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August 22, 2017

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RE: Global Climate Change Supplemental Letter - Sweetwater Place Residential Development (PDS2014-GPA-14-003, PDS2014-REZ14-003, PDS2014-TM5588, PDS2014-STP-14-015) County of San Diego, CA

This letter will serve to supplement the original Green House Gas (GHG) Study conducted for the project in 2015, ("Global Climate Change Study"), circulated for public review from September 10, 2015 to October 26, 2015. The Global Climate Change Study concluded that the project would generate approximately 1,846.20 Metric Tons of CO₂e each year under an unmitigated scenario. In the original 2015 Global Climate Change Study with the combining of regulatory measures such as Advanced Clean Cars, Low Carbon Fuel Standards, Tire Pressure Regulations, Utility renewable portfolio requirements, increasing building efficiency by 25% above Title 24 2008, installing only natural gas hearths and energy efficient appliances, the project would reduce Project emissions to 1,530.93 Metric Tons of CO₂e each year.

Summary

As indicated in the Global Climate Change Study conducted for the Project in 2015, the Project conducted analysis that uses the significance thresholds in Appendix G of the CEQA Guidelines and is also provided in this Supplemental Letter. Specifically, Global Climate Change Study evaluated the potential for the Project to generate GHG emissions that may have a significant impact on the environment, and the potential for the project to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This Supplemental Letter also updates the Project's estimated operational emissions based upon the following: the addition of new project design features (i.e., roof top solar and electric vehicle chargers) being incorporated into the Project; updated information related to increase building efficiencies as a result of the latest Title 24 (2016) requirements; and consideration of additional reduction measures for pedestrian walkability and nearby alternative transportation access. These measures were not included in the Global Climate Change Study conducted in 2015.

This Supplemental Letter concludes that after incorporation of all current regulatory reductions and design features (described below) the project would generate approximately 995 MT CO₂e during construction (based upon the 2015 Global Climate Change Study and a one-time vegetation loss) and 1,137 MT CO₂e per year operationally (Supplemental Letter- updated analysis). The Global Climate Change Study also indicated that a lead agency should consider the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting, consistent with CEQA Guidelines Section 15064.4(b)(1) and utilized CEQA Appendix G thresholds:

(a) Will the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

(b) Will the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The project applicant has committed to achieving carbon neutrality (i.e., no net GHG emissions). To reflect this commitment, the project will provide a new mitigation measure to accomplish carbon neutrality. The project will purchase and retire GHG offsets to reduce the project's GHG emissions to net zero by the addition of Mitigation Measures GHG-1 through GHG-3.

Because the mitigated project would result in no net increase to the existing GHG emissions level associated with the project site, the project would not have a substantial contribution to a cumulatively considerable GHG impact. The project's commitment to achieve net zero GHG emissions also ensures that the project would not conflict with applicable plans, policies or regulations adopted for the purpose of reducing GHG emissions. In summary, with the projects additional commitment to purchase and retire carbon offset credits to reduce the project's GHG emissions to net zero, the project would not result in a significant impact to global climate change.

CEQA Thresholds of Significance

A number of agencies throughout the state, including multiple air districts, have drafted and/or adopted varying threshold approaches and guidelines for analyzing GHG emissions and climate change in CEQA documents. However, none of these are binding; they are only recommendations for consideration by CEQA lead agencies. The State of California has developed guidelines to address the significance of climate change impacts based on Appendix

G of the CEQA Guidelines, which contains two significance criteria for evaluating GHG emissions of a project. 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.

The two questions were intended to satisfy the Legislative directive in Public Resources Code Section 21083.05 that the effects of GHG emissions be analyzed under CEQA. Similarly (as indicated in the Global Climate Change Study dated July 2015), CEQA Guidelines 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."

Section 15064.4(b) further states a lead agency should consider the following non-exclusive list of factors when assessing the significance of GHG emissions:

1. The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. The extent to which 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 statewide, regional, or local plans for the reduction or mitigation for GHG emissions.

