AIR QUALITY ANALYSIS

SOUTH SHORES CHURCH MASTER PLAN
CITY OF DANA POINT, CALIFORNIA

Submitted to:

City of Dana Point
33282 Golden Lantern, Suite 209
Dana Point, California 92629

Prepared by:

LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614
(949) 553-0666

Project No. DPC0902

LSA

August 2014

TABLE OF CONTENTS

FIGURES

TABLES

APPENDIX

EXECUTIVE SUMMARY

LSA Associates, Inc. (LSA) was retained by the City of Dana Point (City) to prepare an air quality study for a proposed project located in the City of Dana Point in Orange County (County), California.

The air quality study provides a discussion of the proposed project, the physical setting of the project area, and the regulatory framework for air quality. The report provides data on existing air quality and evaluates potential air quality impacts associated with the proposed project. Modeled air quality levels are based upon default trip generation for the proposed uses included in the project.

Regional emissions during project construction, calculated with the CalEEMod (Version 2013.2.2) model, would not exceed criteria pollutant thresholds established by the South Coast Air Quality Management District (SCAQMD). Compliance with SCAQMD Rules and Regulations during construction will reduce construction-related air quality impacts from fugitive dust emissions and construction equipment emissions. Standard dust suppression measures have been identified for short-term construction to meet the SCAQMD emissions thresholds. The proposed project would not exceed the localized significance thresholds (LSTs).

Historical air quality data show that existing carbon monoxide (CO) levels for the project area and the general vicinity do not exceed either State or federal ambient air quality standards (AAQS). The CO concentrations in the project area are much lower than the federal and State CO standards. The proposed project would not result in any significant increase in CO concentrations at intersections in the project vicinity. Therefore, project-related traffic would not significantly affect local CO levels under future year conditions, and the CO concentrations would be below the State and federal standards. No significant impact on local CO levels would occur. Pollutant emissions from project operation, also calculated with the CalEEMod model, would not exceed the SCAQMD thresholds for any criteria pollutants. LSTs would not be exceeded by long-term emissions from the operation of the project.

The proposed project is located in Orange County, which is not among the counties that are found to have serpentine and ultramafic rock in their soils. In addition, no serpentine or ultramafic rock has been found in the project vicinity in the past 10 years. Therefore, the potential risk for naturally occurring asbestos (NOA) during project construction is small and less than significant.

The potential of the project to affect global climate change (GCC) is also included. Short-term construction and long-term operational emissions of the principal greenhouse gases (GHGs), including carbon dioxide (CO_2) and methane (CH_4), are quantified, and their significance relative to Assembly Bill (AB) 32 is discussed. The proposed project will not exceed any proposed GHG emissions thresholds or conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

The proposed uses are consistent with the General Plan of the City, which is consistent with the Southern California Association of Governments (SCAG) Regional Comprehensive Plan (RCP) Guidelines and the SCAQMD *Air Quality Management Plan* (AQMP). Therefore, the proposed project is consistent with the General Plans and the regional AQMP.

The evaluation was prepared in conformance with appropriate standards, utilizing procedures and methodologies in the *SCAQMD California Environmental Quality Act* (*CEQA*) *Air Quality Handbook* (SCAQMD 1993) and associated updates. Air quality data posted on the California Air Resources Board (ARB) and United States Environmental Protection Agency (EPA) websites are included to document the local air quality environment.

PROJECT DESCRIPTION

INTRODUCTION

This air quality impact analysis has been prepared to evaluate the potential air quality impacts and mitigation measures associated with the proposed project in the City of Dana Point in Orange County, California. This report provides a project-specific air quality impact analysis by examining the impacts of the proposed uses on adjacent sensitive uses, as well as the impacts on the proposed uses on the project site, and evaluating the mitigation measures required as part of the project design. Guidelines identified by the SCAQMD in its *CEQA Air Quality Handbook* (SCAQMD, April 1993) and associated updates will be followed in this air quality impact analysis.

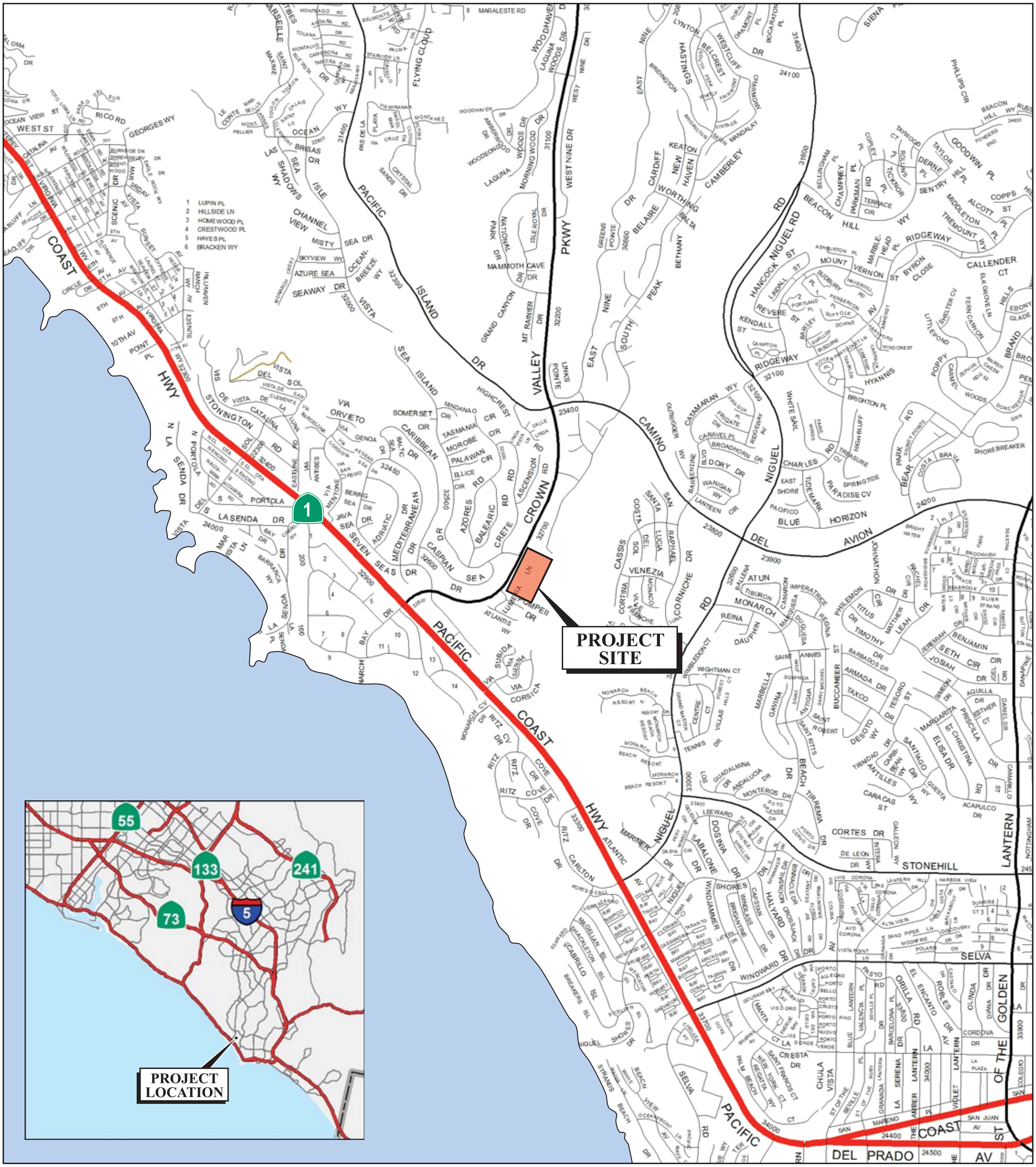
PROJECT DESCRIPTION

Project Location

The project site is located at 32712 Crown Valley Parkway in the northern portion of the City. The site is bounded by Crown Valley Parkway to the west, the Monarch Bay Villas to the south, an undeveloped hillside and the Monarch Beach Golf Links golf course to the east, and the Monarch Coast Apartments to the north. The approximate 6-acre (ac) project site is generally rectangular in shape and is currently developed with the existing South Shores Church development. Refer to Figure 1 for the location of the project site.

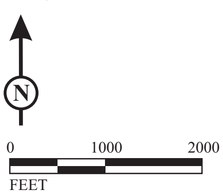
Project Site Existing Setting

The existing church development includes a Sanctuary, Chapel, Administration and Fellowship Hall, Preschool, and parking lot. The 6,717-square-foot (sf) Preschool building is located in the northwestern part of the project site adjacent to Crown Valley Parkway. The children's play area is located southeast of the Preschool building and is surrounded by grass landscaping. The 12,985 sf Administration and Fellowship Hall building is located southeast of the playground, and the 3,765 sf Chapel is located southeast of the Administration and Fellowship Hall. The 19,078 sf Sanctuary is located in the central-eastern portion of the project site. An undeveloped slope descending from southwest to northeast is located on the northeastern boundary of the project site.



LSA

FIGURE 1



SOURCE: The Thomas Guide

South Shores Church Master Plan

Project Site

I:\DPC0902\G\AQ-Noise\Project Site.cdr (7/15/14)

Existing access to the project site is provided by a signalized driveway south of the Preschool building at the intersection of Sea Island Drive and Crown Valley Parkway and a right-turn-in, right-turn-out-only driveway south of the intersection. The existing parking lot includes 228 parking spaces and is located on the southwestern portion of the project site. Ornamental landscaping surrounds the existing buildings and parking area, while a limited amount of natural vegetation is present on the undeveloped slope on the east side of the project site. Table A lists the existing development uses and associated square footage.

Table A: Existing Development

Land Use	Area
Parking	228 at-grade spaces
Sanctuary	19,078 sf
Chapel	3,765 sf
Administration and Fellowship Hall	12,985 sf
Preschool	6,717 sf
Total Existing Area	**42,545 sf**

Source: Matlock Associates (December 2013).
sf = square feet

Surrounding Land Uses

The project site is bounded on the west by Crown Valley Parkway, with single-family residential beyond. The Monarch Bay Villas border the project site immediately to the south with the Monarch Bay Plaza Shopping Center beyond, which includes grocery, restaurant, medical office, Preschool, pharmacy, gas station, and other commercial/retail uses. Pacific Coast Highway (PCH) fronts the shopping center on the southwest. The project site is bounded on the east by a vacant hillside, the paved Salt Creek recreational trail, the Monarch Beach Golf Links golf course, Salt Creek, and single-family residential beyond. The project site is bounded to the north by the Monarch Coast Apartments and beyond by Camino del Avion.

Proposed Project

With the exception of the Sanctuary built in the 1990s, the current buildings on site have become dated and less than optimal for accommodating existing church activities and functions. The Preschool utilizes several buildings including temporary classrooms that are over 40 years old. Christian education classes and church committees meet in various rooms not specifically intended as meeting spaces, including the Pastor’s office. The existing Fellowship Hall space is too small for church-wide gatherings such as luncheons and celebratory events.

Consequently, the buildings proposed as part of the Master Plan will be used to accommodate existing church activities and functions. The Church does not intend to expand the Preschool enrollment or expand the capacity of the Sanctuary for Sunday services. The Sunday services will continue as currently scheduled. Other than the Community Life Center building discussed below, the proposed Master Plan facilities essentially replace current outdated facilities and provide dedicated spaces for ongoing church activities that currently occur in spaces not necessarily intended or well-suited to accommodate such activities.

Upon completion, the Community Life Center building will accommodate a larger percentage of the congregation for church-wide events but any such event will not be held during times that conflict with Sunday services or the Church's peak weekday activity, the Wednesday Women's Bible Study Fellowship. The Community Life Center would also allow the Church to organize a youth basketball and/or volleyball league. The league, however, would not operate on Sundays during peak hours or at the same time as the Wednesday Women's Bible Study Fellowship. The size of the Community Life Center further limits how many games/practices could be held simultaneously. To implement the Master Plan, the South Shores Church proposes to demolish the existing Preschool, Administration and Fellowship Hall building, Chapel, and parking lot. As listed in Table B, total demolition would include 23,467 sf of building space. As listed in Table C, the proposed project includes construction of a total of 70,284 sf of new building space, including a new Preschool/Administration building, two new Christian Education buildings, a Community Life Center, and a two-level partially subterranean Parking Structure (see Figure 2, Proposed Master Plan). No construction or modifications to the existing Sanctuary building are proposed as part of this project. The project is proposed in five phases over a 10-year period; however, construction activities would not occur continuously over the 10-year period. Construction phases are detailed in the following discussion.

Table B: Existing On-Site Buildings

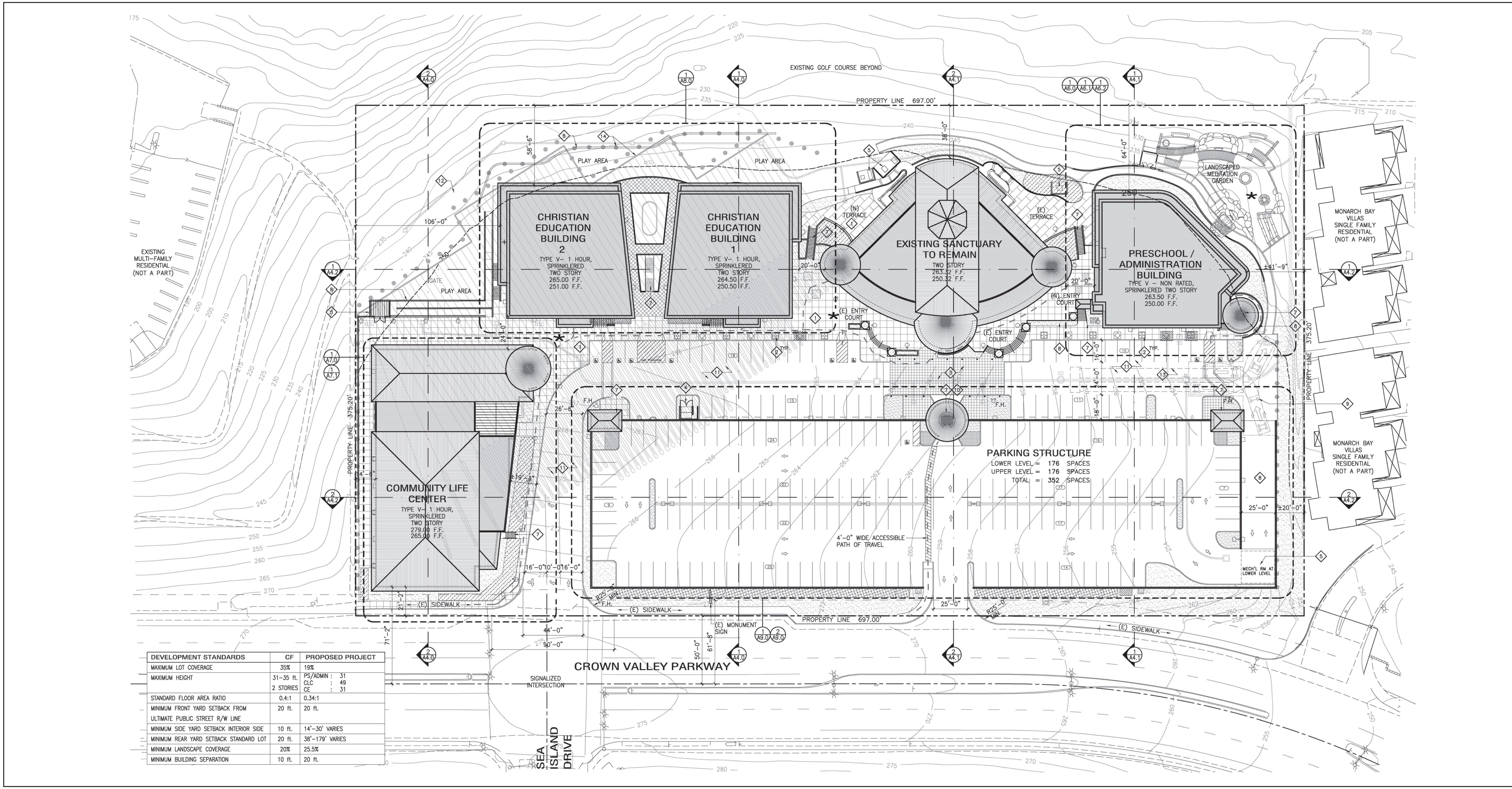
Existing Building	Proposed Action	Area (sf)
Sanctuary	No Planned Construction	19,078
Total Area to Remain		**19,078**
Chapel	Demolition	3,765
Administration and Fellowship Hall	Demolition	12,985
Preschool	Demolition	6,717
Total Area to be Demolished		**23,467**

Source: Matlock Associates (December 2013).
sf = square feet

Table C: Proposed Master Plan Buildings

Proposed Master Plan Buildings	Existing or New Construction	First Floor Area (sf)	Second Floor Area (sf)	Total Building Area (sf)
Sanctuary	Existing Building to Remain	9,140	9,938	19,078
Total Area to Remain				**19,078**
Preschool/Administration Building	Proposed	7,737	7,378	15,115
Community Life Center	Proposed	17,331	6,983	24,314
Christian Education Building 1	Proposed	7,674	7,725	15,399
Christian Education Building 2	Proposed	7,750	7,706	15,456
Total New Construction				**70,284**
Total Master Plan Building Area				**89,362**

Source: Matlock Associates (December 2013).
sf = square feet



DEVELOPMENT STANDARDS	CF	PROPOSED PROJECT
MAXIMUM LOT COVERAGE	35%	19%
MAXIMUM HEIGHT	31–35 ft. 2 STORIES	PS/ADMIN : 31 CLC : 49 CE : 31
STANDARD FLOOR AREA RATIO	0.4:1	0.34:1
MINIMUM FRONT YARD SETBACK FROM ULTIMATE PUBLIC STREET R/W LINE	20 ft.	20 ft.
MINIMUM SIDE YARD SETBACK INTERIOR SIDE	10 ft.	14'–30' VARIES
MINIMUM REAR YARD SETBACK STANDARD LOT	20 ft.	38'–179' VARIES
MINIMUM LANDSCAPE COVERAGE	20%	25.5%
MINIMUM BUILDING SEPARATION	10 ft.	20 ft.

LSA

FIGURE 2

KEY NOTES

1. NEW HARDSCAPE
2. NEW TREE WELL
3. NEW ENHANCED PAVING
4. NEW CMU TRASH ENCLOSURE WITH WOOD TRELLIS
5. NEW MECHANICAL EQUIPMENT ENCLOSURE BELOW
6. NEW RETAINING WALL: "SOIL RETENTION" PLANTABLE, STACKING WALL SYSTEM. WALL HEIGHT VARIES
7. NEW STAIRS
8. NEW RAMP
9. OCFA HAMMERHEAD
10. NEW ELEVATOR
11. AC PAVING
12. EARTHEN NATURE TRAIL, FIELD VERIFY
13. UNDERGROUND DETENTION BASIN, CONSTRUCTED PHASE 1A
14. CAISSONS, REACTION WALL & TIE BACKS BELOW GRADE

LEGEND

CENTERLINE
BUILDING SETBACK
PROPERTY LINE
ACCESSIBLE PATH OF TRAVEL
275 TOPOGRAPHIC CONTOUR LINE
LANDSCAPED AREA
HARDSCAPE
BUILDING
POLE MOUNTED AREA LIGHT
PEDESTRIAN AREA LIGHT
WALL MOUNTED AREA LIGHTS, SEE SHEET A15.0 LIGHTING PLAN FOR MORE INFORMATION
* PROPOSED LOCATION OF 'PUBLIC ART'

BMP's

REFER TO CIVIL ENGINEERS WQMP EXHIBIT FOR PROPOSED BMP's

BIORETENTION WITH UNDERDRAINS (BIO–1) DOWNSPOUT PLANTER BOXES – BMP–1
VEGETATED SWALE (BIO–2) BIOSWALE / DEPRESSED LANDSCAPE – BMP–2
PROPRIETARY BIO–FILTRATION (BIO–7) FILTERRA SYSTEM – BMP–3
SD STORM DRAIN

PARKING COUNT

59 ON SITE PARKING SPACES
176 SPACES LOWER LEVEL PARKING STRUCTURE
176 SPACES UPPER LEVEL PARKING STRUCTURE

411 SPACES TOTAL

N

0 35 70
FEET

SOURCE: Matlock Associates

South Shores Church Master Plan

Proposed Master Plan

I:\DPC0902\G\Proposed Master Plan.cdr (8/15/14)

Phase 1A: Construct New Preschool/Administration Building. Construction of Phase 1A is anticipated to be completed over 13 months and would involve the import of approximately 700 cubic yards (cy) of soil to the project site. An underground storm water detention system would be constructed beneath a portion of the existing parking area at the southern end of the project site. The proposed 15,115 sf Preschool/Administration building would be the first new building constructed on the project site. This two-story building would be approximately 31 feet (ft) in height, with one story at ground level and the other partially below grade on the west and north elevations. The proposed Preschool would be located on the lower level and would be comprised of six classrooms, staff offices, a janitorial room, restrooms, a break room, and miscellaneous mechanical, storage, and workroom spaces. The Church administration functions would be located on the upper level of the Preschool/Administration building and would include staff offices, a break room, a prayer room, a reception area, a multi-purpose room, restrooms, and a janitorial room with a shower. This building is intended to serve as a meeting space for church ministries and community groups. Operating hours for the proposed Preschool would be Monday through Friday, mid-September to mid-June, from 9:00 a.m. to 2:00 p.m. and from morning to evening for the administrative functions.

Saturday and Sunday functions would be likely and would occur primarily between 8:30 a.m. and 1:00 p.m. It should also be noted that the proposed Preschool would be located in this building until construction of the final location on site in Christian Education Building 2 is complete. Following completion of Christian Education Building 2, the Preschool would relocate from its interim location in the Preschool/Administration building to Christian Education Building 2. The Preschool/ Administration building would then undergo interior renovations to convert spaces in the lower level to suit administration and other adult use needs.

The proposed Landscaped Garden would be located in the southeastern corner of the project site adjacent to the proposed Preschool/Administration building. This garden area would include terraced plateaus for meditation, ornamental vegetation, small trees, stone walls, paths with benches, an art feature, and a small pedestrian footbridge. The garden would also include a shallow water feature that would cascade from the upper area of the garden to the lower portion near a small pedestrian footbridge. A small terraced area for bible study discussion and small groups is also proposed in this area. It is anticipated that this area would be utilized similar to a passive park, with quiet spaces for reflection and meditation. No active uses are planned for this area, and lighting would be restricted to minimal security lighting. A single entry and exit gate would provide access to the garden. The hours of operation for the garden would be from 7:00 a.m. to sunset, and the garden would be inaccessible to the public outside of these hours.

The Preschool/Administration building would be constructed to a maximum height of 31 ft above ground level. Building materials would include smooth plaster, bronze-tinted glazing on the glass windows to match the existing Sanctuary, cultured stone to match the natural on-site boulders, and parapet terracotta roofing on the architectural feature of the southwest corner of the building to match the existing Sanctuary.

Phases 1B, 1B-E1, and 1B-E2: Demolition of Existing Buildings and Remedial Grading. Phase 1B includes the demolition of the existing buildings (Preschool, Administration and Fellowship Hall building, and the Chapel) on the north end of the project site. The demolition and removal of 23,467 sf of buildings would occur over a 3-month period.

Earthwork on the north end of the site would follow in Phases 1B-E1 and E-2, after the demolition of the existing buildings, including the preparation of rough grade pad elevations and remedial earthwork. The rough grade earthwork activities would involve the export of 17,000 cy of soil. Earthwork activities on the north end of the project site would be conducted over a period of 6 months, with primary export occurring during the first 3 months of this period in Phase 1B-E1.

Phase 1C: Construction of New Community Life Center Building. Phase 1C includes construction of the two-story, 24,314 sf Community Life Center Building located in the northwest corner of the project site and construction of at-grade parking spaces. The Community Life Center would be partially subterranean with a portion of the ground level below grade on the west elevation and the north and south elevations adjacent to Crown Valley Parkway. At its highest point, the proposed building would be approximately 35 ft in height to the peak of the gable roof. Although the structure itself is not more than 35 ft in height, it would still require the approval of a height variance, since the height of structures is measured from the lowest current grade within the building's footprint as stipulated in the City's Zoning Ordinance. The lowest grade within this building's footprint is along the east elevation. Building materials would include smooth and textured plaster, wood canopies for screening, metal rollup door to the maintenance room, wood beams with finish to match existing Sanctuary, bronze-tinted glazing on the glass windows to match the existing Sanctuary, cultured stone to match the natural on-site boulders, and parapet terracotta roofing to match the existing Sanctuary.

The proposed building would include Fellowship Hall/Gymnasium functions on the ground level with support spaces, such as storage rooms, a racquetball room, restrooms, a kitchen, staff offices, and a maintenance room, as well as two classrooms. The upper level of the Community Life Center would be comprised of five classrooms to serve as meeting spaces for Christian education ministries. The Fellowship Hall would also serve as a space for church-wide dining, meetings, ministries, receptions, and other functions, while the Gymnasium would serve as a meeting space for various sports groups. There would be no concurrent use of the Fellowship Hall/Gymnasium for assembly functions or services. Operations and activities would include weekday and weekend functions.

Phase 1C is anticipated to be completed over the period of 1 year. During this phase, a total of 3,500 cy of soil would be imported to the project site. Access to the project site at the signalized intersection of Sea Island Drive and Crown Valley Parkway would be temporarily closed during the first 2 months of Phase 1C, leaving the right-turn-in/right-turn-out-only access point on the east side of Crown Valley Parkway as the only site driveway. During Phase 1C, the construction staging area would be located in the northeastern corner of the project site (future location of the Christian Education Buildings).

Phase 2: Construction of Christian Education Building 1. Phase 2 includes the construction of the 15,399 sf Christian Education Building 1 and Nursery space. Construction of Phase 2 is anticipated to be completed over 1 year and would not involve the import or export of any soil. The Christian Education Building 1 would be approximately 31 ft in height and would include two stories, with the lower level partially below grade on the west and south elevations. The ground level would be comprised of a children's nursery space and four classrooms for youth Christian education. These functions would operate during Sunday services, with some mid-week and weekday functions occurring on an as-needed basis. The Christian education classrooms would also potentially be utilized for mid-week youth and adult ministry programs during evening hours. The upper level of Christian Education Building 1 would consist of two multi-use rooms with a kitchen, restrooms, storage rooms, and a church bookstore. The bookstore would serve the Church congregation on Sundays and would potentially be open during weekdays during mid-week services. Fellowship functions would occur in the multi-use rooms on an as-needed basis throughout the week for various youth and adult ministry opportunities. The multi-use rooms would also be available for community use upon request.

Phase 3: Construction of Christian Education Building 2. Construction of Phase 3 would be completed over 12 months and would not involve the import or export of any soil. Phase 3 includes construction of the 15,456 sf Christian Education Building 2. On the ground level, Christian Education Building 2 would include the Church Preschool. The Preschool facilities on the lower level would be comprised of eight classrooms, offices, a teachers' lounge, restrooms, and a maintenance and storage room. The Preschool would operate from 9:00 a.m. to 2:00 p.m., Monday through Friday, from mid-September to mid-June. The upper level of Christian Education Building 2 would consist of nine classrooms for children, youth, and adult Christian education purposes. The upper level would also have offices, restrooms, and storage rooms. Christian Education Building 2 would primarily be utilized during Sunday Church services, with mid-week use occurring on an as-needed basis. Following completion of Christian Education Building 2, the Church Preschool would relocate from its interim location on the ground floor of the Preschool/Administration building to the ground floor of Christian Education Building 2.

Both of the Christian Education buildings would be constructed to a maximum height of 31 ft. Building materials would include smooth plaster, vine-covered wood trellis, aluminum windows, bronze-tinted glazing to match the existing Sanctuary, and cultured stone to match the natural on-site boulders.

Phase 4: Construction of the South Half of Parking Structure. Phase 4 includes construction of the southern half of the proposed Parking Structure and the interior renovation of the Preschool/ Administration building. The Church Preschool would be relocated from its interim location on the ground floor of the Preschool/Administration building to the ground floor of the Christian Education Building 2 to be completed in Phase 3. The ground floor (interior spaces only) of the Preschool/ Administration building would be renovated in this phase to accommodate administrative functions.

The proposed Parking Structure is designed with two levels. The upper level/deck parking would be accessed from Crown Valley Parkway, and the lower level would be accessed from the project's internal drive aisle. The perimeter wall of the Parking Structure, as seen from Crown Valley Parkway, would vary in height because of the changing topography. The height of the wall would be 3 ft, 6 inches above the adjacent grade at the north end and 10 ft above the adjacent grade at the south end.

The elevator tower, which is proposed along the Parking Structure's eastern elevation, is proposed to be approximately 33 ft above grade, as measured from the project's internal driveway and would be 25 ft high as seen from the west entry drive at Crown Valley Parkway. The ground level of this structure will be partially below grade on the west elevation and the north and south elevations. The upper level would be designed to follow the contour of the Crown Valley Parkway to allow for the existing secondary vehicular site entry and exit access point. By preserving this access point, northbound lanes on Crown Valley Parkway would have direct access to the upper level of the Parking Structure. The lower level of the Parking Structure would be accessed via at-grade entry and exit points from the main drive aisle on both the northern and southern ends of the Parking Structure, near the pedestrian stair towers. Building materials would include smooth plaster, green screen covered with vines, and terracotta roofing to match the existing Sanctuary.

Phase 4 is anticipated to be completed over 7 months. During construction of Phase 4, a total of 5,500 cy of soil would be exported off of the project site. During this phase of construction, the right-turn-in/right-turn-out-only project access on the east side of Crown Valley Parkway would be temporarily unavailable. The only access point to the project site during this phase would be from the signalized intersection at Sea Island Drive/Crown Valley Parkway. During Phase 4, the construction staging area would be located in the central portion of the project site, in the future location of the northern half of the Parking Structure.

Phase 5: Construction of the North Half of Parking Structure. Phase 5 includes construction of the northern half of the Parking Structure. Refer to the discussion under Phase 4 for details related to the proposed Parking Structure's design features. Phase 5 is anticipated to be conducted over 7 months and would include the export of approximately 8,000 cy of soil. During Phase 5, the construction staging area would be located in the lower level of the southern half of the proposed Parking Structure.

Completed Master Plan

The proposed Master Plan would be developed in phases over a period of 10 years. The proposed sequencing of the construction phases would provide the Church an opportunity to continue to maintain existing operations to the extent feasible. Completion of the proposed Master Plan would include the existing Sanctuary and the addition of the proposed Preschool/Administration building, Landscape Outdoor Meditation Garden, Christian Education buildings 1 and 2, the Community Life Center, and the Parking Structure. As part of the proposed project, no additions to the existing Sanctuary are proposed. In addition, no increase in the licensed enrollment for the Preschool are proposed.

Completion of the proposed Master Plan would provide a total of 59 parking spaces on the main drive aisle and 176 parking spaces on each floor of the proposed Parking Structure, resulting in a total of 411 parking spaces available for church users.

SETTING

REGIONAL AIR QUALITY

The project site is located in Orange County, California, which is part of the South Coast Air Basin (Basin) and is under the jurisdiction of the SCAQMD. The air quality assessment for the proposed project includes estimating emissions associated with short-term construction and long-term operation of the proposed project.

A number of air quality modeling tools are available to assess the air quality impacts of projects. In addition, certain air districts, such as the SCAQMD, have created guidelines and requirements to conduct air quality analyses. The SCAQMD's current guidelines, included in its *CEQA Air Quality Handbook* (April 1993) and associated updates, were adhered to in the assessment of air quality impacts for the proposed project.

Both the State of California (State) and the federal government have established health-based AAQS for seven air pollutants. As shown in Table D, these pollutants include ozone (O_3), CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 microns in size (PM_{10}), particulate matter less than 2.5 microns in size ($PM_{2.5}$), and lead. In addition, the State has set standards for sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

In addition to setting out primary and secondary AAQS, the State of California has established a set of episode criteria for O_3, CO, NO_2, SO_2, and PM_{10}. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that actually threaten public health. Health effects are progressively more severe as pollutant levels increase from Stage One to Stage Three. An alert level is that concentration of pollutants at which initial stage control actions are to begin. An alert will be declared when any one of the pollutant alert levels is reached at any monitoring site and meteorological conditions are such that the pollutant concentrations can be expected to remain at these levels for 12 or more hours or to increase; or, in the case of oxidants, the situation is likely to recur within the next 24 hours unless control actions are taken.

Pollutant alert levels:

- **O_3:** 392 micrograms per cubic meter ($\mu g/m^3$) (0.20 parts per million [ppm]), 1-hour average
- **CO:** 17 milligrams per cubic meter (mg/m^3) (15 ppm), 8-hour average
- **NO_2:** 1,130 $\mu g/m^3$ (0.6 ppm), 1-hour average; 282 $\mu g/m^3$ (0.15 ppm), 24-hour average
- **SO_2:** 800 $\mu g/m^3$ (0.3 ppm), 24-hour average
- **Particulates, measured as PM_{10}:** 350 $\mu g/m^3$, 24-hour average

Table D: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1-Hour	0.09 ppm ($180\ \mu g/m^3$)	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm ($137\ \mu g/m^3$)		0.075 ppm ($147\ \mu g/m^3$)		
Respirable Particulate Matter (PM_{10})[8]	24-Hour	$50\ \mu g/m^3$	Gravimetric or Beta Attenuation	$150\ \mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	$20\ \mu g/m^3$		--		
Fine Particulate Matter ($PM_{2.5}$)[8]	24-Hour	No Separate State Standard		$35\ \mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	$12\ \mu g/m^3$	Gravimetric or Beta Attenuation	$12.0\ \mu g/m^3$	$15\ \mu g/m^3$	
Carbon Monoxide (CO)	8-Hour	9.0 ppm ($10\ mg/m^3$)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm ($10\ mg/m^3$)	None	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm ($23\ mg/m^3$)		35 ppm($40\ mg/m^3$)		
	8-Hour (Lake Tahoe)	6 ppm ($7\ mg/m^3$)		—	—	—
Nitrogen Dioxide (NO_2)[9]	Annual Arithmetic Mean	0.030 ppm ($57\ \mu g/m^3$)	Gas Phase Chemiluminescence	0.053 ppm ($100\ \mu g/m^3$)	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.18 ppm ($339\ \mu g/m^3$)		100 ppb ($188\ \mu g/m^3$)	—	
Sulfur Dioxide (SO_2)[10]	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (for certain areas)[9]	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	24-Hour	0.04 ppm ($105\ \mu g/m^3$)		0.14 ppm (for certain areas)[9]	—	
	3-Hour	—		—	0.5 ppm ($1300\ \mu g/m^3$)	
	1-Hour	0.25 ppm ($655\ \mu g/m^3$)		75 ppb ($196\ \mu g/m^3$)	—	
Lead[11,12]	30-Day Average	$1.5\ \mu g/m^3$	Atomic Absorption	—	—	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	—		$1.5\ \mu g/m^3$	Same as Primary Standard	
	Rolling 3-Month Average[11]	—		$0.15\ \mu g/m^3$		
Visibility-Reducing Particles[13]	8-Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	**No Federal Standards**		
Sulfates	24-Hour	$25\ \mu g/m^3$	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm ($42\ \mu g/m^3$)	Ultraviolet Fluorescence			
Vinyl Chloride[11]	24-Hour	0.01 ppm ($26\ \mu g/m^3$)	Gas Chromatography			

Source: California Air Resources Board (June 4, 2013).

Footnotes:

1 California standards for O_3; CO (except Lake Tahoe); SO_2 (1- and 24-hour); NO_2; suspended particulate matter - PM_{10}, $PM_{2.5}$ and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than O_3, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth-highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is

attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current Federal policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

8 On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m^3 to 12.0 μg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m^3, as was the annual secondary standard of 15 μg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

9 To attain the 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

10 On June 2, 2010, the new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

11 The ARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

12 The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 μg/m^3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.

13 In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basins, respectively.

°C = degrees Celsius
ARB = California Air Resources Board
EPA = United States Environmental Protection Agency
μg/m^3 = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter
ppm = parts per million
ppb = parts per billion

Table E lists the primary health effects and sources of common air pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (EPA), these health effects will not occur unless the standards are exceeded by a large margin or for a prolonged period of time. State AAQS are more stringent than federal AAQS. Among the pollutants, O_3 and particulate matter ($PM_{2.5}$ and PM_{10}) are considered regional pollutants, while the others have more localized effects.

Table E: Summary of Health Effects of the Major Criteria Air Pollutants

Pollutant	Health Effects	Examples of Sources
Particulate matter (PM_{10}: less than or equal to 10 microns)	Increased respiratory disease Lung damage Premature death	Cars and trucks, especially diesels Fireplaces, wood stoves Windblown dust from roadways, agriculture, and construction
Ozone (O_3)	Breathing difficulties Lung damage	Formed by chemical reactions of air pollutants in the presence of sunlight; common sources are motor vehicles, industries, and consumer products
Carbon monoxide (CO)	Chest pain in heart patients Headaches, nausea Reduced mental alertness Death at very high levels	Any source that burns fuel, such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Nitrogen dioxide (NO_2)	Lung damage	See carbon monoxide sources
Toxic air contaminants	Cancer Chronic eye, lung, or skin irritation Neurological and reproductive disorders	Cars and trucks, especially diesels Industrial sources such as chrome platers Neighborhood businesses such as dry cleaners and service stations Building materials and products

Source: California Air Resources Board (2010).

The California Clean Air Act (CCAA) provides SCAQMD and other air districts with the authority to manage transportation activities at indirect sources. Indirect sources of pollution are generated when minor sources collectively emit a substantial amount of pollution. Examples of this would be the motor vehicles at an intersection, a mall, and on highways. The SCAQMD also regulates stationary sources of pollution throughout its jurisdictional area. Direct emissions from motor vehicles are regulated by the ARB.

Climate/Meteorology

Air quality in the planning area is not only affected by various emission sources (mobile and industry, etc.), but also by atmospheric conditions such as wind speed, wind direction, temperature, and rainfall, etc. The combination of topography, low mixing height, abundant sunshine, and emissions from the second largest urban area in the United States gives the Basin the worst air pollution problem in the nation.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the site is the Laguna Beach station, which provides sufficient data for average temperatures in the project area. The Laguna Beach station[1] shows that the monthly average maximum temperature recorded from March 1928 to March 2013 ranged from 65.1°F in January to 78.1°F in August, with an annual average maximum of 71.2°F. The monthly average minimum temperature recorded at this station ranged from 43.0°F in January to 59.6°F in August, with an annual average minimum of 51.0°F. January is typically the coldest month, and August is typically the warmest month in this area of the Basin.

The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin and along the coastal side of the mountains. The Laguna Beach station monitored precipitation from March 1928 to March 2013. Average monthly rainfall during that period varied from 2.77 inches in February to 0.47 inch or less from May to October, with an annual total of 12.52 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid-afternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

Winds in the vicinity of the project area blow predominantly from the south-southwest, with relatively low velocities. Wind speeds in the project area average about 5 miles per hour (mph). Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds, together with a persistent temperature inversion limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly on shore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are CO and nitrogen oxides (NO_X) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_X to form photochemical smog.

Description of Global Climate Change and Its Sources

GCC is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other significant changes in climate (such as precipitation or wind) that last for an extended

[1] Western Regional Climate Center, www.wrcc.dri.edu.

period of time. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures.

Climate change refers to any change in measures of weather (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from natural factors, such as changes in the sun's intensity; natural processes within the climate system, such as changes in ocean circulation; or human activities, such as the burning of fossil fuels, land clearing, or agriculture. The primary observed effect of GCC has been a rise in the average global tropospheric[1] temperature of 0.36°F per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling shows that further warming could occur, which would induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns, or more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones. Specific effects in California might include a decline in the Sierra Nevada snowpack, erosion of California's coastline, and seawater intrusion in the Delta.

Global surface temperatures have risen by 1.33°F ± 0.32°F over the last 100 years (1906 to 2005). The rate of warming over the last 50 years is almost double that over the last 100 years.[2] The latest projections, based on state-of-the art climate models, indicate that temperatures in California are expected to rise 3–10.5°F by the end of the century.[3] The prevailing scientific opinion on climate change is that "most of the warming observed over the last 50 years is attributable to human activities."[4] Increased amounts of CO_2 and other GHGs are the primary causes of the human-induced component of warming. The observed warming effect associated with the presence of GHGs in the atmosphere (from either natural or human sources) is often referred to as the greenhouse effect.[5]

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced GCC are:[6]

---

1 The troposphere is the zone of the atmosphere characterized by water vapor, weather, winds, and decreasing temperature with increasing altitude.

2 Intergovernmental Panel on Climate Change (IPCC), 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC.*

3 California Climate Change Center, 2006. *Our Changing Climate. Assessing the Risks to California.* July.

4 IPCC, *Climate Change 2007: The Physical Science Basis,* http://www.ipcc.ch.

5 The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse lets heat from sunlight in and reduces the amount of heat that escapes, greenhouse gases (GHGs) like carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of GHG results in global warming, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

6 The GHGs listed are consistent with the definition in Assembly Bill 32 (Government Code 38505), as discussed later in this section.

- CO_2
- CH_4
- N_2O
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

Over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which is believed to be causing global warming. While GHGs produced by human activities include naturally occurring GHGs such as CO_2, CH_4, and N_2O, some gases, like HFCs, PFCs, and SF_6, are completely new to the atmosphere. Certain other gases, such as water vapor, are short-lived in the atmosphere as compared to these GHGs that remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is generally excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this air quality study, the term "GHGs" will refer collectively to the six gases identified in the bulleted list provided above.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. GWP is based on several factors, including the relative effectiveness of a gas in absorbing infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of metric tons (MT)[1] of "CO_2 equivalents" (CO_2e). Table F shows the GWPs for each type of GHG. For example, SF_6 is 22,800 times more potent at contributing to global warming than CO_2.

Table F: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-year Time Horizon)
Carbon Dioxide (CO_2)	50–200	1
Methane (CH_4)	12	25
Nitrous Oxide (NO_x)	114	298
HFC-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1.4	124
PFC: Tetrafluoromethane (CF_4)	50,000	7,390
PFC: Hexafluoromethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Source: IPCC, 2007. *Climate Change 2007: The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the IPCC.

[1] A metric ton is equivalent to approximately 1.1 tons.

HFC = hydrofluorocarbons
IPCC = Intergovernmental Panel on Climate Change
PFC = perfluorocarbons

The following discussion summarizes the characteristics of the six primary GHGs.

Carbon Dioxide. In the atmosphere, carbon generally exists in its oxidized form, as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals, and plants; volcanic outgassing; decomposition of organic matter; and evaporation from the oceans. Human-caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. The Earth maintains a natural carbon balance, and when concentrations of CO_2 are upset, the system gradually returns to its natural state through natural processes. Natural changes to the carbon cycle work slowly, especially compared to the rapid rate at which humans are adding CO_2 to the atmosphere. Natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of human-made CO_2. Consequently, the gas is building up in the atmosphere. The concentration of CO_2 in the atmosphere has risen approximately 30 percent since the late 1800s.[1]

The transportation sector remains the largest source of GHG emissions in 2011 with 37.6 percent of California's GHG emission inventory. The largest emissions category within the transportation sector is on-road, which consists of passenger vehicles (cars, motorcycles, and light-duty trucks) and heavy-duty trucks and buses. Emissions from on-road constitute over 92 percent of the transportation sector total. Industry and electricity generation were California's second- and third-largest categories of GHG emissions, respectively.

Methane. CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Anthropogenic sources include rice cultivation, livestock, landfills and waste treatment, biomass burning, and fossil fuel combustion (burning of coal, oil, natural gas, etc.). Emissions from the recycling and waste sector consist of CH_4 and N_2O emissions from landfills and from commercial-scale composting. Emissions from recycling and waste grew from 6.3 million MT of CO_2e in 2001 to 7.0 million MT in 2011.[2] As with CO_2, the major removal process of atmospheric CH_4—a chemical breakdown in the atmosphere—cannot keep pace with source emissions, and CH_4 concentrations in the atmosphere are increasing.

Nitrous Oxide. N_2O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. N_2O is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N_2O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance

1 California Environmental Protection Agency (CalEPA). 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature.* March.

2 California Air Resources Board (ARB), *Greenhouse Gas Inventory Data – 2000 to 2011*. http://www.arb.ca.gov/cc/inventory/data/data.htm (accessed April 2014).

and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in California.

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride. HFCs are primarily used as substitutes for O_3-depleting substances regulated under the Montreal Protocol.[1] PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry, which is active in California, leads to greater use of PFCs. However, there are no known project-related emissions of these three GHGs, so they are not discussed further.

Emissions Sources and Inventories

An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on global, national, California, and local GHG emission inventories. However, because GHGs persist for a long time in the atmosphere (see Table D), accumulate over time, and are generally well mixed, their impact on the atmosphere and climate cannot be tied to a specific point of emission.

Global Emissions. Worldwide emissions of GHGs in 2011 totaled 34.6 billion MT of CO_2e per year (CO_2e/yr).[2] Global estimates are based on country inventories developed as part of the programs of the United Nations Framework Convention on Climate Change (UNFCCC).

United States Emissions. In 2012, the United States emitted approximately 6.5 billion MT of CO_2e. Of the six major sectors nationwide—electric power industry, transportation, industry, agriculture, commercial, and residential—the electric power industry and transportation sectors combined account for approximately 70 percent of the GHG emissions; the majority of the electric power industry and all of the transportation emissions are generated from direct fossil fuel combustion. In 2012, the total United States GHG emissions were approximately 5.3 percent greater than 1990 levels.[3]

1 The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for O_3 depletion.

2 United Nations Framework Convention on Climate Change (UNFCCC), Combined total of Annex I and Non-Annex I Country CO_2e emissions. 2014. *Greenhouse Gas Inventory Data.* Information available at http://unfccc.int/ghg_data/ghg_data_unfccc/items/4146.php (accessed April 2014).

3 United States Environmental Protection Agency (EPA). 2014. *The 2014 U.S. Greenhouse Gas Inventory Report.* http://www.epa.gov/climatechange/emissions/usinventoryreport.html (accessed April 2014).

State of California Emissions. According to ARB emission inventory estimates, California emitted approximately 448 million metric tons (MMT) of CO_2e emissions in 2011.[1] This large number is due primarily to the sheer size of California compared to other states. By contrast, California has the fourth-lowest per-capita CO_2 emission rate from fossil fuel combustion in the country due to the success of its energy efficiency and renewable energy programs and commitments that have lowered the State's GHG emissions rate of growth by more than half of what it would have been otherwise.[2]

The ARB estimates that transportation was the source of approximately 38 percent of the State's GHG emissions in 2011, followed by electricity generation (both in-State and out-of-State) at 19 percent and industrial sources at 21 percent. The remaining sources of GHG emissions were residential and commercial activities at 10 percent, agriculture at 7 percent, high-GWP gases at 3 percent, and recycling and waste at 2 percent.[3]

The ARB is responsible for developing the California Greenhouse Gas Emission Inventory. This inventory estimates the amount of GHGs emitted to and removed from the atmosphere by human activities within the State of California and supports the AB 32 Climate Change Program. The ARB's current GHG emission inventory covers the years 1990–2011 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, agricultural lands). The emission inventory estimates are based on the actual amount of all fuels combusted in the State, which accounts for over 85 percent of the GHG emissions within California.

The ARB staff has projected statewide unregulated GHG emissions for 2020, which represent the emissions that would be expected to occur in the absence of any GHG reduction actions, at 507 MMT of CO_2e. GHG emissions from the transportation and electricity sectors as a whole are expected to increase but remain at approximately 36 percent and 24 percent of total CO_2e emissions, respectively. The industrial sector consists of large stationary sources of GHG emissions, and the percentage of the total 2020 emissions is projected to be 18 percent of total CO_2e emissions.[4]

Air Pollution Constituents and Attainment Status

The ARB coordinates and oversees both State and federal air pollution control programs in California. The ARB oversees activities of local air quality management agencies and maintains air quality monitoring stations throughout the State in conjunction with the EPA and local air districts. The ARB has divided the State into 15 air basins based on meteorological and topographical factors of air pollution. Data collected at these stations are used by the ARB and EPA to classify air basins as "attainment", "nonattainment," "nonattainment-transitional," or "unclassified," based on air quality data for the most recent 3 calendar years compared with the AAQS. "Nonattainment" areas are imposed with additional restrictions as required by the EPA. The air quality data are also used to

1 ARB, Greenhouse Gas Inventory Data – 2000 to 2011. http://www.arb.ca.gov/cc/inventory/data/data.htm (accessed April 2014).

2 California Energy Commission (CEC), 2007. *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 – Final Staff Report*, publication # CEC-600-2006-013-sf, Sacramento, California, December 22, 2006; and January 23, 2007, update to that report.

3 ARB, 2013. http://www.arb.ca.gov/cc/inventory/data/data.htm (October 2013).

4 ARB, 2014. http://www.arb.ca.gov/cc/inventory/data/data.htm (April 2014).

monitor progress in attaining air quality standards. Table G lists the "attainment" status for the criteria pollutants in the Basin.

Table G: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3 1-hour	Nonattainment	N/A
O_3 8-hour	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Nonattainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment[1]	Attainment[1]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: California Air Resources Board, 2014. (http://www.arb.ca.gov/desig/desig.htm).
[1] Except in Los Angeles County.
CO = carbon monoxide
N/A = not applicable
NO_2 = nitrogen dioxide
O_3 = ozone
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
SO_2 = sulfur dioxide

Over the years, the air quality in the Basin has improved significantly due to comprehensive control strategies implemented to reduce pollution from mobile and stationary sources. For example, the total number of days on which the Basin experiences high ozone levels has decreased dramatically over the last two decades. The maximum 8-hour ozone levels measured in the Basin were well above 200 parts per billion (ppb) in the early 1990s, and now are less than 140 ppb. The number of days in which the Basin exceeds the federal 1-hour ozone standard has continually declined over the years. Both PM_{10} and $PM_{2.5}$ levels have improved dramatically over the past two decades. Annual average PM_{10} concentrations have been cut in half since 1990, and likewise, annual average $PM_{2.5}$ concentrations have been cut in half since measurement began in 1999. The Basin has met the PM_{10} standards at all stations and a request for re-designation to attainment is pending with the EPA. In 2011, both the annual $PM_{2.5}$ standard and the 24-hour $PM_{2.5}$ standard were exceeded at only one air monitoring station, Mira Loma, in northwestern Riverside County. In 2011, the Basin did not exceed the standards for CO, NO_2, or SO_2.[1]

Although exposure to pollution has decreased substantially in the Basin through several decades of implementing pollution controls, increases in the population over that time have made further emissions reductions more difficult. Many sources, such as automobiles and stationary sources have been significantly controlled. However, an increase in the number of sources, particularly those growing proportionally to population, can offset the potential air quality benefits of past and existing regulations. The net result is that unless additional steps are taken to further control air pollution, growth itself may begin to reverse the gains of the past decades.

[1] South Coast Air Quality Management District, 2012 Air Quality Management Plan, Executive Summary.

Ozone. O_3 (smog) is formed by photochemical reactions between oxides of nitrogen and reactive organic gases (ROGs) rather than being directly emitted. O_3 is a pungent, colorless gas typical of Southern California smog. Elevated O_3 concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, the elderly, and young children. O_3 levels peak during summer and early fall. The entire Basin is designated as a nonattainment area for the State 1-hour and 8-hour O_3 standards. The EPA has officially designated the status for most of the Basin regarding the 8-hour O_3 standard as "Extreme," which means the Basin has until 2024 to attain the federal 8-hour O_3 standard.

Particulate Matter. Particulate matter (PM) is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles (PM_{10}) derive from a variety of sources, including windblown dust and grinding operations. Fuel combustion and resultant exhaust from power plants and diesel buses and trucks are primarily responsible for fine particle ($PM_{2.5}$) levels. Fine particles can also be formed in the atmosphere through chemical reactions. PM_{10} can accumulate in the respiratory system and aggravate health problems such as asthma. The EPA's scientific review concluded that $PM_{2.5}$, which penetrate deeply into the lungs, are more likely than coarse particles to contribute to the health effects listed in a number of recently published community epidemiological studies at concentrations that extend well below those allowed by the current PM_{10} standards. These health effects include increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease such as asthma); decreased lung functions (particularly in children and individuals with asthma); alterations in lung tissue and structure and in respiratory tract defense mechanisms and premature death. The Basin is designated as "nonattainment" for the federal and State $PM_{2.5}$ standards and State PM_{10} standard, and as "attainment/maintenance" for the federal PM_{10} standard.

Carbon Monoxide. CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. The entire Basin is in "attainment" for the State standards for CO. The Basin is designated as an "Attainment/Maintenance" area under the federal CO standards.

Nitrogen Oxides. NO_2, a reddish brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as nitrogen oxides, or NO_X. NO_X is a primary component of the photochemical smog reaction. It also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition (i.e., acid rain). NO_2 decreases lung function and may reduce resistance to infection. The entire Basin is designated as "nonattainment" for the State NO_2 standard and as an "Attainment/Maintenance" area under the federal NO_2 standard.

Sulfur Dioxide. SO_2 is a colorless irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight. The entire Basin is in “attainment” with both federal and State SO_2 standards.

Lead. Lead is found in old paints and coatings, plumbing, and a variety of other materials. Once in the blood stream, lead can cause damage to the brain, nervous system, and other body systems. Children are highly susceptible to the effects of lead. The Basin is in “attainment” with both federal and State lead standards, with the exception of the Los Angeles County portion of the Basin, which was re-designated as “nonattainment” for the State and federal standards for lead in 2010.

Volatile Organic Compounds. Volatile organic compounds (VOCs; also known as reactive organic gases [ROGs] and reactive organic compounds [ROCs]) are formed from the combustion of fuels and the evaporation of organic solvents. VOCs are not defined as criteria pollutants, however, because VOCs accumulate in the atmosphere more quickly during the winter when sunlight is limited and photochemical reactions are slower. They are a prime component of the photochemical smog reaction. There are no attainment designations for VOCs.

Sulfates. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently is converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features. The entire Basin is in “attainment” for the State standard for sulfates.

Hydrogen Sulfide. H_2S is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas and can be emitted as the result of geothermal energy exploitation. In 1984, an ARB committee concluded that the ambient standard for H_2S is adequate to protect public health and to significantly reduce odor annoyance. The entire Basin is “unclassified” for the State standard of H_2S.

Visibility-Reducing Particles. Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt. The statewide standard is intended to limit the frequency and severity of visibility impairment due to regional haze. The entire Basin is “unclassified” for the State standard for visibility-reducing particles.

LOCAL AIR QUALITY

The SCAQMD, together with the ARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the site is the Mission Viejo station, which monitors most air pollutant data, except NO_2 and SO_2, which were obtained from the Costa Mesa station. The air quality trends from these two stations are used to represent the ambient air quality in the project area. The pollutants monitored are CO, O_3, PM_{10}, $PM_{2.5}$, NO_2, and SO_2.[1] The ambient air quality data in Table H show that NO_2, SO_2, 24-hour PM_{10}, and CO levels are below the applicable State and federal standards.

Table H: Ambient Air Quality Monitored in the Project Vicinity

Pollutant	Standard	2010	2011	2012
Carbon Monoxide (CO) – 1-hour CO levels taken from EPA Website for Orange County Area				
Maximum 1-hour concentration (ppm)		3.2	3.4	3.1
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		0.90	0.95	0.79
Number of days exceeded:	State: ≥ 9.0 ppm	0	0	0
	Federal: ≥ 9 ppm	0	0	0
Ozone (O_3) – taken from Mission Viejo Station				
Maximum 1-hour concentration (ppm)		0.117	0.094	0.096
Number of days exceeded:	State: > 0.09 ppm	2	0	2
Maximum 8-hour concentration (ppm)		0.082	0.083	0.078
Number of days exceeded:	State: > 0.07 ppm	2	5	6
	Federal: > 0.075 ppm	2[1]	2	1
Coarse Particulates (PM_{10}) – taken from Mission Viejo Station				
Maximum 24-hour concentration (µg/m^3)		34.0	48.0	37.0
Number of days exceeded:	State: > 50 µg/m^3	0	0	0
	Federal: > 150 µg/m^3	0	0	0
Annual arithmetic average concentration (µg/m^3)		ND	18.8	17.0
Exceeded for the year:	State: > 20 µg/m^3	ND	No	No
Fine Particulates ($PM_{2.5}$) – taken from Mission Viejo Station				
Maximum 24-hour concentration (µg/m^3)		19.9	33.4	27.6
Number of days exceeded:	Federal: > 35 µg/m^3	0	0	0
Annual arithmetic average concentration (µg/m^3)		7.9	8.5	7.9
Exceeded for the year:	State: > 12 µg/m^3	No	No	No
	Federal: > 15 µg/m^3	No	No	No
Nitrogen Dioxide (NO_2) – taken from Costa Mesa Station				
Maximum 1-hour concentration (ppm)		0.0700	0.0605	0.0744
Number of days exceeded:	State: > 0.18 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.011	ND	ND
Exceeded for the year:	State: > 0.030 ppm	No	ND	ND
	Federal: > 0.053 ppm	No	ND	ND
Sulfur Dioxide (SO_2) – taken from Costa Mesa Station				
Maximum 24-hour concentration (ppm)		0.002	ND	ND
Number of days exceeded:	State: > 0.04 ppm	0	ND	ND
	Federal: > 0.14 ppm	0	ND	ND
Annual arithmetic average concentration (ppm)		0	ND	ND
Exceeded for the year:	Federal: > 0.030 ppm	0	ND	ND

1 Air quality data, 2010–2012; EPA and ARB websites.

Sources: EPA and ARB websites: www.epa.gov/air/data/index.html and www.arb.ca.gov/adam/welcome.html, full 2012 data not yet available.

[1] The exceedances of the federal 8-hour O_3 standard are based on the old 0.08 ppm standard. In April 2008, the EPA revised the standard to 0.075 ppm.

ARB = California Air Resources Board
EPA = United States Environmental Protection Agency
$\mu g/m^3$ = micrograms per cubic meter
ND = no data available
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ppm = parts per million

The State 1-hour O_3 standard was exceeded 0 to 2 times per year in the past 3 years. The federal 8-hour O_3 standard was exceeded 1 to 2 days per year in the past 3 years, and the State 8-hour O_3 standard was exceeded 2 to 6 times per year in the past 3 years. The federal 24-hour $PM_{2.5}$ standard and the federal and State annual average $PM_{2.5}$ standards were not exceeded at this monitoring station in the past 3 years. The State 24-hour and annual average PM_{10} standards were also not exceeded at this monitoring station in the past 3 years.

