Greenhouse Gas Emissions Technical Report for the Newland Sierra Project San Diego County, California

Prepared For:

County of San Diego
Planning & Development Services
5510 Overland Avenue, Suite 110
San Diego, California 92123

Project Proponent:

Newland Sierra, LLC
4790 Eastgate Mall, Suite 150
San Diego, California 92121
Contact: Rita Brandin

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Contact: David Deckman

David Deckman

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ACRONYMS AND ABBREVIATIONS

ACC	Advanced Clean Cars
AB	Assembly Bill
C2ES	Center for Climate and Energy Solutions
CalEEMod	California Emissions Estimator Model
CalRecycle	California Department of Resources Recycling and Recovery
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	methane
CNG	compressed natural gas
CO_2	carbon dioxide
CO_2E	carbon dioxide equivalent
DOE	Department of Energy
DOT	Department of Transportation
du/ac	dwelling units per acre
EPA	U.S. Environmental Protection Agency
EV	electric-powered vehicle
EO	Executive Order
GHG	greenhouse gas
GWP	global warming potential
H_2O	water vapor
HFC	hydrofluorocarbon
I-15	Interstate 15
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
LAFCO	Local Agency Formation Commission
lbs	pounds
LID	low impact development
MMT	million metric tons
mpg	miles per gallon
MPO	metropolitan planning organization
MT	metric ton
MWh	megawatt-hour
N_2O	nitrous oxide

NF_3	nitrogen trifluoride
NHTSA	National Highway Traffic Safety Administration
O_3	ozone
PDF	project design feature
PFC	perfluorocarbon
PSR	Project Study Report
RCP	Regional Comprehensive Plan
RFS	Renewable Fuel Standard
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCS	Sustainable Communities Strategy
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas & Electric
SF	square feet
SF_6	sulfur hexafluoride
SLCP	short-lived climate pollutants
SR	State Route
TAC	Toxic Air Contaminants
TAZ	Traffic Analysis Zone
TDM	Transportation Demand Management
UNFCCC	United Nations Framework Convention on Climate Change
VMT	vehicle miles traveled
VWD	Vallecitos Water District
ZEV	zero-emission vehicle
ZNE	zero net energy

EXECUTIVE SUMMARY

The 1,985-acre Newland Sierra Project (hereafter referred to as "project" or "proposed project") Site is located in unincorporated San Diego County and would include seven neighborhoods (also referred to as "planning areas") with a total of 2,135 residential units. The project is anchored by a Town Center consisting of 95 residences (townhomes), 81,000 square feet of commercial space, and a 6-acre school site, and also includes parks, trails, and open spaces.

This greenhouse gas (GHG) emissions impact analysis evaluates the potential for significant adverse impacts related to GHGs due to construction and operational emissions resulting from the proposed project. GHG emissions associated with construction equipment and vehicles, operations and maintenance vehicular traffic, energy consumption, water supply and wastewater, and solid waste generation were estimated.

This project would implement a number of on-site, project-specific GHG reduction features to reduce GHG emissions during operation. On-site GHG reduction features would include the following, as listed by emissions source category:

- **Mobile Emissions Reduction Features:** A Transportation Demand Management (TDM) Program that includes a mix of land uses (land use diversity), a Community-wide electric bike share program, a car share program, ride-sharing support and resources, local shuttle service, a transit fare subsidy for residents and employees, a pedestrian and bike trail network, and marketing mechanisms (e.g., tech-enabled mobility) that are targeted to residents and employees. Additionally, the project would involve expansion of existing park-and-ride options, preferential parking for high-efficiency vehicles, and reduced truck idling time for non-residential delivery trucks.
- **Energy Emissions Reduction Features:** Renewable energy sources (specifically, solar/photovoltaic systems) for all residential units, street lights, and Community facilities (e.g., pool areas, recreation centers); electric vehicle (EV) charging equipment in the garages of all single-family residential units; EV charging stations in 3% of the Town Center's commercial core parking spaces and encouragement of installation of EV charging stations in 3% of the park-and-ride facility's parking spaces (if installation of EV charging stations is deemed acceptable by the land owner, the applicant would fully fund these improvements); cool roofs on commercial structures; option for energy-efficient appliances; prohibition of wood-burning fireplaces in all residential units; and exterior electrical outlets for electrical lawn and garden equipment.
- **Water Emissions Reduction Features:** Recycled water use for landscaping; drought-tolerant landscaping; turf reduction (single-family residences would omit front lawns and

turf would not be used within the Community street rights-of-way); and pre-plumbing for grey water systems in single-family residential units, if feasible.

With implementation of these project-specific GHG reduction features (not all of which are quantifiable, thereby leading to a conservative emissions estimate), the proposed project's estimated GHG emissions would be approximately 43,498 metric tons of carbon dioxide equivalent per year at buildout. Therefore, impacts related to GHG emissions would be **potentially significant**.

As described previously and as presented in Section 6.2.2, below, the project would implement a number of GHG reduction features. Additionally, mitigation measures **M-GHG-1** through **M-GHG-3** are provided to reduce this impact, and would require the project to achieve carbon neutrality (i.e., a net zero emissions level). Implementation of **M-GHG-1** through **M-GHG-3** would reduce impacts associated with GHG emissions to **less than significant**.

Regarding consistency with the San Diego Association of Governments' (SANDAG) *San Diego Forward: The Regional Plan* (Regional Plan), as part of the project's TDM Program briefly described above, the project would include design elements and design features to support the policy objectives of the Regional Plan and Senate Bill (SB) 375. The project's TDM Program would work to reduce the project's vehicle miles traveled (VMT) through three primary strategies: (1) land use and design measures that would create an environment that promotes alternative mode choice (e.g., land use diversity and pedestrian/bicycle networks); (2) commute/travel services for residents that would reduce out-going single-occupant vehicle trips (e.g., electric bike-share program, local shuttle service); and (3) commute services for employees of the project's commercial center that would reduce incoming single-occupant vehicle trips (e.g., transit fare subsidies for employees). Implementation of the project's TDM Program and associated measures would achieve an 11.1 percent reduction in project-related VMT.

Additionally, the proposed project is a master-planned Community that would be located near job centers and existing land uses. The project itself also contains a balanced mix of uses, including resident-serving general commercial uses, parks, a school site, and a range of residential types. The proposed project's mix of uses would allow the project to reduce VMT by offering resident-serving land uses internally. Further, the project's mix of land uses, including residential in conjunction with retail, parks, and a school site, would combine with an integrated pathway and trail plan, and a dense system of internal streets and roads that would promote a pedestrian experience for the project's residents and visitors, and facilitate non-vehicular travel, consistent with SB 375 and SANDAG's Regional Plan. The project would be consistent with policy objectives of SANDAG's Regional Plan. Additionally, the project's contribution to overall VMT in the region would be generally consistent with the

SANDAG-forecasted VMT under the No Project (General Plan) condition (within 4.5 percent of SANDAG-forecasted VMT for the region) (Appendix R).

In addition to the Regional Plan, the proposed project is consistent with the County of San Diego's General Plan Conservation and Open Space Policies that are designed to reduce the emissions of GHGs and energy use in buildings and infrastructure while promoting the use of renewable energy sources, conservation, and other methods of efficiency.

As described above, the project's estimated GHG emissions in the buildout year would be 43,498 MT CO_2E per year. Therefore, the project (without mitigation) would generate GHG emissions which may interfere with the implementation of GHG reduction goals for 2030 or 2050 and, therefore, would result in a **potentially significant** conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions.

With implementation of mitigation measures **M-GHG-1** through **M-GHG-3**, the project achieves carbon neutrality (i.e., a net zero emissions level) thereby resulting in *no* net increase in GHG emissions relative to existing environmental conditions. Accordingly, the project would not interfere with implementation of any of the above-described GHG reduction goals for 2030 or 2050 because. Further, the project emissions estimates presented in Table 2.7-8 through Table 2.7-14 are a conservative representation of project emissions due to the reasonably foreseeable and anticipated technological and regulatory advancements that will continue to advance the state's GHG policies. Therefore, the project would not conflict with an applicable plan adopted for the purpose of reducing GHG emissions, and plan consistency impacts would be **less than significant**.

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1 INTRODUCTION

1.1 Purpose of the Report

The purpose of this report is to estimate and evaluate the potential greenhouse gas (GHG) emissions impacts associated with construction and operation of the proposed Newland Sierra Project (hereafter referred to as "project" or "proposed project").

1.2 Project Location and Description

1.2.1 Project Location

The proposed project would be located within an unincorporated portion of the County of San Diego (County) within the North County Metropolitan Subregional Plan area. The North County Metropolitan Subregional Plan area is composed of many non-contiguous "island" areas interspersed among the cities of Escondido, San Diego, San Marcos, Vista, and Oceanside, with the most easterly portion adjacent to Valley Center. The North County Metropolitan Subregional Plan area includes the communities of Hidden Meadows and Twin Oaks, with the project Site located in the community of Twin Oaks. A portion of the project Site is also located within the Bonsall Community Plan area. The project Site is directly west of Interstate (I) 15, north of State Route (SR) 78, and south of SR-79. The cities of Escondido and San Marcos are approximately 1 mile south of the Site (see Figures 1 and 2).

The project Site consists of approximately 1,985 acres and is bounded by I-15 on the east, Deer Springs Road (County Road S12) on the south, and Twin Oaks Valley Road on the west, with a small portion of the northwestern edge of the Site traversed by Twin Oaks Valley Road. Gopher Canyon Road is located approximately 0.5 mile north of the Site.

1.2.2 Existing Land Uses

The project Site is primarily undeveloped. A number of dirt roads and trails provide access to existing parcels, and service roads for existing water infrastructure traverse the Site. Portions of the Site have been and continue to be used for various unauthorized uses, including horseback riding, hiking, mountain biking, off-roading, motorcycling, shooting, and illegal dumping.

Surrounding land uses to the north, west, and south of the project Site include large-lot, single-family development and avocado groves. Many of the prominent ridges surrounding the Site are occupied by existing homes. Lawrence Welk Village and the community of Hidden Meadows are located east of the project Site across I-15. South of the Site is a mobile home park, Golden Door Properties LLC, and estate development along the border of the city of San Marcos and the unincorporated portion of the County of San Diego.

1.2.3 Project Components

The project is a 1,985-acre mixed-use community within the unincorporated area of San Diego County designed in accordance with the County of San Diego General Plan Community Development Model. The majority of the Community is within the Twin Oaks community of the North County Metropolitan Subregional Plan area, and a portion is within the Bonsall Community Planning area. The Specific Plan includes a residential component consisting of 2,135 dwelling units, (see Figure 3, Site Plan) which equates to an overall density of 1.08 dwelling units per acre (du/ac) over the entire 1,985 acres. The Community Development Model influenced the design and pattern of the seven neighborhoods (also referred to as "planning areas") with the highest densities located in the Town Center.

The proposed project would include a variety of housing types, some of which would be designed with grade-adaptive architecture, to meet the varied needs of the anticipated residents. (Grade-adaptive architecture minimizes grading by incorporating one or more steps on the ground floor that conform to the underlying slope of the Site.) Development of the project Site would be focused into seven planning areas designed to promote health and sustainability by focusing on a compact pattern of development and to promote land stewardship and avoid the most sensitive biological, cultural, and topographical resources. Taking inspiration from the Site's landscape character and distinct landforms, each neighborhood individually responds to its topographical setting. A description of each planning area is provided below.

Town Center

The Town Center planning area would be located off of Deer Springs Road, east of the primary access road in the southernmost portion of the project Site. The Town Center would include 95 residential units (townhomes), 81,000 square feet of commercial space (anticipated to be a neighborhood grocery store), a 6-acre school site, and approximately 5.7 acres of parks. The compact and walkable Town Center would provide employment opportunities for future residents and the surrounding area. Table 1 outlines the proposed land uses for the Town Center.

Table 1
Sierra Town Center

Land Use	Description	Dwelling Units
General Commercial	81,000 square feet	n/a
Row Townhomes	2- and 3-story*	95
School	n/a	n/a
Parks	n/a	n/a
Total Residential Units	**n/a**	**95**

Source: County of San Diego 2016a
n/a = not applicable
* Limited to 35 feet in total height

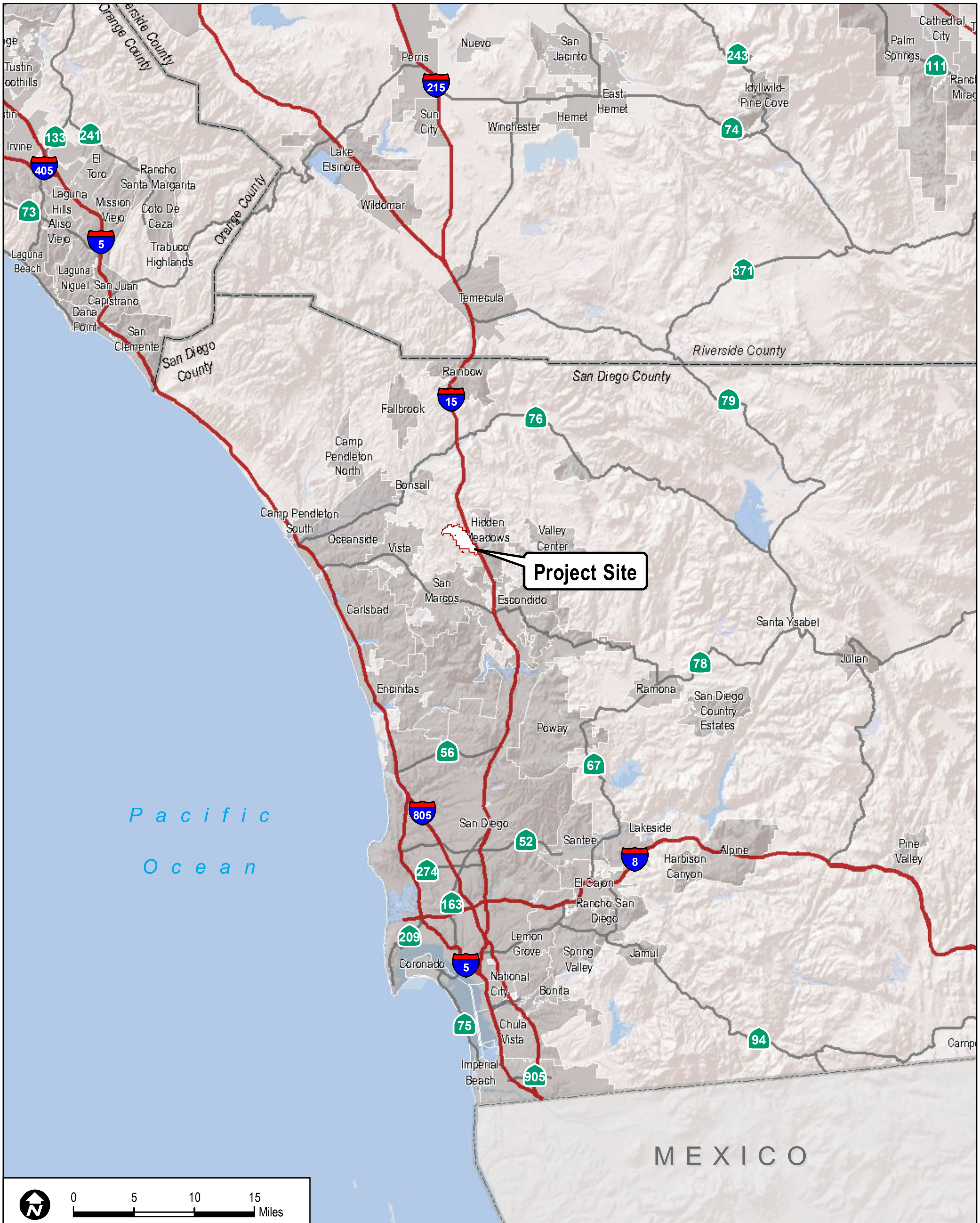

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FIGURE 1

Regional Map

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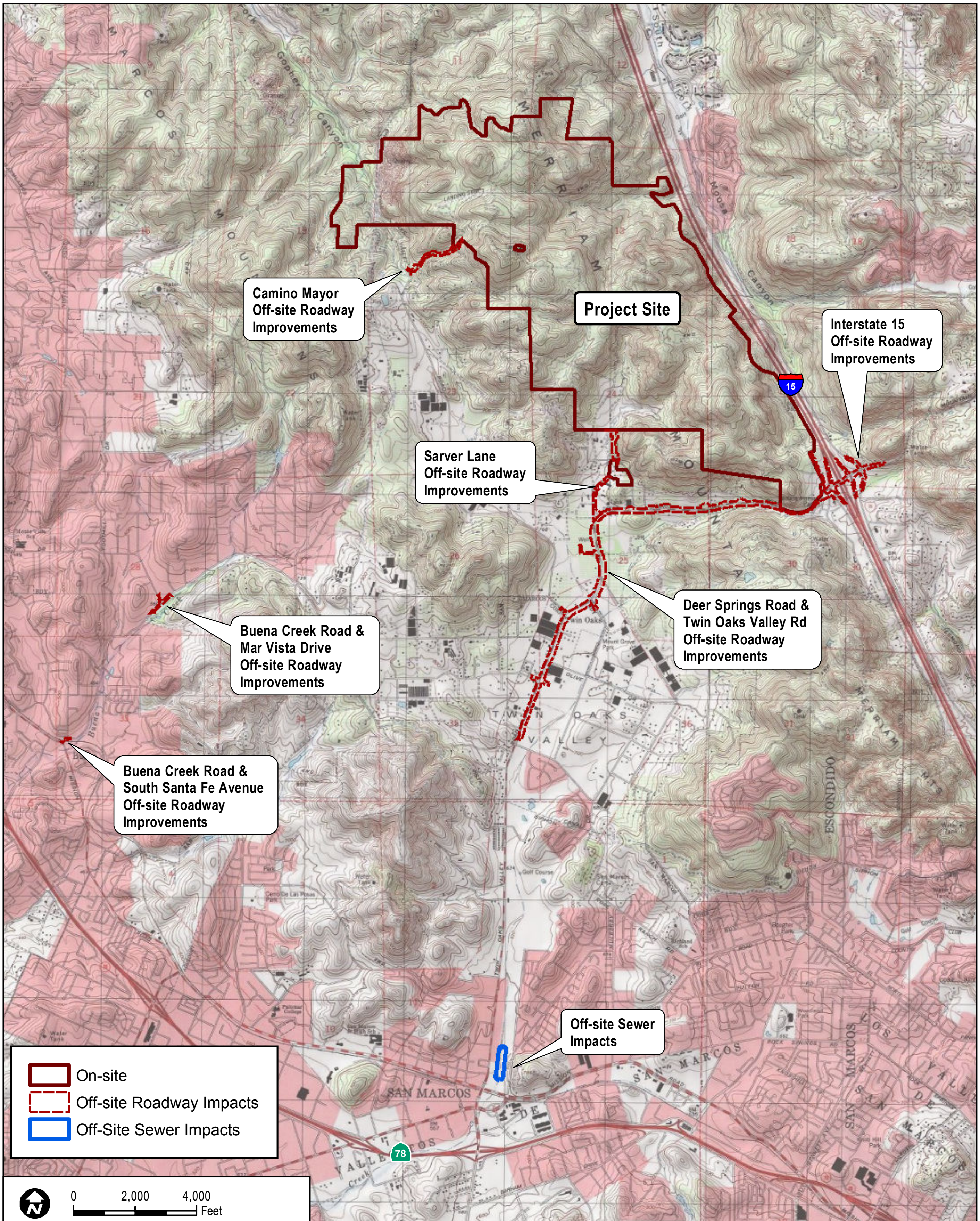

SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle.

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FIGURE 2
Vicinity Map

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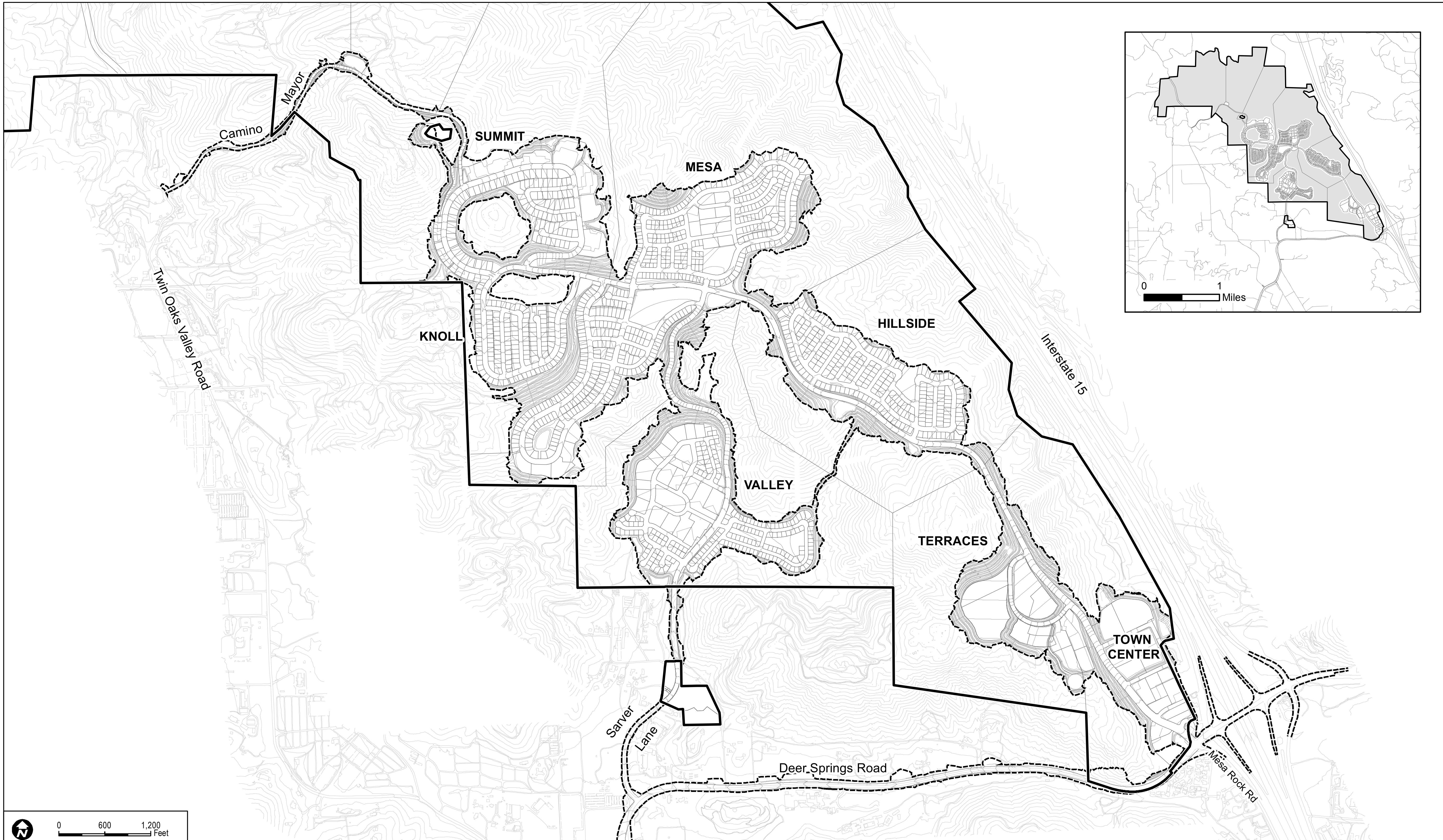

SOURCE: Fuscoe 2016

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FIGURE 3

Site Plan

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Terraces Neighborhood

The Terraces Neighborhood would be located directly northwest of the Town Center on the west side of the primary access road in the southern portion of the project Site. The Terraces Neighborhood would include 446 residential units. Table 2 outlines the proposed land uses for the Terraces planning area.

Table 2
The Terraces Neighborhood

Land Use	Description	Dwelling Units
Townhomes/Grade Adaptive	2- and 3-story*	56
Townhome Cluster 1	2- and 3-story*	96
Townhome Cluster 2	2- and 3-story with Tandem Garages*	65
Townhome Cluster 3	2- and 3-story with Tandem Garages*	127
Townhome Cluster 4	2- and 3-story with Tandem Garages*	102
Total Residential Units	**n/a**	**446**

Source: County of San Diego 2016a
n/a = not applicable
* Limited to 35 feet in total height

Valley Neighborhood

The Valley Neighborhood would be located northwest of the Terraces and south of the Knoll Neighborhoods. The Valley Neighborhood would include 505 residential units and approximately 12.3 acres of parks. The residential units in this planning area would be composed of single-family clusters, townhomes, and single-family lots ranging from 3,500 square feet to 4,000 square feet. The term “cluster” is used to describe a neighborhood in which housing is clustered together on relatively small lots with a larger amount of common area shared by the homeowners, and sharing of common areas such as a courtyard, motor court, or open space. Table 3 outlines the proposed land uses for the Valley planning area.

Table 3
The Valley Neighborhood

Land Use	Description	Dwelling Units
Row Townhomes	2- and 3-story*	167
Townhomes with Carriage	2- and 3-story*	54
Paseo Clusters	Detached single-family clusters	96
Small Lots	3,500 square feet	71
Small Lots	4,000 square feet	38
Small Lots	3,900 square feet	79

Table 3
The Valley Neighborhood

Land Use	Description	Dwelling Units
Parks	n/a	n/a
Total Residential Units	**n/a**	**505**

Source: County of San Diego 2016a
n/a = not applicable
* Limited to 35 feet in total height

Hillside Neighborhood

The Hillside Neighborhood would be located north of the Terraces planning area and east of the primary access road in the southeastern portion of the project Site. Hillside would include 241 residential units and approximately 2.3 acres of parks. The lots for the single-family detached homes would range from 4,500 square feet to 5,000 square feet. Age-targeted lots would also be included, which are intended for neighborhoods that are generally a mix of single-family detached and attached housing, with a portion of the neighborhood catering to (but not restricted to) adults 55 years and older. Age-targeted lots would not be deed-restricted. Table 4 outlines the proposed land uses for the Hillside planning area.

Table 4
The Hillside Neighborhood

Land Use	Description	Dwelling Units
Single-Family Lots	4,800 square feet	148
Age-Targeted Lots	4,500 square feet	55
Age-Targeted Lots	5,000 square feet	38
Parks	n/a	n/a
Total Residential Units	**n/a**	**241**

Source: County of San Diego 2016a
n/a = not applicable

Knoll Neighborhood

The Knoll Neighborhood would be located south of the Summit, southwest of the Mesa, and north of the Valley Neighborhoods. This planning area would include 372 residential units and approximately 9.5 acres of parks. This planning area would be composed of single-family lots ranging from 4,500 square feet to 5,000 square feet, plus single-family clusters. Table 5 outlines the proposed land uses for the Knoll planning area.

Table 5
The Knoll Neighborhood

Land Use	Description	Dwelling Units
Single-Family Lots	4,500 square feet	125
Single-Family Lots	5,000 square feet	78
Single-Family Lots	4,800 square feet	139
Single-Family Clusters	Detached Single-Family Clusters	30
Parks	n/a	n/a
Total Residential Units	**n/a**	**372**

Source: County of San Diego 2016a
n/a = not applicable

Mesa Neighborhood

The Mesa Neighborhood would be located north of the Hillside, east of the Knoll, and southeast of the Summit Neighborhoods. This planning area would be composed of age-qualified single-family lots and age-qualified single-family clusters on lots ranging from 3,000 square feet to 6,000 square feet. The Mesa Neighborhood would include 325 residential units and approximately 4.1 acres of parks. Age-qualified lots are intended in neighborhoods that offer homes and Community features specifically aimed at adults 55 years and older, where at least one person who is 55 years of age or older must be a permanent resident in each household. Residents typically lead an independent, active lifestyle in a setting with private amenities such as a clubhouse and private recreational spaces. The Mesa's age-qualified single-family lots and single-family clusters are geared toward adults 55 years of age and older and surround a neighborhood park. Table 6 outlines the proposed land uses for the Mesa planning area.

Table 6
The Mesa Neighborhood

Land Use	Description	Dwelling Units
Age-Qualified Clusters	4,500 square feet	60
Age-Qualified Lots	3,600 square feet	51
Age-Qualified Lots	4,000 square feet	48
Age-Qualified Lots	5,000 square feet	47
Age-Qualified Lots	6,000 square feet	37
Age-Qualified Lots	3,000 square feet	82
Parks	n/a	n/a
Total Residential Units	**n/a**	**325**

Source: County of San Diego 2016a
n/a = not applicable

Summit Neighborhood

The Summit Neighborhood would be the northernmost area of development, located just north of the Knoll and northwest of the Mesa Neighborhoods. The Summit planning area would include 151 dwelling units and approximately 2 acres of parks (including the equestrian staging area). This planning area is composed of the largest residential lots proposed on the project Site, with lots ranging from 6,000 square feet to 7,500 square feet. Table 7 outlines the proposed land uses for the Summit planning area.

Table 7
The Summit Neighborhood

Land Use	Description	Dwelling Units
Large Single-Lots – Downslope	7,500 square feet	14
Single-Family Lots – Upslope	7,000 square feet	32
Single-Family Lots	6,000 square feet	55
Large-Lot Clusters	Detached Single-Family Clusters	50
Parks	n/a	n/a
Total Residential Units	**n/a**	**151**

Source: Newland Sierra LLC 2015
n/a = not applicable

Sustainable Planning and Design

The proposed project would promote sustainability through Site design that would conserve energy, water, open space, and other natural resources. The project would offer defining attributes, including a commitment to carbon neutrality by offsetting 100 percent of the project's construction and operational greenhouse gas (GHG) emissions through the life of the project. As part of this commitment, the project would implement core sustainable development features, including solar on all residential units and a network of solar-powered street lights; low-water-use landscaping throughout the Community, with restrictions on the use of turf; possible indoor pre-plumbing for grey water systems in single-family residential dwelling units, if feasible; electric vehicle chargers in single-family garages and electric vehicle charging stations in commercial areas; and integration of community gardens and vineyards throughout the Community. The project would also implement a Transportation Demand Management (TDM) program to reduce automobile trips, both internal and external to the Community. The project's carbon neutrality and energy-, water-, and transportation-efficient requirements, combined with its balance of interrelated land uses, high level of preservation, and high-quality neighborhood design, make the project the first large-scale planned community in San Diego County to achieve a 100 percent reduction in the project's construction and operational GHG emissions.

Landscape

The surrounding open space inspires and informs the landscape proposed for development. Boulders would build a distinctive landscape identity throughout the Community, reflecting the surrounding landscape character. A large number of natural, rounded boulders would be stockpiled during grading operations for use in the newly landscaped areas on Site.

Drought-tolerant plant species would be selected to create a distinctly native character. This allows a softer visual blend with the surrounding landscape and visually draws it into the Community, while also serving the needs of fuel modification zones. Street trees would be required along all internal neighborhood streets. The Community loop road would also be planted with street trees but with a natural, uneven spacing that allows views and connection to the natural open space.

Water conservation would be a primary focus of the landscape design. State regulations, as well as the County of San Diego's Water Conservation Landscape Ordinance, require that landscapes meet a 0.7 evapotranspiration adjustment factor or better. Certain species would be regulated, such as turf grass, which would be prohibited from use in any front yard landscapes. Turf grass would only be used in park areas for functional active and passive use and would not be specified in any other Community landscape treatments. In addition, certain species would be prohibited from use on Site, including species that have invasive characteristics.

Community agriculture would be promoted through the creation of a Community garden. Garden plots would be rented or reserved by the public, with first priority given to Community residents. This measure would promote locally grown organic food sources for Community residents and provide a link to the region's agricultural heritage. Additionally, approximately 20 acres of vineyards would be planted and maintained throughout the project Site, primarily on high-visibility slopes. These productive landscapes would be professionally maintained and would add to the aesthetic appeal of the Community.

1.2.4 Mobility

Access Points and Internal Circulation

The project's multimodal transportation network would support pedestrian, equestrian, bicycle, shuttle service, and vehicular use throughout the Community, with connections to off-site roads supporting the same. The project Site would have two primary access roads along Deer Springs Road at Mesa Rock Road and Sarver Lane, with an additional access point at Camino Mayor off North Twin Oaks Valley Road. The Mesa Rock Road access would be built as a six-lane entry road with a median that transitions into a four-lane divided road farther into the Site, and then into a two-lane undivided roadway until it reaches the Sarver Lane access where it would transition into a three-lane undivided roadway. The loop road is primarily designed with a width of 32 feet and would include striped bike lanes and a 10-foot-wide multi-use pathway along its entire length. The bike lanes and multi-use pathway would connect to bike routes and a 10-foot-wide multi-use pathway along Deer Springs Road.

An electric bike share program would be included to further link the neighborhoods to one another and reduce internal vehicle trips. The electric bike share program would include the placement of a kiosk in close proximity to each planning area to allow electric bikes to be taken from one kiosk and left at another, encouraging sustainable transportation between planning areas within the project. The program includes the placement of eight kiosks throughout the Community, with 10 to 20 electric bikes at each kiosk. Additionally, the project would include bike lanes, an extensive trail system consisting of roadside pathways within the linear greenbelts, and pathways. With incorporation of these internal circulation features, the project would provide residents the opportunity to access employment, education, and recreational and commercial uses via multiple modes of transportation.

Off-Site Mitigation Requirements

In addition to the improvements described above, traffic impacts to off-site roadways would necessitate various off-site improvements. These improvements are identified as mitigation measures to reduce traffic impacts. They include improvements to the Deer Springs Road/I-15 Interchange, Deer Springs Road, Twin Oaks Valley Road, Buena Creek Road, Monte Vista Drive, S. Santa Fe Avenue, and various intersections, and they are necessary to improve the capacity and operations of these roadways. Several of these roadway improvements are located within the jurisdiction of another lead agency. Because these additional off-site improvements are identified as mitigation measures, the EIR discusses the environmental effects of the improvements to the extent known at this time, and as required by CEQA, in less detail than the significant effects of the proposed project (See CEQA Guidelines Section 15126.4(a)(1)(D)).

Deer Springs Road

Of the off-site mitigation requirements identified in the EIR, the improvements to Deer Springs Road would involve two options. Option A would improve an approximately 6,600-foot-long section of the segment of Deer Springs Road between Sarver Lane and Mesa Rock Road to a 2.1B Community Collector (two lanes of travel with a continuous center turn lane). The balance of the road southwest into the city of San Marcos and east to I-15, including its intersections with Sarver Lane and Mesa Rock Road, would be improved to a 4.1A Major Road (a four-lane road with a raised median). Consistent with these sets of improvements, Option A would reclassify Deer Springs Road in the Mobility Element of the County's General Plan from a 6.2 Prime Arterial (six-lane) to a 4.1A Major Road with Raised Median and a 2.1B Community Collector with Continuous Turn Lane classifications. The centerline of Deer Springs Road would be realigned to ensure a minimum 750-foot turning radii along the entire alignment.

Option B would construct the entire length of the road from the I-15 interchange to its intersection with Twin Oaks Valley Road as a four-lane road, with an approximately 7,600-foot-long section of the road between Sarver Lane and Mesa Rock Road as a 4.1B Major Road (four lanes of travel with a continuous center turn lane), and the balance of the road, including its intersections with Sarver Lane and Mesa Rock Road, as a 4.1A Major Road. Option B would not reclassify Deer Springs Road; the roadway would remain as a 6.2 Prime Arterial (six-lane) in the Mobility Element of the General Plan. The centerline of Deer Springs Road would be realigned to ensure a minimum 750-foot turning radii along the entire alignment.

Both Option A and Option B would provide increased capacity on Deer Springs Road relative to existing conditions, although when considering level of service, only Option B would meet the County's level-of-service standards at project buildout. As is standard, the ultimate design of the road would be subject to County final engineering review and approval, whereby the County may require minor adjustments to the design details described herein.

I-15 Interchange/Park-and-Ride Improvements

A Project Study Report (PSR) is underway with the California Department of Transportation to study alternatives for improving the I-15/Deer Springs Road interchange. At this time, these alternatives include a diamond interchange, a diverging diamond interchange, and a roundabout interchange at the southbound ramps/Mesa Rock Road. Caltrans will decide the ultimate design of the interchange because they have jurisdiction over these improvements. The purpose of these alternatives is to increase the intersection spacing to eliminate queue spillover between intersections, thus reducing congestion. Removal of the existing southbound off-ramp would allow for expansion of the existing park-and-ride lot in the northeast quadrant of Deer Springs Road/Mesa Rock Road. The expanded park-and-ride lot would allow for enhanced ride sharing and public transit expansion opportunities.

Transit

The proposed project has been designed to promote health and sustainability by focusing on a compact pattern of development. The County General Plan Community Development Model, within its Land Use Element, allows for and supports a multi-modal transportation network that reduces traffic congestion, improves air quality and reduces GHG emissions. The existing park-and-ride lot in the northeast quadrant of Deer Springs Road/Mesa Rock Road is incorporated into the Town Center design and is proposed for expansion. This will allow for enhanced ride sharing and public transit opportunities. Additionally, the project would include a comprehensive TDM Program, a component of which includes shuttle services. The shuttle service would stop at the Town Center and would be limited to residents and guests of the Community. The project would provide shuttle service, through coordination with the local transit operator or private contractor, to local transit hubs, commercial centers (both inside and outside the project Site), residential areas (i.e., on-site neighborhoods), the park-and-ride lots, and the Escondido Transit Center. As discussed previously, the TDM Program would also include a carshare program, ridesharing support features, transit fare subsidies for residents and employees, workplace commute trip reduction program, and additional TDM marketing and education.

1.2.5 Off-site Utility Improvements

Off-site sewer and water improvements would be completed in accordance with the approved water and sewer master plans prepared for the project. These improvements would be made in conjunction with surface improvements to Sarver Lane, Deer Springs Road, and Twin Oaks Valley Road. Additional segments of sewer would be improved in Twin Oaks Valley Road to Del Roy Avenue and East of Twin Oaks Valley Road within an existing Vallecitos Water District easement. Additionally, an 800-foot-long pipeline segment would require upsizing from the existing 18-inch-diameter line to a 21-inch-diameter line. This segment is located north of East Mission Road between Twin Oaks Valley Road and Vineyard Road within the City of San Marcos. The existing sewer is located behind a commercial/retail development. For the purposes of this analysis, it is assumed that the entire 30-foot-wide easement would be impacted to upsize the existing sewer line.

2 ENVIRONMENTAL SETTING

2.1 Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that in general, climate changes prior to the Industrial Revolution in the 1700's can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-20th century and is the most significant driver of observed climate change (IPCC 2013, EPA 2017). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system, which is discussed further in Section 2.5, Potential Effects of Climate Change.

2.2 Greenhouse Gases

GHGs include, but are not limited to, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), water vapor, hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).[1] Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, HCFCs, PFCs, and SF_6, and are associated with certain industrial products and processes. A summary of the most common GHGs and their sources is included in the following text.[2]

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities, and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 are the combustion of coal, oil, natural gas, and wood.

Methane. CH_4 is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and the use of N_2O as a propellant (such as in rockets, racecars, aerosol sprays).

1 California Health and Safety Code Section 38505 identifies seven GHGs that CARB monitors and regulates to reduce emissions: CO_2, CH_4, N_2O, SF_6, HFCs, PFCs, and NF_3.
For purposes of CEQA analysis for land use development projects, CalEEMod estimates emissions of CO_2, CH_4, and N_2O.

2 The descriptions of these GHGs are summarized from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (1995), IPCC Fourth Assessment Report (2007), CARB's Glossary of Terms Used in GHG Inventories (2015), and EPA's Glossary of Climate Change Terms (2016d).

Fluorinated Gases. Fluorinated gases are synthetic, powerful GHGs that are emitted from a variety of industrial processes. Several prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals that are used as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, along with HFCs, to the ozone depleting substances. The two main sources of PFCs are primarily aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF_6 is a colorless gas that is soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen trifluoride:** NF_3 is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

Black Carbon. Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential. Diesel particulate matter emissions are a major source of black carbon and are also toxic area contaminants (TACs) that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from the California Air Resources Board's (CARB) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric O_3, which is created by photochemical reactions involving gases both from natural sources and from human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O_2), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere) and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O_3.

Hydrochlorofluorocarbons. HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

2.3 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2016).

The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons of CO_2 equivalent (MT CO_2E).

The current version of the California Emissions Estimator Model (CalEEMod) (version 2016.3.1) used in this analysis assumes that the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the IPCC Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the project.

2.4 Sources of Greenhouse Gas Emissions

Per the U.S. Environmental Protection Agency's (EPA) *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2014* (2016e), total United States GHG emissions were approximately 6,870.5 million metric tons (MMT) CO_2E in 2014. The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 80.9% of total GHG emissions (5,556.0 MMT CO_2E). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 93.7% of CO_2 emissions in 2014 (5,208.2 MMT CO_2E). Total United States GHG emissions have increased by 7.4% from 1990 to 2014, and emissions increased from 2013 to 2014 by 1.0% (70.5 MMT CO_2E). Since 1990, United States GHG emissions have increased at an average annual rate of 0.3%; however, overall, net emissions in 2014 were 8.6% below 2005 levels (EPA 2016).

According to California's 2000–2014 GHG emissions inventory (2016 edition), California emitted 441.5 MMT CO_2E in 2014, including emissions resulting from out-of-state electrical generation (CARB 2016a). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high global-warming potential substances, and recycling and waste. The California GHG emission source categories and their relative contributions in 2014 are presented in Table 8.

Table 8
GHG Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO_2E)	Percent of Total[a]
Transportation	159.53	36%
Industrial uses	93.32	21%
Electricity generation[b]	88.24	20%
Residential and commercial uses	38.34	9%
Agriculture	36.11	8%
High global-warming potential substances	17.15	4%
Recycling and waste	8.85	2%
Totals	**441.54**	**100%**

Source: CARB 2016a.
Notes: Emissions reflect the 2014 California GHG inventory.
MMT CO_2E = million metric tons of carbon dioxide equivalent per year
a Percentage of total has been rounded, and total may not sum due to rounding.
b Includes emissions associated with imported electricity, which account for 36.51 MMT CO_2E annually.

During the 2000 to 2014 period, per capita GHG emissions in California have dropped from a peak in 2001 of 13.9 metric tons (MT) per person to 11.4 MT per person in 2014, representing an 18% decrease. In addition, total GHG emissions in 2014 were 2.8 MMT CO_2E less than 2013 emissions. The declining trend in GHG emissions, coupled with programs that will continue to provide additional GHG reductions going forward, demonstrates that California is on track to meet the statewide 2020 target of 431 MMT CO_2E established by Assembly Bill (AB) 32, discussed below (CARB 2016a).

2.5 Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 *Intergovernmental Panel on Climate Change Synthesis Report* indicated that warming of the climate system is unequivocal and, since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, and rising sea levels (IPCC 2014).

In California, climate change impacts have the potential to affect sea level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply (CCCC 2006). The primary effect of global climate change has been a 0.2°C rise in average global tropospheric temperature per decade, determined from meteorological measurements worldwide between 1990 and 2005. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming could be taking place.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010).

An increase in annual average temperature is a reasonably foreseeable effect of climate change. Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada (CCCC 2012). By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1 to 8.6°F, depending on emissions levels. Springtime warming—a critical influence on snowmelt—will be particularly pronounced. Summer temperatures will rise more than winter temperatures, and the increases will be greater in inland California, compared to the coast. Heat waves will be more frequent, hotter, and longer. There will be fewer extremely cold nights (CCCC 2012). A decline of Sierra snowpack, which accounts for approximately half of the surface water storage in California and much of the State's water supply, by 30% to as much as 90% is predicted over the next 100 years (CAT 2006).

Model projections for precipitation over California continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability. For the first time, however, several of the improved climate models shift toward drier conditions by the mid-to-late 21st century in Central and, most notably, Southern California. By late-century, all projections show drying, and half of them suggest 30-year average precipitation will decline by more than 10% below the historical average (CCCC 2012).

Wildfire risk in California will increase as a result of climate change. Earlier snowmelt, higher temperatures and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. However, human activities will continue to be the biggest factor in ignition risk. It is estimated that the long-term increase in fire occurrence associated with a higher emissions scenario is substantial, with increases in the number of large fires statewide ranging from 58% to 128% above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57% to 169%, depending on location (CCCC 2012).

Reduction in the suitability of agricultural lands in the State for traditional crop types may occur. While effects may occur, adaptation could allow farmers and ranchers to minimize potential negative effects on agricultural outcomes through adjusting timing of plantings or harvesting and changing crop types.

Public health-related effects of increased temperatures and prolonged temperature extremes, including heat stroke, heat exhaustion, and exacerbation of existing medical conditions, could be particular problems for the elderly, infants, and those who lack access to air conditioning or cooled spaces (CNRA 2009).

A summary of current and future climate change impacts to resource areas in California, as discussed in the *Safeguarding California: Reducing Climate Risk* (CNRA 2014), is provided below.

Agriculture. The impacts of climate change on the agricultural sector are far more severe than the typical variability in weather and precipitation patterns that occur year to year. Some of the specific challenges faced by the agricultural sector and farmers include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding to extreme drought, to destructive storm events; significant shifts in water availably and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production. These challenges and associated short-term and long-term impacts can have both positive and negative effects on agricultural production. For example, changes in weather patterns can foster longer growing periods for certain crops, but simultaneously increase the likelihood of pests. It is predicted that current crop and livestock production will suffer long-term negative effects resulting in a substantial decrease in the agricultural sector if not managed or mitigated (CNRA 2014).

Biodiversity and Habitat. The state's extensive biodiversity stems from its varied climate and assorted landscapes, which have resulted in numerous habitats where species have evolved and adapted over time. The preservation of California's unique biological heritage is of ever-increasing importance given the forecasted impacts associated with climate change.

Similar to the agricultural sector, there are a number of climate change challenges the biodiversity sector must contend with, on top of the ever-increasing pressures of habitat loss and fragmentation, population growth, pollution, plant and animal diseases, and other human-induced impacts. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shift and novel combinations of species; pathogens, parasites and disease; invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; threshold effects (i.e., a change in the ecosystem that results in a "tipping point" beyond which irreversible damage or loss has occurs).

Habitat restoration, conservation, and resource management across California and through collaborative efforts amongst public, private and nonprofit agencies has assisted in the effort to fight climate change impacts on biodiversity and habitat. One of the key measures in these efforts is ensuring species' ability to relocate as temperature and water availability fluctuate as a result of climate change, based on geographic region. As such, it is critical to ensure habitat corridors, linkages and connectivity are established to allow species the mobility to move from place to place as resources change over time. Continued collaborative efforts are required across agencies to ensure the health of existing habitat, wildlife, and the geographic extent of their existence required to support biodiversity (CNRA 2014).

Emergency Management. "Emergency management includes actions to prepare for, mitigate against, respond to and recover from emergencies and disasters that impact our communities, critical infrastructure and resources by lessoning the likelihood, severity and duration of the consequences of the incident" (CNRA 2014). "Hazard mitigation is any action taken to reduce or eliminate the long-term risk to human life and property from natural or man-made hazards"

(CNRA 2014). In California, preparing, mitigating, and responding to and/or recovering from a natural disaster usually is done in the context of an earthquake, wildfire or severe flood event.

Energy. The energy sector provides California residents with a supply of reliable and affordable energy through a complex integrated system. Specific climate change challenges for the energy sector include temperature, fluctuating precipitation patterns, increasing extreme weather events and sea level rise. Increasing temperatures and reduced snowpack negatively impact the availability of a steady flow of snowmelt to hydroelectric reservoirs. Higher temperatures also reduce the capacity of thermal power plants since power plant cooling is less efficient at higher ambient temperatures. Natural gas infrastructure in coastal California is threatened by sea level rise and extreme storm events (CNRA 2014).

Forestry. Forests occupy approximately 33% of California's 100 million acres and provide key benefits such as wildlife habitat, absorption of carbon dioxide, renewable energy and building materials. The most significant climate change related risk to forests is accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large scale mortalities and combined with increasing temperatures have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts and vegetation conversions. These factors contribute to decreased forest growth, geographic shifts in tree distribution, loss of fish and wildlife habitat and decreased carbon absorption. These losses can also negatively impact the timber industry as well as recreation opportunities. Climate change may result in increased establishment of non-native species, particularly in rangelands where invasive species are already a problem. Invasive species may be able to exploit temperature or precipitation changes, or quickly occupy areas denuded by fire, insect mortality or other climate change effects on vegetation (CNRA 2014).

Ocean and Coastal Ecosystems and Resources. Sea level rise, changing ocean conditions and other climate change stressors are likely to exacerbate long-standing challenges related to ocean and coastal ecosystems in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea level rise in addition to more frequent and severe coastal storms and erosion are threatening vital infrastructure such as roads, bridges, power plants, ports and airports, gasoline pipes, and emergency facilities as well as negatively impacting the coastal recreational assets such as beaches and tidal wetlands. Water quality and ocean acidification threaten the abundance of seafood and other plant and wildlife habitats throughout California and globally (CNRA 2014).

Public Health. Climate change can impact public health through various environmental changes and is the largest threat to human health in the twenty-first Century. Changes in precipitation patterns affect public health primarily through potential for altered water supplies, and extreme events such as heat, floods, droughts, and wildfires. Increased frequency, intensity and duration of extreme heat and heat waves is likely to increase the risk of mortality due to heat related illness as well as exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness such as asthma and allergies. Additional health impacts that may be impacted by climate change include cardiovascular disease, vector-borne diseases, mental health impacts, and malnutrition injuries. Increased frequency of these ailments is likely to subsequently increase the direct risk of injury and/or mortality (CNRA 2014).

Transportation. Residents of California rely on airports, seaports, public transportation and an extensive roadway network to gain access to destinations, goods and services. While the transportation industry is a source of GHG emissions it is also vulnerable to climate change risks. Particularly, sea level rise and erosion threaten many coastal California roadways, airports, seaports, transit systems, bridge supports and energy and fueling infrastructure. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause the road surfaces to expand which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure which can impair movement of peoples and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety (CNRA 2014).

Water. Water resources in California support residences, plants, wildlife, farmland, landscapes and ecosystems and bring trillions of dollars in economic activity. Climate change could seriously impact the timing, form, amount of precipitation, runoff patterns, and frequency and severity of precipitation events. Higher temperatures reduce the amount of snowpack and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the winter time. Increased risk of flooding has a variety of public health concerns including water quality, public safety, property damage, displacement and post-disaster mental health problems. Prolonged and intensified droughts can also negatively affect groundwater reserves and result in increased overdraft and subsidence. Droughts can also negatively impact agriculture and farmland throughout the state. The higher risk of wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality. Water temperatures are also prone to increase, which can negatively impact wildlife that rely on a specific range of temperatures for suitable habitat (CNRA 2014).

Additionally, in March 2016, CNRA released *Safeguarding California: Implementation Action Plans*, a document that shows how California is acting to convert the recommendations contained in the 2014 *Safeguarding California* plan into action. The 2016 *Implementation Plans* report is divided by ten sectors (i.e., agriculture, biodiversity and habitat, emergency management, energy, forestry, land use and community development, oceans and coastal resources and ecosystems, public health, transportation, and water), and shows the path forward by presenting the risks posed by climate change, the adaptation efforts underway, and the actions that will be taken to safeguard residents, property, communities, and natural systems (CRNA 2016).

The existing project Site is generally comprised of currently undeveloped, vacant land with dirt access roads, but no active land uses. Thus, for purposes of this EIR's GHG analysis, the on-site existing conditions GHG emissions inventory is estimated at zero.

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3 REGULATORY SETTING

3.1 Federal Activities

Massachusetts v. EPA. On April 2, 2007, in *Massachusetts v. EPA*, the Supreme Court directed the EPA Administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the EPA Administrator is required to follow the language of Section 202(a) of the federal Clean Air Act. On December 7, 2009, the Administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- The Administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the "endangerment finding."
- The Administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Energy Independence and Security Act. On December 19, 2007, President George W. Bush signed the Energy Independence and Security Act of 2007. Among other key measures, the Act requires the following, which aid in the reduction of national GHG emissions:

1. Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
2. Set a target of 35 miles per gallon (mpg) for the combined fleet of cars and light trucks by model year 2020 and direct NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
3. Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards. In response to the U.S. Supreme Court ruling discussed above, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the

Department of Transportation (DOT), and the Department of Energy (DOE) to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the National Highway Traffic Safety Administration (NHTSA) issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, President Obama issued a memorandum directing the DOT, DOE, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams/mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon (mpg) if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans and all types of sizes of buses and work trucks. The final standards are expected to lower carbon dioxide emissions by approximately 1.1 billion MT and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

U.N. Framework Convention on Climate Change Pledge. On March 31, 2015, the State Department submitted the U.S. target to cut net GHG emissions to the United Nations Framework Convention on Climate Change (UNFCCC). The submission, referred to as an Intended Nationally Determined Contribution (INDC), is a formal statement of the U.S. target, announced in China last year, to reduce our emissions by 26%–28% below 2005 levels by 2025, and to make best efforts to reduce by 28% (U.S. State Department 2015).

The target reflects a planning process that examined opportunities under existing regulatory authorities to reduce emissions in 2025 of all GHGs from all sources in every economic sector. Several U.S. laws, as well as existing and proposed regulations thereunder, are relevant to the implementation of the U.S. target, including the Clean Air Act (42 U.S.C. 7401 et seq.), the Energy Policy Act (42 U.S.C. 13201 et seq.), and the Energy Independence and Security Act (42 U.S.C. 17001 et seq.).

Clean Power Plan and New Source Performance Standards for Electric Generating Units. On October 23, 2015, EPA published a final rule (effective December 22, 2015) establishing the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO_2 emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units, and (2) stationary combustion turbines. Concurrently, EPA published a final rule (effective October 23, 2015) establishing Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (80 FR 64661–65120). The rule prescribes CO_2 emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. Implementation of the Clean Power Plan has been stayed by the U.S. Supreme Court pending resolution of several lawsuits. . Additionally, in March 2017, President Trump directed the EPA Administrator to review the Clean Power Plan in order to determine whether it is consistent with current executive policies concerning GHG emissions, climate change and energy.

3.2 State of California

State Climate Change Targets

Executive Order (EO) S-3-05. EO S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010, GHG emissions should be reduced to 1990 levels by 2020, and GHG emissions should be reduced to 80% below 1990 levels by 2050.

AB 32 and CARB's Climate Change Scoping Plan. In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020.

Under AB 32, CARB is responsible for and is recognized as having the expertise to carry out and develop the programs and requirements necessary to achieve the GHG emissions reduction mandate of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. CARB also is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 relatedly authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

In 2007, CARB approved a limit on the satewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO_2E). CARB's adoption of this limit is in accordance with Health and Safety Code Section 38550.

Further, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change* (*Scoping Plan*) in accordance with Health and Safety Code Section 38561. The *Scoping Plan* establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
2. Achieving a statewide renewable energy mix of 33%
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation

In the *Scoping Plan*, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5% from the otherwise projected 2020 emissions level; i.e., those emissions that would occur in 2020, absent GHG-reducing laws and regulations (referred to as "Business-As-Usual" [BAU]). For purposes of calculating this percent reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the *Scoping Plan's* Functional Equivalent Document, CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7% (down from 28.5%) from the BAU conditions. When the 2020 emissions level projection also was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewable Portfolio Standard (12% to 20%), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16% (down from 28.5%) from the BAU conditions.

More recently, in 2014, CARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework* (*First Update*). The stated purpose of the *First Update* is to "highlight California's success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050." The *First Update* found that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80% below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the *First Update*, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050." Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and, (6) natural and working lands. The *First Update* identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05's 2050 reduction goal.

Based on CARB's research efforts presented in the *First Update*, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050." Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and, the rapid market penetration of efficient and clean energy technologies.

As part of the *First Update*, CARB recalculated the state's 1990 emissions level using more recent global warming potentials identified by the IPCC. Using the recalculated 1990 emissions level (431 MMT CO_2E) and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15% (instead of 28.5% or 16%) from the BAU conditions.

On January 20, 2017, CARB released The *2017 Climate Change Scoping Plan Update (Second Update)* for public review and comment (CARB 2017). This update proposes CARB's strategy for achieving the state's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below), including continuing the Cap-and-Trade Program through 2030, and includes a new approach to reduce GHGs from refineries by 20%. The *Second Update* incorporates approaches to cutting short-lived climate pollutants (SLCPs) under the Short-Lived Climate Pollutant Reduction Strategy (a planning document that was adopted by CARB in March 2017), and acknowledges the need for reducing emissions in agriculture and highlights the work underway to ensure that California's natural and working lands increasingly sequester carbon. During development of the *Second Update*, CARB held a number of public workshops in the Natural and Working Lands, Agriculture, Energy and Transportation sectors to inform development of the 2030 Scoping Plan Update (CARB 2016a). When discussing project-level GHG emissions reduction actions and thresholds, the *Second Update* states "achieving no net increase in GHG emissions is the correct overall objective, but it may not be appropriate or feasible for every development project. An inability to mitigate a project's GHG emissions to zero does not necessarily imply a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA." It is expected that the *Second Update* will be considered by CARB's Governing Board in late June 2017.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide GHG emissions to 40 percent below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80 percent below 1990 levels by 2050 as set forth in S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's Scoping Plan to express the 2030 target in terms of MMT CO_2E. The EO also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. Sector-specific agencies in transportation, energy, water, and forestry were required to prepare GHG reduction plans by September 2015, followed by a report on action taken in relation to these plans in June 2016. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

SB 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction targets; make changes to CARB's membership, and increase legislative oversight of CARB's climate change-based activities; and expand dissemination of GHG and other air quality-related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and, requires CARB to identify specific information for GHG emissions reduction measures when updating the scoping plan.

SB 605 and SB 1383. SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state; and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of SLCPs (40 percent below 2013 levels by 2030 for methane and HFCs, and 50 percent below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its *Short-Lived Climate Pollutant Reduction Strategy* (*SLCP Reduction Strategy*) in March 2017. The *SLCP Reduction Strategy* establishes a framework for the statewide reduction of emissions of black carbon, methane and fluorinated gases.