CEQA Guidelines 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. As discussed above, climate change is the product of incremental contributions of GHG emissions on a global scale.

Therefore, the analysis contained herein relies upon Appendix G of the CEQA Guidelines as the threshold of the significance for evaluating the environmental effects of the GHG emissions of the project, similar to the Global Climate Change Study (2015).

Discussion

Project buildout is anticipated to be in 2019-2020. Therefore, at a minimum, it would be required to comply with the 2016 Title 24 Energy Code (effective January 1, 2017); the 2016 CALGreen Building Code (Part 11 of Title 24). In addition, the project would implement design measures to include Assembly Bill (AB) 341 goals which targets 75 percent diversion of operational waste. The project would provide areas for storage and collection of recyclables and yard waste throughout the project development. Also, the project's homeowner's association will provide literature and promote recycling to achieve a 75% diversion goal. The project would also implement a design feature to reduce the need of potable water use by 20 percent accomplished through the use of low-flow water and bathroom fixtures and the promotion of low flow appliances such as washing machines and dishwashing machines which would also reduce wastewater generation by 20 percent. The project would install weather-based irrigation systems which will include rain sensing timers. All of these design features will be made conditions of project approval.

The project would also implement a Construction and Demolition Debris Management Plan in compliance with Sections 68.508 through 68.518 of the County of San Diego Municipal Code. This plan, which is required prior to the County's issuance of a grading permit, will govern construction waste from the project and requires 90 percent of inerts and 70 percent of all other materials to be recycled.

In addition to the regulatory requirements listed above, the Project would incorporate several updated design features and best management practices to reduce construction and operational GHG emissions. These features include:

- The project will install, at a minimum, solar panels equal to 3,000 Watts, which is equivalent to approximately 10 – 300W panels for each unit within the Project.
- Plumb and install utility infrastructure (Conduit and supply demand capacity) within every residential unit garage for a Level 2 electric vehicle (EV) charging station, and install two Level 2 charging stations within the common parking areas for the Project. The Project also would install one Level 2 charging station at the adjacent park that will be dedicated to the public.

- Provide areas for storage and collection of recyclables and yard waste for each residence.
- Require the use Tier III, or higher, construction equipment. Also, to the extent practicable and feasible, contractors will be required to implement the following: utilize electricity to power appropriate types and categories of construction equipment (e.g., hand tools), utilize electric and renewable fuel powered construction equipment if commercially available in the San Diego region, and utilize diesel equipment fleets that exceed existing emissions standards if commercially available in the San Diego region.
- Provide the following building design elements to each residential unit, most of which are in addition to Title 24: whole house ventilation system and HEPA filtration that continually refreshes and improves the interior air quality, smart home technology including programmable thermostats, energy monitoring/control systems, Energy Star appliances, High-Efficiency HVAC system, Sealed (tight) air ducts that minimize heating and cooling HVAC losses, tankless water heaters, Low E dual pane windows, sealed home design that includes high-performance framing that reduces heat and/or cold transfer combined with an advanced high-efficiency whole house insulation system, natural gas outlets whenever feasible, and Cool roof design with special roof tiles and radiant barrier insulation.
- Install only natural gas non-wood burning fireplaces;
- Install high-efficiency public, street and area lighting as required, to achieve reduction in overall lighting energy.
- Incorporate into project's CC&Rs requirement that HOA work with SANDAG to provide informational materials on rideshare programs like icommute and provide literature and promote recycling to achieve a 75% diversion goal.
- Provide natural gas and electrical outlets in all residential backyards and within the common areas of multi-family development areas.
- Increased new tree plantings by planting a minimum of 244 trees within the project site which is equivalent to two trees per unit.
- Install weather-based irrigation systems which will include rain sensing timers.