REGULATORY SETTINGS

Federal Regulations/Standards

Pursuant to the federal Clean Air Act (CAA) of 1970, the EPA established national ambient air quality standards (NAAQS). The NAAQS were established for six major pollutants, termed “criteria” pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established AAQS, or criteria, for outdoor concentrations in order to protect public health.

Data collected at permanent monitoring stations are used by the EPA to classify regions as “attainment” or “nonattainment,” depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas are imposed with additional restrictions as required by the EPA. The EPA has designated the SCAG as the Metropolitan Planning Organization (MPO) responsible for ensuring compliance with the requirements of the CAA for the Basin.

In an effort to help federal agencies ensure the integrity of their environmental reviews and promote sound governmental decision-making, the Council on Environmental Quality (CEQ) issued final guidance on the “Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact” on January 14, 2011. This guidance was developed as part of CEQ’s effort to modernize and reinvigorate federal agency implementation of the National Environmental Policy Act (NEPA).

The EPA established new national air quality standards for ground-level O_3 and $PM_{2.5}$ in 1997. On May 14, 1999, the Court of Appeals for the District of Columbia Circuit issued a decision ruling that the CAA, as applied in setting the new public health standards for O_3 and particulate matter, was unconstitutional as an improper delegation of legislative authority to the EPA. On February 27, 2001, the United States Supreme Court upheld the way the government sets air quality standards under the CAA. The court unanimously rejected industry arguments that the EPA must consider financial cost, as well as health benefits, in writing standards. The justices also rejected arguments that the EPA took too much lawmaking power from Congress when it set tougher standards for O_3 and soot in 1997.

Nevertheless, the court threw out the EPA's policy for implementing new O_3 rules, saying that the agency ignored a section of the law that restricts its authority to enforce such rules.

In April 2003, the EPA was cleared by the White House Office of Management and Budget (OMB) to implement the 8-hour ground-level O_3 standard. The EPA issued the proposed rule implementing the 8-hour O_3 standard in April 2003. The EPA completed final 8-hour nonattainment status on April 15, 2004. The EPA revoked the 1-hour O_3 standard on June 15, 2005, and lowered the 8-hour O_3 standard from 0.08 ppm to 0.075 ppm on April 1, 2008.

The EPA issued the final $PM_{2.5}$ implementation rule in fall 2004. The EPA lowered the 24-hour $PM_{2.5}$ standard from 65 to 35 $\mu g/m^3$ and revoked the annual PM_{10} standard on December 17, 2006. The EPA issued final designations for the 2006 24-hour $PM_{2.5}$ standard on December 12, 2008.

The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the EPA has the authority to regulate CO_2 emissions under the CAA. While there currently are no adopted federal regulations for the control or reduction of GHG emissions, the EPA commenced several actions in 2009 that are required to implement a regulatory approach to GCC.

On September 30, 2009, the EPA announced a proposal that focuses on large facilities emitting over 25,000 tons of GHG emissions per year. These facilities would be required to obtain permits that would demonstrate they are using the best practices and technologies to minimize GHG emissions.

On December 7, 2009, the EPA Administrator signed a final action under the CAA, finding that six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to GCC. This EPA action does not impose any requirements on industry or other entities. However, the findings are a prerequisite to finalizing the GHG emission standards for light-duty vehicles mentioned below.

On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a final joint rule to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy. The EPA is finalizing the first-ever national GHG emissions standards under the CAA, and NHTSA is finalizing Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. The EPA GHG standards require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile in model year 2016, equivalent to 35.5 miles per gallon (mpg).

State Regulations/Standards

In 1967, the California Legislature passed the Mulford-Carrell Act, which combined two Department of Health bureaus, the Bureau of Air Sanitation and the Motor Vehicle Pollution Control Board, to establish the ARB. Since its formation, the ARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problems.

The ARB identified particulate emissions from diesel-fueled engines (diesel particulate matter [DPM]) as toxic air contaminants (TACs) in August 1998. Following the identification process, the

ARB was required by law to determine whether there is a need for further control. In September 2000, the ARB adopted the Diesel Risk Reduction Plan (Diesel RRP), which recommends many control measures to reduce the risks associated with DPM and to achieve goals of 75 percent DPM reduction by 2010 and 85 percent by 2020.

2010 Climate Action Team Report - California Climate Action Milestones. In 1988, AB 4420 directed the California Energy Commission (CEC) to report on "how global warming trends may affect California's energy supply and demand, economy, environment, agriculture, and water supplies" and offer "recommendations for avoiding, reducing and addressing the impacts." This marked the first statutory direction to a California State agency to address climate change.

The California Climate Action Registry was created to encourage voluntary reporting and early reductions of GHG emissions with the adoption of Senate Bill (SB) 1771 in 2000. The CEC was directed to assist by developing metrics and identifying and qualifying third-party organizations to provide technical assistance and advice to GHG emission reporters. The next year, SB 527 amended SB 1771 to emphasize third-party verification.

SB 1711 also contained several additional requirements for the CEC including: updating the State's GHG inventory from an existing 1998 report, and continuing to update it every 5 years; acquiring, developing and distributing information on global climate change to agencies and businesses; establishing a State interagency task force to ensure policy coordination; and establishing a climate change advisory committee to make recommendations on the most equitable and efficient ways to implement climate change requirements. In 2006, AB 1803 transferred preparation of the inventory from the CEC to the ARB by AB 1803. The ARB updates the inventory annually.

AB 1493, authored by Assembly Member Fran Pavley in 2002, directed the ARB to adopt regulations to achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles. The so-called "Pavley" regulations, or Clean Car regulations, were approved by the ARB in 2004. The ARB submitted a request to the EPA to implement the regulations in December 2005. After several years of requests to the federal government, and accompanying litigation, this waiver request was granted on June 30, 2009. The ARB has since combined the control of smog-causing pollutants and GHG emissions to develop a single coordinated package of standards known as Low Emission Vehicles III. It is expected that these regulations will reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016, all while improving fuel efficiency and reducing motorists' costs. AB 1493 also directed the California Climate Action Registry to adopt protocols for reporting reductions in GHG emissions from mobile sources prior to the operative date of the regulations.

SB 812 added forest management practices to the California Climate Action Registry members' reportable emissions actions. It also directed the Registry to adopt forestry procedures and protocols to monitor, estimate, calculate, report, and certify carbon stores and CO_2 emissions that resulted from the conservation and conservation-based management of forests in California.

The California Renewable Portfolio Standard Program, which requires electric utilities and other entities under the jurisdiction of the California Public Utilities Commission to meet 20 percent of their retail sales with renewable power by 2017, was established by SB 1078 in 2002. The renewable portfolio standard was accelerated to 20 percent for 2010 by SB 107 in 2006. The program was subsequently expanded by the renewable electricity standard approved by the ARB in September 2010, requiring all utilities to meet a 33 percent target by 2020. The renewable electricity standard is projected to reduce GHG emissions from the electricity sector by at least 12 MMT of CO_2e in 2020.

In December 2004, Governor Arnold Schwarzenegger signed Executive Order (EO) S-20-04, which set a goal of reducing energy use in State-owned buildings by 20 percent by 2015 (from a 2003 baseline) and encouraged cities, counties, schools, and the private sector to take all cost-effective measures to reduce building electricity use. This action built upon the State's strong history of energy efficiency efforts that have saved Californians and California businesses energy and money for decades. They are a cornerstone of GHG reduction efforts.

EO S-3-05 (June 2005) established GHG targets for the State such as: returning to year 2000 emission levels by 2010; 1990 levels by 2020; and 80 percent below 1990 levels by 2050. It directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate efforts to meet the targets with the heads of other State agencies. This group became the Climate Action Team.

California's Million Solar Roofs plan was boosted by the passage of SB 1 in 2006. The plan is estimated to result in 3,000 megawatts of new electricity generating capacity and avoidance of 2.1 MMT of CO_2e emissions. The main components of the bill included expanding the program to more customers, requiring the State's municipal utilities to create their own solar rebate programs, and making solar panels a standard option on new homes.

The California Global Warming Solutions Act of 2006, best known by its bill number AB 32, created a first-in-the country comprehensive program to achieve real, quantifiable, and cost-effective reductions in GHG. The law set an economy-wide cap on California GHG emissions at 1990 levels by 2020. It directed the ARB to prepare, approve, and implement a Scoping Plan for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions. EO S-20-06, signed in October 2006, directed the Secretary for Environmental Protection to establish a Market Advisory Committee of national and international experts. The committee made recommendations to the ARB on the design of a market-based program for GHG emissions reduction. The ARB adopted the Scoping Plan, describing a portfolio of measures to achieve the target, in December 2008. All of the major regulatory measures necessary for meeting the 2020 emissions target were adopted by December 2010.

The governors of California, Arizona, New Mexico, Oregon, and Washington entered into a memorandum of understanding in February 2007 establishing the Western Climate Initiative. The governors agreed to set a regional goal for emissions reductions consistent with state-by-state goals; develop a design for a regional market-based multi-sector mechanism to achieve the goal; and participate in a multi-state GHG registry. The Initiative has since grown to include Montana, Utah, and the Canadian provinces of British Columbia, Manitoba, Ontario, and Québec.

California is implementing the world's first Low Carbon Fuel Standard for transportation fuels, pursuant to both EO S-01-07, signed January 2007, and AB 32. The standard requires a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. This reduction is expected to reduce GHG emissions in 2020 by 17.6 MMT of CO_2e. Also in 2007, AB 118 created the Alternative and Renewable Fuel and Vehicle Technology Program. The CEC and the ARB administer the program. This act provides funding for alternative fuel and vehicle technology research, development, and deployment in order to attain the State's climate change goals, achieve the State's petroleum reduction objectives and clean air and GHG emission reduction standards, develop public-private partnerships, and ensure a secure and reliable fuel supply.

In addition to vehicle emissions regulations and the low carbon fuel standard, the third effort reducing GHG emissions from transportation is the reduction in the demand for personal vehicle travel (i.e., vehicle miles traveled or VMT). This measure was addressed in September 2008 through the Sustainable Communities and Climate Protection Act of 2008, or SB 375. The enactment of SB 375 initiated an important new regional land use planning process to mitigate GHG emissions by integrating and aligning planning for housing, land use, and transportation for California's 18 Metropolitan Planning Organizations. The bill directed the ARB to set regional GHG emission reduction targets for most areas of the State. It also contained important elements related to federally mandated regional transportation plans and the alignment of State transportation and housing planning processes.

Also codified in 2008, SB 97 required the Governor's Office of Planning and Research to develop GHG emissions criteria to be used in determining project impacts under CEQA. These criteria were developed in 2009 and went into effect in 2010.

EO S-13-08 launched a major initiative for improving the State's adaptation to climate impacts from sea level rise, increased temperatures, shifting precipitation, and extreme weather events. It ordered a California Sea Level Rise Assessment Report to be requested from the National Academy of Sciences. It also ordered the development of a Climate Adaptation Strategy. The strategy, published in December 2009, assesses the State's vulnerability to climate change impacts, and outlines possible solutions that can be implemented within and across State agencies to promote resiliency. The Strategy focused on seven areas: public health, biodiversity and habitat, ocean and coastal resources, water management, agriculture, forestry, and transportation and energy infrastructure.

The initiatives, executive orders, and statutes outlined above comprise the major milestones in California's efforts to address climate change through coordinated action on climate research, GHG mitigation, and climate change adaptation. There are numerous other related efforts that have been undertaken by State agencies and departments to address specific questions and programmatic needs. The Climate Action Team coordinates these efforts and others that comprise the State's climate program. The rest of the report describes these efforts.

Regional Air Quality Planning Framework

The 1976 Lewis Air Quality Management Act established the SCAQMD and other air districts throughout the State. The federal CAA Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of the State.

The ARB is responsible for incorporating air quality management plans for local air basins into a State Implementation Plan (SIP) for EPA approval. Significant authority for air quality control within them has been given to local air districts that regulate stationary-source emissions and develop local nonattainment plans.

Regional Air Quality Management Plan

The SCAQMD and the SCAG are responsible for formulating and implementing the AQMP for the Basin. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. Every 3 years, the SCAQMD prepares a new AQMP, updating the previous plan and setting a 20-year horizon. The SCAQMD adopted the 2012 AQMP in December 2012 and forwarded it to ARB for review and approval.

The 2012 AQMP incorporated the latest scientific and technological information and planning assumptions, including the 2012 Regional Transportation Plan/Sustainable Communities Strategy and updated emission inventory methodologies for various source categories. The 2012 AQMP included the new and changing federal requirements, implementation of new technology measures, and the continued development of economically sound, flexible compliance approaches.

THRESHOLDS OF SIGNIFICANCE

A number of modeling tools are available to assess air quality impacts of projects. In addition, certain air districts, such as the SCAQMD, have created guidelines and requirements to conduct air quality analysis. The SCAQMD's current guidelines, the *CEQA Air Quality Handbook* (April 1993) with associated updates, and the City of Dana Point were adhered to in the assessment of air quality impacts for the proposed project. The air quality models identified in the document (including an older version of the URBEMIS model) are outdated; therefore, the current model, CalEEMod Version 2013.2.2, was used to estimate project-related mobile- and stationary-source emissions in this Air Quality Analysis.

The Air Quality Analysis includes estimated emissions associated with short-term construction and long-term operation of the proposed project. Criteria pollutants with regional impacts would be emitted by project-related vehicular trips, as well as by emissions associated with stationary sources used on site. Localized air quality impacts, i.e., higher CO concentrations (CO hot spots) near intersections or roadway segments in the project vicinity, would be small and less than significant due to the generally low ambient CO concentrations (maximum 3.4 ppm for the 1-hour period and 0.95 ppm for the 8-hour period) in the project area.

The net increase in pollutant emissions determines the significance and impact on regional air quality as a result of the proposed project. The results also allow the local government to determine whether the proposed project will deter the region from achieving the goal of reducing pollutants in accordance with the AQMP in order to comply with federal and State AAQS.

On December 5, 2008, the SCAQMD adopted an interim GHG significance threshold for projects where the lead agency is using a tiered approach for determining significance. The objective of the SCAQMD's interim GHG significance threshold proposal was to achieve a GHG emission capture rate of 90 percent for all new or modified stationary-source projects.

THRESHOLDS OF SIGNIFICANCE

Based on *Guidelines for the Implementation of California Environmental Quality Act*, Appendix G, Public Resource Code (PRC) Sections 15000–15387, a project would normally be considered to have a significant effect on air quality if the project would violate any AAQS, contribute substantially to an existing air quality violation, expose sensitive receptors to substantial pollutants concentrations, or conflict with adopted environmental plans and goals of the community in which it is located.

In addition to the federal and State AAQS, there are daily emissions thresholds for construction and operation of a proposed project in the Basin. The Basin is administered by the SCAQMD, and guidelines and emissions thresholds established by the SCAQMD. It should be noted that the emissions thresholds were established based on the attainment status of the air basin in regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (EPA), these emissions thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

Regional Thresholds for Construction Emissions

The following CEQA significance thresholds for construction emissions have been established for the Basin:

- 75 pounds per day (lbs/day) of ROC
- 100 lbs/day of NO_X
- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of SO_X

Projects in the Basin with construction-related emissions that exceed any of these emission thresholds are considered to be significant under the SCAQMD guidelines.

Regional Thresholds for Operational Emissions

The following CEQA significance thresholds for operational emissions have been established for the Basin:

- 55 lbs/day of ROC
- 55 lbs/day of NO_X
- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of SO_X

Projects in the Basin with operational emissions that exceed any of these emission thresholds are considered to be significant under the SCAQMD guidelines.

Local Microscale Concentration Standards. The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or federal standard, project emissions are considered significant if they increase 1-hour CO concentrations by 1.0 ppm or more or 8-hour CO concentrations by 0.45 ppm or more. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm

Thresholds for Localized Impacts Analysis

The SCAQMD published its *Final Localized Significance Threshold Methodology* in June 2003, recommending that all air quality analyses include an assessment of both construction and operational impacts on the air quality of nearby sensitive receptors. Localized Significance Thresholds (LSTs) represent the maximum emissions from a project site that are not expected to result in an exceedance of the national or State AAQS, as previously shown in Table A. LSTs are based on the ambient concentrations of that pollutant within the project Source Receptor Area (SRA) and the distance to the nearest sensitive receptor. For this project, the appropriate SRA for the localized impacts analysis is the Capistrano Valley area (SRA 21).

In the case of CO and NO_2, if ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of the national or State AAQS. If ambient levels already exceed a State or federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to PM_{10} and $PM_{2.5}$, both of which are nonattainment pollutants. For these two, the significance criteria are the pollutant concentration thresholds presented in SCAQMD Rules 403 and 1301. The Rule 403 threshold of 10.4 $\mu g/m^3$ applies to construction emissions. The Rule 1301 threshold of 2.5 $\mu g/m^3$ applies to operational activities.

To avoid the need for every air quality analysis to perform air dispersion modeling, the SCAQMD performed air dispersion modeling for a range of construction sites less than or equal to 5 ac in size and created look-up tables that correlate pollutant emissions rates with project size to screen out projects that are unlikely to generate enough emissions to result in a locally significant concentration of any criteria pollutant.

For construction and operational emissions, the localized significance for a project greater than 5 ac can be determined by performing the screening-level analysis using the 5 ac LSTs before using the dispersion modeling because the screening-level analysis is more conservative, and if no exceedance of the screening-level thresholds is identified, then it is deemed that pollutant concentrations exceeding national or State AAQS will not occur. Since the total gross area for the project site is approximately 9 ac, the LST screening thresholds for 5 ac are used in this analysis for construction emissions for a screening-level analysis first.

Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. Existing residences nearest to the project site are the Monarch Bay Villas which are located adjacent to the project site. Per the SCAQMD LST guidance, a distance of 25 meters (m) (approximately 80 ft) from the project boundary is to be used to represent sensitive receptors 25 m and closer. Using the operations LST thresholds for receptors at 25 m from a 5 ac site for this project would result in a conservative analysis. Therefore, the following emissions thresholds apply during project operations:

- **Construction Localized Significance Thresholds, 5 ac, 80 ft distance**
  - 197 lbs/day of NO_X
  - 1,804 lbs/day of CO
  - 12 lbs/day of PM_{10}
  - 8 lbs/day of $PM_{2.5}$
- **Operation Localized Significance Thresholds, 5 ac, 80 ft distance**
  - 197 lbs/day of NO_X
  - 1,804 lbs/day of CO
  - 3 lbs/day of PM_{10}
  - 2 lbs/day of $PM_{2.5}$

Thresholds for Global Climate Change

As the SCAQMD has recognized, the analysis of GHGs is a much different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants, significance thresholds are based on daily emissions because attainment or nonattainment is based on daily exceedances of applicable AAQS. Furthermore, several AAQS are based on relatively short-term exposure effects on human health (e.g., 1-hour and 8-hour). However, since the half-life of CO_2 is approximately 100 years, for example, the effects of GHGs are longer-term, affecting global climate over a relatively long time frame. As a result, the SCAQMD's current position is to evaluate GHG effects over a longer time frame than a single day.

The recommended approach for GHG analysis included in OPR's June 2008 release is to: (1) identify and quantify GHG emissions, (2) assess the significance of the impact on GCC, and (3) if significant, identify alternatives and/or mitigation measures to reduce the impact to below a level of significance.[1] The June 2008 OPR guidance provides some additional direction regarding planning documents as follows: "CEQA can be a more effective tool for GHG emissions analysis and mitigation if it is supported and supplemented by sound development policies and practices that will reduce GHG emissions on a broad planning scale and that can provide the basis for a programmatic approach to project-specific CEQA analysis and mitigation. For local government lead agencies, adoption of general plan policies and certification of general plan Environmental Impact Reports (EIRs) that analyze broad jurisdiction-wide impacts of GHG emissions can be part of an effective strategy for addressing cumulative impacts and for streamlining later project-specific CEQA reviews."

Pursuant to SB 97, OPR submitted to the Secretary for Natural Resources its proposed amendments to the State CEQA Guidelines for GHG emissions on April 13, 2009. These proposed CEQA Guideline amendments would provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The Natural Resources Agency conducted

[1] State of California, 2008. Office of Planning and Research (OPR). *CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act Review* (June 19).

formal rulemaking in 2009, prior to certifying and adopting the amendments, as required by SB 97. The Natural Resources Agency had certified and adopted the guidelines as of January 1, 2010.

On December 30, 2009, the California Natural Resources Agency adopted the CEQA Guideline Amendments related to climate change. The amendments became effective on March 18, 2010, and state:

> (a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the Lead Agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:
>
> > (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; or
> >
> > (2) Rely on a qualitative analysis or performance based standards.
>
> (b) A lead agency may consider the following when assessing the significance of impacts from greenhouse gas emissions on the environment:
>
> > (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
> >
> > (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
> >
> > (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

CEQA Guidelines Section 15064(b) provides that the "determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data," and further, states that an "ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting."

Individual projects incrementally contribute toward the potential for GCC on a cumulative basis in concert with all other past, present, and probable future projects. While individual projects are unlikely to measurably affect GCC, each project incrementally contributes toward the potential for GCC on a cumulative basis, in concert with all other past, present, and probable future projects.

Revisions to Appendix G of the CEQA Guidelines suggest that the project be evaluated for the following impacts:

- Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

However, despite this, currently neither the CEQA statutes nor the OPR guidelines, nor the draft proposed changes to the CEQA Guidelines prescribe thresholds of significance or a particular methodology for performing an impact analysis; as with most environmental topics, significance criteria are left to the judgment and discretion of the lead agency.

In this vacuum, on December 5, 2008, the SCAQMD adopted an interim GHG threshold of significance for projects where it is the Lead Agency using a tiered approach for determining significance.[1] The objective of the SCAQMD's interim GHG threshold of significance proposal is to achieve a GHG emission capture rate of 90 percent of all new or modified stationary-source projects. The SCAQMD asserts that a GHG threshold of significance based on a 90 percent emission capture rate is considered more appropriate to address the long-term adverse impacts associated with GCC because most projects will be required to implement GHG reduction measures. The SCAQMD further asserts that a 90 percent GHG emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary-source projects that will be constructed to accommodate future statewide population and economic growth while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. The following bullet points describe the basic structure of the SCAQMD's tiered interim GHG significance threshold for stationary sources:

- **Tier 1** consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA. For example, SB 97 specifically exempted a limited number of projects until it expired in 2010. If the project qualifies for an exemption, no further action is required. If the project does not qualify for an exemption, then it would move to the next tier.
- **Tier 2** consists of determining whether or not the project is consistent with a GHG reduction plan that may be part of a local General Plan, for example. The concept embodied in this tier is equivalent to the existing consistency determination requirements in CEQA Guidelines Sections 15064(h)(3), 15125(d), or 15152(a). The GHG reduction plan must, at a minimum, comply with AB 32 GHG reduction goals, include an emissions inventory agreed upon by either the ARB or SCAQMD, have been analyzed under CEQA and have a certified final CEQA document, and

[1] South Coast Air Quality Management District (SCAQMD) Draft Guidance Document – *Interim CEQA Greenhouse Gas Significance Threshold* (October 2008).

have monitoring and enforcement components. If the proposed project is consistent with the qualifying local GHG reduction plan, it is not significant for GHG emissions. If the project is not consistent with a local GHG reduction plan, there is no approved plan, or the GHG reduction plan does not include all of the components described above, the project would move to Tier 3.

- **Tier 3** establishes a screening significance threshold level to determine significance using a 90 percent GHG emission capture rate. The 90 percent capture rate GHG significance screening level in Tier 3 for stationary sources was derived using the following methodology. Using the SCAQMD's Annual Emission Reporting (AER) Program, the reported annual natural gas consumption for 1,297 permitted facilities for 2006 through 2007 was compiled and the facilities were rank-ordered to estimate the 90^{th} percentile of the cumulative natural gas usage for all permitted facilities. Approximately 10 percent of facilities evaluated comprise more than 90 percent of the total natural gas consumption, which corresponds to 10,000 MT of CO_2e/yr (the majority of combustion emissions comprise CO_2). At the November 19, 2009, Board meeting, staff recommended the following GHG screening thresholds:
  - **Residential:** 3,500 tpy CO_2e
  - **Commercial:** 1,400 tpy CO_2e
  - **Mixed-use:** 3,000 tpy CO_2e

  If a project's GHG emissions exceed the GHG screening threshold, the project would move to Tier 4.
- **Tier 4** establishes a decision tree approach that includes compliance options for projects that have incorporated design features into the project and/or implement GHG mitigation measures.
  - Efficiency Target (2020 Targets)
    - 4.8 million tons CO_2e per service population (SP) for project level threshold
    - 6.6 million tons CO_2e per SP for plan level threshold (all sectors)
  - Efficiency Target (2035 Targets)
    - 3.0 million tons CO_2e per SP for project level threshold
    - 4.1 million tons CO_2e per SP for plan level threshold

  If a project fails to meet any of these emissions efficiency targets, the project would move to Tier 5.
- **Tier 5** would require projects that implement off-site GHG mitigation that includes purchasing offsets to reduce GHG emission impacts to purchase sufficient offsets for the life of the project (30 years) to reduce GHG emissions to less than the applicable GHG screening threshold level.

This Air Quality Analysis analyzes whether the project's GHG emissions should be considered cumulatively significant based on whether the project would:

- Hinder attainment of the State's goals of reducing GHG emissions to 1990 levels by 2020, as stated in the Global Warming Solutions Act of 2006. A project may be considered to help attainment of the State's goals by being consistent with an adopted statewide 2020 GHG emissions limit or the plans, programs, and regulations adopted to implement the Global Warming Solutions Act of 2006.

- Fail to achieve increased energy efficiency or reduce overall GHG emissions from an existing facility.
- Significantly increase the consumption of fuels or other energy resources, especially fossil fuels that contribute to GHG emissions when consumed.
- Exceed the SCAQMD GHG screening threshold for mixed-use projects of 3,000 tpy CO_2e.

The analysis uses compliance with AB 32, considered a "previously approved mitigation program," as set forth in the CEQA Guidelines Section 15064(h)(3) to determine whether the project's incremental contribution of GHGs is a cumulatively considerable contribution to GCC. OPR's proposed draft amendment to Section 15064.7 of the CEQA Guidelines reinforces the use of this approach. CEQA Guidelines Section 15064(h)(3) states three main conditions that a plan must meet to be sufficient for use as a basis for determining the significance of GHG emissions. The plan must:

1. Be "a previously approved plan or mitigation program."
2. Provide "specific requirements that will avoid or substantially lessen the cumulative problem."
3. "Be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency."

AB 32 meets Conditions 1 and 3 provided above. Accordingly, in addition to determining whether the project's GHG emissions exceed the SCAQMD's interim mixed-use stationary-source threshold to determine the significance of the project's GHG emission impact on GCC, consistency or inconsistency with the reduction targets in AB 32 is also evaluated. To do so, project features that implement specific reduction measures identified in the rules and regulations that implement AB 32 were evaluated.

IMPACTS AND MITIGATION

Air pollutant emissions associated with the project would occur over the short term from construction activities, such as fugitive dust from demolition, site preparation, and grading, and emissions from equipment exhaust. There would be long-term regional emissions associated with project-related vehicular trips and due to energy consumption such as electricity usage by the proposed land uses.

CONSTRUCTION IMPACTS

Equipment Exhausts and Related Construction Activities

Construction activities produce combustion emissions from various sources, such as demolition, grading, site preparation, utility engines, and motor vehicles transporting the construction crew. Exhaust emissions from construction activities envisioned on site would vary daily as construction activity levels change. The use of construction equipment on site would result in localized exhaust emissions. This analysis provides the peak-day construction emissions. As stated in the project description section, the project construction would consist of five phases. Table I lists the tentative project construction schedule. Table J lists the potential construction equipment to be used during project construction.

The most recent version of the CalEEMod model (Version 2013.2.2) was used to calculate the construction emissions, as shown in Table K. The emissions rates shown are from the CalEEMod output tables listed as “Mitigated Construction,” even though the only measures that have been applied to the analysis are the required construction emissions control measures, or standard conditions. They are also the combination of the on- and off-site emissions.

Since no exceedances of any criteria pollutants are expected, no significant impacts would occur for project construction. Standard measures are discussed later in this report. Details of the emission factors and other assumptions are included in Appendix A.

Fugitive Dust

Fugitive dust emissions are generally associated with land clearing and exposure of soils to the air and wind, as well as cut-and-fill grading operations. Dust generated during construction varies substantially on a project-by-project basis, depending on the level of activity, the specific operations, and weather conditions at the time of construction. The proposed project will be required to comply with SCAQMD Rules 402 and 403 to control fugitive dust.

Table I: Construction Schedule

Phase Name	Number of Days	Notes
Phase 1A - Construct Preschool/Administration Building		13 months total
Phase 1A - Site Preparation	22	1 month
Phase 1A - Excavation	44	2 months
Phase 1A - Grading	44	2 months
Phase 1A - Building Construction	173	8 months
Phase 1A - Architectural Coating	107	Coating applied during the building construction phase
Phase 1B - Demolition	66	3 months
Phase 1B-E1 - Earthwork	65	3 months
Phase 1B-E2 - Grading	64	3 months
Phase 1C - Construction of Community Life Center		1 year total
Phase 1C - Building Construction	241	12 months
Phase 1C - Architectural Coating	132	Coating applied during the building construction phase
Phase 1C – Paving	20	Paving overlaps construction
Phase 2 – Construction of Christian Education Building 1		1 year total
Phase 2 – Building Construction	261	12 months
Phase 2 - Architectural Coating	154	Coating applied during the building construction phase
Phase 3 – Construction of Christian Education Building 2		1 year total
Phase 3 - Building Construction	260	1 year
Phase 3 - Architectural Coating	154	Coating applied during the building construction phase
Phase 4 – Construction of 1st Half of Parking Structure	150	7 months for Phase 4
Phase 5 – Construction of 2^{nd} Half of Parking Structure	131	7 months for Phase 5
Phase 5 - Paving	20	Paving after construction

Source: Matlock Associates, Project Plans (June 2014).
Note: Assumes construction occurs 5 days per week.

Table J: Diesel Construction Equipment Utilized by Construction Phase

Construction Phase	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Hours Used per Day	Unit Horse-power	Load Factor
Phase 1A - Site Preparation	Tractors/Loaders/Backhoes	2	8	97	0.37
Phase 1A - Excavation	Tractors/Loaders/Backhoes	2	8	97	0.37
Phase 1A - Grading	Graders	1	8	174	0.41
	Tractors/Loaders/Backhoes	2	8	97	0.37
Phase 1A - Building Construction	Cranes	1	7	226	0.29
	Forklifts	1	8	89	0.2
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	2	7	97	0.37
	Welders	1	8	46	0.45
Phase 1A - Architectural Coating	Air Compressors	1	6	78	0.48
Phase 1B - Demolition	Concrete/Industrial Saws	1	8	81	0.73
	Tractors/Loaders/Backhoes	2	8	162	0.38
	Rubber-Tired Dozers	1	8	255	0.4
Phase 1B.E1 – Earthwork	Excavators	2	8	162	0.38
	Graders	1	8	174	0.41
	Rubber-Tired Dozers	1	8	255	0.4
	Tractors/Loaders/Backhoes	2	8	97	0.37
Phase 1B.E2 - Grading	Excavators	2	8	162	0.38
	Graders	1	8	174	0.41
	Rubber-Tired Dozers	1	8	255	0.4
	Tractors/Loaders/Backhoes	2	8	97	0.37
	Bore/Drill Rigs	1	8	205	0.5
Phase 1C - Building Construction	Cranes	1	7	226	0.29
	Forklifts	2	8	89	0.2
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	2	7	97	0.37
	Welders	1	8	46	0.45
Phase 1C - Architectural Coating	Air Compressors	1	6	78	0.48
Phase 1C - Paving	Pavers	2	8	125	0.42
	Paving Equipment	2	8	130	0.36
	Rollers	2	8	80	0.38
Phase 2 - Building Construction	Cranes	1	7	226	0.29
	Forklifts	1	8	89	0.2
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	2	7	97	0.37
	Welders	1	8	46	0.45
Phase 2 - Architectural Coating	Air Compressors	1	6	78	0.48
Phase 3 - Building Construction	Cranes	1	7	226	0.29
	Forklifts	1	8	89	0.2
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	2	7	97	0.37
	Welders	1	8	46	0.45
Phase 3 - Architectural Coating	Air Compressors	1	6	78	0.48
Phase 4 - Parking Structure Construction	Cranes	1	7	226	0.29
	Forklifts	2	8	89	0.2
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	2	7	97	0.37
	Welders	1	8	46	0.45

Table J: Diesel Construction Equipment Utilized by Construction Phase

Construction Phase	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Hours Used per Day	Unit Horse-power	Load Factor
Phase 5 - Parking Structure Construction	Cranes	1	7	226	0.29
	Forklifts	2	8	89	0.2
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	2	7	97	0.37
	Welders	1	8	46	0.45
Phase 5 - Paving	Pavers	2	8	125	0.42
	Paving Equipment	2	8	130	0.36
	Rollers	2	8	80	0.38

Source: Project plans and CalEEMod defaults.

Table K: Short-Term Regional Construction Emissions

Construction Phase	Total Regional Pollutant Emissions (lbs/day)							
	VOC	NO_X	CO	SO_X	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Phase 1A - Site Preparation	0.89	8.3	7.0	0.012	0.22	0.56	0.078	0.51
Phase 1A - Excavation	0.8	7.0	6.1	0.0089	0.22	0.54	0.059	0.50
Phase 1A - Grading	1.9	18	11	0.015	0.43	1.1	0.082	1.1
Phase 1A - Building Construction	3.4	27	21	0.033	0.47	1.6	0.13	1.5
Phase 1A - Architectural Coating	52	2.4	2.0	0.0032	0.022	0.2	0.0059	0.20
Phase 1B - Demolition	2.7	26	20	0.025	0.33	1.5	0.073	1.4
Phase 1B-E1 - Earthwork	3.8	40	28	0.034	0.17	2.2	0.045	2.0
Phase 1B-E2 - Grading	4.1	45	30	0.043	2.7	2.3	1.4	2.1
Phase 1C - Building Construction	3.1	26	21	0.035	0.57	1.5	0.16	1.4
Phase 1C - Architectural Coating	42	2.2	2.0	0.0032	0.022	0.17	0.0059	0.17
Phase 1C - Paving	1.7	17	15	0.023	0.056	0.94	0.015	0.86
Phase 2 - Building Construction	2.0	17	18	0.033	0.47	0.85	0.13	0.80
Phase 2 - Architectural Coating	36	1.7	1.9	0.0032	0.022	0.11	0.0059	0.11
Phase 3 - Building Construction	1.8	16	17	0.033	0.47	0.73	0.13	0.69
Phase 3 - Architectural Coating	36	1.5	1.9	0.0032	0.022	0.094	0.0059	0.094
Phase 4 - Building Construction	1.8	15	18	0.036	0.48	0.71	0.13	0.67
Phase 5 - Building Construction	1.7	14	18	0.035	0.47	0.62	0.13	0.58
Phase 5 - Paving	1.1	10	14	0.023	0.056	0.5	0.015	0.46
Peak Daily Emissions	55	45	30	0.043	5.0		3.5	
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**		**55**	
Significant Emissions?	**No**	**No**	**No**	**No**	**No**		**No**	

Source: LSA Associates, Inc. (August 2014).
Note: Peak daily emissions are based on a worst-case assumption that the Building Construction and Architectural Coating phases would overlap.
CO = carbon monoxide
lbs/day = pounds per day
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_x = sulfur oxides
VOC = volatile organic compound

Table K lists total construction emissions (i.e., fugitive dust emissions and construction equipment exhausts) that have incorporated a number of feasible control measures that can be reasonably implemented to significantly reduce PM_{10} emissions from construction.

Architectural Coatings

Architectural coatings contain VOCs that are similar to ROCs and are part of the O_3 precursors. Based on the proposed project, it is estimated that application of the architectural coatings for the proposed peak construction day will result in a combined peak of 55 lbs/day of VOC. Therefore, this VOC emission will not exceed the SCAQMD VOC threshold of 75 lbs/day.

Localized Impacts Analysis

The SCAQMD has issued guidance on applying CalEEMod modeling results to localized impacts analyses.[1] Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. Existing residences nearest to the project site are the Monarch Bay Villas which are adjacent to the project site. Per the SCAQMD LST guidance, the minimum distance to be used in an LST analysis is 25 m (approximately 80 ft) for receptors 25 m or closer. Table L shows that the emissions of the all pollutants on the peak day of construction will result in concentrations of pollutants at these nearest residences that are all below the SCAQMD thresholds of significance.

Table L: Construction Localized Impacts Analysis

Emissions Sources	NO_X	CO	PM_{10}	$PM_{2.5}$
On-site Emissions	45	29	4.9	3.4
Localized Significance Thresholds	197	1,804	12	8.0
Significant Emissions?	No	No	No	No

Source: LSA Associates, Inc. (August 2014).
Note: Source Receptor Area = Capistrano Valley, 5 acre LSTs, 80-foot distance for sensitive receptors.
CO = carbon monoxide
LST = localized significance threshold
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

Odors

Heavy-duty equipment in the project area during construction would emit odors, primarily from the equipment exhaust. However, the construction activity would cease to occur after individual construction is completed. No other sources of objectionable odors have been identified for the proposed project, and no mitigation measures are required.

SCAQMD Rule 402 regarding nuisances states: "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural

[1] From the SCAQMD website, www.aqmd.gov/ceqa/handbook/lst/CalEEModguidance.pdf.

tendency to cause, injury or damage to business or property." The proposed uses are not anticipated to emit any objectionable odors. Therefore, objectionable odors posing a health risk to potential on-site and existing off-site uses would not occur as a result of the proposed project.

Naturally Occurring Asbestos

The proposed project is located in Orange County, which is not among the counties that are found to have serpentine and ultramafic rock in their soils. In addition, no serpentine or ultramafic rock has been found in the project vicinity in the past 10 years. Therefore, the potential risk for NOA during project construction is small and less than significant.

Construction Emissions Conclusions

Table K shows that daily regional construction emissions would not exceed the daily thresholds of any criteria pollutant emission thresholds established by the SCAQMD. Table L shows that during construction, there will be no locally significant impacts.

LONG-TERM REGIONAL AIR QUALITY IMPACTS

Long-Term Project Operational Emissions

Long-term air pollutant emission impacts are those associated with stationary sources and mobile sources involving any project-related changes. The proposed project would result in net increases in both stationary- and mobile-source emissions. The stationary-source emissions would come from many sources, including the use of consumer products, landscape equipment, general energy, and solid waste. Based on trip generation factors included in the CalEEMod model (based on the Institute of Transportation Engineers [ITE] *Trip Generation Manual, Ninth Edition*), which are consistent with the traffic study prepared for the proposed project (LSA, July 2014), the project's daily trips were modeled. Long-term operational emissions associated with the proposed project are shown in Tables M (regional emissions) and N (localized impacts). Area sources include architectural coatings, consumer products, hearths, and landscaping. Energy sources include natural gas consumption for heating and cooking. Table M shows that the increase of all criteria pollutants as a result of the proposed project in the opening year would not exceed the corresponding SCAQMD daily emission thresholds for any criteria pollutants. Therefore, project-related long-term air quality impacts would be less than significant.

Localized Impacts Analysis

Table N shows the calculated emissions for the proposed operational activities compared with the appropriate LSTs. By design, the localized impacts analysis only includes on-site sources; however, the CalEEMod model outputs do not separate on-site and off-site emissions for mobile sources.

Table M: Regional Operational Emissions

Source	Pollutant Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Existing Church						
Area Sources	6.4	0.00025	0.028	0	0.0001	0.0001
Energy Sources	0.025	0.23	0.19	0.0014	0.018	0.018
Mobile Sources	4.6	7	38	0.14	9.7	2.7
Total Existing Emissions	11	7.2	38	0.141	9.7	2.7
Proposed Master Plan						
Area Sources	6.7	0.00047	0.051	0	0.00018	0.00018
Energy Sources	0.055	0.5	0.42	0.003	0.038	0.038
Mobile Sources	6.8	10	56	0.21	15	4.1
Total Project Emissions	**14**	**11**	**56**	**0.21**	**15**	**4.1**
Net Change	**2.6**	**3.8**	**18**	**0.069**	**5.3**	**1.4**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: LSA Associates, Inc. (August 2014).

CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOC = volatile organic compounds

Table N: Operational Localized Impacts Analysis

Emissions Sources	NO_X	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions (lbs/day)	0.5	2.9	0.75	0.21
Localized Significance Thresholds	197	1,804	3.0	2.0
Significant Emissions?	No	No	No	No

Source: LSA Associates, Inc. (August 2014).
Note: Source Receptor Area = Capistrano Valley, 5 acre LSTs, 80-foot distance for sensitive receptors, on-site traffic 5 percent of total.

CO = carbon monoxide
lbs/day = pounds per day
LST = localized significance threshold
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

For a worst-case scenario assessment, the emissions shown in Table N include all on-site project-related stationary sources and 5 percent of the project-related new mobile sources, which is an estimate of the amount of project-related new vehicle traffic that will occur on site. Considering the total trip length included in the CalEEMod model, the 5 percent assumption is conservative.

Table N shows that the operational emission rates would not exceed the LSTs for receptors at 80 ft (25 m). Therefore, the proposed operational activity would not result in a locally significant air quality impact.

Greenhouse Gas Emissions

This section evaluates potential significant impacts to GCC that could result from implementation of the proposed project. Because it is not possible to tie specific GHG emissions to actual changes in climate, this evaluation focuses on the project's emission of GHGs. Mitigation measures are identified as appropriate.

GHG Emissions Background. Emissions estimates for the proposed project are discussed below. GHG emissions estimates are provided herein for informational purposes only, as there is no established quantified GHG emissions threshold. Bearing in mind that CEQA does not require "perfection" but instead "adequacy, completeness, and a good faith effort at full disclosure," the analysis below is based on methodologies and information available to the City and the applicant at the time this analysis was prepared. Estimation of GHG emissions in the future does not account for all changes in technology that may reduce such emissions; therefore, the estimates are based on past performance and represent a scenario that is worse than that which is likely to be encountered (after energy-efficient technologies have been implemented). While information is presented below to assist the public and decision-makers in understanding the project's potential contribution to GCC impacts, the information available to the cities is neither sufficiently detailed to allow a direct comparison between particular project characteristics and particular climate change impacts, nor between any particular proposed mitigation measure and any reduction in climate change impacts.

Construction and operation of project development would generate GHG emissions, with the majority of energy consumption (and associated generation of GHG emissions) occurring during the project's operation (as opposed to during its construction). Typically, more than 80 percent of the total energy consumption takes place during the use of buildings, and less than 20 percent of energy is consumed during construction.[1] As of yet, there is no study that quantitatively assesses all of the GHG emissions associated with each phase of the construction and use of an individual development.

Overall, the following activities associated with the proposed project could directly or indirectly contribute to the generation of GHG emissions:

- **Construction Activities:** During construction of the project, GHGs would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment.
- **Gas, Electricity, and Water Use:** Natural gas use results in the emission of two GHGs: CH_4 (the major component of natural gas) and CO_2 (from the combustion of natural gas). Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. California's water conveyance system is energy-intensive. Preliminary estimates indicate that the total energy used to pump and treat this water exceeds 6.5 percent of the total electricity used in the State per year.[2]

[1] United Nations Environment Programme (UNEP), 2007. *Buildings and Climate Change: Status, Challenges and Opportunities*, Paris, France.

[2] CEC, 2004. *Water Energy Use in California* (online information sheet) Sacramento, California, August 24. Website: energy.ca.gov/pier/iaw/industry/water.html (accessed July 24, 2007).

- **Solid Waste Disposal:** Solid waste generated by the project could contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy for transporting and managing the waste, and they produce additional GHGs to varying degrees. Landfilling, the most common waste management practice, results in the release of CH_4 from the anaerobic decomposition of organic materials. CH_4 is 25 times more potent a GHG than CO_2. However, landfill CH_4 can also be a source of energy. In addition, many materials in landfills do not decompose fully, and the carbon that remains is sequestered in the landfill and not released into the atmosphere.
- **Motor Vehicle Use:** Transportation associated with the proposed project would result in GHG emissions from the combustion of fossil fuels in daily automobile and truck trips.

GHG emissions associated with the project would occur over the short term from construction activities and would consist primarily of emissions from equipment exhaust. There would also be long-term regional emissions associated with project-related new vehicular trips and stationary-source emissions, such as natural gas used for heating and electricity usage for lighting. Preliminary guidance from OPR and recent letters from the Attorney General critical of CEQA documents that have taken different approaches indicate that lead agencies should calculate, or estimate, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, and construction activities. The calculation presented below includes construction emissions in terms of CO_2 and annual CO_2e GHG emissions from increased energy consumption, water usage, solid waste disposal, and estimated GHG emissions from vehicular traffic that would result from implementation of the project.

GHG emissions generated by the proposed project would predominantly consist of CO_2. In comparison to criteria air pollutants such as O_3 and PM_{10}, CO_2 emissions persist in the atmosphere for a substantially longer period of time. While emissions of other GHGs, such as CH_4, are important with respect to GCC, emission levels of other GHGs are less dependent on the land use and circulation patterns associated with the proposed land use development project than are levels of CO_2.

Construction activities produce combustion emissions from various sources, such as site grading, utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The only GHG with well-studied emissions characteristics and published emissions factors for construction equipment is CO_2. Table O lists the annual CO_2 emissions for the single highest year of each of the planned construction phases. In other words, the multi-year Phase 3 Building Construction will emit 360 MT of CO_2e during the peak year and something less for the other years of the Phase 3 Building Construction. Total construction GHG emissions over the entire construction period are estimated to be 2,250 MT of CO_2e.

Architectural coatings used in construction of the project may contain VOCs that are similar to ROGs and are part of O_3 precursors. However, there are no significant emissions of GHGs from architectural coatings. There will be GHG emissions during the architectural coatings phase from equipment exhaust and energy use.

Table O: Peak Annual Construction GHG Emissions

Construction Phase	Total Regional Pollutant Emissions (MT/yr)			
	CO_2	CH_4	N_2O	CO_2e
Phase 1A - Site Preparation	12	0.0021	0	12
Phase 1A - Excavation	18	0.0041	0	18
Phase 1A - Grading	31	0.0081	0	31
Phase 1A - Building Construction	160	0.024	0	160
Phase 1A - Architectural Coating	15	0.0017	0	15
Phase 1B - Demolition	73	0.016	0	74
Phase 1B-E1 - Earthwork	100	0.03	0	100
Phase 1B-E2 - Grading	82	0.024	0	83
Phase 1C - Building Construction	330	0.053	0	330
Phase 1C - Architectural Coating	15	0.0015	0	15
Phase 1C - Paving	21	0.0064	0	21
Phase 2 - Building Construction	360	0.054	0	360
Phase 2 - Architectural Coating	21	0.0016	0	21
Phase 3 - Building Construction	360	0.053	0	360
Phase 3 - Architectural Coating	21	0.0014	0	21
Phase 4 - Building Construction	230	0.033	0	230
Phase 5 - Building Construction	190	0.029	0	190
Phase 5 - Paving	20	0.0064	0	20
Total Project Emissions:	**2,059**	**0.3493**	**0**	**2,061**

Source: LSA Associates, Inc. (August 2014).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide

Long-term operation of the proposed project would generate GHG emissions from area and mobile sources and indirect emissions from stationary sources associated with energy consumption. Mobile-source emissions of GHGs would include project-generated vehicle trips associated with on-site facilities and customers/visitors to the project site. Area-source emissions would be associated with activities such as landscaping and maintenance of proposed land uses, natural gas for heating, and other sources. Increases in stationary-source emissions would also occur at off-site utility providers as a result of demand for electricity, natural gas, and water by the proposed uses.

The GHG emission estimates presented in Table P show the emissions associated with the current land uses on the project site. The GHG emission estimates presented in Table Q show the emissions associated with the level of development envisioned by the proposed project at build out. Appendix A includes the worksheets for the GHG emissions.

As shown in Table Q, the project will produce 1,500 MT of CO_2e/yr, which is 0.0015 MMT of CO_2e/yr, and is 650 MT of CO_2e/yr more than the existing conditions. For comparison, the existing emissions from the entire SCAG region (2010) are estimated to be approximately 224.6 MMT of CO_2e/yr, and the existing emissions for the entire State (2008) are estimated at approximately 480.9 MMT of CO_2e/yr.[2]

Table P: Existing Operational Greenhouse Gas Emissions

Source	Pollutant Emissions (MT/yr)					
	Bio-CO_2	NBio-CO_2	Total CO_2	CH_4	N_2O	CO_2e
Area Sources	0	0.0068	0.0068	0.00002	0	0.0072
Energy Sources	0	180	180	0.0069	0.0021	180
Mobile Sources	0	560	560	0.019	0	560
Waste Sources	43	0	43	2.6	0	97
Water Usage	0.45	13	14	0.047	0.0012	15
Total Project Emissions	**43**	**750**	**800**	**2.7**	**0.0033**	**850**

Source: LSA Associates, Inc. (August 2014).
Note: Numbers in table may not appear to add up correctly due to rounding of all numbers to two significant digits.
Bio-CO_2 = biologically generated CO_2
MT/yr = metric tons per year
CH_4 = methane
N_2O = nitrous oxide
CO_2 = carbon dioxide
NBio-CO_2 = Non-biologically generated CO_2
CO_2e = carbon dioxide equivalent

Table Q: Long-Term Operational Greenhouse Gas Emissions

Source	Pollutant Emissions (MT/yr)					
	Bio-CO_2	NBio-CO_2	Total CO_2	CH_4	N_2O	CO_2e
Construction emissions amortized over 30 years	0	75	75	0.013	0	75
Operational Emissions						
Area Sources	0	0.013	0.013	0.00003	0	0.013
Energy Sources	0	380	380	0.015	0.0045	380
Mobile Sources	0	870	870	0.028	0	870
Waste Sources	96	0	96	5.7	0	220
Water Usage	0.92	26	27	0.095	0.0025	30
Total Project Emissions	97	1,300	1,400	5.8	0.007	1,500
Net Change	54	550	600	3.1	0.0037	650

Source: LSA Associates, Inc. (August 2014).
Note: Numbers in table may not appear to add up correctly due to rounding of all numbers to two significant digits.
Bio-CO_2 = biologically generated CO_2
MT/yr = metric tons per year
CH_4 = methane
N_2O = nitrous oxide
CO_2 = carbon dioxide
NBio-CO_2 = Non-biologically generated CO_2
CO_2e = carbon dioxide equivalent

The total net increase in GHG emissions of 650 tpy of CO_2e from the proposed project will be less than the SCAQMD interim tiered GHG emissions threshold for mixed-use projects (the closest land use category to the proposed Church use) of 3,000 tpy of CO_2e (Tier 3). This project total includes both direct (amortized construction, area source, and mobile) and indirect (electricity, solid waste, and water usage) GHG emissions. Therefore, the project will not result in significant generation of GHGs, either directly or indirectly, and will not have a significant impact on the environment due to GHG emissions.

As described above, project-related GHG emissions are not confined to a particular air basin but are dispersed worldwide. Consequently, it is difficult to determine how project-related GHG emissions would contribute to GCC and how GCC may impact California. Therefore, project-related GHG emissions are not project-specific impacts to global warming but are instead the project's contribution to this cumulative impact. As stated previously, project-related CO_2 emissions and their contribution to GCC impacts in the State of California would be less than significant and less than cumulatively considerable because the project's impacts alone would not cause or significantly contribute to GCC.

Energy/Natural Gas Use. Buildings represent 39 percent of the United States' primary energy usage and 70 percent of its electricity consumption.[1] The proposed project would increase the demand for electricity and natural gas due to the increased building area. The project would indirectly result in increased GHG emissions from off-site electricity generation at power plants and on-site natural gas consumption (380 MT of CO_2e/yr).

Area Sources. Area sources of GHG emissions include architectural coatings, consumer products, hearth, and landscaping. The project would result in increased GHG emissions from the area sources (0.013 MT of CO_2e/yr).

Water Use. Water-related energy use consumes 19 percent of California's electricity every year.[2] Energy use and related GHG emissions are based on electricity used for water supply and conveyance, water treatment, water distribution, and wastewater treatment. The project would indirectly result in increased GHG emissions from the off-site electricity generation at power plants and on-site natural gas consumption (30 MT of CO_2e/yr).

Solid Waste Disposal. The proposed project would also generate solid waste during the operation phase of the project. Average waste generation rates from a variety of sources are available from the California Integrated Waste Management Board (CIWMB).[3] The project would indirectly result in increased GHG emissions from solid waste treatment at treatment plants and waste decomposition in landfills (220 MT of CO_2e/yr).

Mobile Sources. Mobile sources (vehicle trips and associated miles traveled) are the largest source of GHG emissions in California and represent approximately 38 percent of annual GHG emissions generated in the State. Like most land use development projects, VMT is the most direct indicator of GHG emissions from the proposed project.

---

[1] United States Department of Energy. 2003. *Buildings Energy Data Book.*

[2] State of California Code of Regulations (CCR), 2005. CEC. California's Water-Energy Relationship. November.

[3] California Integrated Waste Management Board (CIWMB), 2009. *Estimated Solid Waste Generation Rates for Residential Developments.* Available at http://www.ciwmb.ca.gov/wastechar/wastegenrates/Residential.htm.

Mobile sources from the proposed project would generate up to 870 MT of CO_2e/yr of new emissions, as shown in Table Q. Emissions from vehicle exhaust would comprise approximately 58 percent of the project's total CO_2e emissions. Emissions from vehicle exhaust are controlled by the State and federal governments and are outside the control of the City.

The remaining CO_2e emissions are primarily associated with building heating systems and increased regional power plant electricity generation due to the project's electrical demands. The project would comply with existing State and federal regulations regarding the energy efficiency of buildings, appliances, and lighting, which would reduce the project's electricity demand. The new buildings constructed in accordance with current energy efficiency standards would be more energy efficient than older buildings. Beginning on January 1, 2014, several new Building Codes have been enforced in California. All structures other than one- and two-family dwellings and townhomes will be built under the new 2013 California Building Code (CBC) to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices.

At present, there is a federal ban on chlorofluorocarbons (CFCs); therefore, it is assumed the project would not generate emissions of CFCs. The project may emit a small amount of HFCs from leakage and service of refrigeration and air-conditioning equipment and from disposal at the end of the life of the equipment. However, the details regarding refrigerants to be used at the project site are unknown at this time. PFCs and SF_6 are typically used in industrial applications, none of which would be used on the project site. Therefore, it is not anticipated that the project would contribute significant emissions of these additional GHGs.

This emissions level, less than 0.001 percent of the State total, is also unlikely to result in GHG emission levels that would substantially conflict with implementation of the GHG reduction goals under AB 32 or other State regulations. The CAT and the ARB have developed several reports to achieve the Governor's GHG targets that rely on voluntary actions of California businesses, local government and community groups, and State incentive and regulatory programs. These include the CAT's 2006 "*Report to Governor Schwarzenegger and the Legislature*," the ARB's 2007 "*Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California,*" and the ARB's "*Climate Change Proposed Scoping Plan: a Framework for Change.*"

The reports identify strategies to reduce California's emissions to the levels proposed in EO S-3-05 and AB 32 that are applicable to the proposed project. The Proposed Scoping Plan is the most recent document, and the strategies included in the Scoping Plan that apply to the project are contained in Table R, which also summarizes the extent to which the project would comply with the strategies to help California reach the emission reduction targets.

The strategies listed in Table R are either part of the project design or requirements under local or State ordinances. With implementation of these strategies/measures, the project's contribution to cumulative GHG emissions would be reduced. In order to ensure that the proposed project complies with and would not conflict with or impede the implementation of reduction goals identified in AB 32, the Governor's EO S-3-05, and other strategies to help reduce GHGs to the level proposed by the Governor, Project Feature GCC-1 shall be implemented.

Table R: Project Compliance with Greenhouse Gas Emission Reduction Strategies

Strategy	Project Compliance
Energy Efficiency Measures	
Energy Efficiency. Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts including new technologies, and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities). **Renewables Portfolio Standard.** Achieve a 33 percent renewable energy mix statewide. **Green Building Strategy.** Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	**Compliant.** The proposed project will comply with the updated Title 24 standards, including the 2013 CBC, for building construction. In addition, the project would implement Project Feature GCC-1, identified later, including measures to incorporate energy-efficient building design features.
Water Conservation and Efficiency Measures	
Water Use Efficiency. Continue efficiency programs and use cleaner energy sources to move and treat water. Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions.	**Compliant.** The project would implement Project Feature GCC-1, identified later, including measures to increase water use efficiency.
Solid Waste Reduction Measures	
Increase Waste Diversion, Composting, and Commercial Recycling, and Move Toward Zero-Waste. Increase waste diversion from landfills beyond the 50 percent mandate to provide for additional recovery of recyclable materials. Composting and commercial recycling could have substantial GHG reduction benefits. In the long term, zero-waste policies that would require manufacturers to design products to be fully recyclable may be necessary.	**Compliant.** Data available from the CIWMB indicate that the City of Dana Point (Orange County) has not achieved the 50 percent diversion rate. The proposed project would implement Project Feature GCC-1, identified later, including measures to increase solid waste diversion, composting, and recycling.
Transportation and Motor Vehicle Measures	
Vehicle Climate Change Standards. AB 1493 (Pavley) required the State to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles and light-duty trucks. Regulations were adopted by the ARB in September 2004. **Light-Duty Vehicle Efficiency Measures.** Implement additional measures that could reduce light-duty GHG emissions. For example, measures to ensure that tires are properly inflated can both reduce GHG emissions and improve fuel efficiency. **Adopt Heavy- and Medium-Duty Fuel and Engine Efficiency Measures.** Regulations to require retrofits to improve the fuel efficiency of heavy-duty trucks that could include devices that reduce aerodynamic drag and rolling resistance. This measure could also include hybridization of and increased engine efficiency of vehicles.	**Compliant.** The project does not involve the manufacture of vehicles. However, vehicles that are purchased and used within the project site would comply with any vehicle and fuel standards that the ARB adopts.