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. The California Energy Commission (CEC) is required by law to adopt standards every 3 years that are cost effective for homeowners over the 30-year lifespan of a building. These standards are updated to consider and incorporate new energy efficient technologies and construction methods. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2013 Title 24 standards became effective on July 1, 2014. Buildings constructed in accordance with the 2013 standards were estimated to use 25% less energy for lighting, heating, cooling, ventilation, and water heating than the 2008 standards (CEC 2012).

The 2016 Title 24 standards are the currently applicable building energy efficiency standards, and became effective on January 1, 2017. The 2015 Title 24 standards will further reduce energy used and associated GHG emissions. In general, single-family homes built to the 2016 standards are anticipated to use about 28% less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards, and nonresidential buildings built to the 2016 standards will use an estimated 5% less energy than those built to the 2013 standards (CEC 2015a).

The project would be required to comply with 2016 Title 24 standards because its building construction phase would commence after January 1, 2017. This analysis does not quantify the increased energy efficiency and corresponding GHG emissions savings associated with the more stringent 2016 Title 24 standards, which results in a conservative assessment of GHG emission savings because the 2016 Title 24 standards have been documented to reduce energy usage (e.g., for lighting, heating, cooling, ventilation, and water heating) and associated GHG emissions. Instead, the project's GHG emissions estimates conservatively are in accordance with CalEEMod's default assumption that the 2013 Title 24 standards are the operative standards. This "pool" of required 2016 Title 24 GHG savings, while not quantified for the project, nonetheless will occur and represent GHG additional reductions beyond those required by the recommended mitigation measures.

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The CALGreen 2016 standards became effective on January 1, 2017. The mandatory standards require the following (24 CCR Part 11):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings

- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance
- 65 percent of construction and demolition waste must be diverted from landfills
- Mandatory inspections of energy systems to ensure optimal working efficiency
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations
- Low-pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements; stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs.

The California Public Utilities Commission, CEC, and CARB also have a shared, established goal of achieving zero net energy (ZNE) for new construction in California. The key policy timelines include: (1) all new residential construction in California will be ZNE by 2020, and (2) all new commercial construction in California will be ZNE by 2030.[3] As most recently defined by the CEC in its 2015 *Integrated Energy Policy Report*, a zero net energy code building is "one where the value of the energy produced by on-site renewable energy resources is equal to the value of the energy consumed annually by the building" using the CEC's Time Dependent Valuation metric.

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through the CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include: refrigerators, refrigerator-freezers and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air

[3] See, e.g., CPUC, California's Zero Net Energy Policies and Initiatives, Sept. 18, 2013, accessed at http://www.cpuc.ca.gov/NR/rdonlyres/C27FC108-A1FD-4D67-AA59- 7EA82011B257/0/3.pdf. It is expected that achievement of the zero net energy goal will occur via revisions to the Title 24 standards.

conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing for each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

SB 1. SB 1 (2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry in which solar energy systems are a viable mainstream option for both homes and businesses within 10 years of adoption, and to place solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "GoSolarCalifornia," was previously titled "Million Solar Roofs."

AB 1470. This bill established the Solar Water Heating and Efficiency Act of 2007. The bill makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. The bill defines several terms for purposes of the act. The bill requires the commission to evaluate the data available from a specified pilot program, and, if it makes a specified determination, to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general purpose lighting, to reduce electricity consumption 50 percent for indoor residential lighting and 25 percent for indoor commercial lighting.

Mobile Sources

AB 1493**.** In a response to the transportation sector accounting for more than half of California's CO_2 emissions, AB 1493 was enacted in July 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30%.

EO S-1-07. Issued on January 18, 2007, EO S-1-07 sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2E grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste.

SB 375. SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations (MPOs) are then responsible for preparing a Sustainable Communities Strategy within their Regional Transportation Plan. The goal of the Sustainable Communities Strategy is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If a Sustainable Communities Strategy is unable to achieve the GHG reduction target, an MPO must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to Government Code Section 65080(b)(2)(K), a sustainable communities strategy does not: (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

In 2010, CARB adopted the SB 375 targets for the regional MPOs. The targets for SANDAG are a 7% reduction in emissions per capita by 2020 and a 13% reduction by 2035.

SANDAG completed and adopted its *2050 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) in October 2011. In November 2011, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

After SANDAG's 2050 RTP/SCS was adopted, a lawsuit was filed by the Cleveland National Forest Foundation and others. The matter currently is pending before the California Supreme Court (Case No. S223603) for determination of whether an EIR for a regional transportation plan must include an analysis of the plan's consistency with the GHG reduction goals reflected in Executive Order No. S-3-05 to comply with CEQA.

Although the EIR for SANDAG's 2050 RTP/SCS is pending before the California Supreme Court, in 2015, SANDAG adopted the next iteration of its RTP/SCS in accordance with statutorily mandated timelines and no subsequent litigation challenge was filed. More specifically, in October 2015, SANDAG adopted *San Diego Forward: The Regional Plan*. Like the 2050 RTP/SCS, this planning document meets CARB's 2020 and 2035 reduction targets for the region (SANDAG 2015). In December 2015, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

Advanced Clean Cars Program. In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2011). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The Zero Emissions Vehicle (ZEV) program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years. The Clean Fuels Outlet regulation will ensure that fuels such as electricity and hydrogen are available to meet the fueling needs of the new advanced technology vehicles as they come to the market.

EO B-16-12. EO B-16-12 (2012) directs state entities under the Governor's direction and control to support and facilitate development and distribution ZEVs. This EO also sets a long-term target of reaching 1.5 million zero-emission vehicles on California's roadways by 2025. On a statewide basis, EO B-16-12 also establishes a GHG emissions reduction target from the transportation sector equaling 80% less than 1990 levels by 2050. In furtherance of this EO, the Governor convened an Interagency Working Group on Zero-Emission Vehicles that has published multiple reports regarding the progress made on the penetration of ZEVs in the statewide vehicle fleet.

AB 1236. AB 1236 (2015) as enacted in California's Planning and Zoning Law, requires local land use jurisdictions to approve applications for the installation of electric vehicle charging stations, as defined, through the issuance of specified permits unless there is substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill provides for appeal of that decision to the planning commission, as specified. The bill requires local land use jurisdictions with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that creates an expedited and streamlined permitting process for electric vehicle charging stations, as specified. Prior to this statutory deadline, in August 2016, the County Board of Supervisors adopted Ordinance No. 10437 (N.S.) adding a section to its County Code related to the expedited processing of electric vehicle charging stations permits consistent with AB 1236.

SB 350. In 2015, SB 350 – the Clean Energy and Pollution Reduction Act – was enacted into law. As one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state's 2030 and 2050 reduction targets (see Public Utilities Code section 740.12).

Renewable Energy and Energy Procurement

Senate Bill (SB) 1078. SB 1078 (2002) established the Renewable Portfolio Standard (RPS) program, which requires an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010.

SB 1368. SB 1368 (2006) requires the CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission (CPUC). This effort will help protect energy customers from financial risks associated with investments in carbon-intensive generation by allowing new capital investments in power plants whose GHG emissions are as low as or lower than new combined-cycle natural gas plants by requiring imported electricity to meet GHG performance standards in California and by requiring that the standards be developed and adopted in a public process.

SB X1 2. SB X1 2 (2011) expanded the RPS by establishing that 20 percent of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years be secured from qualifying renewable energy sources. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location. In addition to the retail sellers previously covered by the RPS, SB X1 2 added local, publicly owned electric utilities to the RPS.

SB 350. SB 350 (2015) further expanded the RPS by establishing that 50% of the total electricity sold to retail customers in California per year by December 31, 2030 be secured from qualifying renewable energy sources. In addition, SB 350 includes the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

Water

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have since become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

Solid Waste

AB 939 and AB 341. In 1989, AB 939, known as the Integrated Waste Management Act (Public Resources Code Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery

(CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle has conducted multiple workshops and published documents that identify priority strategies that CalRecycle believes would assist the state in reaching the 75 percent goal by 2020.

Increasing the amount of commercial solid waste that is recycled, reused, or composted will reduce GHG emissions primarily by 1) reducing the energy requirements associated with the extraction, harvest, and processing of raw materials and 2) using recyclable materials that require less energy than raw materials to manufacture finished products (CalRecycle 2015). Increased diversion of organic materials (green and food waste) will also reduce GHG emissions (CO_2 and CH_4) resulting from decomposition in landfills by redirecting this material to processes that use the solid waste material to produce vehicle fuels, heat, electricity, or compost.

Other State Regulations and Goals

EO S-13-08. EO Order S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final *2009 California Climate Adaptation Strategy* report was issued in December 2009 (CNRA 2009), and an update, *Safeguarding California: Reducing Climate Risk*, followed in July 2014 (CNRA 2014). To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: Agriculture, Biodiversity and Habitat, Emergency Management, Energy, Forestry, Ocean and Coastal Ecosystems and Resources, Public Health, Transportation, and Water.

2015 State of the State Address. In January 2015, Governor Brown in his inaugural address and annual report to the Legislature established supplementary goals which would further reduce GHG emissions over the next 15 years. These goals include an increase in California's renewable energy portfolio from 33% to 50%, a reduction in vehicle petroleum use for cars and trucks by up to 50%, measures to double the efficiency of existing buildings, and decreasing emissions associated with heating fuels.

2016 State of the State Address. In his January 2016 address, Governor Brown established a statewide goal to bring per capita GHG emission down to two tons per person, which reflects the goal of the Global Climate Leadership Memorandum of Understanding (Under 2 MOU) to limit global warming to less than two degrees Celsius by 2050. The Under 2 MOU agreement pursues emission reductions of 80% to 95% below 1990 levels by 2050 and/or reach a per capita annual emissions goal of less than two metric tons by 2050. A total of 135 jurisdictions representing 32 countries and six continents, including California, have signed or endorsed the Under 2 MOU (Under 2 2016).

3.3 Local Regulations

County of San Diego Climate Action Plan

The County of San Diego is in the process of developing a Climate Action Plan (CAP) that will serve as a comprehensive strategy guide to reduce GHG emissions in the unincorporated communities of San Diego County. The CAP will outline specific reduction methods residents and businesses can implement to reduce GHG emissions and aid the County meeting state-mandated GHG reduction targets. The County CAP is anticipated to be completed by winter 2018.

County of San Diego General Plan

The County's General Plan (County of San Diego 2011) includes smart growth and land use planning principles designed to reduce VMT and result in a reduction in GHG emissions. As discussed in the General Plan, climate change and GHG reduction policies are addressed in plans and programs in multiple elements of the General Plan.

The strategies for reduction of GHG emissions in the General Plan are as follows:

- Strategy A-1: Reduce vehicle trips generated, gasoline/energy consumption, and GHG emissions.
- Strategy A-2: Reduce non-renewable electrical and natural gas energy consumption and generation (energy efficiency).
- Strategy A-3: Increase generation and use of renewable energy sources.
- Strategy A-4: Reduce water consumption.
- Strategy A-5: Reduce and maximize reuse of solid wastes.
- Strategy A-6: Promote carbon dioxide consuming landscapes.
- Strategy A-7: Maximize preservation of open spaces, natural areas, and agricultural lands.

The General Plan also includes climate adaptation strategies to deal with potential adverse effects of climate change. The climate adaptation strategies include the following:

- Strategy B-1: Reduce risk from wildfire, flooding, and other hazards resulting from climate change.
- Strategy B-2: Conserve and improve water supply due to shortages from climate change.
- Strategy B-3: Promote agricultural lands for local food production.
- Strategy B-4: Provide education and leadership.

The County has also implemented a number of outreach programs such as the Green Building Program, lawn mower trade-in program, and reduction of solid waste by recycling to reduce air quality impacts as well as GHG emissions.

The County General Plan's Conservation and Open Space Element includes goals and policies that are designed to reduce the emissions of criteria air pollutants, emissions of GHGs, and energy use in buildings and infrastructure, while promoting the use of renewable energy sources, conservation, and other methods of efficiency.

- **Goal COS-14, Sustainable Land Development.** Land use development techniques and patterns that reduce emissions of criteria pollutants and GHGs through minimized transportation and energy demands, while protecting public health and contributing to a more sustainable environment.
  - **Policy COS-14.1 Land Use Development Form.** Require that development be located and designed to reduce vehicular trips (and associated air pollution) by utilizing compact regional and community-level development patterns while maintaining community character.
  - **Policy COS-14.2 Villages and Rural Villages.** Incorporate a mixture of uses within Villages and Rural Villages that encourage people to walk, bicycle, or use public transit to reduce air pollution and GHG emissions.
  - **Policy COS-14.3 Sustainable Development.** Require design of residential subdivisions and nonresidential development through "green" and sustainable land development practices to conserve energy, water, open space, and natural resources.
  - **Policy COS-14.4 Sustainable Technology and Projects.** Require technologies and projects that contribute to the conservation of resources in a sustainable manner, that are compatible with community character, and that increase the self-sufficiency of individual communities, residents, and businesses.
  - **Policy COS-14.5 Building Siting and Orientation in Subdivisions.** Require that buildings be located and oriented in new subdivisions and multi-structure non-residential projects to maximize passive solar heating during cool seasons, minimize heat gains during hot periods, enhance natural ventilation, and promote the effective use of daylight.
  - **Policy COS-14.6 Solar Access for Infill Development.** Require that property setbacks and building massing of new construction located within existing developed areas maintain an envelope that maximizes solar access to the extent feasible.

- **Policy COS-14.7 Alternative Energy Sources for Development Projects.** Encourage development projects that use energy recovery, photovoltaic, and wind energy.
- **Policy COS-14.8 Minimize Air Pollution.** Minimize land use conflicts that expose people to significant amounts of air pollutants.
- **Policy COS-14.9 Significant Producers of Air Pollutants.** Require projects that generate potentially significant levels of air pollutants and/or GHGs such as quarries, landfill operations, or large land development projects to incorporate renewable energy, and the best available control technologies and practices into the project design.
- **Policy COS-14.10 Low-Emission Construction Vehicles and Equipment.** Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.
- **Policy COS-14.11 Native Vegetation.** Require development to minimize the vegetation management of native vegetation while ensuring sufficient clearing is provided for fire control.
- **Policy COS-14.12 Heat Island Effect.** Require that development be located and designed to minimize the "heat island" effect as appropriate to the location and density of development, incorporating such elements as cool roofs, cool pavements, and strategically placed shade trees.
- **Policy COS-14.13 Incentives for Sustainable and Low GHG Development.** Provide incentives such as expedited project review and entitlement processing for developers that maximize use of sustainable and low GHG land development practices in exceedance of State and local standards.

- **Goal COS-15, Sustainable Architecture and Buildings.** Building design and construction techniques that reduce emissions of criteria pollutants and GHGs, while protecting public health and contributing to a more sustainable environment.
  - **Policy COS-15.1 Design and Construction of New Buildings.** Require that new buildings be designed and constructed in accordance with "green building" programs that incorporate techniques and materials that maximize energy efficiency, incorporate the use of sustainable resources and recycled materials, and reduce emissions of GHGs and toxic air contaminants.
  - **Policy COS-15.2 Upgrade of Existing Buildings.** Promote and, as appropriate, develop standards for the retrofit of existing buildings to incorporate design elements, heating and cooling, water, energy, and other elements that improve their environmental sustainability and reduce GHG.

  - **Policy COS-15.3 Green Building Programs.** Require all new County facilities and the renovation and expansion of existing County buildings to meet identified "green building" programs that demonstrate energy efficiency, energy conservation, and renewable technologies.
  - **Policy COS-15.4 Title 24 Energy Standards.** Require development to minimize energy impacts from new buildings in accordance with or exceeding Title 24 energy standards.
  - **Policy COS-15.5 Energy Efficiency Audits.** Encourage energy conservation and efficiency in existing development through energy efficiency audits and adoption of energy saving measures resulting from the audits.
  - **Policy COS-15.6 Design and Construction Methods.** Require development design and construction methods to minimize impacts to air quality.
- **Goal COS-16, Sustainable Mobility.** Transportation and mobility systems that contribute to environmental and human sustainability and minimize GHG and other air pollutant emissions.
  - **Policy COS-16.1 Alternative Transportation Modes.** Work with SANDAG and local transportation agencies to expand opportunities for transit use. Support the development of alternative transportation modes, as provided by Mobility Element policies.
  - **Policy COS-16.2 Single-Occupancy Vehicles.** Support transportation management programs that reduce the use of single-occupancy vehicles.
  - **Policy COS-16.3 Low-Emissions Vehicles and Equipment.** Require County operations and encourage private development to provide incentives (such as priority parking) for the use of low- and zero-emission vehicles and equipment to improve air quality and reduce GHG emissions.
  - **Policy COS-16.4 Alternative Fuel Sources.** Explore the potential of developing alternative fuel stations at maintenance yards and other County facilities for the municipal fleet and general public.
  - **Policy COS-16.5 Transit-Center Development.** Encourage compact development patterns along major transit routes.
- **Goal COS-17, Sustainable Solid Waste Management.** Perform solid waste management in a manner that protects natural resources from pollutants while providing sufficient, long term capacity through vigorous reduction, reuse, recycling, and composting programs.
  - **Policy COS-17.1 Reduction of Solid Waste Materials.** Reduce greenhouse gas emissions and future landfill capacity needs through reduction, reuse, or recycling of

all types of solid waste that is generated. Divert solid waste from landfills in compliance with State law.

- **Policy COS-17.2 Construction and Demolition Waste.** Require recycling, reduction and reuse of construction and demolition debris.
- **Policy COS-17.3 Landfill Waste Management.** Require landfills to use waste management and disposal techniques and practices to meet all applicable environmental standards.
- **Policy COS-17.4 Composting.** Encourage composting throughout the County and minimize the amount of organic materials disposed at landfills.
- **Policy COS-17.5 Methane Recapture.** Promote efficient methods for methane recapture in landfills and the use of composting facilities and anaerobic digesters and other sustainable strategies to reduce the release of GHG emissions from waste disposal or management sites and to generate additional energy such as electricity.
- **Policy COS-17.6 Recycling Containers.** Require that all new land development projects include space for recycling containers.
- **Policy COS-17.7 Material Recovery Program.** Improve the County's rate of recycling by expanding solid waste recycling programs for residential and non-residential uses.
- **Policy COS-17.8 Education.** Continue programs to educate industry and the public regarding the need and methods for waste reduction, recycling, and reuse.

- **Goal COS-18, Sustainable Energy.** Energy systems that reduce consumption of non-renewable resources and reduce GHG and other air pollutant emissions while minimizing impacts to natural resources and communities.
  - **Policy COS-18.1 Alternate Energy Systems Design.** Work with San Diego Gas and Electric and non-utility developers to facilitate the development of alternative energy systems that are located and designed to maintain the character of their setting.
  - **Policy COS-18.2 Energy Generation from Waste.** Encourage use of methane sequestration and other sustainable strategies to produce energy and/or reduce GHG emissions from waste disposal or management sites.
  - **Policy COS-18.3 Alternate Energy Systems Impacts.** Require alternative energy system operators to properly design and maintain these systems to minimize adverse impacts to the environment.

- **Goal COS-19, Sustainable Water Supply.** Conservation of limited water supply supporting all uses including urban, rural, commercial, industrial, and agricultural uses.
  - **Policy COS-19.1 Sustainable Development Practices.** Require land development, building design, landscaping, and operational practices that minimize water consumption.
  - **Policy COS-19.2 Recycled Water in New Development.** Require the use of recycled water in development wherever feasible. Restrict the use of recycled water when it increases salt loading in reservoirs.
- **Goal COS-20, Governance and Administration.** Reduction of local GHG emissions contributing to climate change that meet or exceed requirements of the *Global Warming Solutions Act of 2006*.
  - **Policy COS-20.1 Climate Change Action Plan.** Prepare, maintain, and implement a climate change action plan with a baseline inventory of GHG emissions from all sources; GHG emissions reduction targets and deadlines, and enforceable GHG emissions reduction measures.
  - **Policy COS-20.2 GHG Monitoring and Implementation.** Establish and maintain a program to monitor GHG emissions attributable to development, transportation, infrastructure, and municipal operations and periodically review the effectiveness of and revise existing programs as necessary to achieve GHG emission reduction objectives.
  - **Policy COS-20.3 Regional Collaboration.** Coordinate air quality planning efforts with federal and State agencies, SANDAG, and other jurisdictions.
  - **Policy COS-20.4 Public Education.** Continue to provide materials and programs that educate and provide technical assistance to the public, development professionals, schools, and other parties regarding the importance and approaches for sustainable development and reduction of GHG emissions.

The project's consistency with the General Plan strategies, goals, and policies enumerated above is evaluated below.

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4 SIGNIFICANCE CRITERIA

4.1 Appendix G of the CEQA Guidelines

SB 97, enacted in 2007, expressly recognized the need to analyze GHG emissions as a part of the CEQA process. SB 97 required the Governor's Office of Planning and Research (OPR) to develop, and the Natural Resources Agency to adopt, amendments to the CEQA Guidelines to address the analysis and mitigation of GHG emissions. (Pub. Resources Code section 21083.05.) In 2010, a series of CEQA Guidelines amendments were adopted to fulfill SB 97 requirements, including revisions to Appendix G of the CEQA Guidelines. The revisions included two questions related to GHG emissions, which were intended to satisfy the Legislative directive in Public Resources Code section 21083.05 that the effects of GHG emissions be analyzed under CEQA.

Section 15064.4 of the CEQA Guidelines was added as one of the amendments addressing GHG emissions. Section 15064.4 states that 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 to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project…."[4] Section 15064.4(b)(1)-(3) further states that, "a lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment: (1) the extent to which a project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting; (2) whether project emissions exceed a threshold of significance that the lead agency determines applies to the project; and, (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…."

Recognizing that GHG emissions contribute to the cumulative impact condition of global climate change, section 15064(h)(1) of the CEQA Guidelines is also applicable. Section 15064(h)(1) states that "the lead agency shall consider whether the cumulative impact is significant and whether the effects of the project are cumulatively considerable." A cumulative impact may be significant when the project's incremental effect, though individually limited, is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of other past, current, and

4 Section 15064 of the CEQA Guidelines provides the foundational guidance for determinations of significant effect on the environment. As noted in subsection (b) of section 15064, "[a]n ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting."

reasonably foreseeable probable future projects. As discussed in Section 2.7.1, Existing Conditions, above, climate change is the product of incremental contributions of GHG emissions on a global scale.

Finally, section 15064(h)(3) of the CEQA Guidelines is pertinent. Section 15064(h)(3) states that: "[a] lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program…that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located."

According to Appendix G of the CEQA Guidelines, a project would have a significant environmental impact if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

5 CALCULATION AND ANALYSIS METHODOLOGIES

To provide full disclosure of GHG emissions associated with the proposed project, two conditions were modeled. The first condition represents project emissions prior to and without implementation of project-specific GHG reduction features. This condition does include emission reductions attributable to the implementation of federal, state, and local regulatory standards (i.e., regulatory compliance measures). The second condition, referred to as the "Proposed Project" condition, represents project emissions with implementation of project-specific GHG reduction features, in addition to the applicable regulatory compliance measures.

5.1 Construction Emissions

5.1.1 Construction Equipment and Vehicle Trips

Emissions from the construction phase of the proposed project were estimated using CalEEMod, version 2016.3.1, available online (http://www.caleemod.com/), and EPA's *Compilation of Air Pollutant Emission* Factors (AP-42).

Construction is anticipated to commence in January 2018[5] and would require approximately 10 years to complete. The anticipated construction schedule and equipment fleet by phase is shown in Table 9. Phase 1 would include roadway improvements, installation of on-site water tanks, and construction of the following neighborhoods: Hillside, Mesa, Lower Knolls, Valley, and Terraces. Phase 2 would include development of Camino Mayor and the following neighborhoods: Summit, Upper Knolls, and the Town Center. Project-specific equipment fleet, construction worker trips, vendor trips, and haul truck trips were provided by Fuscoe for each phase and subphase of the project (Fuscoe 2016a). Additional details of the construction schedule, including hours of operation and duration for heavy construction equipment; worker, vendor (delivery), and hauling trips; and equipment mix, are included in Appendix B and Appendix C. Figure 4 depicts the proposed phasing plan.

[5] This analysis assumes a construction start date of January 2018, which represents the earliest date construction activities would commence. Assuming the earliest start date for construction provides a worst-case assessment for GHG emissions because equipment and vehicle emissions factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in subsequent years.

Table 9
Construction Phasing and Equipment List

Construction Subphase	Off-Road Equipment	
	Equipment Type	*Quantity*
Phase 1 (January 2018 – December 2024)		
Site Preparation	Crawler Tractors	4
	Loaders	2
	Grinder	1
Grading	Crawler Tractors	11
	Excavators	5
	Graders	4
	Tractors/Loaders/Backhoes	2
	Drill Rigs	15
	Water Trucks	14
	Off-Highway Trucks	2
	Scrapers	5
Building Construction	Cranes	8
	Forklifts	8
	Generator Sets	8
	Tractors/Loaders/Backhoes	4
Trenching (utilities)	Excavators	2
	Tractors/Loaders/Backhoes	8
	Water Truck	8
Architectural Coating	Air Compressors	20
Paving	Pavers	1
	Paving Equipment (Oiler, Sweeper)	2
	Loader	2
	Water Trucks	4
	Rollers	3
	Scrapers	2
Brush Management/Landscaping	Loader	8
	Dump Truck	4
	Water Truck	8
	Trencher	4
Reservoirs	Excavators	1
	Tractors/Loaders/Backhoes	4
	Generator Sets	3
	Aerial Lifts	4
Phase 2 (December 2020 – November 2027)		
Site Preparation	Crawler Tractors	3
	Loaders	2
	Grinder	1

Table 9
Construction Phasing and Equipment List

Construction Subphase	Off-Road Equipment	
	Equipment Type	*Quantity*
Grading	Crawler Tractors	7
	Excavators	2
	Graders	2
	Tractors/Loaders/Backhoes	2
	Drill Rigs	6
	Water Trucks	10
	Off-Highway Trucks	2
	Scrapers	5
Building Construction	Cranes	4
	Forklifts	8
	Generator Sets	20
	Tractors/Loaders/Backhoes	4
Trenching (utilities)	Excavators	4
	Tractors/Loaders/Backhoes	4
	Water Truck	8
Architectural Coating	Air Compressors	10
Paving	Pavers	1
	Paving Equipment (Oiler, Sweeper)	2
	Loader	2
	Water Trucks	4
	Rollers	3
	Scrapers	2
Brush Management/Landscaping	Loader	4
	Dump Truck	2
	Water Truck	4
	Trencher	2

Source: Fuscoe 2016a. See Appendix B and Appendix C.

The equipment mix anticipated for construction was based on information provided by the applicant's representatives and best engineering judgment. The equipment mix is meant to represent a reasonably conservative estimate of construction activity. Default values for horsepower and load factor as provided in CalEEMod were used for the majority of construction equipment listed in Table 9; however, due to the large size of several off-highway trucks anticipated for the project during earthmoving activities (Volvo A40 and CAT 777), unit-specific horsepower was assigned to off-highway trucks for grading and earthmoving. It was assumed that all equipment used during each subphase would be operating 8 hours per day, 6 days per week.

All cut-and-fill quantities would be balanced on the project, and no soil export would be required. Approximately 9.4 million cubic yards of cut and fill would occur during Phase 1, and approximately 1.3 million cubic yards of cut and fill would occur during Phase 2. A portion of this cut and fill material would be relocated on the project. Approximately 2,320,570 cubic yards of soil would be relocated on the project during Phase 1, and approximately 103,140 cubic yards of soil would be relocated on the project during Phase 2 (Fuscoe 2016b) (see Table 10, Construction Grading and Excavation Quantities). To estimate emissions from trucks hauling excavated rock and soil to various portions of the project, daily haul truck quantities were estimated using the default hauling capacity of 16 cubic yards as designated in CalEEMod. Average travel distances were provided by Fuscoe based on internal site movement of soil for grading of individual neighborhoods.

Table 10
Construction Grading Estimates

Activity	Phase 1	Phase 2
Total Grading (acres)	565	11.2
On-Site Soil Movement (cubic yards)[1]	2,320,570	103,140
Total Haul-Truck Trips (one way)[2]	290,071	12,892
Average On-Site Haul Distance	0.4 mile (average)	0.8 mile (average)

1 Fuscoe 2016b.
2 Based on model default hauling capacity of 16 cubic yards per truck. See Appendix B and Appendix C.

5.1.2 Rock Crushing – Generator Use

Excavated rock would be crushed and screened to produce capping material (“6 inch minus”) to be used in the construction of the project. Much of this rock may be produced in the field using special attachments installed on off-road equipment used to excavate the rock. However, rock-crushing equipment may be installed to process the excavated rock.

Rock-crushing equipment would process 2,000 to 2,500 cubic yards per day (Kruer 2015). A maximum daily throughput of 2,500 cubic yards (approximately 5,650 tons) per day was assumed as a conservative estimate of the potential throughput.

The rock-crushing equipment would be powered by a diesel engine generator. It is assumed that each generator would be approximately 1,000 horsepower. Each generator would operate up to 8 hours per day. Emissions from the diesel engine generator were estimated using the off-road engine load factor and emissions factors from the CalEEMod user’s guide for a typical generator operating in 2018 (CAPCOA 2016).

The annual number of days was estimated by dividing the total cubic yards of capping material required, as shown in Table 11, Rock Crushing Characteristics, by 7,500 cubic yards per day (Phase 1) or 5,000 cubic yards per day (Phase 2).

Table 11
Rock Crushing Characteristics

Activity	Phase 1	Phase 2
Capping Material (cubic yards)	1,542,071	564,775
Processing Rate (cubic yards per day)	7,500	5,000
Operating Days	206	113

Source: Kruer 2015

5.2 Operational Emissions

5.2.1 Vehicle Emissions

The project would generate vehicular traffic. According to the project’s traffic report prepared by Linscott, Law and Greenspan (Appendix R),total project-generated VMT would be 294,804 daily miles traveled, with 28,862 average trips generated. Therefore, the average trip length for each trip generated by the project would be approximately 10.21 miles (294,804 VMT / 28,862 trips).

For purposes of estimating VMT in CalEEMod, an average trip length of 10.21 miles was applied, using 100% primary trip classifications for all trip types that result in an annual VMT of approximately 294,804. CalEEMod was used to estimate annual emissions from proposed vehicular sources. CalEEMod default data, including temperature, trip characteristics, variable start information, emissions factors, and trip distances, were conservatively used for the model inputs.

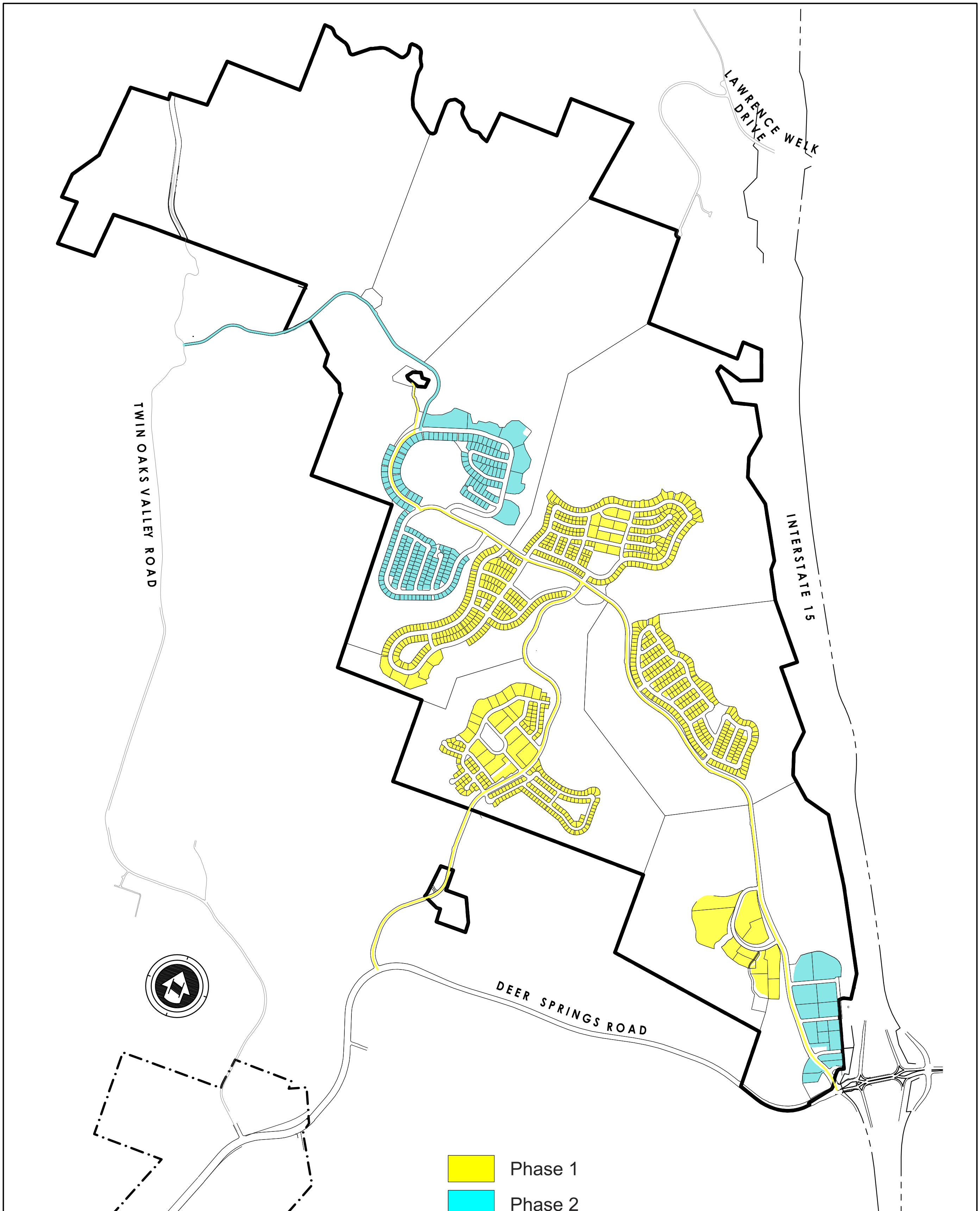
Additionally, the VMT reduction that would be achieved through implementation of the proposed project’s TDM Program was evaluated by Fehr and Peers (Appendix D). Each element of the proposed TDM Program was evaluated to determine the VMT reduction attributable to its implementation. As a result of this evaluation, it was determined the project would achieve an 11.1% reduction in overall VMT. This 11.1% reduction in VMT was directly applied to reduce the project’s mobile emissions.

Project-related traffic was assumed to include a mixture of vehicles in accordance with the model’s default outputs fleet mix for traffic for the year 2021. Utilization of emissions factors and fleet mix inputs specific to year 2021 is conservative, as the emissions factors and fleet mix are anticipated to beneficially improve (and, therefore, reduce GHG emissions) by the project’s 2028 buildout year.

EMFAC2014 is the model upon which CalEEMod version 2016.3.1 is based relative to mobile emissions. EMFAC2014 takes into account mobile emissions regulations and advancements in motor vehicle technology and their effect on emissions in future years up to 2050. For example, EMFAC2014 accounts for reductions due to the ACC Program and the Truck and Bus Regulation, which requires heavy-duty vehicles to be retrofit with “diesel particulate filters or replaced with trucks having 2007 or 2010 standard engines” (CARB 2015b). The model also accounts for the effectiveness of selective catalytic reduction systems on applicable vehicle classes and years (CARB 2015b). Although EMFAC2014 accounts for some of these emissions reductions for mobile sources, it is reasonable to assume that additional regulations developed to reduce transportation-related GHG emissions would be implemented in the future in response to new regulations developed to meet the state’s 2030 and 2050 reduction targets, similar to the Pavley standards and the Low Carbon Fuel Standard, as well as an expansion of alternative transportation systems.

In summary, the emissions estimation tools available at the time this analysis was conducted are limited. Specific information on future regulatory updates that would have a direct effect on GHG emissions in the future are unknown at this time. Thus, the GHG emissions estimates provided herein are considered a conservative estimate.

Additionally, mobile emissions prior to implementation of project-specific GHG reduction features under the “Project Without GHG Reduction Features” condition account for Pavley I and the Advanced Clean Car (ACC) Program. Under the “Proposed Project” analysis, vehicle emissions account for these same regulatory compliance measures, as well as implementation of the project’s TDM Program, which is estimated to achieve an 11.1 percentt reduction in VMT (Fehr and Peers 2016) (see Section 6.2.2 for details regarding VMT reduction features).See also Table 13 and Table 15 for a list of regulatory compliance measures and project GHG reduction features, respectively).



SOURCE: FUSCOE 2016

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FIGURE 4
Phasing Plan

Greenhouse Gas Technical Report for the Newland Sierra Project

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5.2.2 Energy Use Emissions

CalEEMod was used to estimate emissions from the project's energy use, which includes electricity and natural gas consumption. The estimation of operational energy emissions was based, in part, on CalEEMod defaults and the total area (i.e., square footage) of the project's land uses. The energy use from residential land uses was calculated in CalEEMod based on the Residential Appliance Saturation Study. For nonresidential buildings, CalEEMod energy intensity value (electricity or natural gas usage per square foot per year) assumptions were based on the California Commercial End-Use Survey database. Emissions were calculated by multiplying the energy use by the utility's carbon intensity (pounds of GHGs per megawatt-hour (lb/MWh) for electricity or 1,000 British thermal units for natural gas) for CO_2 and other GHGs. Annual natural gas (non-hearth) and electricity emissions were estimated in CalEEMod using the emissions factors for SDG&E, which would be the energy source provider for the project.

As discussed in Section 3.2, the project would be required to comply with the 2016 California Building Energy Efficiency Standards (Title 24, Part 6, of the California Code of Regulations) because its building construction phase would commence after 2017. However, this analysis does not reflect implementation of the 2016 Title 24 standards due to the unavailability of comprehensive data from the CEC that could be incorporated into CalEEMod to quantify the energy savings and GHG emissions reductions of those standards. Therefore, this analysis conservatively assumes that the project would only meet the 2013 Title 24 standards. CalEEMod version 2016.3.1's default values for Title 24 emission factors reflect the 2013 Title 24 standards.

Electricity

The generation of electricity through combustion of fossil fuels typically results in emissions of CO_2 and, to a smaller extent, CH_4 and N_2O. The default energy input ratios for Title 24 and non-Title 24 electricity consumption as provided in CalEEMod were used. As stated previously, CalEEMod version 2016.3.1's default values for Title 24 emission factors reflect the 2013 Title 24 standards, even though the project would be required to comply with the 2016 California Building Energy Efficiency Standards.

To reflect the "Project Without GHG Reduction Features" condition and the "Proposed Project" condition for electricity emissions, emissions intensity factors were adjusted to reflect achievement of the RPS goals by SDG&E. Adjusted intensity factors for the 33% RPS benchmark by the year 2020 for CO_2, CH_4, and N_2O are 536.36 pounds per megawatt-hour (lbs/MWh), 0.022 lbs/MWh, and 0.0046 lbs/MWh, respectively (see Appendix E for details). Utilization of the 2020 RPS value of 33 percent in CalEEMod is conservative for purposes of estimating the project's GHG emissions because SDG&E already achieved 35.2% in 2015

(CPUC), and at the project's buildout year of 2028, a more restrictive RPS value will apply to the project's electricity provider as SDG&E attempts to achieve the SB 350 requirement to achieve 50 percent RPS by 2030.

To accurately estimate the "Proposed Project" condition, CalEEMod's emissions outputs were modified to reflect the provision of solar photovoltaic panels for all single-family and multi-family residential development sufficient to offset 100% of the residential structural electricity demand. Conservatively, electricity demand reductions achieved through on-site solar installations were not applied to the project's water-related electricity demand or proposed Community facilities.

In addition, electric vehicle (EV) charging equipment would be provided in the garages of all single-family residential units, and EV charging stations would be installed in 3 percent of the Town Center's commercial core parking spaces. The applicant would also encourage the installation of EV charging stations in 3 percent of the park-and-ride parking spaces. Should installation of EV charging stations at the park-and-ride facilities be deemed acceptable Caltrans (the owner of the existing park-and-ride facility), the applicant would fully fund these improvements. To be conservative, no emissions reduction credit was taken in this analysis for the provision of Community-wide EV charging equipment.

Natural Gas

CalEEMod was used to estimate emissions from natural gas combustion, using the default energy input ratios for Title 24 and non-Title 24 natural gas consumption.

5.2.3 Area Source Emissions

CalEEMod was used to estimate operational GHG emissions from area sources, including emissions from hearths and landscape maintenance equipment. Refer to Appendix C for additional information.

Area source emissions were calculated using the default hearth mix (wood-burning, natural gas and no fireplace) in CalEEMod for both the "Project Without GHG Reduction Features" condition and the "Proposed Project" condition. However, for the "Proposed Project" condition, default wood-burning fireplace units were converted to the natural gas units to reflect that all units with hearths would be natural-gas-fired. No wood-burning fireplaces were assumed in the "Proposed Project" condition because wood-burning fireplaces are restricted. Default CalEEMod values for landscape maintenance equipment were retained for both analysis methodologies.

5.2.4 Water Use Emissions

The supply, conveyance, treatment, and distribution of water would indirectly result in GHG emissions through the use of electricity. Similarly, wastewater generated by the proposed project would require use of electricity for conveyance and treatment. Water consumption estimates for the proposed land uses were obtained from the proposed project's Water Conservation Demand Study prepared by GSI Water Solutions (GSI 2016).

Consistent with the assumptions for electricity use, the "Project Without GHG Reduction Features" condition and the "Proposed Project" condition were based on 2013 Title 24, Part 6, and a 33% RPS in 2021 as they relate to water use and energy intensity. See Section 5.2.2 for details regarding electricity intensity factor adjustments.

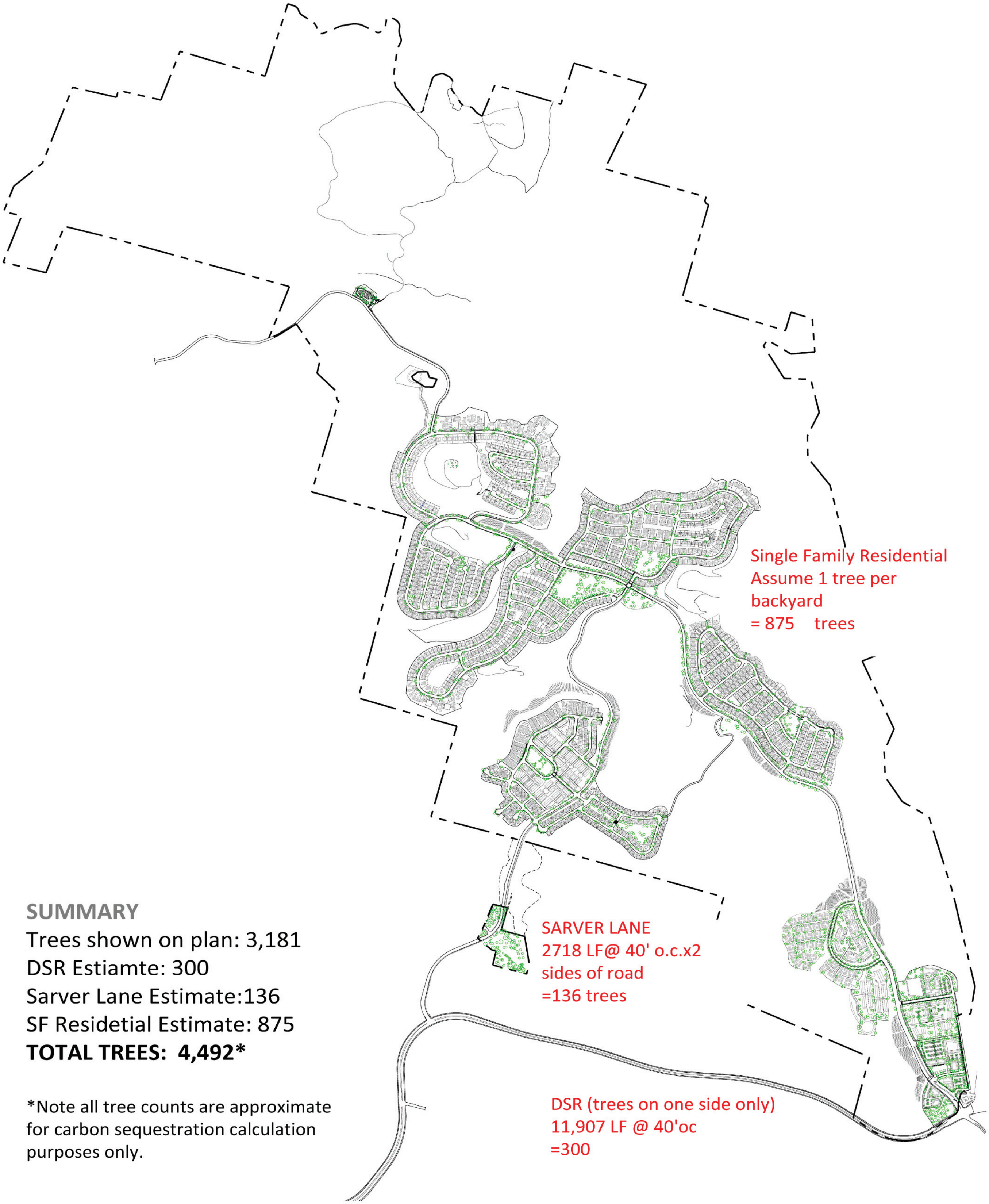
To further reduce water consumption, the project would comply with 2016 CALGreen standards, which require low-flow plumbing fixtures for all new development (CALGreen 2016a). Furthermore, the project may pre-plumb residential units for grey water systems that could repurpose home water use, if feasible. The proposed project also is designed not to include front lawn installations in single-family residential units, thereby reducing overall turf acreage throughout the project to further reduce outdoor water use. No numeric reductions were taken relative to water conservation because the water demand estimates provided by GSI include all applicable reductions from State and local laws, codes, and standards. Table 6 of the project's Water Conservation Demand Study includes a comprehensive list of state and local laws, codes, and standards that were accounted for in the project's water demand estimates (GSI 2016).

5.2.5 Solid Waste Disposal Emissions

The project would generate solid waste and, therefore, would result in CO_2E emissions associated with landfill off-gassing. Solid waste generation was derived from the CalEEMod default rates for the various proposed land uses. The "Project Without GHG Reduction Features" condition and the "Proposed Project" condition both assumed a 25% reduction in solid waste per the requirements of AB 341 (i.e., no additional reduction in GHG emissions was assumed in the "Proposed Project" condition relative to waste diversion). AB 341 requires a 75% diversion rate of solid waste from landfills to recycling facilities, or a 25% diversion increase beyond the requirements delineated in the Integrated Waste Management Act of 1989.

5.2.6 Sequestration

The proposed project would involve approximately 776 acres of vegetation removal on Site, including chaparral and other existing vegetation cover. The project would also include approximately 4,492 tree plantings throughout the Site, including shade street trees and landscaping trees, and the preservation of oaks throughout the Site (see Figure 5) (Schmidt 2017). CalEEMod was used to estimate emissions from vegetation removal and tree plantings. For the purposes of this analysis, the one-time sequestration loss on Site was calculated and included in the construction emissions estimates, and no credit was taken for the anticipated increase in sequestration capacity following project implementation as a result of tree plantings. However, the estimated increase in sequestration capacity as a result of tree plantings is provided for disclosure.



SUMMARY

Trees shown on plan: 3,181
DSR Estiamte: 300
Sarver Lane Estimate:136
SF Residetial Estimate: 875
TOTAL TREES: 4,492*

*Note all tree counts are approximate for carbon sequestration calculation purposes only.

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SOURCE: Schmidt Design Group, Inc. 2017

FIGURE 5
Tree Count

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6 EMISSIONS CALCULATIONS

6.1 Construction and Vegetation GHG Emissions

Table 12, Estimated Construction and Vegetation GHG Emissions, shows the estimated annual GHG construction and vegetation GHG emissions associated with the project by year (2018 – 2027). The project's total estimated construction GHG emissions from 2018-2027 are 76,034 MT CO_2E (without accounting for vegetation removal).

Table 12
Estimated Construction and Vegetation GHG Emissions

Emissions Year	Annual Emissions (Metric Tons per Year)			
	CO_2	*CH_4*	*N_2O*	*CO_2E*
2018	8,627	1.88	0.00	8,674
2019	9,384	2.37	0.00	9,444
2020	12,864	2.74	0.00	12,933
2021	11,328	2.02	0.00	11,378
2022	10,225	1.89	0.00	10,273
2023	6,692	0.93	0.00	6,715
2024	5,452	0.72	0.00	5,470
2025	3,631	0.37	0.00	3,640
2026	3,929	0.32	0.00	3,937
2027	3,564	0.29	0.00	3,571
Subtotal Construction GHG Emissions	**75,696**	**13.52**	**0**	**76,034**
Vegetation Removal	**17,289**	**0.00**	**0.00**	**17,289**
Total Emissions	**92,985**	**13.52**	**0.00**	**93,323**

Note: See Appendix C for complete results.

Additionally, the one-time sequestration loss (i.e., vegetation removal) on the project site has been calculated at of 17,289 MT CO_2E as illustrated in Table 12. . The project would result in approximately 776 acres of vegetation removal on the project site, including chaparral and other existing vegetation cover. Combined, the project's total estimated construction and vegetation removal GHG emissions would be 93,323 MT CO_2E. As such, the project could generate GHG emissions that may have a significant impact on the environment, and impacts could be considered **potentially significant**.

The project would also include approximately 4,492 tree plantings throughout the project site, including shade street trees and landscaping trees, and the preservation of oaks throughout the site (Schmidt 2017). CalEEMod was used to estimate emissions from vegetation removal and tree plantings. For purposes of this analysis, the one-time sequestration loss on the project site was calculated and included in the construction emissions estimates, and no credit was taken for the anticipated increase in sequestration capacity following project implementation as a result of tree plantings. However, the estimated increase in sequestration capacity (approximately 3,297 MT CO_2E) due to new tree plantings is provided for disclosure. This "pool" of sequestration savings (3,297 MT CO_2E), even though no credit is taken, nonetheless represents GHG reductions above and beyond those required by proposed project's mitigation measures.

As such, mitigation measure **M-GHG-1** is provided, which would require the project to offset 100% of its construction and vegetation GHG emissions. The utilization of carbon offsets to mitigate GHG emissions is expressly authorized by CEQA Guidelines Section 15126.4(c)(3)-(c)(4), and would reduce impacts associated with construction and vegetation GHG emissions to a **less than significant level**.

M-GHG-1 The project applicant shall purchase and retire carbon offsets in a quantity sufficient to offset 100% of the project's construction emissions (including sequestration loss from vegetation removal), consistent with the performance standards and requirements set forth below.

First, "carbon offset" shall mean an instrument issued by any of the following: (i) the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard, (ii) any registry approved by CARB to act as a registry under the State's cap-and-trade program, or (iii) if no registry is in existence as identified in options (i) and (ii), above, then any other reputable registry or entity that issues carbon offsets.

Second, any carbon offset utilized to reduce the project's GHG emissions shall be a carbon offset that represents the past reduction or sequestration of one metric tonne of carbon dioxide equivalent that is "not otherwise required" (CEQA Guidelines section 15126.4(c)(3)).

Third, "project applicant" shall mean Newland Sierra LLC or its designee.

Fourth, as to construction and vegetation removal GHG emissions, prior to the County's issuance of the project's first grading permit, the project applicant shall provide evidence to the satisfaction of the Director of the Planning & Development Services Department (PDS) that the project applicant has purchased and retired carbon offsets in a quantity sufficient to offset 100 percent of the construction and vegetation removal GHG emissions generated by the project, which total 93,323 MT CO_2E.

Fifth, the purchased carbon offsets used to reduce construction and vegetation removal GHG emissions shall achieve real, permanent, quantifiable, verifiable, and enforceable reductions (Cal. Health & Saf. Code section 38562(d)(1)).

Sixth, the County of San Diego Planning & Development Services Department will consider, to the satisfaction of the Development Services Director, the following geographic priorities for GHG reduction features, and GHG reduction projects and programs: 1) project design features/on-site reduction measures; 2) off-site within the unincorporated areas of the County of San Diego; 3) off-site within the County of San Diego; 4) off-site within the State of California; 5) off-site within the United States; and 6) off-site internationally. As listed, geographic priorities would focus first on local reduction features (including projects and programs that would reduce GHG emissions) to ensure that reduction efforts achieved locally would provide cross-over benefits related to air quality criteria pollutant reductions within the San Diego Air Basin, and to aid in San Diego County jurisdictions' efforts to meet their GHG reduction goals. The project applicant or its designee shall first pursue offset projects and programs locally within unincorporated areas of the County of San Diego to the extent such offset projects and programs are financially competitive in the global offset market.

6.2 Operational GHG Emissions

Two conditions were modeled to disclose the proposed project's operational emissions: the "Project Without GHG Reduction Features" condition and the "Proposed Project" condition. Generally, the "Project Without GHG Reduction Features" condition represents project emissions with the reduction benefits of existing regulatory compliance measures. The "Proposed Project" condition couples the reduction benefits of existing regulatory compliance measures with project-specific GHG reduction features.

Table 13, Regulatory Compliance Measures that Reduce GHG Emissions, summarizes the regulatory measures that would be implemented to reduce the proposed project's operational GHG emissions. As provided in Table 13, the emission reduction benefits of regulatory compliance measures are not always readily quantifiable. As such, the emissions inventory estimates presented in this report provide a conservative projection of project emissions.

Table 13
Regulatory Compliance Measures that Reduce GHG Emissions

Reg Number	Strategy to Reduce GHG Emissions	Description	Emissions Reduction	Basis for Emissions Reduction
Transportation				
REG-GHG-1	Low Carbon Fuel Standard	LCFS is anticipated to achieve a 10% reduction in emissions from transportation fuels.	Conservatively, no reduction was taken for this regulation. Although the LCFS would reduce emissions from transportation fuels, EMFAC2014 – which forms the platform for CalEEMod version 2016.3.1's mobile source emissions estimates – does not account for it.	CalEEMod version 2016.3.1
REG-GHG-2	Advanced Clean Cars	The Advanced Clean Car standards would result in approximately 3% more reductions from passenger vehicles than the Pavley standards by 2020, 12% by 2025, 19.5% by 2030, and 33% by 2050.	Accounted for in EMFAC2014 emissions factors as part of CalEEMod version 2016.3.1.	CalEEMod version 2016.3.1
Water Conservation				
REG-GHG-3	Low-Flow Fixtures	Indoor residential plumbing products would comply with the 2016 CALGreen Code, including future updates to CALGreen as these updates apply to homes in the project built under the updated code.	Reductions accounted for in water demand study (GSI 2016). No further reductions were assumed in emissions estimates.	CALGreen 2016a
REG-GHG-4	Reduction in Indoor Water Use	The project would comply with EO B-29-15, which calls for a 25% reduction in total water use below 2013 levels. Vallecitos Water District has adopted a 24% reduction in water use and the San Diego County Water Authority has adopted a 15% reduction.	Reductions accounted for in water demand study (GSI 2016). No further reductions were assumed in emissions estimates.[6]	CALGreen 2016a

[6] The proposed project would achieve a 52% reduction in water use over the County's General Plan planned land uses for the site, which is a 28% reduction in water use over the Vallecitos Water District and a 37% reduction over the San Diego County Water Authority.

Table 13
Regulatory Compliance Measures that Reduce GHG Emissions

Reg Number	Strategy to Reduce GHG Emissions	Description	Emissions Reduction	Basis for Emissions Reduction
REG-GHG-5	Reduction in Outdoor Water Use	The project would comply with EO B-29-15, which calls for a 25% reduction in total water use below 2013 levels. To achieve this reduction, the project would employ drought-tolerant landscaping and recycled water for irrigation, and may offer plumbing for grey water systems, if feasible. In addition, through the project's Site plan process, and, in the case of individual homeowners, the project's CCandRs, the project would be required to comply with the County of San Diego's Landscape Ordinance and Water Efficient Landscape Design Manual for all outdoor landscapes, including common areas, public spaces, parkways, medians, parking lots, parks, and all builder- and homeowner-installed private frontyard and backyard landscaping.	Reductions accounted for in water demand study (GSI 2016). No further reductions were assumed in emissions estimates.	EO B-29-15. County of San Diego's Landscape Ordinance and Water Efficient Landscape Design Manual (County of San Diego 2010)
Building and Site Design				
REG-GHG-6	California 2013 Title 24 Building Energy Efficiency Standards	Buildings would be designed to meet the California 2016 Title 24 Building Energy Efficiency Standards.	Accounted for as part of CalEEMod version 2016.3.1.	CalEEMod version 2016.3.1
REG-GHG-7	California 2016 Title 24 Building Energy Efficiency Standards	All buildings would be designed to meet the California 2016 Title 24 Building Energy Efficiency Standards.	Conservatively, no reduction was taken for this regulation.	n/a
REG-GHG-8	Curbside Recycling	Project-wide curbside recycling for single-family, multi-family, school, commercial, and retail establishments would be required in accordance with the California Integrated Waste Management Act (AB 939) and AB 341.	Measure would contribute toward 75% diversion rate as required by AB 939 and AB 341.	n/a

Table 13
Regulatory Compliance Measures that Reduce GHG Emissions

Reg Number	Strategy to Reduce GHG Emissions	Description	Emissions Reduction	Basis for Emissions Reduction
REG-GHG-9	Pre-Wiring for Electric Vehicle Charging Equipment	Per CALGreen, pre-wiring for the installation of electric vehicle (EV) charging equipment in the garages of all single-family residential units, in the Town Center's commercial core and at the park-and-ride facilities would be implemented (CALGreen 2016b and 2016c).	Conservatively, no reduction was taken for this regulation.	n/a
REG-GHG-10	Solar-Ready Units	Per CEC's *2016 Residential Compliance Manual* (CEC 2015b), all single-family homes constructed as part of the proposed project would be designed with pre-plumbing for solar water heaters and solar and/or wind renewable energy systems.	No reduction assumed.	n/a
Renewable Energy				
REG-GHG-11	Renewable Portfolio Standards (RPS)	Implementation of the 20% RPS mandate by 2010 would reduce GHG emissions in the near-term. Implementation of the 33% target by 2020 would reduce GHG emissions by following full implementation of the RPS. Implementation of the 33% RPS would reduce GHG emissions by 27% below 2006 levels. Implementation of the 50% mandate by 2030 would reduce GHG emissions by an additional 17%.	The emissions intensity factors for utility energy use were adjusted to account for implementation of 33% RPS in 2020 (see Appendix E).	SB 350; CalEEMod 2016.3.1, Appendix D, Table 1.2; SDG&E 2009 Power Content Label (actual).