Also, as of January 1, 2017, the project is now required to increase building efficiency to the latest Title 24 (2016) requirements. The project originally called for an increased building efficiency of 25% over 2008 standards. However, the Title 24 2013 standards reduced electricity use by 23.3% and natural gas consumption is reduced by 3.8% for multi-family structures (Architectural Energy Corporation (AEC), 2013). Under the latest Title 24 (2016) requirements, building efficiency for the project will further reduce emissions from electricity by 15.2 percent and natural gas by 30.7% for natural gas for multi-family structures (California Energy Commission, 2015). Given this, the latest 2016 standards exceed the reductions from increasing building efficiency beyond 25% over 2008. CalEEMod was updated to incorporate the latest

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reductions from the latest Title 24 2016. The updated modeling results are provided as ***Attachment A***.

Among the many additional design features added to the Project, the applicant will install solar panels equal to 3,000 Watts, equivalent to approximately 10–300 watt panels for each unit within the Project or 1,220–300 watt panels. Assuming an average insulation of 5.95 kWh/m²/day over a 365 day period, the project solar would generate roughly 635,888.4 kWh per year which assumes a performance ratio of roughly 80% and is shown in ***Attachment B*** to this letter. Based on this, the project's total emission would be reduced by 208.53 MT CO₂e. CalEEMod calculations are provided in ***Attachment C*** to this letter.

The site is currently comprised mostly of dirt and concrete with less than two dozen trees. The proposed project will increase the amount of vegetation on the site through landscaping slopes and commons areas per the landscape plans. The proposed project will increase the amount of vegetation on the site through landscaping slopes and commons areas per the landscape plans. In order to increase the net number of trees in the county, the Project will plant a minimum of 244 trees within the project site as referenced within the Landscape Plan, which is equivalent to two trees per unit. The project also includes a community park which will include a number of additional trees being added to the site.

The project's construction-related emissions would total approximately 915 MT CO₂e (based upon the 2015 Global Climate Change Study). During the construction phases, the project would also remove approximately 18.47 acres of vegetation. Based on this analysis, the vegetation removed during construction would release approximately 79.61 MT CO₂e of sequestered carbon. Therefore, the project's construction-related emissions would total approximately 995 MT CO₂e. The project also would plant at least 244 trees. While no credit is taken for the project's tree plantings, it is estimated that those trees would beneficially sequester approximately 172.75 MT CO₂e.

Additionally, with mitigation measure GHG-3, a bus stop on Jamacha Boulevard will be constructed along the project frontage that will provide access to MTS bus route 855, the Spring Street trolley station located 4.3 miles away, and to MTS bus route 856 that provides access to Rancho San Diego, San Diego State University, etc. Combined these two routes provide over 64 buses per day. Also, given the locations the buses serve, it's expected that alternative transportation will be utilized. Also, the project will include sidewalks and easy walkability throughout the site and to nearby bus stops on Jamacha Boulevard. The 2015 Global Climate Change Study did not consider either pedestrian walkability from the project site nor included

analysis with respect to the nearby alternative transportation access. CalEEMod was updated to include both California Air Pollution Control Officers Association (CAPCOA, August 2010) reduction measures LUT-5 at 1 mile to be conservative and SDT-1 with site access. The bus stop information is provided in ***Attachment D***.

Finally, as an additional project design feature, the project will install Electric Vehicle charging stations onsite. The Project would plumb and install utility infrastructure (conduit and supply demand capacity) within every residential unit for a Level 2 electric vehicle (EV) charging station, and would install two Level 2 charging stations within the common parking areas of the Project's site. The Project also would install a Level 2 charging station at the public park that will be constructed by the applicant and dedicated to the County. Under VT-3 transportation reductions, Electric Vehicles can provide between 0.4 and 20.3 percent reductions which include use of fully electric vehicles and hybrid vehicles (CAPCOA, August 2010). Because Electric Vehicle charging stations will be installed as a design feature and is directly related to enhancing the ability and ease of using electric vehicles, the incentive to use electric vehicles will be strongly enhanced. To be conservative, a 0.4% reduction in emissions would be expected through installing electric charging stations. Finally, reductions for Pavley II, Tire Pressure Programs and utility renewable portfolio standards were also removed from the emissions. Based on this, as seen in Table 1 below, the project would likely generate 1,167.3 MT after all reductions are taken.