Table R: Project Compliance with Greenhouse Gas Emission Reduction Strategies

Strategy	Project Compliance
Low Carbon Fuel Standard. The ARB identified this measure as a Discrete Early Action Measure. This measure would reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020.	
Regional Transportation-Related Greenhouse Gas Targets. Develop regional GHG emissions reduction targets for passenger vehicles. Local governments will play a significant role in the regional planning process to reach passenger vehicle GHG emissions reduction targets. Local governments have the ability to directly influence both the siting and design of new residential and commercial developments in a way that reduces GHGs associated with vehicle travel.	**Compliant.** Specific regional emission targets for transportation emissions do not directly apply to this project; regional GHG reduction target development is outside the scope of this project. The project will comply with any plans developed by the City of Dana Point and the County of Orange.
Measures to Reduce High-GWP Gases. The ARB has identified Discrete Early Action measures to reduce GHG emissions from the refrigerants used in car air conditioners, semiconductor manufacturing, and consumer products. The ARB has also identified potential reduction opportunities for future commercial and industrial refrigeration, changing the refrigerants used in auto air conditioning systems, and ensuring that existing car air conditioning systems do not leak.	**Compliant.** New products used or serviced on the project site (after implementation of the reduction of GHGs) would comply with ARB rules and regulations in place at the time of building permit issuance.

Source: LSA Associates, Inc. (August 2014).

AB = Assembly Bill
ARB = California Air Resources Board
CBC = California Building Code
CIWMB = California Integrated Waste Management Board
GHG = greenhouse gas
GWP = Global Warming Potential

LONG-TERM MICROSCALE (CO HOT SPOT) ANALYSIS

Vehicular trips associated with the proposed project would contribute to congestion at intersections and along roadway segments in the project vicinity. Localized air quality impacts would occur when emissions from vehicular traffic increase as a result of the proposed project. The primary mobile-source pollutant of local concern is CO, which is a direct function of vehicle idling time and, thus, of traffic flow conditions. CO transport is extremely limited; under normal meteorological conditions, it disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels, affecting local sensitive receptors (residents, schoolchildren, the elderly, hospital patients, etc.).

Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended, to determine a project's effect on local CO levels.

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Existing CO concentrations in the immediate project vicinity are not available. Ambient CO levels monitored at the Mission Viejo Station, the closest station with complete monitored CO data, showed a highest recorded 1-hour concentration of 3.4 ppm (State standard is 20 ppm) and a highest 8-hour concentration of 0.95 ppm (State standard is 9 ppm) during the past 3 years (see Table F). The highest CO concentrations would normally occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis.

Given the extremely low level of CO concentrations in the project area, project-related vehicles are not expected to result in the CO concentrations exceeding the State or federal CO standards. Because no CO hot spot would occur, there would be no project-related impacts on CO concentrations.

AIR QUALITY MANAGEMENT PLAN CONSISTENCY

A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the air quality plans. It fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are addressed. Only new or amended General Plan elements, Specific Plans, and significantly unique projects need to undergo a consistency review due to the air quality plan strategy being based on projections from local General Plans.

The proposed project is consistent with General Plan of the City, which is consistent with the SCAG RCP Guidelines and the SCAQMD AQMP. Pursuant to the methodology provided in Chapter 12 of the 1993 SCAQMD *CEQA Air Quality Handbook,* consistency with the Basin 2012 AQMP is affirmed when a project (1) does not increase the frequency or severity of an air quality standards violation or cause a new violation; and (2) is consistent with the growth assumptions in the AQMP. Consistency review is presented below.

1. The project would result in short-term construction and long-term pollutant emissions that are less than the CEQA significance emissions thresholds established by the SCAQMD, as demonstrated above; therefore, the project could not result in an increase in the frequency or severity of any air quality standards violation and will not cause a new air quality standard violation.
2. The *CEQA Air Quality Handbook* indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and offshore drilling facilities; therefore, the proposed project is not defined as significant.

Based on the consistency analysis presented above, the proposed project is consistent with the General Plans and the regional AQMP.

STANDARD CONDITIONS

Construction Operations

The project is required to comply with regional rules that assist in reducing short-term air pollutant emissions. SCAQMD Rule 403 requires that fugitive dust be controlled with best-available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors. See http://www.aqmd.gov/rules/reg/reg04/r403.pdf for rule details. As shown in Table I, implementation of Rule 403 measures results in dust emissions below SCAQMD thresholds. The applicable Rule 403 measures are as follows:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least twice per day. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 0.6 m (2 ft) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code (CVC) Section 23114.
- Pave construction access roads at least 30 m (100 ft) onto the site from the main road.
- Reduce traffic speeds on all unpaved roads to 15 mph or less.
- Recycle/reuse at least 50 percent of the construction material (including, but not limited to, soil, mulch, vegetation, concrete, lumber, metal, and cardboard).
- Use "green building materials" such as those materials that are rapidly renewable or resource-efficient, and recycled and manufactured in an environmentally friendly way, for at least 10 percent of the project, as defined on the California Department of Resources Recycling and Recovery (CalRecycle) website.[1]

Operations

The proposed project is required to comply with Title 24 of the California Code of Regulations (CCR) established by the CEC regarding energy conservation and green building standards.

[1] California Department of Resources Recycling and Recovery, http://www.calrecycle.ca.gov/.

PROJECT FEATURES

Global Climate Change Impacts

Project Feature GCC-1 To ensure that the proposed project complies with and would not conflict with or impede the implementation of reduction goals identified in Assembly Bill (AB) 32, the Governor's Executive Order (EO) S-3-05, and other strategies to help reduce greenhouse gases (GHGs) to the level proposed by the Governor, the project will implement a variety of measures that will reduce its GHG emissions. To the extent feasible, and to the satisfaction of the City of Dana Point (City), the following measures will be incorporated into the design and construction of the project (including specific building projects):

Construction and Building Materials

- Divert at least 50 percent of the demolished and/or grubbed construction materials (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).

Energy Efficiency Measures

- Design all project buildings to meet or exceed the California Building Code's (CBC) Title 24 energy standard , such as installing energy-efficient heating and cooling systems, appliances and equipment, and control systems.

Water Conservation and Efficiency Measures

- Devise a comprehensive water conservation strategy appropriate for the project and its location. The strategy may include the following, plus other innovative measures that may be appropriate:
    - Create water-efficient landscapes within the development.
    - Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls.
    - Restrict watering methods (e.g., prohibit systems that apply water to nonvegetated surfaces) and control runoff.

In addition, the project would be subject to all applicable regulatory requirements, which would also reduce the GHG emissions of the project. With implementation of Project Feature GCC-1 and application of regulatory requirements, the project would not conflict with or impede implementation of reduction goals identified in AB 32, the Governor's EO S-3-05, and other strategies to help reduce GHGs to the level proposed by the Governor. Therefore, the project's contribution to cumulative GHG emissions would be less than significant.

CUMULATIVE IMPACTS

The project would contribute criteria pollutants to the area during temporary project construction. A number of individual projects in the area may be under construction simultaneously with the proposed project. Depending on construction schedules and actual implementation of projects in the area, generation of fugitive dust and pollutant emissions during construction could result in substantial short-term increases in air pollutants. However, each project would be required to comply with the SCAQMD's standard construction measures. The proposed project's short-term construction emissions would not exceed the significance thresholds. Therefore, it will not have a significant short-term cumulative impact.

The project's long-term operational emissions would not exceed the SCAQMD's criteria pollutant thresholds. As climate change impacts are cumulative in nature, no typical single project can result in emissions of such a magnitude that it, in and of itself, would be significant on a project basis. Therefore, as the net change in GHG emissions would not exceed the SCAQMD efficiency metric, the proposed project would result in less than significant cumulative impacts on global climate change. Therefore, the proposed project would not result in a significant long-term cumulative impact.

IMPACTS TO THE PROPOSED PROJECT FROM GLOBAL CLIMATE CHANGE

Local temperatures could increase in time as a result of GCC with or without development as envisioned by the project. This increase in temperature could lead to other climate effects, including, but not limited to, increased flooding due to increased precipitation and runoff. At present, the extent of climate change impacts is uncertain, and more extensive monitoring of runoff is necessary for greater understanding of changes in hydrologic patterns. Studies indicate that increased temperatures could result in a greater portion of peak stream flows occurring earlier in the spring, with decreases in late spring and early summer. These changes could have implications for water supply, flood management, and ecosystem health. In addition, there is a potential for sea level rising due to global warming. However, based on the location of the project site at an elevation that would not subject it to local flooding, the proposed project is not expected to be significantly affected by GCC.

REFERENCES

Air Quality Data, 2010–2012; EPA and ARB websites.

California Air Resources Board (ARB). *Greenhouse Gas Inventory Data – 2000 to 2011*. http://www.arb.ca.gov/cc/inventory/data/data.htm (accessed April 2014).

———. 2013. http://www.arb.ca.gov/cc/inventory/data/data.htm (October 2013).

———. 2014. http://www.arb.ca.gov/cc/inventory/data/data.htm (April 2014).

———. website: http://www.arb.ca.gov.

California Climate Change Center, 2006. *Our Changing Climate. Assessing the Risks to California.* July.

California Code of Regulations (CCR), 2005. CEC. California's Water-Energy Relationship. November.

California Department of Resources Recycling and Recovery, website: http://www.calrecycle.ca.gov/.

California Energy Commission (CEC), 2004. *Water Energy Use in California* (online information sheet) Sacramento, California, August 24. Website: energy.ca.gov/pier/iaw/industry/water.html (accessed July 24, 2007).

———. 2007. *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 – Final Staff Report*, publication # CEC-600-2006-013-sf, Sacramento, California, December 22, 2006; and January 23, 2007, update to that report.

California Environmental Protection Agency (CalEPA), 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature.* March.

California Integrated Waste Management Board (CIWMB), 2009. *Estimated Solid Waste Generation Rates for Residential Developments*. Available at http://www.ciwmb.ca.gov/wastechar/wastegenrates/Residential.htm.

California Office of Planning and Research (OPR), 2008. *CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act Review* (June 19).

Intergovernmental Panel on Climate Change (IPCC), 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC.*

———. *Climate Change 2007: The Physical Science Basis,* http://www.ipcc.ch.

LSA Associates, Inc. *Traffic Impact Analysis and Parking Analysis*, July 2014.

South Coast Air Quality Management District (SCAQMD). *Air Quality Management Plan*. 2007.

———. *CEQA Air Quality Handbook.* April 1993.

———. Draft Guidance Document – *Interim CEQA Greenhouse Gas Significance Threshold* (October 2008).

———. *Final Localized Significance Threshold Methodology.* June 2003.

———. *Final – Methodology to Calculate Particulate Matter* (*PM*)$_{2.5}$ *and* $PM_{2.5}$ *Significance Thresholds.* October 2006.

———. website, www.aqmd.gov/ceqa/handbook/1st/CalEEModguidance.pdf.

United Nations Environment Programme (UNEP), 2007. *Buildings and Climate Change: Status, Challenges and Opportunities*, Paris, France.

United Nations Framework Convention on Climate Change (UNFCCC), Combined total of Annex I and Non-Annex I Country CO_2e emissions. 2014. *Greenhouse Gas Inventory Data.* Information available at http://unfccc.int/ghg_data/ghg_data_unfccc/items/4146.php (accessed April 2014).

United States Department of Energy, 2003. *Buildings Energy Data Book.*

United States Environmental Protection Agency (EPA), 2014. *The 2014 U.S. Greenhouse Gas Inventory Report*. http://www.epa.gov/climatechange/emissions/usinventoryreport.html (accessed April 2014).

Western Regional Climate Center, website: http://www.wrcc.dri.edu.

APPENDIX A

CALEEMOD MODEL PRINTOUTS

South Shores Church Master Plan

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Day-Care Center	7.75	1000sqft	0.18	7,750.00	0
Place of Worship	81.62	1000sqft	1.87	81,620.00	0
Other Non-Asphalt Surfaces	2.00	Acre	2.00	87,120.00	0
Parking Lot	59.00	Space	0.53	23,600.00	0
Unenclosed Parking Structure	352.00	Space	1.40	60,700.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Parking structure 2-story, area from site plan. Total site about 6 acres.

Construction Phase - Per project description.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment -

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Installing Tie-downs

Off-road Equipment -

Off-road Equipment - Equipment per project plans.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Equipment per project plans.

Off-road Equipment -

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment -

Trips and VMT - Worker numbers per project plans and traffic study. Added haul trips to Phases 1C, 4 and 5 for 3,500, 8,000 and 5,500 cy soil import or export each, respectively (20 cy capacity).

Demolition -

Grading - There will be soil export during Phases 1C, 4 and 5, but in lesser amounts than during Phase 1B.

Vehicle Trips - Traffic study shows weekday peak hour of 18 new trips and Sunday of 106 new trips and used a hour-daily factor of 10.

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	132.00
tblConstructionPhase	NumDays	20.00	154.00
tblConstructionPhase	NumDays	20.00	154.00
tblConstructionPhase	NumDays	20.00	107.00
tblConstructionPhase	NumDays	230.00	261.00
tblConstructionPhase	NumDays	230.00	260.00
tblConstructionPhase	NumDays	230.00	150.00
tblConstructionPhase	NumDays	230.00	131.00
tblConstructionPhase	NumDays	230.00	173.00

tblConstructionPhase	NumDays	230.00	241.00
tblConstructionPhase	NumDays	20.00	66.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	20.00	64.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	PhaseEndDate	8/3/2018	1/31/2018
tblConstructionPhase	PhaseEndDate	8/4/2021	12/31/2020
tblConstructionPhase	PhaseEndDate	8/4/2022	12/31/2021
tblConstructionPhase	PhaseEndDate	10/27/2016	5/31/2016
tblConstructionPhase	PhaseEndDate	2/28/2019	12/31/2020
tblConstructionPhase	PhaseEndDate	12/30/2021	12/31/2021
tblConstructionPhase	PhaseEndDate	7/29/2022	7/31/2022
tblConstructionPhase	PhaseEndDate	1/30/2023	7/3/2023
tblConstructionPhase	PhaseStartDate	2/1/2018	8/1/2017
tblConstructionPhase	PhaseStartDate	1/1/2021	6/1/2020
tblConstructionPhase	PhaseStartDate	1/1/2022	6/1/2021
tblConstructionPhase	PhaseStartDate	6/1/2016	1/2/2016
tblConstructionPhase	PhaseStartDate	3/1/2018	1/2/2020
tblConstructionPhase	PhaseStartDate	1/1/2021	1/2/2021
tblConstructionPhase	PhaseStartDate	1/1/2022	1/2/2022
tblConstructionPhase	PhaseStartDate	8/1/2022	1/2/2023
tblGrading	MaterialExported	0.00	17,000.00
tblLandUse	LandUseSquareFeet	140,800.00	60,700.00
tblLandUse	LotAcreage	3.17	1.40
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2025
tblTripsAndVMT	HaulingTripNumber	0.00	88.00
tblTripsAndVMT	HaulingTripNumber	0.00	400.00
tblTripsAndVMT	HaulingTripNumber	0.00	275.00
tblTripsAndVMT	HaulingTripNumber	1,681.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	175.00
tblTripsAndVMT	WorkerTripNumber	5.00	20.00
tblTripsAndVMT	WorkerTripNumber	22.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	5.00
tblTripsAndVMT	WorkerTripNumber	110.00	18.00
tblTripsAndVMT	WorkerTripNumber	22.00	2.00
tblTripsAndVMT	WorkerTripNumber	110.00	18.00
tblTripsAndVMT	WorkerTripNumber	22.00	2.00
tblTripsAndVMT	WorkerTripNumber	110.00	15.00
tblTripsAndVMT	WorkerTripNumber	110.00	15.00

tblTripsAndVMT	WorkerTripNumber	15.00	5.00
tblTripsAndVMT	WorkerTripNumber	5.00	20.00
tblTripsAndVMT	WorkerTripNumber	8.00	20.00
tblTripsAndVMT	WorkerTripNumber	110.00	18.00
tblTripsAndVMT	WorkerTripNumber	22.00	2.00
tblTripsAndVMT	WorkerTripNumber	10.00	15.00
tblTripsAndVMT	WorkerTripNumber	18.00	15.00
tblTripsAndVMT	WorkerTripNumber	110.00	18.00
tblVehicleTrips	ST_TR	6.21	0.00
tblVehicleTrips	ST_TR	10.37	37.86
tblVehicleTrips	SU_TR	5.83	0.00
tblVehicleTrips	SU_TR	36.63	37.86
tblVehicleTrips	WD_TR	79.26	29.68
tblVehicleTrips	WD_TR	9.11	2.82

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					
2015	3.3436	27.1813	19.8432	0.0328	0.7538	1.6059	2.0757	0.1299	1.5204	1.6502	0.0000	3,236.7443	3,236.7443	0.5112	0.0000	3,247.4800
2016	54.9942	44.9360	29.9662	0.0427	6.7200	2.3210	9.0410	3.4120	2.1353	5.5473	0.0000	4,397.9621	4,397.9621	1.2833	0.0000	4,424.9104
2017	45.1364	41.5748	29.1519	0.0427	6.7200	2.1397	8.8597	3.4120	1.9685	5.3805	0.0000	4,323.5711	4,323.5711	1.2820	0.0000	4,350.4938
2018	44.7183	24.7421	21.1078	0.0381	0.5960	1.4100	2.0060	0.1616	1.3393	1.5009	0.0000	3,627.6939	3,627.6939	0.7013	0.0000	3,642.4210
2020	38.0154	18.9105	18.6059	0.0360	0.4924	0.9578	1.4501	0.1359	0.9127	1.0485	0.0000	3,329.0214	3,329.0214	0.4751	0.0000	3,338.9976

2021	37.8111	17.0455	18.2272	0.0360	0.4924	0.8237	1.3161	0.1359	0.7847	0.9206	0.0000	3,325.2735	3,325.2735	0.4654	0.0000	3,335.0467
2022	1.7849	15.4157	17.5572	0.0358	0.4830	0.7058	1.1888	0.1338	0.6662	0.8000	0.0000	3,325.3100	3,325.3100	0.4892	0.0000	3,335.5825
2023	1.6400	13.8306	17.1704	0.0354	0.4731	0.6173	1.0904	0.1311	0.5826	0.7137	0.0000	3,279.4742	3,279.4742	0.7007	0.0000	3,294.1879
Total	**227.4439**	**203.6365**	**171.6297**	**0.2995**	**16.7306**	**10.5812**	**27.0278**	**7.6519**	**9.9097**	**17.5616**	**0.0000**	**28,845.0504**	**28,845.0504**	**5.9081**	**0.0000**	**28,969.1198**

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		
2015	3.3436	27.1813	19.8432	0.0328	0.4699	1.6059	2.0757	0.1299	1.5204	1.6502	0.0000	3,236.7443	3,236.7443	0.5112	0.0000	3,247.4800
2016	54.9942	44.9360	29.9662	0.0427	2.7231	2.3210	5.0441	1.3578	2.1353	3.4931	0.0000	4,397.9621	4,397.9621	1.2833	0.0000	4,424.9104
2017	45.1364	41.5748	29.1519	0.0427	2.7231	2.1397	4.8628	1.3578	1.9685	3.3263	0.0000	4,323.5711	4,323.5711	1.2820	0.0000	4,350.4937
2018	44.7183	24.7421	21.1078	0.0381	0.5960	1.4100	2.0060	0.1616	1.3393	1.5009	0.0000	3,627.6939	3,627.6939	0.7013	0.0000	3,642.4210
2020	38.0154	18.9105	18.6059	0.0360	0.4924	0.9578	1.4501	0.1359	0.9127	1.0485	0.0000	3,329.0214	3,329.0214	0.4751	0.0000	3,338.9976
2021	37.8111	17.0455	18.2272	0.0360	0.4924	0.8237	1.3161	0.1359	0.7847	0.9206	0.0000	3,325.2735	3,325.2735	0.4654	0.0000	3,335.0467
2022	1.7849	15.4157	17.5572	0.0358	0.4830	0.7058	1.1888	0.1338	0.6662	0.8000	0.0000	3,325.3100	3,325.3100	0.4892	0.0000	3,335.5825
2023	1.6400	13.8306	17.1704	0.0354	0.4731	0.6173	1.0904	0.1311	0.5826	0.7137	0.0000	3,279.4742	3,279.4742	0.7007	0.0000	3,294.1879
Total	**227.4439**	**203.6365**	**171.6297**	**0.2995**	**8.4528**	**10.5812**	**19.0340**	**3.5436**	**9.9097**	**13.4533**	**0.0000**	**28,845.0504**	**28,845.0504**	**5.9081**	**0.0000**	**28,969.1198**

	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**	**49.48**	**0.00**	**29.58**	**53.69**	**0.00**	**23.39**	**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	6.6788	4.6000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1099	0.1099	2.9000e-004		0.1160
Energy	0.0550	0.5003	0.4202	3.0000e-003		0.0380	0.0380		0.0380	0.0380		600.3011	600.3011	0.0115	0.0110	603.9545
Mobile	6.4053	9.8221	55.0573	0.2101	14.6413	0.2183	14.8596	3.9076	0.2017	4.1093		15,161.4276	15,161.4276	0.4797		15,171.5015
Total	**13.1392**	**10.3228**	**55.5286**	**0.2131**	**14.6413**	**0.2565**	**14.8978**	**3.9076**	**0.2399**	**4.1475**		**15,761.8387**	**15,761.8387**	**0.4915**	**0.0110**	**15,775.5719**

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	6.6788	4.6000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1099	0.1099	2.9000e-004		0.1160
Energy	0.0550	0.5003	0.4202	3.0000e-003		0.0380	0.0380		0.0380	0.0380		600.3011	600.3011	0.0115	0.0110	603.9545
Mobile	6.4053	9.8221	55.0573	0.2101	14.6413	0.2183	14.8596	3.9076	0.2017	4.1093		15,161.4276	15,161.4276	0.4797		15,171.5015
Total	**13.1392**	**10.3228**	**55.5286**	**0.2131**	**14.6413**	**0.2565**	**14.8978**	**3.9076**	**0.2399**	**4.1475**		**15,761.8387**	**15,761.8387**	**0.4915**	**0.0110**	**15,775.5719**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 1A1 - Site Preparation	Site Preparation	5/1/2015	6/1/2015	5	22	13 months for phase 1A
2	Phase 1A2 - Excavation	Trenching	6/2/2015	7/31/2015	5	44	
3	Phase 1A3 - Grading	Grading	8/1/2015	10/1/2015	5	44	
4	Phase 1A5 - Building Construction	Building Construction	10/2/2015	5/31/2016	5	173	
5	Phase 1A4 - Architectural Coating	Architectural Coating	1/2/2016	5/31/2016	5	107	assume occurs during bldg. construction
6	Phase 1B - Demolition	Demolition	6/1/2016	8/31/2016	5	66	3 months for phase 1B
7	Phase 1B-E1 - Earthwork	Trenching	9/1/2016	11/30/2016	5	65	3 months for phase 1B-E1
8	Phase 1B-E2 - Grading	Grading	12/1/2016	2/28/2017	5	64	3 months for phase 1B-E2
9	Phase 1C - Building Construction	Building Construction	3/1/2017	1/31/2018	5	241	12 months for phase 1C
10	Phase 1C - Architectural Coating	Architectural Coating	8/1/2017	1/31/2018	5	132	assume occurs during bldg. construction
11	Phase 1C - Paving	Paving	2/1/2018	2/28/2018	5	20	
12	Phase 2 - Building 1 Construction	Building Construction	1/2/2020	12/31/2020	5	261	12 months for phase 2
13	Phase 2 - Architectural Coating	Architectural Coating	6/1/2020	12/31/2020	5	154	assume occurs during bldg. construction
14	Phase 3 - Building 2 Construction	Building Construction	1/2/2021	12/31/2021	5	260	12 months for phase 3
15	Phase 3 - Architectural Coating	Architectural Coating	6/1/2021	12/31/2021	5	154	assume occurs during bldg. construction
16	Phase 4 - Parking Str. Construction	Building Construction	1/2/2022	7/31/2022	5	150	7 months for phase 4
17	Phase 5 - Parking Str. Construction	Building Construction	1/2/2023	7/3/2023	5	131	7 months for phase 5
18	Phase 5 - Paving	Paving	7/4/2023	7/31/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 356,847; Non-Residential Outdoor: 118,949 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 1A1 - Site Preparation	Rubber Tired Dozers	0	8.00	255	0.40
Phase 1A1 - Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1A2 - Excavation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1A3 - Grading	Excavators	0	8.00	162	0.38
Phase 1A3 - Grading	Graders	1	8.00	174	0.41
Phase 1A3 - Grading	Rubber Tired Dozers	0	8.00	255	0.40
Phase 1A3 - Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1A5 - Building Construction	Cranes	1	7.00	226	0.29
Phase 1A5 - Building Construction	Forklifts	1	8.00	89	0.20
Phase 1A5 - Building Construction	Generator Sets	1	8.00	84	0.74
Phase 1A5 - Building Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 1A5 - Building Construction	Welders	1	8.00	46	0.45
Phase 1A4 - Architectural Coating	Air Compressors	1	6.00	78	0.48
Phase 1B - Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Phase 1B - Demolition	Excavators	0	8.00	162	0.38
Phase 1B - Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Phase 1B - Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1B-E1 - Earthwork	Excavators	2	8.00	162	0.38
Phase 1B-E1 - Earthwork	Graders	1	8.00	174	0.41
Phase 1B-E1 - Earthwork	Rubber Tired Dozers	1	8.00	255	0.40
Phase 1B-E1 - Earthwork	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1B-E2 - Grading	Bore/Drill Rigs	1	8.00	205	0.50
Phase 1B-E2 - Grading	Excavators	2	8.00	162	0.38
Phase 1B-E2 - Grading	Graders	1	8.00	174	0.41
Phase 1B-E2 - Grading	Rubber Tired Dozers	1	8.00	255	0.40
Phase 1B-E2 - Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1C - Building Construction	Cranes	1	7.00	226	0.29
Phase 1C - Building Construction	Forklifts	2	8.00	89	0.20

Phase 1C - Building Construction	Generator Sets	1	8.00	84	0.74
Phase 1C - Building Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 1C - Building Construction	Welders	1	8.00	46	0.45
Phase 1C - Architectural Coating	Air Compressors	1	6.00	78	0.48
Phase 1C - Paving	Pavers	2	8.00	125	0.42
Phase 1C - Paving	Paving Equipment	2	8.00	130	0.36
Phase 1C - Paving	Rollers	2	8.00	80	0.38
Phase 2 - Building 1 Construction	Cranes	1	7.00	226	0.29
Phase 2 - Building 1 Construction	Forklifts	1	8.00	89	0.20
Phase 2 - Building 1 Construction	Generator Sets	1	8.00	84	0.74
Phase 2 - Building 1 Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 2 - Building 1 Construction	Welders	1	8.00	46	0.45
Phase 2 - Architectural Coating	Air Compressors	1	6.00	78	0.48
Phase 3 - Building 2 Construction	Cranes	1	7.00	226	0.29
Phase 3 - Building 2 Construction	Forklifts	1	8.00	89	0.20
Phase 3 - Building 2 Construction	Generator Sets	1	8.00	84	0.74
Phase 3 - Building 2 Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 3 - Building 2 Construction	Welders	1	8.00	46	0.45
Phase 3 - Architectural Coating	Air Compressors	1	6.00	78	0.48
Phase 4 - Parking Str. Construction	Cranes	1	7.00	226	0.29
Phase 4 - Parking Str. Construction	Forklifts	2	8.00	89	0.20
Phase 4 - Parking Str. Construction	Generator Sets	1	8.00	84	0.74
Phase 4 - Parking Str. Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 4 - Parking Str. Construction	Welders	1	8.00	46	0.45
Phase 5 - Parking Str. Construction	Cranes	1	7.00	226	0.29
Phase 5 - Parking Str. Construction	Forklifts	2	8.00	89	0.20
Phase 5 - Parking Str. Construction	Generator Sets	1	8.00	84	0.74
Phase 5 - Parking Str. Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 5 - Parking Str. Construction	Welders	1	8.00	46	0.45
Phase 5 - Paving	Pavers	2	8.00	125	0.42

Phase 5 - Paving	Paving Equipment	2	8.00	130	0.36
Phase 5 - Paving	Rollers	2	8.00	80	0.38

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
Phase 1A1 - Site Preparation	2	20.00	0.00	88.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1A2 - Excavation	2	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1A3 - Grading	3	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1A5 - Building Construction	6	18.00	43.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1A4 - Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1B - Demolition	4	15.00	0.00	107.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1B-E1 - Earthwork	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1B-E2 - Grading	7	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1C - Building Construction	7	18.00	43.00	175.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1C - Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1C - Paving	6	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 - Building 1 Construction	6	18.00	43.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 - Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Building 2 Construction	6	18.00	43.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 4 - Parking Str. Construction	7	15.00	43.00	400.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 5 - Parking Str. Construction	7	15.00	43.00	275.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 5 - Paving	6	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Phase 1A1 - Site Preparation - 2015

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.7208	6.8643	4.8512	6.2300e-003		0.5373	0.5373		0.4943	0.4943		654.9753	654.9753	0.1955		659.0816
Total	**0.7208**	**6.8643**	**4.8512**	**6.2300e-003**	**0.0000**	**0.5373**	**0.5373**	**0.0000**	**0.4943**	**0.4943**		**654.9753**	**654.9753**	**0.1955**		**659.0816**

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	0.0808	1.2488	0.8499	2.9500e-003	0.0697	0.0207	0.0904	0.0191	0.0191	0.0381		299.8318	299.8318	2.3400e-003		299.8809
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	0.0763	0.0991	1.2072	2.7100e-003	0.2236	1.6200e-003	0.2252	0.0593	1.4900e-003	0.0608		235.1651	235.1651	0.0116		235.4078
Total	**0.1570**	**1.3479**	**2.0570**	**5.6600e-003**	**0.2932**	**0.0223**	**0.3156**	**0.0784**	**0.0205**	**0.0989**		**534.9970**	**534.9970**	**0.0139**		**535.2887**

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.7208	6.8643	4.8512	6.2300e-003		0.5373	0.5373		0.4943	0.4943	0.0000	654.9753	654.9753	0.1955		659.0816
Total	**0.7208**	**6.8643**	**4.8512**	**6.2300e-003**	**0.0000**	**0.5373**	**0.5373**	**0.0000**	**0.4943**	**0.4943**	**0.0000**	**654.9753**	**654.9753**	**0.1955**		**659.0816**

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	0.0808	1.2488	0.8499	2.9500e-003	0.0697	0.0207	0.0904	0.0191	0.0191	0.0381		299.8318	299.8318	2.3400e-003		299.8809
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	0.0763	0.0991	1.2072	2.7100e-003	0.2236	1.6200e-003	0.2252	0.0593	1.4900e-003	0.0608		235.1651	235.1651	0.0116		235.4078
Total	**0.1570**	**1.3479**	**2.0570**	**5.6600e-003**	**0.2932**	**0.0223**	**0.3156**	**0.0784**	**0.0205**	**0.0989**		**534.9970**	**534.9970**	**0.0139**		**535.2887**

3.3 Phase 1A2 - Excavation - 2015

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	0.7208	6.8643	4.8512	6.2300e-003		0.5373	0.5373		0.4943	0.4943		654.9753	654.9753	0.1955		659.0816
Total	**0.7208**	**6.8643**	**4.8512**	**6.2300e-003**		**0.5373**	**0.5373**		**0.4943**	**0.4943**		**654.9753**	**654.9753**	**0.1955**		**659.0816**

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	0.0763	0.0991	1.2072	2.7100e-003	0.2236	1.6200e-003	0.2252	0.0593	1.4900e-003	0.0608		235.1651	235.1651	0.0116		235.4078
Total	**0.0763**	**0.0991**	**1.2072**	**2.7100e-003**	**0.2236**	**1.6200e-003**	**0.2252**	**0.0593**	**1.4900e-003**	**0.0608**		**235.1651**	**235.1651**	**0.0116**		**235.4078**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7208	6.8643	4.8512	6.2300e-003		0.5373	0.5373		0.4943	0.4943	0.0000	654.9753	654.9753	0.1955		659.0816
Total	**0.7208**	**6.8643**	**4.8512**	**6.2300e-003**		**0.5373**	**0.5373**		**0.4943**	**0.4943**	**0.0000**	**654.9753**	**654.9753**	**0.1955**		**659.0816**

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	0.0763	0.0991	1.2072	2.7100e-003	0.2236	1.6200e-003	0.2252	0.0593	1.4900e-003	0.0608		235.1651	235.1651	0.0116		235.4078
Total	**0.0763**	**0.0991**	**1.2072**	**2.7100e-003**	**0.2236**	**1.6200e-003**	**0.2252**	**0.0593**	**1.4900e-003**	**0.0608**		**235.1651**	**235.1651**	**0.0116**		**235.4078**

3.4 Phase 1A3 - Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.7826	17.7321	9.8319	0.0125		1.1483	1.1483		1.0565	1.0565		1,312.0418	1,312.0418	0.3917		1,320.2675
Total	**1.7826**	**17.7321**	**9.8319**	**0.0125**	**0.5303**	**1.1483**	**1.6786**	**0.0573**	**1.0565**	**1.1137**		**1,312.0418**	**1,312.0418**	**0.3917**		**1,320.2675**

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	0.0763	0.0991	1.2072	2.7100e-003	0.2236	1.6200e-003	0.2252	0.0593	1.4900e-003	0.0608		235.1651	235.1651	0.0116		235.4078
Total	**0.0763**	**0.0991**	**1.2072**	**2.7100e-003**	**0.2236**	**1.6200e-003**	**0.2252**	**0.0593**	**1.4900e-003**	**0.0608**		**235.1651**	**235.1651**	**0.0116**		**235.4078**

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					0.2068	0.0000	0.2068	0.0223	0.0000	0.0223			0.0000			0.0000
Off-Road	1.7826	17.7321	9.8319	0.0125		1.1483	1.1483		1.0565	1.0565	0.0000	1,312.0418	1,312.0418	0.3917		1,320.2675
Total	**1.7826**	**17.7321**	**9.8319**	**0.0125**	**0.2068**	**1.1483**	**1.3551**	**0.0223**	**1.0565**	**1.0788**	**0.0000**	**1,312.0418**	**1,312.0418**	**0.3917**		**1,320.2675**

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	0.0763	0.0991	1.2072	2.7100e-003	0.2236	1.6200e-003	0.2252	0.0593	1.4900e-003	0.0608		235.1651	235.1651	0.0116		235.4078

Total	**0.0763**	**0.0991**	**1.2072**	**2.7100e-003**	**0.2236**	**1.6200e-003**	**0.2252**	**0.0593**	**1.4900e-003**	**0.0608**		**235.1651**	**235.1651**	**0.0116**		**235.4078**

3.5 Phase 1A5 - Building Construction - 2015

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	2.8612	22.8823	14.0708	0.0211		1.5335	1.5335		1.4538	1.4538		2,082.2920	2,082.2920	0.4935		2,092.6559
Total	**2.8612**	**22.8823**	**14.0708**	**0.0211**		**1.5335**	**1.5335**		**1.4538**	**1.4538**		**2,082.2920**	**2,082.2920**	**0.4935**		**2,092.6559**

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	0.4137	4.2099	4.6859	9.3100e-003	0.2687	0.0709	0.3396	0.0765	0.0652	0.1417		942.8037	942.8037	7.3100e-003		942.9571
Worker	0.0687	0.0892	1.0865	2.4400e-003	0.2012	1.4600e-003	0.2027	0.0534	1.3400e-003	0.0547		211.6486	211.6486	0.0104		211.8670
Total	**0.4823**	**4.2990**	**5.7724**	**0.0118**	**0.4699**	**0.0724**	**0.5422**	**0.1299**	**0.0665**	**0.1964**		**1,154.4523**	**1,154.4523**	**0.0177**		**1,154.8241**

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	2.8612	22.8823	14.0708	0.0211		1.5335	1.5335		1.4538	1.4538	0.0000	2,082.2920	2,082.2920	0.4935		2,092.6559
Total	**2.8612**	**22.8823**	**14.0708**	**0.0211**		**1.5335**	**1.5335**		**1.4538**	**1.4538**	**0.0000**	**2,082.2920**	**2,082.2920**	**0.4935**		**2,092.6559**

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	0.4137	4.2099	4.6859	9.3100e-003	0.2687	0.0709	0.3396	0.0765	0.0652	0.1417		942.8037	942.8037	7.3100e-003		942.9571
Worker	0.0687	0.0892	1.0865	2.4400e-003	0.2012	1.4600e-003	0.2027	0.0534	1.3400e-003	0.0547		211.6486	211.6486	0.0104		211.8670
Total	**0.4823**	**4.2990**	**5.7724**	**0.0118**	**0.4699**	**0.0724**	**0.5422**	**0.1299**	**0.0665**	**0.1964**		**1,154.4523**	**1,154.4523**	**0.0177**		**1,154.8241**

3.5 Phase 1A5 - Building Construction - 2016

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	2.6544	21.7516	13.8696	0.0210		1.4214	1.4214		1.3462	1.3462		2,068.6249	2,068.6249	0.4809		2,078.7227
Total	**2.6544**	**21.7516**	**13.8696**	**0.0210**		**1.4214**	**1.4214**		**1.3462**	**1.3462**		**2,068.6249**	**2,068.6249**	**0.4809**		**2,078.7227**

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	0.3759	3.7196	4.3951	9.3000e-003	0.2687	0.0589	0.3277	0.0765	0.0542	0.1307		932.4931	932.4931	6.6200e-003		932.6322
Worker	0.0625	0.0807	0.9882	2.4400e-003	0.2012	1.4100e-003	0.2026	0.0534	1.3000e-003	0.0547		204.2283	204.2283	9.6000e-003		204.4300
Total	**0.4384**	**3.8003**	**5.3833**	**0.0117**	**0.4699**	**0.0604**	**0.5303**	**0.1299**	**0.0555**	**0.1854**		**1,136.7214**	**1,136.7214**	**0.0162**		**1,137.0621**

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	2.6544	21.7516	13.8696	0.0210		1.4214	1.4214		1.3462	1.3462	0.0000	2,068.6249	2,068.6249	0.4809		2,078.7227
Total	**2.6544**	**21.7516**	**13.8696**	**0.0210**		**1.4214**	**1.4214**		**1.3462**	**1.3462**	**0.0000**	**2,068.6249**	**2,068.6249**	**0.4809**		**2,078.7227**

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	0.3759	3.7196	4.3951	9.3000e-003	0.2687	0.0589	0.3277	0.0765	0.0542	0.1307		932.4931	932.4931	6.6200e-003		932.6322
Worker	0.0625	0.0807	0.9882	2.4400e-003	0.2012	1.4100e-003	0.2026	0.0534	1.3000e-003	0.0547		204.2283	204.2283	9.6000e-003		204.4300
Total	**0.4384**	**3.8003**	**5.3833**	**0.0117**	**0.4699**	**0.0604**	**0.5303**	**0.1299**	**0.0555**	**0.1854**		**1,136.7214**	**1,136.7214**	**0.0162**		**1,137.0621**

3.6 Phase 1A4 - Architectural Coating - 2016

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					
Archit. Coating	51.5260					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	**51.8945**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**		**281.4481**	**281.4481**	**0.0332**		**282.1449**

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	6.9400e-003	8.9600e-003	0.1098	2.7000e-004	0.0224	1.6000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		22.6920	22.6920	1.0700e-003		22.7144
Total	**6.9400e-003**	**8.9600e-003**	**0.1098**	**2.7000e-004**	**0.0224**	**1.6000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**22.6920**	**22.6920**	**1.0700e-003**		**22.7144**

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	51.5260					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449
Total	**51.8945**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**	**0.0000**	**281.4481**	**281.4481**	**0.0332**		**282.1449**

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	6.9400e-003	8.9600e-003	0.1098	2.7000e-004	0.0224	1.6000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		22.6920	22.6920	1.0700e-003		22.7144
Total	**6.9400e-003**	**8.9600e-003**	**0.1098**	**2.7000e-004**	**0.0224**	**1.6000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**22.6920**	**22.6920**	**1.0700e-003**		**22.7144**

3.7 Phase 1B - Demolition - 2016

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					0.3500	0.0000	0.3500	0.0530	0.0000	0.0530			0.0000			0.0000
Off-Road	2.5660	25.0028	19.0854	0.0214		1.4939	1.4939		1.4022	1.4022		2,163.4523	2,163.4523	0.5312		2,174.6067
Total	**2.5660**	**25.0028**	**19.0854**	**0.0214**	**0.3500**	**1.4939**	**1.8439**	**0.0530**	**1.4022**	**1.4552**		**2,163.4523**	**2,163.4523**	**0.5312**		**2,174.6067**

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	0.0296	0.4467	0.3242	1.1900e-003	0.0282	6.7200e-003	0.0350	7.7300e-003	6.1800e-003	0.0139		120.1869	120.1869	8.5000e-004		120.2048
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	0.0520	0.0672	0.8235	2.0400e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		170.1902	170.1902	8.0000e-003		170.3583
Total	**0.0817**	**0.5140**	**1.1477**	**3.2300e-003**	**0.1959**	**7.8900e-003**	**0.2038**	**0.0522**	**7.2600e-003**	**0.0595**		**290.3771**	**290.3771**	**8.8500e-004**		**290.5631**

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					0.1365	0.0000	0.1365	0.0207	0.0000	0.0207			0.0000			0.0000
Off-Road	2.5660	25.0028	19.0854	0.0214		1.4939	1.4939		1.4022	1.4022	0.0000	2,163.4523	2,163.4523	0.5312		2,174.6067
Total	**2.5660**	**25.0028**	**19.0854**	**0.0214**	**0.1365**	**1.4939**	**1.6304**	**0.0207**	**1.4022**	**1.4229**	**0.0000**	**2,163.4523**	**2,163.4523**	**0.5312**		**2,174.6067**

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	0.0296	0.4467	0.3242	1.1900e-003	0.0282	6.7200e-003	0.0350	7.7300e-003	6.1800e-003	0.0139		120.1869	120.1869	8.5000e-004		120.2048
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	0.0520	0.0672	0.8235	2.0400e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		170.1902	170.1902	8.0000e-003		170.3583
Total	**0.0817**	**0.5140**	**1.1477**	**3.2300e-003**	**0.1959**	**7.8900e-003**	**0.2038**	**0.0522**	**7.2600e-003**	**0.0595**		**290.3771**	**290.3771**	**8.8500e-003**		**290.5631**

3.8 Phase 1B-E1 - Earthwork - 2016

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	3.7145	39.6224	27.0945	0.0319		2.1658	2.1658		1.9925	1.9925		3,320.0297	3,320.0297	1.0014		3,341.0599
Total	**3.7145**	**39.6224**	**27.0945**	**0.0319**		**2.1658**	**2.1658**		**1.9925**	**1.9925**		**3,320.0297**	**3,320.0297**	**1.0014**		**3,341.0599**

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	0.0520	0.0672	0.8235	2.0400e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		170.1902	170.1902	8.0000e-003		170.3583
Total	**0.0520**	**0.0672**	**0.8235**	**2.0400e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0455**		**170.1902**	**170.1902**	**8.0000e-003**		**170.3583**

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	3.7145	39.6224	27.0945	0.0319		2.1658	2.1658		1.9925	1.9925	0.0000	3,320.0297	3,320.0297	1.0014		3,341.0599

Total	3.7145	39.6224	27.0945	0.0319		2.1658	2.1658		1.9925	1.9925	0.0000	3,320.0297	3,320.0297	1.0014		3,341.0599

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	0.0520	0.0672	0.8235	2.0400e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		170.1902	170.1902	8.0000e-003		170.3583
Total	**0.0520**	**0.0672**	**0.8235**	**2.0400e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0455**		**170.1902**	**170.1902**	**8.0000e-003**		**170.3583**

3.9 Phase 1B-E2 - Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	4.0626	44.8688	29.1427	0.0407		2.3198	2.3198		2.1342	2.1342		4,227.7719	4,227.7719	1.2753		4,254.5521
Total	**4.0626**	**44.8688**	**29.1427**	**0.0407**	**6.5523**	**2.3198**	**8.8722**	**3.3675**	**2.1342**	**5.5017**		**4,227.7719**	**4,227.7719**	**1.2753**		**4,254.5521**

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	0.0520	0.0672	0.8235	2.0400e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		170.1902	170.1902	8.0000e-003		170.3583
Total	**0.0520**	**0.0672**	**0.8235**	**2.0400e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0455**		**170.1902**	**170.1902**	**8.0000e-003**		**170.3583**

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					
Fugitive Dust					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	4.0626	44.8688	29.1427	0.0407		2.3198	2.3198		2.1342	2.1342	0.0000	4,227.7719	4,227.7719	1.2753		4,254.5521
Total	**4.0626**	**44.8688**	**29.1427**	**0.0407**	**2.5554**	**2.3198**	**4.8752**	**1.3133**	**2.1342**	**3.4475**	**0.0000**	**4,227.7719**	**4,227.7719**	**1.2753**		**4,254.5521**

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	0.0520	0.0672	0.8235	2.0400e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		170.1902	170.1902	8.0000e-003		170.3583
Total	**0.0520**	**0.0672**	**0.8235**	**2.0400e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0455**		**170.1902**	**170.1902**	**8.0000e-003**		**170.3583**

3.9 Phase 1B-E2 - Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	3.8146	41.5138	28.4008	0.0407		2.1386	2.1386		1.9675	1.9675		4,159.9617	4,159.9617	1.2746		4,186.7284
Total	**3.8146**	**41.5138**	**28.4008**	**0.0407**	**6.5523**	**2.1386**	**8.6909**	**3.3675**	**1.9675**	**5.3350**		**4,159.9617**	**4,159.9617**	**1.2746**		**4,186.7284**

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	0.0474	0.0611	0.7511	2.0400e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		163.6094	163.6094	7.4300e-003		163.7653
Total	**0.0474**	**0.0611**	**0.7511**	**2.0400e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**163.6094**	**163.6094**	**7.4300e-003**		**163.7653**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	3.8146	41.5138	28.4008	0.0407		2.1386	2.1386		1.9675	1.9675	0.0000	4,159.9617	4,159.9617	1.2746		4,186.7284
Total	**3.8146**	**41.5138**	**28.4008**	**0.0407**	**2.5554**	**2.1386**	**4.6940**	**1.3133**	**1.9675**	**3.2808**	**0.0000**	**4,159.9617**	**4,159.9617**	**1.2746**		**4,186.7284**

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	0.0474	0.0611	0.7511	2.0400e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		163.6094	163.6094	7.4300e-003		163.7653
Total	**0.0474**	**0.0611**	**0.7511**	**2.0400e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**163.6094**	**163.6094**	**7.4300e-003**		**163.7653**

3.10 Phase 1C - Building Construction - 2017

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	2.6142	21.9159	14.7854	0.0226		1.4302	1.4302		1.3501	1.3501		2,205.0687	2,205.0687	0.5165		2,215.9152
Total	**2.6142**	**21.9159**	**14.7854**	**0.0226**		**1.4302**	**1.4302**		**1.3501**	**1.3501**		**2,205.0687**	**2,205.0687**	**0.5165**		**2,215.9152**

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	0.0125	0.1835	0.1387	5.3000e-004	0.0137	2.7500e-003	0.0164	3.7100e-003	2.5300e-003	6.2500e-003		52.9435	52.9435	3.8000e-004		52.9514
Vendor	0.3469	3.3840	4.1348	9.2900e-003	0.2688	0.0526	0.3214	0.0766	0.0484	0.1249		917.3156	917.3156	6.4100e-003		917.4502
Worker	0.0569	0.0733	0.9013	2.4400e-003	0.2012	1.3700e-003	0.2026	0.0534	1.2700e-003	0.0546		196.3312	196.3312	8.9100e-003		196.5184
Total	**0.4163**	**3.6408**	**5.1748**	**0.0123**	**0.4837**	**0.0567**	**0.5404**	**0.1336**	**0.0522**	**0.1858**		**1,166.5903**	**1,166.5903**	**0.0157**		**1,166.9200**

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	2.6142	21.9159	14.7854	0.0226		1.4302	1.4302		1.3501	1.3501	0.0000	2,205.0687	2,205.0687	0.5165		2,215.9152
Total	**2.6142**	**21.9159**	**14.7854**	**0.0226**		**1.4302**	**1.4302**		**1.3501**	**1.3501**	**0.0000**	**2,205.0687**	**2,205.0687**	**0.5165**		**2,215.9152**

<u>Mitigated Construction Off-Site</u>

	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	0.0125	0.1835	0.1387	5.3000e-004	0.0137	2.7500e-003	0.0164	3.7100e-003	2.5300e-003	6.2500e-003		52.9435	52.9435	3.8000e-004		52.9514
Vendor	0.3469	3.3840	4.1348	9.2900e-003	0.2688	0.0526	0.3214	0.0766	0.0484	0.1249		917.3156	917.3156	6.4100e-003		917.4502
Worker	0.0569	0.0733	0.9013	2.4400e-003	0.2012	1.3700e-003	0.2026	0.0534	1.2700e-003	0.0546		196.3312	196.3312	8.9100e-003		196.5184
Total	**0.4163**	**3.6408**	**5.1748**	**0.0123**	**0.4837**	**0.0567**	**0.5404**	**0.1336**	**0.0522**	**0.1858**		**1,166.5903**	**1,166.5903**	**0.0157**		**1,166.9200**

3.10 Phase 1C - Building Construction - 2018

<u>Unmitigated Construction On-Site</u>

	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	2.2577	19.3853	14.2768	0.0226		1.2056	1.2056		1.1392	1.1392		2,182.4724	2,182.4724	0.5056		2,193.0906
Total	**2.2577**	**19.3853**	**14.2768**	**0.0226**		**1.2056**	**1.2056**		**1.1392**	**1.1392**		**2,182.4724**	**2,182.4724**	**0.5056**		**2,193.0906**

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	0.0121	0.1703	0.1345	5.3000e-004	0.1037	2.7500e-003	0.1064	0.0258	2.5300e-003	0.0283		52.0580	52.0580	3.8000e-004		52.0660
Vendor	0.3248	3.1064	3.9251	9.2800e-003	0.2688	0.0496	0.3184	0.0765	0.0456	0.1221		901.7418	901.7418	6.3800e-003		901.8757
Worker	0.0519	0.0669	0.8255	2.4400e-003	0.2012	1.3600e-003	0.2026	0.0534	1.2600e-003	0.0546		188.9759	188.9759	8.3200e-003		189.1505
Total	**0.3889**	**3.3436**	**4.8851**	**0.0123**	**0.5736**	**0.0537**	**0.6273**	**0.1557**	**0.0494**	**0.2051**		**1,142.7756**	**1,142.7756**	**0.0151**		**1,143.0922**

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	2.2577	19.3853	14.2768	0.0226		1.2056	1.2056		1.1392	1.1392	0.0000	2,182.4724	2,182.4724	0.5056		2,193.0906
Total	**2.2577**	**19.3853**	**14.2768**	**0.0226**		**1.2056**	**1.2056**		**1.1392**	**1.1392**	**0.0000**	**2,182.4724**	**2,182.4724**	**0.5056**		**2,193.0906**

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	0.0121	0.1703	0.1345	5.3000e-004	0.1037	2.7500e-003	0.1064	0.0258	2.5300e-003	0.0283		52.0580	52.0580	3.8000e-004		52.0660
Vendor	0.3248	3.1064	3.9251	9.2800e-003	0.2688	0.0496	0.3184	0.0765	0.0456	0.1221		901.7418	901.7418	6.3800e-003		901.8757
Worker	0.0519	0.0669	0.8255	2.4400e-003	0.2012	1.3600e-003	0.2026	0.0534	1.2600e-003	0.0546		188.9759	188.9759	8.3200e-003		189.1505
Total	**0.3889**	**3.3436**	**4.8851**	**0.0123**	**0.5736**	**0.0537**	**0.6273**	**0.1557**	**0.0494**	**0.2051**		**1,142.7756**	**1,142.7756**	**0.0151**		**1,143.0922**

3.11 Phase 1C - Architectural Coating - 2017

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	41.7673					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**42.0996**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

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	6.3200e-003	8.1400e-003	0.1002	2.7000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		21.8146	21.8146	9.9000e-004		21.8354
Total	**6.3200e-003**	**8.1400e-003**	**0.1002**	**2.7000e-004**	**0.0224**	**1.5000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**21.8146**	**21.8146**	**9.9000e-004**		**21.8354**

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	41.7673					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**42.0996**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

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	6.3200e-003	8.1400e-003	0.1002	2.7000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		21.8146	21.8146	9.9000e-004		21.8354

Total	6.3200e-003	8.1400e-003	0.1002	2.7000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		21.8146	21.8146	9.9000e-004		21.8354

3.11 Phase 1C - Architectural Coating - 2018

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	41.7673					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**42.0660**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

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	5.7700e-003	7.4300e-003	0.0917	2.7000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		20.9973	20.9973	9.2000e-004		21.0167
Total	**5.7700e-003**	**7.4300e-003**	**0.0917**	**2.7000e-004**	**0.0224**	**1.5000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**20.9973**	**20.9973**	**9.2000e-004**		**21.0167**

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	41.7673					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**42.0660**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

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	5.7700e-003	7.4300e-003	0.0917	2.7000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		20.9973	20.9973	9.2000e-004		21.0167
Total	**5.7700e-003**	**7.4300e-003**	**0.0917**	**2.7000e-004**	**0.0224**	**1.5000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**20.9973**	**20.9973**	**9.2000e-004**		**21.0167**

3.12 Phase 1C - Paving - 2018

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	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.0694					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6808**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

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	0.0144	0.0186	0.2293	6.8000e-004	0.0559	3.8000e-004	0.0563	0.0148	3.5000e-004	0.0152		52.4933	52.4933	2.3100e-003		52.5418
Total	**0.0144**	**0.0186**	**0.2293**	**6.8000e-004**	**0.0559**	**3.8000e-004**	**0.0563**	**0.0148**	**3.5000e-004**	**0.0152**		**52.4933**	**52.4933**	**2.3100e-003**		**52.5418**

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	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635	0.0000	2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.0694					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6808**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**	**0.0000**	**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

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	0.0144	0.0186	0.2293	6.8000e-004	0.0559	3.8000e-004	0.0563	0.0148	3.5000e-004	0.0152		52.4933	52.4933	2.3100e-003		52.5418
Total	**0.0144**	**0.0186**	**0.2293**	**6.8000e-004**	**0.0559**	**3.8000e-004**	**0.0563**	**0.0148**	**3.5000e-004**	**0.0152**		**52.4933**	**52.4933**	**2.3100e-003**		**52.5418**

3.13 Phase 2 - Building 1 Construction - 2020

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	1.6399	14.6469	12.4532	0.0210		0.8030	0.8030		0.7614	0.7614		1,983.2458	1,983.2458	0.4386		1,992.4557
Total	**1.6399**	**14.6469**	**12.4532**	**0.0210**		**0.8030**	**0.8030**		**0.7614**	**0.7614**		**1,983.2458**	**1,983.2458**	**0.4386**		**1,992.4557**

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	0.2817	2.5155	3.5172	9.2800e-003	0.2688	0.0423	0.3111	0.0766	0.0389	0.1154		869.0315	869.0315	6.2900e-003		869.1637
Worker	0.0459	0.0579	0.7237	2.4500e-003	0.2012	1.3800e-003	0.2026	0.0534	1.2800e-003	0.0546		175.7665	175.7665	7.5600e-003		175.9253
Total	**0.3277**	**2.5734**	**4.2409**	**0.0117**	**0.4700**	**0.0436**	**0.5136**	**0.1299**	**0.0402**	**0.1701**		**1,044.7980**	**1,044.7980**	**0.0139**		**1,045.0890**

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	1.6399	14.6469	12.4532	0.0210		0.8030	0.8030		0.7614	0.7614	0.0000	1,983.2458	1,983.2458	0.4386		1,992.4557
Total	**1.6399**	**14.6469**	**12.4532**	**0.0210**		**0.8030**	**0.8030**		**0.7614**	**0.7614**	**0.0000**	**1,983.2458**	**1,983.2458**	**0.4386**		**1,992.4557**

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	0.2817	2.5155	3.5172	9.2800e-003	0.2688	0.0423	0.3111	0.0766	0.0389	0.1154		869.0315	869.0315	6.2900e-003		869.1637
Worker	0.0459	0.0579	0.7237	2.4500e-003	0.2012	1.3800e-003	0.2026	0.0534	1.2800e-003	0.0546		175.7665	175.7665	7.5600e-003		175.9253
Total	**0.3277**	**2.5734**	**4.2409**	**0.0117**	**0.4700**	**0.0436**	**0.5136**	**0.1299**	**0.0402**	**0.1701**		**1,044.7980**	**1,044.7980**	**0.0139**		**1,045.0890**

3.14 Phase 2 - Architectural Coating - 2020

<u>Unmitigated Construction On-Site</u>

	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	35.8006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9057
Total	**36.0427**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9057**

<u>Unmitigated Construction Off-Site</u>

	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	5.1000e-003	6.4300e-003	0.0804	2.7000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		19.5296	19.5296	8.4000e-004		19.5473
Total	**5.1000e-003**	**6.4300e-003**	**0.0804**	**2.7000e-004**	**0.0224**	**1.5000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**19.5296**	**19.5296**	**8.4000e-004**		**19.5473**

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	35.8006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9057
Total	**36.0427**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9057**

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	5.1000e-003	6.4300e-003	0.0804	2.7000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		19.5296	19.5296	8.4000e-004		19.5473
Total	**5.1000e-003**	**6.4300e-003**	**0.0804**	**2.7000e-004**	**0.0224**	**1.5000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**19.5296**	**19.5296**	**8.4000e-004**		**19.5473**

3.15 Phase 3 - Building 2 Construction - 2021

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	1.4706	13.3232	12.2242	0.0210		0.6897	0.6897		0.6539	0.6539		1,983.4325	1,983.4325	0.4317		1,992.4979
Total	**1.4706**	**13.3232**	**12.2242**	**0.0210**		**0.6897**	**0.6897**		**0.6539**	**0.6539**		**1,983.4325**	**1,983.4325**	**0.4317**		**1,992.4979**

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	0.2725	2.1351	3.4256	9.2700e-003	0.2688	0.0384	0.3072	0.0766	0.0353	0.1119		868.3064	868.3064	6.3300e-003		868.4393
Worker	0.0437	0.0544	0.6838	2.4600e-003	0.2012	1.3900e-003	0.2026	0.0534	1.2900e-003	0.0547		172.8779	172.8779	7.2600e-003		173.0302
Total	**0.3162**	**2.1894**	**4.1094**	**0.0117**	**0.4700**	**0.0398**	**0.5098**	**0.1299**	**0.0366**	**0.1666**		**1,041.1843**	**1,041.1843**	**0.0136**		**1,041.4696**

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	1.4706	13.3232	12.2242	0.0210		0.6897	0.6897		0.6539	0.6539	0.0000	1,983.4325	1,983.4325	0.4317		1,992.4979

Total	**1.4706**	**13.3232**	**12.2242**	**0.0210**		**0.6897**	**0.6897**		**0.6539**	**0.6539**	**0.0000**	**1,983.4325**	**1,983.4325**	**0.4317**		**1,992.4979**