6.2.1 Project Without GHG Reduction Features

Table 14 presents the proposed project's long-term operational GHG emissions as calculated using the assumptions described in Section 5 for the "Project Without GHG Reduction Features" condition. Final build-out of the entire project would occur in 2028; however, for the purposes of a conservative analysis, a build-out operational year of 2021 was used in estimating operational emissions because the first residential units would be operational in the year 2021. Therefore, emissions estimates provided in Table 14 are conservative. It should be noted that the "Project Without GHG Reduction Features" emissions are provided for comparative and information purposes only.

Table 14
Estimated "Project Emissions Without GHG Reduction Features" (2021)

Emissions Source	Annual Emissions (Metric Tons per Year)			
	CO_2	*CH_4*	*N_2O*	*CO_2E*
Motor Vehicles	42,481	2.18	0.00	42,536
Electricity Consumption	3,737	0.15	0.03	3,751
Natural Gas Consumption	2,452	0.05	0.05	2,467
Area Sources	2,725	0.04	0.17	2,777
Water Demand	672	3.95	0.10	800
Solid Waste Generation	265	15.64	0.00	655
Total	**52,332**	**22.01**	**0.35**	**52,986**
TOTAL Annual CO_2E Emissions	**52,986**			

Notes: See Appendix C for complete results. Numbers may not add exactly due to rounding.

6.2.2 Operational "Proposed Project" GHG Emissions

Table 15 identifies the project-specific GHG reduction features the project would implement to further reduce GHG emissions during operations.

Table 15
Project Design Features to Reduce GHG Emissions

PDF Number	Strategy to Reduce GHG Emissions	Description	Emissions Reduction	Basis for Emissions Reduction
Project-Specific Transportation Demand Management Program				
Land Use and Design Strategies				
PDF-1	Land Use Diversity	The project would: • Provide a mix of land uses, including residential, commercial, educational, and parks so that residents of the project have access to basic shopping, school, and recreation opportunities without having to travel outside of the project Site. This would lower vehicle miles traveled because residents can use alternative transportation modes to reach the various land uses available within the Site.	5% per calculations in Appendix D of Appendix K	Proposed Project TDM Program
Travel and Commute Services for Residents				
PDF-2 and 3	Pedestrian and Bicycle Trails and Network	The project would: • Develop a comprehensive trails network designed to provide multi-use trails between the various project	2% per calculations in Appendix D of Appendix K.	CAPCOA 2010, Measure SDT-1, SDT-

Table 15
Project Design Features to Reduce GHG Emissions

PDF Number	Strategy to Reduce GHG Emissions	Description	Emissions Reduction	Basis for Emissions Reduction
		components, land-uses, parks/open spaces, schools, and the Town Center area. The trails network will provide connections to the various recreational trails and multi-modal facilities accessing the project Site. Additionally, the loop road includes 5-foot-wide bike lanes on both sides of the roadway. • Provide bicycle racks along main travel corridors, adjacent to commercial developments, at public parks and open spaces, and at multi-family buildings within the project Site.		6, SDT-7, and SDT-9; Proposed Project TDM Program.
PDF-4	Electric Bike-Share Program	The project would: • Implement an electric bike share program to further link the project neighborhoods to one another and to reduce motorized vehicle trips. The bike share program includes the placement of eight kiosks throughout the Community. Electric bikes can be taken from one kiosk and left at another to promote sustainable transportation between planning areas. It is anticipated that each kiosk will contain 10-20 electric bikes.	0.6% per calculations in Appendix D of Appendix K	CAPCOA 2010, Measure TRT-12 and SDT-3; Proposed Project TDM Program
PDF-5	Carshare Program	The project would: • Coordinate with a car-share organization to install three car-share stations with one car each (for a total of three cars) in the commercial area of the project Site, that would be available to residents on an on-demand basis.	0.4% per calculations in Appendix D of Appendix K	CAPCOA 2010, Measure TRT-9; Proposed Project Transportation Demand Management (TDM) Program
PDF-6	Local Shuttle Service	The project would: • Coordinate a ride share or shuttle system that connects the various project neighborhoods to the Town Center and to external transit facilities and resources such as the park-and-ride lots and the Escondido Transit Center.	1.2% per calculations in Appendix D of Appendix K.	CAPCOA 2010, Measure TST-3, TST-4 and TST-6; Proposed Project TDM Program.

Table 15
Project Design Features to Reduce GHG Emissions

PDF Number	Strategy to Reduce GHG Emissions	Description	Emissions Reduction	Basis for Emissions Reduction
PDF-7 and 8	Ridesharing Support Features for Residents	The project would: • Coordinate with SANDAG's iCommute program for carpool, vanpool, and rideshare programs that are specific to the project's residents. • Promote the adjacent park-and-ride lots at the northeast quadrant of the Deer Springs Road/Mesa Rock Road intersection and at the northwest quadrant of the Deer Springs Road/Old Highway 395 intersection to residents to encourage carpooling.	0.6% per calculations in Appendix D of Appendix K.	CAPCOA 2010, Measure RPT-4 and TRT-3; Proposed Project TDM Program.
PDF-9	Transit Fare Subsidy for Residents	The project would: • Provide subsidized transit passes for residents.	0.9% per calculations in Appendix D of Appendix K.	CAPCOA 2010, Measure TRT-4; Proposed Project TDM Program.
PDF-10-13, 20	TDM Program Marketing for Residents	The project would: • To ensure that the TDM Program strategies are implemented and effective, a transportation coordinator (likely as part of a homeowner's association (HOA)) would be established to monitor the TDM Program, and would be responsible for developing, marketing, implementing, and evaluating the TDM Program. Promote available websites providing transportation options for residents. • Create and distribute a "new resident" information packet addressing alternative modes of transportation. • Promote a transportation option app for use on mobile devices. • Coordinate with NCTD and SANDAG about future siting of transit stops/stations at the adjacent park-and-ride lots.	0.5% per calculations in Appendix D of Appendix K.	CAPCOA 2010, Measure TRT-7; Proposed Project TDM Program.
Commute Services for Employees				
PDF-14	Transit Fare Subsidy for Employees	The project would: • Provide transit subsidies for employees of the project's Town Center.	0.3% per calculations in Appendix D of	CAPCOA 2010, Measure

Table 15
Project Design Features to Reduce GHG Emissions

PDF Number	Strategy to Reduce GHG Emissions	Description	Emissions Reduction	Basis for Emissions Reduction
			Appendix K.	TRT-4; Proposed Project TDM Program.
PDF-15-19	TDM Program Marketing for Employees	The project would: • Promote available websites providing transportation options for businesses in the Town Center. • Promote the adjacent park-and-ride lots to employees to support carpooling. • Implement a demand-responsive shuttle service that provides access throughout the project Site, to the park-and-ride lots, and to the Escondido Transit Center. • Coordinate with SANDAG's iCommute program for carpool, vanpool, and rideshare programs that are specific to the project's employees. • Coordinate with NCTD and SANDAG on the future siting of transit stops/stations at the adjacent park-and-ride lots.	0.1% per calculations in Appendix D of Appendix K.	CAPCOA 2010, Measure TRT-7; Proposed Project TDM Program.
		Total VMT Reduction from Implementation of TDM Program	**11.1%**	
		Other Project-Specific Reduction Features		
PDF-21	Landform Alteration	Landform alteration shall be minimized by clustering development and preserving natural topography, open spaces, and view corridors. Community open space areas shall be integrated into Site design and building layout.	Conservatively, no credit was taken for Landform Alteration	n/a
PDF-22	Solar Power	Solar panels shall be required on all residential units. Where feasible, roof-integrated solar panels should be considered to minimize visual impacts. All light fixtures along public roads shall be solar powered. The project can use centralized solar arrays (e.g., a solar array on top of a shade structure in a parking lot) to implement this requirement.	Conservatively, no credit was taken for implementation for solar power	n/a
PDF-23	Installation of EV Plug-in Stations	The garages of all single-family homes shall include an electric vehicle charger in the garage, and electric vehicle charging stations shall be installed in 3% of the Town Center's commercial core parking spaces.	Conservatively, no credit was taken for EV charging stations.	n/a

Table 15
Project Design Features to Reduce GHG Emissions

PDF Number	Strategy to Reduce GHG Emissions	Description	Emissions Reduction	Basis for Emissions Reduction
PDF-24	Water and Waste Reduction	All common area landscapes shall meet an evapotranspiration adjustment factor of 0.55 within residential neighborhoods and 0.45 within non-residential areas. An evapotranspiration adjustment factor of 1.0 is allowed for special landscape areas (i.e., recreational and community garden areas), as noted in County Ordinance Number 10032. All irrigation shall be designed to meet or exceed an average irrigation efficiency rating of 0.75 for spray/rotor irrigation and 0.81 for drip irrigation.	Conservatively, no credit was taken for the use of drought tolerant landscaping and sustainable practices in open space areas.	n/a
PDF-25	Turf Grass Reduction	Turf grass shall be prohibited in residential front yards and within street rights-of-way. Turf in rear or side yards of single-family homes shall be warm-season turf or shall have a plant species factor of 0.6 or lower.	Conservatively, no credit was taken for turf reduction.	n/a
PDF-26	Grey Water Systems	All single-family homes shall be plumbed for greywater systems for use in private yards.	Conservatively, no credit was taken for pre-plumbing of grey water.	n/a
PDF-27	Stormwater Runoff	The amount of stormwater run-off and pollutant discharge shall be minimized through the use of open vegetated swales along roadways and within neighborhoods; water quality and detention basins; permeable paving, where feasible; and other similar low-impact-development techniques.	Conservatively, no credit was taken for stormwater runoff	n/a
PDF-28	Green Waste Collection Area	An area within the maintenance yard of the Sierra Farms Park shall be designated for collection of common area landscape trimmings. These landscape trimmings shall be chipped and ground into either mulch or compost and used to return organic matter and nutrients to the project's landscaped areas. The green waste collection area shall be designed to collect approximately 30 to 40 yards of material at a time (approximately three open stalls 10 feet wide by 10 feet long by 6 feet tall). A buffer of screening shrubs shall be planted between the collection area and the street. The green waste area shall be maintained by the HOA.	Conservatively, no credit was taken for the green waste collection area.	n/a

Table 15
Project Design Features to Reduce GHG Emissions

PDF Number	Strategy to Reduce GHG Emissions	Description	Emissions Reduction	Basis for Emissions Reduction
PDF-29	Productive Landscapes	Vineyards and community gardens shall be incorporated to connect the Community to the region's agrarian history and provide productive landscapes.	Conservatively, no credit was taken for the implementation of productive landscapes	n/a
PDF-30	Cool Roofs	Where feasible, commercial structures would use cool roof technologies and light-colored paving.	Conservatively, no credit was taken for the use of cool roofs and pavements.	n/a
PDF-31	Energy-Efficient Appliances	Builders would offer residents their choice of energy-efficient appliances (including washer/dryers, refrigerators), and appliances (including dishwashers) installed by builders would be Energy Star rated or equivalent.	Conservatively, no credit was taken for the use of energy-efficient appliances.	n/a
PDF-32	Hearth Use	The project would not install wood-burning fireplaces for heating purposes. All fireplaces would be natural-gas-fired.	Conservatively, no credit was taken for the elimination of wood-burning fireplaces.	n/a

PDF = project design feature

As illustrated in Table 15, the project's TDM Program would achieve VMT reductions of approximately 11.1% (see Appendix D for details). This 11.1% reduction in VMT would result in a direct 11.1% reduction in the project's mobile emissions, or approximately 4,722 MT CO_2E per year.

Additionally, installation of solar technology on all single-family and multi-family housing units would reduce overall GHG emissions generated from electricity by 3,453 MT CO_2E per year.

As noted in Section 6.2.1, final build-out of the entire project would occur in 2028; however, for the purposes of a conservative analysis, a build-out operational year of 2021 again was used in estimating operational emissions because the first residential units would be operational in the year 2021. Therefore, emissions estimates provided in Table 16 are conservative.

Table 16
Estimated Proposed Project Emissions with Reduction Features (2021)

Emissions Source	Annual Emissions (Metric Tons per Year)			
	CO_2	*CH_4*	*N_2O*	*CO_2E*
Motor Vehicles	37,766	1.94	0.00	37,814
Electricity Consumption	296	0.01	0.00	298
Natural Gas Consumption	2,452	0.05	0.04	2,467
Area Sources	1,539	0.04	0.02	1,549
Water Demand	675	0.17	0.09	711
Solid Waste Generation	266	15.86	0.00	659
Total	**42,995**	**18.07**	**0.15**	**43,498**
Total Annual CO_2E Emissions	**43,498**			
Total GHG Offsets (CO_2E) Over 30-year Project Life	**1,304,940**			

Notes: See Appendix C for complete results. Numbers may not add exactly due to rounding.

Table 17 through Table 22 presents the proposed project emissions by individual land use following implementation of project-specific GHG reduction features.

Table 17
Estimated Proposed Project Emissions (2021) Single-Family Residential

Emissions Source	Annual Emissions (Metric Tons per Year)			
	CO_2	CH_4	N_2O	CO_2E
Motor Vehicles	11,551	0.59	0.00	11,566
Electricity Consumption	0	0.00	0.00	0
Natural Gas Consumption	1,330	0.03	0.02	1,338
Area Sources	631	0.02	0.01	635
Water Demand	428	0.12	0.07	451
Solid Waste Generation	156	9.23	0.00	387
Total	**14,096**	**9.99**	**0.10**	**14,377**
Annual MT CO_2E per Dwelling Unit*	**16**			
Total GHG Offsets (CO_2E) per Dwelling Unit Over 30-year Project Life	**480**			

Notes: See Appendix C for complete results. Numbers may not add exactly due to rounding.
* 14,377 MT CO_2E / 875 single-family units

Table 18
Estimated Proposed Project Emissions (2021) Multi-Family Residential

Emissions Source	Annual Emissions (Metric Tons per Year)			
	CO_2	CH_4	N_2O	CO_2E
Motor Vehicles	9,874	0.51	0.00	9,887
Electricity Consumption	0	0.00	0.00	0
Natural Gas Consumption	853	0.02	0.02	858
Area Sources	674	0.02	0.01	678
Water Demand	95	0.02	0.01	101
Solid Waste Generation	65	4.00	0.00	162
Total	**11,561**	**4.57**	**0.04**	**11,686**
Annual MT CO_2E per Dwelling Unit*	**13**			
Total GHG Offsets (CO_2E) per Dwelling Unit Over 30-year Project Life	**390**			

Notes: See Appendix C for complete results. Numbers may not add exactly due to rounding.
* 11,686 MT CO_2E / 935 multi-family units

Table 19
Estimated Proposed Project Emissions (2021) Age-Qualified Units

Emissions Source	Annual Emissions (Metric Tons per Year)			
	CO_2	CH_4	N_2O	CO_2E
Motor Vehicles	1,716	0.09	0.00	1,718
Electricity Consumption	0	0.00	0.00	0
Natural Gas Consumption	249	0.00	0.00	250
Area Sources	234	0.00	0.00	236
Water Demand	95	0.03	0.01	101
Solid Waste Generation	23	1.35	0.00	56
Total	**2,317**	**1.47**	**0.01**	**2,362**
Annual MT CO2E per Dwelling Unit*	**7**			
Total GHG Offsets (CO_2E) per Dwelling Unit Over 30-year Project Life	**210**			

Notes: See Appendix C for complete results. Numbers may not add exactly due to rounding.
* 2,362 MT CO_2E / 325 age-qualified

Table 20
Estimated Proposed Project Emissions (2021) Commercial

Emissions Source	Annual Emissions (Metric Tons per Year)			
	CO_2	CH_4	N_2O	CO_2E
Motor Vehicles	12,832	0.66	0.00	12,848
Electricity Consumption	254	0.01	0.00	255
Natural Gas Consumption	10	0.00	0.00	10
Area Sources	0	0.00	0.00	0
Water Demand	9	0.00	0.00	9
Solid Waste Generation	13	0.77	0.00	32
Total	**13,118**	**1.44**	**0.00**	**13,154**
Annual MT CO_2E per 1,000 sf*	**162**			
Total GHG Offsets (CO_2E) per 1,000 sf Unit Over 30-year Project Life	**4,860**			

Notes: See Appendix C for complete results. Numbers may not add exactly due to rounding.
* 13,154 MT CO_2E / 81 ksf of commercial space

Table 21
Estimated Proposed Project Emissions (2021) School

Emissions Source	Annual Emissions (Metric Tons per Year)			
	CO_2	CH_4	N_2O	CO_2E
Motor Vehicles	837	0.04	0.00	838
Electricity Consumption	42	0.00	0.00	43
Natural Gas Consumption	10	0.00	0.00	11
Area Sources	0	0.00	0.00	0
Water Demand	4	0.00	0.00	4
Solid Waste Generation	7	0.39	0.00	16
Total	**900**	**0.43**	**0.00**	**912**
Annual MT CO_2E per 1,000 sf*	**28**			
Total GHG Offsets (CO_2E) per 1,000 sf Unit Over 30-year Project Life	**840**			

Notes: See Appendix C for complete results. Numbers may not add exactly due to rounding.
* 912 MT CO_2E / 33 ksf of school space

Table 22
Estimated Proposed Project Emissions (2021) Parks

Emissions Source	Annual Emissions (Metric Tons per Year)			
	CO_2	CH_4	N_2O	CO_2E
Motor Vehicles	956	0.05	0.00	957

Table 22
Estimated Proposed Project Emissions (2021) Parks

Emissions Source	Annual Emissions (Metric Tons per Year)			
	CO_2	CH_4	N_2O	CO_2E
Electricity Consumption	0	0.00	0.00	0
Natural Gas Consumption	0	0.00	0.00	0
Area Sources	0	0.00	0.00	0
Water Demand	45	0.00	0.00	45
Solid Waste Generation	2	0.12	0.00	5
Total	**1,002**	**0.17**	**0.00**	**1,007**
Annual MT CO_2E per Acre*	**28**			
Total GHG Offsets (CO_2E) per Acre Over 30-year Project Life	**840**			

Notes: See Appendix C for complete results. Numbers may not add exactly due to rounding.
* 1,007 MT CO_2E / 35.9 acres of park space

The emissions presented in Table 16 through Table 22 are conservative because the project's GHG emissions are expected to decrease beyond the estimates presented here due – in part – to reasonably foreseeable improvements in fuel efficiency, fleet turnover, and other technological improvements related to transportation and energy. It also is anticipated that CARB, the CEC and other state, regional and local agencies will enact new or enhanced regulations prior to the project's build-out year to reduce GHG emissions in furtherance of the State's GHG reduction policy goals. For example, the CEC is expected to mandate the construction of zero net energy homes by 2020. The first building permits for the project likely would be issued in 2021 or 2022, such that the residences would be required, by law, to demonstrate compliance with the CEC's zero net energy standards. The full extent of all such reductions cannot be quantified or estimated at this time due to the uncertainties regarding the precise technological and regulatory advancements, and the corresponding modeling limitations.

As shown in Table 16, with implementation of GHG regulatory compliance measures and project-specific GHG reduction features, the proposed project would result in 43,498 MT CO_2E per year for the operational year 2021. As such, the project could generate GHG emissions that may have a significant impact on the environment, and impacts could be considered **potentially significant**.

CARB recommends that "lead agencies prioritize on-site design features and direct investments in GHG reductions in the vicinity of the project" (CARB 2016c). CARB also recognizes that "[w]here further project design or regional investments are infeasible or not proved to be effective, it may be appropriate and feasible to mitigate project emissions through purchasing and retiring carbon credits issued by a recognized and reputable accredited carbon registry" (CARB 2016c). Examples of off-site mitigation include, among other mechanisms, the purchase of verifiable carbon "offsets" from a reputable carbon registry that will undertake mitigation.

For purposes of this analysis, Table 15, Project Design Features to Reduce GHG Emissions, lists the proposed project's on-site features and measures to reduce GHG emissions. Based on the emissions inventory data presented in Tables 14 and 16, the project will reduce its emissions by approximately 18 percent through the implementation of on-site features and measures (52,986 – 43,498 MT CO_2E = 9,488 MT CO_2E; 9,488 MT CO_2E ÷ 52,986 MT CO_2E = 17.9%). Note that this calculation under-represents the percentage of GHG emissions reductions that will be achieved through on-site features and measures because, as provided in Table 15, many of the features and measures conservatively were not assigned quantitative emissions reductions values. In accordance with CEQA Guidelines Section 15126.4(c) and other pertinent guidance, the County has determined that additional off-site mitigation can further reduce impacts from GHG emissions to a less-than-significant level through the purchase of carbon offsets.

As such, mitigation measures **M-GHG-2** is provided, which would require the project to offset 100% of its annual GHG emissions, for a 30-year period, in order to achieve carbon neutrality (i.e., a net zero emissions level). The utilization of carbon offsets to mitigate GHG emissions is expressly authorized by CEQA Guidelines Section 15126.4(c)(3)-(c)(4), and would reduce impacts associated with GHG emissions to a **less than significant level**.

M-GHG-2 As to operational GHG emissions, prior to the County's issuance of building permits for each implementing Site Plan ("D" Designator), the project applicant shall purchase and retire carbon offsets for the incremental portion of the project within the Site Plan in a quantity sufficient to offset, for a 30-year period, the operational GHG emissions from that incremental amount of development to net zero, consistent with the performance standards and requirements set forth below.

First, "carbon offset" shall have the same meaning as set forth in M-GHG-1.

Second, any carbon offset utilized to reduce the project's GHG emissions shall be a carbon offset that represents the past reduction or sequestration of one metric tonne of carbon dioxide equivalent that is "not otherwise required" (CEQA Guidelines section 15126.4(c)(3)).

Third, "project applicant" shall have the same meaning as set forth in M-GHG-1.

Fourth, as to operational emissions, prior to the County's issuance of building permits for each implementing Site Plan ("D" Designator), the project applicant shall provide evidence to the satisfaction of the Director of PDS that it has purchased and retired carbon offsets for the incremental portion of the project within the Site Plan in a quantity sufficient to offset, for a 30-year period, the operational GHG emissions from the incremental amount of development to net zero. The "project life" is 30 years. This methodology is consistent with the 30-year project life time frame used by the South Coast Air Quality Management District's GHG guidance (SCAQMD 2008).

Fifth, the purchased carbon offsets used to reduce operational GHG emissions shall achieve real, permanent, quantifiable, verifiable, and enforceable reductions (Cal. Health & Saf. Code section 38562(d)(1)).

Sixth, the amount of carbon offsets required for each implementing Site Plan shall be based on the GHG emissions with the implementing Site Plan, and shall include operational GHG emissions as identified in the approved Greenhouse Gas Emissions Report (EIR Appendix K).

Seventh, each implementing Site Plan shall include a tabulation that identifies the overall carbon offsets required to mitigate the entire project's GHG emissions, and shall identify the amount of carbon offsets purchased to date as well as the remaining carbon offsets required to reduce the project's emissions to net zero. Such tabulation and tracking shall be to the satisfaction of the Director of PDS.

For clarity, the following example is provided as to the project's operational GHG emissions purchase and retirement strategy. If 100 single-family residential units and one park are developed and become operational in the year 2023, GHG emissions for those land uses would be calculated and carbon offsets for those emissions would be secured for a 30-year period; however, to be conservative, an operational year of 2021 has been applied to all land uses. Thus, the 100 single family-residential units would be multiplied by the MT CO_2E/dwelling unit provided in EIR Table 17 (single-family residential), and the park would be multiplied by the MT CO_2E/acre provided in EIR Table 22 (parks). These values would then be multiplied by 30, to calculate the total carbon offsets required for that phase of development (e.g., 100 single-family residential units × 16 MT CO_2E/du × 30).

Eighth, this EIR acknowledges that the project's GHG emissions estimates are conservative because the project's GHG emissions are expected to decrease beyond the estimates presented in the EIR's analysis, in part, due to reasonably foreseeable improvements in fuel efficiency, vehicle fleet turnover, technological improvements related to transportation and energy, and updates to emissions models and methodologies. Thus, subject to County oversight, the operational emission estimates that govern implementation of this project are subject to a “true up” at the election of the project applicant (as defined above) and subject to the satisfaction of the Director of PDS. Specifically, if new technological-advancements, regulatory updates, or model and methodology updates occur at a future date result in greater GHG efficiencies and less impacts from project operations than the information projected in the certified Final EIR for the project and a “true-up” exercise is undertaken, the project applicant shall provide an operational GHG emissions inventory of the project’s operational emissions for the “true up” operational conditions, including emissions from mobile sources, energy, area sources, water consumption, and solid waste. If updated GHG emission calculations are conducted for the “true-up” exercise at the project applicant’s election, subject to the satisfaction of the Director of PDS, these calculations shall be conducted using a County-approved model and/or methodology. Alternatively, the project applicant may purchase all carbon offset credits to reduce operational GHG emissions at issuance of the first building permit.

The “true up” operational GHG emissions inventory, if conducted, will be provided in the form of a project-specific Updated Emissions Inventory and Offset Report to the County’s Director of PDS (or its designee) prior to the issuance of building permits for the next buildout phase. The subject technical documentation shall be prepared by a County-approved, qualified air quality and greenhouse gas technical specialist. If the Director of PDS (or its designee) determines that the technical documentation demonstrates that the quantity of project-related greenhouse gas emissions would be lower than the quantity identified in the certified Final EIR for the project, and finds that the technical documentation is supported by substantial evidence, such Planning Director may authorize a reduction in the total carbon offsets value required for the project. In all instances, substantial evidence must confirm that any reduction to the total carbon offsets value as identified in the certified Final EIR for the project is consistent with the project commitment to achieve and maintain carbon neutrality (i.e., net zero emissions) for the 30-year life of the project.

Ninth, the County of San Diego Planning & Development Services Department will consider, to the satisfaction of the Development Services Director, the following geographic priorities for GHG reduction features, and GHG reduction projects and programs: 1) project design features/on-site reduction measures; 2) off-site within the unincorporated areas of the County of San Diego; 3) off-site within the County of San Diego; 4) off-site within the State of California; 5) off-site within the United States; and 6) off-site internationally. As listed, geographic priorities would focus first on local reduction features (including projects and programs that would reduce GHG emissions) to ensure that reduction efforts achieved locally would provide cross-over benefits related to air quality criteria pollutant reductions within the San Diego Air Basin, and to aid in San Diego County jurisdictions' efforts to meet their GHG reduction goals. The project applicant or its designee shall first pursue offset projects and programs locally within unincorporated areas of the County of San Diego to the extent such offset projects and programs are financially competitive in the global offset market.

M-GHG-3 To reduce GHG emissions, the project applicant (as defined above) shall implement the project design features listed in Table 15.

Implementation of **M-GHG-1** through **M-GHG-3**, above, would ensure that the project would not increase GHG emissions as compared to the existing environmental setting (see CEQA Guidelines Section 15064.4(b)(1)). And, mitigation measures **M-GHG-1** through **M-GHG-3**, above, have been incorporated into the project's Mitigation Monitoring and Reporting Program (MMRP) to ensure implementation and enforcement.

6.3 Summary of GHG Impacts

6.3.1 Project-to-Ground

The project would convert a currently vacant project Site to a developed/open space condition. However, because climate change is occurring on a global scale, it is not possible to determine the incremental change in climate from a single project's emissions. There currently is no scientific or regulatory consensus regarding what particular quantity of GHG emissions is considered significant. Furthermore, the global scale of climate change makes it difficult to assess the significance of a single project, particularly one designed to accommodate anticipated population growth (CEQ 2014).

6.3.2 Buildout Year Condition

CEQA Guidelines Appendix G

The project's estimated GHG emissions prior to implementation of project GHG reduction features in the buildout year would be 52,986 MT CO_2E per year. Following implementation of the project-specific GHG reduction features and mitigation measures, as described in Section

6.2, the project's estimated GHG emissions in the buildout year would be 43,498 MT CO_2E per year. Therefore, the project (without mitigation) would generate GHG emissions that may have a significant impact on the environment, and impacts related to GHG emissions would therefore be **potentially significant**.

Mitigation measures **M-GHG-1** through **M-GHG-3** are provided and would require the project to achieve carbon neutrality (i.e., a net zero emissions level). Implementation of mitigation measures **M-GHG-1** through M-GHG-3 would reduce impacts associated with GHG emissions to a **less than significant level** at both the project and cumulative impact levels.

Consistency with SB 32 and EO S-3-05

The project's estimated GHG emissions prior to implementation of project-specific GHG reduction features in the buildout year would be 52,986 MT CO_2E per year. Following implementation of the project-specific GHG reduction features, the project's estimated GHG emissions in the buildout year would be 43,498 MT CO_2E per year. Therefore, the project (without mitigation) would generate GHG emissions which may interfere with the implementation of GHG reduction goals for 2030 or 2050 and, therefore, would potentially conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions (**Impact GHG-3**).

With implementation of mitigation measures **M-GHG-1** through **M-GHG-3**, the project achieves carbon neutrality (i.e., a net zero emissions level) thereby resulting in *no* net increase in GHG emissions relative to existing environmental conditions. Accordingly, the project would not interfere with implementation of any of the above-described GHG reduction goals for 2030 or 2050 because. Further, the project emissions estimates presented in Table 2.7-8 through Table 2.7-14 are a conservative representation of project emissions due to the reasonably foreseeable and anticipated technological and regulatory advancements that will continue to advance the state's GHG policies. Therefore, the project would not conflict with any local or state plans, policies, or regulations adopted for the purpose of reducing GHG emissions and impacts would be **less than significant**.

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7 CONSISTENCY WITH APPLICABLE PLANS, POLICIES AND REGULATIONS ADOPTED FOR THE PURPOSE OF REDUCING GHG EMISSIONS

7.1 Guideline for Determining Significance

Based on Appendix G of the CEQA Guidelines, the proposed project would have a significant impact if it would:

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The State, and by extension regional and local climate change policy is founded in achieving emissions level below the reference year of 1990 and is based on levels established by scientific evidence to avoid or minimize significant climate change impacts. Thus, applicable plans, policies, and regulations such as CARB's Scoping Plans, Metropolitan Planning Organization's regional transportation plans/sustainable communities strategies, and local climate action plans all establish non-zero targets (i.e., some level of positive net GHG emissions above existing conditions for land development projects to accommodate planned and future growth) to achieve future GHG emissions targets.

7.1.1 Consistency with SANDAG'S 2050 RTP/SCS

Regarding consistency with SANDAG's RTP/SCS, the project would include site design elements and project design features developed to support the policy objectives of the RTP and SB 375, including features that would be implemented as part of the project's TDM Program. The project's TDM Program would work to reduce the project's vehicle miles traveled (VMT) through three primary strategies: (1) land use and design measures that would create an environment that promotes alternative mode choice (e.g., land use diversity and pedestrian/bicycle networks); 2) commute/travel services for residents that would reduce out-going single occupant vehicle trips (e.g., electric bike-share program, local shuttle service); and 3) commute services for employees of the project's commercial center that would reduce incoming single occupant vehicle trips (e.g., transit fare subsidies for employees).

To achieve strategy 1, the proposed project would be designed as a planned community located near job centers and existing land uses, and would contain a balanced mix of uses, including resident-serving general commercial uses, parks, a school site, and a range of residential product types. The proposed project's mix of land uses would allow the project to reduce VMT by offering these land uses internally.

In support of strategy 2, the project's mix of land uses, including residential in conjunction with the retail, parks, and a school site, would combine with an integrated pathway and trail plan, and internal streets and roads that promote a pedestrian experience for the project's residents and visitors and facilitate non-vehicular travel, consistent with SB 375 and SANDAG's RTP/SCS. The project would also implement an extensive bike and pedestrian trail system throughout the project Site, internal bicycle infrastructure, and an electric bike program that would be free to all project residents. An electric bike-share program would be designed to further link the neighborhoods to one another and to reduce motorized-vehicle trips. The bike share program would involve placement of a kiosk within each of the seven planning areas, and electric bikes could be taken from one kiosk and left at another to foster sustainable transportation between planning areas. At this time, it is anticipated that each kiosk would contain approximately 10 to 20 electric bikes.

Strategy 2 would also include a carshare program and a local shuttle service. The carshare program would provide residents with access to a shared vehicle that can be used to drive themselves and other residents to their employment destination or a regional transit center. The local shuttle service would be provided through coordination with the local transit operator or private contractor that would provide service to transit hubs, commercial centers, and residential areas. The service would provide access to the park-and-ride lots and the Escondido Transit Center. The shuttle service would be available to all residents in the project Site and be an on-demand/flex system or a circulator system that provides regular service (Fehr and Peers 2016).

All of these project elements would support the goals and policies outlined in SANDAG's RTP/SCS and implementation of the project's TDM Program and associated measures would achieve an 11.1% reduction in the project-related VMT.

As shown in Table 23, the proposed project also is consistent with all applicable goals and policies of *San Diego Forward: The Regional Plan* (SANDAG 2015).

Table 23
Regional Transportation Plan/Sustainable Communities Strategy Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
The Regional Plan – Policy Objectives		
Mobility Choices	Provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play.	*Consistent.* The project's internal circulation features provide residents the opportunity to access employment, education, recreational, and commercial uses via multiple modes of transportation.

Table 23
Regional Transportation Plan/Sustainable Communities Strategy Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
Mobility Choices	Take advantage of new technologies to make the transportation system more efficient and environmentally friendly.	*Consistent.* The project would include lane and intersection design configuration modifications where necessary, as well as installation of signalization where required per the Traffic Impact Analysis (Appendix R). The project would also include an electric bike-share program to encourage internal trips by a non-vehicular mode. Additionally, the project would not impair SANDAG's ability to employ new technologies to make travel more reliable and convenient.
Habitat and Open Space Preservation	Focus growth in areas that are already urbanized, allowing the region to set aside and restore more open space in our less developed areas.	Consistent. The project would be located close to major urban and employment centers, including the City of San Marcos and City of Escondido. The project's open space design would consist of two continuous blocks of key biological resources situated within the northern half and along the eastern boundary of the project Site, as well as a third block of open space in the center of the proposed development that would connect the abovementioned blocks of open space to open space located east and south of the project Site. The project would preserve 1,209 acres of open space.
Habitat and Open Space Preservation	Protect and restore our region's urban canyons, coastlines, beaches, and water resources.	Consistent. Site planning for the proposed project took into account existing landforms and topography by concentrating development between and away from ridge lines. Prominent ridges and landforms were mapped, and each neighborhood was designed to minimize disturbance to prominent peaks and landforms. Each neighborhood was designed to be compact and clustered, reducing the impact of development on open space. Where possible, streets were designed to parallel topography and were guided by watershed patterns on the Site.
Regional Economic Prosperity	Invest in transportation projects that provide access for all communities to a variety of jobs with competitive wages.	Not Applicable. The project would not impair the ability of SANDAG to invest in transportation projects available to all members of the Community.

Table 23
Regional Transportation Plan/Sustainable Communities Strategy Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
Regional Economic Prosperity	Build infrastructure that makes the movement of freight in our community more efficient and environmentally friendly.	Not Applicable. The project does not propose regional freight movement, nor would it impair SANDAG's ability to preserve and expand options for regional freight movement.
Partnerships/Collaboration	Collaborate with Native American tribes, Mexico, military bases, neighboring counties, infrastructure providers, the private sector, and local communities to design a transportation system that connects to the mega-region and national network, and works for everyone and fosters a high quality of life for all.	Not Applicable. The project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico, neighboring counties, and tribal nations. Furthermore, the project has coordinated with Native American tribes and neighboring jurisdictions.
Partnerships/Collaboration	As we plan for our region, recognize the vital economic, environmental, cultural, and community linkages between the San Diego region and Baja California.	Not Applicable. The project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico.
Healthy and Complete Communities	Create great places for everyone to live, work, and play.	Consistent. The project's internal circulation features would provide residents the opportunity to access employment, education, and recreational and commercial uses via multiple modes of transportation. The project would encourage non-vehicular modes of transportation through the inclusion of bike lanes, an extensive trail system consisting of roadside pathways within the linear greenbelts, and multi-use trails. Additionally, the project was designed to promote health and sustainability by focusing on a compact pattern of development. The project would also include electric bike-share programs available to all residents, bicycle and pedestrian features throughout the Community, and a denser Town Center. These features would develop transportation improvements that respect and enhance the environment.

Table 23
Regional Transportation Plan/Sustainable Communities Strategy Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
Healthy and Complete Communities	Connect communities through a variety of transportation choices that promote healthy lifestyles, including walking and biking.	Consistent. The project would encourage non-vehicular modes of transportation through the inclusion of bike lanes, an extensive trail system consisting of roadside pathways within the linear greenbelts, multi-use trails, and an electric bike-share program. The project would help to reduce GHG emissions from vehicles. A Transportation Demand Management (TDM) Program would be implemented as part of the project, including PDFs 1 through 20.
Environmental Stewardship	Make transportation investments that result in cleaner air, environmental protection, conservation, efficiency, and sustainable living.	Consistent. The project would encourage non-vehicular modes of transportation through the inclusion of bike lanes, an extensive trail system consisting of roadside pathways within the linear greenbelts, and multi-use trails. The project would help reduce GHG emissions from Community vehicles. PDF-1 through PDF-20 would reduce VMT associated with the project through implementation of a TDM Program. Additionally, the project was designed to promote health and sustainability by focusing on a compact pattern of development. The project would also include an electric bike-share program available to all residents and bicycle and pedestrian amenities throughout the Community, and would create a denser Town Center. These features would develop transportation improvements that respect and enhance the environment.
Environmental Stewardship	Support energy programs that promote sustainability.	Consistent. See above.
Sustainable Communities Strategy (SCS) – Strategies		
Strategy #1	Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit.	*Consistent.* The proposed project would be located close to major urban and employment centers, including the City of San Marcos and City of Escondido. A variety of housing types would be developed, including a range of single-family, multi-family, age-qualified options located within a mixed-used Community. The project would also provide interim transit service to all of its residents.

Table 23
Regional Transportation Plan/Sustainable Communities Strategy Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
Strategy #2	Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat, open space, cultural resources, and farmland.	*Consistent.* The proposed project would be located close to major urban and employment centers, including the City of San Marcos and City of Escondido. The project's open space design would consist of two continuous blocks of key biological resources situated within the northern half and along the eastern boundary of the project Site, and a third block of open space in the center of the proposed Site that would connect the abovementioned blocks of open space to open space located east and south of the project Site. In total, the project would preserve 1,209 acres of open space. Additionally, the project would include approximately 20 acres of vineyards. Impacts to significant cultural resources located along Deer Springs Road would be minimized to the greatest extent feasible through the use of soldier pile walls.
Strategy #3	Invest in a transportation network that gives people transportation choices and reduces GHG emissions.	*Consistent.* The project would encourage non-vehicular modes of transportation through the inclusion of bike lanes, an extensive trail system consisting of roadside pathways within the linear greenbelts, an electric bike program, and multi-use trails. The project would help reduce GHG emissions from vehicles in the region. PDF -1 through PDF-20 would reduce VMT associated with the project through implementation of a TDM Program.
Strategy #4	Address the housing needs of all economic segments of the population.	A variety of housing types would be developed, including a range of single-family, multi-family, and age-qualified housing options located within a mixed-used Community. These housing types would support a range of buyers from various income categories.
Strategy #5	Implement the Regional Plan through incentives and collaboration.	*Not Applicable.* The project would not impair the ability of SANDAG to implement the RTP through incentives and collaborations.

Source: SANDAG 2015

In addition to project-specific design features that would support the goals of SB 375 as demonstrated in Table 23, a VMT analysis was conducted using the SANDAG Regional Travel Demand model.

Under the "No Project/General Plan" assessment, projected VMT in 2035 was analyzed using the land uses identified in the Mobility Element of the County of San Diego General Plan. Under the "Proposed Project" assessment, projected VMT in 2035 was analyzed using the land uses identified for the proposed project (Appendix R). Table 24 shows projected VMT under the No Project General Plan and "Proposed Project" assessments.

Table 24
Year 2035 Vehicle Miles Travelled (VMT)

	No Project/General Plan VMT	Proposed Project VMT[1]
Regional Total	107,597,246	107,625,113
Project-Level Total	251,116	294,804 (without VMT reduction) 262,376 (with VMT reduction)
Vehicle Trips Generated	22,870	28,862
Average Trip Length	11.0 miles per trip	10.21 miles per trip (294,804 VMT / 28,862 trips)

Sources: Fehr and Peers 2016; Appendix R

As shown in Table 24, although the total VMT would be higher under the "Proposed project" assessment, when compared to the "No Project/General Plan" assessment, the overall VMT in the region and at the project level with implementation of the project would be within 4.5% of SANDAG-forecasted VMT for the region. Thus, the project would be generally consistent with the planned uses and VMT under the No Project (General Plan) condition (Appendix R). As a planned community located near job centers and existing land uses, the proposed project would contain a balanced mix of uses, including resident-serving general commercial uses, parks, a school site, and a range of residential product types. The proposed project's mix of uses allows for the project to reduce VMT by offering resident-serving land uses internally. Further, the project's mix of land uses, including residential in conjunction with the retail, parks, and school site, would combine with an integrated pathway and trail plan and a dense system of internal streets and roads that would promote a pedestrian experience for the project's residents and visitors and facilitate non-vehicular travel, consistent with SB 375 and SANDAG's Regional Plan. As shown in Table 23, the project would be consistent with policy objectives of SANDAG's Regional Plan.

As such, implementation of the project would be considered consistent with planned land uses and associated VMT projections for the project Site accounted for in SANDAG's Regional Plan, and thus, the project would be consistent with the goals of SB 375. Impacts would be **less than significant**.

7.1.2 Consistency Analysis with County of San Diego General Plan

The proposed project would be consistent with the policies set forth in the Conservation and Open Space Element of the County's General Plan that are designed to reduce the emissions of GHGs; reduce energy use in buildings and infrastructure; and promote the use of renewable energy sources, conservation, and other methods of efficiency. Table 25 outlines the proposed project's consistency with applicable policies; as illustrated therein, the project's consistency with such policies evidences that impacts would be **less than significant**.

Table 25
County of San Diego General Plan – Project Consistency Analysis

Goal	Consistency Analysis
Conservation and Open Space Element	
COS-4.1 Water Conservation. Require development to reduce the waste of potable water through use of efficient technologies and conservation efforts that minimize the County's dependence on imported water and conserve groundwater resources.	Consistent. The project proposes several project design features aime at water conservation that would reduce the project's projected water demand by 52% below what VWD has programmed for the project Site in their Urban Water Management Plan (UWMP), including: a plant palette comprised predominantly of low water use drought-tolerant plants, water efficient irrigation systems with the extensive use of efficient drip irrigation; weather-based "smart" irrigation controllers that adjust the irrigation schedule in respond to rain events; prohibitions on planting turf in the front yard areas of private residences; restricting backyard and side yard turf to "warm season" turf varieties only; low water use fixtures in all new construction as required by Title 24 (i.e., the California Green Building Standards Code/CalGreen), and provisions to require pre-plumbing for greywater systems in all of the project's single-family homes. Collectively, the project's proposed indoor and outdoor water conservation measures exceed the latest requirements imposed by the state and the County, including California Title 24 and the County's "Water Conservation in Landscape" Ordinance and the County's Water Efficient Landscape Design Manual.
COS-4.2 Drought-Efficient Landscaping. Require efficient irrigation systems and in new development encourage the use of native plant species and non-invasive drought tolerant/low water use plants in landscaping.	Consistent. The project's Specific Plan and the County's Water Efficient Landscape Design Manual would require the use of efficient irrigation systems (i.e., drip irrigation), weather based "smart" irrigation controllers, and the use of native plant species and non-invasive drought-tolerant/low water use plants in landscaping, including a plant palette comprised mostly of low water use drought-tolerant plants and native or naturalized plants. To ensure compliance with this requirement, prior to any permanent landscaping being installed, the project's various landscape construction documents would be reviewed and permitted in compliance with the project's Conditions of Approval, Specific Plan, the Fire Protection Plan, and the County's Water Efficient Landscape Design Manual.

Table 25
County of San Diego General Plan – Project Consistency Analysis

Goal	Consistency Analysis
COS-4.5 Recycled Water. Promote the use of recycled water and grey water systems where feasible.	Consistent. The project would require the pre-plumbing for greywater systems in all of its single-family homes subject to the permitting requirements of the County of San Diego for greywater systems. In the same fundamental way that recycled water serves as a form of water reuse, greywater use in the project would as well. The project does not propose the use of recycled water because Vallecitos Water District (VWD) does not currently provide any recycled water service within its sphere of influence.
COS-14.1 Land Use Development Form. Require that development be located and designed to reduce vehicular trips (and associated air pollution) by utilizing compact regional and community-level development patterns while maintaining community character.	Consistent. The project Site is located and designed to reduce vehicular trips (and associated air pollution). The project would support the use of internal roads and alternative modes of travel to reduce single-occupancy vehicle trips. Specifically, the project would facilitate non-vehicular modes of transportation through the inclusion of a shuttle service to major North County transit centers, bike lanes, and an extensive trail system consisting of pedestrian pathways connecting the project's various neighborhoods, multi-use trails, an electric bike-share program, a ride-share program, a car-share program, and transit fare passes for residents. These features would help reduce vehicle trips and associated air pollution through Community-level development patterns. The project would include a mix of land uses surrounding a Town Center, and would include a school Site. PDF-1 through PDF-20 would reduce vehicle miles traveled (VMT) associated with the project through implementation of a TDM Program.
COS-14.2 Villages and Rural Villages. Incorporate a mixture of uses within Villages and Rural Villages that encourage people to walk, bicycle, or use public transit to reduce air pollution and GHG emissions.	Consistent. The proposed project incorporates a mixture of uses within its Village designated area (the Town Center Neighborhood), including 81,000 square feet of commercial/retail uses, a school site, 95 multi-family housing units, and three public parks. The Town Center is immediately adjacent and within walking distance of the project's Terraces Neighborhood which is planned with an additional 446 multi-family housing units. More broadly, the project is a multi-use project with a variety of housing types and choices to accommodate a wide range of household types planned around pocket, neighborhood, and community parks. Additionally, the project proposes a TDM Program (PDF-1 through PDF-20) that would include the following: a network of pedestrian pathways and multi-use trails connecting the project's various neighborhoods to each other, its parks and open space, the school site, and the commercial/retail area as well as to off-site pathways and bicycle routes with connections into Twin Oaks and San Marcos; a Community sponsored electric bike-share program linking the neighborhoods to one another; a system of streets designed to support bicycles and walking; support for car-share and ride-share services; and shuttle services within and around the project and to the Escondido Transit Center, a north county public transit hub. As a multi-use project with a TDM Program offering viable alternatives to driving, the project would provide residents the opportunity to access the Town Center as well as employment, education, recreation, and commercial uses via walking, bicycling, and/or transit.

Table 25
County of San Diego General Plan – Project Consistency Analysis

Goal	Consistency Analysis
COS-14.3 Require design of residential subdivisions and nonresidential development through "green" and sustainable land development practices to conserve energy, water, open space, and natural resources.	Consistent. The project would include solar installation on all single-family and multi-family residential units, and on all common areas and Community facilities (e.g., pool areas, recreation centers), which would offset 100% of the project's electricity demand associated with these uses. The project would also include the installation of EV charging equipment in the garages of all single-family residential units, the installation of charging stations in 3% of the Town Center area, and would encourage installation of charging stations in 3% of the park-and-ride parking spaces. Should installation of EV charging stations at the park-and-ride facilities be deemed acceptable by the land owner, the applicant would fully fund these improvements. Additionally, the project would include a denser Town Center and a diverse mix of land uses, would be consistent with the most recent Title 24 standards, would offer drought- tolerant landscaping, and would offer other design features designed to conserve energy, water, open space, and natural resources.
COS-14.4 Sustainable Technology and Projects. Require technologies and projects that contribute to the conservation of resources in a sustainable manner, that are compatible with community character, and that increase the self-sufficiency of individual communities, residents, and businesses.	Consistent. The proposed project would require technologies that contribute to the conservation of resources in a sustainable manner, which are compatible with Community character, and which increase the self-sufficiency of individual communities, residents, and businesses. Examples include solar-powered lighting for all communal areas and solar on the project's residential units; high-efficiency low water use irrigation systems with weather-based "smart" irrigation controllers; roadside swales, bioretention basins, and other Low Impact Development design features designed to capture, treat, and infiltrate stormwater runoff; Community gardens and grape vineyards within and adjacent to individual neighborhoods to facilitate sustainable Community-scale agricultural practices; a Community-based electric bike-share program and shuttle services to major transit centers for the project's residents to use as an alternative to driving, and other multi-modal/transit based project design features. Additionally, the project would meet the most recent Title 24 energy-efficiency standards, feature drought-tolerant landscaping, and require the pre-plumbing of greywater systems in all single-family residential homes.
COS-14.7 Alternative Energy Sources for Development Projects. Encourage development projects that use energy recovery, photovoltaic, and wind energy.	Consistent. Photovoltaic panels would be used on residences, Community facilities, and street lighting to offset 100% of the estimated electricity demand. The project would also include the installation of EV charging equipment in the garages of all single-family residential units, the installation of charging stations in 3% of the Town Center area, and would encourage installation of charging stations in 3% of the park-and-ride parking spaces. Should installation of EV charging stations at the park-and-ride facilities be deemed acceptable by the land owner, the applicant would fully fund these improvements.

Table 25
County of San Diego General Plan – Project Consistency Analysis

Goal	Consistency Analysis
COS-14.9 Significant Producers of Air Pollutants. Require projects that generate potentially significant levels of air pollutants and/or GHGs such as quarries, landfill operations, or large land development projects to incorporate renewable energy, and the best available control technologies and practices into the project design.	Consistent. Photovoltaic panels would be used on single-family and multi-family residences, Community facilities, and street lighting to offset 100% of the estimated electricity demand. The project would also implement other best available control technologies and practices to minimize air pollutants and/or GHGs (see Table 15). The project would also include the installation of EV charging equipment in the garages of all single-family residential units, the installation of charging stations in 3% of the Town Center area, and would encourage installation of charging stations in 3% the park-and-ride parking spaces. Should installation of EV charging stations at the park-and-ride facilities be deemed acceptable by the land owner, the applicant would fully fund these improvements.
COS-14.10 Low Emission Construction Vehicles and Equipment. Require County contractors and encourage other developers to use low emission construction vehicles and equipment to improve air quality and reduce GHG emissions.	Consistent. Site grading was designed to be balanced within the boundaries of the project Site and the improvements to Deer Springs Road and Sarver Lane immediately off-site, which would reduce off-site truck trips during construction of the proposed project. Additionally, Tier 4 construction equipment would be employed during construction activities when feasible and commercially available at the regional level.
COS-15.1 Design and Construction of New Buildings. Require that new buildings be designed and constructed in accordance with green building programs that incorporate techniques and materials that maximize energy efficiency, incorporate the use of sustainable resources and recycled materials, and reduce emissions of GHGs and toxic air contaminants.	Consistent. All new construction, including residential and non-residential (e.g., commercial) would comply with the latest applicable edition of Title 24 at building permit application. Title 24 constitutes the California Building Standards Code, which contains the California Green Building Standards Code (CalGreen), the California Energy Code, the California Plumbing Code, and other code sections applicable to all new construction. CalGreen contains mandatory measures that address Site development, material resource conservation, energy and water conservation, and indoor environmental quality. The California Energy Code contains mandatory measures that govern the energy efficiency of windows, doors, exterior walls, attics, and roofs; the performance of heating and air conditioning systems, and lighting systems. The California Building Standards Code has a regular code cycle with a long history of increasing energy and water efficiency requirements applying with subsequent code cycles. In this way, construction permitted under subsequent code cycles must meet the latest, most stringent code requirements. Future editions of the California Energy Code and/or the California Green Building Code are expected to include requirements for renewable energy such as solar. The project would also include the installation of EV charging equipment in the garages of all single-family residential units, the installation of charging stations in 3% of the Town Center area, and would encourage installation of charging stations in 3% of the park-and-ride parking spaces. Should installation of EV charging stations at the park-and-ride facilities be deemed acceptable by the land owner, the applicant would fully fund these improvements.

Table 25
County of San Diego General Plan – Project Consistency Analysis

Goal	Consistency Analysis
COS-15.4 Title 24 Energy Standards. Require development to minimize energy impacts from new buildings in accordance with or exceeding Title 24 energy standards.	Consistent. The project would be built in accordance with the most recent Title 24 energy standards, insuring maximum energy efficiency. Further, the project would exceed the existing Title 24 energy standards by installing photovoltaic panels on residences, Community facilities (e.g., pool areas, recreation centers), and street lighting to offset 100% of the estimated electricity demand.
COS-15.6 Design and Construction Methods. Require development design and construction methods to minimize impacts to air quality.	Consistent. The project would be built in accordance with the most recent Title 24 energy standards, which would encourage the use of low- and zero-emissions equipment to minimize impacts to air quality and reduce GHG emissions (e.g., solar panels, solar-powered lighting). Additionally, Site grading would be balanced, which would reduce off-site truck trips during construction of the proposed project. To reduce CO and NO_x emissions from construction activities, M-AQ-2 would be implemented. M-AQ-3 and M-AQ-4 would be implemented to reduce fugitive dust emissions.
COS-16.1 Alternative Transportation Modes. Work with SANDAG and local transportation agencies to expand opportunities for transit use. Support the development of alternative transportation modes, as provided by Mobility Element policies.	Consistent. The project would encourage alternative modes of transportation through the inclusion of a shuttle service, bike lanes, a trail system consisting of roadside pathways within the linear greenbelts and multi-use trails, and an electric bike-share program. These features would help reduce air pollution and GHG emissions. PDF- 1 through PDF-20 would reduce VMT associated with the project through implementation of a TDM Program.
COS-16.2 Single-Occupancy Vehicles. Support transportation management programs that reduce the use of single-occupancy vehicles.	Consistent. The project would encourage alternative modes of transportation through the inclusion of bike lanes, a trail system consisting of roadside pathways within the linear greenbelts and multi-use trails, and an electric bike-share program. Also, park-and-ride facilities may be expanded in the area for enhanced ride sharing and public transit expansion opportunities. These project features would help reduce the use of single-occupancy vehicles. PDF--1 through PDF-20 would reduce VMT associated with the project through implementation of a TDM Program.
COS-16.3 Low-Emissions Vehicles and Equipment. Require County operations and encourage private development to provide incentives (such as priority parking) for the use of low- and zero-emission vehicles and equipment to improve air quality and reduce GHG emissions. [Refer also to Policy M- 9.3 (Preferred Parking) in the Mobility Element.]	Consistent. The project would comply with CalGreen which requires preferential parking that would be provided for electric-powered vehicles, compressed natural gas vehicles, and carpool/vanpool rideshare programs. The project would also include an electric bike-share program and the project applicant will continue to coordinate with Caltrans, SANDAG, and NCTD on a potential future expanded or improved park-and-ride facilities that could include electric vehicle charging stations and priority parking for low and zero-emission vehicles, among other transportation related features that would reduce air quality impacts and GHG emissions. The project would also include the installation of EV charging equipment in the garages of all single-family residential units, the installation of charging stations in 3% of the Town Center area, and would encourage installation of charging stations in 3% of the park-and-ride parking spaces. Should installation of EV charging stations at the park-and-ride facilities be deemed acceptable by the land owner, the applicant would fully fund these improvements.

Table 25
County of San Diego General Plan – Project Consistency Analysis

Goal	Consistency Analysis
COS-16.5 Transit-Center Development. Encourage compact development patterns along major transit routes.	Consistent. The project's proposed Town Center and Terraces neighborhoods provide mixed-uses including commercial/retail uses, a school site, parks, and multi-family residential planned in an environmentally sensitive development pattern and immediately adjacent to the Deer Springs Road/I-15 Interchange with I-15 serving as a major transportation corridor and a planned transit route. In furtherance of this policy, the project also proposes shuttle services between and among its seven neighborhoods and to major North County transit centers.
COS-17.1 Reduction of Solid Waste Materials. Reduce GHG emissions and future landfill capacity needs through reduction, reuse, or recycling of all types of solid waste that is generated. Divert solid waste from landfills in compliance with state law.	Consistent. The project would comply with the County's reduction, re-use, and recycling requirements contained in their Recycling and Construction and Demolition Debris (C&D Debris) Recycling Ordinances. These ordinances were adopted by the County in order to comply with state legislation pertaining to solid waste reduction and diversion from landfills. AB 341 requires a diversion of 75% of solid waste by 2020, and the project would comply with all requirements of state law.
COS-17.6 Recycling Containers. Require that all new land development projects include space for recycling containers.	Consistent. The project would include space for recycling containers in mixed-use, commercial, and public use areas, which facilitates the recycling of cans, bottles, paper, plastic, and similar materials in accordance with the County's recycling ordinance and the Community's waste management strategy..
COS-19.1 Sustainable Development Practices. Require land development, building design, landscaping, and operational practices that minimize water consumption.	Consistent. The project would have drought-tolerant landscaping, may offer grey water systems in residential homes, and would not allow front lawns/turf. Through these project design features, the project would minimize water consumption.

