrity
Service

February 3, 2006

Chanho Yang
Heung II Inc.
2750 South Bristol Street
Costa Mesa, CA 92626

Subject: Workplan For Groundwater Assessment

RE: South Pacific Car Wash
2750 South Bristol Street
Costa Mesa, CA
O.C.H.C.A. Case #03UT012

Dear Mr. Yang:

The Orange County Local Oversight Program (OCLOP) has reviewed the January 23, 2006 Workplan for Additional Phase II Environmental Site Assessment prepared by Western Environmental Engineers Co. This workplan is acceptable to the OCLOP provided the following considerations are addressed:

1. Soil samples should be collected and analyzed for the full depth of the boring/well including below the water table.

2. The monitoring well screen must not exceed 10 feet into the saturated zone.

3. The fieldwork must be completed within 60 days after receipt of this letter, and a report documenting the assessment activities must be submitted within 45 days after completion of the fieldwork.

4. The OCLOP must be notified at least 48 hours prior to conducting any work at the site.

5. All soil data, groundwater data and reports must be electronically submitted as required by the Underground Storage Tank Regulations.

If you have any questions, please call me at (714) 433-6264.

Sincerely,

James C. Strozier

James C. Strozier, REHS
Hazardous Waste Specialist
Hazardous Materials Management Section
Environmental Health

cc: Ken Williams, Santa Ana Regional Water Quality Control Board
Abnish Amar, Western Environmental Engineers Co.

MEARNS CONSULTING LLC
ENVIRONMENTAL CONSULTANTS
RISK ASSESSORS

738 Ashland Avenue, Santa Monica, California 90405
Cell 310.403.1921
Tel 310.396.9606 Fax 310.396.6878
Mearns.Consulting@verizon.net
www.MearnsConsulting.com

August 13, 2020

via email

Ms. Jennifer Le
Assistant Director of Development Services
Mr. Melvin E. Lee
Senior Planner
City of Costa Mesa
Planning Department
77 Fair Drive
Costa Mesa, CA 92628

RE: **Additional Information**
2750 Bristol Street, Costa Mesa, California 92626

Dear Ms. Le and Mr. Lee:

Thank you for your time on August 6, 2020 to discuss the proposed project, No. 1 Collision Center, at 2750 Bristol Street, in Costa Mesa, California 92626 (the site). I was retained by the owner's representative, Ms. Coralee Newman, to assist in resolving the environmental CEQA question raised by Ms. Kristen Bogue (Michael Baker International).

It is my understanding the City and Ms. Bogue are pursuing a Class 32 "Infill" Categorical CEQA exemption for the project. An urban infill exemption requires projects to be consistent with applicable general plans and zoning designations, located within a city's limits on a site five acres or less, bordered by urban uses, and without significant impacts to traffic, noise, air quality, or water quality. The project site itself can be either vacant or previously developed, but must be devoid of sensitive habitat and adequately served by public utilities. (CEQA Guidelines, § 15332).

Procedurally, Class 32 exemptions require a fraction of the process prescribed for standard CEQA review, with no required public review period, specific CEQA documents, or mitigation. Exceptions to the exemptions, however, add back in a measure of consideration to the process. (CEQA Guidelines, § 15300.2, subds. (b), (c)–(f).) Under these exceptions, the infill exemption cannot be used if the project would cause cumulatively significant impacts, impact scenic highways or historical resources, involve hazardous waste, or are subject to "unusual circumstances."

The Cortese List was reviewed to determine if the site is listed as a hazardous waste site on the list. These listed sites are available online on the DTSC's Envirostor and the SWRCB Geotracker databases. Both the databases include: i) active cases that are on the Cortese List; and ii) closed cases, where all required investigation and clean-up have been completed. Sites are no longer considered "active" when the appropriate regulatory agency has determined that no further action is required. This is because actions were taken to adequately remediate the release, or because the release was minor, presents no environmental risk, or because no remedial action is necessary. In these cases, the sites are listed as "closed" or deleted from the Cortese List. The DTSC also removes sites from the Cortese List where response actions have been completed and no operation or maintenance activities are required.

It is my understanding that Ms. Bogue identified the site address on the SWRCB Cortese database list accessible via Geotracker. The listing identifies the site as "completed – case closed".

The SWRCB Cortese database with 41,939 sites listed is accessible via Geotracker
https://geotracker.waterboards.ca.gov/search?page=124&cmd=search&business_name=&main_street_name=&city=&zip=&county=&status=&branch=&site_type=LUFT&npl=&funding=&reporttitle=PROJECT+SEARCH+RESULTS&reporttype=&federal_superfund=&state_response=&voluntary_cleanup=&school_cleanup=&permitted=&corrective_action=&spec_prog=&national_priority_list=&senate=&assembly=&critical_pol=&business_type=&case_type=&searchtype=&hwmp_site_type=&cleanup_type=&watershed=&gwbasin=&excludenc=False&orderby=city

The OCHCA issued a closure letter, including a Case Closure Summary on June 4, 2010. The Case Closure Summary indicates the corrective action from 2003-2010 protects public health for the current land use, however the corrective action should be reviewed if the land use changes.

During a telephone conversation on August 13, 2020 with Ms. Geniece Higgins, Hazardous Materials Specialist at OCHCA, she stated the 2010 closure letter is applicable to the proposed project because the land use has not changed. The land use during the remediation and closure was automotive and the proposed project is automotive. Therefore the proposed use is encompassed in the context of what was described in the OCHCA Closure Letter.

We believe this additional information addresses the CEQA environmental question and the site does qualify for the Class 32 Exemption.

Should you have any questions or desire additional information, please contact me at your earliest convenience at 310.403.1921.

Sincerely,

x Susan Mearns

Susan L. Mearns, Ph.D.

Mearns Consulting LLC

copy – Ms. Geniece Higgins, GHiggins@OCHCA.com