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	0.2725	2.1351	3.4256	9.2700e-003	0.2688	0.0384	0.3072	0.0766	0.0353	0.1119		868.3064	868.3064	6.3300e-003		868.4393
Worker	0.0437	0.0544	0.6838	2.4600e-003	0.2012	1.3900e-003	0.2026	0.0534	1.2900e-003	0.0547		172.8779	172.8779	7.2600e-003		173.0302
Total	**0.3162**	**2.1894**	**4.1094**	**0.0117**	**0.4700**	**0.0398**	**0.5098**	**0.1299**	**0.0366**	**0.1666**		**1,041.1843**	**1,041.1843**	**0.0136**		**1,041.4696**

3.16 Phase 3 - Architectural Coating - 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					
Archit. Coating	35.8006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.8537
Total	**36.0195**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.8537**

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	4.8600e-003	6.0400e-003	0.0760	2.7000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		19.2087	19.2087	8.1000e-004		19.2256
Total	**4.8600e-003**	**6.0400e-003**	**0.0760**	**2.7000e-004**	**0.0224**	**1.5000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**19.2087**	**19.2087**	**8.1000e-004**		**19.2256**

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	35.8006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.8537
Total	**36.0195**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.8537**

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	4.8600e-003	6.0400e-003	0.0760	2.7000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		19.2087	19.2087	8.1000e-004		19.2256
Total	**4.8600e-003**	**6.0400e-003**	**0.0760**	**2.7000e-004**	**0.0224**	**1.5000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**19.2087**	**19.2087**	**8.1000e-004**		**19.2256**

3.17 Phase 4 - Parking Str. 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	1.4415	13.0153	13.2156	0.0226		0.6570	0.6570		0.6213	0.6213		2,132.1348	2,132.1348	0.4754		2,142.1181
Total	**1.4415**	**13.0153**	**13.2156**	**0.0226**		**0.6570**	**0.6570**		**0.6213**	**0.6213**		**2,132.1348**	**2,132.1348**	**0.4754**		**2,142.1181**

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	0.0414	0.4198	0.4535	1.9500e-003	0.0465	9.6400e-003	0.0561	0.0127	8.8700e-003	0.0216		183.8749	183.8749	1.4900e-003		183.9061
Vendor	0.2674	1.9379	3.3485	9.2600e-003	0.2689	0.0380	0.3068	0.0766	0.0350	0.1115		867.5772	867.5772	6.4700e-003		867.7130

	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	0.0347	0.0427	0.5396	2.0500e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		141.7231	141.7231	5.8100e-003		141.8452
Total	**0.3435**	**2.4004**	**4.3416**	**0.0133**	**0.4830**	**0.0488**	**0.5318**	**0.1338**	**0.0449**	**0.1787**		**1,193.1752**	**1,193.1752**	**0.0138**		**1,193.4643**

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	1.4415	13.0153	13.2156	0.0226		0.6570	0.6570		0.6213	0.6213	0.0000	2,132.1348	2,132.1348	0.4754		2,142.1181
Total	**1.4415**	**13.0153**	**13.2156**	**0.0226**		**0.6570**	**0.6570**		**0.6213**	**0.6213**	**0.0000**	**2,132.1348**	**2,132.1348**	**0.4754**		**2,142.1181**

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	0.0414	0.4198	0.4535	1.9500e-003	0.0465	9.6400e-003	0.0561	0.0127	8.8700e-003	0.0216		183.8749	183.8749	1.4900e-003		183.9061
Vendor	0.2674	1.9379	3.3485	9.2600e-003	0.2689	0.0380	0.3068	0.0766	0.0350	0.1115		867.5772	867.5772	6.4700e-003		867.7130
Worker	0.0347	0.0427	0.5396	2.0500e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		141.7231	141.7231	5.8100e-003		141.8452
Total	**0.3435**	**2.4004**	**4.3416**	**0.0133**	**0.4830**	**0.0488**	**0.5318**	**0.1338**	**0.0449**	**0.1787**		**1,193.1752**	**1,193.1752**	**0.0138**		**1,193.4643**

3.18 Phase 5 - Parking Str. Construction - 2023

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	1.3311	12.0092	13.1121	0.0226		0.5711	0.5711		0.5401	0.5401		2,132.7160	2,132.7160	0.4712		2,142.6112
Total	**1.3311**	**12.0092**	**13.1121**	**0.0226**		**0.5711**	**0.5711**		**0.5401**	**0.5401**		**2,132.7160**	**2,132.7160**	**0.4712**		**2,142.6112**

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	0.0288	0.2361	0.3364	1.5300e-003	0.0366	7.5500e-003	0.0441	0.0100	6.9400e-003	0.0170		143.7126	143.7126	1.0100e-003		143.7338
Vendor	0.2470	1.5448	3.2096	9.2200e-003	0.2689	0.0375	0.3064	0.0766	0.0345	0.1111		863.4432	863.4432	5.8100e-003		863.5652
Worker	0.0331	0.0405	0.5123	2.0500e-003	0.1677	1.1800e-003	0.1688	0.0445	1.0900e-003	0.0456		139.6024	139.6024	5.6100e-003		139.7202
Total	**0.3089**	**1.8214**	**4.0583**	**0.0128**	**0.4731**	**0.0462**	**0.5193**	**0.1311**	**0.0425**	**0.1736**		**1,146.7582**	**1,146.7582**	**0.0124**		**1,147.0192**

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	1.3311	12.0092	13.1121	0.0226		0.5711	0.5711		0.5401	0.5401	0.0000	2,132.7160	2,132.7160	0.4712		2,142.6112
Total	**1.3311**	**12.0092**	**13.1121**	**0.0226**		**0.5711**	**0.5711**		**0.5401**	**0.5401**	**0.0000**	**2,132.7160**	**2,132.7160**	**0.4712**		**2,142.6112**

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	0.0288	0.2361	0.3364	1.5300e-003	0.0366	7.5500e-003	0.0441	0.0100	6.9400e-003	0.0170		143.7126	143.7126	1.0100e-003		143.7338
Vendor	0.2470	1.5448	3.2096	9.2200e-003	0.2689	0.0375	0.3064	0.0766	0.0345	0.1111		863.4432	863.4432	5.8100e-003		863.5652
Worker	0.0331	0.0405	0.5123	2.0500e-003	0.1677	1.1800e-003	0.1688	0.0445	1.0900e-003	0.0456		139.6024	139.6024	5.6100e-003		139.7202
Total	**0.3089**	**1.8214**	**4.0583**	**0.0128**	**0.4731**	**0.0462**	**0.5193**	**0.1311**	**0.0425**	**0.1736**		**1,146.7582**	**1,146.7582**	**0.0124**		**1,147.0192**

3.19 Phase 5 - Paving - 2023

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	1.0128	9.9983	14.2850	0.0223		0.5010	0.5010		0.4609	0.4609		2,160.6139	2,160.6139	0.6988		2,175.2884
Paving	0.0694					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Total	1.0822	9.9983	14.2850	0.0223		0.5010	0.5010		0.4609	0.4609		2,160.6139	2,160.6139	0.6988		2,175.2884

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	0.0110	0.0135	0.1708	6.8000e-004	0.0559	3.9000e-004	0.0563	0.0148	3.6000e-004	0.0152		46.5341	46.5341	1.8700e-003		46.5734
Total	**0.0110**	**0.0135**	**0.1708**	**6.8000e-004**	**0.0559**	**3.9000e-004**	**0.0563**	**0.0148**	**3.6000e-004**	**0.0152**		**46.5341**	**46.5341**	**1.8700e-003**		**46.5734**

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	1.0128	9.9983	14.2850	0.0223		0.5010	0.5010		0.4609	0.4609	0.0000	2,160.6139	2,160.6139	0.6988		2,175.2884
Paving	0.0694					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0822**	**9.9983**	**14.2850**	**0.0223**		**0.5010**	**0.5010**		**0.4609**	**0.4609**	**0.0000**	**2,160.6139**	**2,160.6139**	**0.6988**		**2,175.2884**

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	0.0110	0.0135	0.1708	6.8000e-004	0.0559	3.9000e-004	0.0563	0.0148	3.6000e-004	0.0152		46.5341	46.5341	1.8700e-003		46.5734
Total	**0.0110**	**0.0135**	**0.1708**	**6.8000e-004**	**0.0559**	**3.9000e-004**	**0.0563**	**0.0148**	**3.6000e-004**	**0.0152**		**46.5341**	**46.5341**	**1.8700e-003**		**46.5734**

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	6.4053	9.8221	55.0573	0.2101	14.6413	0.2183	14.8596	3.9076	0.2017	4.1093		15,161.4276	15,161.4276	0.4797		15,171.5015
Unmitigated	6.4053	9.8221	55.0573	0.2101	14.6413	0.2183	14.8596	3.9076	0.2017	4.1093		15,161.4276	15,161.4276	0.4797		15,171.5015

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Day-Care Center	230.02	0.00	0.00	238,905	238,905
Other Non-Asphalt Surfaces	0.00	0.00	0.00		

Parking Lot	0.00	0.00	0.00		
Place of Worship	230.17	3,090.13	3090.13	2,233,673	2,233,673
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	460.19	3,090.13	3,090.13	2,472,578	2,472,578

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
Day-Care Center	16.60	8.40	6.90	12.70	82.30	5.00	28	58	14
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Unenclosed Parking Structure	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.500282	0.057001	0.196753	0.152945	0.042333	0.006070	0.016337	0.017415	0.001474	0.002202	0.004129	0.000486	0.002572

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0550	0.5003	0.4202	3.0000e-003		0.0380	0.0380		0.0380	0.0380		600.3011	600.3011	0.0115	0.0110	603.9545
NaturalGas Unmitigated	0.0550	0.5003	0.4202	3.0000e-003		0.0380	0.0380		0.0380	0.0380		600.3011	600.3011	0.0115	0.0110	603.9545

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					
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
Place of Worship	4839.06	0.0522	0.4744	0.3985	2.8500e-003		0.0361	0.0361		0.0361	0.0361		569.3011	569.3011	0.0109	0.0104	572.7658
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
Day-Care Center	263.5	2.8400e-003	0.0258	0.0217	1.6000e-004		1.9600e-003	1.9600e-003		1.9600e-003	1.9600e-003		31.0000	31.0000	5.9000e-004	5.7000e-004	31.1887
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0550**	**0.5003**	**0.4202**	**3.0100e-003**		**0.0380**	**0.0380**		**0.0380**	**0.0380**		**600.3011**	**600.3011**	**0.0115**	**0.0110**	**603.9545**

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					
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
Place of Worship	4.83906	0.0522	0.4744	0.3985	2.8500e-003		0.0361	0.0361		0.0361	0.0361		569.3011	569.3011	0.0109	0.0104	572.7658
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
Day-Care Center	0.2635	2.8400e-003	0.0258	0.0217	1.6000e-004		1.9600e-003	1.9600e-003		1.9600e-003	1.9600e-003		31.0000	31.0000	5.9000e-004	5.7000e-004	31.1887
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Total		**0.0550**	**0.5003**	**0.4202**	**3.0100e-003**		**0.0380**	**0.0380**		**0.0380**	**0.0380**		**600.3011**	**600.3011**	**0.0115**	**0.0110**	**603.9545**

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	6.6788	4.6000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1099	0.1099	2.9000e-004		0.1160
Unmitigated	6.6788	4.6000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1099	0.1099	2.9000e-004		0.1160

6.2 Area by SubCategory

<u>Unmitigated</u>

	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	1.5105					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.1636					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.7100e-003	4.6000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1099	0.1099	2.9000e-004		0.1160
Total	**6.6788**	**4.6000e-004**	**0.0512**	**0.0000**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**		**0.1099**	**0.1099**	**2.9000e-004**		**0.1160**

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	1.5105					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.1636					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.7100e-003	4.6000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1099	0.1099	2.9000e-004		0.1160
Total	**6.6788**	**4.6000e-004**	**0.0512**	**0.0000**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**		**0.1099**	**0.1099**	**2.9000e-004**		**0.1160**

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 Vegetation

South Shores Church Master Plan

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Day-Care Center	7.75	1000sqft	0.18	7,750.00	0
Place of Worship	81.62	1000sqft	1.87	81,620.00	0
Other Non-Asphalt Surfaces	2.00	Acre	2.00	87,120.00	0
Parking Lot	59.00	Space	0.53	23,600.00	0
Unenclosed Parking Structure	352.00	Space	1.40	60,700.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.2 **Precipitation Freq (Days)** 30

Climate Zone 8 **Operational Year** 2025

Utility Company Southern California Edison

CO_2 Intensity (lb/MWhr) 630.89 **CH_4 Intensity (lb/MWhr)** 0.029 **N_2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Parking structure 2-story, area from site plan. Total site about 6 acres.

Construction Phase - Per project description.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment -

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Installing Tie-downs

Off-road Equipment -

Off-road Equipment - Equipment per project plans.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Equipment per project plans.

Off-road Equipment -

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment -

Trips and VMT - Worker numbers per project plans and traffic study. Added haul trips to Phases 1C, 4 and 5 for 3,500, 8,000 and 5,500 cy soil import or export each, respectively (20 cy capacity)

Demolition -

Grading - There will be soil export during Phases 1C, 4 and 5, but in lesser amounts than during Phase 1B.

Vehicle Trips - Traffic study shows weekday peak hour of 18 new trips and Sunday of 106 new trips and used a hour-daily factor of 10.

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	132.00
tblConstructionPhase	NumDays	20.00	154.00
tblConstructionPhase	NumDays	20.00	154.00
tblConstructionPhase	NumDays	20.00	107.00
tblConstructionPhase	NumDays	230.00	261.00
tblConstructionPhase	NumDays	230.00	260.00
tblConstructionPhase	NumDays	230.00	150.00
tblConstructionPhase	NumDays	230.00	131.00
tblConstructionPhase	NumDays	230.00	173.00

tblConstructionPhase	NumDays	230.00	241.00
tblConstructionPhase	NumDays	20.00	66.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	20.00	64.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	PhaseEndDate	8/3/2018	1/31/2018
tblConstructionPhase	PhaseEndDate	8/4/2021	12/31/2020
tblConstructionPhase	PhaseEndDate	8/4/2022	12/31/2021
tblConstructionPhase	PhaseEndDate	10/27/2016	5/31/2016
tblConstructionPhase	PhaseEndDate	2/28/2019	12/31/2020
tblConstructionPhase	PhaseEndDate	12/30/2021	12/31/2021
tblConstructionPhase	PhaseEndDate	7/29/2022	7/31/2022
tblConstructionPhase	PhaseEndDate	1/30/2023	7/3/2023
tblConstructionPhase	PhaseStartDate	2/1/2018	8/1/2017
tblConstructionPhase	PhaseStartDate	1/1/2021	6/1/2020
tblConstructionPhase	PhaseStartDate	1/1/2022	6/1/2021
tblConstructionPhase	PhaseStartDate	6/1/2016	1/2/2016
tblConstructionPhase	PhaseStartDate	3/1/2018	1/2/2020
tblConstructionPhase	PhaseStartDate	1/1/2021	1/2/2021
tblConstructionPhase	PhaseStartDate	1/1/2022	1/2/2022
tblConstructionPhase	PhaseStartDate	8/1/2022	1/2/2023
tblGrading	MaterialExported	0.00	17,000.00
tblLandUse	LandUseSquareFeet	140,800.00	60,700.00
tblLandUse	LotAcreage	3.17	1.40
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2025
tblTripsAndVMT	HaulingTripNumber	0.00	88.00
tblTripsAndVMT	HaulingTripNumber	0.00	400.00
tblTripsAndVMT	HaulingTripNumber	0.00	275.00
tblTripsAndVMT	HaulingTripNumber	1,681.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	175.00
tblTripsAndVMT	WorkerTripNumber	5.00	20.00
tblTripsAndVMT	WorkerTripNumber	22.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	5.00
tblTripsAndVMT	WorkerTripNumber	110.00	18.00
tblTripsAndVMT	WorkerTripNumber	22.00	2.00
tblTripsAndVMT	WorkerTripNumber	110.00	18.00
tblTripsAndVMT	WorkerTripNumber	22.00	2.00
tblTripsAndVMT	WorkerTripNumber	110.00	15.00
tblTripsAndVMT	WorkerTripNumber	110.00	15.00

tblTripsAndVMT	WorkerTripNumber	15.00	5.00
tblTripsAndVMT	WorkerTripNumber	5.00	20.00
tblTripsAndVMT	WorkerTripNumber	8.00	20.00
tblTripsAndVMT	WorkerTripNumber	110.00	18.00
tblTripsAndVMT	WorkerTripNumber	22.00	2.00
tblTripsAndVMT	WorkerTripNumber	10.00	15.00
tblTripsAndVMT	WorkerTripNumber	18.00	15.00
tblTripsAndVMT	WorkerTripNumber	110.00	18.00
tblVehicleTrips	ST_TR	6.21	0.00
tblVehicleTrips	ST_TR	10.37	37.86
tblVehicleTrips	SU_TR	5.83	0.00
tblVehicleTrips	SU_TR	36.63	37.86
tblVehicleTrips	WD_TR	79.26	29.68
tblVehicleTrips	WD_TR	9.11	2.82

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					
2015	3.3924	27.2923	20.6880	0.0326	0.7538	1.6068	2.0766	0.1299	1.5212	1.6511	0.0000	3,217.6367	3,217.6367	0.5114	0.0000	3,228.3768
2016	55.0387	44.9427	29.9184	0.0426	6.7200	2.3210	9.0410	3.4120	2.1353	5.5473	0.0000	4,388.9571	4,388.9571	1.2833	0.0000	4,415.9053
2017	45.1769	41.5809	29.1062	0.0426	6.7200	2.1397	8.8597	3.4120	1.9685	5.3805	0.0000	4,314.9073	4,314.9073	1.2820	0.0000	4,341.8299
2018	44.7545	24.8252	21.9408	0.0378	0.5960	1.4105	2.0065	0.1616	1.3397	1.5014	0.0000	3,608.8013	3,608.8013	0.7013	0.0000	3,623.5284
2020	38.0432	18.9706	19.4137	0.0358	0.4924	0.9581	1.4505	0.1359	0.9130	1.0489	0.0000	3,311.2659	3,311.2659	0.4753	0.0000	3,321.2467

2021	37.8373	17.0971	19.0260	0.0358	0.4924	0.8241	1.3164	0.1359	0.7850	0.9209	0.0000	3,307.6786	3,307.6786	0.4656	0.0000	3,317.4567
2022	1.8112	15.4757	18.4299	0.0357	0.4830	0.7061	1.1891	0.1338	0.6665	0.8003	0.0000	3,309.9539	3,309.9539	0.4894	0.0000	3,320.2318
2023	1.6648	13.8691	18.0071	0.0352	0.4731	0.6176	1.0907	0.1311	0.5829	0.7140	0.0000	3,264.3161	3,264.3161	0.7007	0.0000	3,279.0298
Total	**227.7191**	**204.0536**	**176.5302**	**0.2981**	**16.7306**	**10.5839**	**27.0305**	**7.6519**	**9.9122**	**17.5641**	**0.0000**	**28,723.5168**	**28,723.5168**	**5.9090**	**0.0000**	**28,847.6054**

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					
2015	3.3924	27.2923	20.6880	0.0326	0.4699	1.6068	2.0766	0.1299	1.5212	1.6511	0.0000	3,217.6367	3,217.6367	0.5114	0.0000	3,228.3768
2016	55.0387	44.9427	29.9184	0.0426	2.7231	2.3210	5.0441	1.3578	2.1353	3.4931	0.0000	4,388.9571	4,388.9571	1.2833	0.0000	4,415.9053
2017	45.1769	41.5809	29.1062	0.0426	2.7231	2.1397	4.8628	1.3578	1.9685	3.3263	0.0000	4,314.9073	4,314.9073	1.2820	0.0000	4,341.8299
2018	44.7545	24.8252	21.9408	0.0378	0.5960	1.4105	2.0065	0.1616	1.3397	1.5014	0.0000	3,608.8013	3,608.8013	0.7013	0.0000	3,623.5284
2020	38.0432	18.9706	19.4137	0.0358	0.4924	0.9581	1.4505	0.1359	0.9130	1.0489	0.0000	3,311.2659	3,311.2659	0.4753	0.0000	3,321.2467
2021	37.8373	17.0971	19.0260	0.0358	0.4924	0.8241	1.3164	0.1359	0.7850	0.9209	0.0000	3,307.6786	3,307.6786	0.4656	0.0000	3,317.4567
2022	1.8112	15.4757	18.4299	0.0357	0.4830	0.7061	1.1891	0.1338	0.6665	0.8003	0.0000	3,309.9539	3,309.9539	0.4894	0.0000	3,320.2318
2023	1.6648	13.8691	18.0071	0.0352	0.4731	0.6176	1.0907	0.1311	0.5829	0.7140	0.0000	3,264.3161	3,264.3161	0.7007	0.0000	3,279.0298
Total	**227.7191**	**204.0536**	**176.5302**	**0.2981**	**8.4528**	**10.5839**	**19.0367**	**3.5436**	**9.9122**	**13.4558**	**0.0000**	**28,723.5167**	**28,723.5167**	**5.9090**	**0.0000**	**28,847.6054**

	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**	**49.48**	**0.00**	**29.57**	**53.69**	**0.00**	**23.39**	**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	6.6788	4.6000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1099	0.1099	2.9000e-004		0.1160
Energy	0.0550	0.5003	0.4202	3.0000e-003		0.0380	0.0380		0.0380	0.0380		600.3011	600.3011	0.0115	0.0110	603.9545
Mobile	6.8014	10.3349	56.3383	0.2007	14.6413	0.2191	14.8604	3.9076	0.2024	4.1100		14,520.0929	14,520.0929	0.4804		14,530.1809
Total	**13.5353**	**10.8356**	**56.8097**	**0.2037**	**14.6413**	**0.2573**	**14.8986**	**3.9076**	**0.2406**	**4.1482**		**15,120.5040**	**15,120.5040**	**0.4922**	**0.0110**	**15,134.2513**

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	6.6788	4.6000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1099	0.1099	2.9000e-004		0.1160
Energy	0.0550	0.5003	0.4202	3.0000e-003		0.0380	0.0380		0.0380	0.0380		600.3011	600.3011	0.0115	0.0110	603.9545
Mobile	6.8014	10.3349	56.3383	0.2007	14.6413	0.2191	14.8604	3.9076	0.2024	4.1100		14,520.0929	14,520.0929	0.4804		14,530.1809
Total	**13.5353**	**10.8356**	**56.8097**	**0.2037**	**14.6413**	**0.2573**	**14.8986**	**3.9076**	**0.2406**	**4.1482**		**15,120.5040**	**15,120.5040**	**0.4922**	**0.0110**	**15,134.2513**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 1A1 - Site Preparation	Site Preparation	5/1/2015	6/1/2015	5	22	13 months for phase 1A
2	Phase 1A2 - Excavation	Trenching	6/2/2015	7/31/2015	5	44	
3	Phase 1A3 - Grading	Grading	8/1/2015	10/1/2015	5	44	
4	Phase 1A5 - Building Construction	Building Construction	10/2/2015	5/31/2016	5	173	
5	Phase 1A4 - Architectural Coating	Architectural Coating	1/2/2016	5/31/2016	5	107	assume occurs during bldg. construction
6	Phase 1B - Demolition	Demolition	6/1/2016	8/31/2016	5	66	3 months for phase 1B
7	Phase 1B-E1 - Earthwork	Trenching	9/1/2016	11/30/2016	5	65	3 months for phase 1B-E1
8	Phase 1B-E2 - Grading	Grading	12/1/2016	2/28/2017	5	64	3 months for phase 1B-E2
9	Phase 1C - Building Construction	Building Construction	3/1/2017	1/31/2018	5	241	12 months for phase 1C
10	Phase 1C - Architectural Coating	Architectural Coating	8/1/2017	1/31/2018	5	132	assume occurs during bldg. construction
11	Phase 1C - Paving	Paving	2/1/2018	2/28/2018	5	20	
12	Phase 2 - Building 1 Construction	Building Construction	1/2/2020	12/31/2020	5	261	12 months for phase 2
13	Phase 2 - Architectural Coating	Architectural Coating	6/1/2020	12/31/2020	5	154	assume occurs during bldg. construction
14	Phase 3 - Building 2 Construction	Building Construction	1/2/2021	12/31/2021	5	260	12 months for phase 3
15	Phase 3 - Architectural Coating	Architectural Coating	6/1/2021	12/31/2021	5	154	assume occurs during bldg. construction
16	Phase 4 - Parking Str. Construction	Building Construction	1/2/2022	7/31/2022	5	150	7 months for phase 4
17	Phase 5 - Parking Str. Construction	Building Construction	1/2/2023	7/3/2023	5	131	7 months for phase 5
18	Phase 5 - Paving	Paving	7/4/2023	7/31/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 356,847; Non-Residential Outdoor: 118,949 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 1A1 - Site Preparation	Rubber Tired Dozers	0	8.00	255	0.40
Phase 1A1 - Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1A2 - Excavation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1A3 - Grading	Excavators	0	8.00	162	0.38
Phase 1A3 - Grading	Graders	1	8.00	174	0.41
Phase 1A3 - Grading	Rubber Tired Dozers	0	8.00	255	0.40
Phase 1A3 - Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1A5 - Building Construction	Cranes	1	7.00	226	0.29
Phase 1A5 - Building Construction	Forklifts	1	8.00	89	0.20
Phase 1A5 - Building Construction	Generator Sets	1	8.00	84	0.74
Phase 1A5 - Building Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 1A5 - Building Construction	Welders	1	8.00	46	0.45
Phase 1A4 - Architectural Coating	Air Compressors	1	6.00	78	0.48
Phase 1B - Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Phase 1B - Demolition	Excavators	0	8.00	162	0.38
Phase 1B - Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Phase 1B - Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1B-E1 - Earthwork	Excavators	2	8.00	162	0.38
Phase 1B-E1 - Earthwork	Graders	1	8.00	174	0.41
Phase 1B-E1 - Earthwork	Rubber Tired Dozers	1	8.00	255	0.40
Phase 1B-E1 - Earthwork	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1B-E2 - Grading	Bore/Drill Rigs	1	8.00	205	0.50
Phase 1B-E2 - Grading	Excavators	2	8.00	162	0.38
Phase 1B-E2 - Grading	Graders	1	8.00	174	0.41
Phase 1B-E2 - Grading	Rubber Tired Dozers	1	8.00	255	0.40
Phase 1B-E2 - Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1C - Building Construction	Cranes	1	7.00	226	0.29
Phase 1C - Building Construction	Forklifts	2	8.00	89	0.20

Phase 1C - Building Construction	Generator Sets	1	8.00	84	0.74
Phase 1C - Building Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 1C - Building Construction	Welders	1	8.00	46	0.45
Phase 1C - Architectural Coating	Air Compressors	1	6.00	78	0.48
Phase 1C - Paving	Pavers	2	8.00	125	0.42
Phase 1C - Paving	Paving Equipment	2	8.00	130	0.36
Phase 1C - Paving	Rollers	2	8.00	80	0.38
Phase 2 - Building 1 Construction	Cranes	1	7.00	226	0.29
Phase 2 - Building 1 Construction	Forklifts	1	8.00	89	0.20
Phase 2 - Building 1 Construction	Generator Sets	1	8.00	84	0.74
Phase 2 - Building 1 Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 2 - Building 1 Construction	Welders	1	8.00	46	0.45
Phase 2 - Architectural Coating	Air Compressors	1	6.00	78	0.48
Phase 3 - Building 2 Construction	Cranes	1	7.00	226	0.29
Phase 3 - Building 2 Construction	Forklifts	1	8.00	89	0.20
Phase 3 - Building 2 Construction	Generator Sets	1	8.00	84	0.74
Phase 3 - Building 2 Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 3 - Building 2 Construction	Welders	1	8.00	46	0.45
Phase 3 - Architectural Coating	Air Compressors	1	6.00	78	0.48
Phase 4 - Parking Str. Construction	Cranes	1	7.00	226	0.29
Phase 4 - Parking Str. Construction	Forklifts	2	8.00	89	0.20
Phase 4 - Parking Str. Construction	Generator Sets	1	8.00	84	0.74
Phase 4 - Parking Str. Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 4 - Parking Str. Construction	Welders	1	8.00	46	0.45
Phase 5 - Parking Str. Construction	Cranes	1	7.00	226	0.29
Phase 5 - Parking Str. Construction	Forklifts	2	8.00	89	0.20
Phase 5 - Parking Str. Construction	Generator Sets	1	8.00	84	0.74
Phase 5 - Parking Str. Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 5 - Parking Str. Construction	Welders	1	8.00	46	0.45
Phase 5 - Paving	Pavers	2	8.00	125	0.42

Phase 5 - Paving	Paving Equipment	2	8.00	130	0.36
Phase 5 - Paving	Rollers	2	8.00	80	0.38

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
Phase 1A1 - Site Preparation	2	20.00	0.00	88.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1A2 - Excavation	2	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1A3 - Grading	3	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1A5 - Building Construction	6	18.00	43.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1A4 - Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1B - Demolition	4	15.00	0.00	107.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1B-E1 - Earthwork	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1B-E2 - Grading	7	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1C - Building Construction	7	18.00	43.00	175.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1C - Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1C - Paving	6	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 - Building 1 Construction	6	18.00	43.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 - Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Building 2 Construction	6	18.00	43.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 4 - Parking Str. Construction	7	15.00	43.00	400.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 5 - Parking Str. Construction	7	15.00	43.00	275.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 5 - Paving	6	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Phase 1A1 - Site Preparation - 2015

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.7208	6.8643	4.8512	6.2300e-003		0.5373	0.5373		0.4943	0.4943		654.9753	654.9753	0.1955		659.0816
Total	**0.7208**	**6.8643**	**4.8512**	**6.2300e-003**	**0.0000**	**0.5373**	**0.5373**	**0.0000**	**0.4943**	**0.4943**		**654.9753**	**654.9753**	**0.1955**		**659.0816**

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	0.0864	1.2917	0.9691	2.9400e-003	0.0697	0.0208	0.0905	0.0191	0.0191	0.0382		299.1191	299.1191	2.3700e-003		299.1689
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	0.0804	0.1090	1.1403	2.5700e-003	0.2236	1.6200e-003	0.2252	0.0593	1.4900e-003	0.0608		222.7273	222.7273	0.0116		222.9699
Total	**0.1668**	**1.4007**	**2.1094**	**5.5100e-003**	**0.2932**	**0.0224**	**0.3156**	**0.0784**	**0.0206**	**0.0990**		**521.8464**	**521.8464**	**0.0139**		**522.1388**

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.7208	6.8643	4.8512	6.2300e-003		0.5373	0.5373		0.4943	0.4943	0.0000	654.9753	654.9753	0.1955		659.0816
Total	**0.7208**	**6.8643**	**4.8512**	**6.2300e-003**	**0.0000**	**0.5373**	**0.5373**	**0.0000**	**0.4943**	**0.4943**	**0.0000**	**654.9753**	**654.9753**	**0.1955**		**659.0816**

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	0.0864	1.2917	0.9691	2.9400e-003	0.0697	0.0208	0.0905	0.0191	0.0191	0.0382		299.1191	299.1191	2.3700e-003		299.1689
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	0.0804	0.1090	1.1403	2.5700e-003	0.2236	1.6200e-003	0.2252	0.0593	1.4900e-003	0.0608		222.7273	222.7273	0.0116		222.9699
Total	**0.1668**	**1.4007**	**2.1094**	**5.5100e-003**	**0.2932**	**0.0224**	**0.3156**	**0.0784**	**0.0206**	**0.0990**		**521.8464**	**521.8464**	**0.0139**		**522.1388**

3.3 Phase 1A2 - Excavation - 2015

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	0.7208	6.8643	4.8512	6.2300e-003		0.5373	0.5373		0.4943	0.4943		654.9753	654.9753	0.1955		659.0816
Total	**0.7208**	**6.8643**	**4.8512**	**6.2300e-003**		**0.5373**	**0.5373**		**0.4943**	**0.4943**		**654.9753**	**654.9753**	**0.1955**		**659.0816**

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	0.0804	0.1090	1.1403	2.5700e-003	0.2236	1.6200e-003	0.2252	0.0593	1.4900e-003	0.0608		222.7273	222.7273	0.0116		222.9699
Total	**0.0804**	**0.1090**	**1.1403**	**2.5700e-003**	**0.2236**	**1.6200e-003**	**0.2252**	**0.0593**	**1.4900e-003**	**0.0608**		**222.7273**	**222.7273**	**0.0116**		**222.9699**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7208	6.8643	4.8512	6.2300e-003		0.5373	0.5373		0.4943	0.4943	0.0000	654.9753	654.9753	0.1955		659.0816
Total	**0.7208**	**6.8643**	**4.8512**	**6.2300e-003**		**0.5373**	**0.5373**		**0.4943**	**0.4943**	**0.0000**	**654.9753**	**654.9753**	**0.1955**		**659.0816**

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	0.0804	0.1090	1.1403	2.5700e-003	0.2236	1.6200e-003	0.2252	0.0593	1.4900e-003	0.0608		222.7273	222.7273	0.0116		222.9699
Total	**0.0804**	**0.1090**	**1.1403**	**2.5700e-003**	**0.2236**	**1.6200e-003**	**0.2252**	**0.0593**	**1.4900e-003**	**0.0608**		**222.7273**	**222.7273**	**0.0116**		**222.9699**

3.4 Phase 1A3 - Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.7826	17.7321	9.8319	0.0125		1.1483	1.1483		1.0565	1.0565		1,312.0418	1,312.0418	0.3917		1,320.2675
Total	**1.7826**	**17.7321**	**9.8319**	**0.0125**	**0.5303**	**1.1483**	**1.6786**	**0.0573**	**1.0565**	**1.1137**		**1,312.0418**	**1,312.0418**	**0.3917**		**1,320.2675**

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	0.0804	0.1090	1.1403	2.5700e-003	0.2236	1.6200e-003	0.2252	0.0593	1.4900e-003	0.0608		222.7273	222.7273	0.0116		222.9699
Total	**0.0804**	**0.1090**	**1.1403**	**2.5700e-003**	**0.2236**	**1.6200e-003**	**0.2252**	**0.0593**	**1.4900e-003**	**0.0608**		**222.7273**	**222.7273**	**0.0116**		**222.9699**

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					0.2068	0.0000	0.2068	0.0223	0.0000	0.0223			0.0000			0.0000
Off-Road	1.7826	17.7321	9.8319	0.0125		1.1483	1.1483		1.0565	1.0565	0.0000	1,312.0418	1,312.0418	0.3917		1,320.2675
Total	**1.7826**	**17.7321**	**9.8319**	**0.0125**	**0.2068**	**1.1483**	**1.3551**	**0.0223**	**1.0565**	**1.0788**	**0.0000**	**1,312.0418**	**1,312.0418**	**0.3917**		**1,320.2675**

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	0.0804	0.1090	1.1403	2.5700e-003	0.2236	1.6200e-003	0.2252	0.0593	1.4900e-003	0.0608		222.7273	222.7273	0.0116		222.9699

Total	**0.0804**	**0.1090**	**1.1403**	**2.5700e-003**	**0.2236**	**1.6200e-003**	**0.2252**	**0.0593**	**1.4900e-003**	**0.0608**		**222.7273**	**222.7273**	**0.0116**		**222.9699**

3.5 Phase 1A5 - Building Construction - 2015

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	2.8612	22.8823	14.0708	0.0211		1.5335	1.5335		1.4538	1.4538		2,082.2920	2,082.2920	0.4935		2,092.6559
Total	**2.8612**	**22.8823**	**14.0708**	**0.0211**		**1.5335**	**1.5335**		**1.4538**	**1.4538**		**2,082.2920**	**2,082.2920**	**0.4935**		**2,092.6559**

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	0.4588	4.3119	5.5909	9.2500e-003	0.2687	0.0718	0.3405	0.0765	0.0660	0.1425		934.8902	934.8902	7.5200e-003		935.0481
Worker	0.0724	0.0981	1.0263	2.3100e-003	0.2012	1.4600e-003	0.2027	0.0534	1.3400e-003	0.0547		200.4546	200.4546	0.0104		200.6729
Total	**0.5312**	**4.4100**	**6.6172**	**0.0116**	**0.4699**	**0.0733**	**0.5431**	**0.1299**	**0.0674**	**0.1972**		**1,135.3448**	**1,135.3448**	**0.0179**		**1,135.7210**

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	2.8612	22.8823	14.0708	0.0211		1.5335	1.5335		1.4538	1.4538	0.0000	2,082.2920	2,082.2920	0.4935		2,092.6559
Total	**2.8612**	**22.8823**	**14.0708**	**0.0211**		**1.5335**	**1.5335**		**1.4538**	**1.4538**	**0.0000**	**2,082.2920**	**2,082.2920**	**0.4935**		**2,092.6559**

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	0.4588	4.3119	5.5909	9.2500e-003	0.2687	0.0718	0.3405	0.0765	0.0660	0.1425		934.8902	934.8902	7.5200e-003		935.0481
Worker	0.0724	0.0981	1.0263	2.3100e-003	0.2012	1.4600e-003	0.2027	0.0534	1.3400e-003	0.0547		200.4546	200.4546	0.0104		200.6729
Total	**0.5312**	**4.4100**	**6.6172**	**0.0116**	**0.4699**	**0.0733**	**0.5431**	**0.1299**	**0.0674**	**0.1972**		**1,135.3448**	**1,135.3448**	**0.0179**		**1,135.7210**

3.5 Phase 1A5 - Building Construction - 2016

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	2.6544	21.7516	13.8696	0.0210		1.4214	1.4214		1.3462	1.3462		2,068.6249	2,068.6249	0.4809		2,078.7227
Total	**2.6544**	**21.7516**	**13.8696**	**0.0210**		**1.4214**	**1.4214**		**1.3462**	**1.3462**		**2,068.6249**	**2,068.6249**	**0.4809**		**2,078.7227**

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	0.4168	3.8072	5.2820	9.2400e-003	0.2687	0.0596	0.3283	0.0765	0.0548	0.1313		924.6306	924.6306	6.8200e-003		924.7738
Worker	0.0657	0.0887	0.9308	2.3100e-003	0.2012	1.4100e-003	0.2026	0.0534	1.3000e-003	0.0547		193.4222	193.4222	9.6000e-003		193.6239
Total	**0.4825**	**3.8959**	**6.2128**	**0.0116**	**0.4699**	**0.0610**	**0.5309**	**0.1299**	**0.0561**	**0.1860**		**1,118.0528**	**1,118.0528**	**0.0164**		**1,118.3977**

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	2.6544	21.7516	13.8696	0.0210		1.4214	1.4214		1.3462	1.3462	0.0000	2,068.6249	2,068.6249	0.4809		2,078.7227
Total	**2.6544**	**21.7516**	**13.8696**	**0.0210**		**1.4214**	**1.4214**		**1.3462**	**1.3462**	**0.0000**	**2,068.6249**	**2,068.6249**	**0.4809**		**2,078.7227**

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	0.4168	3.8072	5.2820	9.2400e-003	0.2687	0.0596	0.3283	0.0765	0.0548	0.1313		924.6306	924.6306	6.8200e-003		924.7738
Worker	0.0657	0.0887	0.9308	2.3100e-003	0.2012	1.4100e-003	0.2026	0.0534	1.3000e-003	0.0547		193.4222	193.4222	9.6000e-003		193.6239
Total	**0.4825**	**3.8959**	**6.2128**	**0.0116**	**0.4699**	**0.0610**	**0.5309**	**0.1299**	**0.0561**	**0.1860**		**1,118.0528**	**1,118.0528**	**0.0164**		**1,118.3977**

3.6 Phase 1A4 - Architectural Coating - 2016

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	51.5260					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	**51.8945**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**		**281.4481**	**281.4481**	**0.0332**		**282.1449**

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	7.3000e-003	9.8600e-003	0.1034	2.6000e-004	0.0224	1.6000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		21.4914	21.4914	1.0700e-003		21.5138
Total	**7.3000e-003**	**9.8600e-003**	**0.1034**	**2.6000e-004**	**0.0224**	**1.6000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**21.4914**	**21.4914**	**1.0700e-003**		**21.5138**

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	51.5260					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449
Total	**51.8945**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**	**0.0000**	**281.4481**	**281.4481**	**0.0332**		**282.1449**

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	7.3000e-003	9.8600e-003	0.1034	2.6000e-004	0.0224	1.6000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		21.4914	21.4914	1.0700e-003		21.5138
Total	**7.3000e-003**	**9.8600e-003**	**0.1034**	**2.6000e-004**	**0.0224**	**1.6000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**21.4914**	**21.4914**	**1.0700e-003**		**21.5138**

3.7 Phase 1B - Demolition - 2016

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					0.3500	0.0000	0.3500	0.0530	0.0000	0.0530			0.0000			0.0000
Off-Road	2.5660	25.0028	19.0854	0.0214		1.4939	1.4939		1.4022	1.4022		2,163.4523	2,163.4523	0.5312		2,174.6067
Total	**2.5660**	**25.0028**	**19.0854**	**0.0214**	**0.3500**	**1.4939**	**1.8439**	**0.0530**	**1.4022**	**1.4552**		**2,163.4523**	**2,163.4523**	**0.5312**		**2,174.6067**

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	0.0317	0.4620	0.3721	1.1900e-003	0.0282	6.7300e-003	0.0350	7.7300e-003	6.1900e-003	0.0139		119.9004	119.9004	8.7000e-004		119.9186
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	0.0548	0.0739	0.7757	1.9300e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		161.1852	161.1852	8.0000e-003		161.3532
Total	**0.0865**	**0.5360**	**1.1478**	**3.1200e-003**	**0.1959**	**7.9000e-003**	**0.2038**	**0.0522**	**7.2700e-003**	**0.0595**		**281.0856**	**281.0856**	**8.8700e-003**		**281.2718**

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					0.1365	0.0000	0.1365	0.0207	0.0000	0.0207			0.0000			0.0000
Off-Road	2.5660	25.0028	19.0854	0.0214		1.4939	1.4939		1.4022	1.4022	0.0000	2,163.4523	2,163.4523	0.5312		2,174.6067
Total	**2.5660**	**25.0028**	**19.0854**	**0.0214**	**0.1365**	**1.4939**	**1.6304**	**0.0207**	**1.4022**	**1.4229**	**0.0000**	**2,163.4523**	**2,163.4523**	**0.5312**		**2,174.6067**

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	0.0317	0.4620	0.3721	1.1900e-003	0.0282	6.7300e-003	0.0350	7.7300e-003	6.1900e-003	0.0139		119.9004	119.9004	8.7000e-004		119.9186
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	0.0548	0.0739	0.7757	1.9300e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		161.1852	161.1852	8.0000e-003		161.3532
Total	**0.0865**	**0.5360**	**1.1478**	**3.1200e-003**	**0.1959**	**7.9000e-003**	**0.2038**	**0.0522**	**7.2700e-003**	**0.0595**		**281.0856**	**281.0856**	**8.8700e-003**		**281.2718**

3.8 Phase 1B-E1 - Earthwork - 2016

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	3.7145	39.6224	27.0945	0.0319		2.1658	2.1658		1.9925	1.9925		3,320.0297	3,320.0297	1.0014		3,341.0599
Total	**3.7145**	**39.6224**	**27.0945**	**0.0319**		**2.1658**	**2.1658**		**1.9925**	**1.9925**		**3,320.0297**	**3,320.0297**	**1.0014**		**3,341.0599**

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	0.0548	0.0739	0.7757	1.9300e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		161.1852	161.1852	8.0000e-003		161.3532
Total	**0.0548**	**0.0739**	**0.7757**	**1.9300e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0455**		**161.1852**	**161.1852**	**8.0000e-003**		**161.3532**

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	3.7145	39.6224	27.0945	0.0319		2.1658	2.1658		1.9925	1.9925	0.0000	3,320.0297	3,320.0297	1.0014		3,341.0599

Total	**3.7145**	**39.6224**	**27.0945**	**0.0319**		**2.1658**	**2.1658**		**1.9925**	**1.9925**	**0.0000**	**3,320.0297**	**3,320.0297**	**1.0014**		**3,341.0599**

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	0.0548	0.0739	0.7757	1.9300e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		161.1852	161.1852	8.0000e-003		161.3532
Total	**0.0548**	**0.0739**	**0.7757**	**1.9300e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0455**		**161.1852**	**161.1852**	**8.0000e-003**		**161.3532**

3.9 Phase 1B-E2 - Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	4.0626	44.8688	29.1427	0.0407		2.3198	2.3198		2.1342	2.1342		4,227.7719	4,227.7719	1.2753		4,254.5521
Total	**4.0626**	**44.8688**	**29.1427**	**0.0407**	**6.5523**	**2.3198**	**8.8722**	**3.3675**	**2.1342**	**5.5017**		**4,227.7719**	**4,227.7719**	**1.2753**		**4,254.5521**

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	0.0548	0.0739	0.7757	1.9300e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		161.1852	161.1852	8.0000e-003		161.3532
Total	**0.0548**	**0.0739**	**0.7757**	**1.9300e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0455**		**161.1852**	**161.1852**	**8.0000e-003**		**161.3532**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	4.0626	44.8688	29.1427	0.0407		2.3198	2.3198		2.1342	2.1342	0.0000	4,227.7719	4,227.7719	1.2753		4,254.5521
Total	**4.0626**	**44.8688**	**29.1427**	**0.0407**	**2.5554**	**2.3198**	**4.8752**	**1.3133**	**2.1342**	**3.4475**	**0.0000**	**4,227.7719**	**4,227.7719**	**1.2753**		**4,254.5521**

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	0.0548	0.0739	0.7757	1.9300e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0455		161.1852	161.1852	8.0000e-003		161.3532
Total	**0.0548**	**0.0739**	**0.7757**	**1.9300e-003**	**0.1677**	**1.1700e-003**	**0.1688**	**0.0445**	**1.0800e-003**	**0.0455**		**161.1852**	**161.1852**	**8.0000e-003**		**161.3532**

3.9 Phase 1B-E2 - Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	3.8146	41.5138	28.4008	0.0407		2.1386	2.1386		1.9675	1.9675		4,159.9617	4,159.9617	1.2746		4,186.7284
Total	**3.8146**	**41.5138**	**28.4008**	**0.0407**	**6.5523**	**2.1386**	**8.6909**	**3.3675**	**1.9675**	**5.3350**		**4,159.9617**	**4,159.9617**	**1.2746**		**4,186.7284**

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

	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	0.0498	0.0671	0.7054	1.9300e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		154.9456	154.9456	7.4300e-003		155.1015
Total	**0.0498**	**0.0671**	**0.7054**	**1.9300e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**154.9456**	**154.9456**	**7.4300e-003**		**155.1015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5554	0.0000	2.5554	1.3133	0.0000	1.3133			0.0000			0.0000
Off-Road	3.8146	41.5138	28.4008	0.0407		2.1386	2.1386		1.9675	1.9675	0.0000	4,159.9617	4,159.9617	1.2746		4,186.7284
Total	**3.8146**	**41.5138**	**28.4008**	**0.0407**	**2.5554**	**2.1386**	**4.6940**	**1.3133**	**1.9675**	**3.2808**	**0.0000**	**4,159.9617**	**4,159.9617**	**1.2746**		**4,186.7284**

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	0.0498	0.0671	0.7054	1.9300e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		154.9456	154.9456	7.4300e-003		155.1015
Total	**0.0498**	**0.0671**	**0.7054**	**1.9300e-003**	**0.1677**	**1.1500e-003**	**0.1688**	**0.0445**	**1.0600e-003**	**0.0455**		**154.9456**	**154.9456**	**7.4300e-003**		**155.1015**

3.10 Phase 1C - Building Construction - 2017

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	2.6142	21.9159	14.7854	0.0226		1.4302	1.4302		1.3501	1.3501		2,205.0687	2,205.0687	0.5165		2,215.9152
Total	**2.6142**	**21.9159**	**14.7854**	**0.0226**		**1.4302**	**1.4302**		**1.3501**	**1.3501**		**2,205.0687**	**2,205.0687**	**0.5165**		**2,215.9152**

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	0.0133	0.1898	0.1602	5.3000e-004	0.0137	2.7600e-003	0.0164	3.7100e-003	2.5400e-003	6.2500e-003		52.8172	52.8172	3.8000e-004		52.8252
Vendor	0.3833	3.4618	5.0113	9.2300e-003	0.2688	0.0532	0.3219	0.0766	0.0489	0.1254		909.5615	909.5615	6.6100e-003		909.7004
Worker	0.0598	0.0806	0.8465	2.3100e-003	0.2012	1.3700e-003	0.2026	0.0534	1.2700e-003	0.0546		185.9347	185.9347	8.9100e-003		186.1218
Total	**0.4564**	**3.7322**	**6.0180**	**0.0121**	**0.4837**	**0.0573**	**0.5409**	**0.1336**	**0.0527**	**0.1863**		**1,148.3133**	**1,148.3133**	**0.0159**		**1,148.6474**

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	2.6142	21.9159	14.7854	0.0226		1.4302	1.4302		1.3501	1.3501	0.0000	2,205.0687	2,205.0687	0.5165		2,215.9152
Total	**2.6142**	**21.9159**	**14.7854**	**0.0226**		**1.4302**	**1.4302**		**1.3501**	**1.3501**	**0.0000**	**2,205.0687**	**2,205.0687**	**0.5165**		**2,215.9152**

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	0.0133	0.1898	0.1602	5.3000e-004	0.0137	2.7600e-003	0.0164	3.7100e-003	2.5400e-003	6.2500e-003		52.8172	52.8172	3.8000e-004		52.8252
Vendor	0.3833	3.4618	5.0113	9.2300e-003	0.2688	0.0532	0.3219	0.0766	0.0489	0.1254		909.5615	909.5615	6.6100e-003		909.7004
Worker	0.0598	0.0806	0.8465	2.3100e-003	0.2012	1.3700e-003	0.2026	0.0534	1.2700e-003	0.0546		185.9347	185.9347	8.9100e-003		186.1218
Total	**0.4564**	**3.7322**	**6.0180**	**0.0121**	**0.4837**	**0.0573**	**0.5409**	**0.1336**	**0.0527**	**0.1863**		**1,148.3133**	**1,148.3133**	**0.0159**		**1,148.6474**

3.10 Phase 1C - Building Construction - 2018

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	2.2577	19.3853	14.2768	0.0226		1.2056	1.2056		1.1392	1.1392		2,182.4724	2,182.4724	0.5056		2,193.0906
Total	**2.2577**	**19.3853**	**14.2768**	**0.0226**		**1.2056**	**1.2056**		**1.1392**	**1.1392**		**2,182.4724**	**2,182.4724**	**0.5056**		**2,193.0906**

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	0.0129	0.1762	0.1561	5.3000e-004	0.1037	2.7600e-003	0.1064	0.0258	2.5400e-003	0.0283		51.9337	51.9337	3.9000e-004		51.9418
Vendor	0.3575	3.1763	4.7950	9.2100e-003	0.2688	0.0501	0.3188	0.0765	0.0460	0.1226		894.1015	894.1015	6.5900e-003		894.2398
Worker	0.0545	0.0735	0.7728	2.3100e-003	0.2012	1.3600e-003	0.2026	0.0534	1.2600e-003	0.0546		178.9606	178.9606	8.3200e-003		179.1353
Total	**0.4248**	**3.4259**	**5.7240**	**0.0121**	**0.5736**	**0.0542**	**0.6278**	**0.1557**	**0.0498**	**0.2056**		**1,124.9958**	**1,124.9958**	**0.0153**		**1,125.3169**

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	2.2577	19.3853	14.2768	0.0226		1.2056	1.2056		1.1392	1.1392	0.0000	2,182.4724	2,182.4724	0.5056		2,193.0906
Total	**2.2577**	**19.3853**	**14.2768**	**0.0226**		**1.2056**	**1.2056**		**1.1392**	**1.1392**	**0.0000**	**2,182.4724**	**2,182.4724**	**0.5056**		**2,193.0906**

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	0.0129	0.1762	0.1561	5.3000e-004	0.1037	2.7600e-003	0.1064	0.0258	2.5400e-003	0.0283		51.9337	51.9337	3.9000e-004		51.9418
Vendor	0.3575	3.1763	4.7950	9.2100e-003	0.2688	0.0501	0.3188	0.0765	0.0460	0.1226		894.1015	894.1015	6.5900e-003		894.2398
Worker	0.0545	0.0735	0.7728	2.3100e-003	0.2012	1.3600e-003	0.2026	0.0534	1.2600e-003	0.0546		178.9606	178.9606	8.3200e-003		179.1353
Total	**0.4248**	**3.4259**	**5.7240**	**0.0121**	**0.5736**	**0.0542**	**0.6278**	**0.1557**	**0.0498**	**0.2056**		**1,124.9958**	**1,124.9958**	**0.0153**		**1,125.3169**

3.11 Phase 1C - Architectural Coating - 2017

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					
Archit. Coating	41.7673					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**42.0996**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

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	6.6400e-003	8.9500e-003	0.0941	2.6000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		20.6594	20.6594	9.9000e-004		20.6802
Total	**6.6400e-003**	**8.9500e-003**	**0.0941**	**2.6000e-004**	**0.0224**	**1.5000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**20.6594**	**20.6594**	**9.9000e-004**		**20.6802**

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	41.7673					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**42.0996**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

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	6.6400e-003	8.9500e-003	0.0941	2.6000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		20.6594	20.6594	9.9000e-004		20.6802

Total	**6.6400e-003**	**8.9500e-003**	**0.0941**	**2.6000e-004**	**0.0224**	**1.5000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**20.6594**	**20.6594**	**9.9000e-004**		**20.6802**

3.11 Phase 1C - Architectural Coating - 2018

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	41.7673					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**42.0660**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

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	6.0500e-003	8.1700e-003	0.0859	2.6000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		19.8845	19.8845	9.2000e-004		19.9039
Total	**6.0500e-003**	**8.1700e-003**	**0.0859**	**2.6000e-004**	**0.0224**	**1.5000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**19.8845**	**19.8845**	**9.2000e-004**		**19.9039**

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	41.7673					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.0102
Total	**42.0660**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.0102**

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	6.0500e-003	8.1700e-003	0.0859	2.6000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		19.8845	19.8845	9.2000e-004		19.9039
Total	**6.0500e-003**	**8.1700e-003**	**0.0859**	**2.6000e-004**	**0.0224**	**1.5000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**19.8845**	**19.8845**	**9.2000e-004**		**19.9039**

3.12 Phase 1C - Paving - 2018

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					

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
Off-Road	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.0694					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6808**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

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	0.0151	0.0204	0.2147	6.4000e-004	0.0559	3.8000e-004	0.0563	0.0148	3.5000e-004	0.0152		49.7113	49.7113	2.3100e-003		49.7598
Total	**0.0151**	**0.0204**	**0.2147**	**6.4000e-004**	**0.0559**	**3.8000e-004**	**0.0563**	**0.0148**	**3.5000e-004**	**0.0152**		**49.7113**	**49.7113**	**2.3100e-003**		**49.7598**

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	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635	0.0000	2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.0694					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6808**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**	**0.0000**	**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

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	0.0151	0.0204	0.2147	6.4000e-004	0.0559	3.8000e-004	0.0563	0.0148	3.5000e-004	0.0152		49.7113	49.7113	2.3100e-003		49.7598
Total	**0.0151**	**0.0204**	**0.2147**	**6.4000e-004**	**0.0559**	**3.8000e-004**	**0.0563**	**0.0148**	**3.5000e-004**	**0.0152**		**49.7113**	**49.7113**	**2.3100e-003**		**49.7598**

3.13 Phase 2 - Building 1 Construction - 2020

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	1.6399	14.6469	12.4532	0.0210		0.8030	0.8030		0.7614	0.7614		1,983.2458	1,983.2458	0.4386		1,992.4557
Total	**1.6399**	**14.6469**	**12.4532**	**0.0210**		**0.8030**	**0.8030**		**0.7614**	**0.7614**		**1,983.2458**	**1,983.2458**	**0.4386**		**1,992.4557**

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	0.3070	2.5692	4.3795	9.2100e-003	0.2688	0.0426	0.3114	0.0766	0.0392	0.1158		861.6545	861.6545	6.5100e-003		861.7913
Worker	0.0482	0.0636	0.6747	2.3200e-003	0.2012	1.3800e-003	0.2026	0.0534	1.2800e-003	0.0546		166.4258	166.4258	7.5600e-003		166.5846
Total	**0.3552**	**2.6328**	**5.0542**	**0.0115**	**0.4700**	**0.0440**	**0.5140**	**0.1299**	**0.0405**	**0.1704**		**1,028.0803**	**1,028.0803**	**0.0141**		**1,028.3759**

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	1.6399	14.6469	12.4532	0.0210		0.8030	0.8030		0.7614	0.7614	0.0000	1,983.2458	1,983.2458	0.4386		1,992.4557
Total	**1.6399**	**14.6469**	**12.4532**	**0.0210**		**0.8030**	**0.8030**		**0.7614**	**0.7614**	**0.0000**	**1,983.2458**	**1,983.2458**	**0.4386**		**1,992.4557**

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	0.3070	2.5692	4.3795	9.2100e-003	0.2688	0.0426	0.3114	0.0766	0.0392	0.1158		861.6545	861.6545	6.5100e-003		861.7913
Worker	0.0482	0.0636	0.6747	2.3200e-003	0.2012	1.3800e-003	0.2026	0.0534	1.2800e-003	0.0546		166.4258	166.4258	7.5600e-003		166.5846
Total	**0.3552**	**2.6328**	**5.0542**	**0.0115**	**0.4700**	**0.0440**	**0.5140**	**0.1299**	**0.0405**	**0.1704**		**1,028.0803**	**1,028.0803**	**0.0141**		**1,028.3759**

3.14 Phase 2 - Architectural Coating - 2020

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	35.8006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9057
Total	**36.0427**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9057**

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	5.3500e-003	7.0700e-003	0.0750	2.6000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		18.4918	18.4918	8.4000e-004		18.5094
Total	**5.3500e-003**	**7.0700e-003**	**0.0750**	**2.6000e-004**	**0.0224**	**1.5000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**18.4918**	**18.4918**	**8.4000e-004**		**18.5094**

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	35.8006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9057
Total	**36.0427**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9057**

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	5.3500e-003	7.0700e-003	0.0750	2.6000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		18.4918	18.4918	8.4000e-004		18.5094
Total	**5.3500e-003**	**7.0700e-003**	**0.0750**	**2.6000e-004**	**0.0224**	**1.5000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**18.4918**	**18.4918**	**8.4000e-004**		**18.5094**