Source: County of San Diego 2011

As shown in Table 25, the proposed project would be consistent with applicable goals and policies of the County's General Plan. Impacts would be **less than significant**.

7.1.3 Consistency with SB 32 and S-3-05

As discussed above:

- **EO S-3-05** establishes the following goals: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050.
- **SB 32** establishes a statewide reduction target to reduce statewide GHG emissions to at least 40% below 1990 levels by 2030.

This section evaluates whether the GHG emissions trajectory after project completion would impede the attainment of the 2030 and 2050 GHG reduction goals identified in EOs B-30-15 and S-3-05.

To begin, CARB has addressed the progress with regard to both the 2030 and 2050 goals. It states in the First Update to the Scoping Plan that "California is on track to meet the near-term

2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014b, p. ES2). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, the First Update states the following:

> This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80% below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions. (CARB 2014b, p.34)

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, EO B-30-15, and EO S-3-05. This is confirmed in the *Second Update* which states:

> The Proposed Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while also identifying new, technologically feasibility and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Proposed Plan is developed to be consistent with requirements set forth in AB 32, SB 32, and AB 197. (CARB 2017, p. 7)

The project's estimated GHG emissions prior to implementation of project-specific GHG reduction features in the buildout year would be 52,986 MT CO_2E per year. Following implementation of the project-specific GHG reduction features, the project's estimated GHG emissions in the buildout year would be 43,498 MT CO_2E per year. Therefore, the project (without mitigation) would generate GHG emissions which may interfere with the implementation of GHG reduction goals for 2030 or 2050 and therefore would potentially conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions (**Impact GHG-2**).

With implementation of mitigation measures **M-GHG-1** through **M-GHG-3**, the project achieves carbon neutrality (i.e., a net zero emissions level) thereby resulting in *no* net increase in GHG emissions relative to existing environmental conditions. Accordingly, the project would not interfere with implementation of any of the above-described GHG reduction goals for 2030 or 2050 because. Further, the project emissions estimates presented in Table 2.7-8 through Table

2.7-14 are a conservative representation of project emissions due to the reasonably foreseeable and anticipated technological and regulatory advancements that will continue to advance the state's GHG policies. Therefore, the project would not conflict with any local or state plans, policies, or regulations adopted for the purpose of reducing GHG emissions and impacts would be **less than significant**.

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9 LIST OF PREPARERS

David Deckman – Senior Air Quality Analyst
Jennifer Sucha – Environmental Planner
Jennifer Reed – Air Quality Services Manager
David Mueller – Publications Specialist
Amy Steele – Publications Specialist

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APPENDIX A

Service Population Threshold

DUDEK

MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 T 800.450.1818 F 760.632.0164

EFFICIENCY METRIC CALCULATION

1 INTRODUCTION

This memorandum describes the methodology used to calculate the efficiency metric of 2.9 metric tons of carbon dioxide equivalents (CO_2E) per service population per year (MT/sp/yr) that is utilized in DUDEK's *Greenhouse Gas Emissions Technical Report* to determine the significance of the Sierra Project's greenhouse gas (GHG) emissions in its buildout year (2028) for purposes of the California Environmental Quality Act (CEQA). This memorandum also provides information regarding the project-specific service population estimate for the Sierra Project.

As background, an efficiency metric is a numeric value designed to evaluate whether a project deploys sufficient emissions reducing strategies to meet the State of California's goals based on its overall GHG emissions level and service population (which is defined to include residents plus workers). The metric specifically applies to land use development projects and recognizes that the State's goals can be achieved, while accommodating population and economic growth, if the necessary efficiency level is achieved. The utilization of efficiency metrics in the CEQA context has been recognized by the California Air Pollution Control Officers Association, the Bay Area Air Quality Management District, South Coast Air Quality Management District and San Luis Obispo Air Pollution Control District, and other agencies and well-respected environmental consultants with expertise in the analysis of GHG emissions. Additionally, in *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204, 209, the California Supreme Court recognized that "a significance criterion framed in terms of efficiency is superior to a simple numerical threshold because CEQA is not intended as a population control measure."

2 CALCULATION METHODOLOGY

An efficiency metric is calculated by dividing the allowable GHG emissions inventory in a selected calendar year by the service population, which then leads to the identification of a quantity of emissions that can be permitted on a per service population basis without significantly impacting the environment.

The significance of the proposed Project's GHG emissions is evaluated relative to the emissions level in its buildout year (2028). To develop the 2028 efficiency metric, land-use driven emissions sectors in the California Air Resources Board's (CARB) 1990 GHG inventory data were identified, allowing sources and emissions not attributable to land use-driven projects to be removed. (This tailoring approach ensures that the efficiency metric accounts for the emissions reduction burden that CARB assumed would be carried by land use-driven sectors.) The emissions from the land-use driven sectors were next divided by the service population projections for California.

As illustrated below, the efficiency metric is first calculated for 2020, so as to establish the benchmark for compliance with Assembly Bill 32's 2020 reduction target (a return to 1990 levels). The benchmark is then interpolated to the project's buildout year, using the 5.2% rate of average annual decline identified by CARB as necessary to achievement of Senate Bill (SB) 32's 2030 reduction target (40 percent below 1990 levels) and Executive Order (EO) S-3-05's 2050 reduction target (80 percent below 1990 levels). If the project achieves the 2028 efficiency metric, the project would not interfere with the State's ability to achieve the mid-term and long-term GHG reduction targets per SB 32 and EO S-3-05.

2020 Efficiency Metric

For purposes of delineating the efficiency metric target used to evaluate the Project's significance, this analysis is based on information from CARB that the statewide GHG emissions level would need to be reduced at an annual average rate of 5.2% between 2020 and 2050 in order to meet SB 32's 2030 reduction target and EO S-3-05's 2050 reduction target (CARB 2015a).

- 2020 Statewide Population Projection[1] = 40,619,346
- 2020 Statewide Employment Projection[2] = 18,537,270
- 2020 Statewide Service Population = 40,619,346 + 18,537,270 = 59,156,616
- 2020 Statewide Emissions from Land Use-Driven Sectors = 286.7 MMT CO_2E[3]
- Land Use Emissions / SP = 286.7 MMT CO2E / 59,156,616 SP = 4.8 MT/SP/yr

2028 Efficiency Metric

The calculation of the 2028 efficiency metric target that the project must meet in order to demonstrate that its GHG emissions are below the level of significance is illustrated below:

- 2028 Statewide Population Projection[5] = 43,424,440

1 Source: California Department of Finance, Demographic Research Unit, Report P-2, State and County Population Projections by Race/Ethnicity and Age (5-year groups) 2010 through 2060 (as of July 1), December 15, 2014.
2 Source: California Department of Finance, Employment Development Department, California Industry Employment Projections, Labor Market Information Division. August 2016.
3 CARB 2007. CARB 1990 GHG Inventory. Updated November 19, 2007.; CARB. 2015. 2030 Target Scoping Plan Public Workshop Slides. October 15, 2015. See Appendix A for details regarding calculation of 2021 emissions.
5 Source: California Department of Finance, Demographic Research Unit, Report P-2, State and County Population Projections by Race/Ethnicity and Age (5-year groups) 2010 through 2060 (as of July 1), December 15, 2014.

- 2028 Statewide Employment Projection[6] = 20,754,700
- 2028 Statewide Service Population = 43,424,440 + 20,754,700 = 64,179,140
- 2028 Statewide Emissions from Land Use-Driven Sectors = 187.02 MMT CO_2E[7]
- Land Use Emissions / SP = 187.02 MMT CO2E / 64,179,140 SP = ***2.9 MT/SP/yr***

Again, this 2028 efficiency metric reflects the downward trajectory required to meet the state's goals under AB 32 (2020 target), SB 32 (2030 target) and EO S-3-05 (2050 target), assuming a downward reduction of 5.2% per year from the 2020 target (1990 emission levels). If the project achieves the 2028 efficiency metric, the project would not interfere with the state's ability to achieve the mid-term and long-term GHG reduction targets per SB 32 and EO S-3-05.

3 PROJECT-SPECIFIC SERVICE POPULATION ESTIMATE

As described previously, "service population" refers to the number of residents plus employees generated by a project.

For purposes of the Sierra Project, the San Diego Association of Governments (SANDAG) provides population and housing estimates for the region. SANDAG's current 2050 Regional Growth Forecast, adopted in October 2013, is the current growth forecast.

For the North County Metropolitan Subregional planning area (where all proposed residential units would be located), the average household size is forecasted to be 2.84 persons per household in 2020, which is the most representative year available. Therefore, under the project's proposed land use designations and Specific Plan, the project would include approximately **6,063 residents** (2,135 total units × 2.84 persons per unit).

The project's employment population also was calculated using the SANDAG Series 13 model (SANDAG 2016):

- School = 33,000 square feet
  - 650 square feet per employee per SANDAG Series 13 for the Elementary School land use
  - 33,000 square feet ÷ 650 square feet = **51 school employees**

6 Source: California Department of Finance, Employment Development Department, California Industry Employment Projections, Labor Market Information Division. August 2016.
7 CARB 2007. CARB 1990 GHG Inventory. Updated November 19, 2007; CARB. 2015. 2030 Target Scoping Plan Public Workshop Slides. October 15, 2015. See Appendix A for details regarding calculation of 2028 emissions.

- Commercial space = 81,000 square feet
  - 500 square feet per employee per SANDAG Series 13 for Neighborhood Shopping Center land use
  - 81,000 square feet ÷ 500 square feet = **162 commercial employees**
- Parks and Recreational Uses = 24.11 acres (1,050,232 square feet)
  - 13,750 square feet per employee per SANDAG Series 13 for Residential Recreation land use
  - 1,050,232 square feet ÷ 13,750 square feet = **76 recreation/landscaping employees**

Total project service population = 6,063 + 51 + 162 + 76 = **6,352 sp**

REFERENCES

Ascent Environmental. 2016. Greenhouse Gas Analysis after the Supreme Court's Newhall Ranch Decision, Practitioners' Recommendations.

BAAQMD. 2010. California Environmental Quality Act Guidelines Update, Proposed Thresholds of Significance.

Cal. DOF, Demographic Research Unit. 2014. Report P-2, State and County Population Projections by Race/Ethnicity and Age (5-year groups) 2010 through 2060.

Cal. DOF, Employment Development Department. 2016. Industry Employment Projections, Labor Market Information Division, 2012–2022.

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CARB. 2015. 2030 Target Scoping Plan Workshop, Presentation Slide 10 – Path to 2050 Greenhouse Gas Target.

CAPCOA. 2008. CEQA & Climate Change.

SANDAG. 2013. Series 13: 2050 Regional Growth Forecast. Accepted by the SANDAG Board of Directors on October 15, 2013. http://www.sandag.org/index.asp?classid=12&subclassid=84&projectid=503&fuseaction=projects.detail.

SCAQMD. 2010. Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group Meeting #15, Presentation.

SLOAPCD. 2012. Greenhouse Gas Thresholds and Supporting Evidence.

APPENDIX A

2020 and 2028 Efficiency Metric Calculations

GHG Efficiency Metric Threshold Calculation:

Emissions 5.2% reduction per year:

Year	*MMT*				
2020	285.63 (CARB 2007)				
2021	270.78				
2022	256.70				
2023	243.35				
2024	230.69		**2028 Population**	43,424,440	(DOF 2014)
2025	218.70		**2028 Employment**	20,754,700	(DOF 2016)
2026	207.33				
2027	196.55		**2028 Service Population =**	**64,179,140.00**	
2028	**186.32**		**2028 Efficiency Metric =**	**2.9**	**MT/sp/yr**

Sources:

1. CARB (California Air Resources Board). 2007. California's Greenhouse Gas Inventory by Sector & Activity. Updated 11/19/2007.
2. DOF (California Department of Finance). 2014. Demographic Research Unit. Report P-2. State and County Population Projections by Race/Ethnicity and Age (5-year groups). 2010 through 2060
3. DOF. 2016. California Department of Finance, Employment Development Department, Industry Employment Projections, Labor Market Information Division, 2014-2024, August 2016

CARB 1990 GHG Inventory by Sector
11/19/2007

Sector	Emissions (MMT CO2E)
Agriculture and Forestry	
Ag Energy Use	*4.50*
Ag Residue Burning	*0.12*
Ag Soil Management	*6.54*
Enteric Fermentation	*6.67*
Forest and Range Management	*0.19*
Histosol Cultivation	*0.18*
Manure Management	*5.00*
Net Carbon Stock Change	*-6.69*
Rice Cultivation	*0.41*
Commercial	
CHP Commerical	*0.40*
Communication	*0.07*
Domestic Utilities	*0.34*
Education	*1.42*
Food Service	*1.89*
Health Care	*1.32*
Hotels	*0.67*
National Security	*0.56*
Offices	*1.46*
Retail and Wholesale	*0.68*
Transportation Services	*0.03*
Not Specified	*5.58*
Electricity Generation (Imports)	
Specified Imports	*29.61*
Unspecified Imports	*30.96*
Transmission and Distribution	*1.02*
Electricity Generation (In State)	
CHP: Commercial	*0.70*
CHP: Industrial	*17.36*
Merchant Owned	*2.33*
Utility Owned	*29.92*
Transmission and Distribution	*1.56*
Industrial	
CHP: Industrial	*11.66*
Flaring	*0.15*
Landfills	*8.02*

Manufacturing	***31.99***
Mining	***0.03***
Oil & Gas Extraction	***14.65***
Petroleum Marketing	***0.02***
Petroleum Refining	***32.82***
Pipelines	***1.63***
Wastewater Treatment	***3.17***
Not Specified	***8.76***

Residential	
Household Use*	***29.66***

Transportation	
Aviation (Intrastate)	***5.13***
On-Road	***137.99***
Freight	0.02
Heavy-Duty Vehicles	29.03
Light-Duty Trucks	44.75
Motorcycles	0.43
Passenger Vehicles (buses, other)	0.02
Passenger Cars	63.75
Rail	***2.33***
Water-Borne	***27.27***
Not Specified	***3.01***

Total (All Sectors)	463.09
Total (Minus Excluded Sector Emissions)	**285.63**

Legend
Included Sectors
Excluded Sectors

* Excludes biogenic materials

CARB (California Air Resources Board). 2007.
California's Greenhouse Gas Inventory by Sector & Activity. Updated 11/19/2007.

APPENDIX B

Calculation Construction Schedule and Information

Newland Sierra Project

Phase 1 (I-15, Sarver Lane, Deer Springs Rd, N. Water Tank, S. Water Tank, Hillside/Mesa/Lower Knolls/East&West Valley/Terraces/Town Center)

Workdays per week 6

	Weeks	Start Date	End Date
Phase 1 - Total Construction Duration/Schedule	359.7	1/10/2018	12/2/2024

Note: Assumes 2 one-way trips per each worker, haul truck, and vendor truck

Phase	Weeks Per Activity	Start Date	End Date	# of Workers per day	Total Haul Trucks	Vendor Trucks per day	Equipment Type	No. of Equip Units
Site Preparation*	5.0	1/10/2018	2/14/2018	24	360	8	Crawler Tractors	4
							Loaders	2
							Grinder	1
Grading	148.1	1/29/2018	12/1/2020	150	290,071	36	Crawler Tractors	11
Phase 1 Grading Acres =	565						Excavators	5
Phase 1 Soil Hauling =	2,320,570	cubic yards of on-site soil movement					Graders	4
Average on-site haul distance =	0.4	mile (one-way)					Tractors/Loaders/Backhoes	2
Haul truck capacity =	16	cubic yards					Drill Rigs	15
							Water Trucks	14
							Off Hwy. Trucks	2
							Scrapers	5
Building Construction	246.0	3/16/2020	12/2/2024	800	0	40	Cranes	8
							Forklifts	8
							Generator Sets	8
							Tractors/Loaders/Backhoes	4
Trenching (for utilities)	131.1	10/28/2018	5/3/2021	78	0	32	Excavators	2
							Tractors/Loaders/Backhoes	8
							Water Truck	8
Architectural Coating (painting and finishing)	228.9	7/14/2020	12/2/2024	160	0	8	Air Compressors	20
Paving	140.0	7/17/2019	3/23/2022	36	0	20	Pavers	1
							Paving Eqpmnt. (Oiler, Sweeper)	2
							Loader	2
							Water Trucks	4
							Rollers	3
							Scrapers	2
Brush Management/Landscaping	108.9	5/1/2019	6/1/2021	192	0	28	Loader	8
							Dumpruck	4
							Water Truck	8
							Trencher	4
Reservoirs (2 Steel Tanks)	26.9	12/27/2018	7/3/2019	44	0	4	Excavators	1
							Tractors/Loaders/Backhoes	4
							Generator Sets	3
							Aerial Lifts	4

Source: Fuscoe, August 2016

* Site prep hauling activity would include distribution of mulched vegetation, grubbed material, and biological fencing supplies to staging locations within the work area.

Newland Sierra Project

Phase 2 (Camino Mayor, Summit/Upper Knolls)

Workdays per week 6

	Weeks	Start Date	End Date
Phase 2 - Total Construction Duration/Schedule	362.1	12/21/2020	11/30/2027

Note: Assumes 2 one-way trips per each worker, haul truck, and vendor truck

Phase	Weeks Per Activity	Start Date	End Date	# of Workers per day	Total Haul Trucks	Vendor Trucks per day	Equipment Type	No. of Equip Units
Site Preparation*	4.0	12/21/2020	1/18/2021	36	288	8	Crawler Tractors	3
							Loaders	2
							Grinder	1
Grading	95.6	1/18/2021	11/18/2022	96	12,893	28	Crawler Tractors	7
							Excavators	2
Phase 1 Grading Acres = 11.2							Graders	2
Phase 2 Soil Hauling = 103,140 cubic yards of on-site soil movement							Tractors/Loaders/Backhoes	2
Average on-site haul distance = 0.8 mile (one-way)							Drill Rigs	6
Haul truck capacity = 16 cubic yards							Water Trucks	10
							Off Hwy. Trucks	2
							Scrapers	5
Building Construction	147.1	2/3/2025	11/30/2027	400	0	32	Cranes	4
							Forklifts	8
							Generator Sets	20
							Tractors/Loaders/Backhoes	4
Trenching (for utilities)	116.0	1/3/2022	3/25/2024	44	0	24	Excavators	4
							Tractors/Loaders/Backhoes	4
							Water Truck	8
Architectural Coating (painting and finishing)	121.6	8/1/2025	11/30/2027	80	0	8	Air Compressors	10
Paving	143.4	8/1/2022	5/1/2025	24	0	16	Pavers	1
							Paving Eqpmnt. (Oiler, Sweeper)	2
							Loader	2
							Water Trucks	4
							Rollers	3
							Scrapers	2
Brush Management/Landscaping	82.3	11/1/2021	5/31/2023	96	0	16	Loader	4
							Dumpruck	2
							Water Truck	4
							Trencher	2

Source: Fuscoe, August 2016

* Site prep hauling activity would include distribution of mulched vegetation, grubbed material, and biological fencing supplies to staging locations within the work area.

APPENDIX C

CalEEMod Output Files

Newland Sierra - Construction

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	875	Dwelling Unit	99.52	1,560,600.00	2480
Condo/Townhouse	935	Dwelling Unit	158.18	943,000.00	2697
Retirement Community	325.00	Dwelling Unit	58.20	325,000.00	930
City Park	35.9	Acre	34.60	1,507,176.00	0
Other Asphalt Surfaces	97.60	Acre	97.60	4,251,456.00	0
Strip Mall	81.00	1000sqft	10.20	81,000.00	0
Elementary School	33.00	1000sqft	6.00	33,000.00	0

1.2 Other Project Characteristics

Urbanization Rural **Wind Speed (m/s)** 2.6 **Precipitation Freq (Days)** 40

Climate Zone 13 **Operational Year** 2028

Utility Company San Diego Gas & Electric

CO2 Intensity (lb/MWhr) 720.49 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Land uses per EIR PD

Construction Phase - construction schedule per Fuscoe 2016

Off-road Equipment - Fuscoe 2016

Grading - Fuscoe 2016

Trips and VMT - Fuscoe 2016

On-road Fugitive Dust - All haul trucks assumed to be on unpaved roads

Architectural Coating - SDAPCD Rule 67.0.1

Construction Off-road Equipment Mitigation - Tier 4 final engines

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tblTripsAndVMT	VendorTripNumber	0.00	36.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	28.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	32.00
tblTripsAndVMT	VendorTripNumber	0.00	24.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripLength	16.80	20.00
tblTripsAndVMT	WorkerTripNumber	20.00	24.00
tblTripsAndVMT	WorkerTripNumber	737.00	80.00
tblTripsAndVMT	WorkerTripNumber	737.00	160.00

tblTripsAndVMT	WorkerTripNumber	3,683.00	400.00
tblTripsAndVMT	WorkerTripNumber	3,683.00	800.00
tblTripsAndVMT	WorkerTripNumber	65.00	96.00
tblTripsAndVMT	WorkerTripNumber	110.00	150.00
tblTripsAndVMT	WorkerTripNumber	25.00	24.00
tblTripsAndVMT	WorkerTripNumber	25.00	36.00
tblTripsAndVMT	WorkerTripNumber	15.00	96.00
tblTripsAndVMT	WorkerTripNumber	30.00	192.00
tblTripsAndVMT	WorkerTripNumber	30.00	44.00
tblTripsAndVMT	WorkerTripNumber	15.00	36.00
tblTripsAndVMT	WorkerTripNumber	25.00	78.00
tblTripsAndVMT	WorkerTripNumber	20.00	44.00

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					
2018	3.8147	50.7135	24.2030	0.0712	77.6364	1.6771	79.3135	7.9688	1.5441	9.5129	0.0000	6,552.0454	6,552.0454	1.7847	0.0000	6,596.6632
2019	5.2773	63.5760	37.7941	0.1031	77.6868	2.3361	80.0230	7.9694	2.1550	10.1244	0.0000	9,384.1964	9,384.1964	2.3731	0.0000	9,443.5245
2020	8.5461	74.7594	53.7535	0.1436	79.7652	2.9607	82.7259	8.4988	2.7541	11.2529	0.0000	12,864.4931	12,864.4931	2.7414	0.0000	12,933.0271
2021	8.7412	53.9582	46.2664	0.1185	10.0770	2.2892	12.3662	1.5370	2.1470	3.6840	0.0000	10,567.7577	10,567.7577	1.9828	0.0000	10,617.3268
2022	7.9926	44.7996	43.8748	0.1146	9.9096	1.8718	11.7814	1.5187	1.7576	3.2764	0.0000	10,225.3780	10,225.3780	1.8899	0.0000	10,272.6256
2023	6.0661	24.1073	31.1363	0.0749	2.7398	1.0687	3.8085	0.7339	1.0138	1.7478	0.0000	6,692.0386	6,692.0386	0.9289	0.0000	6,715.2616

2024	5.2196	18.8264	25.0035	0.0611	2.3259	0.7958	3.1217	0.6222	0.7566	1.3787	0.0000	5,451.9438	5,451.9438	0.7237	0.0000	5,470.0356
2025	3.8072	12.8774	18.6555	0.0411	1.0496	0.5103	1.5599	0.2813	0.4940	0.7752	0.0000	3,631.0012	3,631.0012	0.3650	0.0000	3,640.1264
2026	6.9529	13.7056	20.3915	0.0446	1.2285	0.5454	1.7739	0.3289	0.5322	0.8611	0.0000	3,928.5452	3,928.5452	0.3188	0.0000	3,936.5154
2027	6.3401	12.4981	18.5153	0.0404	1.1225	0.4980	1.6205	0.3006	0.4859	0.7865	0.0000	3,563.8639	3,563.8639	0.2903	0.0000	3,571.1216
Maximum	**8.7412**	**74.7594**	**53.7535**	**0.1436**	**79.7652**	**2.9607**	**82.7259**	**8.4988**	**2.7541**	**11.2529**	**0.0000**	**12,864.4931**	**12,864.4931**	**2.7414**	**0.0000**	**12,933.0271**

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					
2018	1.0622	9.8206	30.5646	0.0712	47.4865	0.1204	47.6069	4.8690	0.1192	4.9882	0.0000	6,552.0391	6,552.04	1.7847	0.0000	6,596.6569
2019	1.6443	13.5694	45.9854	0.1031	47.9271	0.1745	48.1016	4.9868	0.1723	5.1591	0.0000	9,384.1881	9,384.19	2.3731	0.0000	9,443.5161
2020	3.8533	15.3678	62.8170	0.1436	49.9433	0.2111	50.1544	5.5100	0.2080	5.7180	0.0000	12,864.4830	12,864.48	2.7414	0.0000	12,933.0169
2021	4.9036	8.5659	52.3482	0.1185	7.3908	0.1539	7.5446	1.2683	0.1519	1.4203	0.0000	10,567.7494	10,567.75	1.9828	0.0000	10,617.3185
2022	4.7823	8.1353	50.8648	0.1146	7.2856	0.1473	7.4329	1.2563	0.1454	1.4018	0.0000	10,225.37	10,225.3700	1.8899	0.0000	10,272.6177
2023	4.1792	4.5351	33.8264	0.0749	2.7398	0.0858	2.8256	0.7339	0.0844	0.8183	0.0000	6,692.0341	6,692.03	0.9289	0.0000	6,715.2571
2024	3.7238	3.4844	27.3156	0.0611	2.3259	0.0709	2.3968	0.6222	0.0697	0.6919	0.0000	5,451.9400	5,451.94	0.7237	0.0000	5,470.0318
2025	2.8049	2.2619	20.5973	0.0411	1.0496	0.0497	1.0993	0.2813	0.0492	0.3305	0.0000	3,630.9981	3,631.00	0.365	0.0000	3,640.1233
2026	5.8347	2.3781	22.2391	0.0446	1.2285	0.0528	1.2813	0.3289	0.0522	0.3811	0.0000	3,928.5420	3,928.54	0.3188	0.0000	3,936.5121
2027	5.3184	2.1478	20.2036	0.0404	1.1225	0.0479	1.1704	0.3006	0.0474	0.3479	0.0000	3,563.8609	3,563.86	0.2903	0.0000	3,571.1186
Maximum	**5.8347**	**15.3678**	**62.8170**	**0.1436**	**49.9433**	**0.2111**	**50.1544**	**5.5100**	**0.2080**	**5.7180**	**0.0000**	**12,864.4830**	**12,864.4830**	**2.7414**	**0.0000**	**12,933.0169**

	ROG	NOx	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	39.28	81.00	-14.76	0.00	36.06	92.34	39.01	32.27	91.94	51.02	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-10-2018	4-9-2018	11.9378	2.2798
2	4-10-2018	7-9-2018	14.1667	2.8248
3	7-10-2018	10-9-2018	14.3192	2.8528
4	10-10-2018	1-9-2019	15.4056	3.1868
5	1-10-2019	4-9-2019	14.1714	3.1145
6	4-10-2019	7-9-2019	14.3477	3.1680
7	7-10-2019	10-9-2019	16.4866	3.5371
8	10-10-2019	1-9-2020	16.5170	3.5346
9	1-10-2020	4-9-2020	16.4982	3.6178
10	4-10-2020	7-9-2020	19.7584	4.3005
11	7-10-2020	10-9-2020	22.2150	5.2540
12	10-10-2020	1-9-2021	17.3915	4.2461
13	1-10-2021	4-9-2021	15.2082	3.3555
14	4-10-2021	7-9-2021	14.9747	3.1363
15	7-10-2021	10-9-2021	14.8556	3.0857
16	10-10-2021	1-9-2022	14.7946	3.1588
17	1-10-2022	4-9-2022	13.2478	3.1909
18	4-10-2022	7-9-2022	12.0985	2.9214
19	7-10-2022	10-9-2022	13.3869	3.1687
20	10-10-2022	1-9-2023	10.5043	2.7443
21	1-10-2023	4-9-2023	7.2165	2.1131
22	4-10-2023	7-9-2023	7.2464	2.0863
23	7-10-2023	10-9-2023	7.3316	2.1148
24	10-10-2023	1-9-2024	7.3401	2.1627
25	1-10-2024	4-9-2024	6.7656	2.0717
26	4-10-2024	7-9-2024	6.1991	1.8484

27	**7-10-2024**	**10-9-2024**	6.2721	1.8736
28	**10-10-2024**	**1-9-2025**	4.2279	1.2275
29	**1-10-2025**	**4-9-2025**	3.5126	0.7175
30	**4-10-2025**	**7-9-2025**	3.5657	0.7024
31	**7-10-2025**	**10-9-2025**	4.7588	1.7324
32	**10-10-2025**	**1-9-2026**	5.2275	2.0919
33	**1-10-2026**	**4-9-2026**	5.1015	2.0341
34	**4-10-2026**	**7-9-2026**	5.1375	2.0360
35	**7-10-2026**	**10-9-2026**	5.1962	2.0607
36	**10-10-2026**	**1-9-2027**	5.2161	2.0806
37	**1-10-2027**	**4-9-2027**	5.0909	2.0235
38	**4-10-2027**	**7-9-2027**	5.1275	2.0260
39	**7-10-2027**	**9-30-2027**	4.6767	1.8479
		Highest	22.2150	5.2540

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	P1 Site Preparation	Site Preparation	1/10/2018	2/14/2018	6	31	
2	P1 Grading	Grading	1/29/2018	12/1/2020	6	890	
3	P1 Building Construction	Building Construction	3/16/2020	12/2/2024	6	1477	
4	P1 Trenching	Trenching	10/28/2018	5/3/2021	6	787	
5	P1 Architectural Coating	Architectural Coating	7/14/2020	12/2/2024	6	1374	
6	P1 Paving	Paving	7/17/2019	3/23/2022	6	841	
7	P1 Brush Management	Site Preparation	5/1/2019	6/1/2021	6	654	
8	P1 Reservoirs	Site Preparation	12/27/2018	7/3/2019	6	162	
9	P2 Site Preparation	Site Preparation	12/21/2020	1/18/2021	6	25	
10	P2 Grading	Grading	1/18/2021	11/18/2022	6	575	
11	P2 Building Construction	Building Construction	2/3/2025	11/30/2027	6	884	

12	P2 Trenching	Trenching	1/3/2022	3/25/2024	6	697	
13	P2 Architectural Coating	Architectural Coating	8/1/2025	11/30/2027	6	730	
14	P2 Paving	Paving	8/1/2022	5/1/2025	6	862	
15	P2 Brush Management	Site Preparation	11/1/2021	5/31/2023	6	495	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 97.6

Residential Indoor: 5,727,915; Residential Outdoor: 1,909,305; Non-Residential Indoor: 171,000; Non-Residential Outdoor: 57,000; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
P2 Site Preparation	Crawler Tractors	3	8.00	212	0.43
P2 Site Preparation	Crushing/Proc. Equipment	1	8.00	85	0.78
P2 Grading	Crawler Tractors	7	8.00	212	0.43
P2 Grading	Bore/Drill Rigs	6	8.00	221	0.50
P2 Grading	Off-Highway Trucks	2	8.00	402	0.38
P2 Trenching	Excavators	4	8.00	158	0.38
P2 Trenching	Tractors/Loaders/Backhoes	4	8.00	97	0.37
P2 Paving	Tractors/Loaders/Backhoes	2	8.00	97	0.37
P2 Paving	Scrapers	2	8.00	367	0.48
P2 Brush Management	Trenchers	2	8.00	78	0.50
P1 Site Preparation	Air Compressors	1	6.00	78	0.48
P2 Architectural Coating	Air Compressors	10	6.00	78	0.48
P1 Architectural Coating	Air Compressors	20	6.00	78	0.48
P2 Building Construction	Cranes	4	7.00	231	0.29
P1 Building Construction	Cranes	8	8.00	231	0.29
P2 Grading	Excavators	2	8.00	158	0.38
P1 Grading	Excavators	5	8.00	158	0.38
P2 Building Construction	Forklifts	8	8.00	89	0.20

P1 Building Construction	Forklifts	8	8.00	89	0.20
P2 Building Construction	Generator Sets	20	8.00	84	0.74
P1 Building Construction	Generator Sets	8	8.00	84	0.74
P2 Grading	Graders	2	8.00	187	0.41
P1 Grading	Graders	4	8.00	187	0.41
P2 Paving	Pavers	1	8.00	130	0.42
P1 Paving	Pavers	1	8.00	130	0.42
P2 Paving	Paving Equipment	2	8.00	132	0.36
P1 Paving	Paving Equipment	2	8.00	132	0.36
P2 Paving	Rollers	3	8.00	80	0.38
P1 Paving	Rollers	3	8.00	80	0.38
P1 Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
P2 Grading	Scrapers	5	8.00	367	0.48
P1 Grading	Scrapers	5	8.00	367	0.48
P2 Building Construction	Tractors/Loaders/Backhoes	4	7.00	97	0.37
P1 Building Construction	Tractors/Loaders/Backhoes	4	8.00	97	0.37
P2 Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
P1 Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
P1 Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
P2 Brush Management	Tractors/Loaders/Backhoes	4	8.00	97	0.37
P1 Brush Management	Tractors/Loaders/Backhoes	8	8.00	97	0.37
P1 Reservoirs	Tractors/Loaders/Backhoes	4	8.00	97	0.37
P2 Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Architectural Coating	Crawler Tractors	4	8.00	212	0.43
Architectural Coating	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Architectural Coating	Crushing/Proc. Equipment	1	8.00	85	0.78
P1 Grading	Crawler Tractors	11	8.00	212	0.43
P1 Grading	Bore/Drill Rigs	15	8.00	221	0.50
P1 Grading	Off-Highway Trucks	2	8.00	402	0.38
P1 Trenching	Excavators	2	8.00	158	0.38

P1 Trenching	Tractors/Loaders/Backhoes	8	8.00	97	0.37
P1 Paving	Tractors/Loaders/Backhoes	2	8.00	97	0.37
P1 Paving	Scrapers	2	8.00	367	0.48
P1 Brush Management	Trenchers	4	8.00	78	0.50
P1 Reservoirs	Excavators	1	8.00	158	0.38
P1 Reservoirs	Generator Sets	3	8.00	84	0.74
P1 Reservoirs	Aerial Lifts	4	8.00	63	0.31

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
P1 Site Preparation	8	24.00	8.00	360.00	20.00	20.00	0.40	LD_Mix	HDT_Mix	HHDT
P2 Architectural Coating	10	80.00	8.00	0.00	20.00	20.00	0.00	LD_Mix	HDT_Mix	HHDT
P1 Architectural Coating	20	160.00	8.00	0.00	20.00	20.00	0.00	LD_Mix	HDT_Mix	HHDT
P2 Building Construction	36	400.00	32.00	0.00	20.00	20.00	0.00	LD_Mix	HDT_Mix	HHDT
P1 Building Construction	28	800.00	40.00	0.00	20.00	20.00	0.00	LD_Mix	HDT_Mix	HHDT
P2 Grading	26	96.00	28.00	12,893.00	20.00	20.00	0.80	LD_Mix	HDT_Mix	HHDT
P1 Grading	44	150.00	36.00	290,071.00	20.00	20.00	0.40	LD_Mix	HDT_Mix	HHDT
P2 Paving	10	24.00	16.00	0.00	20.00	20.00	0.00	LD_Mix	HDT_Mix	HHDT
P1 Paving	10	36.00	20.00	0.00	20.00	20.00	0.00	LD_Mix	HDT_Mix	HHDT
P2 Brush Management	6	96.00	16.00	0.00	20.00	20.00	0.00	LD_Mix	HDT_Mix	HHDT
P1 Brush Management	12	192.00	28.00	0.00	20.00	20.00	0.00	LD_Mix	HDT_Mix	HHDT
P1 Reservoirs	12	44.00	4.00	0.00	20.00	20.00	0.00	LD_Mix	HDT_Mix	HHDT
P2 Site Preparation	6	36.00	8.00	288.00	20.00	20.00	0.80	LD_Mix	HDT_Mix	HHDT
P1 Trenching	10	78.00	32.00	0.00	20.00	20.00	0.00	LD_Mix	HDT_Mix	HHDT
P2 Trenching	8	44.00	24.00	0.00	20.00	20.00	0.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 P1 Site Preparation - 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					
Fugitive Dust					0.5796	0.0000	0.5796	0.1863	0.0000	0.1863	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0754	0.7782	0.3771	6.4000e-004		0.0423	0.0423		0.0391	0.0391	0.0000	57.8354	57.8354	0.0172	0.0000	58.2641
Total	**0.0754**	**0.7782**	**0.3771**	**6.4000e-004**	**0.5796**	**0.0423**	**0.6219**	**0.1863**	**0.0391**	**0.2254**	**0.0000**	**57.8354**	**57.8354**	**0.0172**	**0.0000**	**58.2641**

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	4.2000e-004	0.0191	3.2000e-003	2.0000e-005	0.0944	2.0000e-005	0.0944	9.4200e-003	2.0000e-005	9.4400e-003	0.0000	2.0196	2.0196	4.1000e-004	0.0000	2.0297
Vendor	1.3800e-003	0.0313	8.3800e-003	8.0000e-005	2.2500e-003	3.4000e-004	2.5900e-003	6.5000e-004	3.2000e-004	9.7000e-004	0.0000	7.9597	7.9597	5.0000e-004	0.0000	7.9721
Worker	2.5700e-003	2.1900e-003	0.0204	6.0000e-005	5.5200e-003	4.0000e-005	5.5600e-003	1.4700e-003	4.0000e-005	1.5000e-003	0.0000	5.2477	5.2477	1.7000e-004	0.0000	5.2520
Total	**4.3700e-003**	**0.0526**	**0.0320**	**1.6000e-004**	**0.1021**	**4.0000e-004**	**0.1025**	**0.0115**	**3.8000e-004**	**0.0119**	**0.0000**	**15.2270**	**15.2270**	**1.0800e-003**	**0.0000**	**15.2539**

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					
Fugitive Dust					0.2261	0.0000	0.2261	0.0727	0.0000	0.0727	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.6800e-003	0.0333	0.3519	6.4000e-004		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	57.8353	57.8353	0.0172	0.0000	58.2641
Total	**7.6800e-003**	**0.0333**	**0.3519**	**6.4000e-004**	**0.2261**	**1.0200e-003**	**0.2271**	**0.0727**	**1.0200e-003**	**0.0737**	**0.0000**	**57.8353**	**57.8353**	**0.0172**	**0.0000**	**58.2641**

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	4.2000e-004	0.0191	3.2000e-003	2.0000e-005	0.0578	2.0000e-005	0.0578	5.7600e-003	2.0000e-005	5.7800e-003	0.0000	2.0196	2.0196	4.1000e-004	0.0000	2.0297
Vendor	1.3800e-003	0.0313	8.3800e-003	8.0000e-005	2.2500e-003	3.4000e-004	2.5900e-003	6.5000e-004	3.2000e-004	9.7000e-004	0.0000	7.9597	7.9597	5.0000e-004	0.0000	7.9721
Worker	2.5700e-003	2.1900e-003	0.0204	6.0000e-005	5.5200e-003	4.0000e-005	5.5600e-003	1.4700e-003	4.0000e-005	1.5000e-003	0.0000	5.2477	5.2477	1.7000e-004	0.0000	5.2520
Total	**4.3700e-003**	**0.0526**	**0.0320**	**1.6000e-004**	**0.0656**	**4.0000e-004**	**0.0660**	**7.8800e-003**	**3.8000e-004**	**8.2500e-003**	**0.0000**	**15.2270**	**15.2270**	**1.0800e-003**	**0.0000**	**15.2539**

3.3 P1 Grading - 2018

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					

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
Fugitive Dust					0.4626	0.0000	0.4626	0.0570	0.0000	0.0570	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3106	42.4086	20.4878	0.0562		1.5569	1.5569		1.4323	1.4323	0.0000	5,126.3326	5,126.3326	1.5959	0.0000	5,166.2300
Total	**3.3106**	**42.4086**	**20.4878**	**0.0562**	**0.4626**	**1.5569**	**2.0195**	**0.0570**	**1.4323**	**1.4894**	**0.0000**	**5,126.3326**	**5,126.3326**	**1.5959**	**0.0000**	**5,166.2300**

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	0.1109	4.9892	0.8363	5.3800e-003	76.0267	5.8100e-003	76.0325	7.5878	5.5500e-003	7.5934	0.0000	528.4081	528.4081	0.1060	0.0000	531.0581
Vendor	0.0580	1.3147	0.3514	3.4400e-003	0.0944	0.0142	0.1085	0.0272	0.0136	0.0408	0.0000	333.9235	333.9235	0.0208	0.0000	334.4439
Worker	0.1498	0.1278	1.1867	3.3800e-003	0.3217	2.2600e-003	0.3240	0.0855	2.0800e-003	0.0875	0.0000	305.7635	305.7635	0.0101	0.0000	306.0159
Total	**0.3187**	**6.4316**	**2.3744**	**0.0122**	**76.4428**	**0.0222**	**76.4650**	**7.7005**	**0.0212**	**7.7217**	**0.0000**	**1,168.0951**	**1,168.0951**	**0.1369**	**0.0000**	**1,171.5178**

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					0.1804	0.0000	0.1804	0.0222	0.0000	0.0222	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6930	3.0032	26.8334	0.0562		0.0924	0.0924		0.0924	0.0924	0.0000	5,126.3265	5,126.3265	1.5959	0.0000	5,166.2239
Total	**0.6930**	**3.0032**	**26.8334**	**0.0562**	**0.1804**	**0.0924**	**0.2728**	**0.0222**	**0.0924**	**0.1147**	**0.0000**	**5,126.3265**	**5,126.3265**	**1.5959**	**0.0000**	**5,166.2239**

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	0.1109	4.9892	0.8363	5.3800e-003	46.5492	5.8100e-003	46.5550	4.6401	5.5500e-003	4.6456	0.0000	528.4081	528.4081	0.1060	0.0000	531.0581
Vendor	0.0580	1.3147	0.3514	3.4400e-003	0.0944	0.0142	0.1085	0.0272	0.0136	0.0408	0.0000	333.9235	333.9235	0.0208	0.0000	334.4439
Worker	0.1498	0.1278	1.1867	3.3800e-003	0.3217	2.2600e-003	0.3240	0.0855	2.0800e-003	0.0875	0.0000	305.7635	305.7635	0.0101	0.0000	306.0159
Total	**0.3187**	**6.4316**	**2.3744**	**0.0122**	**46.9652**	**0.0222**	**46.9875**	**4.7527**	**0.0212**	**4.7739**	**0.0000**	**1,168.0951**	**1,168.0951**	**0.1369**	**0.0000**	**1,171.5178**

3.3 P1 Grading - 2019

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					0.4626	0.0000	0.4626	0.0570	0.0000	0.0570	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3453	41.7489	21.2950	0.0608		1.5249	1.5249		1.4030	1.4030	0.0000	5,456.5776	5,456.5776	1.7264	0.0000	5,499.7377
Total	**3.3453**	**41.7489**	**21.2950**	**0.0608**	**0.4626**	**1.5249**	**1.9876**	**0.0570**	**1.4030**	**1.4600**	**0.0000**	**5,456.5776**	**5,456.5776**	**1.7264**	**0.0000**	**5,499.7377**

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	0.1118	5.2430	0.8498	5.8000e-003	76.0271	5.6000e-003	76.0327	7.5880	5.3500e-003	7.5933	0.0000	571.1168	571.1168	0.1096	0.0000	573.8557
Vendor	0.0558	1.3164	0.3507	3.6900e-003	0.1022	0.0128	0.1150	0.0295	0.0123	0.0418	0.0000	358.6469	358.6469	0.0220	0.0000	359.1970
Worker	0.1499	0.1238	1.1585	3.5500e-003	0.3484	2.4200e-003	0.3508	0.0926	2.2300e-003	0.0948	0.0000	321.1532	321.1532	9.8900e-003	0.0000	321.4005
Total	**0.3174**	**6.6832**	**2.3589**	**0.0130**	**76.4777**	**0.0209**	**76.4986**	**7.7100**	**0.0199**	**7.7299**	**0.0000**	**1,250.9170**	**1,250.9170**	**0.1414**	**0.0000**	**1,254.4532**

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					0.1804	0.0000	0.1804	0.0222	0.0000	0.0222	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.7506	3.2526	29.0618	0.0608		0.1001	0.1001		0.1001	0.1001	0.0000	5,456.5711	5,456.5711	1.7264	0.0000	5,499.7311
Total	**0.7506**	**3.2526**	**29.0618**	**0.0608**	**0.1804**	**0.1001**	**0.2805**	**0.0222**	**0.1001**	**0.1223**	**0.0000**	**5,456.5711**	**5,456.5711**	**1.7264**	**0.0000**	**5,499.7311**

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	0.1118	5.2430	0.8498	5.8000e-003	46.5496	5.6000e-003	46.5552	4.6402	5.3500e-003	4.6456	0.0000	571.1168	571.1168	0.1096	0.0000	573.8557
Vendor	0.0558	1.3164	0.3507	3.6900e-003	0.1022	0.0128	0.1150	0.0295	0.0123	0.0418	0.0000	358.6469	358.6469	0.0220	0.0000	359.1970
Worker	0.1499	0.1238	1.1585	3.5500e-003	0.3484	2.4200e-003	0.3508	0.0926	2.2300e-003	0.0948	0.0000	321.1532	321.1532	9.8900e-003	0.0000	321.4005

Total	**0.3174**	**6.6832**	**2.3589**	**0.0130**	**47.0002**	**0.0209**	**47.0211**	**4.7623**	**0.0199**	**4.7821**	**0.0000**	**1,250.9170**	**1,250.9170**	**0.1414**	**0.0000**	**1,254.4532**

3.3 P1 Grading - 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					
Fugitive Dust					0.4626	0.0000	0.4626	0.0570	0.0000	0.0570	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9344	35.6887	18.9933	0.0560		1.2993	1.2993		1.1953	1.1953	0.0000	4,916.3521	4,916.3521	1.5901	0.0000	4,956.1033
Total	**2.9344**	**35.6887**	**18.9933**	**0.0560**	**0.4626**	**1.2993**	**1.7619**	**0.0570**	**1.1953**	**1.2524**	**0.0000**	**4,916.3521**	**4,916.3521**	**1.5901**	**0.0000**	**4,956.1033**

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	0.0914	4.6498	0.7246	5.3300e-003	76.0267	3.6400e-003	76.0303	7.5878	3.4800e-003	7.5913	0.0000	526.7029	526.7029	0.0934	0.0000	529.0390
Vendor	0.0406	1.0663	0.2878	3.3600e-003	0.0940	7.5400e-003	0.1016	0.0271	7.2100e-003	0.0343	0.0000	327.2517	327.2517	0.0195	0.0000	327.7385
Worker	0.1292	0.1029	0.9757	3.1600e-003	0.3206	2.1900e-003	0.3228	0.0852	2.0200e-003	0.0872	0.0000	286.1644	286.1644	8.2300e-003	0.0000	286.3703
Total	**0.2612**	**5.8190**	**1.9881**	**0.0119**	**76.4413**	**0.0134**	**76.4547**	**7.7001**	**0.0127**	**7.7128**	**0.0000**	**1,140.1190**	**1,140.1190**	**0.1211**	**0.0000**	**1,143.1478**

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					0.1804	0.0000	0.1804	0.0222	0.0000	0.0222	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6906	2.9928	26.7406	0.0560		0.0921	0.0921		0.0921	0.0921	0.0000	4,916.3463	4,916.3463	1.5901	0.0000	4,956.0974
Total	**0.6906**	**2.9928**	**26.7406**	**0.0560**	**0.1804**	**0.0921**	**0.2725**	**0.0222**	**0.0921**	**0.1143**	**0.0000**	**4,916.3463**	**4,916.3463**	**1.5901**	**0.0000**	**4,956.0974**

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	0.0914	4.6498	0.7246	5.3300e-003	46.5492	3.6400e-003	46.5528	4.6401	3.4800e-003	4.6435	0.0000	526.7029	526.7029	0.0934	0.0000	529.0390
Vendor	0.0406	1.0663	0.2878	3.3600e-003	0.0940	7.5400e-003	0.1016	0.0271	7.2100e-003	0.0343	0.0000	327.2517	327.2517	0.0195	0.0000	327.7385
Worker	0.1292	0.1029	0.9757	3.1600e-003	0.3206	2.1900e-003	0.3228	0.0852	2.0200e-003	0.0872	0.0000	286.1644	286.1644	8.2300e-003	0.0000	286.3703
Total	**0.2612**	**5.8190**	**1.9881**	**0.0119**	**46.9638**	**0.0134**	**46.9772**	**4.7523**	**0.0127**	**4.7651**	**0.0000**	**1,140.1190**	**1,140.1190**	**0.1211**	**0.0000**	**1,143.1478**

3.4 P1 Building 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	1.1012	11.2202	8.1410	0.0154		0.5817	0.5817		0.5509	0.5509	0.0000	1,342.8505	1,342.8505	0.2833	0.0000	1,349.9338
Total	**1.1012**	**11.2202**	**8.1410**	**0.0154**		**0.5817**	**0.5817**		**0.5509**	**0.5509**	**0.0000**	**1,342.8505**	**1,342.8505**	**0.2833**	**0.0000**	**1,349.9338**

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	0.0392	1.0284	0.2776	3.2400e-003	0.0907	7.2700e-003	0.0980	0.0262	6.9600e-003	0.0331	0.0000	315.6363	315.6363	0.0188	0.0000	316.1058
Worker	0.5980	0.4764	4.5173	0.0147	1.4842	0.0101	1.4943	0.3943	9.3500e-003	0.4036	0.0000	1,324.8352	1,324.8352	0.0381	0.0000	1,325.7882
Total	**0.6372**	**1.5048**	**4.7949**	**0.0179**	**1.5749**	**0.0174**	**1.5923**	**0.4204**	**0.0163**	**0.4368**	**0.0000**	**1,640.4715**	**1,640.4715**	**0.0569**	**0.0000**	**1,641.8940**

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	0.1745	0.7561	8.9883	0.0154		0.0233	0.0233		0.0233	0.0233	0.0000	1,342.8489	1,342.8489	0.2833	0.0000	1,349.9322
Total	**0.1745**	**0.7561**	**8.9883**	**0.0154**		**0.0233**	**0.0233**		**0.0233**	**0.0233**	**0.0000**	**1,342.8489**	**1,342.8489**	**0.2833**	**0.0000**	**1,349.9322**

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	0.0392	1.0284	0.2776	3.2400e-003	0.0907	7.2700e-003	0.0980	0.0262	6.9600e-003	0.0331	0.0000	315.6363	315.6363	0.0188	0.0000	316.1058
Worker	0.5980	0.4764	4.5173	0.0147	1.4842	0.0101	1.4943	0.3943	9.3500e-003	0.4036	0.0000	1,324.8352	1,324.8352	0.0381	0.0000	1,325.7882
Total	**0.6372**	**1.5048**	**4.7949**	**0.0179**	**1.5749**	**0.0174**	**1.5923**	**0.4204**	**0.0163**	**0.4368**	**0.0000**	**1,640.4715**	**1,640.4715**	**0.0569**	**0.0000**	**1,641.8940**

3.4 P1 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.2436	12.6984	9.9728	0.0193		0.6313	0.6313		0.5976	0.5976	0.0000	1,681.2658	1,681.2658	0.3510	0.0000	1,690.0408
Total	**1.2436**	**12.6984**	**9.9728**	**0.0193**		**0.6313**	**0.6313**		**0.5976**	**0.5976**	**0.0000**	**1,681.2658**	**1,681.2658**	**0.3510**	**0.0000**	**1,690.0408**

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	0.0381	1.1182	0.3115	4.0200e-003	0.1136	3.4100e-003	0.1170	0.0328	3.2700e-003	0.0360	0.0000	391.5769	391.5769	0.0228	0.0000	392.1460
Worker	0.7078	0.5427	5.2919	0.0177	1.8582	0.0125	1.8707	0.4936	0.0115	0.5052	0.0000	1,602.9166	1,602.9166	0.0441	0.0000	1,604.0189
Total	**0.7459**	**1.6609**	**5.6034**	**0.0217**	**1.9718**	**0.0159**	**1.9877**	**0.5264**	**0.0148**	**0.5412**	**0.0000**	**1,994.4934**	**1,994.4934**	**0.0669**	**0.0000**	**1,996.1649**

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	0.2185	0.9467	11.2533	0.0193		0.0291	0.0291		0.0291	0.0291	0.0000	1,681.2638	1,681.2638	0.3510	0.0000	1,690.0388
Total	**0.2185**	**0.9467**	**11.2533**	**0.0193**		**0.0291**	**0.0291**		**0.0291**	**0.0291**	**0.0000**	**1,681.2638**	**1,681.2638**	**0.3510**	**0.0000**	**1,690.0388**

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	0.0381	1.1182	0.3115	4.0200e-003	0.1136	3.4100e-003	0.1170	0.0328	3.2700e-003	0.0360	0.0000	391.5769	391.5769	0.0228	0.0000	392.1460
Worker	0.7078	0.5427	5.2919	0.0177	1.8582	0.0125	1.8707	0.4936	0.0115	0.5052	0.0000	1,602.9166	1,602.9166	0.0441	0.0000	1,604.0189

Total	**0.7459**	**1.6609**	**5.6034**	**0.0217**	**1.9718**	**0.0159**	**1.9877**	**0.5264**	**0.0148**	**0.5412**	**0.0000**	**1,994.4934**	**1,994.4934**	**0.0669**	**0.0000**	**1,996.1649**

3.4 P1 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1255	11.2746	9.8169	0.0193		0.5453	0.5453		0.5164	0.5164	0.0000	1,681.5622	1,681.5622	0.3486	0.0000	1,690.2774
Total	**1.1255**	**11.2746**	**9.8169**	**0.0193**		**0.5453**	**0.5453**		**0.5164**	**0.5164**	**0.0000**	**1,681.5622**	**1,681.5622**	**0.3486**	**0.0000**	**1,690.2774**

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	0.0356	1.0366	0.2984	3.9700e-003	0.1136	2.9400e-003	0.1165	0.0328	2.8100e-003	0.0356	0.0000	387.8116	387.8116	0.0224	0.0000	388.3712
Worker	0.6715	0.4953	4.9193	0.0171	1.8582	0.0122	1.8704	0.4936	0.0113	0.5049	0.0000	1,544.0953	1,544.0953	0.0404	0.0000	1,545.1057
Total	**0.7071**	**1.5319**	**5.2177**	**0.0210**	**1.9718**	**0.0152**	**1.9869**	**0.5264**	**0.0141**	**0.5405**	**0.0000**	**1,931.9069**	**1,931.9069**	**0.0628**	**0.0000**	**1,933.4770**

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	0.2185	0.9467	11.2533	0.0193		0.0291	0.0291		0.0291	0.0291	0.0000	1,681.5602	1,681.5602	0.3486	0.0000	1,690.2754
Total	**0.2185**	**0.9467**	**11.2533**	**0.0193**		**0.0291**	**0.0291**		**0.0291**	**0.0291**	**0.0000**	**1,681.5602**	**1,681.5602**	**0.3486**	**0.0000**	**1,690.2754**

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	0.0356	1.0366	0.2984	3.9700e-003	0.1136	2.9400e-003	0.1165	0.0328	2.8100e-003	0.0356	0.0000	387.8116	387.8116	0.0224	0.0000	388.3712
Worker	0.6715	0.4953	4.9193	0.0171	1.8582	0.0122	1.8704	0.4936	0.0113	0.5049	0.0000	1,544.0953	1,544.0953	0.0404	0.0000	1,545.1057
Total	**0.7071**	**1.5319**	**5.2177**	**0.0210**	**1.9718**	**0.0152**	**1.9869**	**0.5264**	**0.0141**	**0.5405**	**0.0000**	**1,931.9069**	**1,931.9069**	**0.0628**	**0.0000**	**1,933.4770**

3.4 P1 Building 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					

	ROG	NOx	CO	SO2	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	1.0427	10.3067	9.6898	0.0193		0.4803	0.4803		0.4546	0.4546	0.0000	1,676.3683	1,676.3683	0.3451	0.0000	1,684.9950
Total	**1.0427**	**10.3067**	**9.6898**	**0.0193**		**0.4803**	**0.4803**		**0.4546**	**0.4546**	**0.0000**	**1,676.3683**	**1,676.3683**	**0.3451**	**0.0000**	**1,684.9950**

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	0.0270	0.7484	0.2734	3.8600e-003	0.1132	1.3900e-003	0.1146	0.0327	1.3300e-003	0.0340	0.0000	377.3747	377.3747	0.0212	0.0000	377.9045
Worker	0.6360	0.4512	4.5524	0.0164	1.8523	0.0119	1.8642	0.4921	0.0110	0.5031	0.0000	1,480.3142	1,480.3142	0.0369	0.0000	1,481.2358
Total	**0.6630**	**1.1996**	**4.8258**	**0.0202**	**1.9655**	**0.0133**	**1.9788**	**0.5247**	**0.0123**	**0.5370**	**0.0000**	**1,857.6889**	**1,857.6889**	**0.0581**	**0.0000**	**1,859.1403**

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	0.2178	0.9437	11.2174	0.0193		0.0290	0.0290		0.0290	0.0290	0.0000	1,676.3663	1,676.3663	0.3451	0.0000	1,684.9930
Total	**0.2178**	**0.9437**	**11.2174**	**0.0193**		**0.0290**	**0.0290**		**0.0290**	**0.0290**	**0.0000**	**1,676.3663**	**1,676.3663**	**0.3451**	**0.0000**	**1,684.9930**

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	0.0270	0.7484	0.2734	3.8600e-003	0.1132	1.3900e-003	0.1146	0.0327	1.3300e-003	0.0340	0.0000	377.3747	377.3747	0.0212	0.0000	377.9045
Worker	0.6360	0.4512	4.5524	0.0164	1.8523	0.0119	1.8642	0.4921	0.0110	0.5031	0.0000	1,480.3142	1,480.3142	0.0369	0.0000	1,481.2358
Total	**0.6630**	**1.1996**	**4.8258**	**0.0202**	**1.9655**	**0.0133**	**1.9788**	**0.5247**	**0.0123**	**0.5370**	**0.0000**	**1,857.6889**	**1,857.6889**	**0.0581**	**0.0000**	**1,859.1403**