The Supplemental Letter concludes that after incorporation of all reductions and design features the project would generate a total of 995 MT CO₂e during construction and 1,137 MT CO₂e per year operationally once fully built (see Table 1). Although the proposed completion date for construction of the project has been delayed from its original January 2016 start date, the original construction emissions modeling contained in the 2015 Global Climate Change Study remains the same, which is considered the worst –case scenario. Project construction would still be expected to take approximately 14 months to complete. The construction equipment, intensity and duration will also remain the same and did not change since the original modeling in the 2015 Global Climate Change Study. Therefore, the construction emissions are considered worst-case based because construction emission factors are better, resulting in fewer emissions, as time progresses.

Table 1: Expected Mitigated Operational Emissions Summary MT/Year

Year	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e (MT/Yr)
Area	0.00	90.80	90.80	0.00	0.00	91.37
Electricity	0.00	0.00	191.97	0.01	0.00	192.63
Natural Gas	0.00	89.79	89.79	0.00	0.00	90.33
Mobile	0.00	1,081.19	1,081.19	0.04	0.00	1,082.07
Waste	11.79	0.00	11.79	0.70	0.00	26.41
Water	2.60	58.66	61.26	0.27	0.01	69.04
Solar 3,000 Watts per Unit						-208.53
Electric - Title 24 (2016) over 2008						-8.710
Natural Gas - Title 24 (2016) over 2008						-23.56
Mobile - Pavley II Plus Tire Pressure Regulations - 2.47% combined reduction						-26.73
Waste – Recycling						-6.60
Renewable Portfolio 13% Reduction (Electricity)						-25.04
Renewable Portfolio 13% Reduction (Water)						-8.97
Electric Vehicle Charging Stations						-4.33
Pedestrian Friendly and Bus Stops (CAPCOA LUT-5 for Bus Stops Selected 0.5 miles to bus stop); (SDT-1) Improved pedestrian network						-92.08
Low Flow Water Fixtures						-10.50
Total Operational Emissions Annually						1,136.80
Total Construction Emissions						995¹
¹ Source: Sweetwater Place Residential Development Global Climate Change, Ldn Consulting, 2015 construction emissions of 915 MT CO2e and includes a one-time vegetation loss as described above of 80 MT CO2e.						

After analyzing and requiring all reasonable and feasible on-site mitigation measures and design features for avoiding or reducing GHG-related impacts (see **Attachment E**, Climate Change Scoping Plan Recommend Mitigation Measures evaluation), the Project Applicant has determined that additional off-site mitigation measures can further reduce impacts from GHG emissions to a less-than-significant level, through the purchase of carbon offset credits.

One carbon offset credit represents the past reduction or sequestration of one metric ton of carbon dioxide equivalent that is “not otherwise required” (CEQA Guidelines section 15126.4(c)(3)). Carbon offsets that reduce the net increase of GHG emissions shall achieve real, permanent, quantifiable, verifiable, and enforceable reductions (Cal. Health & Saf. Code section 38562(d)(1)).

The project shall be conditioned to implement the following mitigation measures:

GHG-1 Prior to issuance of the first grading permit, the applicant shall provide evidence to the County of San Diego (County) Planning & Development Services (PDS) that they have purchased and retired carbon credits, in the amount of 995 MT CO₂e (note: this number reflects all the construction-related GHG emissions after applying all other mitigation and reductions along with a onetime vegetation loss) pursuant to the performance standards and requirements described below. Construction emissions include all grading, site preparation, vegetation removal, worker trips, building construction and architectural coatings related to GHG emissions. This mitigation measure would reduce the construction-related GHG emissions to zero.

Carbon offsets shall be purchased through a CARB-approved registry, such as the Climate Action Reserve, American Carbon Registry, or Verified Carbon Standard. If no CARB-approved registry is in existence, then the applicant or its designee shall purchase carbon offset credits from any other reputable registry or entity that issues carbon offsets consistent with Cal. Health & Saf. Code section 38562(d)(1), to the satisfaction of the Directory of Planning & Development Services (PDS).