3.15 Phase 3 - Building 2 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	1.4706	13.3232	12.2242	0.0210		0.6897	0.6897		0.6539	0.6539		1,983.4325	1,983.4325	0.4317		1,992.4979
Total	**1.4706**	**13.3232**	**12.2242**	**0.0210**		**0.6897**	**0.6897**		**0.6539**	**0.6539**		**1,983.4325**	**1,983.4325**	**0.4317**		**1,992.4979**

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	0.2964	2.1807	4.2770	9.2000e-003	0.2688	0.0387	0.3075	0.0766	0.0356	0.1122		860.9286	860.9286	6.5600e-003		861.0663
Worker	0.0458	0.0597	0.6365	2.3200e-003	0.2012	1.3900e-003	0.2026	0.0534	1.2900e-003	0.0547		163.6825	163.6825	7.2600e-003		163.8349
Total	**0.3422**	**2.2405**	**4.9135**	**0.0115**	**0.4700**	**0.0401**	**0.5101**	**0.1299**	**0.0369**	**0.1668**		**1,024.6111**	**1,024.6111**	**0.0138**		**1,024.9012**

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	1.4706	13.3232	12.2242	0.0210		0.6897	0.6897		0.6539	0.6539	0.0000	1,983.4325	1,983.4325	0.4317		1,992.4979

Total	**1.4706**	**13.3232**	**12.2242**	**0.0210**		**0.6897**	**0.6897**		**0.6539**	**0.6539**	**0.0000**	**1,983.4325**	**1,983.4325**	**0.4317**		**1,992.4979**

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	0.2964	2.1807	4.2770	9.2000e-003	0.2688	0.0387	0.3075	0.0766	0.0356	0.1122		860.9286	860.9286	6.5600e-003		861.0663
Worker	0.0458	0.0597	0.6365	2.3200e-003	0.2012	1.3900e-003	0.2026	0.0534	1.2900e-003	0.0547		163.6825	163.6825	7.2600e-003		163.8349
Total	**0.3422**	**2.2405**	**4.9135**	**0.0115**	**0.4700**	**0.0401**	**0.5101**	**0.1299**	**0.0369**	**0.1668**		**1,024.6111**	**1,024.6111**	**0.0138**		**1,024.9012**

3.16 Phase 3 - Architectural Coating - 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					
Archit. Coating	35.8006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.8537
Total	**36.0195**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.8537**

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	5.0900e-003	6.6400e-003	0.0707	2.6000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		18.1870	18.1870	8.1000e-004		18.2039
Total	**5.0900e-003**	**6.6400e-003**	**0.0707**	**2.6000e-004**	**0.0224**	**1.5000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**18.1870**	**18.1870**	**8.1000e-004**		**18.2039**

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	35.8006					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.8537
Total	**36.0195**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.8537**

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	5.0900e-003	6.6400e-003	0.0707	2.6000e-004	0.0224	1.5000e-004	0.0225	5.9300e-003	1.4000e-004	6.0700e-003		18.1870	18.1870	8.1000e-004		18.2039
Total	**5.0900e-003**	**6.6400e-003**	**0.0707**	**2.6000e-004**	**0.0224**	**1.5000e-004**	**0.0225**	**5.9300e-003**	**1.4000e-004**	**6.0700e-003**		**18.1870**	**18.1870**	**8.1000e-004**		**18.2039**

3.17 Phase 4 - Parking Str. 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	1.4415	13.0153	13.2156	0.0226		0.6570	0.6570		0.6213	0.6213		2,132.1348	2,132.1348	0.4754		2,142.1181
Total	**1.4415**	**13.0153**	**13.2156**	**0.0226**		**0.6570**	**0.6570**		**0.6213**	**0.6213**		**2,132.1348**	**2,132.1348**	**0.4754**		**2,142.1181**

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	0.0431	0.4340	0.5319	1.9500e-003	0.0465	9.6600e-003	0.0561	0.0127	8.8900e-003	0.0216		183.4362	183.4362	1.5100e-003		183.4679
Vendor	0.2902	1.9794	4.1808	9.1900e-003	0.2689	0.0383	0.3071	0.0766	0.0352	0.1118		860.2043	860.2043	6.7000e-003		860.3451

	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	0.0364	0.0470	0.5016	1.9400e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		134.1787	134.1787	5.8100e-003		134.3008
Total	**0.3697**	**2.4604**	**5.2143**	**0.0131**	**0.4830**	**0.0491**	**0.5321**	**0.1338**	**0.0452**	**0.1790**		**1,177.8191**	**1,177.8191**	**0.0140**		**1,178.1137**

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	1.4415	13.0153	13.2156	0.0226		0.6570	0.6570		0.6213	0.6213	0.0000	2,132.1348	2,132.1348	0.4754		2,142.1181
Total	**1.4415**	**13.0153**	**13.2156**	**0.0226**		**0.6570**	**0.6570**		**0.6213**	**0.6213**	**0.0000**	**2,132.1348**	**2,132.1348**	**0.4754**		**2,142.1181**

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	0.0431	0.4340	0.5319	1.9500e-003	0.0465	9.6600e-003	0.0561	0.0127	8.8900e-003	0.0216		183.4362	183.4362	1.5100e-003		183.4679
Vendor	0.2902	1.9794	4.1808	9.1900e-003	0.2689	0.0383	0.3071	0.0766	0.0352	0.1118		860.2043	860.2043	6.7000e-003		860.3451
Worker	0.0364	0.0470	0.5016	1.9400e-003	0.1677	1.1700e-003	0.1688	0.0445	1.0800e-003	0.0456		134.1787	134.1787	5.8100e-003		134.3008
Total	**0.3697**	**2.4604**	**5.2143**	**0.0131**	**0.4830**	**0.0491**	**0.5321**	**0.1338**	**0.0452**	**0.1790**		**1,177.8191**	**1,177.8191**	**0.0140**		**1,178.1137**

3.18 Phase 5 - Parking Str. Construction - 2023

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	1.3311	12.0092	13.1121	0.0226		0.5711	0.5711		0.5401	0.5401		2,132.7160	2,132.7160	0.4712		2,142.6112
Total	**1.3311**	**12.0092**	**13.1121**	**0.0226**		**0.5711**	**0.5711**		**0.5401**	**0.5401**		**2,132.7160**	**2,132.7160**	**0.4712**		**2,142.6112**

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	0.0301	0.2438	0.3970	1.5200e-003	0.0366	7.5600e-003	0.0442	0.0100	6.9600e-003	0.0170		143.3672	143.3672	1.0300e-003		143.3888
Vendor	0.2689	1.5716	4.0226	9.1500e-003	0.2689	0.0378	0.3067	0.0766	0.0348	0.1114		856.0689	856.0689	6.0500e-003		856.1959
Worker	0.0347	0.0445	0.4755	1.9400e-003	0.1677	1.1800e-003	0.1688	0.0445	1.0900e-003	0.0456		132.1640	132.1640	5.6100e-003		132.2818
Total	**0.3337**	**1.8599**	**4.8950**	**0.0126**	**0.4731**	**0.0465**	**0.5197**	**0.1311**	**0.0428**	**0.1739**		**1,131.6001**	**1,131.6001**	**0.0127**		**1,131.8664**

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	1.3311	12.0092	13.1121	0.0226		0.5711	0.5711		0.5401	0.5401	0.0000	2,132.7160	2,132.7160	0.4712		2,142.6112
Total	**1.3311**	**12.0092**	**13.1121**	**0.0226**		**0.5711**	**0.5711**		**0.5401**	**0.5401**	**0.0000**	**2,132.7160**	**2,132.7160**	**0.4712**		**2,142.6112**

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	0.0301	0.2438	0.3970	1.5200e-003	0.0366	7.5600e-003	0.0442	0.0100	6.9600e-003	0.0170		143.3672	143.3672	1.0300e-003		143.3888
Vendor	0.2689	1.5716	4.0226	9.1500e-003	0.2689	0.0378	0.3067	0.0766	0.0348	0.1114		856.0689	856.0689	6.0500e-003		856.1959
Worker	0.0347	0.0445	0.4755	1.9400e-003	0.1677	1.1800e-003	0.1688	0.0445	1.0900e-003	0.0456		132.1640	132.1640	5.6100e-003		132.2818
Total	**0.3337**	**1.8599**	**4.8950**	**0.0126**	**0.4731**	**0.0465**	**0.5197**	**0.1311**	**0.0428**	**0.1739**		**1,131.6001**	**1,131.6001**	**0.0127**		**1,131.8664**

3.19 Phase 5 - Paving - 2023

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	1.0128	9.9983	14.2850	0.0223		0.5010	0.5010		0.4609	0.4609		2,160.6139	2,160.6139	0.6988		2,175.2884
Paving	0.0694					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Total	**1.0822**	**9.9983**	**14.2850**	**0.0223**		**0.5010**	**0.5010**		**0.4609**	**0.4609**		**2,160.6139**	**2,160.6139**	**0.6988**		**2,175.2884**

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	0.0116	0.0148	0.1585	6.5000e-004	0.0559	3.9000e-004	0.0563	0.0148	3.6000e-004	0.0152		44.0547	44.0547	1.8700e-003		44.0939
Total	**0.0116**	**0.0148**	**0.1585**	**6.5000e-004**	**0.0559**	**3.9000e-004**	**0.0563**	**0.0148**	**3.6000e-004**	**0.0152**		**44.0547**	**44.0547**	**1.8700e-003**		**44.0939**

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	1.0128	9.9983	14.2850	0.0223		0.5010	0.5010		0.4609	0.4609	0.0000	2,160.6139	2,160.6139	0.6988		2,175.2884
Paving	0.0694					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0822**	**9.9983**	**14.2850**	**0.0223**		**0.5010**	**0.5010**		**0.4609**	**0.4609**	**0.0000**	**2,160.6139**	**2,160.6139**	**0.6988**		**2,175.2884**

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	0.0116	0.0148	0.1585	6.5000e-004	0.0559	3.9000e-004	0.0563	0.0148	3.6000e-004	0.0152		44.0547	44.0547	1.8700e-003		44.0939
Total	**0.0116**	**0.0148**	**0.1585**	**6.5000e-004**	**0.0559**	**3.9000e-004**	**0.0563**	**0.0148**	**3.6000e-004**	**0.0152**		**44.0547**	**44.0547**	**1.8700e-003**		**44.0939**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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					
Mitigated	6.8014	10.3349	56.3383	0.2007	14.6413	0.2191	14.8604	3.9076	0.2024	4.1100		14,520.0929	14,520.0929	0.4804		14,530.1809
Unmitigated	6.8014	10.3349	56.3383	0.2007	14.6413	0.2191	14.8604	3.9076	0.2024	4.1100		14,520.0929	14,520.0929	0.4804		14,530.1809

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Day-Care Center	230.02	0.00	0.00	238,905	238,905
Other Non-Asphalt Surfaces	0.00	0.00	0.00		

Parking Lot	0.00	0.00	0.00		
Place of Worship	230.17	3,090.13	3090.13	2,233,673	2,233,673
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	460.19	3,090.13	3,090.13	2,472,578	2,472,578

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
Day-Care Center	16.60	8.40	6.90	12.70	82.30	5.00	28	58	14
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Unenclosed Parking Structure	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.500282	0.057001	0.196753	0.152945	0.042333	0.006070	0.016337	0.017415	0.001474	0.002202	0.004129	0.000486	0.002572

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0550	0.5003	0.4202	3.0000e-003		0.0380	0.0380		0.0380	0.0380		600.3011	600.3011	0.0115	0.0110	603.9545
NaturalGas Unmitigated	0.0550	0.5003	0.4202	3.0000e-003		0.0380	0.0380		0.0380	0.0380		600.3011	600.3011	0.0115	0.0110	603.9545

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					
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
Place of Worship	4839.06	0.0522	0.4744	0.3985	2.8500e-003		0.0361	0.0361		0.0361	0.0361		569.3011	569.3011	0.0109	0.0104	572.7658
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
Day-Care Center	263.5	2.8400e-003	0.0258	0.0217	1.6000e-004		1.9600e-003	1.9600e-003		1.9600e-003	1.9600e-003		31.0000	31.0000	5.9000e-004	5.7000e-004	31.1887
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0550**	**0.5003**	**0.4202**	**3.0100e-003**		**0.0380**	**0.0380**		**0.0380**	**0.0380**		**600.3011**	**600.3011**	**0.0115**	**0.0110**	**603.9545**

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					
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
Place of Worship	4.83906	0.0522	0.4744	0.3985	2.8500e-003		0.0361	0.0361		0.0361	0.0361		569.3011	569.3011	0.0109	0.0104	572.7658
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
Day-Care Center	0.2635	2.8400e-003	0.0258	0.0217	1.6000e-004		1.9600e-003	1.9600e-003		1.9600e-003	1.9600e-003		31.0000	31.0000	5.9000e-004	5.7000e-004	31.1887
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Total		**0.0550**	**0.5003**	**0.4202**	**3.0100e-003**		**0.0380**	**0.0380**		**0.0380**	**0.0380**		**600.3011**	**600.3011**	**0.0115**	**0.0110**	**603.9545**

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	6.6788	4.6000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1099	0.1099	2.9000e-004		0.1160
Unmitigated	6.6788	4.6000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1099	0.1099	2.9000e-004		0.1160

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	1.5105					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.1636					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.7100e-003	4.6000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1099	0.1099	2.9000e-004		0.1160
Total	**6.6788**	**4.6000e-004**	**0.0512**	**0.0000**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**		**0.1099**	**0.1099**	**2.9000e-004**		**0.1160**

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	1.5105					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.1636					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.7100e-003	4.6000e-004	0.0512	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.1099	0.1099	2.9000e-004		0.1160
Total	**6.6788**	**4.6000e-004**	**0.0512**	**0.0000**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**		**0.1099**	**0.1099**	**2.9000e-004**		**0.1160**

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 Vegetation

South Shores Church Master Plan

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Day-Care Center	7.75	1000sqft	0.18	7,750.00	0
Place of Worship	81.62	1000sqft	1.87	81,620.00	0
Other Non-Asphalt Surfaces	2.00	Acre	2.00	87,120.00	0
Parking Lot	59.00	Space	0.53	23,600.00	0
Unenclosed Parking Structure	352.00	Space	1.40	60,700.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Parking structure 2-story, area from site plan. Total site about 6 acres.

Construction Phase - Per project description.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment -

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Installing Tie-downs

Off-road Equipment -

Off-road Equipment - Equipment per project plans.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Equipment per project plans.

Off-road Equipment -

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment - Equipment per project plans.

Off-road Equipment -

Trips and VMT - Worker numbers per project plans and traffic study. Added haul trips to Phases 1C, 4 and 5 for 3,500, 8,000 and 5,500 cy soil import or export each, respectively (20 cy capacity)

Demolition -

Grading - There will be soil export during Phases 1C, 4 and 5, but in lesser amounts than during Phase 1B.

Vehicle Trips - Traffic study shows weekday peak hour of 18 new trips and Sunday of 106 new trips and used a hour-daily factor of 10.

Construction Off-road Equipment Mitigation - Dust control measures as required by SCAQMD Rule 403

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	132.00
tblConstructionPhase	NumDays	20.00	154.00
tblConstructionPhase	NumDays	20.00	154.00
tblConstructionPhase	NumDays	20.00	107.00
tblConstructionPhase	NumDays	230.00	261.00
tblConstructionPhase	NumDays	230.00	260.00
tblConstructionPhase	NumDays	230.00	150.00
tblConstructionPhase	NumDays	230.00	131.00
tblConstructionPhase	NumDays	230.00	173.00

tblConstructionPhase	NumDays	230.00	241.00
tblConstructionPhase	NumDays	20.00	66.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	20.00	64.00
tblConstructionPhase	NumDays	10.00	22.00
tblConstructionPhase	PhaseEndDate	8/3/2018	1/31/2018
tblConstructionPhase	PhaseEndDate	8/4/2021	12/31/2020
tblConstructionPhase	PhaseEndDate	8/4/2022	12/31/2021
tblConstructionPhase	PhaseEndDate	10/27/2016	5/31/2016
tblConstructionPhase	PhaseEndDate	2/28/2019	12/31/2020
tblConstructionPhase	PhaseEndDate	12/30/2021	12/31/2021
tblConstructionPhase	PhaseEndDate	7/29/2022	7/31/2022
tblConstructionPhase	PhaseEndDate	1/30/2023	7/3/2023
tblConstructionPhase	PhaseStartDate	2/1/2018	8/1/2017
tblConstructionPhase	PhaseStartDate	1/1/2021	6/1/2020
tblConstructionPhase	PhaseStartDate	1/1/2022	6/1/2021
tblConstructionPhase	PhaseStartDate	6/1/2016	1/2/2016
tblConstructionPhase	PhaseStartDate	3/1/2018	1/2/2020
tblConstructionPhase	PhaseStartDate	1/1/2021	1/2/2021
tblConstructionPhase	PhaseStartDate	1/1/2022	1/2/2022
tblConstructionPhase	PhaseStartDate	8/1/2022	1/2/2023
tblGrading	MaterialExported	0.00	17,000.00
tblLandUse	LandUseSquareFeet	140,800.00	60,700.00
tblLandUse	LotAcreage	3.17	1.40
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2025
tblTripsAndVMT	HaulingTripNumber	0.00	88.00
tblTripsAndVMT	HaulingTripNumber	0.00	400.00
tblTripsAndVMT	HaulingTripNumber	0.00	275.00
tblTripsAndVMT	HaulingTripNumber	1,681.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	175.00
tblTripsAndVMT	WorkerTripNumber	5.00	20.00
tblTripsAndVMT	WorkerTripNumber	22.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	5.00
tblTripsAndVMT	WorkerTripNumber	110.00	18.00
tblTripsAndVMT	WorkerTripNumber	22.00	2.00
tblTripsAndVMT	WorkerTripNumber	110.00	18.00
tblTripsAndVMT	WorkerTripNumber	22.00	2.00
tblTripsAndVMT	WorkerTripNumber	110.00	15.00
tblTripsAndVMT	WorkerTripNumber	110.00	15.00

tblTripsAndVMT	WorkerTripNumber	15.00	5.00
tblTripsAndVMT	WorkerTripNumber	5.00	20.00
tblTripsAndVMT	WorkerTripNumber	8.00	20.00
tblTripsAndVMT	WorkerTripNumber	110.00	18.00
tblTripsAndVMT	WorkerTripNumber	22.00	2.00
tblTripsAndVMT	WorkerTripNumber	10.00	15.00
tblTripsAndVMT	WorkerTripNumber	18.00	15.00
tblTripsAndVMT	WorkerTripNumber	110.00	18.00
tblVehicleTrips	ST_TR	6.21	0.00
tblVehicleTrips	ST_TR	10.37	37.86
tblVehicleTrips	SU_TR	5.83	0.00
tblVehicleTrips	SU_TR	36.63	37.86
tblVehicleTrips	WD_TR	79.26	29.68
tblVehicleTrips	WD_TR	9.11	2.82

2.0 Emissions Summary

2.1 Overall Construction

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	tons/yr										MT/yr					
2015	0.1776	1.5271	1.1167	1.7200e-003	0.0395	0.0955	0.1350	8.8300e-003	0.0893	0.0981	0.0000	155.1547	155.1547	0.0294	0.0000	155.7710
2016	3.2001	4.1443	3.0839	4.3200e-003	0.2609	0.2361	0.4970	0.1203	0.2210	0.3414	0.0000	390.9855	390.9855	0.0848	0.0000	392.7652
2017	2.7086	3.7965	2.9645	4.8500e-003	0.2662	0.2165	0.4827	0.1234	0.2037	0.3270	0.0000	429.5214	429.5214	0.0786	0.0000	431.1715
2018	0.5314	0.4581	0.3972	6.7000e-004	7.2900e-003	0.0256	0.0329	1.9800e-003	0.0240	0.0260	0.0000	58.5541	58.5541	0.0121	0.0000	58.8078
2020	3.0344	2.3920	2.4056	4.5100e-003	0.0620	0.1191	0.1811	0.0172	0.1132	0.1303	0.0000	378.2797	378.2797	0.0552	0.0000	379.4379

2021	3.0079	2.1470	2.3473	4.4900e-003	0.0618	0.1021	0.1639	0.0171	0.0970	0.1141	0.0000	376.4974	376.4974	0.0539	0.0000	377.6299
2022	0.1349	1.1642	1.3655	2.6800e-003	0.0356	0.0529	0.0886	9.8900e-003	0.0500	0.0599	0.0000	225.6521	225.6521	0.0333	0.0000	226.3512
2023	0.1192	1.0109	1.3098	2.5400e-003	0.0310	0.0455	0.0765	8.6100e-003	0.0428	0.0514	0.0000	214.3593	214.3593	0.0351	0.0000	215.0964
Total	**12.9142**	**16.6400**	**14.9906**	**0.0258**	**0.7644**	**0.8933**	**1.6577**	**0.3073**	**0.8410**	**1.1482**	**0.0000**	**2,229.0042**	**2,229.0042**	**0.3822**	**0.0000**	**2,237.0311**

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	tons/yr										MT/yr					
2015	0.1776	1.5271	1.1167	1.7200e-003	0.0324	0.0955	0.1279	8.0600e-003	0.0893	0.0973	0.0000	155.1546	155.1546	0.0294	0.0000	155.7709
2016	3.2001	4.1443	3.0839	4.3200e-003	0.1259	0.2361	0.3620	0.0535	0.2210	0.2746	0.0000	390.9851	390.9851	0.0848	0.0000	392.7649
2017	2.7086	3.7965	2.9645	4.8500e-003	0.1383	0.2165	0.3548	0.0576	0.2037	0.2613	0.0000	429.5210	429.5210	0.0786	0.0000	431.1711
2018	0.5314	0.4581	0.3972	6.7000e-004	7.2900e-003	0.0256	0.0329	1.9800e-003	0.0240	0.0260	0.0000	58.5540	58.5540	0.0121	0.0000	58.8078
2020	3.0344	2.3920	2.4056	4.5100e-003	0.0620	0.1191	0.1811	0.0172	0.1132	0.1303	0.0000	378.2794	378.2794	0.0552	0.0000	379.4376
2021	3.0079	2.1470	2.3473	4.4900e-003	0.0618	0.1021	0.1639	0.0171	0.0970	0.1141	0.0000	376.4971	376.4971	0.0539	0.0000	377.6296
2022	0.1349	1.1642	1.3655	2.6800e-003	0.0356	0.0529	0.0886	9.8900e-003	0.0500	0.0599	0.0000	225.6520	225.6520	0.0333	0.0000	226.3511
2023	0.1192	1.0109	1.3098	2.5400e-003	0.0310	0.0455	0.0765	8.6100e-003	0.0428	0.0514	0.0000	214.3592	214.3592	0.0351	0.0000	215.0963
Total	**12.9142**	**16.6400**	**14.9905**	**0.0258**	**0.4944**	**0.8933**	**1.3877**	**0.1740**	**0.8410**	**1.0149**	**0.0000**	**2,229.0024**	**2,229.0024**	**0.3822**	**0.0000**	**2,237.0292**

	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**	**35.32**	**0.00**	**16.29**	**43.38**	**0.00**	**11.61**	**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	tons/yr										MT/yr					
Area	1.2186	6.0000e-005	6.3900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0125	0.0125	3.0000e-005	0.0000	0.0132
Energy	0.0100	0.0913	0.0767	5.5000e-004		6.9400e-003	6.9400e-003		6.9400e-003	6.9400e-003	0.0000	382.1568	382.1568	0.0149	4.5100e-003	383.8682
Mobile	0.4210	0.6878	3.6811	0.0132	0.9346	0.0142	0.9489	0.2498	0.0132	0.2630	0.0000	866.2777	866.2777	0.0283	0.0000	866.8726
Waste						0.0000	0.0000		0.0000	0.0000	96.4836	0.0000	96.4836	5.7020	0.0000	216.2260
Water						0.0000	0.0000		0.0000	0.0000	0.9157	26.1714	27.0871	0.0953	2.4700e-003	29.8529
Total	**1.6497**	**0.7792**	**3.7642**	**0.0138**	**0.9346**	**0.0212**	**0.9558**	**0.2498**	**0.0201**	**0.2699**	**97.3993**	**1,274.6184**	**1,372.0176**	**5.8405**	**6.9800e-003**	**1,496.8329**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2186	6.0000e-005	6.3900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0125	0.0125	3.0000e-005	0.0000	0.0132
Energy	0.0100	0.0913	0.0767	5.5000e-004		6.9400e-003	6.9400e-003		6.9400e-003	6.9400e-003	0.0000	382.1568	382.1568	0.0149	4.5100e-003	383.8682
Mobile	0.4210	0.6878	3.6811	0.0132	0.9346	0.0142	0.9489	0.2498	0.0132	0.2630	0.0000	866.2777	866.2777	0.0283	0.0000	866.8726
Waste						0.0000	0.0000		0.0000	0.0000	96.4836	0.0000	96.4836	5.7020	0.0000	216.2260
Water						0.0000	0.0000		0.0000	0.0000	0.9157	26.1714	27.0871	0.0952	2.4700e-003	29.8514

Total	1.6497	0.7792	3.7642	0.0138	0.9346	0.0212	0.9558	0.2498	0.0201	0.2699	97.3993	1,274.6184	1,372.0176	5.8405	6.9800e-003	1,496.8314

	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 1A1 - Site Preparation	Site Preparation	5/1/2015	6/1/2015	5	22	13 months for phase 1A
2	Phase 1A2 - Excavation	Trenching	6/2/2015	7/31/2015	5	44	
3	Phase 1A3 - Grading	Grading	8/1/2015	10/1/2015	5	44	
4	Phase 1A5 - Building Construction	Building Construction	10/2/2015	5/31/2016	5	173	
5	Phase 1A4 - Architectural Coating	Architectural Coating	1/2/2016	5/31/2016	5	107	assume occurs during bldg. construction
6	Phase 1B - Demolition	Demolition	6/1/2016	8/31/2016	5	66	3 months for phase 1B
7	Phase 1B-E1 - Earthwork	Trenching	9/1/2016	11/30/2016	5	65	3 months for phase 1B-E1
8	Phase 1B-E2 - Grading	Grading	12/1/2016	2/28/2017	5	64	3 months for phase 1B-E2
9	Phase 1C - Building Construction	Building Construction	3/1/2017	1/31/2018	5	241	12 months for phase 1C
10	Phase 1C - Architectural Coating	Architectural Coating	8/1/2017	1/31/2018	5	132	assume occurs during bldg. construction
11	Phase 1C - Paving	Paving	2/1/2018	2/28/2018	5	20	
12	Phase 2 - Building 1 Construction	Building Construction	1/2/2020	12/31/2020	5	261	12 months for phase 2
13	Phase 2 - Architectural Coating	Architectural Coating	6/1/2020	12/31/2020	5	154	assume occurs during bldg. construction
14	Phase 3 - Building 2 Construction	Building Construction	1/2/2021	12/31/2021	5	260	12 months for phase 3
15	Phase 3 - Architectural Coating	Architectural Coating	6/1/2021	12/31/2021	5	154	assume occurs during bldg. construction
16	Phase 4 - Parking Str. Construction	Building Construction	1/2/2022	7/31/2022	5	150	7 months for phase 4
17	Phase 5 - Parking Str. Construction	Building Construction	1/2/2023	7/3/2023	5	131	7 months for phase 5
18	Phase 5 - Paving	Paving	7/4/2023	7/31/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 356,847; Non-Residential Outdoor: 118,949 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 1A1 - Site Preparation	Rubber Tired Dozers	0	8.00	255	0.40
Phase 1A1 - Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1A2 - Excavation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1A3 - Grading	Excavators	0	8.00	162	0.38
Phase 1A3 - Grading	Graders	1	8.00	174	0.41
Phase 1A3 - Grading	Rubber Tired Dozers	0	8.00	255	0.40
Phase 1A3 - Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1A5 - Building Construction	Cranes	1	7.00	226	0.29
Phase 1A5 - Building Construction	Forklifts	1	8.00	89	0.20
Phase 1A5 - Building Construction	Generator Sets	1	8.00	84	0.74
Phase 1A5 - Building Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 1A5 - Building Construction	Welders	1	8.00	46	0.45
Phase 1A4 - Architectural Coating	Air Compressors	1	6.00	78	0.48
Phase 1B - Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Phase 1B - Demolition	Excavators	0	8.00	162	0.38
Phase 1B - Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Phase 1B - Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1B-E1 - Earthwork	Excavators	2	8.00	162	0.38
Phase 1B-E1 - Earthwork	Graders	1	8.00	174	0.41
Phase 1B-E1 - Earthwork	Rubber Tired Dozers	1	8.00	255	0.40
Phase 1B-E1 - Earthwork	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1B-E2 - Grading	Bore/Drill Rigs	1	8.00	205	0.50
Phase 1B-E2 - Grading	Excavators	2	8.00	162	0.38

Phase 1B-E2 - Grading	Graders	1	8.00	174	0.41
Phase 1B-E2 - Grading	Rubber Tired Dozers	1	8.00	255	0.40
Phase 1B-E2 - Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1C - Building Construction	Cranes	1	7.00	226	0.29
Phase 1C - Building Construction	Forklifts	2	8.00	89	0.20
Phase 1C - Building Construction	Generator Sets	1	8.00	84	0.74
Phase 1C - Building Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 1C - Building Construction	Welders	1	8.00	46	0.45
Phase 1C - Architectural Coating	Air Compressors	1	6.00	78	0.48
Phase 1C - Paving	Pavers	2	8.00	125	0.42
Phase 1C - Paving	Paving Equipment	2	8.00	130	0.36
Phase 1C - Paving	Rollers	2	8.00	80	0.38
Phase 2 - Building 1 Construction	Cranes	1	7.00	226	0.29
Phase 2 - Building 1 Construction	Forklifts	1	8.00	89	0.20
Phase 2 - Building 1 Construction	Generator Sets	1	8.00	84	0.74
Phase 2 - Building 1 Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 2 - Building 1 Construction	Welders	1	8.00	46	0.45
Phase 2 - Architectural Coating	Air Compressors	1	6.00	78	0.48
Phase 3 - Building 2 Construction	Cranes	1	7.00	226	0.29
Phase 3 - Building 2 Construction	Forklifts	1	8.00	89	0.20
Phase 3 - Building 2 Construction	Generator Sets	1	8.00	84	0.74
Phase 3 - Building 2 Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 3 - Building 2 Construction	Welders	1	8.00	46	0.45
Phase 3 - Architectural Coating	Air Compressors	1	6.00	78	0.48
Phase 4 - Parking Str. Construction	Cranes	1	7.00	226	0.29
Phase 4 - Parking Str. Construction	Forklifts	2	8.00	89	0.20
Phase 4 - Parking Str. Construction	Generator Sets	1	8.00	84	0.74
Phase 4 - Parking Str. Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 4 - Parking Str. Construction	Welders	1	8.00	46	0.45
Phase 5 - Parking Str. Construction	Cranes	1	7.00	226	0.29

Phase 5 - Parking Str. Construction	Forklifts	2	8.00	89	0.20
Phase 5 - Parking Str. Construction	Generator Sets	1	8.00	84	0.74
Phase 5 - Parking Str. Construction	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase 5 - Parking Str. Construction	Welders	1	8.00	46	0.45
Phase 5 - Paving	Pavers	2	8.00	125	0.42
Phase 5 - Paving	Paving Equipment	2	8.00	130	0.36
Phase 5 - Paving	Rollers	2	8.00	80	0.38

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
Phase 1A1 - Site Preparation	2	20.00	0.00	88.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1A2 - Excavation	2	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1A3 - Grading	3	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1A5 - Building Construction	6	18.00	43.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1A4 - Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1B - Demolition	4	15.00	0.00	107.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1B-E1 - Earthwork	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1B-E2 - Grading	7	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1C - Building Construction	7	18.00	43.00	175.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1C - Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1C - Paving	6	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 - Building 1 Construction	6	18.00	43.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 - Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Building 2 Construction	6	18.00	43.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 4 - Parking Str. Construction	7	15.00	43.00	400.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 5 - Parking Str. Construction	7	15.00	43.00	275.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 5 - Paving	6	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Phase 1A1 - Site Preparation - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.9300e-003	0.0755	0.0534	7.0000e-005		5.9100e-003	5.9100e-003		5.4400e-003	5.4400e-003	0.0000	6.5360	6.5360	1.9500e-003	0.0000	6.5770
Total	**7.9300e-003**	**0.0755**	**0.0534**	**7.0000e-005**	**0.0000**	**5.9100e-003**	**5.9100e-003**	**0.0000**	**5.4400e-003**	**5.4400e-003**	**0.0000**	**6.5360**	**6.5360**	**1.9500e-003**	**0.0000**	**6.5770**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.3000e-004	0.0145	0.0104	3.0000e-005	7.5000e-004	2.3000e-004	9.8000e-004	2.1000e-004	2.1000e-004	4.2000e-004	0.0000	2.9890	2.9890	2.0000e-005	0.0000	2.9895
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	1.2300e-003	0.0128	3.0000e-005	2.4200e-003	2.0000e-005	2.4300e-003	6.4000e-004	2.0000e-005	6.6000e-004	0.0000	2.2561	2.2561	1.2000e-004	0.0000	2.2585
Total	**1.7600e-003**	**0.0157**	**0.0232**	**6.0000e-005**	**3.1700e-003**	**2.5000e-004**	**3.4100e-003**	**8.5000e-004**	**2.3000e-004**	**1.0800e-003**	**0.0000**	**5.2451**	**5.2451**	**1.4000e-004**	**0.0000**	**5.2480**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.9300e-003	0.0755	0.0534	7.0000e-005		5.9100e-003	5.9100e-003		5.4400e-003	5.4400e-003	0.0000	6.5360	6.5360	1.9500e-003	0.0000	6.5770
Total	**7.9300e-003**	**0.0755**	**0.0534**	**7.0000e-005**	**0.0000**	**5.9100e-003**	**5.9100e-003**	**0.0000**	**5.4400e-003**	**5.4400e-003**	**0.0000**	**6.5360**	**6.5360**	**1.9500e-003**	**0.0000**	**6.5770**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.3000e-004	0.0145	0.0104	3.0000e-005	7.5000e-004	2.3000e-004	9.8000e-004	2.1000e-004	2.1000e-004	4.2000e-004	0.0000	2.9890	2.9890	2.0000e-005	0.0000	2.9895
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	1.2300e-003	0.0128	3.0000e-005	2.4200e-003	2.0000e-005	2.4300e-003	6.4000e-004	2.0000e-005	6.6000e-004	0.0000	2.2561	2.2561	1.2000e-004	0.0000	2.2585
Total	**1.7600e-003**	**0.0157**	**0.0232**	**6.0000e-005**	**3.1700e-003**	**2.5000e-004**	**3.4100e-003**	**8.5000e-004**	**2.3000e-004**	**1.0800e-003**	**0.0000**	**5.2451**	**5.2451**	**1.4000e-004**	**0.0000**	**5.2480**

3.3 Phase 1A2 - Excavation - 2015

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
	tons/yr										MT/yr					
Off-Road	0.0159	0.1510	0.1067	1.4000e-004		0.0118	0.0118		0.0109	0.0109	0.0000	13.0720	13.0720	3.9000e-003	0.0000	13.1540
Total	**0.0159**	**0.1510**	**0.1067**	**1.4000e-004**		**0.0118**	**0.0118**		**0.0109**	**0.0109**	**0.0000**	**13.0720**	**13.0720**	**3.9000e-003**	**0.0000**	**13.1540**

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
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	2.4600e-003	0.0256	6.0000e-005	4.8300e-003	4.0000e-005	4.8700e-003	1.2800e-003	3.0000e-005	1.3200e-003	0.0000	4.5121	4.5121	2.3000e-004	0.0000	4.5170
Total	**1.6600e-003**	**2.4600e-003**	**0.0256**	**6.0000e-005**	**4.8300e-003**	**4.0000e-005**	**4.8700e-003**	**1.2800e-003**	**3.0000e-005**	**1.3200e-003**	**0.0000**	**4.5121**	**4.5121**	**2.3000e-004**	**0.0000**	**4.5170**

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
	tons/yr										MT/yr					
Off-Road	0.0159	0.1510	0.1067	1.4000e-004		0.0118	0.0118		0.0109	0.0109	0.0000	13.0720	13.0720	3.9000e-003	0.0000	13.1540

Total	0.0159	0.1510	0.1067	1.4000e-004		0.0118	0.0118		0.0109	0.0109	0.0000	13.0720	13.0720	3.9000e-003	0.0000	13.1540

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	2.4600e-003	0.0256	6.0000e-005	4.8300e-003	4.0000e-005	4.8700e-003	1.2800e-003	3.0000e-005	1.3200e-003	0.0000	4.5121	4.5121	2.3000e-004	0.0000	4.5170
Total	**1.6600e-003**	**2.4600e-003**	**0.0256**	**6.0000e-005**	**4.8300e-003**	**4.0000e-005**	**4.8700e-003**	**1.2800e-003**	**3.0000e-005**	**1.3200e-003**	**0.0000**	**4.5121**	**4.5121**	**2.3000e-004**	**0.0000**	**4.5170**

3.4 Phase 1A3 - Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0117	0.0000	0.0117	1.2600e-003	0.0000	1.2600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0392	0.3901	0.2163	2.7000e-004		0.0253	0.0253		0.0232	0.0232	0.0000	26.1858	26.1858	7.8200e-003	0.0000	26.3500
Total	**0.0392**	**0.3901**	**0.2163**	**2.7000e-004**	**0.0117**	**0.0253**	**0.0369**	**1.2600e-003**	**0.0232**	**0.0245**	**0.0000**	**26.1858**	**26.1858**	**7.8200e-003**	**0.0000**	**26.3500**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	2.4600e-003	0.0256	6.0000e-005	4.8300e-003	4.0000e-005	4.8700e-003	1.2800e-003	3.0000e-005	1.3200e-003	0.0000	4.5121	4.5121	2.3000e-004	0.0000	4.5170
Total	**1.6600e-003**	**2.4600e-003**	**0.0256**	**6.0000e-005**	**4.8300e-003**	**4.0000e-005**	**4.8700e-003**	**1.2800e-003**	**3.0000e-005**	**1.3200e-003**	**0.0000**	**4.5121**	**4.5121**	**2.3000e-004**	**0.0000**	**4.5170**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.5500e-003	0.0000	4.5500e-003	4.9000e-004	0.0000	4.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0392	0.3901	0.2163	2.7000e-004		0.0253	0.0253		0.0232	0.0232	0.0000	26.1858	26.1858	7.8200e-003	0.0000	26.3500
Total	**0.0392**	**0.3901**	**0.2163**	**2.7000e-004**	**4.5500e-003**	**0.0253**	**0.0298**	**4.9000e-004**	**0.0232**	**0.0237**	**0.0000**	**26.1858**	**26.1858**	**7.8200e-003**	**0.0000**	**26.3500**

Mitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	2.4600e-003	0.0256	6.0000e-005	4.8300e-003	4.0000e-005	4.8700e-003	1.2800e-003	3.0000e-005	1.3200e-003	0.0000	4.5121	4.5121	2.3000e-004	0.0000	4.5170
Total	**1.6600e-003**	**2.4600e-003**	**0.0256**	**6.0000e-005**	**4.8300e-003**	**4.0000e-005**	**4.8700e-003**	**1.2800e-003**	**3.0000e-005**	**1.3200e-003**	**0.0000**	**4.5121**	**4.5121**	**2.3000e-004**	**0.0000**	**4.5170**

3.5 Phase 1A5 - Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0930	0.7437	0.4573	6.8000e-004		0.0498	0.0498		0.0473	0.0473	0.0000	61.3933	61.3933	0.0146	0.0000	61.6988
Total	**0.0930**	**0.7437**	**0.4573**	**6.8000e-004**		**0.0498**	**0.0498**		**0.0473**	**0.0473**	**0.0000**	**61.3933**	**61.3933**	**0.0146**	**0.0000**	**61.6988**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0144	0.1429	0.1747	3.0000e-004	8.6000e-003	2.3200e-003	0.0109	2.4500e-003	2.1300e-003	4.5800e-003	0.0000	27.6992	27.6992	2.2000e-004	0.0000	27.7037

Worker	2.2000e-003	3.2700e-003	0.0340	8.0000e-005	6.4200e-003	5.0000e-005	6.4700e-003	1.7100e-003	4.0000e-005	1.7500e-003	0.0000	5.9991	5.9991	3.1000e-004	0.0000	6.0055
Total	**0.0166**	**0.1462**	**0.2087**	**3.8000e-004**	**0.0150**	**2.3700e-003**	**0.0174**	**4.1600e-003**	**2.1700e-003**	**6.3300e-003**	**0.0000**	**33.6982**	**33.6982**	**5.3000e-004**	**0.0000**	**33.7093**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0930	0.7437	0.4573	6.8000e-004		0.0498	0.0498		0.0473	0.0473	0.0000	61.3932	61.3932	0.0146	0.0000	61.6988
Total	**0.0930**	**0.7437**	**0.4573**	**6.8000e-004**		**0.0498**	**0.0498**		**0.0473**	**0.0473**	**0.0000**	**61.3932**	**61.3932**	**0.0146**	**0.0000**	**61.6988**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0144	0.1429	0.1747	3.0000e-004	8.6000e-003	2.3200e-003	0.0109	2.4500e-003	2.1300e-003	4.5800e-003	0.0000	27.6992	27.6992	2.2000e-004	0.0000	27.7037
Worker	2.2000e-003	3.2700e-003	0.0340	8.0000e-005	6.4200e-003	5.0000e-005	6.4700e-003	1.7100e-003	4.0000e-005	1.7500e-003	0.0000	5.9991	5.9991	3.1000e-004	0.0000	6.0055
Total	**0.0166**	**0.1462**	**0.2087**	**3.8000e-004**	**0.0150**	**2.3700e-003**	**0.0174**	**4.1600e-003**	**2.1700e-003**	**6.3300e-003**	**0.0000**	**33.6982**	**33.6982**	**5.3000e-004**	**0.0000**	**33.7093**

3.5 Phase 1A5 - Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1433	1.1746	0.7490	1.1400e-003		0.0768	0.0768		0.0727	0.0727	0.0000	101.3378	101.3378	0.0236	0.0000	101.8324
Total	**0.1433**	**1.1746**	**0.7490**	**1.1400e-003**		**0.0768**	**0.0768**		**0.0727**	**0.0727**	**0.0000**	**101.3378**	**101.3378**	**0.0236**	**0.0000**	**101.8324**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0217	0.2096	0.2738	5.0000e-004	0.0143	3.2000e-003	0.0175	4.0800e-003	2.9400e-003	7.0200e-003	0.0000	45.5192	45.5192	3.3000e-004	0.0000	45.5261
Worker	3.3200e-003	4.9200e-003	0.0513	1.3000e-004	0.0107	8.0000e-005	0.0108	2.8300e-003	7.0000e-005	2.9000e-003	0.0000	9.6181	9.6181	4.7000e-004	0.0000	9.6280
Total	**0.0250**	**0.2145**	**0.3251**	**6.3000e-004**	**0.0250**	**3.2800e-003**	**0.0282**	**6.9100e-003**	**3.0100e-003**	**9.9200e-003**	**0.0000**	**55.1373**	**55.1373**	**8.0000e-004**	**0.0000**	**55.1540**

Mitigated Construction On-Site

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

Category	tons/yr										MT/yr					
Off-Road	0.1433	1.1746	0.7490	1.1400e-003		0.0768	0.0768		0.0727	0.0727	0.0000	101.3376	101.3376	0.0236	0.0000	101.8323
Total	**0.1433**	**1.1746**	**0.7490**	**1.1400e-003**		**0.0768**	**0.0768**		**0.0727**	**0.0727**	**0.0000**	**101.3376**	**101.3376**	**0.0236**	**0.0000**	**101.8323**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0217	0.2096	0.2738	5.0000e-004	0.0143	3.2000e-003	0.0175	4.0800e-003	2.9400e-003	7.0200e-003	0.0000	45.5192	45.5192	3.3000e-004	0.0000	45.5261
Worker	3.3200e-003	4.9200e-003	0.0513	1.3000e-004	0.0107	8.0000e-005	0.0108	2.8300e-003	7.0000e-005	2.9000e-003	0.0000	9.6181	9.6181	4.7000e-004	0.0000	9.6280
Total	**0.0250**	**0.2145**	**0.3251**	**6.3000e-004**	**0.0250**	**3.2800e-003**	**0.0282**	**6.9100e-003**	**3.0100e-003**	**9.9200e-003**	**0.0000**	**55.1373**	**55.1373**	**8.0000e-004**	**0.0000**	**55.1540**

3.6 Phase 1A4 - Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.7566					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0197	0.1269	0.1008	1.6000e-004		0.0105	0.0105		0.0105	0.0105	0.0000	13.6599	13.6599	1.6100e-003	0.0000	13.6937

Total	**2.7764**	**0.1269**	**0.1008**	**1.6000e-004**		**0.0105**	**0.0105**		**0.0105**	**0.0105**	**0.0000**	**13.6599**	**13.6599**	**1.6100e-003**	**0.0000**	**13.6937**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	5.4000e-004	5.6500e-003	1.0000e-005	1.1700e-003	1.0000e-005	1.1800e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0588	1.0588	5.0000e-005	0.0000	1.0599
Total	**3.7000e-004**	**5.4000e-004**	**5.6500e-003**	**1.0000e-005**	**1.1700e-003**	**1.0000e-005**	**1.1800e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0588**	**1.0588**	**5.0000e-005**	**0.0000**	**1.0599**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.7566					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0197	0.1269	0.1008	1.6000e-004		0.0105	0.0105		0.0105	0.0105	0.0000	13.6599	13.6599	1.6100e-003	0.0000	13.6937
Total	**2.7764**	**0.1269**	**0.1008**	**1.6000e-004**		**0.0105**	**0.0105**		**0.0105**	**0.0105**	**0.0000**	**13.6599**	**13.6599**	**1.6100e-003**	**0.0000**	**13.6937**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	5.4000e-004	5.6500e-003	1.0000e-005	1.1700e-003	1.0000e-005	1.1800e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0588	1.0588	5.0000e-005	0.0000	1.0599
Total	**3.7000e-004**	**5.4000e-004**	**5.6500e-003**	**1.0000e-005**	**1.1700e-003**	**1.0000e-005**	**1.1800e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0588**	**1.0588**	**5.0000e-005**	**0.0000**	**1.0599**

3.7 Phase 1B - Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0116	0.0000	0.0116	1.7500e-003	0.0000	1.7500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0847	0.8251	0.6298	7.0000e-004		0.0493	0.0493		0.0463	0.0463	0.0000	64.7675	64.7675	0.0159	0.0000	65.1014
Total	**0.0847**	**0.8251**	**0.6298**	**7.0000e-004**	**0.0116**	**0.0493**	**0.0609**	**1.7500e-003**	**0.0463**	**0.0480**	**0.0000**	**64.7675**	**64.7675**	**0.0159**	**0.0000**	**65.1014**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	1.0200e-003	0.0155	0.0119	4.0000e-005	9.2000e-004	2.2000e-004	1.1400e-003	2.5000e-004	2.0000e-004	4.6000e-004	0.0000	3.5944	3.5944	3.0000e-005	0.0000	3.5950
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6900e-003	2.5100e-003	0.0261	6.0000e-005	5.4300e-003	4.0000e-005	5.4700e-003	1.4400e-003	4.0000e-005	1.4800e-003	0.0000	4.8981	4.8981	2.4000e-004	0.0000	4.9031
Total	**2.7100e-003**	**0.0180**	**0.0381**	**1.0000e-004**	**6.3500e-003**	**2.6000e-004**	**6.6100e-003**	**1.6900e-003**	**2.4000e-004**	**1.9400e-003**	**0.0000**	**8.4925**	**8.4925**	**2.7000e-004**	**0.0000**	**8.4981**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.5000e-003	0.0000	4.5000e-003	6.8000e-004	0.0000	6.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0847	0.8251	0.6298	7.0000e-004		0.0493	0.0493		0.0463	0.0463	0.0000	64.7674	64.7674	0.0159	0.0000	65.1013
Total	**0.0847**	**0.8251**	**0.6298**	**7.0000e-004**	**4.5000e-003**	**0.0493**	**0.0538**	**6.8000e-004**	**0.0463**	**0.0470**	**0.0000**	**64.7674**	**64.7674**	**0.0159**	**0.0000**	**65.1013**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0200e-003	0.0155	0.0119	4.0000e-005	9.2000e-004	2.2000e-004	1.1400e-003	2.5000e-004	2.0000e-004	4.6000e-004	0.0000	3.5944	3.5944	3.0000e-005	0.0000	3.5950
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6900e-003	2.5100e-003	0.0261	6.0000e-005	5.4300e-003	4.0000e-005	5.4700e-003	1.4400e-003	4.0000e-005	1.4800e-003	0.0000	4.8981	4.8981	2.4000e-004	0.0000	4.9031

Total	**2.7100e-003**	**0.0180**	**0.0381**	**1.0000e-004**	**6.3500e-003**	**2.6000e-004**	**6.6100e-003**	**1.6900e-003**	**2.4000e-004**	**1.9400e-003**	**0.0000**	**8.4925**	**8.4925**	**2.7000e-004**	**0.0000**	**8.4981**

3.8 Phase 1B-E1 - Earthwork - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1207	1.2877	0.8806	1.0400e-003		0.0704	0.0704		0.0648	0.0648	0.0000	97.8861	97.8861	0.0295	0.0000	98.5062
Total	**0.1207**	**1.2877**	**0.8806**	**1.0400e-003**		**0.0704**	**0.0704**		**0.0648**	**0.0648**	**0.0000**	**97.8861**	**97.8861**	**0.0295**	**0.0000**	**98.5062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6700e-003	2.4700e-003	0.0257	6.0000e-005	5.3500e-003	4.0000e-005	5.3900e-003	1.4200e-003	4.0000e-005	1.4600e-003	0.0000	4.8239	4.8239	2.4000e-004	0.0000	4.8288
Total	**1.6700e-003**	**2.4700e-003**	**0.0257**	**6.0000e-005**	**5.3500e-003**	**4.0000e-005**	**5.3900e-003**	**1.4200e-003**	**4.0000e-005**	**1.4600e-003**	**0.0000**	**4.8239**	**4.8239**	**2.4000e-004**	**0.0000**	**4.8288**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1207	1.2877	0.8806	1.0400e-003		0.0704	0.0704		0.0648	0.0648	0.0000	97.8860	97.8860	0.0295	0.0000	98.5060
Total	**0.1207**	**1.2877**	**0.8806**	**1.0400e-003**		**0.0704**	**0.0704**		**0.0648**	**0.0648**	**0.0000**	**97.8860**	**97.8860**	**0.0295**	**0.0000**	**98.5060**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6700e-003	2.4700e-003	0.0257	6.0000e-005	5.3500e-003	4.0000e-005	5.3900e-003	1.4200e-003	4.0000e-005	1.4600e-003	0.0000	4.8239	4.8239	2.4000e-004	0.0000	4.8288
Total	**1.6700e-003**	**2.4700e-003**	**0.0257**	**6.0000e-005**	**5.3500e-003**	**4.0000e-005**	**5.3900e-003**	**1.4200e-003**	**4.0000e-005**	**1.4600e-003**	**0.0000**	**4.8239**	**4.8239**	**2.4000e-004**	**0.0000**	**4.8288**

3.9 Phase 1B-E2 - Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Fugitive Dust					0.2097	0.0000	0.2097	0.1078	0.0000	0.1078	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0447	0.4936	0.3206	4.5000e-004		0.0255	0.0255		0.0235	0.0235	0.0000	42.1891	42.1891	0.0127	0.0000	42.4563
Total	**0.0447**	**0.4936**	**0.3206**	**4.5000e-004**	**0.2097**	**0.0255**	**0.2352**	**0.1078**	**0.0235**	**0.1312**	**0.0000**	**42.1891**	**42.1891**	**0.0127**	**0.0000**	**42.4563**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	8.4000e-004	8.7100e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6327	1.6327	8.0000e-005	0.0000	1.6344
Total	**5.6000e-004**	**8.4000e-004**	**8.7100e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.6327**	**1.6327**	**8.0000e-005**	**0.0000**	**1.6344**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0818	0.0000	0.0818	0.0420	0.0000	0.0420	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0447	0.4936	0.3206	4.5000e-004		0.0255	0.0255		0.0235	0.0235	0.0000	42.1890	42.1890	0.0127	0.0000	42.4563
Total	**0.0447**	**0.4936**	**0.3206**	**4.5000e-004**	**0.0818**	**0.0255**	**0.1073**	**0.0420**	**0.0235**	**0.0655**	**0.0000**	**42.1890**	**42.1890**	**0.0127**	**0.0000**	**42.4563**

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
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	8.4000e-004	8.7100e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6327	1.6327	8.0000e-005	0.0000	1.6344
Total	**5.6000e-004**	**8.4000e-004**	**8.7100e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.6327**	**1.6327**	**8.0000e-005**	**0.0000**	**1.6344**

3.9 Phase 1B-E2 - Grading - 2017

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
	tons/yr										MT/yr					
Fugitive Dust					0.2097	0.0000	0.2097	0.1078	0.0000	0.1078	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0801	0.8718	0.5964	8.5000e-004		0.0449	0.0449		0.0413	0.0413	0.0000	79.2509	79.2509	0.0243	0.0000	79.7609
Total	**0.0801**	**0.8718**	**0.5964**	**8.5000e-004**	**0.2097**	**0.0449**	**0.2546**	**0.1078**	**0.0413**	**0.1491**	**0.0000**	**79.2509**	**79.2509**	**0.0243**	**0.0000**	**79.7609**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8000e-004	1.4500e-003	0.0151	4.0000e-005	3.4600e-003	2.0000e-005	3.4800e-003	9.2000e-004	2.0000e-005	9.4000e-004	0.0000	2.9964	2.9964	1.4000e-004	0.0000	2.9993
Total	**9.8000e-004**	**1.4500e-003**	**0.0151**	**4.0000e-005**	**3.4600e-003**	**2.0000e-005**	**3.4800e-003**	**9.2000e-004**	**2.0000e-005**	**9.4000e-004**	**0.0000**	**2.9964**	**2.9964**	**1.4000e-004**	**0.0000**	**2.9993**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0818	0.0000	0.0818	0.0420	0.0000	0.0420	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0801	0.8718	0.5964	8.5000e-004		0.0449	0.0449		0.0413	0.0413	0.0000	79.2508	79.2508	0.0243	0.0000	79.7608
Total	**0.0801**	**0.8718**	**0.5964**	**8.5000e-004**	**0.0818**	**0.0449**	**0.1267**	**0.0420**	**0.0413**	**0.0834**	**0.0000**	**79.2508**	**79.2508**	**0.0243**	**0.0000**	**79.7608**

Mitigated Construction Off-Site

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

	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	0.0000	0.0000
Worker	9.8000e-004	1.4500e-003	0.0151	4.0000e-005	3.4600e-003	2.0000e-005	3.4800e-003	9.2000e-004	2.0000e-005	9.4000e-004	0.0000	2.9964	2.9964	1.4000e-004	0.0000	2.9993
Total	**9.8000e-004**	**1.4500e-003**	**0.0151**	**4.0000e-005**	**3.4600e-003**	**2.0000e-005**	**3.4800e-003**	**9.2000e-004**	**2.0000e-005**	**9.4000e-004**	**0.0000**	**2.9964**	**2.9964**	**1.4000e-004**	**0.0000**	**2.9993**

3.10 Phase 1C - Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2850	2.3888	1.6116	2.4600e-003		0.1559	0.1559		0.1472	0.1472	0.0000	218.0441	218.0441	0.0511	0.0000	219.1166
Total	**0.2850**	**2.3888**	**1.6116**	**2.4600e-003**		**0.1559**	**0.1559**		**0.1472**	**0.1472**	**0.0000**	**218.0441**	**218.0441**	**0.0511**	**0.0000**	**219.1166**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4200e-003	0.0211	0.0169	6.0000e-005	1.4700e-003	3.0000e-004	1.7700e-003	4.0000e-004	2.8000e-004	6.8000e-004	0.0000	5.2300	5.2300	4.0000e-005	0.0000	5.2308
Vendor	0.0403	0.3847	0.5232	1.0100e-003	0.0289	5.7600e-003	0.0346	8.2400e-003	5.3000e-003	0.0135	0.0000	90.3850	90.3850	6.4000e-004	0.0000	90.3985
Worker	6.0900e-003	9.0200e-003	0.0942	2.6000e-004	0.0215	1.5000e-004	0.0217	5.7200e-003	1.4000e-004	5.8600e-003	0.0000	18.6630	18.6630	8.8000e-004	0.0000	18.6815
Total	**0.0478**	**0.4148**	**0.6343**	**1.3300e-003**	**0.0519**	**6.2100e-003**	**0.0581**	**0.0144**	**5.7200e-003**	**0.0201**	**0.0000**	**114.2779**	**114.2779**	**1.5600e-003**	**0.0000**	**114.3107**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2850	2.3888	1.6116	2.4600e-003		0.1559	0.1559		0.1472	0.1472	0.0000	218.0439	218.0439	0.0511	0.0000	219.1164
Total	**0.2850**	**2.3888**	**1.6116**	**2.4600e-003**		**0.1559**	**0.1559**		**0.1472**	**0.1472**	**0.0000**	**218.0439**	**218.0439**	**0.0511**	**0.0000**	**219.1164**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4200e-003	0.0211	0.0169	6.0000e-005	1.4700e-003	3.0000e-004	1.7700e-003	4.0000e-004	2.8000e-004	6.8000e-004	0.0000	5.2300	5.2300	4.0000e-005	0.0000	5.2308
Vendor	0.0403	0.3847	0.5232	1.0100e-003	0.0289	5.7600e-003	0.0346	8.2400e-003	5.3000e-003	0.0135	0.0000	90.3850	90.3850	6.4000e-004	0.0000	90.3985
Worker	6.0900e-003	9.0200e-003	0.0942	2.6000e-004	0.0215	1.5000e-004	0.0217	5.7200e-003	1.4000e-004	5.8600e-003	0.0000	18.6630	18.6630	8.8000e-004	0.0000	18.6815
Total	**0.0478**	**0.4148**	**0.6343**	**1.3300e-003**	**0.0519**	**6.2100e-003**	**0.0581**	**0.0144**	**5.7200e-003**	**0.0201**	**0.0000**	**114.2779**	**114.2779**	**1.5600e-003**	**0.0000**	**114.3107**