3.4 P1 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.9051	8.8509	8.8962	0.0178		0.3940	0.3940		0.3727	0.3727	0.0000	1,552.8772	1,552.8772	0.3174	0.0000	1,560.8111
Total	**0.9051**	**8.8509**	**8.8962**	**0.0178**		**0.3940**	**0.3940**		**0.3727**	**0.3727**	**0.0000**	**1,552.8772**	**1,552.8772**	**0.3174**	**0.0000**	**1,560.8111**

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	0.0243	0.6807	0.2484	3.5500e-003	0.1048	1.2700e-003	0.1061	0.0302	1.2100e-003	0.0315	0.0000	347.6623	347.6623	0.0196	0.0000	348.1535
Worker	0.5617	0.3837	3.9418	0.0146	1.7157	0.0109	1.7266	0.4558	9.9900e-003	0.4658	0.0000	1,317.1623	1,317.1623	0.0314	0.0000	1,317.9470
Total	**0.5860**	**1.0644**	**4.1902**	**0.0181**	**1.8206**	**0.0121**	**1.8327**	**0.4860**	**0.0112**	**0.4972**	**0.0000**	**1,664.8247**	**1,664.8247**	**0.0510**	**0.0000**	**1,666.1005**

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	0.2017	0.8741	10.3904	0.0178		0.0269	0.0269		0.0269	0.0269	0.0000	1,552.8753	1,552.8753	0.3174	0.0000	1,560.8093
Total	**0.2017**	**0.8741**	**10.3904**	**0.0178**		**0.0269**	**0.0269**		**0.0269**	**0.0269**	**0.0000**	**1,552.8753**	**1,552.8753**	**0.3174**	**0.0000**	**1,560.8093**

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	0.0243	0.6807	0.2484	3.5500e-003	0.1048	1.2700e-003	0.1061	0.0302	1.2100e-003	0.0315	0.0000	347.6623	347.6623	0.0196	0.0000	348.1535
Worker	0.5617	0.3837	3.9418	0.0146	1.7157	0.0109	1.7266	0.4558	9.9900e-003	0.4658	0.0000	1,317.1623	1,317.1623	0.0314	0.0000	1,317.9470

Total	0.5860	1.0644	4.1902	0.0181	1.8206	0.0121	1.8327	0.4860	0.0112	0.4972	0.0000	1,664.8247	1,664.8247	0.0510	0.0000	1,666.1005

3.5 P1 Trenching - 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	0.0743	0.7473	0.6931	9.7000e-004		0.0491	0.0491		0.0452	0.0452	0.0000	88.2254	88.2254	0.0275	0.0000	88.9120
Total	0.0743	0.7473	0.6931	9.7000e-004		0.0491	0.0491		0.0452	0.0452	0.0000	88.2254	88.2254	0.0275	0.0000	88.9120

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	9.8100e-003	0.2224	0.0595	5.8000e-004	0.0160	2.4000e-003	0.0184	4.6000e-003	2.2900e-003	6.9000e-003	0.0000	56.4884	56.4884	3.5200e-003	0.0000	56.5764
Worker	0.0148	0.0127	0.1174	3.3000e-004	0.0318	2.2000e-004	0.0321	8.4600e-003	2.1000e-004	8.6600e-003	0.0000	30.2590	30.2590	1.0000e-003	0.0000	30.2839
Total	0.0246	0.2350	0.1769	9.1000e-004	0.0478	2.6200e-003	0.0504	0.0131	2.5000e-003	0.0156	0.0000	86.7474	86.7474	4.5200e-003	0.0000	86.8604

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	0.0118	0.0513	0.7297	9.7000e-004		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	88.2253	88.2253	0.0275	0.0000	88.9119
Total	**0.0118**	**0.0513**	**0.7297**	**9.7000e-004**		**1.5800e-003**	**1.5800e-003**		**1.5800e-003**	**1.5800e-003**	**0.0000**	**88.2253**	**88.2253**	**0.0275**	**0.0000**	**88.9119**

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	9.8100e-003	0.2224	0.0595	5.8000e-004	0.0160	2.4000e-003	0.0184	4.6000e-003	2.2900e-003	6.9000e-003	0.0000	56.4884	56.4884	3.5200e-003	0.0000	56.5764
Worker	0.0148	0.0127	0.1174	3.3000e-004	0.0318	2.2000e-004	0.0321	8.4600e-003	2.1000e-004	8.6600e-003	0.0000	30.2590	30.2590	1.0000e-003	0.0000	30.2839
Total	**0.0246**	**0.2350**	**0.1769**	**9.1000e-004**	**0.0478**	**2.6200e-003**	**0.0504**	**0.0131**	**2.5000e-003**	**0.0156**	**0.0000**	**86.7474**	**86.7474**	**4.5200e-003**	**0.0000**	**86.8604**

3.5 P1 Trenching - 2019

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	0.3723	3.7581	3.8978	5.5000e-003		0.2353	0.2353		0.2164	0.2164	0.0000	493.7477	493.7477	0.1562	0.0000	497.6531
Total	**0.3723**	**3.7581**	**3.8978**	**5.5000e-003**		**0.2353**	**0.2353**		**0.2164**	**0.2164**	**0.0000**	**493.7477**	**493.7477**	**0.1562**	**0.0000**	**497.6531**

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	0.0496	1.1701	0.3117	3.2800e-003	0.0908	0.0114	0.1023	0.0262	0.0109	0.0371	0.0000	318.7973	318.7973	0.0196	0.0000	319.2863
Worker	0.0779	0.0644	0.6024	1.8500e-003	0.1812	1.2600e-003	0.1824	0.0481	1.1600e-003	0.0493	0.0000	166.9997	166.9997	5.1400e-003	0.0000	167.1283
Total	**0.1275**	**1.2345**	**0.9141**	**5.1300e-003**	**0.2720**	**0.0127**	**0.2847**	**0.0743**	**0.0121**	**0.0864**	**0.0000**	**485.7970**	**485.7970**	**0.0247**	**0.0000**	**486.4145**

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	0.0673	0.2918	4.1529	5.5000e-003		8.9800e-003	8.9800e-003		8.9800e-003	8.9800e-003	0.0000	493.7471	493.7471	0.1562	0.0000	497.6525
Total	**0.0673**	**0.2918**	**4.1529**	**5.5000e-003**		**8.9800e-003**	**8.9800e-003**		**8.9800e-003**	**8.9800e-003**	**0.0000**	**493.7471**	**493.7471**	**0.1562**	**0.0000**	**497.6525**

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	0.0496	1.1701	0.3117	3.2800e-003	0.0908	0.0114	0.1023	0.0262	0.0109	0.0371	0.0000	318.7973	318.7973	0.0196	0.0000	319.2863
Worker	0.0779	0.0644	0.6024	1.8500e-003	0.1812	1.2600e-003	0.1824	0.0481	1.1600e-003	0.0493	0.0000	166.9997	166.9997	5.1400e-003	0.0000	167.1283
Total	**0.1275**	**1.2345**	**0.9141**	**5.1300e-003**	**0.2720**	**0.0127**	**0.2847**	**0.0743**	**0.0121**	**0.0864**	**0.0000**	**485.7970**	**485.7970**	**0.0247**	**0.0000**	**486.4145**

3.5 P1 Trenching - 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	0.3394	3.3947	3.8829	5.5100e-003		0.2034	0.2034		0.1871	0.1871	0.0000	484.4876	484.4876	0.1567	0.0000	488.4049
Total	**0.3394**	**3.3947**	**3.8829**	**5.5100e-003**		**0.2034**	**0.2034**		**0.1871**	**0.1871**	**0.0000**	**484.4876**	**484.4876**	**0.1567**	**0.0000**	**488.4049**

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	0.0394	1.0334	0.2789	3.2600e-003	0.0911	7.3100e-003	0.0984	0.0263	6.9900e-003	0.0333	0.0000	317.1513	317.1513	0.0189	0.0000	317.6231
Worker	0.0732	0.0583	0.5532	1.7900e-003	0.1818	1.2400e-003	0.1830	0.0483	1.1400e-003	0.0494	0.0000	162.2393	162.2393	4.6700e-003	0.0000	162.3560
Total	**0.1126**	**1.0917**	**0.8321**	**5.0500e-003**	**0.2729**	**8.5500e-003**	**0.2814**	**0.0746**	**8.1300e-003**	**0.0827**	**0.0000**	**479.3907**	**479.3907**	**0.0235**	**0.0000**	**479.9791**

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	0.0676	0.2928	4.1661	5.5100e-003		9.0100e-003	9.0100e-003		9.0100e-003	9.0100e-003	0.0000	484.4870	484.4870	0.1567	0.0000	488.4043
Total	**0.0676**	**0.2928**	**4.1661**	**5.5100e-003**		**9.0100e-003**	**9.0100e-003**		**9.0100e-003**	**9.0100e-003**	**0.0000**	**484.4870**	**484.4870**	**0.1567**	**0.0000**	**488.4043**

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	0.0394	1.0334	0.2789	3.2600e-003	0.0911	7.3100e-003	0.0984	0.0263	6.9900e-003	0.0333	0.0000	317.1513	317.1513	0.0189	0.0000	317.6231
Worker	0.0732	0.0583	0.5532	1.7900e-003	0.1818	1.2400e-003	0.1830	0.0483	1.1400e-003	0.0494	0.0000	162.2393	162.2393	4.6700e-003	0.0000	162.3560

Total	**0.1126**	**1.0917**	**0.8321**	**5.0500e-003**	**0.2729**	**8.5500e-003**	**0.2814**	**0.0746**	**8.1300e-003**	**0.0827**	**0.0000**	**479.3907**	**479.3907**	**0.0235**	**0.0000**	**479.9791**

3.5 P1 Trenching - 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	0.1025	1.0203	1.2907	1.8400e-003		0.0578	0.0578		0.0532	0.0532	0.0000	162.0671	162.0671	0.0524	0.0000	163.3775
Total	**0.1025**	**1.0203**	**1.2907**	**1.8400e-003**		**0.0578**	**0.0578**		**0.0532**	**0.0532**	**0.0000**	**162.0671**	**162.0671**	**0.0524**	**0.0000**	**163.3775**

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	0.0102	0.3001	0.0836	1.0800e-003	0.0305	9.2000e-004	0.0314	8.7900e-003	8.8000e-004	9.6700e-003	0.0000	105.0877	105.0877	6.1100e-003	0.0000	105.2405
Worker	0.0232	0.0178	0.1731	5.8000e-004	0.0608	4.1000e-004	0.0612	0.0162	3.8000e-004	0.0165	0.0000	52.4277	52.4277	1.4400e-003	0.0000	52.4637
Total	**0.0334**	**0.3179**	**0.2567**	**1.6600e-003**	**0.0913**	**1.3300e-003**	**0.0926**	**0.0249**	**1.2600e-003**	**0.0262**	**0.0000**	**157.5154**	**157.5154**	**7.5500e-003**	**0.0000**	**157.7042**

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	0.0226	0.0979	1.3931	1.8400e-003		3.0100e-003	3.0100e-003		3.0100e-003	3.0100e-003	0.0000	162.0670	162.0670	0.0524	0.0000	163.3773
Total	**0.0226**	**0.0979**	**1.3931**	**1.8400e-003**		**3.0100e-003**	**3.0100e-003**		**3.0100e-003**	**3.0100e-003**	**0.0000**	**162.0670**	**162.0670**	**0.0524**	**0.0000**	**163.3773**

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	0.0102	0.3001	0.0836	1.0800e-003	0.0305	9.2000e-004	0.0314	8.7900e-003	8.8000e-004	9.6700e-003	0.0000	105.0877	105.0877	6.1100e-003	0.0000	105.2405
Worker	0.0232	0.0178	0.1731	5.8000e-004	0.0608	4.1000e-004	0.0612	0.0162	3.8000e-004	0.0165	0.0000	52.4277	52.4277	1.4400e-003	0.0000	52.4637
Total	**0.0334**	**0.3179**	**0.2567**	**1.6600e-003**	**0.0913**	**1.3300e-003**	**0.0926**	**0.0249**	**1.2600e-003**	**0.0262**	**0.0000**	**157.5154**	**157.5154**	**7.5500e-003**	**0.0000**	**157.7042**

3.6 P1 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	1.2821					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3560	2.4752	2.6922	4.3700e-003		0.1631	0.1631		0.1631	0.1631	0.0000	375.3283	375.3283	0.0291	0.0000	376.0548
Total	**1.6381**	**2.4752**	**2.6922**	**4.3700e-003**		**0.1631**	**0.1631**		**0.1631**	**0.1631**	**0.0000**	**375.3283**	**375.3283**	**0.0291**	**0.0000**	**376.0548**

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	4.6100e-003	0.1209	0.0326	3.8000e-004	0.0107	8.6000e-004	0.0115	3.0800e-003	8.2000e-004	3.8900e-003	0.0000	37.1188	37.1188	2.2100e-003	0.0000	37.1740
Worker	0.0703	0.0560	0.5312	1.7200e-003	0.1745	1.1900e-003	0.1757	0.0464	1.1000e-003	0.0475	0.0000	155.8006	155.8006	4.4800e-003	0.0000	155.9127
Total	**0.0749**	**0.1770**	**0.5639**	**2.1000e-003**	**0.1852**	**2.0500e-003**	**0.1873**	**0.0495**	**1.9200e-003**	**0.0514**	**0.0000**	**192.9195**	**192.9195**	**6.6900e-003**	**0.0000**	**193.0867**

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	1.2821					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0437	0.1893	2.6936	4.3700e-003		5.8200e-003	5.8200e-003		5.8200e-003	5.8200e-003	0.0000	375.3279	375.3279	0.0291	0.0000	376.0543
Total	**1.3258**	**0.1893**	**2.6936**	**4.3700e-003**		**5.8200e-003**	**5.8200e-003**		**5.8200e-003**	**5.8200e-003**	**0.0000**	**375.3279**	**375.3279**	**0.0291**	**0.0000**	**376.0543**

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	4.6100e-003	0.1209	0.0326	3.8000e-004	0.0107	8.6000e-004	0.0115	3.0800e-003	8.2000e-004	3.8900e-003	0.0000	37.1188	37.1188	2.2100e-003	0.0000	37.1740
Worker	0.0703	0.0560	0.5312	1.7200e-003	0.1745	1.1900e-003	0.1757	0.0464	1.1000e-003	0.0475	0.0000	155.8006	155.8006	4.4800e-003	0.0000	155.9127
Total	**0.0749**	**0.1770**	**0.5639**	**2.1000e-003**	**0.1852**	**2.0500e-003**	**0.1873**	**0.0495**	**1.9200e-003**	**0.0514**	**0.0000**	**192.9195**	**192.9195**	**6.6900e-003**	**0.0000**	**193.0867**

3.6 P1 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					
Archit. Coating	2.7299					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6852	4.7790	5.6890	9.3000e-003		0.2945	0.2945		0.2945	0.2945	0.0000	799.1684	799.1684	0.0548	0.0000	800.5395
Total	**3.4150**	**4.7790**	**5.6890**	**9.3000e-003**		**0.2945**	**0.2945**		**0.2945**	**0.2945**	**0.0000**	**799.1684**	**799.1684**	**0.0548**	**0.0000**	**800.5395**

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	7.6200e-003	0.2236	0.0623	8.0000e-004	0.0227	6.8000e-004	0.0234	6.5500e-003	6.5000e-004	7.2000e-003	0.0000	78.3154	78.3154	4.5500e-003	0.0000	78.4292
Worker	0.1416	0.1085	1.0584	3.5400e-003	0.3716	2.5000e-003	0.3741	0.0987	2.3000e-003	0.1010	0.0000	320.5833	320.5833	8.8200e-003	0.0000	320.8038
Total	**0.1492**	**0.3322**	**1.1207**	**4.3400e-003**	**0.3944**	**3.1800e-003**	**0.3975**	**0.1053**	**2.9500e-003**	**0.1082**	**0.0000**	**398.8987**	**398.8987**	**0.0134**	**0.0000**	**399.2330**

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	2.7299					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0930	0.4030	5.7354	9.3000e-003		0.0124	0.0124		0.0124	0.0124	0.0000	799.1675	799.1675	0.0548	0.0000	800.5386
Total	**2.8229**	**0.4030**	**5.7354**	**9.3000e-003**		**0.0124**	**0.0124**		**0.0124**	**0.0124**	**0.0000**	**799.1675**	**799.1675**	**0.0548**	**0.0000**	**800.5386**

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	7.6200e-003	0.2236	0.0623	8.0000e-004	0.0227	6.8000e-004	0.0234	6.5500e-003	6.5000e-004	7.2000e-003	0.0000	78.3154	78.3154	4.5500e-003	0.0000	78.4292
Worker	0.1416	0.1085	1.0584	3.5400e-003	0.3716	2.5000e-003	0.3741	0.0987	2.3000e-003	0.1010	0.0000	320.5833	320.5833	8.8200e-003	0.0000	320.8038

Total	0.1492	0.3322	1.1207	4.3400e-003	0.3944	3.1800e-003	0.3975	0.1053	2.9500e-003	0.1082	0.0000	398.8987	398.8987	0.0134	0.0000	399.2330

3.6 P1 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.7299					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6402	4.4086	5.6765	9.3000e-003		0.2558	0.2558		0.2558	0.2558	0.0000	799.1684	799.1684	0.0520	0.0000	800.4692
Total	**3.3701**	**4.4086**	**5.6765**	**9.3000e-003**		**0.2558**	**0.2558**		**0.2558**	**0.2558**	**0.0000**	**799.1684**	**799.1684**	**0.0520**	**0.0000**	**800.4692**

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	7.1100e-003	0.2073	0.0597	7.9000e-004	0.0227	5.9000e-004	0.0233	6.5500e-003	5.6000e-004	7.1100e-003	0.0000	77.5623	77.5623	4.4800e-003	0.0000	77.6743
Worker	0.1343	0.0991	0.9839	3.4100e-003	0.3716	2.4400e-003	0.3741	0.0987	2.2500e-003	0.1010	0.0000	308.8191	308.8191	8.0800e-003	0.0000	309.0212
Total	**0.1414**	**0.3064**	**1.0435**	**4.2000e-003**	**0.3944**	**3.0300e-003**	**0.3974**	**0.1053**	**2.8100e-003**	**0.1081**	**0.0000**	**386.3814**	**386.3814**	**0.0126**	**0.0000**	**386.6954**

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	2.7299					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0930	0.4030	5.7354	9.3000e-003		0.0124	0.0124		0.0124	0.0124	0.0000	799.1675	799.1675	0.0520	0.0000	800.4683
Total	**2.8229**	**0.4030**	**5.7354**	**9.3000e-003**		**0.0124**	**0.0124**		**0.0124**	**0.0124**	**0.0000**	**799.1675**	**799.1675**	**0.0520**	**0.0000**	**800.4683**

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	7.1100e-003	0.2073	0.0597	7.9000e-004	0.0227	5.9000e-004	0.0233	6.5500e-003	5.6000e-004	7.1100e-003	0.0000	77.5623	77.5623	4.4800e-003	0.0000	77.6743
Worker	0.1343	0.0991	0.9839	3.4100e-003	0.3716	2.4400e-003	0.3741	0.0987	2.2500e-003	0.1010	0.0000	308.8191	308.8191	8.0800e-003	0.0000	309.0212
Total	**0.1414**	**0.3064**	**1.0435**	**4.2000e-003**	**0.3944**	**3.0300e-003**	**0.3974**	**0.1053**	**2.8100e-003**	**0.1081**	**0.0000**	**386.3814**	**386.3814**	**0.0126**	**0.0000**	**386.6954**

3.6 P1 Architectural Coating - 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					

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
Archit. Coating	2.7211					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5980	4.0653	5.6507	9.2700e-003		0.2210	0.2210		0.2210	0.2210	0.0000	796.6152	796.6152	0.0477	0.0000	797.8067
Total	**3.3191**	**4.0653**	**5.6507**	**9.2700e-003**		**0.2210**	**0.2210**		**0.2210**	**0.2210**	**0.0000**	**796.6152**	**796.6152**	**0.0477**	**0.0000**	**797.8067**

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	5.4000e-003	0.1497	0.0547	7.7000e-004	0.0226	2.8000e-004	0.0229	6.5300e-003	2.7000e-004	6.8000e-003	0.0000	75.4749	75.4749	4.2400e-003	0.0000	75.5809
Worker	0.1272	0.0903	0.9105	3.2700e-003	0.3705	2.3900e-003	0.3728	0.0984	2.2000e-003	0.1006	0.0000	296.0628	296.0628	7.3700e-003	0.0000	296.2472
Total	**0.1326**	**0.2399**	**0.9652**	**4.0400e-003**	**0.3931**	**2.6700e-003**	**0.3958**	**0.1049**	**2.4700e-003**	**0.1074**	**0.0000**	**371.5378**	**371.5378**	**0.0116**	**0.0000**	**371.8281**

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	2.7211					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0927	0.4017	5.7171	9.2700e-003		0.0124	0.0124		0.0124	0.0124	0.0000	796.6142	796.6142	0.0477	0.0000	797.8057
Total	**2.8138**	**0.4017**	**5.7171**	**9.2700e-003**		**0.0124**	**0.0124**		**0.0124**	**0.0124**	**0.0000**	**796.6142**	**796.6142**	**0.0477**	**0.0000**	**797.8057**

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	5.4000e-003	0.1497	0.0547	7.7000e-004	0.0226	2.8000e-004	0.0229	6.5300e-003	2.7000e-004	6.8000e-003	0.0000	75.4749	75.4749	4.2400e-003	0.0000	75.5809
Worker	0.1272	0.0903	0.9105	3.2700e-003	0.3705	2.3900e-003	0.3728	0.0984	2.2000e-003	0.1006	0.0000	296.0628	296.0628	7.3700e-003	0.0000	296.2472
Total	**0.1326**	**0.2399**	**0.9652**	**4.0400e-003**	**0.3931**	**2.6700e-003**	**0.3958**	**0.1049**	**2.4700e-003**	**0.1074**	**0.0000**	**371.5378**	**371.5378**	**0.0116**	**0.0000**	**371.8281**

3.6 P1 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5205					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5224	3.5223	5.2313	8.5900e-003		0.1761	0.1761		0.1761	0.1761	0.0000	737.8903	737.8903	0.0416	0.0000	738.9291
Total	**3.0430**	**3.5223**	**5.2313**	**8.5900e-003**		**0.1761**	**0.1761**		**0.1761**	**0.1761**	**0.0000**	**737.8903**	**737.8903**	**0.0416**	**0.0000**	**738.9291**

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	4.8600e-003	0.1361	0.0497	7.1000e-004	0.0210	2.5000e-004	0.0212	6.0500e-003	2.4000e-004	6.2900e-003	0.0000	69.5325	69.5325	3.9300e-003	0.0000	69.6307
Worker	0.1123	0.0767	0.7884	2.9100e-003	0.3431	2.1700e-003	0.3453	0.0912	2.0000e-003	0.0932	0.0000	263.4325	263.4325	6.2800e-003	0.0000	263.5894
Total	**0.1172**	**0.2129**	**0.8381**	**3.6200e-003**	**0.3641**	**2.4200e-003**	**0.3665**	**0.0972**	**2.2400e-003**	**0.0995**	**0.0000**	**332.9649**	**332.9649**	**0.0102**	**0.0000**	**333.2201**

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	2.5205					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0859	0.3721	5.2957	8.5900e-003		0.0115	0.0115		0.0115	0.0115	0.0000	737.8895	737.8895	0.0416	0.0000	738.9282
Total	**2.6064**	**0.3721**	**5.2957**	**8.5900e-003**		**0.0115**	**0.0115**		**0.0115**	**0.0115**	**0.0000**	**737.8895**	**737.8895**	**0.0416**	**0.0000**	**738.9282**

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	4.8600e-003	0.1361	0.0497	7.1000e-004	0.0210	2.5000e-004	0.0212	6.0500e-003	2.4000e-004	6.2900e-003	0.0000	69.5325	69.5325	3.9300e-003	0.0000	69.6307
Worker	0.1123	0.0767	0.7884	2.9100e-003	0.3431	2.1700e-003	0.3453	0.0912	2.0000e-003	0.0932	0.0000	263.4325	263.4325	6.2800e-003	0.0000	263.5894

Total	0.1172	0.2129	0.8381	3.6200e-003	0.3641	2.4200e-003	0.3665	0.0972	2.2400e-003	0.0995	0.0000	332.9649	332.9649	0.0102	0.0000	333.2201

3.7 P1 Paving - 2019

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	0.2879	3.2381	2.4812	4.1300e-003		0.1546	0.1546		0.1422	0.1422	0.0000	370.8981	370.8981	0.1174	0.0000	373.8318
Paving	0.0219					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.3098**	**3.2381**	**2.4812**	**4.1300e-003**		**0.1546**	**0.1546**		**0.1422**	**0.1422**	**0.0000**	**370.8981**	**370.8981**	**0.1174**	**0.0000**	**373.8318**

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	0.0143	0.3365	0.0896	9.4000e-004	0.0261	3.2800e-003	0.0294	7.5300e-003	3.1400e-003	0.0107	0.0000	91.6670	91.6670	5.6200e-003	0.0000	91.8076
Worker	0.0166	0.0137	0.1279	3.9000e-004	0.0385	2.7000e-004	0.0387	0.0102	2.5000e-004	0.0105	0.0000	35.4602	35.4602	1.0900e-003	0.0000	35.4875
Total	**0.0308**	**0.3501**	**0.2175**	**1.3300e-003**	**0.0646**	**3.5500e-003**	**0.0681**	**0.0178**	**3.3900e-003**	**0.0211**	**0.0000**	**127.1272**	**127.1272**	**6.7100e-003**	**0.0000**	**127.2951**

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	0.0508	0.2200	2.4567	4.1300e-003		6.7700e-003	6.7700e-003		6.7700e-003	6.7700e-003	0.0000	370.8977	370.8977	0.1174	0.0000	373.8314
Paving	0.0219					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0727**	**0.2200**	**2.4567**	**4.1300e-003**		**6.7700e-003**	**6.7700e-003**		**6.7700e-003**	**6.7700e-003**	**0.0000**	**370.8977**	**370.8977**	**0.1174**	**0.0000**	**373.8314**

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	0.0143	0.3365	0.0896	9.4000e-004	0.0261	3.2800e-003	0.0294	7.5300e-003	3.1400e-003	0.0107	0.0000	91.6670	91.6670	5.6200e-003	0.0000	91.8076
Worker	0.0166	0.0137	0.1279	3.9000e-004	0.0385	2.7000e-004	0.0387	0.0102	2.5000e-004	0.0105	0.0000	35.4602	35.4602	1.0900e-003	0.0000	35.4875
Total	**0.0308**	**0.3501**	**0.2175**	**1.3300e-003**	**0.0646**	**3.5500e-003**	**0.0681**	**0.0178**	**3.3900e-003**	**0.0211**	**0.0000**	**127.1272**	**127.1272**	**6.7100e-003**	**0.0000**	**127.2951**

3.7 P1 Paving - 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	0.5833	6.4608	5.2092	9.0000e-003		0.3039	0.3039		0.2795	0.2795	0.0000	791.0916	791.0916	0.2559	0.0000	797.4880
Paving	0.0477					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.6310**	**6.4608**	**5.2092**	**9.0000e-003**		**0.3039**	**0.3039**		**0.2795**	**0.2795**	**0.0000**	**791.0916**	**791.0916**	**0.2559**	**0.0000**	**797.4880**

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	0.0246	0.6459	0.1743	2.0400e-003	0.0570	4.5700e-003	0.0615	0.0164	4.3700e-003	0.0208	0.0000	198.2196	198.2196	0.0118	0.0000	198.5144
Worker	0.0338	0.0269	0.2553	8.3000e-004	0.0839	5.7000e-004	0.0845	0.0223	5.3000e-004	0.0228	0.0000	74.8797	74.8797	2.1500e-003	0.0000	74.9336
Total	**0.0584**	**0.6728**	**0.4296**	**2.8700e-003**	**0.1409**	**5.1400e-003**	**0.1460**	**0.0387**	**4.9000e-003**	**0.0436**	**0.0000**	**273.0993**	**273.0993**	**0.0139**	**0.0000**	**273.4480**

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	0.1107	0.4798	5.3569	9.0000e-003		0.0148	0.0148		0.0148	0.0148	0.0000	791.0907	791.0907	0.2559	0.0000	797.4871
Paving	0.0477					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1585**	**0.4798**	**5.3569**	**9.0000e-003**		**0.0148**	**0.0148**		**0.0148**	**0.0148**	**0.0000**	**791.0907**	**791.0907**	**0.2559**	**0.0000**	**797.4871**

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	0.0246	0.6459	0.1743	2.0400e-003	0.0570	4.5700e-003	0.0615	0.0164	4.3700e-003	0.0208	0.0000	198.2196	198.2196	0.0118	0.0000	198.5144
Worker	0.0338	0.0269	0.2553	8.3000e-004	0.0839	5.7000e-004	0.0845	0.0223	5.3000e-004	0.0228	0.0000	74.8797	74.8797	2.1500e-003	0.0000	74.9336
Total	**0.0584**	**0.6728**	**0.4296**	**2.8700e-003**	**0.1409**	**5.1400e-003**	**0.1460**	**0.0387**	**4.9000e-003**	**0.0436**	**0.0000**	**273.0993**	**273.0993**	**0.0139**	**0.0000**	**273.4480**

3.7 P1 Paving - 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	0.5384	5.8746	5.0409	8.9800e-003		0.2707	0.2707		0.2490	0.2490	0.0000	788.8242	788.8242	0.2551	0.0000	795.2023
Paving	0.0476					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.5860**	**5.8746**	**5.0409**	**8.9800e-003**		**0.2707**	**0.2707**		**0.2490**	**0.2490**	**0.0000**	**788.8242**	**788.8242**	**0.2551**	**0.0000**	**795.2023**

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	0.0190	0.5591	0.1558	2.0100e-003	0.0568	1.7100e-003	0.0585	0.0164	1.6300e-003	0.0180	0.0000	195.7884	195.7884	0.0114	0.0000	196.0730
Worker	0.0319	0.0244	0.2381	8.0000e-004	0.0836	5.6000e-004	0.0842	0.0222	5.2000e-004	0.0227	0.0000	72.1313	72.1313	1.9800e-003	0.0000	72.1809
Total	**0.0509**	**0.5835**	**0.3939**	**2.8100e-003**	**0.1404**	**2.2700e-003**	**0.1427**	**0.0386**	**2.1500e-003**	**0.0407**	**0.0000**	**267.9197**	**267.9197**	**0.0134**	**0.0000**	**268.2538**

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	0.1104	0.4783	5.3398	8.9800e-003		0.0147	0.0147		0.0147	0.0147	0.0000	788.8233	788.8233	0.2551	0.0000	795.2013
Paving	0.0476					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1579**	**0.4783**	**5.3398**	**8.9800e-003**		**0.0147**	**0.0147**		**0.0147**	**0.0147**	**0.0000**	**788.8233**	**788.8233**	**0.2551**	**0.0000**	**795.2013**

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	0.0190	0.5591	0.1558	2.0100e-003	0.0568	1.7100e-003	0.0585	0.0164	1.6300e-003	0.0180	0.0000	195.7884	195.7884	0.0114	0.0000	196.0730
Worker	0.0319	0.0244	0.2381	8.0000e-004	0.0836	5.6000e-004	0.0842	0.0222	5.2000e-004	0.0227	0.0000	72.1313	72.1313	1.9800e-003	0.0000	72.1809

Total	**0.0509**	**0.5835**	**0.3939**	**2.8100e-003**	**0.1404**	**2.2700e-003**	**0.1427**	**0.0386**	**2.1500e-003**	**0.0407**	**0.0000**	**267.9197**	**267.9197**	**0.0134**	**0.0000**	**268.2538**

3.7 P1 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1063	1.1223	1.0791	2.0100e-003		0.0507	0.0507		0.0467	0.0467	0.0000	176.5963	176.5963	0.0571	0.0000	178.0242
Paving	0.0106					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1169**	**1.1223**	**1.0791**	**2.0100e-003**		**0.0507**	**0.0507**		**0.0467**	**0.0467**	**0.0000**	**176.5963**	**176.5963**	**0.0571**	**0.0000**	**178.0242**

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	3.9800e-003	0.1159	0.0334	4.4000e-004	0.0127	3.3000e-004	0.0130	3.6600e-003	3.1000e-004	3.9800e-003	0.0000	43.3655	43.3655	2.5000e-003	0.0000	43.4281
Worker	6.7600e-003	4.9900e-003	0.0495	1.7000e-004	0.0187	1.2000e-004	0.0188	4.9700e-003	1.1000e-004	5.0800e-003	0.0000	15.5396	15.5396	4.1000e-004	0.0000	15.5498
Total	**0.0107**	**0.1209**	**0.0829**	**6.1000e-004**	**0.0314**	**4.5000e-004**	**0.0319**	**8.6300e-003**	**4.2000e-004**	**9.0600e-003**	**0.0000**	**58.9051**	**58.9051**	**2.9100e-003**	**0.0000**	**58.9779**

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	0.0247	0.1070	1.1942	2.0100e-003		3.2900e-003	3.2900e-003		3.2900e-003	3.2900e-003	0.0000	176.5961	176.5961	0.0571	0.0000	178.0240
Paving	0.0106					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0353**	**0.1070**	**1.1942**	**2.0100e-003**		**3.2900e-003**	**3.2900e-003**		**3.2900e-003**	**3.2900e-003**	**0.0000**	**176.5961**	**176.5961**	**0.0571**	**0.0000**	**178.0240**

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	3.9800e-003	0.1159	0.0334	4.4000e-004	0.0127	3.3000e-004	0.0130	3.6600e-003	3.1000e-004	3.9800e-003	0.0000	43.3655	43.3655	2.5000e-003	0.0000	43.4281
Worker	6.7600e-003	4.9900e-003	0.0495	1.7000e-004	0.0187	1.2000e-004	0.0188	4.9700e-003	1.1000e-004	5.0800e-003	0.0000	15.5396	15.5396	4.1000e-004	0.0000	15.5498
Total	**0.0107**	**0.1209**	**0.0829**	**6.1000e-004**	**0.0314**	**4.5000e-004**	**0.0319**	**8.6300e-003**	**4.2000e-004**	**9.0600e-003**	**0.0000**	**58.9051**	**58.9051**	**2.9100e-003**	**0.0000**	**58.9779**

3.8 P1 Brush Management - 2019

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	0.3789	3.6169	3.0482	4.0300e-003		0.2561	0.2561		0.2356	0.2356	0.0000	362.1978	362.1978	0.1146	0.0000	365.0627
Total	**0.3789**	**3.6169**	**3.0482**	**4.0300e-003**	**0.0000**	**0.2561**	**0.2561**	**0.0000**	**0.2356**	**0.2356**	**0.0000**	**362.1978**	**362.1978**	**0.1146**	**0.0000**	**365.0627**

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	0.0291	0.6869	0.1830	1.9300e-003	0.0533	6.7000e-003	0.0600	0.0154	6.4100e-003	0.0218	0.0000	187.1534	187.1534	0.0115	0.0000	187.4404
Worker	0.1287	0.1063	0.9949	3.0500e-003	0.2992	2.0800e-003	0.3013	0.0795	1.9100e-003	0.0814	0.0000	275.8019	275.8019	8.4900e-003	0.0000	276.0142
Total	**0.1578**	**0.7933**	**1.1779**	**4.9800e-003**	**0.3525**	**8.7800e-003**	**0.3613**	**0.0949**	**8.3200e-003**	**0.1032**	**0.0000**	**462.9552**	**462.9552**	**0.0200**	**0.0000**	**463.4546**

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	0.0493	0.2137	3.0416	4.0300e-003		6.5800e-003	6.5800e-003		6.5800e-003	6.5800e-003	0.0000	362.1974	362.1974	0.1146	0.0000	365.0623
Total	**0.0493**	**0.2137**	**3.0416**	**4.0300e-003**	**0.0000**	**6.5800e-003**	**6.5800e-003**	**0.0000**	**6.5800e-003**	**6.5800e-003**	**0.0000**	**362.1974**	**362.1974**	**0.1146**	**0.0000**	**365.0623**

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	0.0291	0.6869	0.1830	1.9300e-003	0.0533	6.7000e-003	0.0600	0.0154	6.4100e-003	0.0218	0.0000	187.1534	187.1534	0.0115	0.0000	187.4404
Worker	0.1287	0.1063	0.9949	3.0500e-003	0.2992	2.0800e-003	0.3013	0.0795	1.9100e-003	0.0814	0.0000	275.8019	275.8019	8.4900e-003	0.0000	276.0142
Total	**0.1578**	**0.7933**	**1.1779**	**4.9800e-003**	**0.3525**	**8.7800e-003**	**0.3613**	**0.0949**	**8.3200e-003**	**0.1032**	**0.0000**	**462.9552**	**462.9552**	**0.0200**	**0.0000**	**463.4546**

3.8 P1 Brush Management - 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					
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	0.5281	5.0402	4.5272	6.0300e-003		0.3466	0.3466		0.3189	0.3189	0.0000	529.8226	529.8226	0.1714	0.0000	534.1065
Total	**0.5281**	**5.0402**	**4.5272**	**6.0300e-003**	**0.0000**	**0.3466**	**0.3466**	**0.0000**	**0.3189**	**0.3189**	**0.0000**	**529.8226**	**529.8226**	**0.1714**	**0.0000**	**534.1065**

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	0.0344	0.9042	0.2441	2.8500e-003	0.0797	6.3900e-003	0.0861	0.0230	6.1200e-003	0.0291	0.0000	277.5074	277.5074	0.0165	0.0000	277.9202
Worker	0.1803	0.1436	1.3617	4.4200e-003	0.4474	3.0600e-003	0.4505	0.1189	2.8200e-003	0.1217	0.0000	399.3583	399.3583	0.0115	0.0000	399.6456
Total	**0.2147**	**1.0478**	**1.6058**	**7.2700e-003**	**0.5271**	**9.4500e-003**	**0.5366**	**0.1419**	**8.9400e-003**	**0.1508**	**0.0000**	**676.8657**	**676.8657**	**0.0280**	**0.0000**	**677.5658**

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	0.0738	0.3196	4.5479	6.0300e-003		9.8300e-003	9.8300e-003		9.8300e-003	9.8300e-003	0.0000	529.8220	529.8220	0.1714	0.0000	534.1058
Total	**0.0738**	**0.3196**	**4.5479**	**6.0300e-003**	**0.0000**	**9.8300e-003**	**9.8300e-003**	**0.0000**	**9.8300e-003**	**9.8300e-003**	**0.0000**	**529.8220**	**529.8220**	**0.1714**	**0.0000**	**534.1058**

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	0.0344	0.9042	0.2441	2.8500e-003	0.0797	6.3900e-003	0.0861	0.0230	6.1200e-003	0.0291	0.0000	277.5074	277.5074	0.0165	0.0000	277.9202
Worker	0.1803	0.1436	1.3617	4.4200e-003	0.4474	3.0600e-003	0.4505	0.1189	2.8200e-003	0.1217	0.0000	399.3583	399.3583	0.0115	0.0000	399.6456

Total	**0.2147**	**1.0478**	**1.6058**	**7.2700e-003**	**0.5271**	**9.4500e-003**	**0.5366**	**0.1419**	**8.9400e-003**	**0.1508**	**0.0000**	**676.8657**	**676.8657**	**0.0280**	**0.0000**	**677.5658**

3.8 P1 Brush Management - 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					
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	0.1973	1.9035	1.8564	2.5000e-003		0.1248	0.1248		0.1148	0.1148	0.0000	219.4415	219.4415	0.0710	0.0000	221.2158
Total	**0.1973**	**1.9035**	**1.8564**	**2.5000e-003**	**0.0000**	**0.1248**	**0.1248**	**0.0000**	**0.1148**	**0.1148**	**0.0000**	**219.4415**	**219.4415**	**0.0710**	**0.0000**	**221.2158**

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	0.0111	0.3251	0.0906	1.1700e-003	0.0330	9.9000e-004	0.0340	9.5200e-003	9.5000e-004	0.0105	0.0000	113.8450	113.8450	6.6200e-003	0.0000	114.0105
Worker	0.0706	0.0541	0.5275	1.7700e-003	0.1852	1.2500e-003	0.1865	0.0492	1.1500e-003	0.0504	0.0000	159.7795	159.7795	4.4000e-003	0.0000	159.8894
Total	**0.0816**	**0.3792**	**0.6181**	**2.9400e-003**	**0.2182**	**2.2400e-003**	**0.2205**	**0.0587**	**2.1000e-003**	**0.0608**	**0.0000**	**273.6246**	**273.6246**	**0.0110**	**0.0000**	**273.8999**

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	0.0305	0.1323	1.8829	2.5000e-003		4.0700e-003	4.0700e-003		4.0700e-003	4.0700e-003	0.0000	219.4413	219.4413	0.0710	0.0000	221.2156
Total	**0.0305**	**0.1323**	**1.8829**	**2.5000e-003**	**0.0000**	**4.0700e-003**	**4.0700e-003**	**0.0000**	**4.0700e-003**	**4.0700e-003**	**0.0000**	**219.4413**	**219.4413**	**0.0710**	**0.0000**	**221.2156**

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	0.0111	0.3251	0.0906	1.1700e-003	0.0330	9.9000e-004	0.0340	9.5200e-003	9.5000e-004	0.0105	0.0000	113.8450	113.8450	6.6200e-003	0.0000	114.0105
Worker	0.0706	0.0541	0.5275	1.7700e-003	0.1852	1.2500e-003	0.1865	0.0492	1.1500e-003	0.0504	0.0000	159.7795	159.7795	4.4000e-003	0.0000	159.8894
Total	**0.0816**	**0.3792**	**0.6181**	**2.9400e-003**	**0.2182**	**2.2400e-003**	**0.2205**	**0.0587**	**2.1000e-003**	**0.0608**	**0.0000**	**273.6246**	**273.6246**	**0.0110**	**0.0000**	**273.8999**

3.9 P1 Reservoirs - 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					

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
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	6.0800e-003	0.0576	0.0564	9.0000e-005		3.5200e-003	3.5200e-003		3.3600e-003	3.3600e-003	0.0000	7.8276	7.8276	1.6300e-003	0.0000	7.8683
Total	**6.0800e-003**	**0.0576**	**0.0564**	**9.0000e-005**	**0.0000**	**3.5200e-003**	**3.5200e-003**	**0.0000**	**3.3600e-003**	**3.3600e-003**	**0.0000**	**7.8276**	**7.8276**	**1.6300e-003**	**0.0000**	**7.8683**

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	9.0000e-005	2.0200e-003	5.4000e-004	1.0000e-005	1.5000e-004	2.0000e-005	1.7000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.5135	0.5135	3.0000e-005	0.0000	0.5143
Worker	6.1000e-004	5.2000e-004	4.8200e-003	1.0000e-005	1.3100e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.2414	1.2414	4.0000e-005	0.0000	1.2424
Total	**7.0000e-004**	**2.5400e-003**	**5.3600e-003**	**2.0000e-005**	**1.4600e-003**	**3.0000e-005**	**1.4900e-003**	**3.9000e-004**	**3.0000e-005**	**4.2000e-004**	**0.0000**	**1.7549**	**1.7549**	**7.0000e-005**	**0.0000**	**1.7568**

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	1.1500e-003	0.0111	0.0611	9.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	7.8276	7.8276	1.6300e-003	0.0000	7.8683
Total	**1.1500e-003**	**0.0111**	**0.0611**	**9.0000e-005**	**0.0000**	**1.3000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**1.3000e-004**	**0.0000**	**7.8276**	**7.8276**	**1.6300e-003**	**0.0000**	**7.8683**

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	9.0000e-005	2.0200e-003	5.4000e-004	1.0000e-005	1.5000e-004	2.0000e-005	1.7000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.5135	0.5135	3.0000e-005	0.0000	0.5143
Worker	6.1000e-004	5.2000e-004	4.8200e-003	1.0000e-005	1.3100e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.2414	1.2414	4.0000e-005	0.0000	1.2424
Total	**7.0000e-004**	**2.5400e-003**	**5.3600e-003**	**2.0000e-005**	**1.4600e-003**	**3.0000e-005**	**1.4900e-003**	**3.9000e-004**	**3.0000e-005**	**4.2000e-004**	**0.0000**	**1.7549**	**1.7549**	**7.0000e-005**	**0.0000**	**1.7568**

3.9 P1 Reservoirs - 2019

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	0.2123	2.0608	2.2124	3.4800e-003		0.1184	0.1184		0.1132	0.1132	0.0000	306.3092	306.3092	0.0630	0.0000	307.8846
Total	**0.2123**	**2.0608**	**2.2124**	**3.4800e-003**	**0.0000**	**0.1184**	**0.1184**	**0.0000**	**0.1132**	**0.1132**	**0.0000**	**306.3092**	**306.3092**	**0.0630**	**0.0000**	**307.8846**

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	3.1300e-003	0.0738	0.0197	2.1000e-004	5.7300e-003	7.2000e-004	6.4500e-003	1.6500e-003	6.9000e-004	2.3400e-003	0.0000	20.1158	20.1158	1.2300e-003	0.0000	20.1467
Worker	0.0222	0.0183	0.1715	5.3000e-004	0.0516	3.6000e-004	0.0520	0.0137	3.3000e-004	0.0140	0.0000	47.5539	47.5539	1.4600e-003	0.0000	47.5906
Total	**0.0253**	**0.0922**	**0.1912**	**7.4000e-004**	**0.0573**	**1.0800e-003**	**0.0584**	**0.0154**	**1.0200e-003**	**0.0164**	**0.0000**	**67.6697**	**67.6697**	**2.6900e-003**	**0.0000**	**67.7372**

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	0.0456	0.4379	2.4129	3.4800e-003		5.2200e-003	5.2200e-003		5.2200e-003	5.2200e-003	0.0000	306.3088	306.3088	0.0630	0.0000	307.8842
Total	**0.0456**	**0.4379**	**2.4129**	**3.4800e-003**	**0.0000**	**5.2200e-003**	**5.2200e-003**	**0.0000**	**5.2200e-003**	**5.2200e-003**	**0.0000**	**306.3088**	**306.3088**	**0.0630**	**0.0000**	**307.8842**

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	3.1300e-003	0.0738	0.0197	2.1000e-004	5.7300e-003	7.2000e-004	6.4500e-003	1.6500e-003	6.9000e-004	2.3400e-003	0.0000	20.1158	20.1158	1.2300e-003	0.0000	20.1467
Worker	0.0222	0.0183	0.1715	5.3000e-004	0.0516	3.6000e-004	0.0520	0.0137	3.3000e-004	0.0140	0.0000	47.5539	47.5539	1.4600e-003	0.0000	47.5906

Total	**0.0253**	**0.0922**	**0.1912**	**7.4000e-004**	**0.0573**	**1.0800e-003**	**0.0584**	**0.0154**	**1.0200e-003**	**0.0164**	**0.0000**	**67.6697**	**67.6697**	**2.6900e-003**	**0.0000**	**67.7372**

3.10 P2 Site Preparation - 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					
Fugitive Dust					5.9400e-003	0.0000	5.9400e-003	6.4000e-004	0.0000	6.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0135	0.1515	0.0820	1.8000e-004		6.7300e-003	6.7300e-003		6.2900e-003	6.2900e-003	0.0000	16.0611	16.0611	4.4400e-003	0.0000	16.1722
Total	**0.0135**	**0.1515**	**0.0820**	**1.8000e-004**	**5.9400e-003**	**6.7300e-003**	**0.0127**	**6.4000e-004**	**6.2900e-003**	**6.9300e-003**	**0.0000**	**16.0611**	**16.0611**	**4.4400e-003**	**0.0000**	**16.1722**

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	1.2000e-004	5.9200e-003	9.5000e-004	1.0000e-005	0.1510	1.0000e-005	0.1510	0.0151	1.0000e-005	0.0151	0.0000	0.7239	0.7239	1.2000e-004	0.0000	0.7269
Vendor	3.1000e-004	8.2300e-003	2.2200e-003	3.0000e-005	7.3000e-004	6.0000e-005	7.8000e-004	2.1000e-004	6.0000e-005	2.6000e-004	0.0000	2.5251	2.5251	1.5000e-004	0.0000	2.5289
Worker	1.0800e-003	8.6000e-004	8.1300e-003	3.0000e-005	2.6700e-003	2.0000e-005	2.6900e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	2.3847	2.3847	7.0000e-005	0.0000	2.3864
Total	**1.5100e-003**	**0.0150**	**0.0113**	**7.0000e-005**	**0.1544**	**9.0000e-005**	**0.1544**	**0.0160**	**9.0000e-005**	**0.0161**	**0.0000**	**5.6337**	**5.6337**	**3.4000e-004**	**0.0000**	**5.6422**

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					2.3200e-003	0.0000	2.3200e-003	2.5000e-004	0.0000	2.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1700e-003	9.4200e-003	0.0980	1.8000e-004		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	16.0611	16.0611	4.4400e-003	0.0000	16.1721
Total	**2.1700e-003**	**9.4200e-003**	**0.0980**	**1.8000e-004**	**2.3200e-003**	**2.9000e-004**	**2.6100e-003**	**2.5000e-004**	**2.9000e-004**	**5.4000e-004**	**0.0000**	**16.0611**	**16.0611**	**4.4400e-003**	**0.0000**	**16.1721**

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	1.2000e-004	5.9200e-003	9.5000e-004	1.0000e-005	0.0924	1.0000e-005	0.0924	9.2100e-003	1.0000e-005	9.2200e-003	0.0000	0.7239	0.7239	1.2000e-004	0.0000	0.7269
Vendor	3.1000e-004	8.2300e-003	2.2200e-003	3.0000e-005	7.3000e-004	6.0000e-005	7.8000e-004	2.1000e-004	6.0000e-005	2.6000e-004	0.0000	2.5251	2.5251	1.5000e-004	0.0000	2.5289
Worker	1.0800e-003	8.6000e-004	8.1300e-003	3.0000e-005	2.6700e-003	2.0000e-005	2.6900e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	2.3847	2.3847	7.0000e-005	0.0000	2.3864
Total	**1.5100e-003**	**0.0150**	**0.0113**	**7.0000e-005**	**0.0958**	**9.0000e-005**	**0.0959**	**0.0101**	**9.0000e-005**	**0.0102**	**0.0000**	**5.6337**	**5.6337**	**3.4000e-004**	**0.0000**	**5.6422**

3.10 P2 Site Preparation - 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					

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
Fugitive Dust					5.9400e-003	0.0000	5.9400e-003	6.4000e-004	0.0000	6.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0190	0.2110	0.1211	2.8000e-004		9.1200e-003	9.1200e-003		8.5200e-003	8.5200e-003	0.0000	24.0929	24.0929	6.6400e-003	0.0000	24.2589
Total	**0.0190**	**0.2110**	**0.1211**	**2.8000e-004**	**5.9400e-003**	**9.1200e-003**	**0.0151**	**6.4000e-004**	**8.5200e-003**	**9.1600e-003**	**0.0000**	**24.0929**	**24.0929**	**6.6400e-003**	**0.0000**	**24.2589**

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	1.7000e-004	8.5500e-003	1.3600e-003	1.0000e-005	0.1510	1.0000e-005	0.1510	0.0151	1.0000e-005	0.0151	0.0000	1.0747	1.0747	1.7000e-004	0.0000	1.0790
Vendor	3.7000e-004	0.0107	2.9900e-003	4.0000e-005	1.0900e-003	3.0000e-005	1.1200e-003	3.1000e-004	3.0000e-005	3.5000e-004	0.0000	3.7531	3.7531	2.2000e-004	0.0000	3.7586
Worker	1.5300e-003	1.1700e-003	0.0114	4.0000e-005	4.0100e-003	3.0000e-005	4.0300e-003	1.0600e-003	2.0000e-005	1.0900e-003	0.0000	3.4568	3.4568	1.0000e-004	0.0000	3.4592
Total	**2.0700e-003**	**0.0204**	**0.0158**	**9.0000e-005**	**0.1561**	**7.0000e-005**	**0.1561**	**0.0164**	**6.0000e-005**	**0.0165**	**0.0000**	**8.2846**	**8.2846**	**4.9000e-004**	**0.0000**	**8.2968**

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					2.3200e-003	0.0000	2.3200e-003	2.5000e-004	0.0000	2.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2600e-003	0.0141	0.1469	2.8000e-004		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	24.0929	24.0929	6.6400e-003	0.0000	24.2589
Total	**3.2600e-003**	**0.0141**	**0.1469**	**2.8000e-004**	**2.3200e-003**	**4.3000e-004**	**2.7500e-003**	**2.5000e-004**	**4.3000e-004**	**6.8000e-004**	**0.0000**	**24.0929**	**24.0929**	**6.6400e-003**	**0.0000**	**24.2589**

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	1.7000e-004	8.5500e-003	1.3600e-003	1.0000e-005	0.0924	1.0000e-005	0.0925	9.2200e-003	1.0000e-005	9.2200e-003	0.0000	1.0747	1.0747	1.7000e-004	0.0000	1.0790
Vendor	3.7000e-004	0.0107	2.9900e-003	4.0000e-005	1.0900e-003	3.0000e-005	1.1200e-003	3.1000e-004	3.0000e-005	3.5000e-004	0.0000	3.7531	3.7531	2.2000e-004	0.0000	3.7586
Worker	1.5300e-003	1.1700e-003	0.0114	4.0000e-005	4.0100e-003	3.0000e-005	4.0300e-003	1.0600e-003	2.0000e-005	1.0900e-003	0.0000	3.4568	3.4568	1.0000e-004	0.0000	3.4592
Total	**2.0700e-003**	**0.0204**	**0.0158**	**9.0000e-005**	**0.0975**	**7.0000e-005**	**0.0976**	**0.0106**	**6.0000e-005**	**0.0107**	**0.0000**	**8.2846**	**8.2846**	**4.9000e-004**	**0.0000**	**8.2968**

3.11 P2 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.9400e-003	0.0000	5.9400e-003	6.4000e-004	0.0000	6.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9445	22.5608	12.9124	0.0364		0.8462	0.8462		0.7785	0.7785	0.0000	3,201.0490	3,201.0490	1.0353	0.0000	3,226.9311
Total	**1.9445**	**22.5608**	**12.9124**	**0.0364**	**5.9400e-003**	**0.8462**	**0.8522**	**6.4000e-004**	**0.7785**	**0.7792**	**0.0000**	**3,201.0490**	**3,201.0490**	**1.0353**	**0.0000**	**3,226.9311**

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	6.4700e-003	0.3318	0.0526	4.2000e-004	6.7586	2.8000e-004	6.7589	0.6746	2.6000e-004	0.6749	0.0000	41.6973	41.6973	6.6600e-003	0.0000	41.8638
Vendor	0.0255	0.7477	0.2083	2.6900e-003	0.0759	2.2800e-003	0.0782	0.0219	2.1800e-003	0.0241	0.0000	261.8436	261.8436	0.0152	0.0000	262.2241
Worker	0.0811	0.0622	0.6066	2.0300e-003	0.2130	1.4300e-003	0.2144	0.0566	1.3200e-003	0.0579	0.0000	183.7465	183.7465	5.0500e-003	0.0000	183.8728
Total	**0.1131**	**1.1418**	**0.8676**	**5.1400e-003**	**7.0476**	**3.9900e-003**	**7.0516**	**0.7531**	**3.7600e-003**	**0.7569**	**0.0000**	**487.2874**	**487.2874**	**0.0269**	**0.0000**	**487.9608**

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					2.3200e-003	0.0000	2.3200e-003	2.5000e-004	0.0000	2.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4486	1.9440	17.2082	0.0364		0.0598	0.0598		0.0598	0.0598	0.0000	3,201.0452	3,201.0452	1.0353	0.0000	3,226.9273
Total	**0.4486**	**1.9440**	**17.2082**	**0.0364**	**2.3200e-003**	**0.0598**	**0.0621**	**2.5000e-004**	**0.0598**	**0.0601**	**0.0000**	**3,201.0452**	**3,201.0452**	**1.0353**	**0.0000**	**3,226.9273**

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	6.4700e-003	0.3318	0.0526	4.2000e-004	4.1382	2.8000e-004	4.1385	0.4126	2.6000e-004	0.4128	0.0000	41.6973	41.6973	6.6600e-003	0.0000	41.8638
Vendor	0.0255	0.7477	0.2083	2.6900e-003	0.0759	2.2800e-003	0.0782	0.0219	2.1800e-003	0.0241	0.0000	261.8436	261.8436	0.0152	0.0000	262.2241
Worker	0.0811	0.0622	0.6066	2.0300e-003	0.2130	1.4300e-003	0.2144	0.0566	1.3200e-003	0.0579	0.0000	183.7465	183.7465	5.0500e-003	0.0000	183.8728

Total	**0.1131**	**1.1418**	**0.8676**	**5.1400e-003**	**4.4272**	**3.9900e-003**	**4.4311**	**0.4910**	**3.7600e-003**	**0.4948**	**0.0000**	**487.2874**	**487.2874**	**0.0269**	**0.0000**	**487.9608**

3.11 P2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.9400e-003	0.0000	5.9400e-003	6.4000e-004	0.0000	6.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5881	17.3617	11.2506	0.0337		0.6551	0.6551		0.6026	0.6026	0.0000	2,956.3304	2,956.3304	0.9561	0.0000	2,980.2338
Total	**1.5881**	**17.3617**	**11.2506**	**0.0337**	**5.9400e-003**	**0.6551**	**0.6610**	**6.4000e-004**	**0.6026**	**0.6033**	**0.0000**	**2,956.3304**	**2,956.3304**	**0.9561**	**0.0000**	**2,980.2338**

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	5.6000e-003	0.2945	0.0470	3.8000e-004	6.7586	2.2000e-004	6.7588	0.6746	2.1000e-004	0.6748	0.0000	38.1079	38.1079	5.8100e-003	0.0000	38.2532
Vendor	0.0220	0.6398	0.1842	2.4500e-003	0.0701	1.8200e-003	0.0719	0.0202	1.7400e-003	0.0220	0.0000	239.3776	239.3776	0.0138	0.0000	239.7231
Worker	0.0711	0.0524	0.5205	1.8100e-003	0.1966	1.2900e-003	0.1979	0.0522	1.1900e-003	0.0534	0.0000	163.3880	163.3880	4.2800e-003	0.0000	163.4949
Total	**0.0986**	**0.9867**	**0.7517**	**4.6400e-003**	**7.0253**	**3.3300e-003**	**7.0286**	**0.7470**	**3.1400e-003**	**0.7502**	**0.0000**	**440.8735**	**440.8735**	**0.0239**	**0.0000**	**441.4712**

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					2.3200e-003	0.0000	2.3200e-003	2.5000e-004	0.0000	2.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4141	1.7945	15.8845	0.0337		0.0552	0.0552		0.0552	0.0552	0.0000	2,956.3269	2,956.3269	0.9561	0.0000	2,980.2303
Total	**0.4141**	**1.7945**	**15.8845**	**0.0337**	**2.3200e-003**	**0.0552**	**0.0575**	**2.5000e-004**	**0.0552**	**0.0555**	**0.0000**	**2,956.3269**	**2,956.3269**	**0.9561**	**0.0000**	**2,980.2303**

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	5.6000e-003	0.2945	0.0470	3.8000e-004	4.1382	2.2000e-004	4.1384	0.4125	2.1000e-004	0.4127	0.0000	38.1079	38.1079	5.8100e-003	0.0000	38.2532
Vendor	0.0220	0.6398	0.1842	2.4500e-003	0.0701	1.8200e-003	0.0719	0.0202	1.7400e-003	0.0220	0.0000	239.3776	239.3776	0.0138	0.0000	239.7231
Worker	0.0711	0.0524	0.5205	1.8100e-003	0.1966	1.2900e-003	0.1979	0.0522	1.1900e-003	0.0534	0.0000	163.3880	163.3880	4.2800e-003	0.0000	163.4949
Total	**0.0986**	**0.9867**	**0.7517**	**4.6400e-003**	**4.4049**	**3.3300e-003**	**4.4082**	**0.4850**	**3.1400e-003**	**0.4881**	**0.0000**	**440.8735**	**440.8735**	**0.0239**	**0.0000**	**441.4712**

3.12 P2 Building Construction - 2025

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
Off-Road	1.0802	10.0061	13.7002	0.0249		0.4159	0.4159		0.4044	0.4044	0.0000	2,153.4467	2,153.4467	0.2350	0.0000	2,159.3220
Total	**1.0802**	**10.0061**	**13.7002**	**0.0249**		**0.4159**	**0.4159**		**0.4044**	**0.4044**	**0.0000**	**2,153.4467**	**2,153.4467**	**0.2350**	**0.0000**	**2,159.3220**

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	0.0188	0.5268	0.1940	2.7800e-003	0.0827	9.8000e-004	0.0837	0.0239	9.4000e-004	0.0248	0.0000	272.8438	272.8438	0.0155	0.0000	273.2321
Worker	0.2651	0.1746	1.8153	6.8900e-003	0.8460	5.2600e-003	0.8513	0.2247	4.8500e-003	0.2296	0.0000	623.1908	623.1908	0.0143	0.0000	623.5481
Total	**0.2839**	**0.7014**	**2.0092**	**9.6700e-003**	**0.9287**	**6.2400e-003**	**0.9349**	**0.2486**	**5.7900e-003**	**0.2544**	**0.0000**	**896.0346**	**896.0346**	**0.0298**	**0.0000**	**896.7802**

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	0.2632	1.1407	15.3493	0.0249		0.0351	0.0351		0.0351	0.0351	0.0000	2,153.4441	2,153.4441	0.2350	0.0000	2,159.3194
Total	**0.2632**	**1.1407**	**15.3493**	**0.0249**		**0.0351**	**0.0351**		**0.0351**	**0.0351**	**0.0000**	**2,153.4441**	**2,153.4441**	**0.2350**	**0.0000**	**2,159.3194**

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	0.0188	0.5268	0.1940	2.7800e-003	0.0827	9.8000e-004	0.0837	0.0239	9.4000e-004	0.0248	0.0000	272.8438	272.8438	0.0155	0.0000	273.2321
Worker	0.2651	0.1746	1.8153	6.8900e-003	0.8460	5.2600e-003	0.8513	0.2247	4.8500e-003	0.2296	0.0000	623.1908	623.1908	0.0143	0.0000	623.5481
Total	**0.2839**	**0.7014**	**2.0092**	**9.6700e-003**	**0.9287**	**6.2400e-003**	**0.9349**	**0.2486**	**5.7900e-003**	**0.2544**	**0.0000**	**896.0346**	**896.0346**	**0.0298**	**0.0000**	**896.7802**

3.12 P2 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1863	10.9891	15.0461	0.0274		0.4568	0.4568		0.4441	0.4441	0.0000	2,365.0134	2,365.0134	0.2581	0.0000	2,371.4659
Total	**1.1863**	**10.9891**	**15.0461**	**0.0274**		**0.4568**	**0.4568**		**0.4441**	**0.4441**	**0.0000**	**2,365.0134**	**2,365.0134**	**0.2581**	**0.0000**	**2,371.4659**

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	0.0202	0.5676	0.2116	3.0400e-003	0.0908	1.0500e-003	0.0919	0.0262	1.0100e-003	0.0272	0.0000	298.1866	298.1866	0.0171	0.0000	298.6135
Worker	0.2798	0.1785	1.8747	7.2800e-003	0.9291	5.6000e-003	0.9347	0.2468	5.1500e-003	0.2520	0.0000	659.3454	659.3454	0.0146	0.0000	659.7112
Total	**0.3000**	**0.7462**	**2.0863**	**0.0103**	**1.0199**	**6.6500e-003**	**1.0266**	**0.2730**	**6.1600e-003**	**0.2792**	**0.0000**	**957.5320**	**957.5320**	**0.0317**	**0.0000**	**958.3247**

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	0.2891	1.2528	16.8573	0.0274		0.0386	0.0386		0.0386	0.0386	0.0000	2,365.0105	2,365.0105	0.2581	0.0000	2,371.4631
Total	**0.2891**	**1.2528**	**16.8573**	**0.0274**		**0.0386**	**0.0386**		**0.0386**	**0.0386**	**0.0000**	**2,365.0105**	**2,365.0105**	**0.2581**	**0.0000**	**2,371.4631**

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	0.0202	0.5676	0.2116	3.0400e-003	0.0908	1.0500e-003	0.0919	0.0262	1.0100e-003	0.0272	0.0000	298.1866	298.1866	0.0171	0.0000	298.6135
Worker	0.2798	0.1785	1.8747	7.2800e-003	0.9291	5.6000e-003	0.9347	0.2468	5.1500e-003	0.2520	0.0000	659.3454	659.3454	0.0146	0.0000	659.7112

Total	**0.3000**	**0.7462**	**2.0863**	**0.0103**	**1.0199**	**6.6500e-003**	**1.0266**	**0.2730**	**6.1600e-003**	**0.2792**	**0.0000**	**957.5320**	**957.5320**	**0.0317**	**0.0000**	**958.3247**

3.12 P2 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0840	10.0412	13.7482	0.0250		0.4174	0.4174		0.4058	0.4058	0.0000	2,161.0026	2,161.0026	0.2358	0.0000	2,166.8986
Total	**1.0840**	**10.0412**	**13.7482**	**0.0250**		**0.4174**	**0.4174**		**0.4058**	**0.4058**	**0.0000**	**2,161.0026**	**2,161.0026**	**0.2358**	**0.0000**	**2,166.8986**

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	0.0181	0.5088	0.1921	2.7600e-003	0.0830	9.5000e-004	0.0840	0.0239	9.0000e-004	0.0249	0.0000	271.1995	271.1995	0.0156	0.0000	271.5900
Worker	0.2452	0.1524	1.6166	6.4300e-003	0.8490	4.8300e-003	0.8538	0.2255	4.4500e-003	0.2300	0.0000	582.2888	582.2888	0.0125	0.0000	582.6019
Total	**0.2633**	**0.6612**	**1.8087**	**9.1900e-003**	**0.9320**	**5.7800e-003**	**0.9377**	**0.2495**	**5.3500e-003**	**0.2548**	**0.0000**	**853.4883**	**853.4883**	**0.0281**	**0.0000**	**854.1920**

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	0.2642	1.1447	15.4032	0.0250		0.0352	0.0352		0.0352	0.0352	0.0000	2,161.0000	2,161.0000	0.2358	0.0000	2,166.8960
Total	**0.2642**	**1.1447**	**15.4032**	**0.0250**		**0.0352**	**0.0352**		**0.0352**	**0.0352**	**0.0000**	**2,161.0000**	**2,161.0000**	**0.2358**	**0.0000**	**2,166.8960**

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	0.0181	0.5088	0.1921	2.7600e-003	0.0830	9.5000e-004	0.0840	0.0239	9.0000e-004	0.0249	0.0000	271.1995	271.1995	0.0156	0.0000	271.5900
Worker	0.2452	0.1524	1.6166	6.4300e-003	0.8490	4.8300e-003	0.8538	0.2255	4.4500e-003	0.2300	0.0000	582.2888	582.2888	0.0125	0.0000	582.6019
Total	**0.2633**	**0.6612**	**1.8087**	**9.1900e-003**	**0.9320**	**5.7800e-003**	**0.9377**	**0.2495**	**5.3500e-003**	**0.2548**	**0.0000**	**853.4883**	**853.4883**	**0.0281**	**0.0000**	**854.1920**

3.13 P2 Trenching - 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					

	ROG	NOx	CO	SO2	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	0.2293	2.1557	3.4322	5.1700e-003		0.1099	0.1099		0.1011	0.1011	0.0000	454.3005	454.3005	0.1469	0.0000	457.9738
Total	**0.2293**	**2.1557**	**3.4322**	**5.1700e-003**		**0.1099**	**0.1099**		**0.1011**	**0.1011**	**0.0000**	**454.3005**	**454.3005**	**0.1469**	**0.0000**	**457.9738**

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	0.0213	0.6200	0.1785	2.3800e-003	0.0679	1.7600e-003	0.0697	0.0196	1.6800e-003	0.0213	0.0000	231.9435	231.9435	0.0134	0.0000	232.2783
Worker	0.0368	0.0272	0.2697	9.4000e-004	0.1019	6.7000e-004	0.1025	0.0271	6.2000e-004	0.0277	0.0000	84.6539	84.6539	2.2200e-003	0.0000	84.7093
Total	**0.0581**	**0.6471**	**0.4482**	**3.3200e-003**	**0.1698**	**2.4300e-003**	**0.1722**	**0.0467**	**2.3000e-003**	**0.0490**	**0.0000**	**316.5974**	**316.5974**	**0.0156**	**0.0000**	**316.9876**

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	0.0635	0.2749	3.9126	5.1700e-003		8.4600e-003	8.4600e-003		8.4600e-003	8.4600e-003	0.0000	454.3000	454.3000	0.1469	0.0000	457.9733
Total	**0.0635**	**0.2749**	**3.9126**	**5.1700e-003**		**8.4600e-003**	**8.4600e-003**		**8.4600e-003**	**8.4600e-003**	**0.0000**	**454.3000**	**454.3000**	**0.1469**	**0.0000**	**457.9733**

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	0.0213	0.6200	0.1785	2.3800e-003	0.0679	1.7600e-003	0.0697	0.0196	1.6800e-003	0.0213	0.0000	231.9435	231.9435	0.0134	0.0000	232.2783
Worker	0.0368	0.0272	0.2697	9.4000e-004	0.1019	6.7000e-004	0.1025	0.0271	6.2000e-004	0.0277	0.0000	84.6539	84.6539	2.2200e-003	0.0000	84.7093
Total	**0.0581**	**0.6471**	**0.4482**	**3.3200e-003**	**0.1698**	**2.4300e-003**	**0.1722**	**0.0467**	**2.3000e-003**	**0.0490**	**0.0000**	**316.5974**	**316.5974**	**0.0156**	**0.0000**	**316.9876**

3.13 P2 Trenching - 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	0.2124	1.9256	3.4297	5.1800e-003		0.0947	0.0947		0.0871	0.0871	0.0000	454.5423	454.5423	0.1470	0.0000	458.2175
Total	**0.2124**	**1.9256**	**3.4297**	**5.1800e-003**		**0.0947**	**0.0947**		**0.0871**	**0.0871**	**0.0000**	**454.5423**	**454.5423**	**0.1470**	**0.0000**	**458.2175**

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	0.0162	0.4490	0.1641	2.3200e-003	0.0679	8.4000e-004	0.0688	0.0196	8.0000e-004	0.0204	0.0000	226.4248	226.4248	0.0127	0.0000	226.7427
Worker	0.0350	0.0248	0.2504	9.0000e-004	0.1019	6.6000e-004	0.1025	0.0271	6.0000e-004	0.0277	0.0000	81.4173	81.4173	2.0300e-003	0.0000	81.4680
Total	**0.0512**	**0.4738**	**0.4144**	**3.2200e-003**	**0.1698**	**1.5000e-003**	**0.1713**	**0.0467**	**1.4000e-003**	**0.0481**	**0.0000**	**307.8421**	**307.8421**	**0.0147**	**0.0000**	**308.2107**

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	0.0635	0.2749	3.9126	5.1800e-003		8.4600e-003	8.4600e-003		8.4600e-003	8.4600e-003	0.0000	454.5417	454.5417	0.1470	0.0000	458.2169
Total	**0.0635**	**0.2749**	**3.9126**	**5.1800e-003**		**8.4600e-003**	**8.4600e-003**		**8.4600e-003**	**8.4600e-003**	**0.0000**	**454.5417**	**454.5417**	**0.1470**	**0.0000**	**458.2169**

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	0.0162	0.4490	0.1641	2.3200e-003	0.0679	8.4000e-004	0.0688	0.0196	8.0000e-004	0.0204	0.0000	226.4248	226.4248	0.0127	0.0000	226.7427
Worker	0.0350	0.0248	0.2504	9.0000e-004	0.1019	6.6000e-004	0.1025	0.0271	6.0000e-004	0.0277	0.0000	81.4173	81.4173	2.0300e-003	0.0000	81.4680

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Total	**0.0512**	**0.4738**	**0.4144**	**3.2200e-003**	**0.1698**	**1.5000e-003**	**0.1713**	**0.0467**	**1.4000e-003**	**0.0481**	**0.0000**	**307.8421**	**307.8421**	**0.0147**	**0.0000**	**308.2107**

3.13 P2 Trenching - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0474	0.4164	0.8042	1.2100e-003		0.0198	0.0198		0.0182	0.0182	0.0000	106.3976	106.3976	0.0344	0.0000	107.2579
Total	**0.0474**	**0.4164**	**0.8042**	**1.2100e-003**		**0.0198**	**0.0198**		**0.0182**	**0.0182**	**0.0000**	**106.3976**	**106.3976**	**0.0344**	**0.0000**	**107.2579**

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	3.6900e-003	0.1032	0.0377	5.4000e-004	0.0159	1.9000e-004	0.0161	4.5800e-003	1.8000e-004	4.7700e-003	0.0000	52.6907	52.6907	2.9800e-003	0.0000	52.7651
Worker	7.8000e-003	5.3300e-003	0.0548	2.0000e-004	0.0238	1.5000e-004	0.0240	6.3300e-003	1.4000e-004	6.4700e-003	0.0000	18.2990	18.2990	4.4000e-004	0.0000	18.3099
Total	**0.0115**	**0.1085**	**0.0924**	**7.4000e-004**	**0.0397**	**3.4000e-004**	**0.0401**	**0.0109**	**3.2000e-004**	**0.0112**	**0.0000**	**70.9897**	**70.9897**	**3.4200e-003**	**0.0000**	**71.0750**

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	0.0149	0.0643	0.9155	1.2100e-003		1.9800e-003	1.9800e-003		1.9800e-003	1.9800e-003	0.0000	106.3975	106.3975	0.0344	0.0000	107.2577
Total	**0.0149**	**0.0643**	**0.9155**	**1.2100e-003**		**1.9800e-003**	**1.9800e-003**		**1.9800e-003**	**1.9800e-003**	**0.0000**	**106.3975**	**106.3975**	**0.0344**	**0.0000**	**107.2577**

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	3.6900e-003	0.1032	0.0377	5.4000e-004	0.0159	1.9000e-004	0.0161	4.5800e-003	1.8000e-004	4.7700e-003	0.0000	52.6907	52.6907	2.9800e-003	0.0000	52.7651
Worker	7.8000e-003	5.3300e-003	0.0548	2.0000e-004	0.0238	1.5000e-004	0.0240	6.3300e-003	1.4000e-004	6.4700e-003	0.0000	18.2990	18.2990	4.4000e-004	0.0000	18.3099
Total	**0.0115**	**0.1085**	**0.0924**	**7.4000e-004**	**0.0397**	**3.4000e-004**	**0.0401**	**0.0109**	**3.2000e-004**	**0.0112**	**0.0000**	**70.9897**	**70.9897**	**3.4200e-003**	**0.0000**	**71.0750**

3.14 P2 Architectural Coating - 2025

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					

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
Archit. Coating	2.1505					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1119	0.7503	1.1850	1.9500e-003		0.0337	0.0337		0.0337	0.0337	0.0000	167.2381	167.2381	9.1200e-003	0.0000	167.4662
Total	**2.2624**	**0.7503**	**1.1850**	**1.9500e-003**		**0.0337**	**0.0337**		**0.0337**	**0.0337**	**0.0000**	**167.2381**	**167.2381**	**9.1200e-003**	**0.0000**	**167.4662**

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	2.1500e-003	0.0605	0.0223	3.2000e-004	9.5000e-003	1.1000e-004	9.6200e-003	2.7400e-003	1.1000e-004	2.8500e-003	0.0000	31.3531	31.3531	1.7800e-003	0.0000	31.3977
Worker	0.0244	0.0161	0.1669	6.3000e-004	0.0778	4.8000e-004	0.0783	0.0207	4.5000e-004	0.0211	0.0000	57.2898	57.2898	1.3100e-003	0.0000	57.3227
Total	**0.0265**	**0.0766**	**0.1892**	**9.5000e-004**	**0.0873**	**5.9000e-004**	**0.0879**	**0.0234**	**5.6000e-004**	**0.0240**	**0.0000**	**88.6429**	**88.6429**	**3.0900e-003**	**0.0000**	**88.7204**

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	2.1505					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0195	0.0843	1.2002	1.9500e-003		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	167.2379	167.2379	9.1200e-003	0.0000	167.4660
Total	**2.1699**	**0.0843**	**1.2002**	**1.9500e-003**		**2.6000e-003**	**2.6000e-003**		**2.6000e-003**	**2.6000e-003**	**0.0000**	**167.2379**	**167.2379**	**9.1200e-003**	**0.0000**	**167.4660**

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	2.1500e-003	0.0605	0.0223	3.2000e-004	9.5000e-003	1.1000e-004	9.6200e-003	2.7400e-003	1.1000e-004	2.8500e-003	0.0000	31.3531	31.3531	1.7800e-003	0.0000	31.3977
Worker	0.0244	0.0161	0.1669	6.3000e-004	0.0778	4.8000e-004	0.0783	0.0207	4.5000e-004	0.0211	0.0000	57.2898	57.2898	1.3100e-003	0.0000	57.3227
Total	**0.0265**	**0.0766**	**0.1892**	**9.5000e-004**	**0.0873**	**5.9000e-004**	**0.0879**	**0.0234**	**5.6000e-004**	**0.0240**	**0.0000**	**88.6429**	**88.6429**	**3.0900e-003**	**0.0000**	**88.7204**

3.14 P2 Architectural Coating - 2026

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	5.1381					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2674	1.7927	2.8313	4.6500e-003		0.0806	0.0806		0.0806	0.0806	0.0000	399.5842	399.5842	0.0218	0.0000	400.1291
Total	**5.4055**	**1.7927**	**2.8313**	**4.6500e-003**		**0.0806**	**0.0806**		**0.0806**	**0.0806**	**0.0000**	**399.5842**	**399.5842**	**0.0218**	**0.0000**	**400.1291**

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	5.0400e-003	0.1419	0.0529	7.6000e-004	0.0227	2.6000e-004	0.0230	6.5500e-003	2.5000e-004	6.8000e-003	0.0000	74.5467	74.5467	4.2700e-003	0.0000	74.6534
Worker	0.0560	0.0357	0.3749	1.4600e-003	0.1858	1.1200e-003	0.1869	0.0494	1.0300e-003	0.0504	0.0000	131.8691	131.8691	2.9300e-003	0.0000	131.9422
Total	**0.0610**	**0.1776**	**0.4278**	**2.2200e-003**	**0.2085**	**1.3800e-003**	**0.2099**	**0.0559**	**1.2800e-003**	**0.0572**	**0.0000**	**206.4157**	**206.4157**	**7.2000e-003**	**0.0000**	**206.5956**

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	5.1381					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0465	0.2015	2.8677	4.6500e-003		6.2000e-003	6.2000e-003		6.2000e-003	6.2000e-003	0.0000	399.5837	399.5837	0.0218	0.0000	400.1287
Total	**5.1846**	**0.2015**	**2.8677**	**4.6500e-003**		**6.2000e-003**	**6.2000e-003**		**6.2000e-003**	**6.2000e-003**	**0.0000**	**399.5837**	**399.5837**	**0.0218**	**0.0000**	**400.1287**

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	5.0400e-003	0.1419	0.0529	7.6000e-004	0.0227	2.6000e-004	0.0230	6.5500e-003	2.5000e-004	6.8000e-003	0.0000	74.5467	74.5467	4.2700e-003	0.0000	74.6534
Worker	0.0560	0.0357	0.3749	1.4600e-003	0.1858	1.1200e-003	0.1869	0.0494	1.0300e-003	0.0504	0.0000	131.8691	131.8691	2.9300e-003	0.0000	131.9422

Total	0.0610	0.1776	0.4278	2.2200e-003	0.2085	1.3800e-003	0.2099	0.0559	1.2800e-003	0.0572	0.0000	206.4157	206.4157	7.2000e-003	0.0000	206.5956

3.14 P2 Architectural Coating - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.6949					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2443	1.6381	2.5871	4.2500e-003		0.0737	0.0737		0.0737	0.0737	0.0000	365.1153	365.1153	0.0199	0.0000	365.6132
Total	**4.9392**	**1.6381**	**2.5871**	**4.2500e-003**		**0.0737**	**0.0737**		**0.0737**	**0.0737**	**0.0000**	**365.1153**	**365.1153**	**0.0199**	**0.0000**	**365.6132**

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	4.5200e-003	0.1272	0.0480	6.9000e-004	0.0208	2.4000e-004	0.0210	5.9900e-003	2.3000e-004	6.2100e-003	0.0000	67.7999	67.7999	3.9100e-003	0.0000	67.8975
Worker	0.0490	0.0305	0.3233	1.2900e-003	0.1698	9.7000e-004	0.1708	0.0451	8.9000e-004	0.0460	0.0000	116.4578	116.4578	2.5000e-003	0.0000	116.5204
Total	**0.0536**	**0.1577**	**0.3714**	**1.9800e-003**	**0.1905**	**1.2100e-003**	**0.1918**	**0.0511**	**1.1200e-003**	**0.0522**	**0.0000**	**184.2576**	**184.2576**	**6.4100e-003**	**0.0000**	**184.4179**

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	4.6949					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0425	0.1841	2.6204	4.2500e-003		5.6700e-003	5.6700e-003		5.6700e-003	5.6700e-003	0.0000	365.1149	365.1149	0.0199	0.0000	365.6128
Total	**4.7374**	**0.1841**	**2.6204**	**4.2500e-003**		**5.6700e-003**	**5.6700e-003**		**5.6700e-003**	**5.6700e-003**	**0.0000**	**365.1149**	**365.1149**	**0.0199**	**0.0000**	**365.6128**

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	4.5200e-003	0.1272	0.0480	6.9000e-004	0.0208	2.4000e-004	0.0210	5.9900e-003	2.3000e-004	6.2100e-003	0.0000	67.7999	67.7999	3.9100e-003	0.0000	67.8975
Worker	0.0490	0.0305	0.3233	1.2900e-003	0.1698	9.7000e-004	0.1708	0.0451	8.9000e-004	0.0460	0.0000	116.4578	116.4578	2.5000e-003	0.0000	116.5204
Total	**0.0536**	**0.1577**	**0.3714**	**1.9800e-003**	**0.1905**	**1.2100e-003**	**0.1918**	**0.0511**	**1.1200e-003**	**0.0522**	**0.0000**	**184.2576**	**184.2576**	**6.4100e-003**	**0.0000**	**184.4179**

3.15 P2 Paving - 2022

Unmitigated Construction On-Site

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

Off-Road	0.2004	2.1164	2.0348	3.7900e-003		0.0956	0.0956		0.0880	0.0880	0.0000	333.0102	333.0102	0.1077	0.0000	335.7028
Paving	0.0196					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2200**	**2.1164**	**2.0348**	**3.7900e-003**		**0.0956**	**0.0956**		**0.0880**	**0.0880**	**0.0000**	**333.0102**	**333.0102**	**0.1077**	**0.0000**	**335.7028**

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	6.0000e-003	0.1749	0.0503	6.7000e-004	0.0192	5.0000e-004	0.0197	5.5300e-003	4.7000e-004	6.0000e-003	0.0000	65.4200	65.4200	3.7800e-003	0.0000	65.5144
Worker	8.5000e-003	6.2700e-003	0.0622	2.2000e-004	0.0235	1.5000e-004	0.0237	6.2500e-003	1.4000e-004	6.3900e-003	0.0000	19.5355	19.5355	5.1000e-004	0.0000	19.5483
Total	**0.0145**	**0.1811**	**0.1126**	**8.9000e-004**	**0.0427**	**6.5000e-004**	**0.0433**	**0.0118**	**6.1000e-004**	**0.0124**	**0.0000**	**84.9555**	**84.9555**	**4.2900e-003**	**0.0000**	**85.0627**

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	0.0465	0.2017	2.2520	3.7900e-003		6.2100e-003	6.2100e-003		6.2100e-003	6.2100e-003	0.0000	333.0098	333.0098	0.1077	0.0000	335.7024
Paving	0.0196					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0661**	**0.2017**	**2.2520**	**3.7900e-003**		**6.2100e-003**	**6.2100e-003**		**6.2100e-003**	**6.2100e-003**	**0.0000**	**333.0098**	**333.0098**	**0.1077**	**0.0000**	**335.7024**

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	6.0000e-003	0.1749	0.0503	6.7000e-004	0.0192	5.0000e-004	0.0197	5.5300e-003	4.7000e-004	6.0000e-003	0.0000	65.4200	65.4200	3.7800e-003	0.0000	65.5144
Worker	8.5000e-003	6.2700e-003	0.0622	2.2000e-004	0.0235	1.5000e-004	0.0237	6.2500e-003	1.4000e-004	6.3900e-003	0.0000	19.5355	19.5355	5.1000e-004	0.0000	19.5483
Total	**0.0145**	**0.1811**	**0.1126**	**8.9000e-004**	**0.0427**	**6.5000e-004**	**0.0433**	**0.0118**	**6.1000e-004**	**0.0124**	**0.0000**	**84.9555**	**84.9555**	**4.2900e-003**	**0.0000**	**85.0627**

3.15 P2 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	0.4489	4.6219	4.7320	8.9600e-003		0.2050	0.2050		0.1886	0.1886	0.0000	787.1588	787.1588	0.2546	0.0000	793.5234
Paving	0.0463					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.4952**	**4.6219**	**4.7320**	**8.9600e-003**		**0.2050**	**0.2050**		**0.1886**	**0.1886**	**0.0000**	**787.1588**	**787.1588**	**0.2546**	**0.0000**	**793.5234**

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	0.0108	0.2993	0.1094	1.5400e-003	0.0453	5.6000e-004	0.0458	0.0131	5.3000e-004	0.0136	0.0000	150.9499	150.9499	8.4800e-003	0.0000	151.1618
Worker	0.0191	0.0135	0.1366	4.9000e-004	0.0556	3.6000e-004	0.0559	0.0148	3.3000e-004	0.0151	0.0000	44.4094	44.4094	1.1100e-003	0.0000	44.4371
Total	**0.0299**	**0.3129**	**0.2459**	**2.0300e-003**	**0.1008**	**9.2000e-004**	**0.1018**	**0.0278**	**8.6000e-004**	**0.0287**	**0.0000**	**195.3593**	**195.3593**	**9.5900e-003**	**0.0000**	**195.5989**

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	0.1100	0.4767	5.3228	8.9600e-003		0.0147	0.0147		0.0147	0.0147	0.0000	787.1578	787.1578	0.2546	0.0000	793.5224
Paving	0.0463					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1563**	**0.4767**	**5.3228**	**8.9600e-003**		**0.0147**	**0.0147**		**0.0147**	**0.0147**	**0.0000**	**787.1578**	**787.1578**	**0.2546**	**0.0000**	**793.5224**

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	0.0108	0.2993	0.1094	1.5400e-003	0.0453	5.6000e-004	0.0458	0.0131	5.3000e-004	0.0136	0.0000	150.9499	150.9499	8.4800e-003	0.0000	151.1618
Worker	0.0191	0.0135	0.1366	4.9000e-004	0.0556	3.6000e-004	0.0559	0.0148	3.3000e-004	0.0151	0.0000	44.4094	44.4094	1.1100e-003	0.0000	44.4371

Total	0.0299	0.3129	0.2459	2.0300e-003	0.1008	9.2000e-004	0.1018	0.0278	8.6000e-004	0.0287	0.0000	195.3593	195.3593	9.5900e-003	0.0000	195.5989

3.15 P2 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4341	4.3426	4.7147	9.0200e-003		0.1902	0.1902		0.1750	0.1750	0.0000	791.9716	791.9716	0.2561	0.0000	798.3750
Paving	0.0466					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.4806**	**4.3426**	**4.7147**	**9.0200e-003**		**0.1902**	**0.1902**		**0.1750**	**0.1750**	**0.0000**	**791.9716**	**791.9716**	**0.2561**	**0.0000**	**798.3750**

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	0.0106	0.2958	0.1080	1.5400e-003	0.0456	5.5000e-004	0.0461	0.0131	5.3000e-004	0.0137	0.0000	151.0948	151.0948	8.5400e-003	0.0000	151.3082
Worker	0.0183	0.0125	0.1285	4.7000e-004	0.0559	3.5000e-004	0.0563	0.0149	3.3000e-004	0.0152	0.0000	42.9331	42.9331	1.0200e-003	0.0000	42.9587
Total	**0.0289**	**0.3083**	**0.2365**	**2.0100e-003**	**0.1015**	**9.0000e-004**	**0.1024**	**0.0280**	**8.6000e-004**	**0.0289**	**0.0000**	**194.0279**	**194.0279**	**9.5600e-003**	**0.0000**	**194.2669**

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	0.1107	0.4798	5.3569	9.0200e-003		0.0148	0.0148		0.0148	0.0148	0.0000	791.9706	791.9706	0.2561	0.0000	798.3741
Paving	0.0466					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1573**	**0.4798**	**5.3569**	**9.0200e-003**		**0.0148**	**0.0148**		**0.0148**	**0.0148**	**0.0000**	**791.9706**	**791.9706**	**0.2561**	**0.0000**	**798.3741**

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	0.0106	0.2958	0.1080	1.5400e-003	0.0456	5.5000e-004	0.0461	0.0131	5.3000e-004	0.0137	0.0000	151.0948	151.0948	8.5400e-003	0.0000	151.3082
Worker	0.0183	0.0125	0.1285	4.7000e-004	0.0559	3.5000e-004	0.0563	0.0149	3.3000e-004	0.0152	0.0000	42.9331	42.9331	1.0200e-003	0.0000	42.9587
Total	**0.0289**	**0.3083**	**0.2365**	**2.0100e-003**	**0.1015**	**9.0000e-004**	**0.1024**	**0.0280**	**8.6000e-004**	**0.0289**	**0.0000**	**194.0279**	**194.0279**	**9.5600e-003**	**0.0000**	**194.2669**

3.15 P2 Paving - 2025

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
Off-Road	0.1296	1.2431	1.4968	2.9900e-003		0.0535	0.0535		0.0492	0.0492	0.0000	262.2122	262.2122	0.0848	0.0000	264.3324
Paving	0.0154					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1450**	**1.2431**	**1.4968**	**2.9900e-003**		**0.0535**	**0.0535**		**0.0492**	**0.0492**	**0.0000**	**262.2122**	**262.2122**	**0.0848**	**0.0000**	**264.3324**

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	3.4200e-003	0.0961	0.0354	5.1000e-004	0.0151	1.8000e-004	0.0153	4.3500e-003	1.7000e-004	4.5200e-003	0.0000	49.7820	49.7820	2.8300e-003	0.0000	49.8529
Worker	5.8000e-003	3.8200e-003	0.0398	1.5000e-004	0.0185	1.2000e-004	0.0186	4.9200e-003	1.1000e-004	5.0300e-003	0.0000	13.6446	13.6446	3.1000e-004	0.0000	13.6524
Total	**9.2200e-003**	**0.0999**	**0.0751**	**6.6000e-004**	**0.0336**	**3.0000e-004**	**0.0339**	**9.2700e-003**	**2.8000e-004**	**9.5500e-003**	**0.0000**	**63.4266**	**63.4266**	**3.1400e-003**	**0.0000**	**63.5053**

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	0.0367	0.1589	1.7743	2.9900e-003		4.8900e-003	4.8900e-003		4.8900e-003	4.8900e-003	0.0000	262.2119	262.2119	0.0848	0.0000	264.3320
Paving	0.0154					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0521**	**0.1589**	**1.7743**	**2.9900e-003**		**4.8900e-003**	**4.8900e-003**		**4.8900e-003**	**4.8900e-003**	**0.0000**	**262.2119**	**262.2119**	**0.0848**	**0.0000**	**264.3320**

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	3.4200e-003	0.0961	0.0354	5.1000e-004	0.0151	1.8000e-004	0.0153	4.3500e-003	1.7000e-004	4.5200e-003	0.0000	49.7820	49.7820	2.8300e-003	0.0000	49.8529
Worker	5.8000e-003	3.8200e-003	0.0398	1.5000e-004	0.0185	1.2000e-004	0.0186	4.9200e-003	1.1000e-004	5.0300e-003	0.0000	13.6446	13.6446	3.1000e-004	0.0000	13.6524
Total	**9.2200e-003**	**0.0999**	**0.0751**	**6.6000e-004**	**0.0336**	**3.0000e-004**	**0.0339**	**9.2700e-003**	**2.8000e-004**	**9.5500e-003**	**0.0000**	**63.4266**	**63.4266**	**3.1400e-003**	**0.0000**	**63.5053**

3.16 P2 Brush Management - 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					
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	0.0402	0.3880	0.3784	5.1000e-004		0.0254	0.0254		0.0234	0.0234	0.0000	44.7323	44.7323	0.0145	0.0000	45.0940
Total	**0.0402**	**0.3880**	**0.3784**	**5.1000e-004**	**0.0000**	**0.0254**	**0.0254**	**0.0000**	**0.0234**	**0.0234**	**0.0000**	**44.7323**	**44.7323**	**0.0145**	**0.0000**	**45.0940**

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	2.5800e-003	0.0757	0.0211	2.7000e-004	7.6900e-003	2.3000e-004	7.9200e-003	2.2200e-003	2.2000e-004	2.4400e-003	0.0000	26.5221	26.5221	1.5400e-003	0.0000	26.5607
Worker	0.0144	0.0110	0.1075	3.6000e-004	0.0378	2.5000e-004	0.0380	0.0100	2.3000e-004	0.0103	0.0000	32.5705	32.5705	9.0000e-004	0.0000	32.5928
Total	**0.0170**	**0.0868**	**0.1286**	**6.3000e-004**	**0.0455**	**4.8000e-004**	**0.0459**	**0.0123**	**4.5000e-004**	**0.0127**	**0.0000**	**59.0926**	**59.0926**	**2.4400e-003**	**0.0000**	**59.1535**

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	6.2200e-003	0.0270	0.3838	5.1000e-004		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004	0.0000	44.7323	44.7323	0.0145	0.0000	45.0939
Total	**6.2200e-003**	**0.0270**	**0.3838**	**5.1000e-004**	**0.0000**	**8.3000e-004**	**8.3000e-004**	**0.0000**	**8.3000e-004**	**8.3000e-004**	**0.0000**	**44.7323**	**44.7323**	**0.0145**	**0.0000**	**45.0939**

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	2.5800e-003	0.0757	0.0211	2.7000e-004	7.6900e-003	2.3000e-004	7.9200e-003	2.2200e-003	2.2000e-004	2.4400e-003	0.0000	26.5221	26.5221	1.5400e-003	0.0000	26.5607
Worker	0.0144	0.0110	0.1075	3.6000e-004	0.0378	2.5000e-004	0.0380	0.0100	2.3000e-004	0.0103	0.0000	32.5705	32.5705	9.0000e-004	0.0000	32.5928

Total	0.0170	0.0868	0.1286	6.3000e-004	0.0455	4.8000e-004	0.0459	0.0123	4.5000e-004	0.0127	0.0000	59.0926	59.0926	2.4400e-003	0.0000	59.1535

3.16 P2 Brush Management - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2176	2.1121	2.2185	3.0100e-003		0.1317	0.1317		0.1212	0.1212	0.0000	264.3740	264.3740	0.0855	0.0000	266.5116
Total	**0.2176**	**2.1121**	**2.2185**	**3.0100e-003**	**0.0000**	**0.1317**	**0.1317**	**0.0000**	**0.1212**	**0.1212**	**0.0000**	**264.3740**	**264.3740**	**0.0855**	**0.0000**	**266.5116**

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	0.0142	0.4146	0.1194	1.5900e-003	0.0454	1.1800e-003	0.0466	0.0131	1.1300e-003	0.0142	0.0000	155.1246	155.1246	8.9600e-003	0.0000	155.3485
Worker	0.0806	0.0594	0.5903	2.0500e-003	0.2230	1.4700e-003	0.2245	0.0592	1.3500e-003	0.0606	0.0000	185.2914	185.2914	4.8500e-003	0.0000	185.4127
Total	**0.0948**	**0.4741**	**0.7097**	**3.6400e-003**	**0.2684**	**2.6500e-003**	**0.2711**	**0.0723**	**2.4800e-003**	**0.0748**	**0.0000**	**340.4161**	**340.4161**	**0.0138**	**0.0000**	**340.7612**

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	0.0368	0.1593	2.2667	3.0100e-003		4.9000e-003	4.9000e-003		4.9000e-003	4.9000e-003	0.0000	264.3737	264.3737	0.0855	0.0000	266.5113
Total	**0.0368**	**0.1593**	**2.2667**	**3.0100e-003**	**0.0000**	**4.9000e-003**	**4.9000e-003**	**0.0000**	**4.9000e-003**	**4.9000e-003**	**0.0000**	**264.3737**	**264.3737**	**0.0855**	**0.0000**	**266.5113**

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	0.0142	0.4146	0.1194	1.5900e-003	0.0454	1.1800e-003	0.0466	0.0131	1.1300e-003	0.0142	0.0000	155.1246	155.1246	8.9600e-003	0.0000	155.3485
Worker	0.0806	0.0594	0.5903	2.0500e-003	0.2230	1.4700e-003	0.2245	0.0592	1.3500e-003	0.0606	0.0000	185.2914	185.2914	4.8500e-003	0.0000	185.4127
Total	**0.0948**	**0.4741**	**0.7097**	**3.6400e-003**	**0.2684**	**2.6500e-003**	**0.2711**	**0.0723**	**2.4800e-003**	**0.0748**	**0.0000**	**340.4161**	**340.4161**	**0.0138**	**0.0000**	**340.7612**

3.16 P2 Brush Management - 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					

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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	0.0840	0.8154	0.9117	1.2400e-003		0.0486	0.0486		0.0448	0.0448	0.0000	109.0677	109.0677	0.0353	0.0000	109.9496
Total	**0.0840**	**0.8154**	**0.9117**	**1.2400e-003**	**0.0000**	**0.0486**	**0.0486**	**0.0000**	**0.0448**	**0.0448**	**0.0000**	**109.0677**	**109.0677**	**0.0353**	**0.0000**	**109.9496**

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	4.4600e-003	0.1238	0.0452	6.4000e-004	0.0187	2.3000e-004	0.0190	5.4000e-003	2.2000e-004	5.6200e-003	0.0000	62.4120	62.4120	3.5000e-003	0.0000	62.4996
Worker	0.0316	0.0224	0.2259	8.1000e-004	0.0919	5.9000e-004	0.0925	0.0244	5.5000e-004	0.0250	0.0000	73.4464	73.4464	1.8300e-003	0.0000	73.4921
Total	**0.0360**	**0.1462**	**0.2711**	**1.4500e-003**	**0.1106**	**8.2000e-004**	**0.1114**	**0.0298**	**7.7000e-004**	**0.0306**	**0.0000**	**135.8583**	**135.8583**	**5.3300e-003**	**0.0000**	**135.9917**

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	0.0152	0.0657	0.9342	1.2400e-003		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	109.0676	109.0676	0.0353	0.0000	109.9494
Total	**0.0152**	**0.0657**	**0.9342**	**1.2400e-003**	**0.0000**	**2.0200e-003**	**2.0200e-003**	**0.0000**	**2.0200e-003**	**2.0200e-003**	**0.0000**	**109.0676**	**109.0676**	**0.0353**	**0.0000**	**109.9494**

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	4.4600e-003	0.1238	0.0452	6.4000e-004	0.0187	2.3000e-004	0.0190	5.4000e-003	2.2000e-004	5.6200e-003	0.0000	62.4120	62.4120	3.5000e-003	0.0000	62.4996
Worker	0.0316	0.0224	0.2259	8.1000e-004	0.0919	5.9000e-004	0.0925	0.0244	5.5000e-004	0.0250	0.0000	73.4464	73.4464	1.8300e-003	0.0000	73.4921
Total	**0.0360**	**0.1462**	**0.2711**	**1.4500e-003**	**0.1106**	**8.2000e-004**	**0.1114**	**0.0298**	**7.7000e-004**	**0.0306**	**0.0000**	**135.8583**	**135.8583**	**5.3300e-003**	**0.0000**	**135.9917**

Newland Sierra - Operation Buildout - Without Project Features
San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	33.00	1000sqft	6.00	33,000.00	0
Other Asphalt Surfaces	97.60	Acre	97.60	4,251,456.00	0
City Park	23.80	Acre	23.80	1,036,728.00	0
Condo/Townhouse	935.00	Dwelling Unit	158.18	935,000.00	2674
Retirement Community	325.00	Dwelling Unit	58.20	325,000.00	930
Single Family Housing	875.00	Dwelling Unit	284.09	1,575,000.00	2503
Strip Mall	81.00	1000sqft	10.20	81,000.00	0
Golf Course	12.10	Acre	12.10	527,076.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	536.36	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2020 RPS - intensity factors

Land Use - land uses per SP

Golf Course land use = community park

Vehicle Trips - trip rates per LLG 2016

Woodstoves - no wood burning stoves

Area Coating - SDAPCD Rule 67.0.1

Energy Use - default energy use

Water And Wastewater - water demand per GSI study

Waste Mitigation - 25% diversion

Solid Waste - golf course = park

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	100
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblLandUse	LotAcreage	0.76	6.00
tblLandUse	LotAcreage	58.44	158.18
tblLandUse	LotAcreage	65.00	58.20
tblLandUse	LotAcreage	1.86	10.20
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	536.36
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2018	2021
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSequestration	NumberOfNewTrees	0.00	4,492.00
tblSolidWaste	SolidWasteGenerationRate	11.25	2.05
tblVehicleTrips	CC_TL	6.60	10.21
tblVehicleTrips	CC_TL	6.60	10.21
tblVehicleTrips	CC_TL	6.60	10.21
tblVehicleTrips	CC_TL	6.60	10.21
tblVehicleTrips	CC_TL	6.60	10.21
tblVehicleTrips	CNW_TL	6.60	10.21
tblVehicleTrips	CNW_TL	6.60	10.21

tblVehicleTrips	CNW_TL	6.60	10.21
tblVehicleTrips	CNW_TL	6.60	10.21
tblVehicleTrips	CNW_TL	6.60	10.21
tblVehicleTrips	CW_TL	14.70	10.21
tblVehicleTrips	CW_TL	14.70	10.21
tblVehicleTrips	CW_TL	14.70	10.21
tblVehicleTrips	CW_TL	14.70	10.21
tblVehicleTrips	CW_TL	14.70	10.21
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	DV_TP	39.00	0.00
tblVehicleTrips	HO_TL	7.90	10.21
tblVehicleTrips	HO_TL	7.90	10.21
tblVehicleTrips	HO_TL	7.90	10.21
tblVehicleTrips	HS_TL	7.10	10.21
tblVehicleTrips	HS_TL	7.10	10.21
tblVehicleTrips	HS_TL	7.10	10.21
tblVehicleTrips	HW_TL	16.80	10.21
tblVehicleTrips	HW_TL	16.80	10.21
tblVehicleTrips	HW_TL	16.80	10.21
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00

tblVehicleTrips	PB_TP	9.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	63.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	PR_TP	52.00	100.00
tblVehicleTrips	ST_TR	22.75	5.00
tblVehicleTrips	ST_TR	5.67	8.00
tblVehicleTrips	ST_TR	2.03	4.00
tblVehicleTrips	ST_TR	9.91	10.00
tblVehicleTrips	ST_TR	42.04	120.00
tblVehicleTrips	ST_TR	5.82	50.00
tblVehicleTrips	SU_TR	16.74	5.00
tblVehicleTrips	SU_TR	4.84	8.00
tblVehicleTrips	SU_TR	1.95	4.00
tblVehicleTrips	SU_TR	8.62	10.00
tblVehicleTrips	SU_TR	20.43	120.00
tblVehicleTrips	SU_TR	5.88	50.00
tblVehicleTrips	WD_TR	1.89	5.00
tblVehicleTrips	WD_TR	5.81	8.00
tblVehicleTrips	WD_TR	15.43	26.90
tblVehicleTrips	WD_TR	2.40	4.00
tblVehicleTrips	WD_TR	9.52	10.00
tblVehicleTrips	WD_TR	44.32	120.00
tblVehicleTrips	WD_TR	5.04	50.00
tblWater	IndoorWaterUseRate	60,919,013.96	18,266,772.59
tblWater	IndoorWaterUseRate	956,898.27	364,953.12
tblWater	IndoorWaterUseRate	21,175,058.33	18,266,772.59

tblWater	IndoorWaterUseRate	57,009,772.42	81,960,650.33
tblWater	IndoorWaterUseRate	5,999,874.24	1,676,829.25
tblWater	OutdoorWaterUseRate	28,357,256.12	10,952,403.00
tblWater	OutdoorWaterUseRate	38,405,465.32	11,516,008.81
tblWater	OutdoorWaterUseRate	2,460,595.55	938,450.88
tblWater	OutdoorWaterUseRate	13,349,493.29	11,516,008.81
tblWater	OutdoorWaterUseRate	35,940,943.48	51,670,844.77
tblWater	OutdoorWaterUseRate	3,677,342.28	1,027,734.05
tblWater	OutdoorWaterUseRate	14,416,924.33	5,568,238.50
tblWoodstoves	NumberCatalytic	46.75	0.00
tblWoodstoves	NumberCatalytic	16.25	0.00
tblWoodstoves	NumberCatalytic	43.75	0.00
tblWoodstoves	NumberNoncatalytic	46.75	0.00
tblWoodstoves	NumberNoncatalytic	16.25	0.00
tblWoodstoves	NumberNoncatalytic	43.75	0.00

2.0 Emissions Summary

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	145.2769	2.4773	161.4953	0.2360		20.0500	20.0500		20.0500	20.0500	1,773.8040	950.7972	2,724.6012	0.0428	0.1735	2,777.3657
Energy	0.2478	2.1186	0.9092	0.0135		0.1712	0.1712		0.1712	0.1712	0.0000	6,188.8859	6,188.8859	0.2003	0.0798	6,217.6705
Mobile	9.8650	45.9393	130.4849	0.4610	40.0683	0.3877	40.4560	10.7301	0.3625	11.0926	0.0000	42,481.3485	42,481.3485	2.1800	0.0000	42,535.8482

Waste						0.0000	0.0000		0.0000	0.0000	352.7739	0.0000	352.7739	20.8483	0.0000	873.9825
Water						0.0000	0.0000		0.0000	0.0000	38.2405	633.7275	671.9680	3.9537	0.0987	800.2068
Total	**155.3896**	**50.5352**	**292.8894**	**0.7105**	**40.0683**	**20.6089**	**60.6772**	**10.7301**	**20.5837**	**31.3138**	**2,164.8185**	**50,254.7591**	**52,419.5775**	**27.2251**	**0.3519**	**53,205.0737**

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	145.2769	2.4773	161.4953	0.2360		20.0500	20.0500		20.0500	20.0500	1,773.8040	950.7972	2,724.6012	0.0428	0.1735	2,777.3657
Energy	0.2478	2.1186	0.9092	0.0135		0.1712	0.1712		0.1712	0.1712	0.0000	6,188.8859	6,188.8859	0.2003	0.0798	6,217.6705
Mobile	9.8650	45.9393	130.4849	0.4610	40.0683	0.3877	40.4560	10.7301	0.3625	11.0926	0.0000	42,481.3485	42,481.3485	2.1800	0.0000	42,535.8482
Waste						0.0000	0.0000		0.0000	0.0000	264.5805	0.0000	264.5805	15.6363	0.0000	655.4869
Water						0.0000	0.0000		0.0000	0.0000	38.2405	633.7275	671.9680	3.9537	0.0987	800.2068
Total	**155.3896**	**50.5352**	**292.8894**	**0.7105**	**40.0683**	**20.6089**	**60.6772**	**10.7301**	**20.5837**	**31.3138**	**2,076.6250**	**50,254.7591**	**52,331.3841**	**22.0130**	**0.3519**	**52,986.5781**

	ROG	**NOx**	**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**	**4.07**	**0.00**	**0.17**	**19.14**	**0.00**	**0.41**

2.3 Vegetation

Vegetation

	CO2e

Category	MT
New Trees	3,297.1280
Vegetation Land Change	-17,288.7000
Total	**-13,991.5720**

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	9.8650	45.9393	130.4849	0.4610	40.0683	0.3877	40.4560	10.7301	0.3625	11.0926	0.0000	42,481.3485	42,481.3485	2.1800	0.0000	42,535.8482
Unmitigated	9.8650	45.9393	130.4849	0.4610	40.0683	0.3877	40.4560	10.7301	0.3625	11.0926	0.0000	42,481.3485	42,481.3485	2.1800	0.0000	42,535.8482

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	119.00	119.00	119.00	442,256	442,256
Condo/Townhouse	7,480.00	7,480.00	7480.00	27,798,971	27,798,971
Elementary School	887.70	0.00	0.00	2,356,488	2,356,488
Other Asphalt Surfaces	0.00	0.00	0.00		
Retirement Community	1,300.00	1,300.00	1300.00	4,831,372	4,831,372
Single Family Housing	8,750.00	8,750.00	8750.00	32,518,850	32,518,850
Strip Mall	9,720.00	9,720.00	9720.00	36,123,797	36,123,797
Golf Course	605.00	605.00	605.00	2,248,446	2,248,446
Total	28,861.70	27,974.00	27,974.00	106,320,181	106,320,181

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
City Park	10.21	10.21	10.21	33.00	48.00	19.00	100	0	0
Condo/Townhouse	10.21	10.21	10.21	41.60	18.80	39.60	100	0	0
Elementary School	10.21	10.21	10.21	65.00	30.00	5.00	100	0	0
Other Asphalt Surfaces	10.21	10.21	10.21	0.00	0.00	0.00	0	0	0
Retirement Community	10.21	10.21	10.21	41.60	18.80	39.60	100	0	0
Single Family Housing	10.21	10.21	10.21	41.60	18.80	39.60	100	0	0
Strip Mall	10.21	10.21	10.21	16.60	64.40	19.00	100	0	0
Golf Course	10.21	10.21	10.21	33.00	48.00	19.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Elementary School	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193
Other Asphalt Surfaces	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193
City Park	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193
Condo/Townhouse	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193
Retirement Community	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193
Single Family Housing	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193
Strip Mall	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193
Golf Course	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3,736.5553	3,736.5553	0.1533	0.0348	3,750.7670
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3,736.5553	3,736.5553	0.1533	0.0348	3,750.7670
NaturalGas Mitigated	0.2478	2.1186	0.9092	0.0135		0.1712	0.1712		0.1712	0.1712	0.0000	2,452.3306	2,452.3306	0.0470	0.0450	2,466.9036
NaturalGas Unmitigated	0.2478	2.1186	0.9092	0.0135		0.1712	0.1712		0.1712	0.1712	0.0000	2,452.3306	2,452.3306	0.0470	0.0450	2,466.9036

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					
City Park	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
Condo/Townhouse	1.59838e+007	0.0862	0.7365	0.3134	4.7000e-003		0.0596	0.0596		0.0596	0.0596	0.0000	852.9583	852.9583	0.0164	0.0156	858.0270
Elementary School	196020	1.0600e-003	9.6100e-003	8.0700e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	10.4604	10.4604	2.0000e-004	1.9000e-004	10.5225
Golf Course	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	4.66266e+006	0.0251	0.2149	0.0914	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	248.8175	248.8175	4.7700e-003	4.5600e-003	250.2961
Single Family Housing	2.4931e+007	0.1344	1.1488	0.4888	7.3300e-003		0.0929	0.0929		0.0929	0.0929	0.0000	1,330.4121	1,330.4121	0.0255	0.0244	1,338.3181
Strip Mall	181440	9.8000e-004	8.8900e-003	7.4700e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	9.6823	9.6823	1.9000e-004	1.8000e-004	9.7399
Total		**0.2478**	**2.1186**	**0.9092**	**0.0135**		**0.1712**	**0.1712**		**0.1712**	**0.1712**	**0.0000**	**2,452.3306**	**2,452.3306**	**0.0470**	**0.0450**	**2,466.9036**

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					
City Park	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
Condo/Townhouse	1.59838e+007	0.0862	0.7365	0.3134	4.7000e-003		0.0596	0.0596		0.0596	0.0596	0.0000	852.9583	852.9583	0.0164	0.0156	858.0270
Elementary School	196020	1.0600e-003	9.6100e-003	8.0700e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	10.4604	10.4604	2.0000e-004	1.9000e-004	10.5225
Golf Course	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	4.66266e+006	0.0251	0.2149	0.0914	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	248.8175	248.8175	4.7700e-003	4.5600e-003	250.2961
Single Family Housing	2.4931e+007	0.1344	1.1488	0.4888	7.3300e-003		0.0929	0.0929		0.0929	0.0929	0.0000	1,330.4121	1,330.4121	0.0255	0.0244	1,338.3181
Strip Mall	181440	9.8000e-004	8.8900e-003	7.4700e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	9.6823	9.6823	1.9000e-004	1.8000e-004	9.7399
Total		**0.2478**	**2.1186**	**0.9092**	**0.0135**		**0.1712**	**0.1712**		**0.1712**	**0.1712**	**0.0000**	**2,452.3306**	**2,452.3306**	**0.0470**	**0.0450**	**2,466.9036**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	5.0191e+006	1,221.0905	0.0501	0.0114	1,225.7348
Elementary School	177870	43.2738	1.7700e-003	4.0000e-004	43.4384
Golf Course	0	0.0000	0.0000	0.0000	0.0000

Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	1.5363e+006	373.7648	0.0153	3.4800e-003	375.1864
Single Family Housing	7.58116e+006	1,844.4107	0.0757	0.0172	1,851.4258
Strip Mall	1.04409e+006	254.0154	0.0104	2.3700e-003	254.9815
Total		**3,736.5553**	**0.1533**	**0.0348**	**3,750.7670**

<u>**Mitigated**</u>

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	5.0191e+006	1,221.0905	0.0501	0.0114	1,225.7348
Elementary School	177870	43.2738	1.7700e-003	4.0000e-004	43.4384
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	1.5363e+006	373.7648	0.0153	3.4800e-003	375.1864
Single Family Housing	7.58116e+006	1,844.4107	0.0757	0.0172	1,851.4258
Strip Mall	1.04409e+006	254.0154	0.0104	2.3700e-003	254.9815
Total		**3,736.5553**	**0.1533**	**0.0348**	**3,750.7670**

6.0 Area Detail

6.1 Mitigation Measures Area

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					
Mitigated	145.2769	2.4773	161.4953	0.2360		20.0500	20.0500		20.0500	20.0500	1,773.8040	950.7972	2,724.6012	0.0428	0.1735	2,777.3657
Unmitigated	145.2769	2.4773	161.4953	0.2360		20.0500	20.0500		20.0500	20.0500	1,773.8040	950.7972	2,724.6012	0.0428	0.1735	2,777.3657

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Architectural Coating	1.2009					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	11.8068					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	131.7876	2.2939	145.6060	0.2351		19.9625	19.9625		19.9625	19.9625	1,773.8040	924.8978	2,698.7018	0.0177	0.1735	2,750.8386
Landscaping	0.4816	0.1834	15.8894	8.4000e-004		0.0876	0.0876		0.0876	0.0876	0.0000	25.8994	25.8994	0.0251	0.0000	26.5271
Total	**145.2769**	**2.4773**	**161.4953**	**0.2360**		**20.0500**	**20.0500**		**20.0500**	**20.0500**	**1,773.8040**	**950.7972**	**2,724.6012**	**0.0428**	**0.1735**	**2,777.3657**