3.10 Phase 1C - Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0260	0.2229	0.1642	2.6000e-004		0.0139	0.0139		0.0131	0.0131	0.0000	22.7689	22.7689	5.2800e-003	0.0000	22.8797
Total	**0.0260**	**0.2229**	**0.1642**	**2.6000e-004**		**0.0139**	**0.0139**		**0.0131**	**0.0131**	**0.0000**	**22.7689**	**22.7689**	**5.2800e-003**	**0.0000**	**22.8797**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	2.0600e-003	1.7400e-003	1.0000e-005	1.1700e-003	3.0000e-005	1.2000e-003	2.9000e-004	3.0000e-005	3.2000e-004	0.0000	0.5426	0.5426	0.0000	0.0000	0.5426
Vendor	3.9700e-003	0.0372	0.0527	1.1000e-004	3.0400e-003	5.7000e-004	3.6200e-003	8.7000e-004	5.3000e-004	1.4000e-003	0.0000	9.3741	9.3741	7.0000e-005	0.0000	9.3755
Worker	5.9000e-004	8.7000e-004	9.0800e-003	3.0000e-005	2.2700e-003	2.0000e-005	2.2900e-003	6.0000e-004	1.0000e-005	6.2000e-004	0.0000	1.8952	1.8952	9.0000e-005	0.0000	1.8970
Total	**4.7100e-003**	**0.0402**	**0.0635**	**1.5000e-004**	**6.4800e-003**	**6.2000e-004**	**7.1100e-003**	**1.7600e-003**	**5.7000e-004**	**2.3400e-003**	**0.0000**	**11.8118**	**11.8118**	**1.6000e-004**	**0.0000**	**11.8151**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0260	0.2229	0.1642	2.6000e-004		0.0139	0.0139		0.0131	0.0131	0.0000	22.7689	22.7689	5.2800e-003	0.0000	22.8797

Total	0.0260	0.2229	0.1642	2.6000e-004		0.0139	0.0139		0.0131	0.0131	0.0000	22.7689	22.7689	5.2800e-003	0.0000	22.8797

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	2.0600e-003	1.7400e-003	1.0000e-005	1.1700e-003	3.0000e-005	1.2000e-003	2.9000e-004	3.0000e-005	3.2000e-004	0.0000	0.5426	0.5426	0.0000	0.0000	0.5426
Vendor	3.9700e-003	0.0372	0.0527	1.1000e-004	3.0400e-003	5.7000e-004	3.6200e-003	8.7000e-004	5.3000e-004	1.4000e-003	0.0000	9.3741	9.3741	7.0000e-005	0.0000	9.3755
Worker	5.9000e-004	8.7000e-004	9.0800e-003	3.0000e-005	2.2700e-003	2.0000e-005	2.2900e-003	6.0000e-004	1.0000e-005	6.2000e-004	0.0000	1.8952	1.8952	9.0000e-005	0.0000	1.8970
Total	**4.7100e-003**	**0.0402**	**0.0635**	**1.5000e-004**	**6.4800e-003**	**6.2000e-004**	**7.1100e-003**	**1.7600e-003**	**5.7000e-004**	**2.3400e-003**	**0.0000**	**11.8118**	**11.8118**	**1.6000e-004**	**0.0000**	**11.8151**

3.11 Phase 1C - Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.2763					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0181	0.1191	0.1018	1.6000e-004		9.4500e-003	9.4500e-003		9.4500e-003	9.4500e-003	0.0000	13.9152	13.9152	1.4700e-003	0.0000	13.9461
Total	**2.2944**	**0.1191**	**0.1018**	**1.6000e-004**		**9.4500e-003**	**9.4500e-003**		**9.4500e-003**	**9.4500e-003**	**0.0000**	**13.9152**	**13.9152**	**1.4700e-003**	**0.0000**	**13.9461**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	5.0000e-004	5.2400e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0368	1.0368	5.0000e-005	0.0000	1.0379
Total	**3.4000e-004**	**5.0000e-004**	**5.2400e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0368**	**1.0368**	**5.0000e-005**	**0.0000**	**1.0379**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.2763					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0181	0.1191	0.1018	1.6000e-004		9.4500e-003	9.4500e-003		9.4500e-003	9.4500e-003	0.0000	13.9152	13.9152	1.4700e-003	0.0000	13.9461
Total	**2.2944**	**0.1191**	**0.1018**	**1.6000e-004**		**9.4500e-003**	**9.4500e-003**		**9.4500e-003**	**9.4500e-003**	**0.0000**	**13.9152**	**13.9152**	**1.4700e-003**	**0.0000**	**13.9461**

Mitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	5.0000e-004	5.2400e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0368	1.0368	5.0000e-005	0.0000	1.0379
Total	**3.4000e-004**	**5.0000e-004**	**5.2400e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0368**	**1.0368**	**5.0000e-005**	**0.0000**	**1.0379**

3.11 Phase 1C - Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4803					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4300e-003	0.0231	0.0213	3.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	2.9363	2.9363	2.8000e-004	0.0000	2.9421
Total	**0.4838**	**0.0231**	**0.0213**	**3.0000e-005**		**1.7300e-003**	**1.7300e-003**		**1.7300e-003**	**1.7300e-003**	**0.0000**	**2.9363**	**2.9363**	**2.8000e-004**	**0.0000**	**2.9421**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	7.0000e-005	1.0000e-004	1.0100e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2106	0.2106	1.0000e-005	0.0000	0.2108
Total	**7.0000e-005**	**1.0000e-004**	**1.0100e-003**	**0.0000**	**2.5000e-004**	**0.0000**	**2.5000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2106**	**0.2106**	**1.0000e-005**	**0.0000**	**0.2108**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4803					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4300e-003	0.0231	0.0213	3.0000e-005		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	2.9362	2.9362	2.8000e-004	0.0000	2.9421
Total	**0.4838**	**0.0231**	**0.0213**	**3.0000e-005**		**1.7300e-003**	**1.7300e-003**		**1.7300e-003**	**1.7300e-003**	**0.0000**	**2.9362**	**2.9362**	**2.8000e-004**	**0.0000**	**2.9421**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	1.0000e-004	1.0100e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2106	0.2106	1.0000e-005	0.0000	0.2108
Total	**7.0000e-005**	**1.0000e-004**	**1.0100e-003**	**0.0000**	**2.5000e-004**	**0.0000**	**2.5000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2106**	**0.2106**	**1.0000e-005**	**0.0000**	**0.2108**

3.12 Phase 1C - Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0161	0.1716	0.1449	2.2000e-004		9.3900e-003	9.3900e-003		8.6400e-003	8.6400e-003	0.0000	20.3687	20.3687	6.3400e-003	0.0000	20.5019
Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0168**	**0.1716**	**0.1449**	**2.2000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**20.3687**	**20.3687**	**6.3400e-003**	**0.0000**	**20.5019**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	2.1000e-004	2.1900e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4578	0.4578	2.0000e-005	0.0000	0.4582
Total	**1.4000e-004**	**2.1000e-004**	**2.1900e-003**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4578**	**0.4578**	**2.0000e-005**	**0.0000**	**0.4582**

Mitigated Construction On-Site

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

Category	tons/yr										MT/yr					
Off-Road	0.0161	0.1716	0.1449	2.2000e-004		9.3900e-003	9.3900e-003		8.6400e-003	8.6400e-003	0.0000	20.3687	20.3687	6.3400e-003	0.0000	20.5019
Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0168**	**0.1716**	**0.1449**	**2.2000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**20.3687**	**20.3687**	**6.3400e-003**	**0.0000**	**20.5019**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	2.1000e-004	2.1900e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4578	0.4578	2.0000e-005	0.0000	0.4582
Total	**1.4000e-004**	**2.1000e-004**	**2.1900e-003**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4578**	**0.4578**	**2.0000e-005**	**0.0000**	**0.4582**

3.13 Phase 2 - Building 1 Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2140	1.9114	1.6251	2.7400e-003		0.1048	0.1048		0.0994	0.0994	0.0000	234.7917	234.7917	0.0519	0.0000	235.8821
Total	**0.2140**	**1.9114**	**1.6251**	**2.7400e-003**		**0.1048**	**0.1048**		**0.0994**	**0.0994**	**0.0000**	**234.7917**	**234.7917**	**0.0519**	**0.0000**	**235.8821**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0388	0.3418	0.5435	1.2100e-003	0.0346	5.5400e-003	0.0401	9.8600e-003	5.0900e-003	0.0150	0.0000	102.5158	102.5158	7.6000e-004	0.0000	102.5316
Worker	5.8700e-003	8.5300e-003	0.0901	3.1000e-004	0.0258	1.8000e-004	0.0260	6.8500e-003	1.7000e-004	7.0100e-003	0.0000	20.0009	20.0009	9.0000e-004	0.0000	20.0197
Total	**0.0447**	**0.3504**	**0.6336**	**1.5200e-003**	**0.0603**	**5.7200e-003**	**0.0661**	**0.0167**	**5.2600e-003**	**0.0220**	**0.0000**	**122.5167**	**122.5167**	**1.6600e-003**	**0.0000**	**122.5513**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2140	1.9114	1.6251	2.7400e-003		0.1048	0.1048		0.0994	0.0994	0.0000	234.7915	234.7915	0.0519	0.0000	235.8818
Total	**0.2140**	**1.9114**	**1.6251**	**2.7400e-003**		**0.1048**	**0.1048**		**0.0994**	**0.0994**	**0.0000**	**234.7915**	**234.7915**	**0.0519**	**0.0000**	**235.8818**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0388	0.3418	0.5435	1.2100e-003	0.0346	5.5400e-003	0.0401	9.8600e-003	5.0900e-003	0.0150	0.0000	102.5158	102.5158	7.6000e-004	0.0000	102.5316
Worker	5.8700e-003	8.5300e-003	0.0901	3.1000e-004	0.0258	1.8000e-004	0.0260	6.8500e-003	1.7000e-004	7.0100e-003	0.0000	20.0009	20.0009	9.0000e-004	0.0000	20.0197
Total	**0.0447**	**0.3504**	**0.6336**	**1.5200e-003**	**0.0603**	**5.7200e-003**	**0.0661**	**0.0167**	**5.2600e-003**	**0.0220**	**0.0000**	**122.5167**	**122.5167**	**1.6600e-003**	**0.0000**	**122.5513**

3.14 Phase 2 - Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.7566					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0187	0.1297	0.1410	2.3000e-004		8.5400e-003	8.5400e-003		8.5400e-003	8.5400e-003	0.0000	19.6601	19.6601	1.5200e-003	0.0000	19.6920
Total	**2.7753**	**0.1297**	**0.1410**	**2.3000e-004**		**8.5400e-003**	**8.5400e-003**		**8.5400e-003**	**8.5400e-003**	**0.0000**	**19.6601**	**19.6601**	**1.5200e-003**	**0.0000**	**19.6920**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	5.6000e-004	5.9100e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3113	1.3113	6.0000e-005	0.0000	1.3125
Total	**3.8000e-004**	**5.6000e-004**	**5.9100e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3113**	**1.3113**	**6.0000e-005**	**0.0000**	**1.3125**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.7566					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0187	0.1297	0.1410	2.3000e-004		8.5400e-003	8.5400e-003		8.5400e-003	8.5400e-003	0.0000	19.6600	19.6600	1.5200e-003	0.0000	19.6920
Total	**2.7753**	**0.1297**	**0.1410**	**2.3000e-004**		**8.5400e-003**	**8.5400e-003**		**8.5400e-003**	**8.5400e-003**	**0.0000**	**19.6600**	**19.6600**	**1.5200e-003**	**0.0000**	**19.6920**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	5.6000e-004	5.9100e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3113	1.3113	6.0000e-005	0.0000	1.3125

Total	**3.8000e-004**	**5.6000e-004**	**5.9100e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3113**	**1.3113**	**6.0000e-005**	**0.0000**	**1.3125**

3.15 Phase 3 - Building 2 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	tons/yr										MT/yr					
Off-Road	0.1912	1.7320	1.5892	2.7300e-003		0.0897	0.0897		0.0850	0.0850	0.0000	233.9142	233.9142	0.0509	0.0000	234.9833
Total	**0.1912**	**1.7320**	**1.5892**	**2.7300e-003**		**0.0897**	**0.0897**		**0.0850**	**0.0850**	**0.0000**	**233.9142**	**233.9142**	**0.0509**	**0.0000**	**234.9833**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0373	0.2889	0.5279	1.2000e-003	0.0344	5.0100e-003	0.0394	9.8200e-003	4.6100e-003	0.0144	0.0000	102.0374	102.0374	7.6000e-004	0.0000	102.0533
Worker	5.5600e-003	7.9800e-003	0.0847	3.1000e-004	0.0257	1.8000e-004	0.0259	6.8200e-003	1.7000e-004	6.9900e-003	0.0000	19.5961	19.5961	8.6000e-004	0.0000	19.6141
Total	**0.0429**	**0.2969**	**0.6126**	**1.5100e-003**	**0.0601**	**5.1900e-003**	**0.0653**	**0.0166**	**4.7800e-003**	**0.0214**	**0.0000**	**121.6335**	**121.6335**	**1.6200e-003**	**0.0000**	**121.6674**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1912	1.7320	1.5892	2.7300e-003		0.0897	0.0897		0.0850	0.0850	0.0000	233.9139	233.9139	0.0509	0.0000	234.9830
Total	**0.1912**	**1.7320**	**1.5892**	**2.7300e-003**		**0.0897**	**0.0897**		**0.0850**	**0.0850**	**0.0000**	**233.9139**	**233.9139**	**0.0509**	**0.0000**	**234.9830**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0373	0.2889	0.5279	1.2000e-003	0.0344	5.0100e-003	0.0394	9.8200e-003	4.6100e-003	0.0144	0.0000	102.0374	102.0374	7.6000e-004	0.0000	102.0533
Worker	5.5600e-003	7.9800e-003	0.0847	3.1000e-004	0.0257	1.8000e-004	0.0259	6.8200e-003	1.7000e-004	6.9900e-003	0.0000	19.5961	19.5961	8.6000e-004	0.0000	19.6141
Total	**0.0429**	**0.2969**	**0.6126**	**1.5100e-003**	**0.0601**	**5.1900e-003**	**0.0653**	**0.0166**	**4.7800e-003**	**0.0214**	**0.0000**	**121.6335**	**121.6335**	**1.6200e-003**	**0.0000**	**121.6674**

3.16 Phase 3 - Architectural Coating - 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	tons/yr										MT/yr					

	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
Archit. Coating	2.7566					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1176	0.1400	2.3000e-004		7.2500e-003	7.2500e-003		7.2500e-003	7.2500e-003	0.0000	19.6601	19.6601	1.3500e-003	0.0000	19.6884
Total	**2.7735**	**0.1176**	**0.1400**	**2.3000e-004**		**7.2500e-003**	**7.2500e-003**		**7.2500e-003**	**7.2500e-003**	**0.0000**	**19.6601**	**19.6601**	**1.3500e-003**	**0.0000**	**19.6884**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	5.3000e-004	5.5700e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.2897	1.2897	6.0000e-005	0.0000	1.2908
Total	**3.7000e-004**	**5.3000e-004**	**5.5700e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.2897**	**1.2897**	**6.0000e-005**	**0.0000**	**1.2908**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.7566					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1176	0.1400	2.3000e-004		7.2500e-003	7.2500e-003		7.2500e-003	7.2500e-003	0.0000	19.6600	19.6600	1.3500e-003	0.0000	19.6884
Total	**2.7735**	**0.1176**	**0.1400**	**2.3000e-004**		**7.2500e-003**	**7.2500e-003**		**7.2500e-003**	**7.2500e-003**	**0.0000**	**19.6600**	**19.6600**	**1.3500e-003**	**0.0000**	**19.6884**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	5.3000e-004	5.5700e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.2897	1.2897	6.0000e-005	0.0000	1.2908
Total	**3.7000e-004**	**5.3000e-004**	**5.5700e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.2897**	**1.2897**	**6.0000e-005**	**0.0000**	**1.2908**

3.17 Phase 4 - Parking Str. 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	tons/yr										MT/yr					
Off-Road	0.1081	0.9762	0.9912	1.6900e-003		0.0493	0.0493		0.0466	0.0466	0.0000	145.0680	145.0680	0.0324	0.0000	145.7473
Total	**0.1081**	**0.9762**	**0.9912**	**1.6900e-003**		**0.0493**	**0.0493**		**0.0466**	**0.0466**	**0.0000**	**145.0680**	**145.0680**	**0.0324**	**0.0000**	**145.7473**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1900e-003	0.0331	0.0385	1.5000e-004	3.4300e-003	7.2000e-004	4.1600e-003	9.4000e-004	6.7000e-004	1.6100e-003	0.0000	12.4981	12.4981	1.0000e-004	0.0000	12.5002
Vendor	0.0211	0.1513	0.2974	6.9000e-004	0.0199	2.8600e-003	0.0227	5.6700e-003	2.6300e-003	8.3000e-003	0.0000	58.8183	58.8183	4.5000e-004	0.0000	58.8277
Worker	2.5500e-003	3.6200e-003	0.0385	1.5000e-004	0.0124	9.0000e-005	0.0124	3.2800e-003	8.0000e-005	3.3600e-003	0.0000	9.2678	9.2678	4.0000e-004	0.0000	9.2761
Total	**0.0268**	**0.1880**	**0.3744**	**9.9000e-004**	**0.0356**	**3.6700e-003**	**0.0393**	**9.8900e-003**	**3.3800e-003**	**0.0133**	**0.0000**	**80.5841**	**80.5841**	**9.5000e-004**	**0.0000**	**80.6040**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1081	0.9762	0.9912	1.6900e-003		0.0493	0.0493		0.0466	0.0466	0.0000	145.0678	145.0678	0.0324	0.0000	145.7471
Total	**0.1081**	**0.9762**	**0.9912**	**1.6900e-003**		**0.0493**	**0.0493**		**0.0466**	**0.0466**	**0.0000**	**145.0678**	**145.0678**	**0.0324**	**0.0000**	**145.7471**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1900e-003	0.0331	0.0385	1.5000e-004	3.4300e-003	7.2000e-004	4.1600e-003	9.4000e-004	6.7000e-004	1.6100e-003	0.0000	12.4981	12.4981	1.0000e-004	0.0000	12.5002

Vendor	0.0211	0.1513	0.2974	6.9000e-004	0.0199	2.8600e-003	0.0227	5.6700e-003	2.6300e-003	8.3000e-003	0.0000	58.8183	58.8183	4.5000e-004	0.0000	58.8277
Worker	2.5500e-003	3.6200e-003	0.0385	1.5000e-004	0.0124	9.0000e-005	0.0124	3.2800e-003	8.0000e-005	3.3600e-003	0.0000	9.2678	9.2678	4.0000e-004	0.0000	9.2761
Total	**0.0268**	**0.1880**	**0.3744**	**9.9000e-004**	**0.0356**	**3.6700e-003**	**0.0393**	**9.8900e-003**	**3.3800e-003**	**0.0133**	**0.0000**	**80.5841**	**80.5841**	**9.5000e-004**	**0.0000**	**80.6040**

3.18 Phase 5 - Parking Str. Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0872	0.7866	0.8588	1.4800e-003		0.0374	0.0374		0.0354	0.0354	0.0000	126.7273	126.7273	0.0280	0.0000	127.3152
Total	**0.0872**	**0.7866**	**0.8588**	**1.4800e-003**		**0.0374**	**0.0374**		**0.0354**	**0.0354**	**0.0000**	**126.7273**	**126.7273**	**0.0280**	**0.0000**	**127.3152**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9400e-003	0.0162	0.0250	1.0000e-004	2.3600e-003	4.9000e-004	2.8500e-003	6.5000e-004	4.6000e-004	1.1000e-003	0.0000	8.5309	8.5309	6.0000e-005	0.0000	8.5321
Vendor	0.0170	0.1050	0.2496	6.0000e-004	0.0174	2.4600e-003	0.0198	4.9500e-003	2.2700e-003	7.2200e-003	0.0000	51.1223	51.1223	3.5000e-004	0.0000	51.1297
Worker	2.1200e-003	2.9900e-003	0.0319	1.3000e-004	0.0108	8.0000e-005	0.0109	2.8600e-003	7.0000e-005	2.9400e-003	0.0000	7.9724	7.9724	3.3000e-004	0.0000	7.9794
Total	**0.0211**	**0.1242**	**0.3065**	**8.3000e-004**	**0.0305**	**3.0300e-003**	**0.0335**	**8.4600e-003**	**2.8000e-003**	**0.0113**	**0.0000**	**67.6256**	**67.6256**	**7.4000e-004**	**0.0000**	**67.6412**

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
	tons/yr										MT/yr					
Off-Road	0.0872	0.7866	0.8588	1.4800e-003		0.0374	0.0374		0.0354	0.0354	0.0000	126.7271	126.7271	0.0280	0.0000	127.3151
Total	**0.0872**	**0.7866**	**0.8588**	**1.4800e-003**		**0.0374**	**0.0374**		**0.0354**	**0.0354**	**0.0000**	**126.7271**	**126.7271**	**0.0280**	**0.0000**	**127.3151**

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
	tons/yr										MT/yr					
Hauling	1.9400e-003	0.0162	0.0250	1.0000e-004	2.3600e-003	4.9000e-004	2.8500e-003	6.5000e-004	4.6000e-004	1.1000e-003	0.0000	8.5309	8.5309	6.0000e-005	0.0000	8.5321
Vendor	0.0170	0.1050	0.2496	6.0000e-004	0.0174	2.4600e-003	0.0198	4.9500e-003	2.2700e-003	7.2200e-003	0.0000	51.1223	51.1223	3.5000e-004	0.0000	51.1297
Worker	2.1200e-003	2.9900e-003	0.0319	1.3000e-004	0.0108	8.0000e-005	0.0109	2.8600e-003	7.0000e-005	2.9400e-003	0.0000	7.9724	7.9724	3.3000e-004	0.0000	7.9794
Total	**0.0211**	**0.1242**	**0.3065**	**8.3000e-004**	**0.0305**	**3.0300e-003**	**0.0335**	**8.4600e-003**	**2.8000e-003**	**0.0113**	**0.0000**	**67.6256**	**67.6256**	**7.4000e-004**	**0.0000**	**67.6412**

3.19 Phase 5 - Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0101	0.1000	0.1429	2.2000e-004		5.0100e-003	5.0100e-003		4.6100e-003	4.6100e-003	0.0000	19.6008	19.6008	6.3400e-003	0.0000	19.7339
Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0108**	**0.1000**	**0.1429**	**2.2000e-004**		**5.0100e-003**	**5.0100e-003**		**4.6100e-003**	**4.6100e-003**	**0.0000**	**19.6008**	**19.6008**	**6.3400e-003**	**0.0000**	**19.7339**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	1.5000e-004	1.6200e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4057	0.4057	2.0000e-005	0.0000	0.4061
Total	**1.1000e-004**	**1.5000e-004**	**1.6200e-003**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4057**	**0.4057**	**2.0000e-005**	**0.0000**	**0.4061**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0101	0.1000	0.1429	2.2000e-004		5.0100e-003	5.0100e-003		4.6100e-003	4.6100e-003	0.0000	19.6007	19.6007	6.3400e-003	0.0000	19.7339

Paving	6.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0108**	**0.1000**	**0.1429**	**2.2000e-004**		**5.0100e-003**	**5.0100e-003**		**4.6100e-003**	**4.6100e-003**	**0.0000**	**19.6007**	**19.6007**	**6.3400e-003**	**0.0000**	**19.7339**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	1.5000e-004	1.6200e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4057	0.4057	2.0000e-005	0.0000	0.4061
Total	**1.1000e-004**	**1.5000e-004**	**1.6200e-003**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4057**	**0.4057**	**2.0000e-005**	**0.0000**	**0.4061**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4210	0.6878	3.6811	0.0132	0.9346	0.0142	0.9489	0.2498	0.0132	0.2630	0.0000	866.2777	866.2777	0.0283	0.0000	866.8726
Unmitigated	0.4210	0.6878	3.6811	0.0132	0.9346	0.0142	0.9489	0.2498	0.0132	0.2630	0.0000	866.2777	866.2777	0.0283	0.0000	866.8726

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Day-Care Center	230.02	0.00	0.00	238,905	238,905
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Place of Worship	230.17	3,090.13	3090.13	2,233,673	2,233,673
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	460.19	3,090.13	3,090.13	2,472,578	2,472,578

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
Day-Care Center	16.60	8.40	6.90	12.70	82.30	5.00	28	58	14
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Unenclosed Parking Structure	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.500282	0.057001	0.196753	0.152945	0.042333	0.006070	0.016337	0.017415	0.001474	0.002202	0.004129	0.000486	0.002572

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	282.7702	282.7702	0.0130	2.6900e-003	283.8768
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	282.7702	282.7702	0.0130	2.6900e-003	283.8768
NaturalGas Mitigated	0.0100	0.0913	0.0767	5.5000e-004		6.9400e-003	6.9400e-003		6.9400e-003	6.9400e-003	0.0000	99.3866	99.3866	1.9000e-003	1.8200e-003	99.9914
NaturalGas Unmitigated	0.0100	0.0913	0.0767	5.5000e-004		6.9400e-003	6.9400e-003		6.9400e-003	6.9400e-003	0.0000	99.3866	99.3866	1.9000e-003	1.8200e-003	99.9914

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	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	0.0000
Place of Worship	1.76626e+006	9.5200e-003	0.0866	0.0727	5.2000e-004		6.5800e-003	6.5800e-003		6.5800e-003	6.5800e-003	0.0000	94.2542	94.2542	1.8100e-003	1.7300e-003	94.8278
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	0.0000
Day-Care Center	96177.5	5.2000e-004	4.7100e-003	3.9600e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	5.1324	5.1324	1.0000e-004	9.0000e-005	5.1636
Total		**0.0100**	**0.0913**	**0.0767**	**5.5000e-004**		**6.9400e-003**	**6.9400e-003**		**6.9400e-003**	**6.9400e-003**	**0.0000**	**99.3866**	**99.3866**	**1.9100e-003**	**1.8200e-003**	**99.9914**

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	tons/yr										MT/yr					
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	0.0000
Place of Worship	1.76626e+006	9.5200e-003	0.0866	0.0727	5.2000e-004		6.5800e-003	6.5800e-003		6.5800e-003	6.5800e-003	0.0000	94.2542	94.2542	1.8100e-003	1.7300e-003	94.8278
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	0.0000
Day-Care Center	96177.5	5.2000e-004	4.7100e-003	3.9600e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	5.1324	5.1324	1.0000e-004	9.0000e-005	5.1636
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0100**	**0.0913**	**0.0767**	**5.5000e-004**		**6.9400e-003**	**6.9400e-003**		**6.9400e-003**	**6.9400e-003**	**0.0000**	**99.3866**	**99.3866**	**1.9100e-003**	**1.8200e-003**	**99.9914**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Day-Care Center	53552.5	15.3250	7.0000e-004	1.5000e-004	15.3849
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	20768	5.9431	2.7000e-004	6.0000e-005	5.9664
Place of Worship	754169	215.8181	9.9200e-003	2.0500e-003	216.6628
Unenclosed Parking Structure	159641	45.6840	2.1000e-003	4.3000e-004	45.8628
Total		**282.7702**	**0.0130**	**2.6900e-003**	**283.8768**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Day-Care Center	53552.5	15.3250	7.0000e-004	1.5000e-004	15.3849
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	20768	5.9431	2.7000e-004	6.0000e-005	5.9664
Place of Worship	754169	215.8181	9.9200e-003	2.0500e-003	216.6628
Unenclosed Parking Structure	159641	45.6840	2.1000e-003	4.3000e-004	45.8628
Total		**282.7702**	**0.0130**	**2.6900e-003**	**283.8768**

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	tons/yr										MT/yr					
Mitigated	1.2186	6.0000e-005	6.3900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0125	0.0125	3.0000e-005	0.0000	0.0132
Unmitigated	1.2186	6.0000e-005	6.3900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0125	0.0125	3.0000e-005	0.0000	0.0132

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2757					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9424					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.9000e-004	6.0000e-005	6.3900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0125	0.0125	3.0000e-005	0.0000	0.0132
Total	**1.2186**	**6.0000e-005**	**6.3900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0125**	**0.0125**	**3.0000e-005**	**0.0000**	**0.0132**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2757					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9424					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.9000e-004	6.0000e-005	6.3900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0125	0.0125	3.0000e-005	0.0000	0.0132
Total	**1.2186**	**6.0000e-005**	**6.3900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0125**	**0.0125**	**3.0000e-005**	**0.0000**	**0.0132**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	27.0871	0.0952	2.4700e-003	29.8514
Unmitigated	27.0871	0.0953	2.4700e-003	29.8529

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Day-Care Center	0.332394 / 0.854728	4.0615	0.0110	2.9000e-004	4.3837
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	2.5538 / 3.99441	23.0256	0.0842	2.1800e-003	25.4692
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**27.0871**	**0.0953**	**2.4700e-003**	**29.8529**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Day-Care Center	0.332394 / 0.854728	4.0615	0.0110	2.9000e-004	4.3835

Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	2.5538 / 3.99441	23.0256	0.0842	2.1700e-003	25.4679
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**27.0871**	**0.0952**	**2.4600e-003**	**29.8514**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	96.4836	5.7020	0.0000	216.2260
Unmitigated	96.4836	5.7020	0.0000	216.2260

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Day-Care Center	10.08	2.0462	0.1209	0.0000	4.5856

Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	465.23	94.4375	5.5811	0.0000	211.6405
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**96.4836**	**5.7020**	**0.0000**	**216.2260**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Day-Care Center	10.08	2.0462	0.1209	0.0000	4.5856
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	465.23	94.4375	5.5811	0.0000	211.6405
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**96.4836**	**5.7020**	**0.0000**	**216.2260**

9.0 Operational Offroad

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

10.0 Vegetation

APPENDIX C

BIOLOGICAL RESOURCES ASSESSMENTS

This page intentionally left blank

L S A | LSA ASSOCIATES, INC.
20 EXECUTIVE PARK, SUITE 200
IRVINE, CALIFORNIA 92614

949.553.0666 TEL
949.553.8076 FAX

BERKELEY
CARLSBAD

FRESNO
PALM SPRINGS
PT. RICHMOND

RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

August 29, 2014

Ms. Saima Qureshy, Senior Planner
City of Dana Point
33282 Golden Lantern
Dana Point, CA 92629-1805

Subject: Updated General Biological Assessment for the Proposed South Shores Church Master Plan, City of Dana Point

Dear Ms. Qureshy:

Per your request, LSA Associates, Inc. (LSA) has prepared this updated general biological assessment for the proposed South Shores Church expansion in the City of Dana Point (City). This assessment describes the site-specific survey methods used and the results of the site surveys. This technical information is provided for project review under the California Environmental Quality Act (CEQA), State and Federal Endangered Species Acts, and other pertinent regulations. The study area ranges in elevation from approximately 180 to 275 feet above mean sea level and is situated on Crown Valley Parkway in the City of Dana Point (see Figure 1; all figures attached). The study area consists of existing Church structures with associated landscaping and is surrounded by roadways and residential development on three sides and open space on the fourth. The vegetation on site is a mix of exotic ornamental and native plant species.

METHODS

As a part of this Updated General Biological Assessment, the California Department of Fish and Wildlife (CDFW) Rarefind 3 and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants of California were utilized to assist in determining the existence or potential occurrence of any special-status plant and animal species in or immediately adjacent to the study area.

LSA senior biologists Jim Harrison and Richard Erickson visited the South Shores Church site on May 20 and 26, 2010, respectively. Mr. Harrison surveyed primarily for plants and mapped the vegetation. Mr. Erickson surveyed primarily for animals and, like Mr. Harrison, evaluated the habitat in terms of its potential for use by various special-status species. An aerial photograph showing the study area was used in the field for orientation and mapping purposes as needed. During the survey, the entire study area was covered on foot, and the existing biological resources were thoroughly assessed. This included noting the general site conditions, identifying and classifying plant communities present on site, compiling an inventory of the animal and vascular plant species present, and searching for any existing special-status species present or potentially occurring on site.

A protocol survey for the Endangered Pacific pocket mouse (*Perognathus longimembris pacificus*) and an abbreviated protocol survey for the Threatened coastal California gnatcatcher (*Polioptila californica californica*) were conducted in June and July 2010, respectively.

RESULTS

Vegetation

A map of the plant communities on the project site is shown on Figure 2. Most of the site is developed and is highlighted by ornamental landscaping. Dominant among the ornamental plants are a number of large *Eucalyptus* trees on the north and east sides of the site. A list of all plant species observed is included as Attachment A. Other ornamental trees include pine (*Pinus* sp.) and *Ficus*. A limited amount of natural vegetation is present on the east side of the site.

The site's natural vegetation is a mix of chaparral and coastal sage scrub, much of it disturbed due to ongoing fuel modification activities. Chaparral areas are dominated by scrub species such as laurel sumac (*Malosma laurina*), lemonade berry (*Rhus integrifolia*), and toyon (*Heteromeles arbutifolia*). These species also occur in the coastal sage scrub, but are codominant with California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*). Other common scrub species include black sage (*Salvia mellifera*) and coyote bush (*Baccharis pilularis*).

Project implementation is expected to result in the removal of a portion of the natural vegetation on the project site. The amount of each habitat type present on site is provided in the legend to Figure 2.

The intrusion of invasive exotic plant species from the landscape of existing development can adversely and significantly affect adjacent open space composed of native habitat. Therefore, LSA strongly recommends curtailing the use of any invasive nonnative plant species on site in association with any future landscaping and/or redevelopment of the site. For the purposes of this recommendation, invasive nonnative plants are considered those plant species rated as "High" or "Moderate" in the California Invasive Plant Council (Cal-IPC) Invasive Plant Inventory.[1]

Wildlife

As described above, the vegetation present on the project site is dominated by exotic ornamental species. This vegetation is typical of much of the City and supports a wide range of generalist wildlife species. Many of the species observed fit into this generalist category. Many other species associated with natural scrub habitats were also observed. These include the greater roadrunner (*Geococcyx californianus*), Bewick's wren (*Thryomanes bewickii*), wrentit (*Chamaea fasciata*), and California thrasher (*Toxostoma redivivum*). A number of migrant landbirds representing several species were observed during the May 26 survey. Most numerous among these was the California yellow warbler (*Dendroica petechia brewsteri*). A list of the animal species observed or otherwise detected during the site surveys and protocol surveys is provided as Attachment B.

Based on field observations and the location of the study area, there are no indications that the study area functions as a wildlife movement corridor.

[1] California Invasive Plant Council. Website: http://www.cal-ipc.org/ip/inventory/index.php.

Special-Status Species/Communities

Attachment C is a table that identifies those special-status plant and animal species known to occur or potentially occur in the region. "Special-status species" are those plants or animals that are federally and/or State listed, that are proposed for listing,[1] or that have some other special designation from a resource agency or a recognized conservation organization (e.g., CNPS). These species were compiled in part from database records from the CNPS Online Inventory and the California Natural Diversity Database (CNDDB). The table contains detailed information regarding special-status plant and animal species' habitats and distributions, activity periods, State and federal status designations, and probability of occurrence.

The threatened coastal California gnatcatcher is the most important biological issue that needs to be addressed. During focused surveys to determine the coastal California gnatcatcher's utilization of the habitat in the vicinity of the project site, a pair of these birds were observed at least occasionally utilizing the undisturbed coastal sage scrub in the lower northeastern corner of the project site. While no gnatcatchers were observed using the disturbed coastal sage scrub further up the slope on the project site, it is possible that gnatcatchers use this area as well (although it would be on the extreme edge of any gnatcatcher territories). Based on preliminary grading and fuel modification plans for the "as proposed" and "alternative" versions of the proposed project, implementation of the "as proposed" and "alternative" site plans would result in the loss of approximately 0.18 acres of disturbed coastal sage scrub that may be occasionally utilized by coastal California gnatcatchers.

Another listed species, the endangered California least tern, was also observed during surveys, but only off site at ponds on the Monarch Beach Golf Links. This marine/aquatic species is unlikely to utilize the project site in its current or planned conditions and is, therefore, not discussed in Attachment C.

Two other special-status animal species were observed on site, Allen's hummingbird (*Selasphorus sasin*) and Nuttall's woodpecker (*Picoides nuttallii*). Another species, the California yellow warbler, was seen, but not in the manner in which it is given special status (i.e., nesting). Several other species are believed to have a moderate chance of occurring on site under conditions in which they are considered "special": the San Bernardino ringneck snake (*Diadophis punctatus modestus*), Cooper's hawk (*Accipiter cooperi*), merlin (*Falco columbarius*), and western mastiff bat (*Eumops perotis californicus*). All of these species are relatively widespread, several in urban settings, and LSA recommends that they be given no special consideration in this process.

No special-status plant species were observed in the study area or immediately adjacent to the study area during the survey. Moreover, no special-status plant species is judged to have a moderate chance of occurring on site.

No other sensitive natural communities (e.g., southern maritime chaparral) are present in the study area.

[1] Includes species already listed or proposed for listing by the federal government as "Threatened" or "Endangered." In addition to the Threatened and Endangered designations, the State of California also has a third listing designation of "Rare," but only with regard to specific plant species.

Wetlands and Potential Jurisdictional Drainages

Based on field observations, LSA determined that there are no jurisdictional drainages or associated riparian habitat or adjacent wetlands within the study area, which consists entirely of upland vegetation.

If you have any questions or comments regarding this letter report, please feel free to contact me or Jim Harrison at (949) 553-0666.

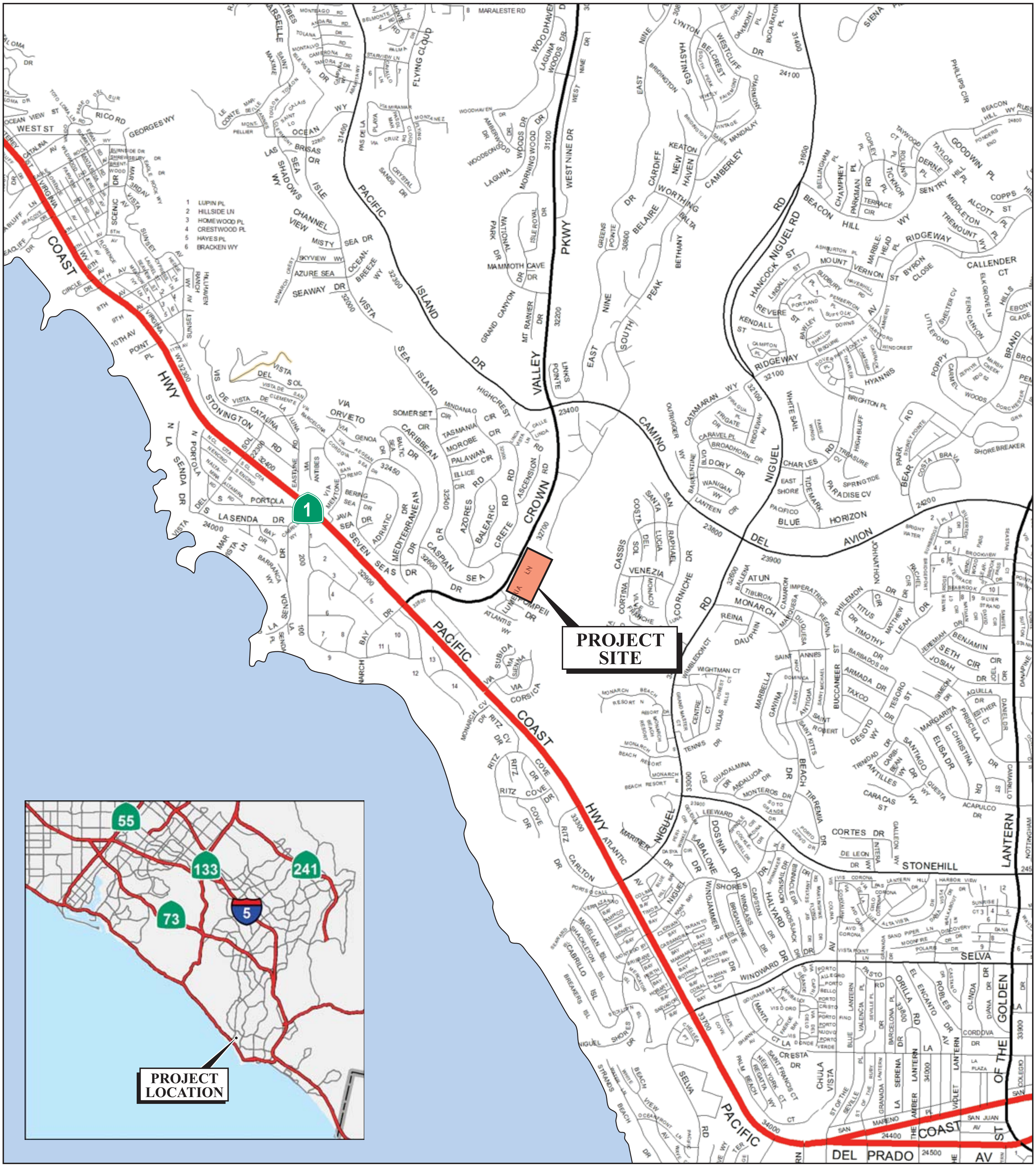
Sincerely,

LSA ASSOCIATES, INC.

Richard A. Erickson

Richard Erickson
Associate/Biologist

Attachments: Figures 1 and 2
A: Vascular Plant Species Observed
B: Animal Species Detected
C: Summary of Special-Status Species



LSA

FIGURE 1

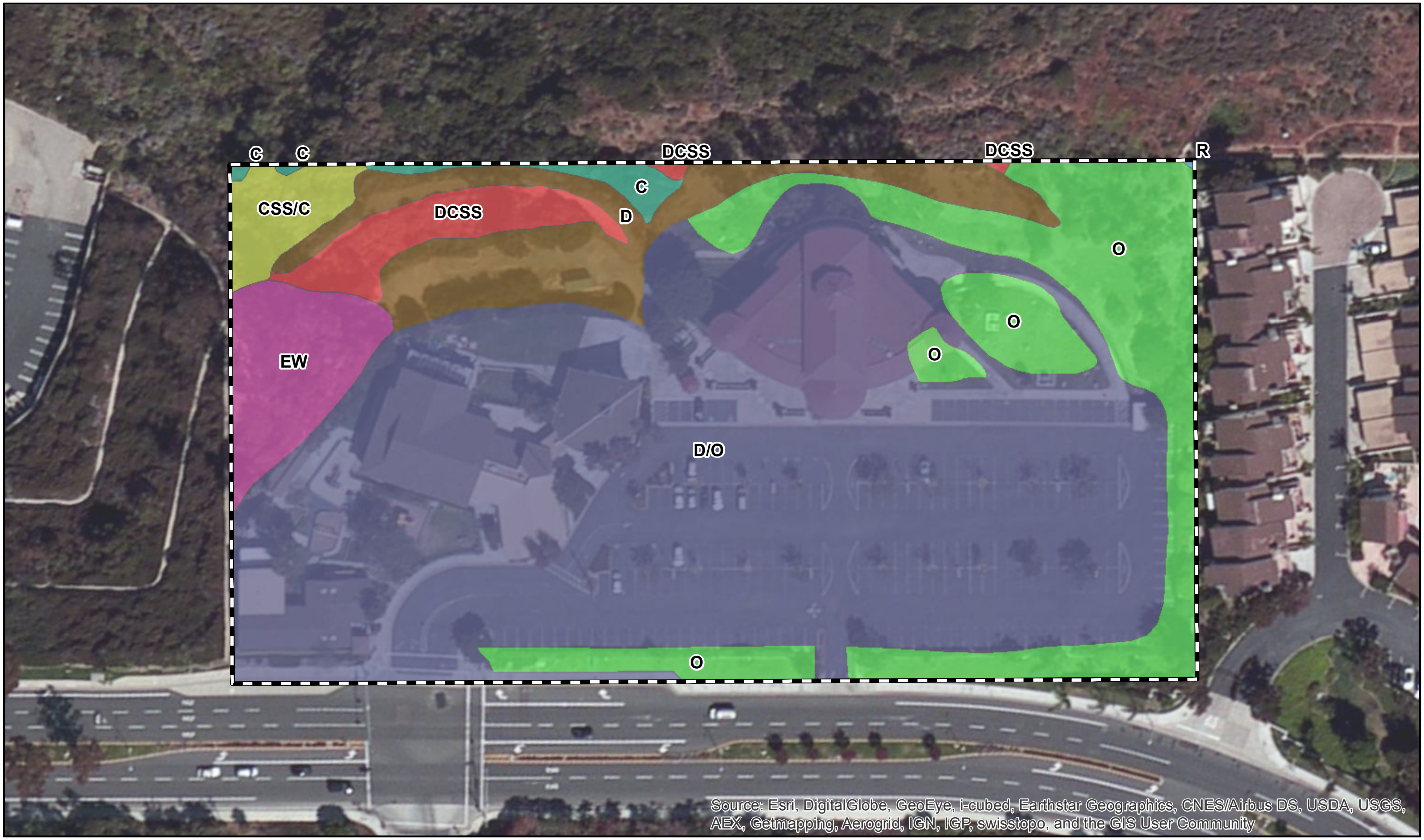
N

0 1000 2000
FEET

SOURCE: The Thomas Guide

South Shores Church Master Plan

Project Site



L S A

FIGURE 2

LEGEND

Property Line (6.0 ac)

Plant Communities

- Chaparral (C) (0.05 ac)
- Disturbed Coastal Sage Scrub (DCSS) (0.18 ac)
- Coastal Sage Scrub/ Chaparral (CSS/C) (0.12 ac)
- Developed with Ornamental Landscape (D/O) (3.86 ac)
- Disturbed (D) (0.49 ac)
- Eucalyptus Woodland (EW) (0.26 ac)
- Ornamental (O) (1.003 ac)
- Ruderal (R) (0.001 ac)

0 50 100
FEET

SOURCE: Microsoft (05/03/2010)

South Shores Church Master Plan

Plant Communities

I:\DPC0902\GIS\Plant_Communities_BIO.mxd (7/24/2014)

ATTACHMENT A

VASCULAR PLANT SPECIES OBSERVED

ATTACHMENT A
VASCULAR PLANT SPECIES OBSERVED

The following vascular plant species were observed in the study area by LSA Associates, Inc. (LSA) senior botanist Jim Harrison during a site survey conducted on May 20, 2010.

* Introduced species not native to California

GYMNOSPERMAE		**CONE-BEARING PLANTS**
Pinaceae		**Pine Family**
*	*Pinus* sp.	Pine
ANGIOSPERMAE: DICOTYLEDONAE		**DICOT FLOWERING PLANTS**
Amaranthaceae		**Amaranth Family**
*	*Amaranthus albus*	Tumbling pigweed
Anacardiaceae		**Sumac Family**
	Malosma laurina	Laurel sumac
	Rhus integrifolia	Lemonade berry
Apiaceae		**Carrot Family**
*	*Foeniculum vulgare*	Sweet fennel
Apocynaceae		**Dogbane Family**
*	*Nerium oleander*	Oleander
Araliaceae		**Ginseng Family**
*	*Hedera helix*	English ivy
Asteraceae		**Sunflower Family**
	Ambrosia psilostachya	Western ragweed
	Artemisia californica	California sagebrush
	Baccharis pilularis	Coyote bush
*	*Centaurea melitensis*	Tocalote
*	*Cynara cardunculus*	Artichoke thistle
	Deinandra fasciculata	Fascicled tarweed
*	*Dimorphotheca ecklonis*	Trailing African daisy
	Erigeron canadensis	Common horseweed
*	*Glebionis coronaria*	Garland chrysanthemum
*	*Hypochaeris glabra*	Smooth cat's-ear
	Isocoma menziesii var. *vernonioides*	Coastal goldenbush
*	*Helminthotheca echioides*	Bristly ox-tongue
	Pseudognaphalium biolettii	Bicolored cudweed

*	*Pseudognaphalium luteo-album*	Weedy cudweed
*	*Sonchus arvensis*	Perennial sow-thistle
*	*Sonchus asper* ssp. *asper*	Prickly sow-thistle
*	*Sonchus oleraceus*	Common sow-thistle
*	*Taraxacum officinale*	Common dandelion
Boraginaceae		**Borage Family**
*	*Echium candicans*	Pride of Madeira
	Phacelia ramosissima	Branching phacelia
Brassicaceae		**Mustard Family**
*	*Brassica nigra*	Black mustard
*	*Lepidium didymum*	Lesser wart-cress
Cactaceae		**Cactus Family**
	Opuntia littoralis	Coastal prickly pear
Caprifoliaceae		**Honeysuckle Family**
*	*Lonicera japonica*	Japanese honeysuckle
Caryophyllaceae		**Pink Family**
*	*Cerastium glomeratum*	Mouse-ear chickweed
*	*Herniaria hirsuta* var. *cinerea*	Hairy rupturewort
Chenopodiaceae		**Goosefoot Family**
	Atriplex lentiformis ssp. *lentiformis*	Big saltbush
*	*Chenopodium album*	Lamb's quarters
*	*Chenopodium berlandieri*	Pitseed goosefoot
*	*Chenopodium murale*	Nettle-leaved goosefoot
*	*Salsola tragus*	Russian-thistle
Cleomaceae		**Spiderflower Family**
	Peritoma arborea	Bladderpod
Convolvulaceae		**Morning-glory Family**
	Calystegia macrostegia	Morning-glory
*	*Dichondra micrantha*	Urban's Asian pennyfoot
Crassulaceae		**Stonecrop Family**
*	*Crassula ovata*	Jade plant
Cucurbitaceae		**Gourd Family**
	Marah macrocarpa	Wild cucumber

Euphorbiaceae		**Spurge Family**
	Euphorbia sp.	Spurge
*	*Euphorbia peplus*	Petty spurge
*	*Ricinus communis*	Castor bean
Fabaceae		**Legume Family**
*	*Acacia* sp.	Acacia
*	*Acacia longifolia*	Sydney golden wattle
*	*Medicago polymorpha*	Common bur-clover
*	*Melilotus indicus*	Yellow sweet-clover
Geraniaceae		**Geranium Family**
*	*Erodium cicutarium*	Red-stemmed filaree
Lamiaceae		**Mint Family**
*	*Marrubium vulgare*	Horehound
	Salvia mellifera	Black sage
	Stachys bergii	Hillside hedge-nettle
Malvaceae		**Mallow Family**
*	*Malva parviflora*	Cheeseweed
Moraceae		**Mulberry Family**
*	*Ficus benjamina*	Weeping Chinese banyan
Myrsinaceae		**Myrsine Family**
*	*Anagallis arvensis*	Scarlet pimpernel
Myrtaceae		**Myrtle Family**
*	*Callistemon* sp.	Bottlebrush
*	*Eucalyptus camaldulensis*	River red gum
*	*Eucalyptus globulus*	Tasmanian blue gum
Nyctaginaceae		**Four O'Clock Family**
*	*Bougainvillea* sp.	Bougainvillea
	Mirabilis laevis var. *crassifolia*	California wishbone bush
Pittosporaceae		**Pittosporum Family**
*	*Pittosporum undulatum*	Victorian box
Platanaceae		**Sycamore Family**
	Platanus racemosa	Western sycamore
Plumbaginaceae		**Leadwort Family**
*	*Limonium perezii*	Perez's sea-lavender

Polygonaceae		**Buckwheat Family**
	Eriogonum fasciculatum	California buckwheat
*	*Rumex crispus*	Curly dock
Rosaceae		**Rose Family**
	Heteromeles arbutifolia	Toyon
*	*Pyracantha* sp.	Firethorn
Salicaceae		**Willow Family**
	Salix lasiolepis	Arroyo willow
Scrophulariaceae		**Figwort Family**
*	*Myoporum laetum*	Myoporum
Solanaceae		**Nightshade Family**
	Solanum douglasii	Douglas' nightshade
Tamaricaceae		**Tamarisk Family**
*	*Tamarix ramosissima*	Mediterranean tamarisk
Ulmaceae		**Elm Family**
*	*Ulmus parvifolia*	Chinese elm
ANGIOSPERMAE: MONOCOTYLEDONAE		**MONOCOT FLOWERING PLANTS**
Asphodelaceae		**Asphodel Family**
*	*Asphodelus fistulosus*	Onionweed
Cyperaceae		**Sedge Family**
*	*Cyperus involucratus*	Africa umbrella-sedge
Iridaceae		**Iris Family**
	Sisyrinchium bellum	Blue-eyed grass
Liliaceae		**Lily Family**
*	*Tulbaghia violacea*	Society garlic
Poaceae		**Grass Family**
*	*Avena barbata*	Slender wild oat
*	*Avena fatua*	Common wild oat
*	*Brachypodium distachyon*	Purple false brome
*	*Bromus diandrus*	Ripgut grass
*	*Bromus hordeaceus*	Soft chess
*	*Bromus madritensis* ssp. *rubens*	Foxtail chess
*	*Cortaderia selloana*	Pampas grass
*	*Cynodon dactylon*	Bermuda grass

*	*Digitaria sanguinalis*	Crab grass
*	*Festuca myuros*	Rattail fescue
*	*Pennisetum clandestinum*	Kikuyu grass
*	*Phalaris minor*	Littleseed canary grass
*	*Polypogon interruptus*	Ditch polypogon
*	*Schismus barbatus*	Mediterranean grass
	Stipa lepida	Foothill needlegrass

Taxonomy and scientific nomenclature generally conform to Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, eds. (2012, The Jepson Manual: Higher Plants of California, second ed., University of California Press, Berkeley).

Common names for each taxa generally conform to Roberts, F.M., Jr. (2008, The Vascular Plants of Orange County, California, F.M. Roberts Publications, San Luis Rey, California) except where Abrams, L. (1923, 1944, and 1951, Illustrated Flora of the Pacific States: Washington, Oregon, and California, vols. I-III, Stanford University Press, Stanford, California) and Abrams, L. and Ferris, R.S. (1960, Illustrated Flora of the Pacific States: Washington, Oregon, and California, vol. IV, Stanford University Press, Stanford, California) were used, particularly when species-specific common names were not identified in Roberts, F.M., Jr. (2008).

ATTACHMENT B

ANIMAL SPECIES DETECTED

ATTACHMENT B
ANIMAL SPECIES DETECTED

This is a list of the conspicuous aerial insects (i.e., damselflies, dragonflies, and butterflies), bony fishes, amphibians, reptiles, birds, and mammals noted in the study area by LSA biologists. Presence may be noted if a species is seen or heard, or identified by the presence of tracks, scat, or other signs.

* Species not native to the study area

LEPIDOPTERA	**BUTTERFLIES**
Pieridae	**Whites and Sulphurs**
* *Pieris rapae*	Cabbage white
Nymphalidae	**Brush-Footed Butterflies**
Nymphalis antiopa	Mourning cloak
REPTILIA	**REPTILES**
Phrynosomatidae	**Phrynosomatid Lizards**
Sceloporus occidentalis	Western fence lizard
Anguidae	**Alligator Lizards and Relatives**
Elgaria multicarinata	Southern alligator lizard
AVES	**BIRDS**
Odontophoridae	**New World Quail**
Callipepla californica	California quail
Ardeidae	**Herons, Bitterns, and Allies**
Ardea herodias	Great blue heron
Nycticorax nycticorax	Black-crowned night-heron
Cathartidae	**New World Vultures**
Cathartes aura	Turkey vulture
Laridae	**Gulls, Terns, and Skimmers**
Sternula antillarum browni	California least tern
Columbidae	**Pigeons and Doves**
* *Columba livia*	Rock pigeon
Zenaida macroura	Mourning dove

Cuculidae	**Cuckoos, Roadrunners, and Anis**
Geococcyx californianus	Greater roadrunner
Trochilidae	**Hummingbirds**
Calypte anna	Anna’s hummingbird
Selasphorus sasin	Allen’s hummingbird
Picidae	**Woodpeckers and Allies**
Picoides nuttallii	Nuttall’s woodpecker
Tyrannidae	**Tyrant Flycatchers**
Contopus cooperi	Olive-sided flycatcher
Sayornis nigricans	Black phoebe
Tyrannus vociferans	Cassin’s kingbird
Vireonidae	**Vireos**
Vireo huttoni	Hutton’s vireo
Corvidae	**Crows and Jays**
Aphelocoma californica	Western scrub-jay
Corvus brachyrhynchos	American crow
Hirundinidae	**Swallows**
Petrochelidon pyrrhonota	Cliff swallow
Aegithalidae	**Long-Tailed Tits and Bushtits**
Psaltriparus minimus	Bushtit
Troglodytidae	**Wrens**
Troglodytes aedon	House wren
Thryomanes bewickii	Bewick’s wren
Polioptilidae	**Gnatcatchers and Gnatwrens**
Polioptila californica californica	Coastal California gnatcatcher
Turdidae	**Thrushes**
Sialia mexicana	Western bluebird
Catharus ustulatus	Swainson’s thrush
Timaliidae	**Babblers**
Chamaea fasciata	Wrentit
Mimidae	**Mockingbirds and Thrashers**
Toxostoma redivivum	California thrasher
Mimus polyglottos	Northern mockingbird

Sturnidae	**Starlings**
* *Sturnus vulgaris*	European starling
Parulidae	**Wood Warblers**
Oreothlypis celata	Orange-crowned warbler
Geothlypis trichas	Common yellowthroat
Setophaga petechia	Yellow warbler
Emberizidae	**Emberizids**
Pipilo maculatus	Spotted towhee
Melozone crissalis	California towhee
Melospiza melodia	Song sparrow
Icteridae	**Blackbirds**
Molothrus ater	Brown-headed cowbird
Icterus cucullatus	Hooded oriole
Fringillidae	**Fringilline and Cardueline Finches and Allies**
Haemorhous mexicanus	House finch
Spinus psaltria	Lesser goldfinch
Estrildidae	**Estrildid Finches**
* *Lonchura punctulata*	Nutmeg mannikin
MAMMALIA	**MAMMALS**
Heteromyidae	**Pocket Mice and Kangaroo Rats**
Chaetodipus californicus	California pocket mouse
Geomyidae	**Pocket Gophers**
Thomomys bottae	Botta’s pocket gopher
Cricetidae	**Hamsters, Voles, Lemmings, and New World Rats and Mice**
Neotoma macrotis	Big-eared woodrat
Peromyscus fraterculus	Northern Baja California deermouse
Peromyscus maniculatus	North American deermouse
Leporidae	**Rabbits and Hares**
Sylvilagus audubonii	Audubon’s cottontail
Cervidae	**Deer, Elk, and Allies**
Odocoileus hemionus	Mule deer

Taxonomy and nomenclature are based on the following:

Butterflies: North American Butterfly Association (2001, NABA checklist and English Names of North American Butterflies, Second Edition, North American Butterfly Association, Morristown, New Jersey; see http://www.naba.org/pubs/checklst.html).

Amphibians and reptiles: Crother, B.I. ed. (2012, Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico. *Herpetological Circular* 39) for species taxonomy and nomenclature; Stebbins, R.C., and S.M. McGinnis (2012, Field Guide to Amphibians and Reptiles of California, Revised Edition, University of California Press, Berkeley) for sequence and higher order taxonomy.

Birds: American Ornithologists' Union (1998, The A.O.U. Checklist of North American Birds, Seventh Edition, American Ornithologists' Union, Washington D.C.; and supplements; see http://www.aou.org/checklist/north/index.php).

Mammals: Wilson, D.E., and D.M. Reeder, eds. (2005, Mammal Species of the World, Third Edition, Johns Hopkins University Press, Baltimore, Maryland; see http://www.vertebrates.si.edu/msw/mswcfapp/msw/index.cfm).

ATTACHMENT C

SUMMARY OF SPECIAL-STATUS SPECIES

ATTACHMENT C
SUMMARY OF SPECIAL-STATUS SPECIES

SPECIES	HABITAT AND DISTRIBUTION	ACTIVITY PERIOD	STATUS DESIGNATION	OCCURRENCE PROBABILITY
PLANTS				
Aphanisma *Aphanisma blitoides*	Coastal bluff scrub, coastal dunes, coastal sage scrub below 1,000 ft in elevation. A population in Laguna Beach along the bluff at Arch Beach, and another at Reef Point and Crystal Cove.	April–May	US: -- CA: SP CNPS: 1B.2	**Low.** Not observed during the site survey. Although the species is known to occur locally along the coast, suitable habitat is lacking on site and the undeveloped portions of the site are disturbed.
Coulter's saltbush *Atriplex coulteri*	Alkaline depressions in coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland. Los Angeles County east to western San Bernardino County and south to Baja California.	March–October	US: -- CA: SP CNPS: 1B.2	**Low.** Not observed during the site survey. Conditions typically associated with this species are lacking on site.
South Coast saltscale *Atriplex pacifica*	Annual herb found historically along sea bluffs in coastal bluff scrub, coastal sage scrub, playas, and chenopod scrub in association with alkali soils. Los Angeles County south to Baja California (including Channel Islands). Presumed extirpated from Orange County.	March–October	US: -- CA: SP CNPS: 1B.2	**Low.** Not observed during the site survey. Presumed extirpated in Orange County.
Parish's brittlescale *Atriplex parishii*	Alkali meadows, alkali flats, chenopod scrub, and vernal pools throughout cismontane Southern California to edges of deserts. Historically known from Los Angeles and San Bernardino Counties to Baja California. Collected only once (1993) in California since 1974.	June–October	US: -- CA: SP CNPS: 1B.1	**Low.** Historical records of occurrences in the Long Beach area. Currently presumed extirpated from the region. Not observed during the site survey.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Alkaline flats and coastal bluffs below 660 ft in elevation. Coastal bluff scrub and coastal sage scrub. Coastal Los Angeles County to Laguna Beach, Orange County.	April–October	US: -- CA: SP CNPS: 1B.2	**Low.** Not observed during the site survey. Conditions typically associated with this species are lacking on site.
Thread-leaved brodiaea *Brodiaea filifolia*	Clay soils; open grasslands at edges of vernal pools or floodplains. Sea level to 2,500 ft in elevation. Known from about 20 locations in Los Angeles, Orange, Riverside, and San Diego Counties.	April–June	US: FT CA: CE CNPS: 1B.1	**Low.** Not observed during the site survey. The site lacks suitable habitat and conditions to support this species.
Intermediate mariposa lily *Calochortus weedii* var. *intermedius*	Rocky areas in hills with annual grassland and coastal sage scrub. Below 2,000 ft in elevation. Los Angeles, Orange, and Riverside Counties.	June–July	US: -- CA: SP CNPS: 1B.2	**Low.** Not observed during the site survey. Although known to occur in local foothills, some habitat and conditions on site are at best marginal for supporting this species.
Southern tarplant *Centromadia parryi* ssp. *australis*	Coastal salt marsh margins, vernally mesic grasslands, vernal pools. Often in ruderal, disturbed areas (e.g., drainage ditches, dirt road edges, road ruts, etc.) below 1,400 ft in elevation. Coastal Southern California from Santa Barbara County south to northern Baja California and possibly Santa Catalina Island.	June–November	US: -- CA: SP CNPS: 1B.1	**Low.** Not observed during the site survey. The site lacks suitable habitat and conditions to support this species.

ATTACHMENT C
SUMMARY OF SPECIAL-STATUS SPECIES

SPECIES	HABITAT AND DISTRIBUTION	ACTIVITY PERIOD	STATUS DESIGNATION	OCCURRENCE PROBABILITY
Orcutt's pincushion *Chaenactis glabriuscula* var. *orcuttiana*	Annual herb found in sandy soils of coastal bluff scrub and coastal dunes. Sea level to 400 ft in elevation. Coastal communities from Ventura County south to Baja California. Thought to be extirpated from Orange County.	January–August	US: -- CA: SP CNPS: 1B.1	**Low.** Not observed during the site survey. Although some suitable habitat exists on site, this species is presumed extirpated in Orange County.
Summer holly *Comarostaphylis diversifolia* ssp. *diversifolia*	Dry slopes in chaparral up to 2,000 ft in elevation. Coastal communities from Orange County south to Baja California.	April–June	US: -- CA: SP CNPS: 1B.2	**Absent**. Although known to occur locally, none were observed during the site survey and the site lacks suitable habitat. Also, the physical habit of this species is conspicuous enough that it would have been detected if present.
Blochman's dudleya *Dudleya blochmaniae* ssp. *blochmaniae*	Dry, rocky, or stony places below 1,500 ft in elevation, often on serpentine rock. Annual grassland and coastal sage scrub. Coastal areas from Ventura County south to Baja California.	May–June	US: -- CA: SP CNPS: 1B.1	**Low.** Not observed during the site survey. Although known to occur in other coastal locations, the site lacks suitable habitat and soil conditions to support this species.
Many-stemmed dudleya *Dudleya multicaulis*	Often on clay soils; also around granitic outcrops in chaparral, coastal sage scrub, and grassland; below 2,500 ft in elevation. Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties.	May–July	US: -- CA: SP CNPS: 1B.2	**Low.** Not observed during the site survey. Although the species is known to occur in other coastal locations, the site lacks suitable soils to support this species.
Cliff spurge *Euphorbia misera*	Primarily on rocky sea bluffs in coastal bluff scrub below 500 ft in elevation. Corona Del Mar (Orange County) south to Baja California, San Clemente, and Santa Catalina Islands.	January–August	US: -- CA: SP CNPS: 2.2	**Absent.** Not observed during the site survey. Suitable habitat and conditions are lacking on site. The species' physical habit is conspicuous enough that it would have been detected if present.
San Diego barrel cactus *Ferocactus viridescens*	On dry hills in chaparral, coastal sage scrub, and grassland; below 1,500 ft in elevation. Orange and San Diego Counties to Baja California.	May–June	US: -- CA: SP CNPS: 2.1	**Absent.** None were observed during the site survey and the site lacks habitat and conditions typically associated with this species. Also, the physical habit of this species is conspicuous enough that it would have been detected if present.
Vernal barley *Hordeum intercedum*	Saline streambeds, alkaline flats and depressions in grasslands, vernal pools. Cismontane Southern California, including Channel Islands, to northwest Baja California.	March–June	US: -- CA: SP CNPS: 3.2	**Low.** Not observed during the site survey. The site lacks suitable habitat and conditions to support this species.
Mesa horkelia *Horkelia cuneata* ssp. *puberula*	Sandy or gravelly soils in maritime chaparral, cismontane woodland, and coastal sage scrub between approximately 200 and 2,700 ft in elevation. Primarily in coastal Southern California from San Luis Obispo to northern San Diego Counties.	February–July (sometimes as late as September)	US: -- CA: SP CNPS: 1B.1	**Low.** Not observed during the site survey. The site lacks suitable habitat and soils to support this species.
Decumbent goldenbush *Isocoma menziesii* var. *decumbens*	Mosaic of coastal scrub and native perennial grassland in primarily clay soils below 1,000 ft in elevation. Often in disturbed areas. Coastal plains of San Diego County, western Riverside County, and southwestern Orange County (south Laguna Beach); San Clemente and Santa	April–November	US: -- CA: SP CNPS: 1B.2	**Low**. Not observed during the site survey. The site is at the extreme northern edge of the species' known range. The site lacks suitable habitat and soils to support this species.

ATTACHMENT C
SUMMARY OF SPECIAL-STATUS SPECIES

SPECIES	HABITAT AND DISTRIBUTION	ACTIVITY PERIOD	STATUS DESIGNATION	OCCURRENCE PROBABILITY
	Catalina Islands; Baja California.			
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Marshes, playas, vernal pools, and grassland; sea level to 3,000 ft in elevation. Inland Southern California and along coast from San Luis Obispo County to Baja California.	March–June	US: -- CA: SP CNPS: 1B.1	**Low.** Not observed during the site survey. The site lacks suitable habitat and conditions to support this species.
Mud nama *Nama stenocarpum*	Muddy places (lake margins, riverbanks, etc.) below 1,000 ft in elevation. Los Angeles County to Baja California east across Colorado Desert to Texas and north Mexico.	January–July	US: -- CA: SP CNPS: 2.2	**Low.** Not observed during the site survey. The site lacks suitable habitat and conditions to support this species.
Prostrate navarretia *Navarretia prostrata*	Mesic conditions associated with coastal scrub, valley and foothill grassland (alkaline), vernal pools below 2,300 ft in elevation. Los Angeles, Orange, San Diego, and western Riverside Counties. Monterey and Merced Counties in Northern California.	April–July	US: -- CA: SP CNPS: 1B.1	**Low.** Not observed during the site survey. The site lacks suitable habitat and conditions to support this species.
Allen's pentachaeta *Pentachaeta aurea* ssp. *allenii*	Valley and foothill grasslands, openings in coastal sage scrub between approximately 200 and 1,700 ft in elevation. Known from fewer than 20 occurrences in Orange County only.	March–June	US: -- CA: SP CNPS: 1B.1	**Low.** Not observed during the site survey. The site lacks suitable habitat to support this species.
White rabbit-tobacco *Pseudognaphalium leucocephalum*	Perennial herb generally found in chaparral; coastal scrub; cismontane woodland; sandy, gravelly soils in riparian woodland below 6,900 ft in elevation. Patchy distribution from San Luis Obispo County into Baja California.	August–November	US: -- CA: SP CNPS: 2.2	**Low.** Not observed during the site survey. Some habitat and conditions on site are at best marginal for supporting this species.
Nuttall's scrub oak *Quercus dumosa*	Evergreen shrub generally found on sandstone and sandy soils along immediate coast below 1,000 ft in elevation. Primarily on north-facing slopes in chaparral; occasionally in coastal sage scrub. Patchy distribution from south Santa Barbara County into Baja California.	February–March	US: -- CA: SP CNPS: 1B.1	**Absent.** Not observed during the site survey. The physical habit is conspicuous enough that the species would have been readily detected if present on site.
Rayless ragwort *Senecio aphanactis*	Alkaline soils and dry, open places in coastal sage scrub, chaparral, cismontane woodland. Near coast from northern Baja California to Solano County, including Santa Rosa and Santa Cruz Islands.	January–April	US: -- CA: SP CNPS: 2.2	**Low.** Known to have occurred nearby at the Dana Point Headlands, but not observed during the site survey. Suitable conditions are generally lacking on site.
Big-leaved crownbeard *Verbesina dissita*	90% in southern maritime chaparral; 10% in coastal sage scrub. Steep, rocky, primarily north-facing slopes within 1.5 miles of ocean, in gravelly soils. Mill Creek, San Bernardino Mountains; South Laguna Beach (Arch Beach/Hills adjacent to Hobo Canyon), Orange County; northern Baja California.	April–July	US: FT CA: CT CNPS: 1B.1	**Low.** Not observed during the site survey. The site lacks suitable habitat, soils, and conditions to support this species.

ATTACHMENT C
SUMMARY OF SPECIAL-STATUS SPECIES

SPECIES	HABITAT AND DISTRIBUTION	ACTIVITY PERIOD	STATUS DESIGNATION	OCCURRENCE PROBABILITY
CRUSTACEANS				
San Diego fairy shrimp *Branchinecta sandiegoensis*	Ponded areas such as vernal pools, cattle watering holes, basins, etc. Found primarily in coastal San Diego County, but also in southern and central Orange County.	Spring	US: FE CA: --	**Not expected.** Not known locally. Suitable habitat and conditions are lacking on site.
INSECTS				
Monarch *Danaus plexippus*	Varied habitats throughout much of North and South America. Milkweeds required for breeding.	Nearly year-round	US: -- CA: SA (wintering sites)	**Low.** *Eucalyptus* trees on site do not appear to be properly situated to provide shelter for concentrations of this species.
AMPHIBIANS				
Western spadefoot *Spea hammondii*	Grasslands and occasionally hardwood woodlands. Largely terrestrial but for breeding requires rain pools or other ponded water for 3+ weeks. Burrows in loose soils during dry season. Central Valley and foothills, coast ranges, inland valleys to Baja California	October–April	US: -- CA: CSC	**Low.** Reported nearby as recently as 2005 (CNDDB), but habitat on site is only marginally suitable.
REPTILES				
California legless lizard *Anniella pulchra pulchra*	Central California to northern Baja California. Frequents loose soil and humus of relatively open habitats. Susceptible to drying and lives only where damp soil is available.	Nearly year-round	US: -- CA: CSC	**Low.** Habitat appears marginally suitable for this species.
Coast horned lizard *Phrynosoma blainvillei*	Wide variety of habitats, including coastal sage scrub, grassland, and riparian woodland. Typically on or near loose sandy soils. Coastal and inland areas from north-central California to Baja California.	April–July, with reduced activity August–October	US: -- CA: CSC	**Low.** Habitat is probably unsuitable for this species.
Orange-throated whiptail *Aspidoscelis hyperthra*	Floodplains and terraces with perennial plants and open areas nearby. Sea level to 3,000 ft in elevation. Inland and coastal valleys of Riverside, Orange, and San Diego Counties to Baja California.	March–July, with reduced activity August–October	US: -- CA: CSC	**Low.** Habitat appears marginally suitable for this species.
Coastal western whiptail *Aspidoscelis tigris stejnegeri*	Wide variety of habitats, including coastal sage scrub, sparse grassland, and riparian woodland; coastal and inland valleys and foothills. Ventura County to Baja California.	April–August	US: -- CA: SA	**Low.** Habitat appears marginally suitable for this species.
San Bernardino ringneck snake *Diadophis punctatus modestus*	Moist habitats of southwestern California from about Ventura County to Orange County.	Year-round	US: -- CA: SA	**Moderate.** Habitat appears to be suitable, and the species has been found at the urban interface.

ATTACHMENT C
SUMMARY OF SPECIAL-STATUS SPECIES

SPECIES	HABITAT AND DISTRIBUTION	ACTIVITY PERIOD	STATUS DESIGNATION	OCCURRENCE PROBABILITY
Northern red-diamond rattlesnake *Crotalus ruber ruber*	Desert scrub, thornscrub, open chaparral, and woodland; occasionally in grassland and cultivated areas. Prefers rocky areas and dense vegetation. From Orange and western Riverside Counties south to Baja California.	Mid-spring to mid-fall	US: -- CA: CSC	**Low.** Habitat is probably unsuitable for this species.
Southwestern pond turtle *Actinemys marmorata pallida*	Inhabits permanent or nearly permanent water below 6,000 ft from the San Francisco Bay area south to northern Baja California. Absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. Requires basing sites such as partially submerged logs, rocks, or open mud banks.	Year-round	US: -- CA: CSC	**Low.** Two observed in nearby Salt Creek in 1974 (CNDDB) but may now be extirpated there. Habitat on site of marginal suitability at best for sporadic upland visits.
BIRDS				
White-tailed kite *Elanus leucurus*	Open country in South America and southern North America.	Year-round	US: -- CA: CFP	**Low.** Probably visits the site occasionally but nesting is not expected..
Northern harrier *Circus cyaneus*	Open country in Temperate Zone worldwide.	Year-round	US: -- CA: SA	**Low.** Probably visits the site occasionally but nesting is not expected.
Cooper's hawk *Accipiter cooperi*	Primarily forests and woodlands throughout North America.	Year-round	US: -- CA: SA (nesting)	**Moderate.** Nesting is possible in trees in the vicinity.
Merlin *Falco columbarius*	Open country. Breeds in the Holarctic and winters south to the Tropics.	Fall and winter	US: -- CA: SA	**Moderate.** Probably forages occasionally in the area.
American peregrine falcon *Falco peregrinus anatum*	Widespread, but scarce and local throughout North America. Historically nested in Laguna Beach; currently nests on buildings and bridges in the Los Angeles Basin.	Year-round	US: -- CA: CFP	**Low.** May forage occasionally in the area.
Costa's hummingbird *Calypte costae*	Primarily deserts; arid, brushy foothills; and chaparral in the southwestern United States and northwestern Mexico.	Spring through fall	US: --- CA: SA (nesting)	**Low.** Nesting birds in Orange County are generally restricted to more inland areas.
Allen's hummingbird *Selasphorus sasin*	Chaparral, open oak woodland, riparian woodland, and residential areas on the breeding grounds from southwestern Oregon to southwestern California. Primarily montane woodland on wintering grounds in central Mexico.	Spring through fall	US: --- CA: SA (nesting)	**Observed.** Nesting is likely in the area**.**
Nuttall's woodpecker *Picoides nuttallii*	Primarily oak, pine-oak, and riparian woodland in California and northwestern Baja California.	Year-round	US: --- CA: SA (nesting)	**Observed.** However, nesting is not expected on site.
San Diego cactus wren *Campylorhynchus*	Cactus scrub in southern Orange County and western San Diego County.	Year-round	US: --- CA: CSC	**Not expected.** Suitable habitat is absent on site.

ATTACHMENT C
SUMMARY OF SPECIAL-STATUS SPECIES

SPECIES	HABITAT AND DISTRIBUTION	ACTIVITY PERIOD	STATUS DESIGNATION	OCCURRENCE PROBABILITY
brunneicapillus sandiegensis				
Coastal California gnatcatcher *Polioptila californica californica*	Coastal sage scrub; occurs only in cismontane Southern California and northwestern Baja California in low-lying foothills and valleys.	Year-round	US: FT CA: CSC	**Observed.** Surveys in 2010 found the northeast corner of the project area to be at the periphery of a gnatcatcher territory.
California yellow warbler *Setophaga petechial brewsteri*	Riparian woodland while nesting in western United States and northwestern Baja California. More widespread in brushy areas and woodlands during migration and winter, when occurring from western Mexico to northern South America.	April–September	US: -- CA: CSC (nesting)	**Not expected.** Migrating individuals were observed on site, but nesting is not expected.
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	Steep, rocky coastal sage scrub and open chaparral habitats, particularly scrubby areas mixed with grasslands. From Santa Barbara County to northwestern Baja California.	Year-round	US: -- CA: SA	**Low.** Habitat is probably unsuitable for this species.
MAMMALS				
Pacific pocket mouse *Perognathus longimembris pacificus*	Historically occupied open habitats on sandy soils along coast from Los Angeles to Mexican border. Now known from only four sites in Orange and San Diego Counties.	April–September	US: FE CA: CSC	**Low.** Not found during protocol surveys in 2010 and nearby in 1998. Habitat is marginally suitable. The species is not known to occur in Orange County away from the Dana Point Headlands.
San Diego desert woodrat *Neotoma lepida intermedia*	Frequents poorly vegetated, arid lands. Is especially associated with cactus patches. Occurs along the Pacific slope from about San Luis Obispo to northwestern Baja California.	Year-round	US: -- CA: CSC	**Low.** Not found during protocol surveys in 2010 and nearby in 1998. Habitat is marginally suitable for this species.
Western mastiff bat *Eumops perotis californicus*	Historically throughout much of southwestern United States and northwestern Mexico. In California, most records are from rocky areas at low elevations where roosting occurs primarily in crevices. Generally forages high in the air.	Warmer months	US: -- CA: CSC	**Moderate.** Observed regularly in the general vicinity as foraging animals range widely.
Pocketed free-tailed bat *Nyctinomops femorossacus*	Primarily arid lowland scrub in the vicinity of cliffs and riparian areas in southwestern United States and western Mexico.	Warmer months	US: -- CA: CSC	**Low.** Generally rare and local in Orange County.
Pallid bat *Antrozous pallidus*	Varied habitats in western North America.	Year-round; nocturnal	US: -- CA: CSC	**Low.** Habitat suitability is marginal for this species.

ATTACHMENT C
SUMMARY OF SPECIAL-STATUS SPECIES

SPECIES	HABITAT AND DISTRIBUTION	ACTIVITY PERIOD	STATUS DESIGNATION	OCCURRENCE PROBABILITY
Western red bat *Lasiurus blossevillii*	Forages over a wide range of habitats, but generally roosts in woodlands and forests throughout western United States.	Year-round; primarily warmer months	US: --- CA: CSC	**Low.** Habitat suitability is marginal for this species.
Hoary bat *Lasiurus cinereus*	Wooded areas over much of North America.	Primarily winter months	US: --- CA: SA	**Low.** Habitat suitability is marginal for this species.
Southwestern yellow bat *Lasiurus xanthinus*	Varied habitats, but usually near water. Often associated with palm trees. Southwestern United States to southern Mexico.	Year-round; primarily warmer months	US: --- CA: CSC	**Low.** Habitat suitability is marginal for this species.
Western small-footed myotis *Myotis ciliolabrum*	Found across much of North America, primarily in relatively arid wooded and brushy uplands near water. Individuals are known to roost singly or in small groups in cliff and rock crevices, buildings, concrete overpasses, caves, and mines.	Warmer months	US: -- CA: SA	**Low.** Habitat suitability is marginal for this species.
Yuma myotis *Myotis yumanensis*	Varied habitats in western North America.	Warmer months	US: -- CA: SA	**Low.** Habitat suitability is marginal for this species.

Legend

US: Federal Classifications
FE Taxa federally listed as Endangered.
FT Taxa federally listed as Threatened.

CA: State Classifications
CE Taxa State-listed as Endangered.
CT Taxa State-listed as Threatened.
CR Taxa State-listed as Rare.
CFP California Fully Protected. Refers to taxa legally protected under special legislation enacted prior to the California Endangered Species Act.
CSC Taxa identified as California Species of Special Concern.
SA Special Animal. Refers to taxa included on the California Natural Diversity Database "Special Animals" List.
SP Special Plant. Refers to taxa included on the California Natural Diversity Database "Special Plants" List.

CNPS: California Native Plant Society Classifications
1A Plants presumed by CNPS to be extinct in California.
1B Plants considered by CNPS to be rare, threatened, or endangered in California and elsewhere.
2 Plants considered by CNPS to be rare, threatened, or endangered in California, but more common elsewhere.
3 Plants suggested by CNPS for consideration as endangered but about which more information is needed.
4 Plants of limited distribution whose status is monitored by CNPS.

CNPS "Threat Code" extensions and their meanings:
.1 Plants considered by CNPS to be seriously endangered in California.
.2 Plants considered by CNPS to be fairly endangered in California.
.3 Plants considered by CNPS to be not very endangered in California.

CNDDB = California Natural Diversity Database
ft = feet

LSA

LSA ASSOCIATES, INC.
20 EXECUTIVE PARK, SUITE 200
IRVINE, CALIFORNIA 92614
949.553.0666 TEL
949.553.8076 FAX

BERKELEY
CARLSBAD
FORT COLLINS
FRESNO
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO
SOUTH SAN FRANCISCO

July 16, 2010

Sandra Marquez
United States Fish and Wildlife Service
Carlsbad Field Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

Lyann Comrack
Nongame Wildlife Program
California Department of Fish and Game
1812 Ninth Street
Sacramento, California 94244

Subject: Coastal California Gnatcatcher Survey Results, South Shores Church, City of Dana Point, Orange County, California (LSA Project No. DPC0902B)

Dear Ms. Marquez and Ms.Comrack:

This letter report documents the results of coastal California gnatcatcher (*Polioptila californica californica*) (CAGN) surveys conducted by LSA Associates, Inc. (LSA) within the City of Dana Point, California (see Figure 1; all figures attached). The survey area is on the east side of Crown Valley Parkway between Sea Island Drive and Lumeria Lane. A portion of the survey area was vegetated by coastal sage scrub (CSS). One pair of CAGN was detected during three surveys.

SURVEY AREA

The survey area is approximately 270 feet (ft) above mean sea level (amsl). Much of the survey area is developed (South Shores Church) with ornamental vegetation throughout, but with a patch of CSS.

METHODS

LSA Biologist Mark J. Billings walked slowly throughout the survey area, listening and watching for CAGN. A taped recording was played during the first survey, but not thereafter. Three surveys were conducted between June 23 and July 7, 2010 (see Table A). Surveys were conducted according to protocol techniques. Presence of CAGN in the vicinity was already known; therefore, surveys were conducted to generate information about their utilization of the project area.

Table A: Survey Schedule and Conditions

Date 2010	Time	Weather
June 23	0640–0740	Cool, overcast, calm–light wind
June 30	0940–1040	Cool–mild, overcast, light–strong wind
July 7	0720–0820	Cool, overcast, calm–light wind

Mr. Billings conducted the surveys pursuant to LSA's Federal Fish and Wildlife 10(a)(1)(A) Permit TE-777965-8 (expires April 17, 2012) and a California Department of Fish and Game attachment to Scientific Collecting Permit SC-000777 providing conditions for research on Listed Birds (July 12, 2009–April 30, 2012).

RESULTS

One pair of CAGN was detected on the first two visits and only the male on the third (see Figure 2). The extreme northeast corner of the project area appears to be on the periphery of the birds' territory; they were more frequently farther downhill, where the habitat seems less disturbed. Although an obvious pair, no young or evidence of nesting were noted. Another pair was detected off site on the first two visits just to the southeast of the survey area. There is good CSS to the north and especially to the south of the project area; therefore, any young of the year may have already dispersed.

One and two brown-headed cowbirds (*Molothrus ater*)—a brood parasite of CAGN and other passerines—were detected on the first two visits, respectively.

Please contact me or Art Homrighausen at (949) 553-0666 if you have any questions about this letter report.

Sincerely,

LSA ASSOCIATES, INC.

Mark Billings

Mark J. Billings
Biologist

Attachments: Figure 1: Project Location
Figure 2: Coastal California Gnatcatcher Territories
Appendix A: Animal Species Detected
Appendix B: California Native Species Field Survey Forms

I CERTIFY THAT THE INFORMATION IN THIS SURVEY REPORT AND ATTACHED EXHIBITS FULLY AND ACCURATELY REPRESENTS MY WORK:

SURVEYOR	PERMIT NUMBER	DATE
Mark Billings	TE-777965-8	July 15, 2010

LSA

FIGURE 1

N

0 1000 2000

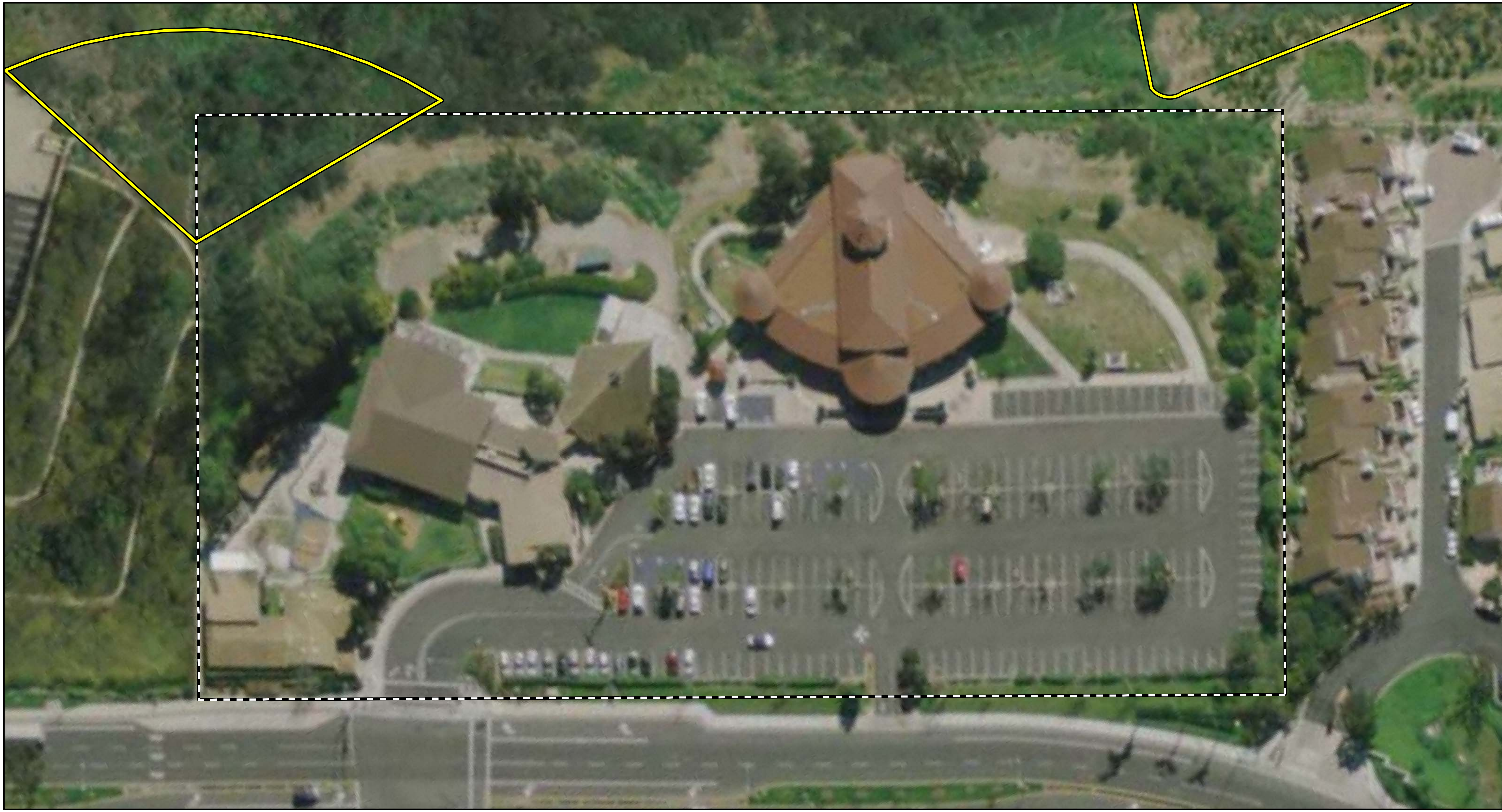
FEET

SOURCE: The Thomas Guide

South Shores Church Master Plan

Project Location

I:\DPC0902\G\Location.cdr (12/17/09)



L S A

FIGURE 2

LEGEND

Property Line (6.0 ac)

Coastal California Gnatcatcher Territories

0 30 60

FEET

SOURCE: AirPhoto (2008)

I:\DPC0902\GIS\CaGn.mxd (7/7/2010)

South Shores

Coastal California Gnatcatcher Territories

APPENDIX A

ANIMAL SPECIES DETECTED

APPENDIX A
ANIMAL SPECIES DETECTED

This is a list of the conspicuous aerial insects (i.e., damselflies, dragonflies, and butterflies), bony fishes, amphibians, reptiles, birds, and mammals noted in the study area by LSA biologists. Presence may be noted if a species is seen or heard, or identified by the presence of tracks, scat, or other signs.

* Species not native to the study area

LEPIDOPTERA	**BUTTERFLIES**
Pieridae	**Whites and Sulphurs**
* *Pieris rapae*	Cabbage white
Nymphalidae	**Brush-Footed Butterflies**
Nymphalis antiopa	Mourning cloak
AVES	**BIRDS**
Odontophoridae	**New World Quail**
Callipepla californica	California quail
Ardeidae	**Herons, Bitterns, and Allies**
Ardea herodias	Great blue heron
Nycticorax nycticorax	Black-crowned night-heron
Cathartidae	**New World Vultures**
Cathartes aura	Turkey vulture
Laridae	**Gulls, Terns, and Skimmers**
Sternula antillarum	Least tern
Columbidae	**Pigeons and Doves**
* *Columba livia*	Rock pigeon
Zenaida macroura	Mourning dove
Trochilidae	**Hummingbirds**
Calypte anna	Anna’s hummingbird
Selasphorus sasin	Allen’s hummingbird
Picidae	**Woodpeckers and Allies**
Picoides nuttallii	Nuttall’s woodpecker

Tyrannidae	**Tyrant Flycatchers**
Sayornis nigricans	Black phoebe
Tyrannus vociferans	Cassin's kingbird
Vireonidae	**Vireos**
Vireo huttoni	Hutton's vireo
Corvidae	**Crows and Jays**
Aphelocoma californica	Western scrub-jay
Corvus brachyrhynchos	American crow
Hirundinidae	**Swallows**
Petrochelidon pyrrhonota	Cliff swallow
Aegithalidae	**Long-Tailed Tits and Bushtits**
Psaltriparus minimus	Bushtit
Troglodytidae	**Wrens**
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	House wren
Sylviidae	**Old World Warblers and Gnatcatchers**
Polioptila californica californica	Coastal California gnatcatcher
Turdidae	**Thrushes**
Sialia mexicana	Western bluebird
Timaliidae	**Babblers**
Chamaea fasciata	Wrentit
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	Northern mockingbird
Toxostoma redivivum	California thrasher
Parulidae	**Wood Warblers**
Vermivora celata	Orange-crowned warbler
Geothlypis trichas	Common yellowthroat
Emberizidae	**Emberizids**
Pipilo maculatus	Spotted towhee
Pipilo crissalis	California towhee
Melospiza melodia	Song sparrow
Icteridae	**Blackbirds**
Molothrus ater	Brown-headed cowbird
Icterus cucullatus	Hooded oriole

Fringillidae	**Fringilline and Cardueline Finches and Allies**
Carpodacus mexicanus	House finch
Spinus psaltria	Lesser goldfinch
Estrildidae	**Estrildid Finches**
* *Lonchura punctulata*	Nutmeg mannikin
MAMMALIA	**MAMMALS**
Cricetidae	**Hamsters, Voles, Lemmings, and New World Rats and Mice**
Neotoma macrotis	Big-eared woodrat

Taxonomy and nomenclature are based on the following.

Damselflies and dragonflies: Paulson, D. (2009, Dragonflies and Damselflies of the West, Princeton University Press, Princeton, New Jersey).

Butterflies: North American Butterfly Association (2001, NABA checklist and English Names of North American Butterflies, Second Edition, North American Butterfly Association, Morristown, New Jersey; see http://www.naba.org/pubs/checklst.html).

Fishes: Moyle, P.B. (2002, Inland Fishes of California, Second Edition, University of California Press, Berkeley).

Amphibians and reptiles: Crother, B.I. ed. (2008, Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico. *Herpetological Circular* 37) for species taxonomy and nomenclature; Stebbins, R.C. (2003, A Field Guide to Western Reptiles and Amphibians, third edition, Houghton Mifflin, Boston) for sequence and higher order taxonomy.

Birds: American Ornithologists' Union (1998, The A.O.U. Checklist of North American Birds, Seventh Edition, American Ornithologists' Union, Washington D.C.; and supplements; see http://www.aou.org/checklist/north/index.php).

Mammals: Wilson, D.E., and D.M. Reeder, eds. (2005, Mammal Species of the World, 3rd ed., Johns Hopkins University Press, Baltimore, Maryland; see http://vertebrates.si.edu/mammals/msw/).

APPENDIX B

CALIFORNIA NATIVE SPECIES FIELD SURVEY FORMS

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 07/07/2010

For Office Use Only

Source Code ______ Quad Code ______
Elm Code ______ Occ. No. ______
EO Index No. ______ Map Index No. ______

Reset | Send Form

California Native Species Field Survey Form

Scientific Name: Polioptila californica californica

Common Name: coastal California gnatcatcher

Species Found? ☒ Yes ☐ No ______ If not, why?
Total No. Individuals 2 Subsequent Visit? ☒ yes ☐ no
Is this an existing NDDB occurrence? ______ Yes, Occ. # ☐ no ☒ unk.
Collection? If yes: ______ Number ______ Museum / Herbarium

Reporter: Mark J. Billings
Address: 703 Palomar Airport Road, Suite 260
Carlsbad, California 92011
E-mail Address: mark.billings@lsa-assoc.com
Phone: (760) 219-5732

Plant Information

Phenology: ____% vegetative ____% flowering ____% fruiting

Animal Information

2 # adults ____ # juveniles ____ # larvae ____ # egg masses ____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

***Location Description* (please attach map AND/OR fill out your choice of coordinates, below)**

County: Orange Landowner / Mgr.: ______
Quad Name: ______ Elevation: 270 feet
T____ R____ Sec ____, ____ ¼ of ____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): ______
T____ R____ Sec ____, ____ ¼ of ____¼, Meridian: H☐ M☐ S☐ GPS Make & Model ______
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy ______ meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☒
Coordinates:
33° 29' 17.17" N, 117° 43' 16.95" W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Obvious pair, no sign of nesting. May have nested already.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☒ Fair ☐ Poor
Immediate AND surrounding land use:
Visible disturbances:
Threats: development
Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): ______
☐ Compared with specimen housed at: ______
☐ Compared with photo / drawing in: ______
☐ By another person (name): ______
☐ Other: ______

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes☐ no☐

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 07/07/2010

For Office Use Only

Source Code ______ Quad Code ______
Elm Code ______ Occ. No. ______
EO Index No. ______ Map Index No. ______

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Sternula antillarum browni

Common Name: California least tern

Species Found? ☒ Yes ☐ No ______ If not, why?
Total No. Individuals 3 Subsequent Visit? ☐ yes ☒ no
Is this an existing NDDB occurrence? ______ Yes, Occ. # ☐ no ☒ unk.
Collection? If yes: ______ Number ______ Museum / Herbarium

Reporter: Mark J. Billings
Address: 703 Palomar Airport Road, Suite 260
Carlsbad, California 92011
E-mail Address: mark.billings@lsa-assoc.com
Phone: (760) 219-5732

Plant Information
Phenology: ____% vegetative ____% flowering ____% fruiting

Animal Information
2 # adults 1 # juveniles ____ # larvae ____ # egg masses ____ # unknown
☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☒ other

***Location Description* (please attach map AND/OR fill out your choice of coordinates, below)**

County: Orange Landowner / Mgr.: ______
Quad Name: ______ Elevation: 270 feet
T____ R____ Sec____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): ______
T____ R____ Sec____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model ______
DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐ Horizontal Accuracy ______ meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☒
Coordinates: 33° 29' 17.17" N, 117° 43' 16.95" W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Flying over site.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☐ Fair ☒ Poor
Immediate AND surrounding land use:
Visible disturbances:
Threats: development
Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): ______
☐ Compared with specimen housed at: ______
☐ Compared with photo / drawing in: ______
☐ By another person (name): ______
☐ Other: ______

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

LSA

LSA ASSOCIATES, INC.
20 EXECUTIVE PARK, SUITE 200
IRVINE, CALIFORNIA 92614

949.553.0666 TEL
949.553.8076 FAX

BERKELEY
CARLSBAD
FORT COLLINS

FRESNO
PALM SPRINGS
POINT RICHMOND

RIVERSIDE
ROCKLIN
SAN LUIS OBISPO
SOUTH SAN FRANCISCO

August 9, 2010

Ms. Sandra Marquez
U.S. Fish and Wildlife Service
Carlsbad Field Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

Dr. Scott Osborn
Nongame Wildlife Program
California Department of Fish and Game
1812 9th Street
Sacramento, California 95811

Subject: Trapping for Pacific Pocket Mouse for the Proposed South Shores Church Master Plan, City of Dana Point, Orange County, California (LSA Project No. DPC0902B), July 2010

Dear Ms. Marquez and Dr. Osborn:

This letter report documents the results of five nights of small mammal live trapping on the above-referenced project site. The trapping was conducted to determine the presence or absence of the endangered Pacific pocket mouse (*Perognathus longimembris pacificus*) according to survey guidelines established by the United States Fish and Wildlife Service. Trapping was conducted within areas of suitable habitat. No Pacific pocket mice were captured.

STUDY AREA

The study area is situated adjacent to Crown Valley Parkway in the City of Dana Point, Orange County, California. Specifically, the site is located within the northeast ¼ of the Southeast ¼ of Section 9, Township 8 South, Range 8 West, as depicted on the United States Geological Survey (USGS) *Dana Point*, *California* 7.5-minute topographic quadrangle map (Figure 1; all figures attached). Approximate Universal Transverse Mercator (UTM) coordinates are $^{37}0600^{000m}$ on the north, $^{37}05^{800m}$ on the south, $^{4}33^{100m}$ on the west, and $^{4}33^{300m}$ on the east. The average elevation of the study area is approximately 270 feet above mean sea level. The study area consists of existing church structures with associated landscaping and is surrounded by roadways and residential development on three sides and open space on the other. The vegetation on site is a mix of exotic ornamental and native plant species.

METHODS

Richard Erickson and/or Leo Simone were present and responsible for the entire trapping effort pursuant to the LSA Associates, Inc. (LSA) Federal 10(a)(1)(A) Permit TE777965-9 (April 8, 2008–April 7, 2012) and a California Department of Fish and Game attachment to Scientific Collecting Permit SC-000777 providing Conditions for Research on Listed Mammals (September 30, 2009–April 30, 2012).

A total of 40 Sherman live traps were set in three traplines, as shown in Figure 2. The traps were set and baited in the evening with a mixture of wild birdseed and rolled oats. Traps were checked at midnight and at dawn, at which time captured animals were identified and released unharmed.

RESULTS

Trapping resulted in 79 small mammal captures involving four species. A summary of all trapping results is shown in Table A. No Pacific pocket mice were captured.

Sincerely,

LSA ASSOCIATES, INC.

Leo Simone Senior Biologist	Richard Erickson Associate Biologist

Attachments: Figures 1 and 2
Table A
CNDDB Form

I CERTIFY THAT THE INFORMATION IN THIS SURVEY REPORT AND ATTACHED EXHIBITS FULLY AND ACCURATELY REPRESENT MY WORK:

SURVEYOR:	PERMIT NUMBER:	DATE:
Leo Simone	TE-777965-8	August 9, 2010
Richard Erickson	TE-777965-8	August 9, 2010

FIGURE 1

LEGEND

Project Area

0 1000 2000
FEET

SOURCE: USGS 7.5' Quad. DANA POINT ('75)

South Shores Church Master Plan
Small Mammal Trapping Report

Project Location

I:\DPC0902\GIS\Proj_Loc.mxd (8/9/2010)

FIGURE 2

LEGEND

Project Area

Trapline

N

0 50 100
FEET

SOURCE: BING (2009)

South Shores Church Master Plan
Small Mammal Trapping Report

Trapline Locations

I:\DPC0902\GIS\Trap_Locations.mxd (8/9/2010)

Table A: South Shores Church Master Plan Project Site – Trapping Summary (June–July 2010)

	Capture Totals												
Date	**June 28 p.m.**	**June 29 a.m.**	**June 30 p.m.**	**July 1 a.m.**	**July 1 p.m.**	**July 2 a.m.**	**July 2 p.m.**	**July 3 a.m.**	**July 3 p.m.**	**July 4 a.m.**	**July 4 p.m.**	**July 5 a.m.**	**Grand Total**
Number of traps checked	40		40		40		40		40		40		**240**
Species													
California pocket mouse (*Chaetodipus californicus*)	0	2	0	3	0	4	1	5	1	5	0	4	**25**
Deer mouse (*Peromyscus maniculatus*)	0	1	0	1	0	0	0	1	0	1	0	1	**5**
Cactus mouse (*Peromyscus eremicus*)	4	5	4	4	3	4	4	4	5	5	2	3	**47**
Big-eared woodrat (*Neotoma macrotis*)	0	0	0	0	1	1	0	0	0	0	0	0	**2**
Total Rodent Captures	**4**	**8**	**4**	**8**	**4**	**9**	**5**	**10**	**6**	**11**	**2**	**8**	**79**
Song sparrow (*Melospiza melodia*)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1	**1**

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 07/05/2010

For Office Use Only
Source Code ____ Quad Code ____
Elm Code ____ Occ. No. ____
EO Index No. ____ Map Index No. ____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Perognathus longimembris pacificus*

Common Name: Pacific pocket mouse

Species Found? ☐ Yes ☑ No — If not, why? not present

Total No. Individuals ____ Subsequent Visit? ☐ yes ☑ no

Is this an existing NDDB occurrence? ____ (Yes, Occ. #) ☐ no ☑ unk.

Collection? If yes: ____ Number ____ Museum / Herbarium

Reporter: Leo Simone

Address: 20 Executive Park, Suite 200

E-mail Address: leo.simone@lsa-assoc.com

Phone: (949) 553-0666

Plant Information

Phenology: ____% vegetative ____% flowering ____% fruiting

Animal Information

____ # adults ____ # juveniles ____ # larvae ____ # egg masses ____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description* *(please attach map AND/OR fill out your choice of coordinates, below)

County: Orange Landowner / Mgr.: South Shores Church

Quad Name: Dana Point Elevation: ____

T 8S R 8W Sec 9, NE ¼ of SE ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): topo. map

T____ R____ Sec ____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model ____

DATUM: NAD27 ☑ NAD83 ☐ WGS84 ☐ Horizontal Accuracy ____ meters/feet

Coordinate System: UTM Zone 10 ☑ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☐

Coordinates: Approximate Universal Transverse Mercator (UTM) coordinates are 370600000m on the north, 3705800m on the south, 433100m on the west, and 433300m on the east.

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

The vegetation on site is a mix of exotic ornamental and native plant species.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☐ Fair ☑ Poor

Immediate AND surrounding land use: The study area consists of existing church structures with associated landscaping and roadway

Visible disturbances: Church development, adjacent residential development and golf course

Threats: existing and continued development

Comments:

Determination: *(check one or more, and fill in blanks)*
- ☐ Keyed (cite reference): ____
- ☐ Compared with specimen housed at: ____
- ☐ Compared with photo / drawing in: ____
- ☐ By another person (name): ____
- ☐ Other: ____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

APPENDIX D

CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENTS

This page intentionally left blank

CULTURAL RESOURCES ASSESSMENT

SOUTH SHORES CHURCH

CITY OF DANA POINT

ORANGE COUNTY, CALIFORNIA

LSA

August 2013

CULTURAL RESOURCES ASSESSMENT

SOUTH SHORES CHURCH

CITY OF DANA POINT

ORANGE COUNTY, CALIFORNIA

Submitted to:

Saima Qureshy
City Planner
City of Dana Point
33282 Golden Lantern
Dana Point, CA 92629

Prepared by:

Ivan H. Strudwick and Steven W. Conkling
LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614-4731
(949) 553-0666

LSA Project No. DPC0902

National Archaeological Data Base Information:

Type of Study: Record Search, Survey
Sites Recorded: None
USGS Quadrangle: *Dana Point, California* 7.5′
Acreage: ~6 acres
Key Words: Negative Survey

LSA

August 2013

MANAGEMENT SUMMARY

LSA Associates, Inc. (LSA) conducted a cultural resource assessment of the South Shores Church project area located in the City of Dana Point, Orange County, California. The assessment included a record search, field survey, and report. The record search was completed August 19, 2013. The field survey was completed on March 17, 2010. The report which was initiated in May 2010, was completed in August 2013. The purpose of the assessment was to determine the presence of cultural resources within the proposed project area.

The record search conducted at the South Central Coastal Information (SCCIC) indicated that no portion of the project area was previously surveyed and that no cultural resources are documented within the project area. The field survey did not locate any cultural resources, and ground visibility at the time of the survey was excellent.

Soil on site developed as a result of weathering of the underlying bedrock and was in place prior to human occupation of the area. As such, any cultural material should be on or near the ground surface and any subsurface material is due to bioturbation or other disturbance. As such, the likelihood of previously unidentified intact subsurface cultural deposits to be present within the project area is very low. Therefore, LSA recommends that no further cultural resource management of the project area is necessary.

However, in the unlikely event that previously undocumented archaeological materials are encountered during construction, work in the vicinity of the find should be halted and an Orange County certified archaeologist consulted to determine the appropriate treatment of the discovery.

If human remains are encountered during construction activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be Native American, the County Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

TABLE OF CONTENTS

FIGURE

APPENDIX

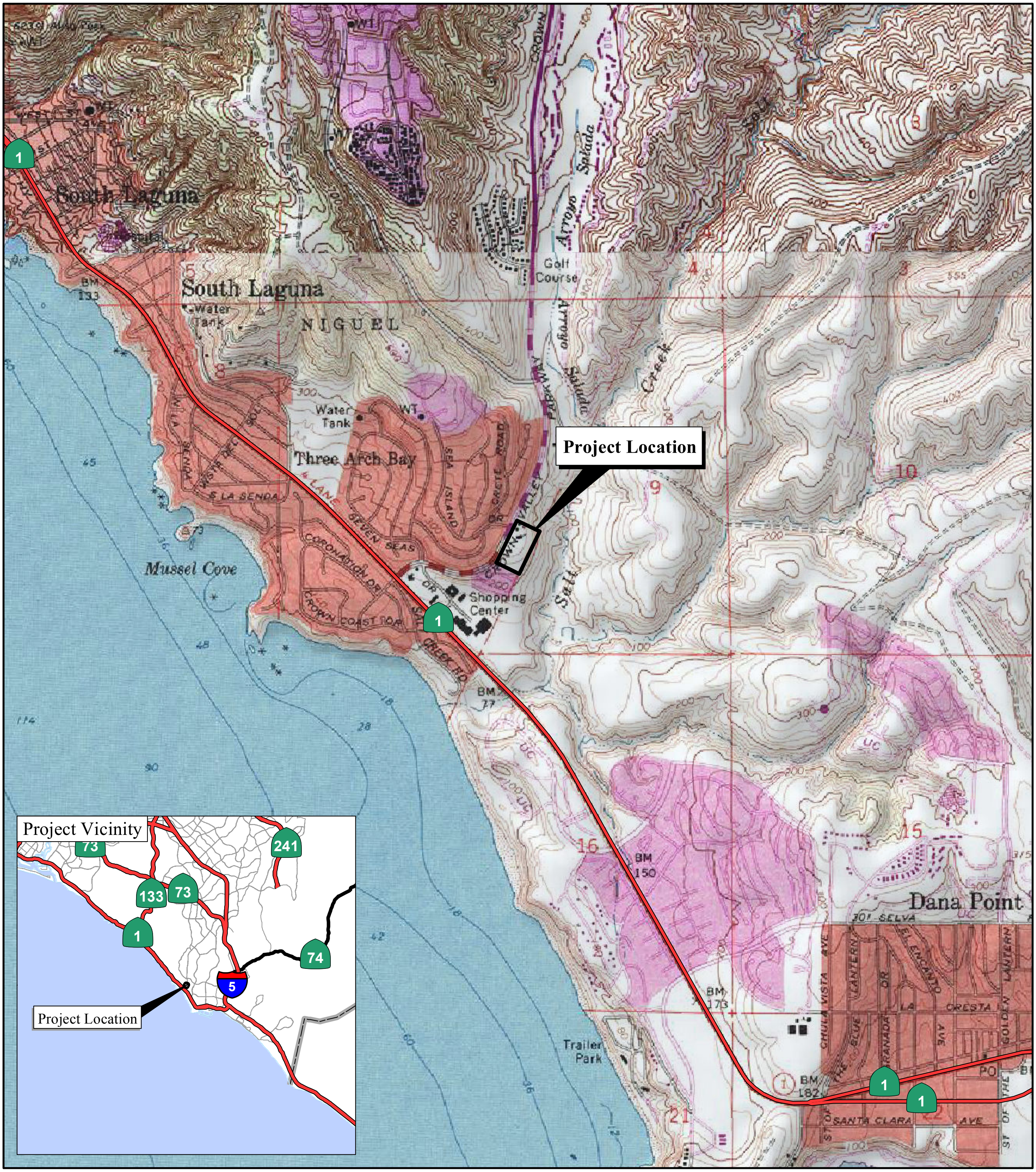
INTRODUCTION

The City of Dana Point contracted LSA to conduct a cultural resources assessment for the South Shores Church project area to determine whether cultural resources are present. This assessment addresses the requirements of the California Environmental Quality Act ([CEQA] as amended January 1, 2013): Public Resources Code (PRC), Division 13 (Environmental Quality), Chapter 2.6 Section 21083.2 (Archaeological Resources) and Section 21084.1 (Historical Resources); and the Guidelines for CEQA (as amended December 1, 2012, California Code of Regulations (CCR) Title 14, Chapter 3, Article 5 Section 15064.5 (Determining the Significance of Impacts on Historical and Unique Archaeological Resources)

Based on a review of project plans, the South Shores Church is proposing to demolish existing buildings on the parcel, with the exception of the sanctuary, and build a series of new church buildings. The project area is located on a high ridge of the San Joaquin Hills on the west side of Salt Creek. Grading for the project will occur throughout the project area because all of the proposed new buildings and will be partially subterranean.

The project area is an approximately 6-acre parcel located at 32712 Crown Valley Parkway in the City of Dana Point, California. The parcel is located on the east side of Crown Valley Parkway between Pompeii Drive to the south, and Sea Island Drive to the north. The parcel is bounded on the east by steep slopes leading down to Salt Creek and the Monarch Beach Golf Links. The project area is depicted on the United States Geological Survey (USGS) *Dana Point, California* 7.5-minute topographic quadrangle map (1968, photorevised 1975) in the southeast quarter of Section 9, Township 8 South, Range 8 West, San Bernardino Baseline and Meridian (Figure 1).

Project personnel included Steven W. Conkling, who conducted the field survey and prepared portions of this report. Ivan H. Strudwick also contributed to this report.



LEGEND

Project Area

FIGURE 1

0 1000 2000

FEET

SOURCE: USGS 7.5' Quad. DANA POINT ('75)

I:\DPC0902\GIS\Proj_Loc_Cultural.mxd (8/28/2013)

South Shores Church Master Plan

Project Location

SETTING

NATURAL

Geology and Geomorphology

The project area is located on the western flank of the Peninsular Ranges geomorphic province. This region is characterized by a series of northwesterly trending mountain ranges separated by northwesterly trending valleys and subparallel faults branching from the San Andreas Fault. These ranges are essentially a series of fault-bounded blocks that dip gently to the west and have a steep eastern escarpment. This province extends from the tip of Baja California to the Transverse Ranges north of the Los Angeles Basin. The width of the province varies from 30 to 225 miles, with a maximum landbound width of 65 miles (Sharp 1976). The Los Angeles Basin and the island group (Santa Catalina, Santa Barbara, and the distinctly terraced San Clemente and San Nicolas Islands), together with the surrounding continental shelf (cut by deep submarine fault troughs), are included in this province (California Geologic Survey 2002). The rocks of the Peninsular Ranges geomorphic province are typically composed of Jurassic-age medasedimentary and metavolcanic as well as Cretaceous-age igneous rocks of the Southern California batholith. These older rock units are, in turn, capped by limited exposures of Cretaceous to recent marine and terrestrial sedimentary deposits composed of clay, silt, sand, gravel, and cobbles. The primary sediment source for the geologic formations in this province is the uplifted Southern California batholith.

Specifically, the project is located in an area of gently rolling to steeply sloped hills immediately upslope from the Pacific Ocean. The project area elevation is approximately 260 feet above mean sea level (amsl).

The project area is wholly underlain by the middle Miocene San Onofre Breccia which contains angular rocks from the Catalina Schist. Local Native American people used clasts from the Breccia for the manufacture of groundstone and chipped stone tools.

Biology

The project area climate is Mediterranean semiarid steppe moderated by its proximity to the coast (Jaeger and Smith 1966). The Mediterranean climate is characterized by mild winters, warm springs and autumns, and hot, dry summers. Rains primarily occur in the winter and early spring. Morning fog occurs along the coastal plain and occasionally reaches the inland valleys and mountains.

Vegetation in the project area is composed of ruderal nonnative grasses, nonnative ornamental vegetation, and coastal sage scrub. The dominant native plant community on site consists of Venturan-Diegan coastal sage scrub (LSA Associates, Inc. 2007).

Ruderal vegetation is indicative of disturbed areas and is dominated by weedy introduced species. Vegetation on the majority of the site falls under this classification.

Current Setting

The project area currently consists of relatively level developed area with parking lots and various church buildings. The church buildings include older ranch house buildings that have been extensively modified for their current use. The area north of the project area is steeply sloped down to parking areas along South Peak Street, while the area south of the project has been developed into condominiums. The parcel is bounded on the west by Crown Valley Parkway. Existing landscaping and walkways cover much of the parcel.

CULTURAL

Prehistory

The description of an overall regional chronology demarking the major stages of cultural evolution in the Southern California area has been attempted many times. Two principal chronologies, Wallace (1955; 1978) and Warren (1968), have been revised slightly (Koerper 1981; Koerper and Drover 1983). Southern California cultural developments occur gradually, and appear to have long-term stability; specifically applying a chronology is often difficult.

These researchers have divided regional prehistory into a four-stage chronology describing changing artifact assemblages and evolving ecological adaptations. The principal chronology proposed by Wallace (1955) divides the area prehistory by major cultural changes within general prehistoric time periods. Wallace defined four cultural horizons, or periods, for Southern California: These include the Early Period, the Milling Stone Period, the Intermediate Period, and the Late Prehistoric Period these periods are discussed in detail below.

The Early Period covers a period between approximately 10,000 and approximately 5500 BC. Artifacts and cultural activities from this time period represent a predominantly hunting culture (Wallace 1955). Although Early Period sites in Southern California are rare, Moratto (1984:76) lists several traits characteristic of sites occupied during this period. This list includes location on shorelines of ancient lakes and marshes. In coastal areas, such sites are located along stream channels or near estuaries. Although bow and arrow do not exist, atlatl and dart are known. An array of specialized cobble, core, flake and blade implements are also known. In certain areas, the presence of extremely large, often fluted bifaces marks the Early Period (Moratto 1984:81).

Early Period artifacts have seldom been identified in Orange County. Relatively early radiocarbon dates show that two sites, CA-ORA-195 and CA-ORA-64 (the Irvine Site), contain Early Period components, although CA-ORA-64 was also occupied later in time (Erlandson 1994:219). Material from CA-ORA-64 includes shellfish from Newport Bay, leading Drover et al. (1983) to conclude that the Early Period component at CA-ORA-64 was similar to some early site components in the San Diego region.