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	1.2009					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	11.8068					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	131.7876	2.2939	145.6060	0.2351		19.9625	19.9625		19.9625	19.9625	1,773.8040	924.8978	2,698.7018	0.0177	0.1735	2,750.8386
Landscaping	0.4816	0.1834	15.8894	8.4000e-004		0.0876	0.0876		0.0876	0.0876	0.0000	25.8994	25.8994	0.0251	0.0000	26.5271
Total	**145.2769**	**2.4773**	**161.4953**	**0.2360**		**20.0500**	**20.0500**		**20.0500**	**20.0500**	**1,773.8040**	**950.7972**	**2,724.6012**	**0.0428**	**0.1735**	**2,777.3657**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	671.9680	3.9537	0.0987	800.2068
Unmitigated	671.9680	3.9537	0.0987	800.2068

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
City Park	0 / 10.9524	29.6037	1.2100e-003	2.8000e-004	29.7163
Condo/Townhouse	18.2668 / 11.516	94.7889	0.5989	0.0149	114.1962
Elementary School	0.364953 / 0.938451	3.8085	0.0120	3.2000e-004	4.2035
Golf Course	0 / 5.56824	15.0506	6.2000e-004	1.4000e-004	15.1079
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	18.2668 / 11.516	94.7889	0.5989	0.0149	114.1962
Single Family Housing	81.9607 / 51.6708	425.3056	2.6871	0.0668	512.3837
Strip Mall	1.67683 / 1.02773	8.6219	0.0550	1.3700e-003	10.4031
Total		**671.9680**	**3.9537**	**0.0987**	**800.2068**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 10.9524	29.6037	1.2100e-003	2.8000e-004	29.7163
Condo/Townhouse	18.2668 / 11.516	94.7889	0.5989	0.0149	114.1962
Elementary School	0.364953 / 0.938451	3.8085	0.0120	3.2000e-004	4.2035
Golf Course	0 / 5.56824	15.0506	6.2000e-004	1.4000e-004	15.1079
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	18.2668 / 11.516	94.7889	0.5989	0.0149	114.1962
Single Family Housing	81.9607 / 51.6708	425.3056	2.6871	0.0668	512.3837

Strip Mall	1.67683 / 1.02773	8.6219	0.0550	1.3700e-003	10.4031
Total		**671.9680**	**3.9537**	**0.0987**	**800.2068**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	264.5805	15.6363	0.0000	655.4869
Unmitigated	352.7739	20.8483	0.0000	873.9825

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	2.05	0.4161	0.0246	0.0000	1.0310
Condo/Townhouse	430.1	87.3064	5.1597	0.0000	216.2979
Elementary School	42.9	8.7083	0.5147	0.0000	21.5745

Golf Course	2.05	0.4161	0.0246	0.0000	1.0310
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	149.5	30.3472	1.7935	0.0000	75.1838
Single Family Housing	1026.23	208.3154	12.3111	0.0000	516.0926
Strip Mall	85.05	17.2644	1.0203	0.0000	42.7718
Total		**352.7739**	**20.8484**	**0.0000**	**873.9825**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1.5375	0.3121	0.0184	0.0000	0.7732
Condo/Townhouse	322.575	65.4798	3.8698	0.0000	162.2235
Elementary School	32.175	6.5312	0.3860	0.0000	16.1809
Golf Course	1.5375	0.3121	0.0184	0.0000	0.7732
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	112.125	22.7604	1.3451	0.0000	56.3878
Single Family Housing	769.673	156.2366	9.2333	0.0000	387.0695
Strip Mall	63.7875	12.9483	0.7652	0.0000	32.0788
Total		**264.5805**	**15.6363**	**0.0000**	**655.4869**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-13,991.5720	0.0000	0.0000	-13,991.5720

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e

	Acres	MT			
Scrub	1986 / 777	-17,288.7000	0.0000	0.0000	-17,288.7000
Total		**-17,288.7000**	**0.0000**	**0.0000**	**-17,288.7000**

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Mixed Hardwood	4492	3,297.1280	0.0000	0.0000	3,297.1280
Total		**3,297.1280**	**0.0000**	**0.0000**	**3,297.1280**

Newland Sierra - Operation - Single Family

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	875.00	Dwelling Unit	284.09	1,575,000.00	2503

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	536.36	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2020 RPS - intensity factors

Land Use - land uses per SP

Vehicle Trips - trip rates per LLG 2016

Woodstoves - no wood burning stoves or fireplaces

Area Coating - SDAPCD Rule 67.0.1

Energy Use - default energy use

Water And Wastewater - water demand per GSI study

Waste Mitigation - 25% diversion

Table Name	Column Name	Default Value	New Value

tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	100
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	6,680.41	0.00
tblEnergyUse	T24E	374.93	0.00
tblFireplaces	NumberGas	481.25	787.50
tblFireplaces	NumberWood	306.25	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	536.36
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2018	2021
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	7.90	10.21
tblVehicleTrips	HS_TL	7.10	10.21
tblVehicleTrips	HW_TL	16.80	10.21
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	9.91	10.00
tblVehicleTrips	SU_TR	8.62	10.00
tblVehicleTrips	WD_TR	9.52	10.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	57,009,772.42	81,960,650.33
tblWater	OutdoorWaterUseRate	35,940,943.48	51,670,844.77
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	43.75	0.00

tblWoodstoves	NumberNoncatalytic	43.75	0.00

2.0 Emissions Summary

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	7.0271	0.6108	6.7390	3.7600e-003		0.0792	0.0792		0.0792	0.0792	0.0000	630.8869	630.8869	0.0222	0.0114	634.8300
Energy	0.1344	1.1488	0.4888	7.3300e-003		0.0929	0.0929		0.0929	0.0929	0.0000	1,330.4121	1,330.4121	0.0255	0.0244	1,338.3181
Mobile	3.0173	14.0509	39.9098	0.1410	12.2552	0.1186	12.3738	3.2819	0.1109	3.3928	0.0000	12,993.2491	12,993.2491	0.6668	0.0000	13,009.9183
Waste						0.0000	0.0000		0.0000	0.0000	208.3154	0.0000	208.3154	12.3111	0.0000	516.0926
Water						0.0000	0.0000		0.0000	0.0000	28.9978	399.3033	428.3011	0.1162	0.0668	451.1071
Total	**10.1788**	**15.8104**	**47.1377**	**0.1521**	**12.2552**	**0.2906**	**12.5459**	**3.2819**	**0.2829**	**3.5648**	**237.3132**	**15,353.8514**	**15,591.1646**	**13.1417**	**0.1025**	**15,950.2661**

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	7.0271	0.6108	6.7390	3.7600e-003		0.0792	0.0792		0.0792	0.0792	0.0000	630.8869	630.8869	0.0222	0.0114	634.8300
Energy	0.1344	1.1488	0.4888	7.3300e-003		0.0929	0.0929		0.0929	0.0929	0.0000	1,330.4121	1,330.4121	0.0255	0.0244	1,338.3181

Mobile	3.0173	14.0509	39.9098	0.1410	12.2552	0.1186	12.3738	3.2819	0.1109	3.3928	0.0000	12,993.2491	12,993.2491	0.6668	0.0000	13,009.9183
Waste						0.0000	0.0000		0.0000	0.0000	156.2366	0.0000	156.2366	9.2333	0.0000	387.0695
Water						0.0000	0.0000		0.0000	0.0000	28.9978	399.3033	428.3011	0.1162	0.0668	451.1071
Total	**10.1788**	**15.8104**	**47.1377**	**0.1521**	**12.2552**	**0.2906**	**12.5459**	**3.2819**	**0.2829**	**3.5648**	**185.2344**	**15,353.8514**	**15,539.0858**	**10.0640**	**0.1025**	**15,821.2430**

	ROG	NOx	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**	**21.95**	**0.00**	**0.33**	**23.42**	**0.00**	**0.81**

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	3.0173	14.0509	39.9098	0.1410	12.2552	0.1186	12.3738	3.2819	0.1109	3.3928	0.0000	12,993.2491	12,993.2491	0.6668	0.0000	13,009.9183
Unmitigated	3.0173	14.0509	39.9098	0.1410	12.2552	0.1186	12.3738	3.2819	0.1109	3.3928	0.0000	12,993.2491	12,993.2491	0.6668	0.0000	13,009.9183

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	8,750.00	8,750.00	8750.00	32,518,850	32,518,850
Total	8,750.00	8,750.00	8,750.00	32,518,850	32,518,850

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

Single Family Housing	10.21	10.21	10.21	41.60	18.80	39.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.1344	1.1488	0.4888	7.3300e-003		0.0929	0.0929		0.0929	0.0929	0.0000	1,330.4121	1,330.4121	0.0255	0.0244	1,338.3181
NaturalGas Unmitigated	0.1344	1.1488	0.4888	7.3300e-003		0.0929	0.0929		0.0929	0.0929	0.0000	1,330.4121	1,330.4121	0.0255	0.0244	1,338.3181

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					
Single Family Housing	2.4931e+007	0.1344	1.1488	0.4888	7.3300e-003		0.0929	0.0929		0.0929	0.0929	0.0000	1,330.4121	1,330.4121	0.0255	0.0244	1,338.3181
Total		**0.1344**	**1.1488**	**0.4888**	**7.3300e-003**		**0.0929**	**0.0929**		**0.0929**	**0.0929**	**0.0000**	**1,330.4121**	**1,330.4121**	**0.0255**	**0.0244**	**1,338.3181**

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					
Single Family Housing	2.4931e+007	0.1344	1.1488	0.4888	7.3300e-003		0.0929	0.0929		0.0929	0.0929	0.0000	1,330.4121	1,330.4121	0.0255	0.0244	1,338.3181
Total		**0.1344**	**1.1488**	**0.4888**	**7.3300e-003**		**0.0929**	**0.0929**		**0.0929**	**0.0929**	**0.0000**	**1,330.4121**	**1,330.4121**	**0.0255**	**0.0244**	**1,338.3181**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	7.0271	0.6108	6.7390	3.7600e-003		0.0792	0.0792		0.0792	0.0792	0.0000	630.8869	630.8869	0.0222	0.0114	634.8300
Unmitigated	7.0271	0.6108	6.7390	3.7600e-003		0.0792	0.0792		0.0792	0.0792	0.0000	630.8869	630.8869	0.0222	0.0114	634.8300

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	0.6160					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.1512					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0627	0.5356	0.2279	3.4200e-003		0.0433	0.0433		0.0433	0.0433	0.0000	620.2742	620.2742	0.0119	0.0114	623.9602
Landscaping	0.1973	0.0752	6.5111	3.4000e-004		0.0359	0.0359		0.0359	0.0359	0.0000	10.6127	10.6127	0.0103	0.0000	10.8698
Total	**7.0271**	**0.6108**	**6.7390**	**3.7600e-003**		**0.0792**	**0.0792**		**0.0792**	**0.0792**	**0.0000**	**630.8869**	**630.8869**	**0.0222**	**0.0114**	**634.8300**

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	0.6160					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.1512					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0627	0.5356	0.2279	3.4200e-003		0.0433	0.0433		0.0433	0.0433	0.0000	620.2742	620.2742	0.0119	0.0114	623.9602
Landscaping	0.1973	0.0752	6.5111	3.4000e-004		0.0359	0.0359		0.0359	0.0359	0.0000	10.6127	10.6127	0.0103	0.0000	10.8698
Total	**7.0271**	**0.6108**	**6.7390**	**3.7600e-003**		**0.0792**	**0.0792**		**0.0792**	**0.0792**	**0.0000**	**630.8869**	**630.8869**	**0.0222**	**0.0114**	**634.8300**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	428.3011	0.1162	0.0668	451.1071
Unmitigated	428.3011	0.1162	0.0668	451.1071

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	81.9607 / 51.6708	428.3011	0.1162	0.0668	451.1071
Total		**428.3011**	**0.1162**	**0.0668**	**451.1071**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	81.9607 / 51.6708	428.3011	0.1162	0.0668	451.1071
Total		**428.3011**	**0.1162**	**0.0668**	**451.1071**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	156.2366	9.2333	0.0000	387.0695
Unmitigated	208.3154	12.3111	0.0000	516.0926

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	1026.23	208.3154	12.3111	0.0000	516.0926
Total		**208.3154**	**12.3111**	**0.0000**	**516.0926**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	769.673	156.2366	9.2333	0.0000	387.0695
Total		**156.2366**	**9.2333**	**0.0000**	**387.0695**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Newland Sierra - Operation - Multifamily

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	935.00	Dwelling Unit	158.18	935,000.00	2674

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	536.36	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2020 RPS - intensity factors

Land Use - land uses per SP

Vehicle Trips - trip rates per LLG 2016

Woodstoves - no wood burning stoves

Area Coating - SDAPCD Rule 67.0.1

Energy Use - default energy use

Water And Wastewater - water demand per GSI study

Waste Mitigation - 25% diversion

Table Name	Column Name	Default Value	New Value

tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	100
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblEnergyUse	LightingElect	1,001.10	0.00
tblEnergyUse	NT24E	4,109.59	0.00
tblEnergyUse	T24E	257.33	0.00
tblFireplaces	NumberGas	514.25	841.50
tblFireplaces	NumberWood	327.25	0.00
tblLandUse	LotAcreage	58.44	158.18
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	536.36
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2018	2021
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	7.90	10.21
tblVehicleTrips	HS_TL	7.10	10.21
tblVehicleTrips	HW_TL	16.80	10.21
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	5.67	8.00
tblVehicleTrips	SU_TR	4.84	8.00
tblVehicleTrips	WD_TR	5.81	8.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	60,919,013.96	18,266,772.59
tblWater	OutdoorWaterUseRate	38,405,465.32	11,516,008.81
tblWater	SepticTankPercent	10.33	0.00

tblWoodstoves	NumberCatalytic	46.75	0.00
tblWoodstoves	NumberNoncatalytic	46.75	0.00

2.0 Emissions Summary

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	4.2951	0.6526	7.2011	4.0200e-003		0.0846	0.0846		0.0846	0.0846	0.0000	674.1477	674.1477	0.0237	0.0122	678.3612
Energy	0.0862	0.7365	0.3134	4.7000e-003		0.0596	0.0596		0.0596	0.0596	0.0000	852.9583	852.9583	0.0164	0.0156	858.0270
Mobile	2.5793	12.0115	34.1172	0.1205	10.4765	0.1014	10.5778	2.8056	0.0948	2.9003	0.0000	11,107.3718	11,107.3718	0.5700	0.0000	11,121.6216
Waste						0.0000	0.0000		0.0000	0.0000	87.3064	0.0000	87.3064	5.1597	0.0000	216.2979
Water						0.0000	0.0000		0.0000	0.0000	6.4628	88.9937	95.4565	0.0259	0.0149	100.5394
Total	**6.9606**	**13.4007**	**41.6317**	**0.1293**	**10.4765**	**0.2455**	**10.7220**	**2.8056**	**0.2389**	**3.0445**	**93.7692**	**12,723.4715**	**12,817.2408**	**5.7956**	**0.0427**	**12,974.8471**

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	4.2951	0.6526	7.2011	4.0200e-003		0.0846	0.0846		0.0846	0.0846	0.0000	674.1477	674.1477	0.0237	0.0122	678.3612

Energy	0.0862	0.7365	0.3134	4.7000e-003		0.0596	0.0596		0.0596	0.0596	0.0000	852.9583	852.9583	0.0164	0.0156	858.0270
Mobile	2.5793	12.0115	34.1172	0.1205	10.4765	0.1014	10.5778	2.8056	0.0948	2.9003	0.0000	11,107.3718	11,107.3718	0.5700	0.0000	11,121.6216
Waste						0.0000	0.0000		0.0000	0.0000	65.4798	0.0000	65.4798	3.8698	0.0000	162.2235
Water						0.0000	0.0000		0.0000	0.0000	6.4628	88.9937	95.4565	0.0259	0.0149	100.5394
Total	**6.9606**	**13.4007**	**41.6317**	**0.1293**	**10.4765**	**0.2455**	**10.7220**	**2.8056**	**0.2389**	**3.0445**	**71.9426**	**12,723.4715**	**12,795.4142**	**4.5057**	**0.0427**	**12,920.7726**

	ROG	**NOx**	**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**	**23.28**	**0.00**	**0.17**	**22.26**	**0.00**	**0.42**

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	2.5793	12.0115	34.1172	0.1205	10.4765	0.1014	10.5778	2.8056	0.0948	2.9003	0.0000	11,107.3718	11,107.3718	0.5700	0.0000	11,121.6216
Unmitigated	2.5793	12.0115	34.1172	0.1205	10.4765	0.1014	10.5778	2.8056	0.0948	2.9003	0.0000	11,107.3718	11,107.3718	0.5700	0.0000	11,121.6216

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	7,480.00	7,480.00	7480.00	27,798,971	27,798,971
Total	7,480.00	7,480.00	7,480.00	27,798,971	27,798,971

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
Condo/Townhouse	10.21	10.21	10.21	41.60	18.80	39.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0862	0.7365	0.3134	4.7000e-003		0.0596	0.0596		0.0596	0.0596	0.0000	852.9583	852.9583	0.0164	0.0156	858.0270
NaturalGas Unmitigated	0.0862	0.7365	0.3134	4.7000e-003		0.0596	0.0596		0.0596	0.0596	0.0000	852.9583	852.9583	0.0164	0.0156	858.0270

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					
Condo/Townhouse	1.59838e+007	0.0862	0.7365	0.3134	4.7000e-003		0.0596	0.0596		0.0596	0.0596	0.0000	852.9583	852.9583	0.0164	0.0156	858.0270

Total		0.0862	0.7365	0.3134	4.7000e-003		0.0596	0.0596		0.0596	0.0596	0.0000	852.9583	852.9583	0.0164	0.0156	858.0270

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					
Condo/Townhouse	1.59838e+007	0.0862	0.7365	0.3134	4.7000e-003		0.0596	0.0596		0.0596	0.0596	0.0000	852.9583	852.9583	0.0164	0.0156	858.0270
Total		**0.0862**	**0.7365**	**0.3134**	**4.7000e-003**		**0.0596**	**0.0596**		**0.0596**	**0.0596**	**0.0000**	**852.9583**	**852.9583**	**0.0164**	**0.0156**	**858.0270**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	4.2951	0.6526	7.2011	4.0200e-003		0.0846	0.0846		0.0846	0.0846	0.0000	674.1477	674.1477	0.0237	0.0122	678.3612
Unmitigated	4.2951	0.6526	7.2011	4.0200e-003		0.0846	0.0846		0.0846	0.0846	0.0000	674.1477	674.1477	0.0237	0.0122	678.3612

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	0.3657					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.6516					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0670	0.5723	0.2435	3.6500e-003		0.0463	0.0463		0.0463	0.0463	0.0000	662.8073	662.8073	0.0127	0.0122	666.7461
Landscaping	0.2108	0.0803	6.9576	3.7000e-004		0.0384	0.0384		0.0384	0.0384	0.0000	11.3404	11.3404	0.0110	0.0000	11.6152
Total	**4.2951**	**0.6526**	**7.2011**	**4.0200e-003**		**0.0846**	**0.0846**		**0.0846**	**0.0846**	**0.0000**	**674.1477**	**674.1477**	**0.0237**	**0.0122**	**678.3612**

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	0.3657					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.6516					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0670	0.5723	0.2435	3.6500e-003		0.0463	0.0463		0.0463	0.0463	0.0000	662.8073	662.8073	0.0127	0.0122	666.7461
Landscaping	0.2108	0.0803	6.9576	3.7000e-004		0.0384	0.0384		0.0384	0.0384	0.0000	11.3404	11.3404	0.0110	0.0000	11.6152
Total	**4.2951**	**0.6526**	**7.2011**	**4.0200e-003**		**0.0846**	**0.0846**		**0.0846**	**0.0846**	**0.0000**	**674.1477**	**674.1477**	**0.0237**	**0.0122**	**678.3612**

7.0 Water Detail

7.1 Mitigation Measures Water

Category	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	95.4565	0.0259	0.0149	100.5394
Unmitigated	95.4565	0.0259	0.0149	100.5394

7.2 Water by Land Use

Unmitigated

Land Use	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
	Mgal	MT/yr			
Condo/Townhouse	18.2668 / 11.516	95.4565	0.0259	0.0149	100.5394
Total		**95.4565**	**0.0259**	**0.0149**	**100.5394**

Mitigated

Land Use	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
	Mgal	MT/yr			
Condo/Townhouse	18.2668 / 11.516	95.4565	0.0259	0.0149	100.5394
Total		**95.4565**	**0.0259**	**0.0149**	**100.5394**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	65.4798	3.8698	0.0000	162.2235
Unmitigated	87.3064	5.1597	0.0000	216.2979

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	430.1	87.3064	5.1597	0.0000	216.2979
Total		**87.3064**	**5.1597**	**0.0000**	**216.2979**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	322.575	65.4798	3.8698	0.0000	162.2235
Total		**65.4798**	**3.8698**	**0.0000**	**162.2235**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Newland Sierra - Operation - Age-Qualified Units

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Retirement Community	325.00	Dwelling Unit	58.20	325,000.00	930

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	536.36	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2020 RPS - intensity factors

Land Use - land uses per SP

Vehicle Trips - trip rates per LLG 2016

Woodstoves - no wood burning stoves

Area Coating - SDAPCD Rule 67.0.1

Energy Use - default energy use

Water And Wastewater - water demand per GSI study

Waste Mitigation - 25% diversion

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100

tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	100
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblEnergyUse	LightingElect	1,001.10	0.00
tblEnergyUse	NT24E	3,418.36	0.00
tblEnergyUse	T24E	307.62	0.00
tblFireplaces	NumberGas	178.75	292.50
tblFireplaces	NumberWood	113.75	0.00
tblLandUse	LotAcreage	65.00	58.20
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	536.36
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2018	2021
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	7.90	10.21
tblVehicleTrips	HS_TL	7.10	10.21
tblVehicleTrips	HW_TL	16.80	10.21
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	2.03	4.00
tblVehicleTrips	SU_TR	1.95	4.00
tblVehicleTrips	WD_TR	2.40	4.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	21,175,058.33	18,266,772.59
tblWater	OutdoorWaterUseRate	13,349,493.29	11,516,008.81
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	16.25	0.00

tblWoodstoves	NumberNoncatalytic	16.25	0.00

2.0 Emissions Summary

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	1.4929	0.2269	2.5031	1.4000e-003		0.0294	0.0294		0.0294	0.0294	0.0000	234.3294	234.3294	8.2400e-003	4.2200e-003	235.7940
Energy	0.0251	0.2149	0.0914	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	248.8175	248.8175	4.7700e-003	4.5600e-003	250.2961
Mobile	0.4483	2.0876	5.9295	0.0210	1.8208	0.0176	1.8384	0.4876	0.0165	0.5041	0.0000	1,930.4256	1,930.4256	0.0991	0.0000	1,932.9022
Waste						0.0000	0.0000		0.0000	0.0000	30.3472	0.0000	30.3472	1.7935	0.0000	75.1838
Water						0.0000	0.0000		0.0000	0.0000	6.4628	88.9937	95.4565	0.0259	0.0149	100.5394
Total	**1.9664**	**2.5293**	**8.5239**	**0.0237**	**1.8208**	**0.0644**	**1.8852**	**0.4876**	**0.0633**	**0.5509**	**36.8100**	**2,502.5663**	**2,539.3762**	**1.9314**	**0.0237**	**2,594.7154**

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	1.4929	0.2269	2.5031	1.4000e-003		0.0294	0.0294		0.0294	0.0294	0.0000	234.3294	234.3294	8.2400e-003	4.2200e-003	235.7940
Energy	0.0251	0.2149	0.0914	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	248.8175	248.8175	4.7700e-003	4.5600e-003	250.2961

Mobile	0.4483	2.0876	5.9295	0.0210	1.8208	0.0176	1.8384	0.4876	0.0165	0.5041	0.0000	1,930.4256	1,930.4256	0.0991	0.0000	1,932.9022
Waste						0.0000	0.0000		0.0000	0.0000	22.7604	0.0000	22.7604	1.3451	0.0000	56.3878
Water						0.0000	0.0000		0.0000	0.0000	6.4628	88.9937	95.4565	0.0259	0.0149	100.5394
Total	**1.9664**	**2.5293**	**8.5239**	**0.0237**	**1.8208**	**0.0644**	**1.8852**	**0.4876**	**0.0633**	**0.5509**	**29.2232**	**2,502.5663**	**2,531.7894**	**1.4831**	**0.0237**	**2,575.9195**

	ROG	NOx	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**	**20.61**	**0.00**	**0.30**	**23.21**	**0.00**	**0.72**

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	0.4483	2.0876	5.9295	0.0210	1.8208	0.0176	1.8384	0.4876	0.0165	0.5041	0.0000	1,930.4256	1,930.4256	0.0991	0.0000	1,932.9022
Unmitigated	0.4483	2.0876	5.9295	0.0210	1.8208	0.0176	1.8384	0.4876	0.0165	0.5041	0.0000	1,930.4256	1,930.4256	0.0991	0.0000	1,932.9022

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Retirement Community	1,300.00	1,300.00	1300.00	4,831,372	4,831,372
Total	1,300.00	1,300.00	1,300.00	4,831,372	4,831,372

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

Retirement Community	10.21	10.21	10.21	41.60	18.80	39.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Retirement Community	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0251	0.2149	0.0914	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	248.8175	248.8175	4.7700e-003	4.5600e-003	250.2961
NaturalGas Unmitigated	0.0251	0.2149	0.0914	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	248.8175	248.8175	4.7700e-003	4.5600e-003	250.2961

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					

Retirement Community	4.66266e+006	0.0251	0.2149	0.0914	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	248.8175	248.8175	4.7700e-003	4.5600e-003	250.2961
Total		**0.0251**	**0.2149**	**0.0914**	**1.3700e-003**		**0.0174**	**0.0174**		**0.0174**	**0.0174**	**0.0000**	**248.8175**	**248.8175**	**4.7700e-003**	**4.5600e-003**	**250.2961**

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					
Retirement Community	4.66266e+006	0.0251	0.2149	0.0914	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	248.8175	248.8175	4.7700e-003	4.5600e-003	250.2961
Total		**0.0251**	**0.2149**	**0.0914**	**1.3700e-003**		**0.0174**	**0.0174**		**0.0174**	**0.0174**	**0.0000**	**248.8175**	**248.8175**	**4.7700e-003**	**4.5600e-003**	**250.2961**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Retirement Community	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Retirement Community	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	1.4929	0.2269	2.5031	1.4000e-003		0.0294	0.0294		0.0294	0.0294	0.0000	234.3294	234.3294	8.2400e-003	4.2200e-003	235.7940
Unmitigated	1.4929	0.2269	2.5031	1.4000e-003		0.0294	0.0294		0.0294	0.0294	0.0000	234.3294	234.3294	8.2400e-003	4.2200e-003	235.7940

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Architectural Coating	0.1271					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2693					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0233	0.1989	0.0847	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	230.3876	230.3876	4.4200e-003	4.2200e-003	231.7567
Landscaping	0.0733	0.0279	2.4184	1.3000e-004		0.0133	0.0133		0.0133	0.0133	0.0000	3.9419	3.9419	3.8200e-003	0.0000	4.0374
Total	**1.4929**	**0.2269**	**2.5031**	**1.4000e-003**		**0.0294**	**0.0294**		**0.0294**	**0.0294**	**0.0000**	**234.3294**	**234.3294**	**8.2400e-003**	**4.2200e-003**	**235.7940**

Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Architectural Coating	0.1271					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2693					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0233	0.1989	0.0847	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	230.3876	230.3876	4.4200e-003	4.2200e-003	231.7567
Landscaping	0.0733	0.0279	2.4184	1.3000e-004		0.0133	0.0133		0.0133	0.0133	0.0000	3.9419	3.9419	3.8200e-003	0.0000	4.0374
Total	**1.4929**	**0.2269**	**2.5031**	**1.4000e-003**		**0.0294**	**0.0294**		**0.0294**	**0.0294**	**0.0000**	**234.3294**	**234.3294**	**8.2400e-003**	**4.2200e-003**	**235.7940**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	95.4565	0.0259	0.0149	100.5394
Unmitigated	95.4565	0.0259	0.0149	100.5394

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Retirement Community	18.2668 / 11.516	95.4565	0.0259	0.0149	100.5394
Total		**95.4565**	**0.0259**	**0.0149**	**100.5394**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			

Retirement Community	18.2668 / 11.516	95.4565	0.0259	0.0149	100.5394
Total		**95.4565**	**0.0259**	**0.0149**	**100.5394**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	22.7604	1.3451	0.0000	56.3878
Unmitigated	30.3472	1.7935	0.0000	75.1838

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Retirement Community	149.5	30.3472	1.7935	0.0000	75.1838

Total		30.3472	1.7935	0.0000	75.1838

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Retirement Community	112.125	22.7604	1.3451	0.0000	56.3878
Total		**22.7604**	**1.3451**	**0.0000**	**56.3878**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Newland Sierra - Operation - Commercial

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Strip Mall	81.00	1000sqft	10.20	81,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	536.36	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2020 RPS - intensity factors

Land Use - land uses per SP

Vehicle Trips - trip rates per LLG 2016

Woodstoves - no wood burning stoves

Area Coating - SDAPCD Rule 67.0.1

Energy Use - default energy use

Water And Wastewater - water demand per GSI study

Waste Mitigation - 25% diversion

Table Name	Column Name	Default Value	New Value

tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	100
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblLandUse	LotAcreage	1.86	10.20
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	536.36
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2018	2021
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	CC_TL	6.60	10.21
tblVehicleTrips	CNW_TL	6.60	10.21
tblVehicleTrips	CW_TL	14.70	10.21
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	42.04	120.00
tblVehicleTrips	SU_TR	20.43	120.00
tblVehicleTrips	WD_TR	44.32	120.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	5,999,874.24	1,676,829.25
tblWater	OutdoorWaterUseRate	3,677,342.28	1,027,734.05
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

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	0.3399	1.0000e-005	7.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4500e-003	1.4500e-003	0.0000	0.0000	1.5400e-003
Energy	9.8000e-004	8.8900e-003	7.4700e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	263.6977	263.6977	0.0106	2.5500e-003	264.7214
Mobile	3.3518	15.6085	44.3341	0.1566	13.6138	0.1317	13.7455	3.6457	0.1232	3.7689	0.0000	14,433.6436	14,433.6436	0.7407	0.0000	14,452.1607
Waste						0.0000	0.0000		0.0000	0.0000	17.2644	0.0000	17.2644	1.0203	0.0000	42.7718
Water						0.0000	0.0000		0.0000	0.0000	0.5933	8.0899	8.6831	2.3700e-003	1.3700e-003	9.1494
Total	**3.6926**	**15.6174**	**44.3423**	**0.1567**	**13.6138**	**0.1324**	**13.7462**	**3.6457**	**0.1238**	**3.7696**	**17.8576**	**14,705.4327**	**14,723.2903**	**1.7740**	**3.9200e-003**	**14,768.8048**

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	0.3399	1.0000e-005	7.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4500e-003	1.4500e-003	0.0000	0.0000	1.5400e-003
Energy	9.8000e-004	8.8900e-003	7.4700e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	263.6977	263.6977	0.0106	2.5500e-003	264.7214
Mobile	3.3518	15.6085	44.3341	0.1566	13.6138	0.1317	13.7455	3.6457	0.1232	3.7689	0.0000	14,433.6436	14,433.6436	0.7407	0.0000	14,452.1607
Waste						0.0000	0.0000		0.0000	0.0000	12.9483	0.0000	12.9483	0.7652	0.0000	32.0788
Water						0.0000	0.0000		0.0000	0.0000	0.5933	8.0899	8.6831	2.3700e-003	1.3700e-003	9.1494
Total	**3.6926**	**15.6174**	**44.3423**	**0.1567**	**13.6138**	**0.1324**	**13.7462**	**3.6457**	**0.1238**	**3.7696**	**13.5416**	**14,705.4327**	**14,718.9742**	**1.5189**	**3.9200e-003**	**14,758.1119**

	ROG	NOx	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	24.17	0.00	0.03	14.38	0.00	0.07

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	3.3518	15.6085	44.3341	0.1566	13.6138	0.1317	13.7455	3.6457	0.1232	3.7689	0.0000	14,433.6436	14,433.6436	0.7407	0.0000	14,452.1607
Unmitigated	3.3518	15.6085	44.3341	0.1566	13.6138	0.1317	13.7455	3.6457	0.1232	3.7689	0.0000	14,433.6436	14,433.6436	0.7407	0.0000	14,452.1607

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Strip Mall	9,720.00	9,720.00	9720.00	36,123,797	36,123,797
Total	9,720.00	9,720.00	9,720.00	36,123,797	36,123,797

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
Strip Mall	10.21	10.21	10.21	16.60	64.40	19.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Strip Mall	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	254.0154	254.0154	0.0104	2.3700e-003	254.9815
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	254.0154	254.0154	0.0104	2.3700e-003	254.9815
NaturalGas Mitigated	9.8000e-004	8.8900e-003	7.4700e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	9.6823	9.6823	1.9000e-004	1.8000e-004	9.7399
NaturalGas Unmitigated	9.8000e-004	8.8900e-003	7.4700e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	9.6823	9.6823	1.9000e-004	1.8000e-004	9.7399

5.2 Energy by Land Use - NaturalGas

Unmitigated

Land Use	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
	kBTU/yr	tons/yr										MT/yr					
Strip Mall	181440	9.8000e-004	8.8900e-003	7.4700e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	9.6823	9.6823	1.9000e-004	1.8000e-004	9.7399
Total		**9.8000e-004**	**8.8900e-003**	**7.4700e-003**	**5.0000e-005**		**6.8000e-004**	**6.8000e-004**		**6.8000e-004**	**6.8000e-004**	**0.0000**	**9.6823**	**9.6823**	**1.9000e-004**	**1.8000e-004**	**9.7399**

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					
Strip Mall	181440	9.8000e-004	8.8900e-003	7.4700e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	9.6823	9.6823	1.9000e-004	1.8000e-004	9.7399
Total		**9.8000e-004**	**8.8900e-003**	**7.4700e-003**	**5.0000e-005**		**6.8000e-004**	**6.8000e-004**		**6.8000e-004**	**6.8000e-004**	**0.0000**	**9.6823**	**9.6823**	**1.9000e-004**	**1.8000e-004**	**9.7399**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Strip Mall	1.04409e+006	254.0154	0.0104	2.3700e-003	254.9815
Total		**254.0154**	**0.0104**	**2.3700e-003**	**254.9815**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Strip Mall	1.04409e+006	254.0154	0.0104	2.3700e-003	254.9815
Total		**254.0154**	**0.0104**	**2.3700e-003**	**254.9815**

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	0.3399	1.0000e-005	7.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4500e-003	1.4500e-003	0.0000	0.0000	1.5400e-003
Unmitigated	0.3399	1.0000e-005	7.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4500e-003	1.4500e-003	0.0000	0.0000	1.5400e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0235					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3164					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4500e-003	1.4500e-003	0.0000	0.0000	1.5400e-003
Total	**0.3399**	**1.0000e-005**	**7.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.4500e-003**	**1.4500e-003**	**0.0000**	**0.0000**	**1.5400e-003**

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	0.0235					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3164					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4500e-003	1.4500e-003	0.0000	0.0000	1.5400e-003
Total	**0.3399**	**1.0000e-005**	**7.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.4500e-003**	**1.4500e-003**	**0.0000**	**0.0000**	**1.5400e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.6831	2.3700e-003	1.3700e-003	9.1494
Unmitigated	8.6831	2.3700e-003	1.3700e-003	9.1494

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Strip Mall	1.67683 / 1.02773	8.6831	2.3700e-003	1.3700e-003	9.1494
Total		**8.6831**	**2.3700e-003**	**1.3700e-003**	**9.1494**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Strip Mall	1.67683 / 1.02773	8.6831	2.3700e-003	1.3700e-003	9.1494
Total		**8.6831**	**2.3700e-003**	**1.3700e-003**	**9.1494**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	12.9483	0.7652	0.0000	32.0788
Unmitigated	17.2644	1.0203	0.0000	42.7718

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Strip Mall	85.05	17.2644	1.0203	0.0000	42.7718
Total		**17.2644**	**1.0203**	**0.0000**	**42.7718**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Strip Mall	63.7875	12.9483	0.7652	0.0000	32.0788
Total		**12.9483**	**0.7652**	**0.0000**	**32.0788**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Newland Sierra - Operation - School
San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	33.00	1000sqft	6.00	33,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	536.36	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2020 RPS - intensity factors

Land Use - land uses per SP

Vehicle Trips - trip rates per LLG 2016

Woodstoves - no wood burning stoves

Area Coating - SDAPCD Rule 67.0.1

Energy Use - default energy use

Water And Wastewater - water demand per GSI study

Waste Mitigation - 25% diversion

Table Name	Column Name	Default Value	New Value

tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	100
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblLandUse	LotAcreage	0.76	6.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	536.36
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2018	2021
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	CC_TL	6.60	10.21
tblVehicleTrips	CNW_TL	6.60	10.21
tblVehicleTrips	CW_TL	14.70	10.21
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00
tblVehicleTrips	PR_TP	63.00	100.00
tblVehicleTrips	WD_TR	15.43	26.90
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	956,898.27	364,953.12
tblWater	OutdoorWaterUseRate	2,460,595.55	938,450.88
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Area	0.1385	0.0000	3.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.9000e-004	5.9000e-004	0.0000	0.0000	6.3000e-004
Energy	1.0600e-003	9.6100e-003	8.0700e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	53.7342	53.7342	1.9800e-003	6.0000e-004	53.9609
Mobile	0.2187	1.0182	2.8921	0.0102	0.8881	8.5900e-003	0.8967	0.2378	8.0300e-003	0.2459	0.0000	941.5598	941.5598	0.0483	0.0000	942.7677
Waste						0.0000	0.0000		0.0000	0.0000	8.7083	0.0000	8.7083	0.5147	0.0000	21.5745
Water						0.0000	0.0000		0.0000	0.0000	0.1291	3.6927	3.8218	6.0000e-004	3.2000e-004	3.9307
Total	**0.3582**	**1.0278**	**2.9005**	**0.0103**	**0.8881**	**9.3200e-003**	**0.8974**	**0.2378**	**8.7600e-003**	**0.2466**	**8.8374**	**998.9872**	**1,007.8247**	**0.5656**	**9.2000e-004**	**1,022.2344**

Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Area	0.1385	0.0000	3.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.9000e-004	5.9000e-004	0.0000	0.0000	6.3000e-004
Energy	1.0600e-003	9.6100e-003	8.0700e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	53.7342	53.7342	1.9800e-003	6.0000e-004	53.9609
Mobile	0.2187	1.0182	2.8921	0.0102	0.8881	8.5900e-003	0.8967	0.2378	8.0300e-003	0.2459	0.0000	941.5598	941.5598	0.0483	0.0000	942.7677
Waste						0.0000	0.0000		0.0000	0.0000	6.5312	0.0000	6.5312	0.3860	0.0000	16.1809
Water						0.0000	0.0000		0.0000	0.0000	0.1291	3.6927	3.8218	6.0000e-004	3.2000e-004	3.9307
Total	**0.3582**	**1.0278**	**2.9005**	**0.0103**	**0.8881**	**9.3200e-003**	**0.8974**	**0.2378**	**8.7600e-003**	**0.2466**	**6.6604**	**998.9872**	**1,005.6476**	**0.4369**	**9.2000e-004**	**1,016.8408**

	ROG	**NOx**	**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**	**24.63**	**0.00**	**0.22**	**22.75**	**0.00**	**0.53**

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	0.2187	1.0182	2.8921	0.0102	0.8881	8.5900e-003	0.8967	0.2378	8.0300e-003	0.2459	0.0000	941.5598	941.5598	0.0483	0.0000	942.7677
Unmitigated	0.2187	1.0182	2.8921	0.0102	0.8881	8.5900e-003	0.8967	0.2378	8.0300e-003	0.2459	0.0000	941.5598	941.5598	0.0483	0.0000	942.7677

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	887.70	0.00	0.00	2,356,488	2,356,488
Total	887.70	0.00	0.00	2,356,488	2,356,488

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
Elementary School	10.21	10.21	10.21	65.00	30.00	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Elementary School	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	43.2738	43.2738	1.7700e-003	4.0000e-004	43.4384
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	43.2738	43.2738	1.7700e-003	4.0000e-004	43.4384
NaturalGas Mitigated	1.0600e-003	9.6100e-003	8.0700e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	10.4604	10.4604	2.0000e-004	1.9000e-004	10.5225
NaturalGas Unmitigated	1.0600e-003	9.6100e-003	8.0700e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	10.4604	10.4604	2.0000e-004	1.9000e-004	10.5225

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					
Elementary School	196020	1.0600e-003	9.6100e-003	8.0700e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	10.4604	10.4604	2.0000e-004	1.9000e-004	10.5225
Total		**1.0600e-003**	**9.6100e-003**	**8.0700e-003**	**6.0000e-005**		**7.3000e-004**	**7.3000e-004**		**7.3000e-004**	**7.3000e-004**	**0.0000**	**10.4604**	**10.4604**	**2.0000e-004**	**1.9000e-004**	**10.5225**

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					
Elementary School	196020	1.0600e-003	9.6100e-003	8.0700e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	10.4604	10.4604	2.0000e-004	1.9000e-004	10.5225

Total		**1.0600e-003**	**9.6100e-003**	**8.0700e-003**	**6.0000e-005**		**7.3000e-004**	**7.3000e-004**		**7.3000e-004**	**7.3000e-004**	**0.0000**	**10.4604**	**10.4604**	**2.0000e-004**	**1.9000e-004**	**10.5225**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	177870	43.2738	1.7700e-003	4.0000e-004	43.4384
Total		**43.2738**	**1.7700e-003**	**4.0000e-004**	**43.4384**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	177870	43.2738	1.7700e-003	4.0000e-004	43.4384
Total		**43.2738**	**1.7700e-003**	**4.0000e-004**	**43.4384**

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	0.1385	0.0000	3.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.9000e-004	5.9000e-004	0.0000	0.0000	6.3000e-004
Unmitigated	0.1385	0.0000	3.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.9000e-004	5.9000e-004	0.0000	0.0000	6.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.5600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1289					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.9000e-004	5.9000e-004	0.0000	0.0000	6.3000e-004
Total	**0.1385**	**0.0000**	**3.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.9000e-004**	**5.9000e-004**	**0.0000**	**0.0000**	**6.3000e-004**

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	9.5600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Consumer Products	0.1289					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.9000e-004	5.9000e-004	0.0000	0.0000	6.3000e-004
Total	**0.1385**	**0.0000**	**3.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.9000e-004**	**5.9000e-004**	**0.0000**	**0.0000**	**6.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.8218	6.0000e-004	3.2000e-004	3.9307
Unmitigated	3.8218	6.0000e-004	3.2000e-004	3.9307

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	0.364953 / 0.938451	3.8218	6.0000e-004	3.2000e-004	3.9307
Total		**3.8218**	**6.0000e-004**	**3.2000e-004**	**3.9307**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	0.364953 / 0.938451	3.8218	6.0000e-004	3.2000e-004	3.9307
Total		**3.8218**	**6.0000e-004**	**3.2000e-004**	**3.9307**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	6.5312	0.3860	0.0000	16.1809
Unmitigated	8.7083	0.5147	0.0000	21.5745

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	42.9	8.7083	0.5147	0.0000	21.5745
Total		**8.7083**	**0.5147**	**0.0000**	**21.5745**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	32.175	6.5312	0.3860	0.0000	16.1809
Total		**6.5312**	**0.3860**	**0.0000**	**16.1809**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Newland Sierra - Operation - Parks
San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	97.60	Acre	97.60	4,251,456.00	0
City Park	23.80	Acre	23.80	1,036,728.00	0
Golf Course	12.10	Acre	12.10	527,076.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	536.36	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2020 RPS - intensity factors

Land Use - golf course = community park

Vehicle Trips - trip rates per LLG 2016

Woodstoves - no wood burning stoves

Area Coating - SDAPCD Rule 67.0.1

Energy Use - default energy use

Water And Wastewater - water demand per GSI study

Waste Mitigation - 25% diversion

Solid Waste -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	100
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	536.36
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2018	2021
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	CC_TL	6.60	10.21
tblVehicleTrips	CC_TL	6.60	10.21
tblVehicleTrips	CNW_TL	6.60	10.21
tblVehicleTrips	CNW_TL	6.60	10.21
tblVehicleTrips	CW_TL	14.70	10.21
tblVehicleTrips	CW_TL	14.70	10.21
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	39.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	9.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	PR_TP	52.00	100.00
tblVehicleTrips	ST_TR	22.75	5.00
tblVehicleTrips	ST_TR	5.82	50.00
tblVehicleTrips	SU_TR	16.74	5.00
tblVehicleTrips	SU_TR	5.88	50.00
tblVehicleTrips	WD_TR	1.89	5.00

tblVehicleTrips	WD_TR	5.04	50.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	OutdoorWaterUseRate	28,357,256.12	10,952,403.00
tblWater	OutdoorWaterUseRate	14,416,924.33	5,568,238.50
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

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	0.3488	1.0000e-005	1.2300e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3900e-003	2.3900e-003	1.0000e-005	0.0000	2.5400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.2497	1.1626	3.3023	0.0117	1.0140	9.8100e-003	1.0238	0.2716	9.1700e-003	0.2807	0.0000	1,075.0986	1,075.0986	0.0552	0.0000	1,076.4778
Waste						0.0000	0.0000		0.0000	0.0000	2.6998	0.0000	2.6998	0.1596	0.0000	6.6886
Water						0.0000	0.0000		0.0000	0.0000	0.0000	44.6543	44.6543	1.8300e-003	4.2000e-004	44.8241

Total	**0.5984**	**1.1626**	**3.3035**	**0.0117**	**1.0140**	**9.8100e-003**	**1.0238**	**0.2716**	**9.1700e-003**	**0.2807**	**2.6998**	**1,119.7552**	**1,122.4550**	**0.2166**	**4.2000e-004**	**1,127.9931**

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	0.3488	1.0000e-005	1.2300e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3900e-003	2.3900e-003	1.0000e-005	0.0000	2.5400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.2497	1.1626	3.3023	0.0117	1.0140	9.8100e-003	1.0238	0.2716	9.1700e-003	0.2807	0.0000	1,075.0986	1,075.0986	0.0552	0.0000	1,076.4778
Waste						0.0000	0.0000		0.0000	0.0000	2.0248	0.0000	2.0248	0.1197	0.0000	5.0164
Water						0.0000	0.0000		0.0000	0.0000	0.0000	44.6543	44.6543	1.8300e-003	4.2000e-004	44.8241
Total	**0.5984**	**1.1626**	**3.3035**	**0.0117**	**1.0140**	**9.8100e-003**	**1.0238**	**0.2716**	**9.1700e-003**	**0.2807**	**2.0248**	**1,119.7552**	**1,121.7801**	**0.1767**	**4.2000e-004**	**1,126.3209**

	ROG	**NOx**	**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**	**25.00**	**0.00**	**0.06**	**18.42**	**0.00**	**0.15**

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	0.2497	1.1626	3.3023	0.0117	1.0140	9.8100e-003	1.0238	0.2716	9.1700e-003	0.2807	0.0000	1,075.0986	1,075.0986	0.0552	0.0000	1,076.4778

Unmitigated	0.2497	1.1626	3.3023	0.0117	1.0140	9.8100e-003	1.0238	0.2716	9.1700e-003	0.2807	0.0000	1,075.0986	1,075.0986	0.0552	0.0000	1,076.4778

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	119.00	119.00	119.00	442,256	442,256
Other Asphalt Surfaces	0.00	0.00	0.00		
Golf Course	605.00	605.00	605.00	2,248,446	2,248,446
Total	724.00	724.00	724.00	2,690,703	2,690,703

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
City Park	10.21	10.21	10.21	33.00	48.00	19.00	100	0	0
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	100	0	0
Golf Course	10.21	10.21	10.21	33.00	48.00	19.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193
City Park	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193
Golf Course	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	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
Golf Course	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
City Park	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
Golf Course	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

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					
Mitigated	0.3488	1.0000e-005	1.2300e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3900e-003	2.3900e-003	1.0000e-005	0.0000	2.5400e-003
Unmitigated	0.3488	1.0000e-005	1.2300e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3900e-003	2.3900e-003	1.0000e-005	0.0000	2.5400e-003

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Architectural Coating	0.0591					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2895					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2000e-004	1.0000e-005	1.2300e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3900e-003	2.3900e-003	1.0000e-005	0.0000	2.5400e-003
Total	**0.3488**	**1.0000e-005**	**1.2300e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.3900e-003**	**2.3900e-003**	**1.0000e-005**	**0.0000**	**2.5400e-003**

Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Architectural Coating	0.0591					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Consumer Products	0.2895					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2000e-004	1.0000e-005	1.2300e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3900e-003	2.3900e-003	1.0000e-005	0.0000	2.5400e-003
Total	**0.3488**	**1.0000e-005**	**1.2300e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.3900e-003**	**2.3900e-003**	**1.0000e-005**	**0.0000**	**2.5400e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	44.6543	1.8300e-003	4.2000e-004	44.8241
Unmitigated	44.6543	1.8300e-003	4.2000e-004	44.8241

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 10.9524	29.6037	1.2100e-003	2.8000e-004	29.7163
Golf Course	0 / 5.56824	15.0506	6.2000e-004	1.4000e-004	15.1079
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000

Total		44.6543	1.8300e-003	4.2000e-004	44.8241

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 10.9524	29.6037	1.2100e-003	2.8000e-004	29.7163
Golf Course	0 / 5.56824	15.0506	6.2000e-004	1.4000e-004	15.1079
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**44.6543**	**1.8300e-003**	**4.2000e-004**	**44.8241**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.0248	0.1197	0.0000	5.0164
Unmitigated	2.6998	0.1596	0.0000	6.6886

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	2.05	0.4161	0.0246	0.0000	1.0310
Golf Course	11.25	2.2837	0.1350	0.0000	5.6576
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**2.6998**	**0.1596**	**0.0000**	**6.6886**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	1.5375	0.3121	0.0184	0.0000	0.7732
Golf Course	8.4375	1.7127	0.1012	0.0000	4.2432
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**2.0248**	**0.1197**	**0.0000**	**5.0164**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

GHG Emission Calculations Summary - Newland Sierra

		CO2	CH4	N2O	CO2E
Single Family	Motor Vehicles	11,551	0.59	0.00	11,566
	Electricity Use	0	0.00	0.00	0
	Natural Gas Consumption	1,330	0.03	0.02	1,338
	Area Sources	631	0.02	0.01	635
	Water Consumption	428	0.12	0.07	451
	Solid Waste	156	9.23	0.00	387
	Total	**14,096**	**9.99**	**0.10**	**14,377**
	MT/DU				16

		CO2	CH4	N2O	CO2E
Multifamily	Motor Vehicles	9,874	0.51	0.00	9,887
	Electricity Use	0	0.00	0.00	0
	Natural Gas Consumption	853	0.02	0.02	858
	Area Sources	674	0.02	0.01	678
	Water Consumption	95	0.02	0.01	101
	Solid Waste	65	4.00	0.00	162
	Total	**11,561**	**4.57**	**0.04**	**11,686**
	MT/DU				12

		CO2	CH4	N2O	CO2E
Age-Qualified	Motor Vehicles	1,716	0.09	0.00	1,718
	Electricity Use	0	0.00	0.00	0
	Natural Gas Consumption	249	0.00	0.00	250
	Area Sources	234	0.00	0.00	236
	Water Consumption	95	0.03	0.01	101
	Solid Waste	23	1.35	0.00	56
	Total	**2,317**	**1.47**	**0.01**	**2,362**
	MT/DU				7

		CO2	CH4	N2O	CO2E
Commercial	Motor Vehicles	12,832	0.66	0.00	12,848
	Electricity Use	254	0.01	0.00	255
	Natural Gas Consumption	10	0.00	0.00	10
	Area Sources	0	0.00	0.00	0
	Water Consumption	9	0.00	0.00	9
	Solid Waste	13	0.77	0.00	32
	Total	**13,118**	**1.44**	**0.00**	**13,154**
	MT/DU				162

		CO2	CH4	N2O	CO2E
School	Motor Vehicles	837	0.04	0.00	838
	Electricity Use	42	0.00	0.00	43
	Natural Gas Consumption	10	0.00	0.00	11
	Area Sources	0	0.00	0.00	0
	Water Consumption	4	0.00	0.00	4
	Solid Waste	7	0.39	0.00	16
	Total	**900**	**0.43**	**0.00**	**912**
	MT/DU				28

		CO2	CH4	N2O	CO2E
Parks	Motor Vehicles	956	0.05	0.00	957
	Electricity Use	0	0.00	0.00	0
	Natural Gas Consumption	0	0.00	0.00	0
	Area Sources	0	0.00	0.00	0
	Water Consumption	45	0.00	0.00	45
	Solid Waste	2	0.12	0.00	5
	Total	**1,002**	**0.17**	**0.00**	**1,007**
	MT/DU				28

		CO2	CH4	N2O	CO2E
Proposed Project	Motor Vehicles	37,766	1.94	0.00	37,814
Total	Electricity Use	296	0.01	0.00	298
	Natural Gas Consumption	2,452	0.05	0.04	2,467
	Area Sources	1,539	0.04	0.02	1,549
	Water Consumption	675	0.17	0.09	711
	Solid Waste	266	15.86	0.00	659
	Total	**42,995**	**18.07**	**0.15**	**43,498**

		CO2	CH4	N2O	CO2E
Proposed Project	Motor Vehicles	42,481	2.18	0	42,536
WITHOUT	Electricity Use	3,737	0.15	0.03	3,751
GHG Reduction	Natural Gas Consumption	2,452	0.05	0.05	2,467
Features	Area Sources	2,725	0.04	0.17	2,777
	Water Consumption	672	3.95	0.10	800
	Solid Waste	265	15.64	0.00	655
	Total	**52,332**	**22.01**	**0.35**	**52,986**

APPENDIX D

VMT Reduction Measures and Reduction Calculations

FEHR & PEERS

MEMORANDUM

Date: February 7, 2017

To: Rita Brandin, Newland Communities

From: Katy Cole & Ryan Caldera, Fehr & Peers

Subject: Newland Sierra TDM Program - VMT Reduction Evaluation

SD16-0219

This memorandum evaluates the level of effectiveness of the Newland Sierra Travel Demand Management (TDM) Program. Each element of the proposed TDM Program is evaluated by comparing the element to standards developed by the California Air Pollution Control Officers Association (CAPCOA) and other case studies, to determine the Vehicle Miles of Travel (VMT) reduction expected due to implementation of the TDM Program.

This memo is organized as follows:

- **1. Project Description** – Provides a brief description of the land uses proposed as part of the Newland Sierra project and a summary of the transportation setting. Also includes a summary of the elements included in the Newland Sierra TDM program.
- **2. Methodology** – Provides the overall methodology used to estimate the VMT reduction associated with the TDM program.
- **3. TDM Program** – Provides a detailed description of the proposed TDM Program and supporting elements required to ensure that the program is effective.
- **4. Evaluation of TDM Strategies** – Provides detailed calculations to determine the effectiveness of each TDM program element at reducing project VMT.
- **5. TDM Program Metrics and Targets** – Provides performance metrics to ensure that the project sponsor is following through with implementing the TDM Program.

1. PROJECT DESCRIPTION

Land Uses and Transportation Setting

The proposed Newland Sierra development project (Project) is located west of I-15, approximately 6.4 miles north of the city of Escondido and approximately 4.6 miles north of the city of San Marcos. The 1,985-acre Project would consist of 2,135 residential units, 36 acres (gross) of parks, a 6-acre school site, and 81,000 square feet of commercial space. The Project also would include a system of trails, bike lanes, and pathways connecting to and within approximately 1,209 acres of open space.

To the southeast of the Project site, there are two existing Park-and-Ride lots, the first at the northeast quadrant of the Deer Springs Road / Mesa Rock Road intersection and the second at the northwest quadrant of the Deer Springs Road / Old Highway 395 intersection. (See **Figure 1** in the attachments). With respect to available transit, because the site of the proposed Project presently is undeveloped, there currently is no transit access to the Project site. For example, North County Transit District (NCTD) BREEZE Bus Route 389 runs on I-15 directly east of the Project site but presently does not stop near the site due to the present lack of demand for transit service. The Project site also is a few miles north of the Escondido Transit Center, which provides connections to BREEZE bus, LIFT shuttle, and SPRINTER light rail lines operated by NCTD.

Overview of TDM Program

TDM strategies have been used for over 30 years to reduce single occupant vehicle trips. The Newland Sierra TDM program would work to reduce the Project's impacts on the surrounding street network through: land use and design strategies that would create an environment that promotes alternative mode choice; commute/travel services for residents that would reduce out-going single occupant vehicle trips; and commute services for employees of the Project's commercial center that would reduce incoming single occupant vehicle trips.

A detailed description of the TDM Program is presented in subsequent sections of this memorandum. As an overview, the Newland Sierra TDM program would include the following VMT reduction strategies:

- LAND USE AND DESIGN STRATEGIES
    - Land Use Diversity

- COMMUTE/TRAVEL SERVICES FOR RESIDENTS
  - Pedestrian/Bicyclist Trails Network
  - Electric Bike-Share Program
  - Car-share Program
  - Local Shuttle Service
  - Ridesharing Support Features
  - Transit Fare Subsidy for Residents
  - TDM Program Marketing for Residents

- COMMUTE SERVICES FOR EMPLOYEES
  - Transit Fare Subsidy for Employees
  - TDM Program Marketing for Employees

2. METHODOLOGY

Fehr & Peers worked with the CAPCOA to develop the transportation section of the report *Quantifying Greenhouse Gas Mitigation Measures* (CAPCOA Report). This report is now used as a set of guidelines for quantifying the environmental benefits of mitigation measures, such as the Project's TDM Program. The CAPCOA guidelines were developed by conducting a comprehensive literature review of studies documenting the effects of TDM strategies on reducing VMT. Fehr & Peers developed a quantification tool based on the research performed for our work with CAPCOA, TDM+, which quantifies the effects of TDM programs on VMT reduction resulting from strategies implemented for a single development site up to a business campus or neighborhood.