Erlandson (1994:218–221) describes several radiocarbon dated Early Period sites, including CA-ORA-246, CA-ORA-339 and CA-ORA-386, that contain quantities of the rocky open coast inhabiting mussel *Mytilus californianus*. It is possible that Early Period occupation will be identified at those sites exhibiting Milling Stone Period and Intermediate Period occupation when excavation and analysis procedures have become more advanced.

The Early Period is followed in time by the Milling Stone Period. Sites from the Milling Stone Period (post-5500 BC) typically contain groundstone artifacts such as manos, metates, and cogged stones as well as soapstone objects. Wallace suggests that Milling Stone Period cultures were generally hunter-gatherers who spent much time collecting and processing plants. When bifaces are found on Milling Stone Period sites, they are commonly large and associated with the use of the atlatl.

Several Milling Stone Period sites have been identified in Orange County. The best known is CA-ORA-64, which dates to ca. 6000 BC (Erlandson 1994:219–221). Drover et al. (1983) suggest that early Milling Stone Period sites represent refuse from mobile hunters and gatherers who utilized coastal resources during the winter and inland resources throughout the remainder of the year. By the late portion of the Milling Stone Period, faunal remains suggest relatively permanent settlements in the Newport Bay area. Subsistence strategies included intensive hunting of small and large land mammals, sea mammals and birds, as well as near shore fishing and shellfish collecting. Elsewhere, small mammals were hunted and seeds were collected, as documented by the many milling stones found at Milling Stone Period sites throughout the Orange County area.

By 3000 BC, coastal populations began greater reliance on marine resources. The remains of near-shore and deep sea fish appear more often as refuse in middens. Much further inland, populations centered around pluvial lakes created by runoff from melting glaciers. In coastal areas, there was an increased use of the mortar and pestle, which marked a technological change in the manner seeds were processed. Instead of using just mano and metate, smaller seeds could be better contained in the basket like mortar or hopper mortar (basket asphalted to a mortar base), and it is possible that the mortar and pestle indicate a diversification in seed collecting strategy. The use of the mortar and pestle marks Wallace's Intermediate Period. Additional artifacts found predominantly within the Intermediate Period include discoidals and crescents (crescentically shaped flaked stone artifacts).

Orange County researchers have had difficulty identifying the Intermediate Period, since tool categories, even the mortar and pestle, occur in both earlier and later periods. As a result, few Orange County sites have been placed in this Period. The few known sites often are dated by radiocarbon or obsidian hydration methods, which have isolated the Intermediate Period materials. Intermediate Period sites identified near Newport Bay include CA-ORA-121 (Crownover et al. 1990), CA-ORA-196/H (Strudwick et al. 1996), and CA-ORA-287 (Clevenger 1986). Two temporary camps, CA-CA-ORA-221/222 and CA-ORA-226, also appear to contain Intermediate Period components (Rosenthal and Padon 1986; Mason et al. 1987).

The Late Prehistoric Period begins approximately AD 500 (Bean and Smith 1978). During this period, artifact changes and new cultural practices occur. Smaller projectile points, representing bow and arrow hunting, appear on Late Period sites. This period is also marked by steatite effigies and by cremation as an interment practice. These artifacts and practices have been linked to a proposed Shoshonean (Takic) immigration from the Great Basin that ended at the coast. By AD 1000, smoking pipes and ceramic pottery occur, although ceramic smoking pipes may occur somewhat earlier, within the later portion of the Intermediate Period. Dating of sites to the Late Period also depends on the occurrence of other items such as Salton Sea (Obsidian Buttes) obsidian. Sites within the Orange County region occasionally contain the vitreous (glassy) lithic called Grimes Canyon fused shale, which originates from Ventura County (Demcak 1981; Hall 1988).

Ethnography

The project area is within territory ethnographically occupied by the Juaneño, with the Gabrielino located to the north and the Luiseño to the south. The Juaneño are considered to be a linguistically related subgroup of the Luiseño that occupied the area near San Juan Capistrano. What is known about the Juaneño was recorded principally during the initial European land expeditions through the Southern California area. The reason for this is that the swift decline in native populations made it difficult even for early European explorers and inhabitants to observe endemic Southern California peoples in a natural state. This decline in native population was brought about by the inability of Native Americans to resist European diseases introduced through initial contact and the establishment of the mission system. This section describes previously published accounts of Juaneño territory.

Both Sparkman (1908:188–189) and Bean and Shipek (1978:550–551) state that the Luiseño occupied the area from a point just north of San Juan Capistrano southward to the mouth of Agua Hedionda in what is now Carlsbad. Sparkman (1908:189) states that due to language differences, the group near San Juan Capistrano was not considered Luiseño by some. The subsuming of Juaneño by Luiseño is illustrated by the inclusion of a discussion of Juaneño within a chapter on Luiseño (Bean and Shipek 1978). Rather than give an exact description of Luiseño territory, Kroeber (1976:648–649) states that the northern and northwestern neighbors of the Luiseño are the Gabrielino and Juaneño.

Kroeber (1976:636) states that the Juaneño were wedged in between the Gabrielino and Luiseño, and Juaneño territory ran from Aliso Creek on the north to a point between San Onofre and Las Pulgas on the coast. Rather than having a distinct language, Juaneño speech was said to be a dialect of Luiseño (Kroeber 1976:636). White (1963:104) states that the dialectical differences between the Juaneño and Luiseño "did not prevent mutual understanding . . ." White (1963:104) continues that although local variations in culture between Juaneño and Luiseño may have existed, it was at the village level rather than the tribe level, suggesting only minor differences between the two groups. Sparkman (1908) and White (1963) argue that the Juaneño are really a subgroup of the greater Luiseño tribe. O'Neil (1988:107, 111) also makes reference to the Juaneño being a coastal branch of the Luiseño. Merriam (1968) extends Juaneño territory northward to the Santa Ana River and Newport Bay, although this is quite a distance north when compared with previous territory descriptions. These previous descriptions suggest major similarities between the Luiseño and Juaneño, perhaps as an initial stage of cultural evolution in the formation of a new language and tribal group. In any event, major similarities existed between the Luiseño and Juaneño groups, much less than the differences in language and custom between the Luiseño and Gabrielino.

The name "Gabrielino" describes those native groups living in what are now the Los Angeles and Orange County areas named due to their affiliation with Mission San Gabriel Arcángel. Linguistically, the Gabrielino language, as well as that of the Luiseño and Juaneño, is a Cupan language in the Takic family, which is part of the Uto-Aztecan (formerly Shoshonean) linguistic stock that once extended across the Great Basin region of Utah, Nevada, and California (Bean and Shipek 1978:550; Bean and Smith 1978:538; McCawley 1996:2–3). In California, the northernmost members of this stock are the Mono, while the Chemehuevi are the easternmost, the Cahuilla are the southernmost, and the Luiseño were the southwesternmost California members (Kroeber 1976). These languages have elsewhere been referred to as Southern California Shoshonean.

The name Luiseño has been applied to those native people living within the "ecclesiastical jurisdiction of Mission San Luis Rey . . . [who shared] an ancestral relationship which is evident in their cosmogony, and oral tradition, common language, and reciprocal relationship in ceremonies" (Oxendine 1983:8). The term Juaneño describes those native people who were missionized into Mission San Juan Capistrano and who inhabited the northernmost portion of Camp Pendleton. Much of the existing ethnohistoric information about the Juaneño is derived from accounts about the Luiseño (Kroeber 1976; White 1963).

The Gabrielino, Luiseño, and Juaneño were hunters and gatherers who used both inland and coastal food resources. They hunted and collected seasonally available food resources and led a semisedentary lifestyle, often living in permanent communities along watercourses and near coastal estuaries. Commonly chosen habitation sites included rivers, streams, sheltered coastal bays and estuaries, and the transition zone marking the interface between prairies and foothills (McCawley 1996). The presence of water, a stable food supply, and some measure of protection from flooding were the most important factors relating to the location of habitation sites. Gabrielino and Luiseño communities located in the interior regions maintained permanent geographical territories or use areas that averaged 30 square miles, although it is likely that coastal settlements, where food resources may have been more plentiful and more easily available throughout the entire year, occupied less acreage (White 1963:117, 119; Oxendine 1983:44).

In addition to permanent settlements, native groups occupied temporary campsites used seasonally for hunting, fishing, and gathering plant foods and shellfish (White 1963:120–124; McCawley 1996:25). Rabbit and deer were the most commonly hunted animals, while acorns, buckwheat, chía, berries, and fruits were some of the more commonly collected plant foods. Acorns were the staple food of most indigenous Californians (Kroeber 1976:84) and were the most characteristic feature of the domestic economy of native California (Gifford 1936:87). Fully 25–50 percent of inland Luiseño food is thought to have been acorns (White 1963:116, 121). Among the inland Luiseño, land use was patterned with only a small quantity of total territory in disuse (White 1963:122). The Gabrielino established seasonal camps along the coast and near estuaries and bays, such as Newport Bay, in order to fish, gather shellfish, and hunt waterfowl (White 1963:122; Hudson 1971). The economy of coastal groups is thought to have focused on marine rather than land resources (White 1963:119).

Boscana (1978:65) describes the permanence of Juaneño villages in the following passage: ". . . in the winter they resided in one place and in summer another. This was general among them, excepting in the case of those tribes located on the sea-coast who seldom moved because their maintenance was derived from the sea." This suggests that inland villages were seasonal, while coastal villages may have been occupied permanently, since their food source was more dependable.

Native culture in coastal Southern California was characterized by an active and elaborate system of rituals and ceremonies. Rituals included individual rites of passage, village rites, seasonal ceremonies, and participation in the widespread *Chinigchinich* cult (variant spellings, Kroeber 1976; McCawley 1996). The cult of the culture hero *Chinigchinich* was observed and recorded by Franciscan missionary Father Gerónimo Boscana during his residences at Missions San Luis Rey (1811–1814) and San Juan Capistrano (1814–1826) and describes the rich and complex cosmology and rituals practiced at the time (Boscana 1978; Harrington 1934).

History

Spanish Mission Period (1769–1821). The Historic Period in Southern California is generally accepted to commence with the establishment of Mission San Diego De Alcalá, first and southernmost of the Alta California Missions, on July 16, 1769 (Lowman 1993:2, 5). The seventh mission founded in Alta California was Mission San Juan Capistrano, established on November 1, 1776, in Juaneño territory (Lowman 1993:9). In 1778, Mission San Juan Capistrano was moved to its present location in order to take advantage of a more dependable water supply. Engelhardt (1998) disputes that there ever was an old mission site, based on Pedro Font's (Font 1913:43–45) description of the area during Anza's trek to San Diego in 1776.

While the location of the old mission is unknown, its name is not. The lands occupied by the old mission have been anglicized as Mission Viejo (Sleeper 1988). The San Juan Capistrano mission land holding was extensive in order to support itself and its Indian converts. The mission lands stretched 13–14 leagues north to south and 3–4 leagues east to west. The mission ranchos included *Rancho Santa Ana*, *Rancho San Joaquin*, *Rancho Mission Viejo*, *Rancho Trabuco*, and *Rancho San Mateo* (Bancroft 1966; Englehardt 1998). The *Rancho San Mateo* is specifically named by the mission fathers due to encroachment on their lands by the Mission San Luis Rey to the south. Englehardt (1998:88) quotes a report from the mission father that mentions the San Mateo Rancho as being about 3 leagues southeast of San Juan Capistrano. However, the Mission San Luis Rey placed their own mission's *Rancho San Onófrio* within one-half league of San Mateo, apparently on lands of San Juan Capistrano. The mission's *Rancho San Mateo* should not be confused with a later Mexican grant in northern California with the same name. The mission used the land for crops and cattle. This land was to be turned over to the Indians as a pueblo and was thus held in trust by the Church for the benefit of the natives (Robinson 1979). The missions recruited neophytes, native converts, to settle on land close to the mission. Local native villages, *rancherias*, were thus incorporated into the mission system.

The Franciscans' goal was to convert the Native Americans to Christianity and incorporate them into Spanish society. The local natives could learn smithing, plant and animal domestication, and European building construction methods. Europeans learned how and where indigenous people lived and gathered information about native life as well as ceremonial and ritual practices. Occasionally, this information was recorded, and from these early records comes much of what we now know concerning native life.

Ultimately, Spanish colonization resulted in the destruction of native culture and society. Two important factors that contributed to this decline included (1) the removal of the youngest, healthiest and most productive natives from their traditional communities and their placement into the mission system, and (2) the introduction of highly infectious diseases, which eventually led to epidemics and reduced birth rates. As a result, traditional Native American communities were depopulated and the survivors integrated into local Mexican-American communities.

Mexican Rancho Period (1821–1848). In 1821, Mexico gained independence from Spain, and in 1848, the United States formally obtained California. The period from 1821 to 1848 is here referred to as the Mexican Rancho Period. During this period, there was a change from the subsistence agriculture of the Spanish Mission Period to livestock husbandry of the large ranches, or *ranchos*, acquired by Mexican citizens through grants or by purchase from mission administrators. This change was even more distinct after 1833–1834, when mission secularization occurred.

In 1833, 12 years after gaining independence from Spain, the Mexican government's Secularization Act changed missions into civil parishes, and those natives who had inhabited areas adjacent to a Spanish Period mission were to obtain half of all mission possessions including land. However, this did not occur in most instances, and the Secularization Act resulted in the transfer of large mission tracts to politically prominent individuals rather than to local natives. Economic activities centered around cattle ranching on the numerous expansive "ranchos" that had been created out of the mission lands.

The 1840s saw increased tension between the United States and Mexico. Finally, in 1846, war was declared between these two countries. By 1847, the United States had established control of California. The Treaty of Guadalupe Hidalgo in 1848 formally ended hostilities.

American Period (1848–Present). Following the end of hostilities between Mexico and the United States, the United States officially obtained California in the Treaty of Guadalupe Hidalgo on February 2, 1848 (Cleland 1962:xiii). In 1850 California was accepted into the Union of the United States, mainly due to the population increase created by the Gold Rush of 1849. In the years immediately following the United States' acquisition of California, the cattle industry reached its greatest prosperity due to the massive influx of immigrants during the Gold Rush (Cleland 1952:102–108; Liebeck 1990:2–3). Mexican Period land grants had created large pastoral estates in California, and a high demand for beef during the Gold Rush led to a cattle boom that lasted from 1849 to 1855. In 1855, however, the demand for California beef began to decline as a result of sheep imports from New Mexico, cattle imports from the Mississippi and Missouri Valleys, and the development of stock breeding farms. When the beef market collapsed, California ranchers were unprepared. Many had borrowed heavily during the boom, mortgaging their land at interest rates as high as ten percent per month. The collapse of the cattle market meant that many of these ranchos were lost through foreclosure, while others were sold to pay debts and taxes (Cleland 1952:108–114). Nature also conspired to force economic change. During the winter of 1861–1862, a disastrous series of floods, followed by two years of drought, occurred in California (Cleland 1952:130–131).

City of Dana Point[1]

Dana Point was the first coastal community in the region to adopt a Spanish theme for its architecture. Anna Walters Walker of Laguna Beach led a number of other real estate investors in forming the San Juan Point Corporation. They conceived the town as an exclusive residential and rest resort, and planned for numerous recreational amenities, including a 1,200 ft long pier and a yacht and country club open to both men and women. Residential streets were laid out and named for variously colored ships' lanterns. In 1924, the grand opening of Dana Point drew thousands who came to hear the band concert, partake in the barbecue, and pay $1,000 for a 60 ft by 100 ft lot. The first Dana Point development had a short life. Only a handful of buildings had been constructed when, less than 3 months after its grand opening, the property was in foreclosure. The lack of paved highway access and a poor water supply had doomed its chances.

1 Except where otherwise noted, the history of Dana Point has been excerpted from the Environmental Impact Statement/Supplemental Environmental Impact Report for the South Orange County Transportation Infrastructure Improvement Project (SOCTIIP), prepared by LSA Associates, Inc. in 2005.

In 1926, the Dana Point development was reopened by Sidney H. Woodruff, successful founder of Hollywoodland, who acquired 1,400 acres of the settlement. Promoting Dana Point as “the only romantic spot on the coast,” Woodruff had plans drawn for a 200-room hotel to be called the Dana Point Inn, with polo fields, two golf courses, tennis courts, riding trails, and swimming pools. The town would surround and complement the inn. The natural harbor was to include pedestrian walkways, yacht moorings, and horse trails. Woodruff hired architect Charles A. Hunter of Laguna Beach to design the inn and initial residences. Spanish or Mediterranean Revival-style architecture dominated, although examples of other revival styles were included in the early development. Anna Walters Walker’s street names were retained by Woodruff. The foundation of the hotel was built and several houses completed when the Stock Market Crash of 1929 bankrupted the developer, putting a halt to all plans. The hotel and bar were never finished and most of the homes were not built until decades later.

At the beginning of the 19th century, Dana Point was the only major port between Santa Barbara and San Diego. Supplanted by later-developed ports, it remained a small coastal village into the 1970s. The community was rapidly transformed by master-planned improvements that included a six-lane highway that passed through the community to the Dana Point Harbor (1966) and connected it with Interstate 5 and Pacific Coast Highway (PCH).

Community leaders sought incorporation five times in order to maintain local control, but each time the County of Orange vetoed the plan. In 1989, once the area had been essentially built out, incorporation was allowed. Parts of several well-established communities, including Laguna Niguel, Monarch Beach, Monarch Bay, and Capistrano Beach, are all included in the City of Dana Point.

METHODS

ARCHIVAL RESEARCH

On August 19, 2013, an archaeological and historical resource record search was completed at the SCCIC, located at California State University, Fullerton. It included a review of all recorded historic and prehistoric archaeological sites within 0.25 mile of the project area, as well as a review of known cultural resource survey and excavation reports. In addition, the California State Historic Resources Inventory (HRI), which includes the National Register of Historic Places (National Register), California Register of Historical Resources (California Register), California Historical Landmarks (SHL), California Points of Historical Interest (SPHI), and various local historical registers were examined.

FIELD SURVEY

LSA's methodology was based on the survey requirements and the nature of expected resources and archaeological characteristics. The survey scope required LSA to locate all resources greater than 45 years in age within the survey area. The survey unit boundary is defined horizontally as being approximately six surface acres. Since subsurface excavations were not proposed as part of this study, observation of the subsurface was limited to graded cuts, erosional cuts and gullies, as well as rodent burrows.

On March 17, 2010, LSA Principal, Steven W. Conkling and Architectural Historian, Casey Tibbet conducted a pedestrian survey of the project area. The project area was intensively examined by walking the area at approximately 10-meter wide intervals.

REPORT OF FINDINGS

ARCHIVAL RESEARCH

Results of the record and literature search indicated that the project area along Crown Valley Parkway had not been previously surveyed. The record search also showed that no cultural resource sites had been recorded within the project area.

Record search information showed that five cultural resource studies had been conducted within 0.25 mile of the current project area. The nearest of these studies (Mabry 1979) was a survey of the Salt Creek area that abutted the current project area on the east side. The remaining four studies were located to the south and southwest and included an archaeological excavation report (Anonymous 1972), a survey and assessment (Whitney-Desautels 1985), a record search description for a small area (Demcak 2001), and a compliance report conducted along PCH (Sinopoli 2002).

Three archaeological sites are recorded within 0.25 mile of the current project area: CA-ORA-11, CA-ORA-127, and CA-ORA-571. The closest of these sites, CA-ORA-127, is located over 500 ft south of the current project area. Site CA-ORA-11, located atop a knoll approximately 700 ft south of the project area was one of the first prehistoric sites recorded in Orange County. This site was located in an accessible, highly visible location along the inland side of PCH and contained quantities of marine shell. Prehistoric sites in this area are commonly found to contain quantities of marine shell collected from the local rocky intertidal areas, as well as flaked and ground stone tools used to hunt and process plant food.

Record search results identified no above-ground historical resources within the project area or within 0.25 mile of the parcel. Additionally, neither the HRI, SPHI, SHL, National Register, nor the California Register lists any properties within 0.25 mile of the project area.

The USGS 1941 *San Juan Capistrano, California* 15-minute topographic quadrangle depicts no development within the project area. Online USGS maps dating from 1902-1964 also show no development within the project area or adjacent areas. The first building in the current project area, a church at the north end of the parcel, appears on a 1970 map.

Online aerial photographs reflect results of the historic maps. No development within the parcel or nearby area is present on 1938, 1946, or 1952 aerials. In 1982, however, the area west of the current project area is heavily developed. In 1980, the northern portion of the project area contains buildings and a parking lot, while the southern half of the parcel remains undeveloped. The 2003, 2004, and 2005 aerial photos show a building in the central-eastern portion of the parcel and show the remainder of the parcel to be covered with a parking lot.

FIELD SURVEY

No cultural resources were identified during the field survey. Most of the project area consists of either moderate to steep slopes, or areas that were developed for ranch housing. Overall ground visibility was approximately 10 percent with the remainder of the project area covered by existing development or landscaping.

RECOMMENDATIONS

Archaeological deposits are uncommon on steep slopes, thus none are anticipated to be present. Soil on site developed as a result of weathering of the underlying bedrock and was in place prior to human occupation of the area. As such, any cultural material would have been on or near the ground surface and any subsurface material, if present, would have been due to bioturbation or other disturbance. As such, since no archaeological remains were observed, the likelihood of encountering previously unidentified intact subsurface cultural deposits within the project area is very low. Therefore, LSA recommends that no further cultural resource management (e.g., monitoring) of the project area is necessary.

In the event that an archaeological deposit is encountered during construction, construction work in the vicinity of the find should be halted and an Orange County certified archaeologist consulted to determine the appropriate treatment of the discovery.

If human remains are encountered during construction activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be Native American, the County Coroner will notify the NAHC, which will determine and notify a MLD. With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

REFERENCES

Anonymous

1972 Report of Archaeological Investigations of Sites ORA-127 and ORA-128, Laguna Niguel, California. Archaeological Research, Inc. On file, South Central Coastal Information Center, California State University, Fullerton. (Access. No. OR354)

Bancroft, Hubert Howe

1966 History of California, Volume II. In *The Works of Hubert Howe Bancroft, Volume XIX*. Originally published in 1886 by The History Company Publishers, San Francisco. Facsimile reprint by Wallace Hebberd, Santa Barbara, California.

Bean, Lowell John, and Charles R. Smith

1978 Gabrielino. In R. Heizer ed., *Handbook of North American Indians*, Vol. 8, *California*, pp. 538–549. Smithsonian Institution, Washington D.C.

Bean, Lowell John, and Florence C. Shipek

1978 Luiseño. In R. Heizer ed., *Handbook of North American Indians*, Vol. 8, *California*, pp. 550–563. Smithsonian Institution, Washington D.C.

Boscana, Gerónimo

1978 Chinigchinich: A Revised and Annotated Version of Alfred Robinson's Translation of Father Geronimo Boscana's Historical Account of the Beliefs, Usages, Customs and Extravagancies of the Indians of this Mission San Juan Capistrano Called the Acagchemen Tribe [1846]. Edited by P. T. Hanna. Reprinted Annotations by John P. Harrington. Foreword by Frederick Webb Hodge. Illustrations by Jean Goodwin. Malki Museum Press, Banning California. Originally published 1933, Originally written by Father Boscana in the 1820s, and translated and first published by Alfred Robinson in 1846. Fine Arts Press, Santa Ana, California.

California Geologic Survey

2002 *California Geomorphic Provinces*. California Department of Conservation. Note 36.

Cleland, Robert Glass

1952 The Cattle on a Thousand Hills, Southern California, 1850–1880. Second Edition. The Huntington Library, San Marino, California.

1962 Introduction. In *Historic Spots in California*, by M. B. Hoover, H. E. Rensch, and E. G. Rensch, pp. xi–xiv. Fourth printing revised by R. Teiser. Stanford University Press, Palo Alto, California.

Clevenger, Joyce M.

1986 Archaeological Investigations at CA-ORA-287: A Multicomponent Site on Newport Bay. Westec Services. Ms. on file, South Central Coastal Information Center, California State University, Fullerton.

Crownover, C. Scott, Beth Padon, and E. Jane Rosenthal
1990 Archaeological Investigations at CA-ORA-121, Orange County, California. LSA Associates, Inc. On file, South Central Coastal Information Center, California State University, Fullerton.

Demcak, Carol R.
1981 Fused Shale As Time Marker in Southern California: Review and Hypothesis. Unpublished Master's Thesis. Department of Anthropology, California State University, Long Beach.

2001 Report of Records Search for Tract 14505, Dana Point. Archaeological Resource Management Corp. On file, South Central Coastal Information Center, California State University, Fullerton. (Access. No. OR2878)

Drover, Christopher E., Henry C. Koerper, and Paul E. Langenwalter III
1983 Early Holocene Adaptation on the Southern California Coast: A Summary Report of Investigations at the Irvine Site (CA-ORA-64), Newport Bay, Orange County, California. *Pacific Coast Archaeological Society Quarterly* 19 (3&4):1–84.

Engelhardt, Zephyrin
1998 *San Luis Rey, the King of the Missions*. Originally published 1921, James H. Barry Company, San Francisco. Facsimile reproduction. McNally and Loftin, Santa Barbara.

Erlandson, Jon M
1994 Early *Hunter-Gatherers of the California Coast*. Plenum Press, New York.

Font, Pedro
1913 The Anza Expedition of 1775–1776, Diary of Pedro Font. Edited by Frederick J. Teggart. Academy of Pacific Coast History. University of California, Berkeley.

Gifford, Eugene W.
1936 Californian Balanophagy. *Essays in Anthropology Presented to A. L. Kroeber*, pp. 87–98. Reprinted in 1971. The California Indians, A Source Book, edited by R. Heizer and M. Whipple, pp. 301–305. University of California Press, Berkeley and Los Angeles.

Hall, Matt C.
1988 For the Record: Notes and Comments on "Obsidian Exchange in Prehistoric Orange County." *Pacific Coast Archaeological Society Quarterly* 24(4):34–48.

Harrington, John P.
1934 A New Original Version of Boscana's Historical Account of the San Juan Capistrano Indians of Southwest California. *Smithsonian Miscellaneous Collections* 92 (4):1–62. Smithsonian Institution, Washington, D.C.

Hudson, D. Travis
1971 Proto-Gabrielino Patterns of Territorial Organization in Southern Coastal California. *Pacific Coast Archaeological Society Quarterly* 7(2):449-476.

Jaeger, Edmund C., and Arthur C. Smith
1966 *Introduction to the Natural History of Southern California*. University of California Press, Berkeley.

Koerper, Henry C.
1981 *Prehistoric Subsistence and Settlement in the Newport Bay Area and Environs, Orange County, California*. Unpublished Ph.D. Dissertation, Department of Anthropology, University of California, Riverside.

Koerper, Henry C., and Christopher E. Drover
1983 Chronology Building for Coastal Orange County: The Case from CA-ORA-119-A. *Pacific Coast Archaeological Society Quarterly* 19 (2):1–34.

Kroeber, Alfred L.
1976 *Handbook of the Indians of California*. Dover Publications, New York. Originally published 1925, Bulletin No. 78, Bureau of American Ethnology, Smithsonian Institution, Washington, D.C.

Liebeck, Judy
1990 *Irvine: A History of Innovation and Growth*. Pioneer Publications, Houston.

Lowman, Hubert A.
1993 *The Old Spanish Missions of California*. Edited by Martha H. Lowman. Lawson Mardon Group Publishers.

LSA Associates, Inc.
2007 Biological Resources Report 1 O'Hill Ridge-Curtone Residence Project, City of Laguna Niguel, Orange County, California. Ms. on file at LSA Associates, Inc.

Mabry, Theo N.
1979 Archaeological Reconnassiance, Salt Creek Area, Orange County, California. Archaeological Planning Collaborative. On file, South Central Coastal Information Center, California State University, Fullerton. (Access. No. OR691)

Mason, Roger D., Nancy A. Whitney-Desautels, and Mark L. Peterson
1987 Test Plan for National Register Evaluation of Archaeological Sites on the Coyote Canyon Sanitary Landfill Property, Orange County, California. Scientific Resource Surveys (SRS). Copies Available from Orange County Integrated Waste Management Department.

McCawley, William
1996 The *First Angelinos: The Gabrielino Indians of Los Angeles*. Malki Museum Press and Ballena Press, Banning and Novato.

Merriam, C. Hart
1968 Village Names in Twelve California Mission Records. *University of California Archaeological Survey Report* 74.

Moratto, Michael J.
1984 *California Archaeology*. Academic Press, San Diego.

O'Neil, Stephen
1988 Their Mark upon the Land: Native American Place Names in Orange County and Adjacent Areas. In *The Natural and Social Sciences of Orange County*, edited by H. Koerper, pp. 106–122. Natural History Foundation of Orange County.

Oxendine, Joan
1983 The Luiseño Village During the Late Prehistoric Era. Unpublished Ph.D. Dissertation, University of California, Riverside.

Robinson, W. W.
1979 *Land in California*. Berkeley and Los Angeles: University of California Press.

Rosenthal, E. Jane, and Beth Padon
1986 Archaeological Research Proposal for CA-ORA-123 and ORA-221/222. Ms. on file, LSA Associates, Inc. Library and Caltrans District 7.

Sharp, Robert P.
1976 *Geology: Field Guide to Southern California.* Kendall/Hunt Publishing Company, Dubuque, Iowa. Second edition.

Sinopoli, Cheryl
2002 Historical Resources Compliance Report for the Relinquishment of a Segment of State Route 1 (PCH) to the City of Dana Point from the Northern City Limits to San Juan Creek, in the City of Dana Point, Orange County, California. California Department of Transportation, District 12. On file, South Central Coastal Information Center, California State University, Fullerton. (Access. No. OR2872)

Sleeper, Jim
1988 Rancho Santa Margarita. In *A Hundred Years of Yesterdays*, edited by E. Cramer, K. Dixon, D. Marsh, P. Brigandi, and C. Blamer, pp. 159–163. Orange County Register, Santa Ana, California.

Sparkman, Philip S.
1908 The Culture of the Luiseño Indians. *University of California Publications in American Archaeology and Ethnology* 8 (4):187–234.

Strudwick, Ivan H., William McCawley, Bradley L. Sturm, and Steven Conkling
1996 Results of Archaeological Testing in the Northeast Portion of CA-ORA-196/H for the Michelson Drive Bridge Widening, San Diego Creek, California. LSA Associates, Inc. Ms. on file, South Central Coastal Information Center, California State University, Fullerton.

United States Geological Survey (USGS)
1941 *San Juan Capistrano, California* 15-minute quadrangle map. Grid Zone G. U. S. Geological Survey, Denver, Colorado, 80225.

1975 *Dana Point, California* 7.5-minute quadrangle map. U. S. Geological Survey, Denver, Colorado, 80225.

Wallace, William J.

1955 A Suggested Chronology for Southern California Coastal Archaeology. Southwestern Journal of Anthropology 11 (3). Reprinted in The California Indians: A Source Book, edited by R. Heizer and M. Whipple, pp 186–201. University of California Press, Berkeley. Second Edition, 1971.

1978 Post Pleistocene Archaeology 9000–2000 B.C. In *California*, edited by R. Heizer, pp 25–36. Handbook of North American Indians, Vol. 8, W. Sturtevant, general editor. Smithsonian Institution, Washington D.C.

Warren, Claude N.

1968 Cultural Tradition and Ecological Adaptation on the Southern California Coast. *Eastern New Mexico University Contributions in Anthropology* 1(3):1–4.

White, Raymond C

1963 Luiseño Social Organization. Berkeley and Los Angeles: *University of California Publications in American Archaeology and Ethnology* 48(2):91-194.

Whitney-Desautels, Nancy A.

1985 Report on Archaeological Site Re-evaluation for the Monarch Beach Project, Laguna Niguel/South Laguna, Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton. (Access. No. OR792)

APPENDIX A

RECORDS SEARCH RESULTS LETTER

LSA

LSA ASSOCIATES, INC.
20 EXECUTIVE PARK, SUITE 200
IRVINE, CALIFORNIA 92614

949.553.0666 TEL
949.553.8076 FAX

BERKELEY
CARLSBAD
FORT COLLINS

FRESNO
PALM SPRINGS
PT. RICHMOND

RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

August 14, 2013

Ms. Stacy St. James, Coordinator
SCCIC; Department of Anthropology
California State University, Fullerton
800 North State College Boulevard
P.O. Box 6846
Fullerton, California 92834-6846

Subject: Records Search Request for the South Shores Church Project, Orange County, California

Dear Ms. St. James:

Attached please find a portion of the United States Geological Survey (USGS) *Dana Point, California* 7.5-minute topographic quadrangle map, which depicts the South Shores Church Project and a 0.25-mile radius. Please plot all previous surveys, archaeological sites, and historic resources over 45 years old that are within the 0.25-mile radius of the project area. Please photocopy <u>only</u> those site records for archaeological sites and historic resources that are <u>within or adjacent to</u> the project area. (If I need additional site records and/or reports, I will request those at a later date.) Please provide the bibliographical references for all studies conducted within the records search boundaries and review the California Points of Historical Interest (SPHI), the California Historical Landmarks (SHL), the California Register of Historical Resources, the National Register of Historic Places, and the California State Historic Resources Inventory (HRI).

Please send the results by Federal Express when you are finished. The LSA Associates, Inc. (LSA) Federal Express number is 110325487. Please use LSA job number **DPC0902** for the Federal Express reference number and the invoice record. Send your invoice to my attention, and include the LSA job number on the invoice.

Please contact me at (949) 553-0666, or email me at debbie.mclean@lsa-assoc.com if you have any questions. Thank you very much for your assistance with this project.

Sincerely,

LSA ASSOCIATES, INC.

Deborah McLean

Debbie McLean, RPA
Principal/Archaeologist

Attachment: USGS Map

South Central Coastal Information Center
California State University, Fullerton
Department of Anthropology MH-426
800 North State College Boulevard
Fullerton, CA 92834-6846
657.278.5395 / FAX 657.278.5542
anthro.fullerton.edu/sccic.html - sccic@fullerton.edu
California Historical Resources Information System
Orange, Los Angeles, and Ventura Counties

August 19, 2013 SCCIC #13289.9971

Ms. Debbie McLean
LSA Associates
20 Executive Park, Ste.200
Irvine, CA 92614
(949) 553-0666

RE: Records Search Request for the South Shores Church Project, Orange County, California. LSA job number DPC0902

Dear Ms. McLean,

As per your request received on August 14, 2013, a records search was conducted for the above referenced project. The search includes a review of all recorded archaeological sites within a ¼-mile radius of the project site as well as a review of cultural resource reports on file. In addition, the California Points of Historical Interest (SPHI), the California Historical Landmarks (SHL), the California Register of Historical Resources (CAL REG), the National Register of Historic Places (NRHP), and the California State Historic Resources Inventory (HRI) listings were reviewed for the above referenced project. The following is a discussion of the findings.

Dana Point, CA USGS 7.5′ Quadrangle

MAPPED ARCHAEOLOGICAL RESOURCES:

Three archaeological sites (30-000011, 30-000127, 30-000571) have been identified on our maps within a ¼-mile radius of the project site. No archaeological sites are located within the project site. No sites are listed on the Archaeological Determination of Eligibility (DOE) list. No isolates have been identified within a ¼-mile radius of the project site. No isolates are located within the project site.

MAPPED HISTORIC BUILT-ENVIRONMENT RESOURCES:

No above-ground historic resources have been identified on our maps within a ¼-mile radius of the project site. No above-ground historic resources are located within the project site.

ADDITIONAL CULTURAL RESOURCES (all other listings)

The **California Historic Resources Inventory (HRI)** lists no properties that have been evaluated for historical significance within a ¼-mile radius of the project site. These are additional resources that are listed in the Historic Property Data File and are located either within the project site or within the search radius.

The **California Point of Historical Interest (SPHI)** of the Office of Historic Preservation, Department of Parks and Recreation, lists no properties within a ¼-mile radius of the project site.

The **California Historical Landmarks (SHL)** of the Office of Historic Preservation, Department of Parks and Recreation, lists no properties within a ¼-mile radius of the project site.

The **California Register of Historical Resources (CAL REG)** lists no properties within a ¼-mile radius of the project site. These are properties determined to have a National Register of Historic Places Status of 1 or 2, a California Historical Landmark numbering 770 and higher, or a Point of Historical Interest listed after 1/1/1998.

The **National Register of Historic Places (NRHP)** lists no properties within a ¼-mile radius of the project site.

HISTORIC MAPS:

Copies of our historic maps – San Juan Capistrano, CA (1941) 15' USGS - are enclosed for your review.

PREVIOUS CULTURAL RESOURCES INVESTIGATIONS:

Five studies (OR354, OR691, OR792, OR2872, and OR2878) have been conducted within a ¼-mile radius of the project site. Of these, none are located within the project site. There are six additional investigations located on the Dana Point, CA 7.5' USGS Quadrangle that are potentially within a ¼-mile radius of the project site. These reports are not mapped due to insufficient locational information.

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you **do not include** resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at 657.278.5395 Monday through Thursday 9:00 am to 3:30 pm.

Should you require any additional information for the above referenced project, reference the SCCIC number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Sincerely,
SCCIC

Lindsey Noyes
Lead Staff Researcher

Enclosures:

(X) Maps – Dana Point, CA 7.5' USGS Quadrangle, San Juan Capistrano, CA (1941) 15' USGS Quadrangle – 5 pages

(X) Bibliography – 4 pages

(X) Invoice #13289.9971

SCCIC Bibliography: South Shores Church Project

OR-00354

Author(s): Anonymous
Year: 1972
Title: Report of Archaeological Investigations of Sites ORA-127 and ORA-128 Laguna Niguel, California.
Affiliation: Archaeological Research, Inc.
Resources: 30-000011, 30-000127, 30-000128
Quads: DANA POINT
Pages: 21
Notes:

OR-00691

Author(s): Mabry, Theo N.
Year: 1979
Title: Archaeological Reconnaissance Salt Creek Area Orange County, California
Affiliation: Archaeological Planning Collaborative
Resources: 30-000129, 30-000360, 30-000568, 30-000569, 30-000570, 30-000571
Quads: DANA POINT
Pages:
Notes:

OR-00792

Author(s): Whitney-Desautels, Nancy A.
Year: 1985
Title: Report on Archaeological Site Re-evaluation for the Monarch Beach Project, Laguna Niguel/South Laguna, Orange County, California
Affiliation: Scientific Resource Surveys, Inc.
Resources: 30-000011, 30-000127, 30-000128, 30-000129, 30-000182, 30-000360, 30-000568, 30-000569, 30-000570, 30-000571
Quads: DANA POINT
Pages: 26
Notes:

OR-02872

Author(s): Sinopoli, Cheryl
Year: 2002
Title: Historical Resources Compliance Report for the Relinquishment of a Segment of State Route 1 (pch) to the City of Dana Point From the Northern City Limits to San Juan Creek, in the City of Dana Po9int, Orange County, California
Affiliation: California Department of Transportation District 12
Resources: 30-000011, 30-000012
Quads: DANA POINT
Pages:
Notes: Sites identified as Indian camps (rancherios) were not found

SCCIC Bibliography: South Shores Church Project

OR-02878

Author(s): Demcak, Carol R.
Year: 2001
Title: Report of Records Search for Tract 14505, Dana Point
Affiliation: Archaeological Resource Management Corp.
Resources: 30-000011, 30-000127
Quads: DANA POINT
Pages:
Notes:

LSA

LSA ASSOCIATES, INC.
20 EXECUTIVE PARK, SUITE 200
IRVINE, CALIFORNIA 92614

949.553.0666 TEL
949.553.8076 FAX

BERKELEY
CARLSBAD
FORT COLLINS

FRESNO
PALM SPRINGS
PT. RICHMOND

RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

August 29, 2013

Ms. Saima Qureshy
Senior Planner
City of Dana Point
33282 Golden Lantern
Dana Point, CA 92629-1805

Subject: Paleontological Resources Assessment for the Proposed Expansion of the South Shores Church at 32712 Crown Valley Parkway, Dana Point, Orange County, California

Dear Ms. Qureshy:

LSA Associates, Inc. (LSA) is under contract to assess the potential for expansion of the South Shores Church to disturb paleontological resources that may be present on the property. The project address is 32712 Crown Valley Parkway, and the project area is located east of Crown Valley Parkway, between Sea Island Drive and Pompeii Drive, in the City of Dana Point, Orange County, California. The project is located in the southeast quarter of Section 9, Township 8 South, Range 8 West as shown on the *Dana Point, California* United States Geological Survey (USGS: 1968[1975]) 7.5-minute quadrangle map (Figure 1). This paleontological resources assessment was completed pursuant to the City of Dana Point General Plan Policies 8.1 and 8.2 as they relate to paleontological (fossil) resources. The work completed includes archival research and a site visit of the project.

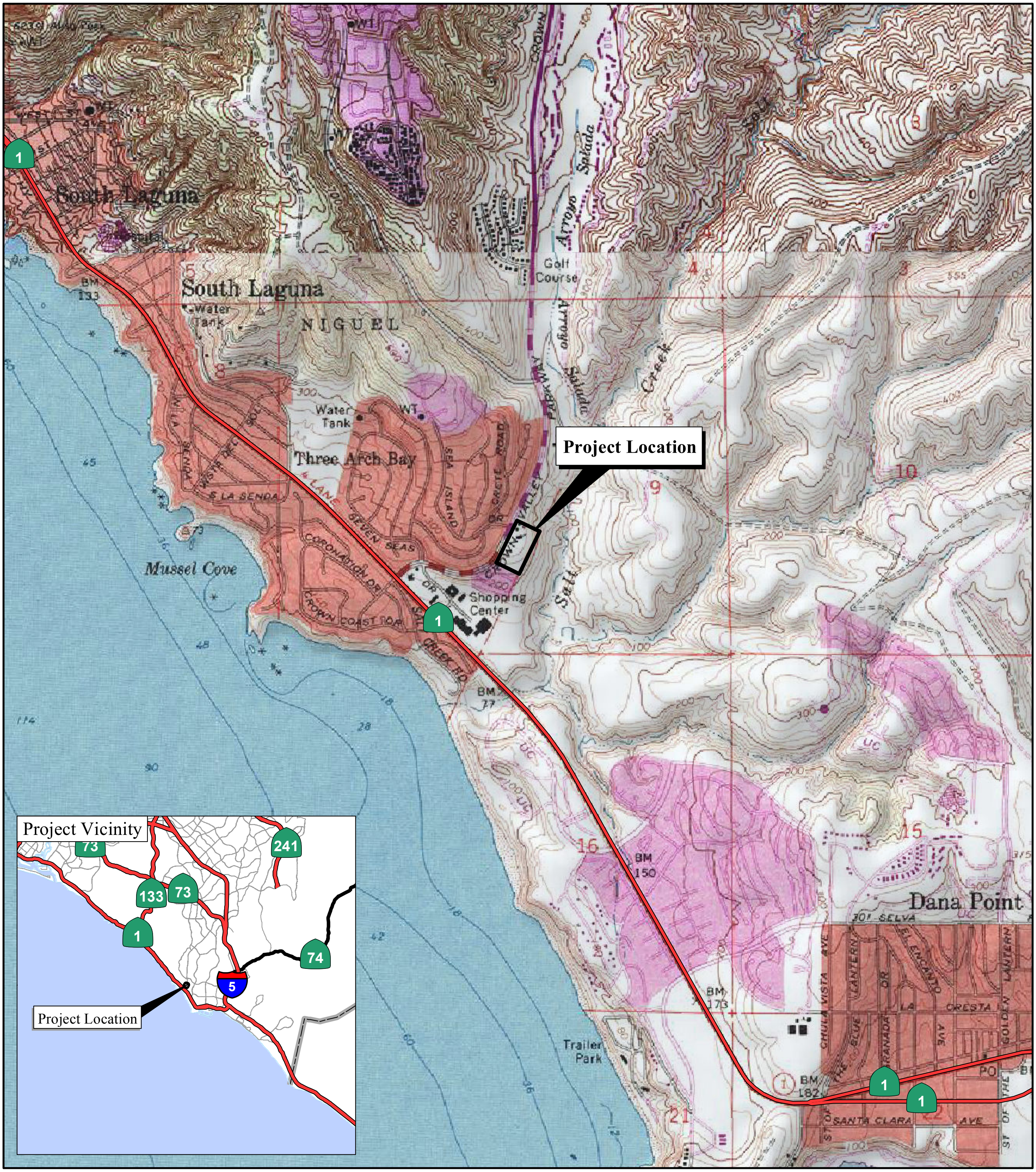
Based on a review of project plans, the South Shores Church is proposing to demolish existing buildings on the parcel, with the exception of the sanctuary, and build a series of new church buildings. The project area is located on a high ridge of the San Joaquin Hills on the west side of Salt Creek. Grading for the project would occur throughout the project area because all of the proposed new buildings and the parking structure would be partially subterranean.

The project area is mapped on the *Geologic Map of the Dana Point 7.5' Quadrangle, Orange County, California: A Digital Database* map (Tan, 1999)[1] as being underlain by the San Onofre Breccia (Figure 2). The San Onofre Breccia (Tso) is an early to middle Miocene deposit consisting of marine to locally non-marine sediments and was first described by Woodford (1925).[2] It is a red-brown, yellow-brown, gray breccia supported in a matrix that can range from clay to coarse sand. It also contains interbeds of conglomerate, sandstone, siltstone, mudstone, shale, and tuff. Clasts are mostly angular to subangular, with occasional subangular to subrounded cobbles and pebbles, and boulders

---

[1] Tan, S.S., 1999, *Geologic Map of the Dana Point 7.5' Quadrangle Orange County, California*, digital preparation by G.W. Patt and K.R. Ruppert. United States Geological Survey and California Geological Survey.

[2] Woodford, A.O., 1925, The San Onofre Breccia: Its Nature and Origin, University of California Publications, Department of Geological Sciences, Vol. 15, No. 7, Pgs. 159-280.



LEGEND

Project Area

FIGURE 1

0 1000 2000
FEET

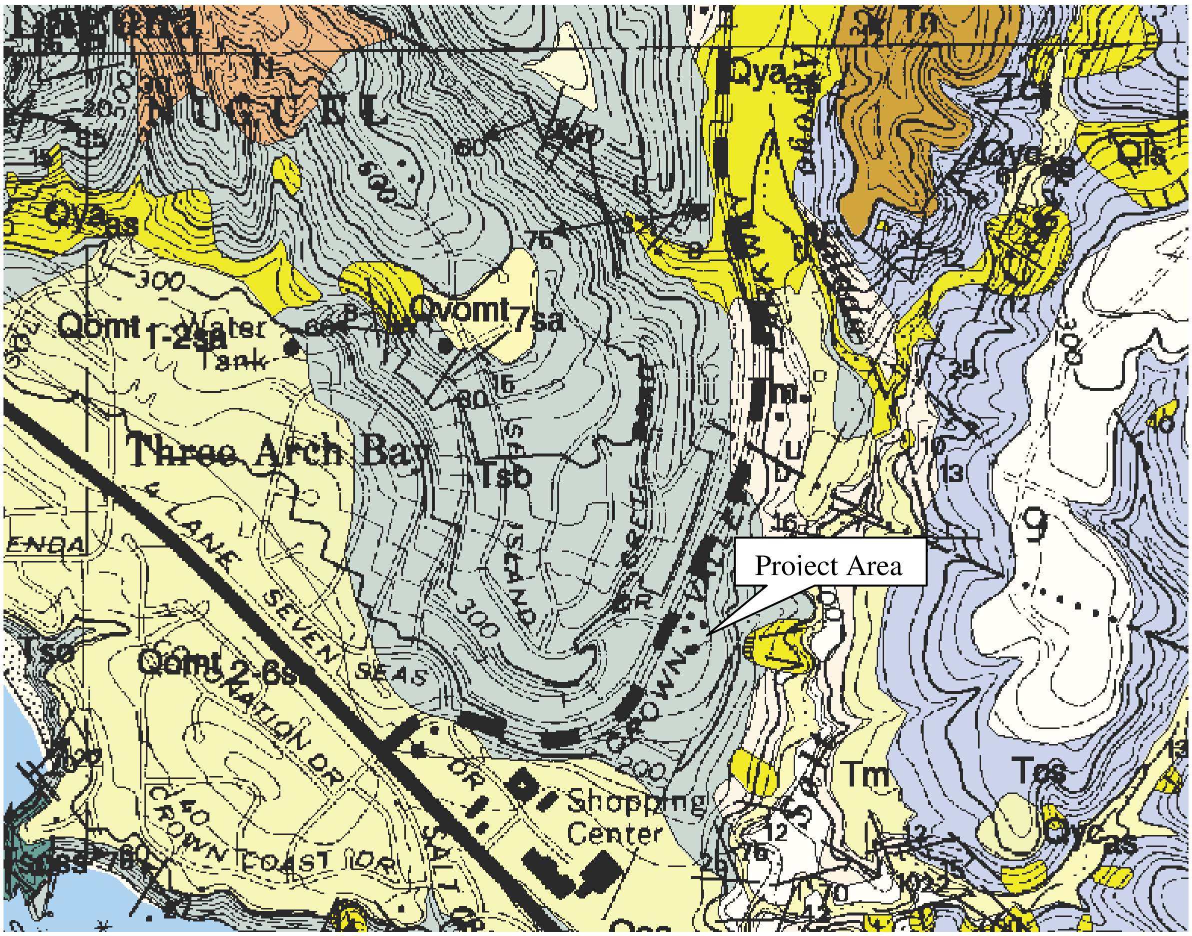
SOURCE: USGS 7.5' Quad. DANA POINT ('75)

South Shores Church Master Plan

Project Location

I:\DPC0902\GIS\Proj_Loc_Cultural.mxd (8/28/2013) as large as 12 feet in maximum dimension. Sand grains are angular to subrounded. It is generally massive to crudely bedded, with the sandstone interbeds exhibiting graded bedding and sometimes

Figure 2 – Regional Geology



North

Source: Tan, S.S.,, 1999, *Geologic Map of the Dana Point 7.5' USGS Quadrangle Orange County, California*
U.S. Geological Survey, Menlo Park, California

1 0 1

Miles

local crossbedding. The breccia units are locally inversely graded and commonly lenticular. The breccia and sandstone units are usually well cemented and resistant, while the siltstone and mudstone units are commonly poorly cemented and less resistant. Most clasts are schists (e.g., amphibolite schist, quartzo-amphibole schist, and knotted albite schist), but also include saussurite gabbro, quartzite, serpentine, and limestone. Theses rock types are unusual, most requiring high pressure and relatively low temperature to form. The sediment source for the San Onofre Breccia is believed to be a western basement complex of rocks – the Catalina Schist. The clasts are similar to the basement rocks exposed on Santa Catalina Island, which is located approximately 58 kilometers (37 miles) to the southwest.

Maximum thickness of the San Onofre Breccia is 795 meters (2,610 feet) in South Laguna and rapidly thins as the formation moves inland/eastward (Woodford, 1925). It unconformably overlies the Topanga, Sespe, and Vaqueros Formations. It is unconformably overlain, but locally gradational and interfingering with the Monterey Formation and Los Trancos and Paularino Members of the Topanga Formation. In Orange County, it is exposed from Dana Point to Newport Bay and is generally located within 6 miles of the coast. There are also extensive exposures in San Diego County from just south of the Orange/San Diego County line to south of Oceanside. Locally it contains fossils of gastropods, bivalves, and shark teeth. Eisentraut and Cooper (2002)[3] state that the San Onofre Breccia is "one of the most unique deposits in the entire Los Angeles Basin succession." They indicate that this unit has produced only rare and highly fragmented vertebrate fossils and conclude that the unit has a Low sensitivity for containing important paleontological resources.

On March 17, 2010, LSA Paleontologist Steven W. Conkling conducted a paleontological resource assessment survey of the project area. Mr. Conkling also examined nearby road cuts along Crown Valley Road. The field survey verified that exposures of the San Onofre Breccia are present in the project area, and that the San Onofre Breccia underlies the project area. One fragmented clam shell fossil was observed during the field survey, but it appears to have been transported to the site from an exposure of the Monterey Formation.

A Locality Search of published localities from the project vicinity was conducted through copies of the Orange County paleontological localities maintained by LSA. The nearest fossil localities to the project area are from Salt Creek and also from exposures of the Monterey Formation nearer the coast.

Due to the Low Paleontological Sensitivity of the San Onofre Breccia, the lack of fossil localities from this formation, and the results of the field survey, it is herein recommended that full-time monitoring for paleontological resources during ground-disturbing construction activities is not warranted. LSA recommends that a qualified paleontological monitor working under the direction of an Orange County certified paleontologist be retained to "spot check" grading within the project area. Initially, spot checks are recommended for 2–3 hours twice a week during grading. If fossil resources are noted during the spot check, the monitoring level should be increased to full time for the remaining duration of grading.

PALEONTOLOGICAL RESOURCES IMPACT MITIGATION PROGRAM (PRIMP)

A PRIMP provides the procedures whereby the mitigation and monitoring program should be implemented and directed by a qualified Principal Paleontologist.

[3] Eisentraut, P., and J. Cooper, 2002, Development of a Model Curation Program for Orange County's Archaeological and Paleontological Collections. Prepared by California State University, Fullerton and submitted to the County of Orange Public Facilities and Resources Department/Harbors, Beaches and Parks PFRD/HBP.

Monitoring

Due to the limited nature of project grading, only a single monitor is expected to be needed for project monitoring. Monitors should have a minimum of 1 year of experience in monitoring for, and collection of, paleontological resources and working around heavy equipment.

Monitors should observe excavation of *in situ* sediments and the resulting back dirt for paleontological remains. In addition to visually examining the sediments, the monitors should spot screen some matrix through one-eighth-inch or one-sixteenth-inch mesh screens for fossil materials. This allows remains that might otherwise be missed due to their small size to be observed. If small fossils are observed during screening, or observed during the course of regular monitoring, the monitors should have the authority to collect a standard sample of up to 6,000 pounds of matrix that can be screened in another location (see the section on Bulk Samples, below).

If fossils are observed and collected, the localities need to be assigned field locality numbers. To ensure the least amount of delay to grading activities, all monitors shall be equipped, either on their person or in their vehicle, to quickly stabilize and collect fossil material. This shall include equipment such as a pick, shovel, rock hammer, dental picks, brushes, glue, hardeners, trowels, putty knives, and plaster medical bandages. When resources are located *in situ*, monitors shall be prepared, and have the authority to halt or redirect the excavation work in the area of discovery until the find can be assessed for significance and, if necessary, documented and collected from the field. Procedures for rerouting equipment will need to be established with the Principal Paleontologist and the construction foreman.

Implementation of a spot-checking monitoring system will ensure impacts to paleontological resources are maintained below a level of significance. If paleontological resources are observed, it may be necessary to increase monitoring to full time.

Bulk Samples

If during monitoring, sediments containing concentrations of small bones and teeth are encountered, a salvage team should be sent to the area to collect a standard sample of up to 6,000 pounds. Depending on the location of the find (e.g., a limited exposure of fossil-bearing strata), less material may be collected. The matrix should then be transported to a designated wash area, preferably within the project area, and stockpiled either in trash cans or on the ground on heavy-duty plastic tarps. All collected matrix must be clearly labeled with its locality number to keep track of where the sediment sample originated.

Preparation of Collected Resources

Specimens should be prepared using standard paleontological techniques to a point of reasonable identification. If any wash samples are processed, the residual matrix concentrate from the wash is best examined for the microfossils with the use of a magnifying scope in the lab. Any observed fossil remains can be sorted out and set aside for later identification.

Discarding of Specimens

Initially, all observed fossil specimens, especially vertebrate fossils, should be collected and brought to the lab. If it is readily apparent in the field that there are hundreds of the same species of invertebrate shell, the decision can be made by the monitor to collect only a representative sample of the fossils, which will help to reduce the storage volume and reduce unnecessary duplication. All vertebrate fossils should be collected because all are considered significant.

Once in the lab, and at the completion of the project, the decision can be made to discard invertebrate specimens that have enough representatives in the collection. In addition, if numerous vertebrate fossils are not diagnostic because of their fragmentary nature, some of them may also be discarded. This is usually done to reduce the storage volume for the curation facility. Discarding does not necessarily entail placing the specimens into the trash. The specimens can often be used in fossil education programs at schools or museums, allowing children and adults to handle real fossils with no fear of a one-of-a-kind fossil being broken or damaged.

Report Documentation

At the completion of the project, the Principal Paleontologist must prepare a paleontological mitigation report. Briefly, the purpose of the report is to document the results of the monitoring effort and should contain:

- A discussion of the monitoring and laboratory methods;
- A list and qualifications of the individuals involved in the monitoring, fossil preparation, identification, and curation;
- Results of the monitoring, including numbers of localities, numbers of specimens, and a list of specimens with both common and scientific names;
- Maps depicting where each locality was found;
- Graphics, such as geologic cross sections;
- Illustrations and/or pictures of selected specimens, with pictures of selected localities in the field so that they can be easily identified if needed during future excavations;
- A discussion of the resources collected, how they fit into the overall geologic and paleontologic context, and how the specimens will add to the scientific knowledge of the area, which includes discussions on whether there are any specimens that are rare or unique and if they are the first occurrence for the particular specimen for the age of the rock of the formation itself; and
- An itemized fossil catalog, usually included as an appendix.

Curation of Fossils into a Permanent Repository

Any fossils collected should be properly curated at an approved facility (e.g., a museum or university, one preferably local to the project location) and preserved for future scientific studies above and beyond what is covered in the paleontological monitoring report. A copy of the final report and a searchable master catalog database in a format such as Microsoft Excel or Access should be curated with the fossils. Generally, as part of the curation agreement, the curation facility will require that certain methods and stipulations be followed to ensure that fossils are collected and preserved in a manner that meets curation requirements set by the facility.

SUMMARY AND RECOMMENDATIONS

The project area is wholly underlain by the San Onofre Breccia, a middle Miocene marine and non-marine deposit with a Low Paleontological Sensitivity. During a field survey of the project area, the presence of the San Onofre Breccia was confirmed; however, no fossil localities or suitable rock units were identified that would indicate there are significant fossil deposits within the project area. A single Miocene clam shell fossil was identified during the survey, but this appears to have been possibly transported onto the site from the Monterey Formation within artificial fill placed during the development of the property. Therefore, it is recommended that full-time paleontological monitoring of the limited project grading is not warranted. A spot-check monitoring program is recommended until grading is completed, or fossils are identified and monitoring levels are increased.

By following these guidelines, impacts to nonrenewable paleontological resources will be reduced to levels that are less than significant.

Thank you for the opportunity to assist you on this project. If LSA can be of further assistance, or if you have any questions concerning this letter, please contact me at brooks.smith@lsa-assoc.com or by telephone at (949) 553-0666.

Sincerely,

LSA ASSOCIATES, INC.

Brooks Smith
Associate
Orange County Certified Paleontologist

This page intentionally left blank