TDM Effectiveness Quantification

To determine the amount of VMT reduction that would be attributable to the Newland Sierra TDM Program, Fehr & Peers compared the Program to CAPCOA standards and utilized the TDM+ tool. For those measures not addressed by the CAPCOA standards, Fehr & Peers utilized case studies to estimate VMT reduction.

The detailed calculations for each TDM strategy are described in the section *Evaluation of Recommended TDM Program Strategies*. For each strategy that is based on the CAPCOA Report, the related CAPCOA strategy code (for example, CAPCOA TRT-6 or SDT-3) is provided.

VMT Modeling Data

Based on travel demand model output from the San Diego Association of Governments (SANDAG) Series 12 model, which provides information on estimated VMT and vehicle trips that would be produced by the Newland Sierra Project, the proposed Project would generate 294,804 total VMT. This is a gross estimate of VMT prior to any reductions associated with the TDM Program.

3. TDM PROGRAM

The proposed Project would include a robust TDM Program that will reduce Newland Sierra's impacts on the surrounding street network while striving to achieve countywide air quality/greenhouse gas reduction goals. The TDM Program is organized into three main types of strategies as follows:

- **Land Use Strategies** –These strategies include land use diversity (mixed-use) and supporting design features (covered below in the "Commute/Travel Services for Residents" bullet points) that encourage residents/employees to walk, bike, or take transit within the Project area:
    - Provide a mix of land uses, including residential, commercial, educational, and parks, so that residents of the Project have access to basic shopping, school, and recreation opportunities without having to travel outside of the Project site. This would lower vehicle miles traveled because residents can use alternative transportation modes to reach the various land uses available within the site, and if they do need to drive, the trip is very short.

- **Commute/Travel Services for Residents** - These strategies would provide residents with travel options other than private auto for trips to destinations inside and outside of the Project area:
    - Develop a comprehensive trails network designed to provide multi-use trails between the various Project components, land uses, parks/open spaces, schools, and the Town Center. The trails network would provide connections to the various recreational trails and multi-modal facilities accessing the Project site. Additionally, the loop road would include 5-foot bike lanes on either side of the roadway.
    - Provide bicycle racks along main travel corridors, adjacent to commercial developments, at public parks and open spaces, and at the retail, multi-family buildings within the Project site.

- Implement an electric bike share program to further link the Project neighborhoods to one another and to reduce motorized vehicle trips. The bike share program would include the placement of eight kiosks throughout the Community. Electric bikes may be taken from one kiosk and left at another to promote sustainable transportation between planning areas within the Project. It is anticipated that each kiosk would contain approximately 10 to 20 electric bikes.
- Coordinate with a car-share organization to install three car-share stations with one car each (or a total of three cars) in the commercial area of the Project, available to residents on an on-demand basis.
- Coordinate a ride share or shuttle system that connects the various Project neighborhoods to the Town Center and to external transit facilities and resources such as the Park-and-Ride lots and the Escondido Transit Center
- Coordinate with SANDAG's iCommute program for carpool, vanpool, and rideshare programs that are specific to the Project's residents.
- Promote the adjacent Park-and-Ride lots at the northeast quadrant of the Deer Springs Road/Mesa Rock Road intersection and at the northwest quadrant of the Deer Springs Road/Old Highway 395 intersection to residents to encourage carpooling.
- Promote transit subsidies for residents.
- Promote available websites providing transportation options for residents.
- Create and distribute a "new resident" information packet addressing alternative modes of transportation.
- Promote a transportation options app for use on mobile devices (tech enabled mobility app).
- Coordinate with NCTD/Metropolitan Transit System (MTS) and SANDAG as to the future siting of transit stops/stations at the adjacent Park-and-Ride lots.

- **Commute Services for Employees** – These strategies would allow employees of the Town Center and other employers within the Project site to travel to work by means other than private auto:
  - Provide transit subsidies for employees of the project's Town Center.
  - Promote available websites providing transportation options for businesses in the Town Center.
  - Promote the adjacent Park-and-Ride lots to employees to support carpooling.
  - Implement a demand responsive shuttle service that provides access throughout the Project site, to the Park-and-Ride lots, and to the Escondido Transit Center.

- Coordinate with SANDAG's iCommute program for carpool, vanpool, and rideshare programs that are specific to the Project's employees.
- Coordinate with NCTD/MTS and SANDAG as to the future siting of transit stops/stations at the adjacent Park-and-Ride lots.

Transportation Coordinator

To ensure the TDM Program strategies are implemented and effective, a Transportation Coordinator (likely as part of a home owner's association) shall be established to monitor the Program.

As part of the home owner's association, a staff member or consultant will be designated to serve as the on-site Transportation Coordinator for both the employees and residents. Coordinators are responsible for developing, marketing, implementing, and evaluating TDM Programs; dedicated personnel on staff makes the TDM Program more robust, consistent and reliable. Additionally, residents and employees would have a designated point of contact for questions about the various TDM measures, which would allow them to easily stay informed of various TDM functions and eligibility.

It is anticipated that the Transportation Coordinator role would require approximately 8-16 hours per week.

The Transportation Coordinator's duties would include, but not be limited to, the following:

- Conduct transportation alternatives orientation for new employees and new residents.
- Assist with rideshare matching for employees commuting to the Project and residents commuting from their homes.
- Provide information on transit, bicycling, and walking to and from the Project.
- Act as source of information regarding the TDM Program, including compliance with regulatory requirements and new potential TDM benefits.
- Coordinate TDM Program monitoring (administer surveys and coordinate data collection).

Monitoring

Monitoring is necessary to ensure that the Project is implementing the TDM Program consistent with the analysis presented in this memorandum. Monitoring would start once the community is 85% occupied and occur every 3-5 years. The Transportation Coordinator would submit a monitoring report to San Diego County to document the implementation of the TDM Program. The details of the monitoring/reporting would be determined in collaboration with the County, but potentially would include administering and summarizing community surveys and documenting TDM measures in operation/level of participation.

Table 2, TDM Program Performance Metrics and Targets, sets forth the applicable performance metrics and targets for each strategy identified for implementation herein. The purpose of the performance metrics is to ensure implementation of the VMT reduction strategies consistent with the analysis presented in this evaluation.

4. EVALUATION OF RECOMMENDED TDM PROGRAM STRATEGIES

As previously explained, CAPCOA standards were utilized to determine the VMT reduction anticipated to be achieved by implementation of each component, or VMT reduction strategy included in the TDM Program. A detailed description of that analysis is presented in this section. **Exhibit 1, TDM Program VMT Reduction Analysis,** presents a summary of the evaluation. The exhibit lists each VMT reduction measure analyzed here with a brief description, the applicable CAPCOA reference standard, and the projected VMT reduction based on application of the TDM+ tool. As shown on the exhibit, the total VMT reduction that would be achieved with implementation of the TDM Program VMT reduction strategies is **11.1 percent**.

Survey Data Used in Analysis

The CAPCOA guidance and VMT reduction equations include variables related to the community population, number of employees at the Town Center, and work related VMT for both residents and employees. Fehr & Peers utilized several data sources (provided in **Appendix A: National Household Travel Survey Data** and **Appendix B: U.S. Census Data**) to develop estimates for these variables as follows:

- Community Population: The Project proposes the construction of 2,135 dwelling units. Based on US Census Data (QuickFacts provided in the **Appendix B: US Census Data**), the average household size in San Diego County is 2.85 persons per dwelling unit. This equates to approximately 6,085 residents in the proposed Project (2,135 dwelling units*2.85=6,085).
- Number of Employees at the Town Center: The San Diego General Plan estimates that a Community Shopping Center will have 400 square feet per employee. The Project's commercial center is estimated to employ 203 employees based on a gross area of 81,000 square feet (81,000 square feet/400 square feet per employee=203 employees).

- VMT Associated with Residents vs. Employees: The total service population for the proposed Project is 6,288 (6,085 residents+203 employees=6,288). Employees account for 3.2% of the service population; therefore, Fehr & Peers assumes that they would account for 3.2% of the VMT generated by the Project.
- Residential based Work VMT: It is necessary to understand the amount of VMT that is due to residents of the proposed project traveling to work outside the project. Conservatively, we estimate that all of the residents work outside of the proposed Project area. Residents account for 96.8% of the service population (6,085/6,288=96.8%). The 2009 National Household Travel Survey (summary provided in the **Appendix A: National Household Travel Survey Data**) provides information on trip purpose and indicates that 25% of home based trips are work related. Therefore 24.2% of the overall VMT is home based work related (96.8%*25%=24.2%).

INDIVIDUAL STRATEGY EFFECTIVENESS

Land Use Strategies

Land-Use Diversity

The Newland Sierra Project consists of a wide range of land uses, including commercial, single- and multifamily residential, and park and open space. The mixed-use development will support walking and other modes of transport alternative to the automobile between residential and office/commercial locations (and vice versa). By providing varied land uses, the Project would reduce the need for travel outside of the Project site (i.e., reduces the need for external trips).

For a suburban development, like the proposed Project, to qualify for a VMT reduction due to land-use diversity, it should include, as the Newland Sierra Project does, at least three of the following on site uses (and/or offsite within ¼ mile): residential, retail, park, open-space, or office. Additionally, the subject development should minimize the need for external trips by including on-site services/facilities such as day care, banking/ATM, restaurants, vehicle refueling, and shopping.

The proposed project includes residential, retail, park, and open-space. The exact tenants of the retail/commercial uses have not yet been determined; however, for the anticipated uses are neighborhood serving commercial that would provide basic, everyday needs.

Based on the CAPCOA guidance (LUT-3), the amount of VMT reduction attributable to land-use diversity is determined based on the following equation:

% VMT Reduction = A (% increase in land use index versus single use development) * B (elasticity); Where:

- A = (land use index – 0.15)/0.15, where 0.15 refers to the single development land use index
- Land use index = -a/ln(6)
- $$a = \sum_{i=1}^{6} a_i \times \ln(a_i)$$
  a_i = land use area of land use i/total project area; a_1=single family residential, a_2=multifamily residential, a_3=commercial, a_4=industrial, a_5=institutional, a_6=park. If a land use is not present, a_i is set to 0.01.

- B = Elasticity of VMT, 0.09 based on CAPCOA LUT-3.

More information regarding this methodology can be found in the CAPCOA Report page 163.

For Newland Sierra, the % VMT Reduction is calculated as follows:

- a_1=0.35, a_2=0.02, a_3=0.01, a_4=0.01, a_5=0.01, a_6=0.62
- a = 0.35*ln(0.35)*0.02*ln(0.02)*0.01*ln(0.01)*0.01*ln(0.01)*0.01*ln(0.01)*0.62*ln(0.62) = -0.88
- Land Use Index = -(-0.88)/ln(6) = 0.491
- A = (0.491-0.15)/0.15 = 2.28 or 228%
- *% VMT Reduction = 228% * 0.09 = 20.5%*

For suburban developments like Newland Sierra, CAPCOA limits the VMT reduction attributable to land-use diversity to 5.0%. As such, a VMT reduction of **5.0%** attributable to land use diversity characteristics was applied to the overall calculation of VMT reduction.

Travel and Commute Services for Residents

<u>Neighborhood/Site Enhancements</u>

Pedestrian/Bicyclist Trails Network

Providing a trails network that can be used by pedestrians and bicyclists provides the infrastructure necessary for residents to walk and bike to different areas of the development instead of driving personal automobiles. According to CAPCOA, to be effective in reducing VMT, the network should provide high accessibility and interconnectivity and supporting amenities such as bicycle parking for users so that they can walk and bike to all parts of the development. There are several CAPCOA strategies related to encouraging bicycle and pedestrian travel through design: SDT-1, SDT-6, SDT-7, SDT-9. Each is addressed below.

CAPCOA estimates that for urban and suburban projects, providing a pedestrian network within the project site that also connects to off-site pedestrian networks will reduce VMT by **2.0%**. (CAPCOA SDT-1)

As to bicycle trails specifically, the research performed for CAPCOA found that while bicycle trails did not result in a direct VMT reduction; however, providing bike trails supports the effectiveness of other TDM measures (CAPCOA SDT-9). Similarly, while providing short-term and long-term bike parking facilities throughout the development does not result in a direct VMT reduction according to CAPCOA (CAPCOA SDT-6, CAPCOA SDT-7), bike parking increases the effectiveness of other measures as it provides the end user facilities necessary for bicycling.

Most of the pedestrian/bicycle network surrounding the Project site is rural and neither sidewalks nor bike lanes are provided. There is an existing sidewalk on the east side of Mesa Rock Road beginning at the existing ARCO station and continuing north to the current terminus of the roadway. Per the *County of San Diego General Plan Mobility Element,* Deer Springs Road is designated as a Class II bike route along its entirety. Additionally, as part of the Project, a pedestrian path and 8-foot shoulders that bikes could utilize will be constructed along Deer Springs Road that will connect to existing pedestrian/bicycle facilities along Twin Oaks Valley Road.

The Project's pedestrian/bicycle trail system would connect with these existing and planned pedestrian/bicycle facilities. The Project also proposes improvements to Camino Mayor, which connects to many existing rural pedestrian trails. CAPCOA SDT-1 states that pedestrian networks in a suburban context that extend within the project site and connect to off-site networks are expected to reduce VMT by 2%. Since the Newland Sierra Project is providing an interconnected pedestrian/bicycle trail system with appropriate amenities such as street furniture and bicycle parking, the full **2%** VMT reduction per CAPCOA SDT-1 is expected as a result of the Project's trail system.

Electric Bike-Share Program

Electric bike sharing kiosks provide residents and visitors the option of biking to and from their locations instead of driving. Placed strategically and regularly throughout the development, this measure would support the provision of a bike and trails network as more people would have access to bicycles.

While CAPCOA does not attribute VMT reductions to bike sharing programs specifically (CAPCOA TRT-12), CAPCOA does address VMT reductions related to providing a Neighborhood Electric Vehicle (NEV) Network (CAPCOA SDT-3). In this case, the Newland Sierra electric bike share program would combine a bike share program with electric bikes, which is a type of electric vehicle similar to the NEV program considered by CAPCOA.

CAPCOA associates a VMT reduction with NEV participation and ownership, along with a travel network that accommodates NEV use, including features such as charging facilities, striping, signage, and educational tools (CAPCOA SDT-3). The VMT reductions are based on market penetration levels (i.e., percent of households with access to a NEV) and an average reduction in total VMT per NEV household of 12.7%. According to CAPCOA, the following is the equation to be applied in determining VMT reduction for an electric vehicle network:

% VMT Reduction = (Percent Market Penetration * 12.7%)

As to Newland Sierra, with seven kiosks and an average of 15 electric bicycles per kiosk (105 bicycles total), there would be approximately 1 electric bicycle per 20 households (2,135 households/105 bicycles = 20.3 households per bicycle) or a 0.05 market penetration (105 bicycles/2,135 households = 0.05). Under the CAPCOA NEV formula, this would result in a VMT reduction of approximately **0.6%** (0.05 x 12.7% = 0.635%).

Car-share Program

Car-share programs are membership-based programs that provide members access to a shared fleet of vehicles (CAPCOA TRT-9). Cost is generally based on a per mile or hourly basis. There are three common categories of car-share programs: transit station-based, employer-based, or residential-based/citywide. Each of these programs has slightly different uses. Transit station-based car-share generally is intended to close the "last mile" gap by allowing users to drive from the transit station to their final destination. Employer-based car-share programs can provide transit/bike/walk commuters with an opportunity to conduct business/day trips while also providing a guaranteed ride home. Residential based/citywide car-share programs generally replace entire home-based trips.

The CAPCOA methodology calculates the reduction in overall VMT attributable to car-share programs as follows:

% VMT Reduction = (% reduction in car-share member annual VMT) * (number of car-share members per shared car) * (deployment level based on urban or suburban context)

As to Newland Sierra, which is suburban in context, the calculations for % VMT Reduction are as follows:

- % reduction in car-share member annual VMT = 37% (CAPCOA page 246)
- number of car-share members per shared car = 20 (CAPCOA page 246)
- deployment level (suburban context) = 1 shared car / 2,000 population (CAPCOA page 246)
- *% VMT Reduction = 37% * 20 * (1 / 2,000) = 0.4%*

Implementing a car-share program for the Newland Sierra project that provides at least one car per 2,000 residents would result in a **0.4%** VMT Reduction. As described previously, the Project population estimate is 6,085. To qualify for the full 0.4% VMT Reduction, at least three (3) shared cars must be installed in the Project (6,085/2,000=3.0).

Transit System Improvements Strategies

Network Expansion (through Local Shuttle Service)

The TDM Program includes the provision of local shuttle service through coordination with the local transit operator (NCTD) or a private contractor. A local shuttle service, whether privately operated or publicly operated, would function as a transit network expansion such that it would connect the Newland Sierra development to existing transit stations in the surrounding areas. As a result, CAPCOA classifies the addition of shuttle services as a transit network expansion that results in a VMT reduction (CAPCOA TST-3, CAPCOA TST-6). The CAPCOA Report provides the following formula for calculating the percent VMT reduction associated with transit network expansion:

> % VMT Reduction = (% increase in transit network coverage) * (elasticity of transit) *(existing transit mode share) * (adj. factor = 0.67)

According to the CAPCOA Report, transit network expansion results in VMT reductions ranging from 0.1-8.2%.

Reducing headways and increasing frequency also is associated with VMT reduction. (CAPCOA TST-4). The CAPCOA Report provides the following formula for calculating the percent VMT reduction associated with reductions in headways/increased frequencies:

> % VMT Reduction = (% reduction in headways) * (elasticity of transit) * (level of implementation factor) * (existing transit mode share) * (adj. factor = 0.67)

According to the CAPCOA Report, increasing transit service frequency results in VMT reductions ranging from 0.02-2.5%.

For the Newland Sierra development, the proposed shuttle service would cover the entire development area and provide service to transit hubs, Park-and-Ride lots, commercial areas, parks, and residential communities.[1] While NCTD does not currently have plans to expand service to this area, the proposed shuttles would take users from the residential areas and commercial center to the Escondido Transit Center, approximately 10 miles away. This reasonably allows for 30 minute headways between shuttles and connects Newland Sierra residents to the SPRINTER light rail and BREEZE bus lines. Additionally, the transit network would increase by 100% since there is no existing service in the development. Thus, per CAPCOA standards for a suburban development (CAPCOA TST-3), the following equation inputs are provided and the resulting percentage reduction:

- % increase in transit network coverage = 100%
- elasticity of transit = 1.01 (CAPCOA page 277)
- existing transit mode share = 1.3% (CAPCOA page 277)
- adjustment factor = 0.67 (CAPCOA page 277)
- *% VMT Reduction = 100% * 1.01 * 1.3% * 0.67 = 0.9%*

Service Frequency/Speed Increase (through Local Shuttle Service)

As to frequency, transit headways would be reduced by 100% since there is no existing service on the Newland Sierra development site. Per CAPCOA standards for a suburban development where more than 50% of the transit lines are being improved (CAPCOA TST-4), the following equation inputs are provided and the resulting percentage reduction:

- % reduction in headways: 100%
- elasticity of transit = 0.32 (CAPCOA page 281)
- level of implementation factor = 85% (CAPCOA page 281)
- existing transit mode share = 1.3% (CAPCOA page 281)
- adjustment factor = 0.67 (CAPCOA page 281)
- *% VMT Reduction = 100% * 0.32 * 85% * 1.3% * 0.67 = 0.3%*

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[1] Additional alternative transportation services that would be available to Newland Sierra residents and would serve as supplemental services are: on-call taxi services provided to aging adults through the Independent Transportation Network of America, subsidized commercial taxis, and carpooling and vanpooling options available through the SANDAG 511 transportation information service. Please see **Appendix C: Additional Information** for additional information regarding these services.

The total VMT reduction for increase in transit network and headways is **1.2%**.

Commute Trip Reduction for Residents

Ridesharing Support Features for Residents (Applies to Residential-based Work Trips)

Promoting both new and existing rideshare options to residents reduces single-occupancy vehicle trips and associated VMT. The CAPCOA Report identifies the establishment of Park-and-Ride lots (CAPCOA RPT-4) and related ride-sharing programs (CAPCOA TRT-3) as reducing VMT by increasing carpooling and vanpooling. Park-and-Ride lots connect users to carpooling, vanpooling, and transit options even though such options might not be close to their homes. CAPCOA considers the establishment of Park-and-Ride lots as a grouped strategy with minimal standalone VMT reduction but a contributor to VMT reduction when used in conjunction with a suite of other TDM strategies. (CAPCOA RPT-4)

Two existing Park-and-Ride lots already exist near the Project site to serve the Newland Sierra development. The first lot is located in the northeast quadrant of Deer Springs Road and Mesa Rock Road, and the second lot is located in the northwest quadrant of Deer Springs Road and Old Highway 395. (See Figure 1 in the Attachments.)

Relatedly, expanding iCommute, the TDM program for the San Diego region (operated by SANDAG and the 511 transportation information service) also would contribute to VMT reductions. iCommute assists users in setting up carpools and vanpools, planning transit trips, and promoting alternative mode choices such as biking. Expanding this service to the Newland Sierra development area would make it more convenient for residents to use alternative modes of transportation.

As to the Newland Sierra site, which is designated as Suburban in context, VMT reduction is calculated based on CAPCOA standard TRT-3. This strategy is only applicable to home based work VMT generated by the proposed project site. The focus of this standard is to reduce commute trips for residents through promoting both iCommute and Park-and-Ride lots. The following is the CAPCOA equation to calculate the VMT reduction attributable to ride-sharing support features:

% VMT Reduction = (% reduction in commute VMT) * (% employees eligible) * (% Home based Work VMT)

- % reduction in commute VMT = 5% (CAPCOA page 228)
- % employees eligible = 50% (CAPCOA suggests an eligibility rate of 20-100%; for Newland Sierra 50% is used)

- % home based work VMT = 24.2%
- *% VMT Reduction = 5% * 50% * 24.2% = 0.6%*

Based on the projected population demographics and development characteristics of the Newland Sierra Project, a **0.6%** VMT reduction is estimated to result from the establishment of a ridesharing support program (iCommute) in conjunction with the Park-and-Ride lots.

Transit Fare Subsidy for Residents (Applies to Residential-based Work Trips)

CAPCOA associates certain levels of transit fare subsidy with corresponding levels of commuter participation in transit based on locational context (CAPCOA TRT-4). Although the CAPCOA methodology is applied to subsidies for employees, the same methodology can be used for the Newland Sierra residents (CAPCOA page 232). For the Suburban context, CAPCOA provides that a subsidy of $2.98 per person per day incentivizes a 7.9% reduction in commute VMT when residents are given a subsidy at their place of employment.

The CAPCOA Report provides the following formula for calculating the percent VMT reduction associated with resident transit fare subsidies of $2.98 per person per day based on the methodology for CAPCOA TRT-4:

> % VMT Reduction = (% residents eligible to participate) * (7.9% reduction in commute VMT) * (adjustment from commute VT (vehicle trips) to overall VMT) * (% Home based Work VMT)

The transit fare subsidy will be offered in conjunction with the Local Shuttle Service program previously discussed. Based on the above equation, the following are the inputs and resulting percentage reduction for this category:

- % residents eligible to participate = 50% (CAPCOA suggests an eligibility rate of 20-100%; for Newland Sierra 50% is used)
- reduction in commute VMT = 7.9% (CAPCOA page 231)
- adjustment from commute VT (vehicle trips) to VMT = 1 (CAPCOA Appendix C)
- % home based work VMT = 24.2%
- *% VMT Reduction = 50% * 7.9% *1* 24.2% = 0.96%*

At the level of $2.98 per day, which equates to between 60% and 100% of an existing round trip NCTD fare, depending on service class, a transit subsidy corresponds to a **0.9%** VMT reduction (CAPCOA TRT-4).

To qualify for the full 0.9% VMT Reduction, 4.0% (7.9%*50%) of residents must participate in this program.

TDM Program Marketing (Applies to Residential based Work Trips)

To ensure that residents are aware of all alternative transportation mode options available, "new resident" information packets will be distributed to all new residents. A website also will be created with the same information so that this information is always accessible. These sources will include information regarding the shuttles, bike share kiosks, iCommute, Park-and-Ride lots, and all other alternative transportation options.

The continued expansion and utilization of iCommute, SANDAG's TDM program, also would support the successful dispensation of transportation choice information. Using "new resident" information packets, a transportation information website, and iCommute to dispense transportation information falls under CAPCOA standard TRT-7: Commute Trip Reduction Marketing. This strategy focuses on reducing the commute trips of the residents of Newland Sierra. The CAPCOA Report provides the following equation to calculate the VMT reduction percentage:

> % VMT Reduction = (% reduction in commute trips) * (% population eligible) * (adjustment from commute VT (vehicle trips) to VMT) * (% Home based Work VMT)

- % reduction in vehicle trips = 4% (CAPCOA page 241)
- % population eligible = 50% (CAPCOA suggests an eligibility rate of 20-100%; for Newland Sierra 50% is used)
- adjustment from VT to VMT = 1.0 (CAPCOA page 241)
- % home based work VMT = 24.2%
- *% VMT Reduction = 4% * 50% * 1.0 * 24.2% = 0.5%*

By utilizing progressive and effective strategies to spread information, implementation of a TDM marketing program is expected to result in a **0.5%** VMT reduction.

Commute Services for Employees

Commute Trip Reduction for Employees

Transit Fare Subsidy for Employees

As previously noted, CAPCOA associates certain levels of transit fare subsidy with corresponding levels of commuter participation in transit based on locational context (CAPCOA TRT-4). For the Suburban context, CAPCOA provides that a subsidy of $2.98 per person per day incentivizes a 7.9% reduction in commute VMT when employees are given a subsidy at their place of employment.

The CAPCOA Report provides the following formula for calculating the percent VMT reduction associated with employee transit fare subsidies of $2.98 per person per day:

> % VMT Reduction = (% employees eligible to participate) * (7.9% reduction in commute VMT) * (adjustment from commute VT to commute VMT) * (% employee based VMT)

The transit fare subsidy will be offered in conjunction with the Local Shuttle Service program previously discussed. It is estimated that 100% of employees who commute to jobs located within the Newland Sierra development's planning areas would be eligible to receive a transit fare subsidy provided by employers. The following calculations illustrate the process in determining VMT reduction for this category:

- % employees eligible to participate = 100%
- reduction in commute VMT = 7.9% (CAPCOA page 231)
- adjustment from commute VT to commute VMT = 1.0 (CAPCOA page 231)
- % employee based VMT = 3.2%
- *% VMT Reduction = 100% * 7.9% * 1.0 * 3.2% = 0.3%*

At the level of $2.98 per day, which equates to between 60% and 100% of an existing round trip North County Transit District fare, depending on service class, a transit subsidy corresponds to a **0.3%** VMT reduction (CAPCOA TRT-4). The Project's commercial center is estimated to employ 203 employees, to qualify for 0.3% VMT reduction, at least 16 employees (7.9% of employees) must participate in this program based on this estimation.

TDM Program Marketing for Employees (Applies to Commercial based Work Trips)

To ensure that employees are aware of all alternative transportation mode options available, employees will have access to the commute trip reduction program information provided on the website. The website will have a dedicated page related to transportation programs available to employees of the proposed Town Center. Information will be provided regarding the shuttles, transit subsidies, iCommute, Park-and-Ride lots, and other alternative transportation options.

The continued expansion and utilization of iCommute, SANDAG's TDM program, also would support the successful dispensation of transportation choice information. The commute transportation programs marketing falls under CAPCOA standard TRT-7: Commute Trip Reduction Marketing. This strategy focuses on reducing the commute trips. The CAPCOA Report provides the following methodology to calculate % VMT reduction for this strategy:

% VMT Reduction = (% reduction in commute trips) * (% population eligible) * (adjustment from commute VT (vehicle trips) to VMT) * (% Home based Work VMT)

- % reduction in vehicle trips = 4% (CAPCOA page 241)
- % population eligible = 100%
- adjustment from VT to VMT = 1.0 (CAPCOA page 241)
- % employee based VMT = 3.2%
- *% VMT Reduction = 4% * 100% * 1.0 * 3.2% = 0.1%*

By utilizing progressive and effective strategies to spread information, CAPCOA attributes a **0.1%** VMT reduction for TDM Program Marketing targeted to employees of the proposed Town Center.

TDM EFFECTIVENSS QUANTIFICATION SUMMARY

Based on the methodology outlined in the CAPCOA Report, when determining the overall VMT reduction, the VMT reduction separately calculated for each of the individual strategies (within their overall TDM strategy category) should be dampened, or diminished, according to a multiplicative formula to account for the fact that some of the strategies may be redundant or applicable to the same populations. The multiplicative equation to accomplish this adjustment is as follows:

Overall % VMT Reduction = 1-(1-A)*(1-B)*(1-C)*(1-D)*…

Where A, B, C, D, … = individual mitigation strategy reduction percentages

For example, if two strategies were proposed with corresponding VMT reductions of 20% and 10%, the equation would be [1-(1-20%)*(1-10%)] or [1-(80%*90%)], which equates to a 28% reduction rather than the 30% reduction that would otherwise be seen with a direct sum. Therefore, the overall VMT reduction was calculated as a dampened, or diminished, total according to the equation above, which produces a conservative overall estimate.

Moreover, several categories of VMT reduction strategies have maximum VMT reduction caps and reduction factors, as outlined where applicable in the individual TDM strategies. CAPCOA methodologies sometimes result in VMT reductions that are unreasonably large given the context of the project, so the CAPCOA Report offers category maximums and reductions to normalize the results.

The following is a summary of the VMT reductions attributed to each of the individual strategies (organized in their respective TDM strategy categories as required in the CAPCOA methodology):

Land Use Strategies:

- **Land Use/Diversity: 5.0%**

Travel and Commute Services for Residents

- **Neighborhood/Site Enhancements: 3.0%**
  - Pedestrian/Bicyclist Trails Network: 2.0%
  - Electric Bike-Share Program: 0.6%
  - Car-share Program: 0.4%
  - Category % VMT Reduction = 1 – (1 – 2.0%) * (1 – 0.6%) * (1 – 0.4%)= 3.0%

- **Transit System Improvements Strategies: 1.2%**
  - Network Expansion (through Local Shuttle Service): 0.9%
  - Service Frequency/Speed Increase (through Local Shuttle Service): 0.3%
  - Category % VMT Reduction = 1 – (1 – 0.9%) * (1 – 0.3%) = 1.2%

- **Commute Trip Reduction (CTR) for residents (home based work): 2.0%**
  - Ridesharing Support Features for Residents: 0.6%
  - Transit Fare Subsidy for Residents: 0.9%
  - TDM Program Marketing for Residents: 0.5%
  - Category % VMT Reduction = 1 – (1 – 0.6%) * (1 – 0.9%) * (1-0.5%) = 2.0%

Commute Services for Employees

- **Commute Trip Reduction (CTR) for employees: 0.4%**
  - Transit Fare Subsidy for Employees: 0.3%
  - TDM Program Marketing for Employees: 0.1%
  - Category % VMT Reduction = 1 – (1 – 0.3%) * (1-0.1%) = 0.4%

Summing all of the strategies results in a total of 11.6%; however, the overall VMT Reduction is calculated using the multiplicative formula to account for the fact that some of the strategies may be redundant or applicable to the same populations:

Overall VMT Reduction: *1 – (1 – 5.0%) * (1 – 3.0%) * (1 – 1.2%) * (1 – 2.0%) * (1 – 0.4%) =* ***11.1%***

The TDM reduction for each category after the overall multiplicative formula is applied are:

- Land Use Strategies: 4.7%
- Travel and Commute Services for Residents: 6.1%
- Travel and Commute Service for Employees: 0.3%

Table 1, TDM Program VMT Reduction Analysis Summary, provides a summary of the TDM Program quantification described above relative to the CAPCOA standards to determine the VMT reduction that would be achieved by each individual strategy. **Table 2, TDM Program Performance Metrics and Targets**, sets forth the applicable performance metrics and targets for each strategy identified for implementation in this memorandum. The purpose of the performance metrics is to ensure implementation of the VMT reduction strategies consistent with the analysis presented in this evaluation.

TABLE 1 – TDM PROGRAM VMT REDUCTION ANALYSIS SUMMARY

Newland Sierra TDM Measure	Required Elements for TDM Measure Effectiveness	CAPCOA Reference[1]	Individual Strategy VMT Reduction	Combined Strategy VMT Reduction
LAND USE AND DESIGN STRATEGIES				
Land-Use Diversity	• Provide a mix of land uses, including residential, commercial, educational, and parks so that residents of the project have access to basic shopping, school, and recreation	LUT-3: Land Use/Location	**5.0%**	**4.7%**

TABLE 1 – TDM PROGRAM VMT REDUCTION ANALYSIS SUMMARY

Newland Sierra TDM Measure	Required Elements for TDM Measure Effectiveness	CAPCOA Reference[1]	Individual Strategy VMT Reduction	Combined Strategy VMT Reduction
	opportunities without having to travel outside of the project Site. This would lower vehicle miles traveled because residents can use alternative transportation modes to reach the various land uses available within the Site.			
TRAVEL AND COMMUTE SERVICES FOR RESIDENTS				
Pedestrian/Bicyclist Trails Network	• Develop a comprehensive trails network designed to provide multi-use trails between the various project components, land-uses, parks/open spaces, schools, and the Town Center. The trails network would provide connections to the various recreational trails and multi-modal facilities accessing the project Site. Additionally, the loop road includes 5-foot-wide bike lanes on both sides of the roadway. • Provide bicycle racks along main travel corridors, adjacent to commercial developments, at public parks and open spaces, and at retail and multi-family buildings within the project Site.	SDT-1: Provide Pedestrian Network Improvements – Within Project site and Connecting Off-Site SDT-6: Provide Bike Parking in Non-Residential Projects SDT-7: Provide Bike Parking in Multi-Unit Residential Projects SDT-9: Dedicate Land for Bike Trails	**2%**	**6.1%**
Electric Bike-Share Program	• Implement an electric bike share program to further link the project neighborhoods to on another and to reduce motorized vehicle trips. The bike share program includes the placement of eight kiosks throughout the Community. Electric bikes can be taken from one kiosk and left at another to promote sustainable transportation between planning areas. It is anticipated that each kiosk will contain 10-20 electric bikes.	TRT-12: Implement Bike-Sharing Programs SDT-3: Neighborhood Electric Vehicle Network	**0.6%**	
Car-share Program	• Coordinate with a car-share organization to install three car-share stations with one car each (for a total of three cars) in the commercial area of the project Site, available to residents on an on-demand basis.	TRT-9: Implement Car-Sharing Program	**0.4%**	
Local Shuttle Service	Coordinate a ride share or shuttle system that	TST-3: Expand Transit	**1.2%**	

TABLE 1 – TDM PROGRAM VMT REDUCTION ANALYSIS SUMMARY

Newland Sierra TDM Measure	Required Elements for TDM Measure Effectiveness	CAPCOA Reference[1]	Individual Strategy VMT Reduction	Combined Strategy VMT Reduction
	connects the various project neighborhoods to the Town Center and to external transit facilities and resources such as the park-and-ride lots and the Escondido Transit Center.	Network TST-4: Increase Transit Service Frequency/Speed TST-6: Provide Local Shuttles		
Ridesharing Support Features for Residents	• Coordinate with SANDAG's iCommute program for carpool, vanpool, and rideshare programs that are specific to the project's residents. • Promote the adjacent park-and-ride lots at the northeast quadrant of the Deer Springs Road/Mesa Rock Road intersection and at the northwest quadrant of the Deer Springs Road/Old Highway 395 intersection to residents to encourage carpooling.	RPT-4: Install Park-and-Ride Lots TRT-3: Provide Ride-Sharing Programs	**0.6%**	
Transit Fare Subsidy for Residents	• Provide subsidized transit passes for residents.	TRT-4: Implement Subsidized or Discounted Transit Program	**0.9%**	
TDM Program Marketing for Residents	• To ensure that the TDM Program strategies are implemented and effective, a transportation coordinator (likely as part of a homeowner's association (HOA)) would be established to monitor the TDM Program, and would be responsible for developing, marketing, implementing, and evaluating the TDM Program. Promote available websites providing transportation options for residents. • Promote available websites providing transportation options for residents. • Create and distribute a "new resident" information packet addressing alternative modes of transportation. • Promote a transportation option app for use on mobile devices. • Coordinate with NCTD and SANDAG about	TRT-7: Commute Trip Reduction Marketing	**0.5%**	

TABLE 1 – TDM PROGRAM VMT REDUCTION ANALYSIS SUMMARY

Newland Sierra TDM Measure	Required Elements for TDM Measure Effectiveness	CAPCOA Reference[1]	Individual Strategy VMT Reduction	Combined Strategy VMT Reduction
	future siting of transit stops/stations at the adjacent park-and-ride lots.			
COMMUTE SERVICES FOR EMPLOYEES				
Transit Fare Subsidy for Employees	• Provide transit subsidies for employees of the project's Town Center.	TRT-4: Implement Subsidized or Discounted Transit Program	**0.3%**	**0.3%**
TDM Program Marketing for Employees	• Promote available websites providing transportation options for businesses in the Town Center. • Promote the adjacent park-and-ride lots to employees to support carpooling. • Implement a demand-responsive shuttle service that provides access throughout the project Site, to the park-and-ride lots, and to the Escondido Transit Center. • Coordinate with SANDAG's iCommute program for carpool, vanpool, and rideshare programs that are specific to the project's employees. • Coordinate with NCTD and SANDAG on the future siting of transit stops/stations at the adjacent park-and-ride lots.	TRT-7: Commute Trip Reduction Marketing	**0.1%**	
			VMT REDUCTION PRE-ADJUSTMENT	**11.6%**
			OVERALL VMT REDUCTION (multiplicative formula applied)	**11.1%**

Notes: [1] **CAPCOA Designations: SDT**: Neighborhood/Site Enhancements; **TRT**: Commute Trip Reduction Program; **TST**: Transit System Improvement; **RPT**: Road Pricing/Management
Source: Fehr & Peers.

TDM PROGRAM PERFORMANCE METRICS AND TARGETS

TABLE 2—TDM PROGRAM PERFORMANCE METRICS AND TARGETS

TDM Strategy	Description	Metric/ Performance Measure	Target	Collection Method	Collection Frequency	When Target Should Be Met
LAND USE AND DESIGN STRATEGIES						
Land-Use Diversity	Provide a mix of land uses, including residential, commercial, educational, and parks so that residents of the project have access to basic shopping, school, and recreation opportunities without having to travel outside of the project Site. This would lower vehicle miles traveled because residents can use alternative transportation modes to reach the various land uses available within the Site.	Percentage of residential, retail, and park/open space land use	62% park and open space; 35% single family residential; 2% multifamily residential, and 1% commercial land use	Field verification	Once after full build-out of all development	Full build-out of all development
TRAVEL AND COMMUTE SERVICES FOR RESIDENTS						
Pedestrian/Bicyclist Trails Network	Develop a comprehensive trails network designed to provide multi-use trails between the various project components, land-uses, parks/open spaces, schools, and the Town Center. The trails network would provide connections to the various recreational trails and multi-modal facilities accessing the project Site. Additionally, the loop road includes 5-foot-wide bike lanes on both sides of the roadway. Provide bicycle racks along main travel corridors, adjacent to commercial developments, at public parks and open spaces, and at retail and multi-family buildings within the project Site.	Pedestrian and bike network build-out that provides internal pedestrian and bike facilities that connect off-site	Full build-out of planned pedestrian and bike trails network that provides internal and external pedestrian and bike connections.	Field verification	Once after full build-out of all development	Full build-out of all development
Electric Bike-Share Program	Implement an electric bike share program to further link the project neighborhoods to on another and to reduce motorized vehicle trips. The bike share program includes the placement of eight kiosks throughout the Community. Electric bikes can be taken from one kiosk and left at another to promote sustainable transportation between planning areas. It is anticipated that each kiosk will contain 10-20 electric bikes.	Establishment of electric bike share kiosks	Eight electric bike share kiosks with 10-20 electric bikes each.	Field verification	Once after full build-out of all development	Full build-out of all development
Car-share Program	Coordinate with a car-share organization to install three car-share stations with one car each (for a total of three cars) in the commercial area of the project Site, available to residents on an on-demand basis.	Establishment of car-share stations through Zipcar or a similar service	Establishment of three (3) shared cars throughout the development	Field verification	Once after full build-out of all development	Full build-out of all development
Transit System Improvement: Network Expansion. Transit System Improvement: Service Frequency/Speed Increase	Coordinate a ride share or shuttle system that connects the various project neighborhoods to the Town Center and to external transit facilities and resources such as the park-and-ride lots and the Escondido Transit Center.	Development and deployment of local shuttle service	Shuttle service connects all seven planning areas to commercial area, Park-and-Ride lots, and Escondido Transit Center	Transportation Coordinator Reports	Annually after full build-out of all development	Full build-out of all development

TABLE 2—TDM PROGRAM PERFORMANCE METRICS AND TARGETS

TDM Strategy	Description	Metric/ Performance Measure	Target	Collection Method	Collection Frequency	When Target Should Be Met
Ridesharing Support Features	Coordinate with SANDAG's iCommute program for carpool, vanpool, and rideshare programs that are specific to the project's residents. Promote the adjacent park-and-ride lots at the northeast quadrant of the Deer Springs Road/Mesa Rock Road intersection and at the northwest quadrant of the Deer Springs Road/Old Highway 395 intersection to residents to encourage carpooling.	iCommute service area and program offerings, ride-sharing system development	Expansion of iCommute to include Project area, and development of ride-sharing- system	Transportation Coordinator Reports (based on resident surveys)	Annually after full build-out of all development	Full build-out of all development
		Utilization of Park-and-Ride lots	Residents using Park-and-Ride lots	Field Verification and Transportation Coordinator Reports (based on resident surveys)	Annually after full build-out of all development	Full build-out of all development
Transit Fare Subsidy for Residents	Provide subsidized transit passes for residents.	Percentage of residents participating in subsidized transit pass program.	Resident participation rate of approximately 4% (estimated approximately 243 residents)	Transportation Coordinator Reports	Annually after full build-out of all development	Full build-out of all development
TDM Program Marketing for Residents	To ensure that the TDM Program strategies are implemented and effective, a transportation coordinator (likely as part of a homeowner's association (HOA)) would be established to monitor the TDM Program, and would be responsible for developing, marketing, implementing, and evaluating the TDM Program. Promote available websites providing transportation options for residents. Promote available websites providing transportation options for residents. Create and distribute a "new resident" information packet addressing alternative modes of transportation. Promote a transportation option app for use on mobile devices. Coordinate with NCTD and SANDAG about future siting of transit stops/stations at the adjacent park-and-ride lots.	Distribution of "new resident" packet, launch of website, and mobile app with travel demand management program information	Materials created and maintained.	Transportation Coordinator Reports & Resident Surveys	Annually after full build-out of all development	Full build-out of all development
COMMUTE SERVICES FOR EMPLOYEES						
Transit Fare Subsidy for Employees	Provide subsidizes transit passes for employees.	Percentage of employees participating in subsidized transit pass program.	Employee participation rate of approximately 7.9% (estimated approximately 16 employees)	Transportation Coordinator Coordination with Employers (Employee Survey)	Annually after full build-out of all development	Full build-out of all development
TDM Program Marketing for Employees	Promote available websites providing transportation options for businesses in the Town Center. Promote the adjacent park-and-ride lots to employees to support carpooling. Implement a demand-responsive shuttle service that provides access throughout the project Site, to the park-and-ride lots, and to the Escondido Transit Center. Coordinate with SANDAG's iCommute program for carpool, vanpool, and rideshare programs that are specific to the project's	Dedicated webpage that provides commute trip reduction program information for employees of the Project's Town Center.	Materials created and maintained.	Transportation Coordinator Reports	Annually after full build-out of all development	Full build-out of all development

TABLE 2—TDM PROGRAM PERFORMANCE METRICS AND TARGETS

TDM Strategy	Description	Metric/ Performance Measure	Target	Collection Method	Collection Frequency	When Target Should Be Met
	employees. Coordinate with NCTD and SANDAG on the future siting of transit stops/stations at the adjacent park-and-ride lots.					

Source: Fehr & Peers.

FIGURES & APPENDICIES

Major Transit Connections at Escondido Transit Center

BREEZE Route 389 *(Service to/from Pala)*

BREEZE Rapid Route 350 *(Service to/from Del Lago Transit Station - Provides Connections to San Diego)*

SPRINTER Route *(Service to/from Oceanside)*

Park-and-Ride Lot

Escondido Transit Center

Figure 1

Newland Sierra Development Project

Project Location and Existing Transit Facilities

SD16-0219_1_ExTransit

APPENDIX A

NATIONAL HOUSEHOLD TRAVEL SURVEY DATA

2009 NHTS

Vehicle Trips (Travel Day VT, annualized)

Number of Vehicle Trips (VT) by Purpose

Trip purpose summary	Travel Day Vehicle Trips		
	Sample Size	Sum (Millions)	Percent
Refused	140	27	0
Don't know	199	53	0
Not ascertained	20	2	0
Home	255,692	79,901	34.2
Work	101,537	37,799	16.2
School/Daycare/Religious activity	19,655	6,511	2.8
Medical/Dental services	15,658	3,759	1.6
Shopping/Errands	163,004	45,353	19.4
Social/Recreational	64,252	19,714	8.4
Family personal business/Obligations	24,678	6,775	2.9
Transport someone	51,763	18,755	8
Meals	50,077	14,677	6.3
Other reason	1,467	523	0.2
All	748,142	233,849	100

Sum of Work, School, Medical, Shopping, Social, Family personal business, Transport someone, Meals, and Other reason Trips: 153,866 Trips

Work Trips: 37,799 Trips

Work Trips / Sum: 25%

6,085 Residents / 6,288 Service Population = 96.8% (Service Population calculated in ***Appendix B: US Census Data)***

% Residents * % Home-based Work Trips = *96.8% * 25% =* ***24.2% Home-based Work VMT***

APPENDIX B

US CENSUS DATA

Welcome to QuickFacts

San Diego County, California

Go to Dynamic Version (/quickfacts/map/IPE120213/06073)
QuickFacts provides statistics for all states and counties, and for cities and towns with a population of 5,000 or more.

QuickFacts	
People	**San Diego County, California**
Population	
Population estimates, July 1, 2015, (V2015)	3,299,521
Population estimates base, April 1, 2010, (V2015)	3,095,308
Population, percent change - April 1, 2010 (estimates base) to July 1, 2015, (V2015)	6.6%
Population, Census, April 1, 2010	3,095,313
Age and Sex	
Persons under 5 years, percent, July 1, 2015, (V2015)	6.5%
Persons under 5 years, percent, April 1, 2010	6.6%
Persons under 18 years, percent, July 1, 2015, (V2015)	22.1%
Persons under 18 years, percent, April 1, 2010	23.4%
Persons 65 years and over, percent, July 1, 2015, (V2015)	13.1%
Persons 65 years and over, percent, April 1, 2010	11.4%
Female persons, percent, July 1, 2015, (V2015)	49.7%
Female persons, percent, April 1, 2010	49.8%
Race and Hispanic Origin	
White alone, percent, July 1, 2015, (V2015) (a)	76.1%
White alone, percent, April 1, 2010 (a)	64.0%
Black or African American alone, percent, July 1, 2015, (V2015) (a)	5.6%
Black or African American alone, percent, April 1, 2010 (a)	5.1%
American Indian and Alaska Native alone, percent, July 1, 2015, (V2015) (a)	1.3%
American Indian and Alaska Native alone, percent, April 1, 2010 (a)	0.9%
Asian alone, percent, July 1, 2015, (V2015) (a)	12.1%
Asian alone, percent, April 1, 2010 (a)	10.9%
Native Hawaiian and Other Pacific Islander alone, percent, July 1, 2015, (V2015) (a)	0.6%
Native Hawaiian and Other Pacific Islander alone, percent, April 1, 2010 (a)	0.5%
Two or More Races, percent, July 1, 2015, (V2015)	4.3%
Two or More Races, percent, April 1, 2010	5.1%
Hispanic or Latino, percent, July 1, 2015, (V2015) (b)	33.4%
Hispanic or Latino, percent, April 1, 2010 (b)	32.0%
White alone, not Hispanic or Latino, percent, July 1, 2015, (V2015)	46.3%
White alone, not Hispanic or Latino, percent, April 1, 2010	48.5%
Population Characteristics	
Veterans, 2010-2014	236,014
Foreign born persons, percent, 2010-2014	23.4%
Housing	
Housing units, July 1, 2015, (V2015)	1,194,415
Housing units, April 1, 2010	1,164,786
Owner-occupied housing unit rate, 2010-2014	53.4%
Median value of owner-occupied housing units, 2010-2014	$412,800
Median selected monthly owner costs -with a mortgage, 2010-2014	$2,375
Median selected monthly owner costs -without a mortgage, 2010-2014	$501
Median gross rent, 2010-2014	$1,328
Building permits, 2015	9,883
Families and Living Arrangements	
Households, 2010-2014	1,083,811

QuickFacts	
Persons per household, 2010-2014	2.85
Living in same house 1 year ago, percent of persons age 1 year+, 2010-2014	84.1%
Language other than English spoken at home, percent of persons age 5 years+, 2010-2014	37.3%
Education	
High school graduate or higher, percent of persons age 25 years+, 2010-2014	85.8%
Bachelor's degree or higher, percent of persons age 25 years+, 2010-2014	35.1%
Health	
With a disability, under age 65 years, percent, 2010-2014	5.8%
Persons without health insurance, under age 65 years, percent	⚠ 13.4%
Economy	
In civilian labor force, total, percent of population age 16 years+, 2010-2014	61.9%
In civilian labor force, female, percent of population age 16 years+, 2010-2014	57.0%
Total accommodation and food services sales, 2012 ($1,000) (c)	10,403,824
Total health care and social assistance receipts/revenue, 2012 ($1,000) (c)	21,337,795
Total manufacturers shipments, 2012 ($1,000) (c)	33,320,461
Total merchant wholesaler sales, 2012 ($1,000) (c)	35,937,366
Total retail sales, 2012 ($1,000) (c)	39,786,069
Total retail sales per capita, 2012 (c)	$12,523
Transportation	
Mean travel time to work (minutes), workers age 16 years+, 2010-2014	24.6
Income and Poverty	
Median household income (in 2014 dollars), 2010-2014	$63,996
Per capita income in past 12 months (in 2014 dollars), 2010-2014	$31,043
Persons in poverty, percent	⚠ 14.7%
Businesses	**San Diego County, California**
Total employer establishments, 2014	79,958
Total employment, 2014	1,202,583
Total annual payroll, 2014	61,752,012
Total employment, percent change, 2013-2014	1.8%
Total nonemployer establishments, 2014	258,892
All firms, 2012	293,426
Men-owned firms, 2012	154,416
Women-owned firms, 2012	105,329
Minority-owned firms, 2012	106,472
Nonminority-owned firms, 2012	175,754
Veteran-owned firms, 2012	25,354
Nonveteran-owned firms, 2012	255,209
Geography	**San Diego County, California**
Population per square mile, 2010	735.8
Land area in square miles, 2010	4,206.63
Metropolitan or Micropolitan Statistical Area	San Diego-Carlsbad, CA Metro Area
FIPS Code	06073

Export to CSV (/quickfacts/download.php?fips=06073&type=csv) Export to Excel (/quickfacts/download.php?fips=06073)

⚠ This geographic level of poverty and health estimates are not comparable to other geographic levels of these estimates

Some estimates presented here come from sample data, and thus have sampling errors that may render some apparent differences between geographies statistically indistinguishable. Click the Quick Info ⓘ icon to the left of each row in TABLE view to learn about sampling error.

The vintage year (e.g., V2015) refers to the final year of the series (2010 thru 2015).
Different vintage years of estimates are not comparable.

(a) Includes persons reporting only one race
(b) Hispanics may be of any race, so also are included in applicable race categories
(c) Economic Census - Puerto Rico data are not comparable to U.S. Economic Census data

D Suppressed to avoid disclosure of confidential information
F Fewer than 25 firms
FN Footnote on this item in place of data
NA Not available
S Suppressed; does not meet publication standards
X Not applicable
Z Value greater than zero but less than half unit of measure shown

Up one level

California (/quickfacts/map/IPE120213/06/accessible)

U.S. Census Quick Facts

QuickFacts data are derived from: Population Estimates, American Community Survey, Census of Population and Housing, Current Population Survey, Small Area Health Insurance Estimates, Small Area Income and Poverty Estimates, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits.

Fehr & Peers Calculations:

Project Residents: 2,135 dwelling units * 2.85 persons per dwelling unit (above) = **6,085 Residents**

Project Employees: 81,000 square feet / 400 square feet per employee (San Diego General Plan) = **203 Employees**

Service Population: *6,085 Residents + 203 Employees =* ***6,288***

Percent of Home-based Work Trips in **Appendix A: National Household Travel Survey Data**

APPENDIX C

ADDITIONAL INFORMATION

INDEPENDENT TRANSPORTATION NETWORK AMERICA (ITN)

Independent Transportation Network America (ITN) is a volunteer-based on-call taxi service that provides rides to aging adults. ITN supports sustainable, community-based transportation by leading a nationally operated and research-driven transportation network.

In the Newland Sierra development area, 325 active adult lots and clusters will be built. The foundation of an ITN affiliate volunteer program will accommodate for the large population of aging adults. Because a shuttle service is already in place, CAPCOA would evaluate headway reductions to consider VMT reductions. (CAPCOA TST-4) ITN only serves aging residents who would likely already be utilizing the shuttle system. Moreover, because ITN vehicles are do not run on a set schedule with consistent headways, this strategy is expected to support the VMT reduction provided by the future local shuttle service.

SUBSIDIZED COMMERCIAL TAXIS

Santa Clara Valley Transportation Authority (VTA) recently ran a six-month pilot program to test the viability of an on-demand transit service and the software to support it. The project ended on July 1, 2016 and was usable via a free smartphone app. Fehr and Peers also recently launched a "first-mile-last-mile" campaign in Centennial, Colorado that partners with Lyft, a private on-call taxi-like service. Beginning in August, 2016, the city will pay for rides to and from a local transit center with the goal of reducing VMT. The program will end after six months, at which time data will be available for study. Applying these innovations to the iCommute mobile platform could provide even more options for the Newland Sierra development community. These VMT reductions would fall under other measures already accounted for and would further support the effectiveness of these measures.

Providing subsidized commercial taxis to residents of the Newland Sierra development gives residents and employees more freedom to use public transit for large trips. Many commuters chose to drive personal automobiles to work instead of using public transit because they might need to make a small trip during the day (e.g. groceries, going to lunch, etc.) that transit does not fulfill. By providing commercial taxis, residents and employees can take advantage of public transit while still maintaining the freedom to make smaller trips when they need to do so. Shifting a portion of daily travel from personal automobile to public transit reduces VMT.

The CAPCOA report does not specifically mention the subsidization of commercial taxis as a VMT reduction measure; however, it does note that employer or development subsidized transit passes reduce VMT. (CAPCOA TRT-4) Fehr and Peers also recently launched a "first-mile-last-mile" campaign in Centennial, Colorado that partners with Lyft, a private on-call taxi-like service. Beginning in August, 2016, the city will pay for rides to and from a local transit center with the goal of reducing VMT. The program will end after six months, at which time data will be available for study.

VMT reduction for subsidized transit is already accounted for in the section titled *Encourage Use of Regional Transit* in this Appendix and should not be applied a second time. Subsidizing commercial taxis would instead support the effectiveness of other measures in the TDM program.

APPENDIX E

Emission Factor Adjustments

2020

San Diego Gas and Electric
Effect of 33% RPS
Based on 2009 Baseline Data

2009 Emission Factor[1]	720.49	lb CO2/MWh
2009 Renewables[2]	10%	
Without RPS	800.54	lb CO2/MWh
Future Renewables[3]	33.0%	
With 33% RPS	536.36	lb CO2/MWh
Reduction	25.6%	

All renewable energy is assumed to be carbon neutral
(i.e. no emissions from biogenic sources).
1. CalEEMod User's Guide, Appendix D, Table 1.2
2. SDG&E. 2009 Power Content Label (Actual)
3. 43.1% RPS under contract
http://www.cpuc.ca.gov/RPS_Homepage/

CH4	
2009 Emission Factor[1]	0.029
With 33% RPS	0.022
N2O	
2009 Emission Factor[1]	0.00617
With 33% RPS	0.0046

POWER CONTENT LABEL

ENERGY RESOURCES	SDG&E 2009 POWER MIX* (actual)	2008 CA POWER MIX** (for comparison)
Eligible Renewable	**10%**	**2%**
-- Biomass & waste	3%	<1%
-- Geothermal	<1%	1%
-- Small hydroelectric	<1%	0%
-- Solar	<1%	<1%
-- Wind	7%	1%
Coal	**7%**	**33%**
Large Hydroelectric	**3%**	**18%**
Natural Gas	**62%**	**42%**
Nuclear	**18%**	**5%**
Other	**0%**	**0%**
Total	**100%**	**100%**

* 86% of SDG&E 2009 POWER MIX is specifically purchased from individual suppliers.

** Percentages are estimated annually by the California Energy Commission based on electricity sold to California consumers during the previous year.

For specific information about this electricity product, contact San Diego Gas & Electric. For general information about the Power Content Label, contact the California Energy Commission at 1-800-555-7794 or www.energy.ca.gov/consumer.

* 10.0% of SDG&E 2009 POWER MIX is specifically purchased from individual Eligible Renewable suppliers.