The County will consider, to the satisfaction of the Director of PDS, the following geographic priorities for GHG reduction features, and carbon offset projects: 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.

GHG-2 Prior the recordation of the first final map, the Project applicant or designee shall provide evidence to County PDS that the Project applicant or designee has purchased and retired carbon offsets in a quantity sufficient to offset, for a 30-year period, the operational GHG emissions of the project to net zero. The project's operational emissions would be 1,137 MT CO₂e at the time of full buildout; see Table 1 above. Therefore, the project will need to reduce the annual emissions by 1,137 MT CO₂e/year, for a 30-year period (project life) or a total of 34,110 MT, the operational GHG emissions needed for the project to net zero. The "project life" is 30 years, which is consistent with the methodology used by the South Coast Air Quality Management District's GHG guidance (SCAQMD 2008).

Carbon offsets shall be purchased through a CARB-approved registry, such as the Climate Action Reserve, American Carbon Registry, or Verified Carbon Standard. If no CARB-approved registry is in existence, then the applicant or its designee shall purchase carbon offset credits from any

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other reputable registry or entity that issues carbon offsets consistent with Cal. Health & Saf. Code section 38562(d)(1), to the satisfaction of the Directory of Planning & Development Services (PDS).

The County will consider, to the satisfaction of the Director of PDS, the following geographic priorities for GHG reduction features, and carbon offset projects: 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.

GHG-3 Prior to occupancy, the project applicant or its designee will construct a bus stop on Jamacha Boulevard along the project frontage as shown on the site or improvement plans in accordance with the project's conditions of approval.

Plan Consistency Evaluation

Because the project would not increase net GHG emissions above existing levels following implementation of the project design features and mitigation measures GHG-1 through GHG-3, above, the project would not conflict with any local or state plans, policies, or regulations adopted for the purpose of reducing GHG emissions. However, for information purposes, the following provides additional discussion of plans, policies, and regulations adopted for the purpose of reducing GHG emissions and the determination that the project does not conflict with such plans, policies, or regulations.

Consistency with Relevant General Plan Policies

This discussion analyzes the project's potential to conflict with an applicable plan. The County of San Diego's General Plan contains various goals, policies, and objectives related to the reduction of GHG emissions and global climate change. The project's consistency with specific General Plan Conservation and Open Space Element policies is provided below in Table 2.

Table 2: County General Plan Policies

Policy	Project Consistency
<i>COS14.3 Sustainable Development.</i> Require design of residential subdivisions and nonresidential development through “green” and sustainable land development practices to conserve energy, water, open space, and natural resources.	<i>Consistent.</i> As discussed, the Project includes many design features to reduce energy and water use.
<i>COS14.7 Alternative Energy Sources for Development Projects.</i> Encourage development projects that use energy recovery, photovoltaic, and wind energy.	<i>Consistent.</i> The project will install solar panels equal to 3,000 Watts, equivalent to approximately 10 – 300W panels on each unit within the Project. In addition, the project will plumb and install utility infrastructure in every residential unit for a Level 2 electric vehicle (EV) charging station, and would install two Level 2 charging stations within the common parking area of the Project site and one Level 2 EV charging station at the park that will be dedicated to the County.
<i>COS14.10 Low Emission Construction Vehicles and Equipment.</i> Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.	<i>Consistent.</i> All project-related construction equipment would be required to meet Tier III emissions standards. The project will implement Tier IV equipment to the extent practicable and feasible.
<i>COS15.1 Design and Construction of New Buildings.</i> 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.	<i>Consistent.</i> The Project proposes sustainability and efficiency features consistent with Title 24, Part 6 of the California Code of Regulations (2016) requirements. This includes High-Efficiency HVAC system, sealed (tight) air ducts that minimize heating and cooling HVAC losses, tankless water heaters, Low E dual pane windows.
<i>COS15.4 Title 24 Energy Standards.</i> Require development to minimize energy impacts from new buildings in accordance with or exceeding Title 24 energy standards.	<i>Consistent.</i> The Project proposes implementing energy efficiency features that would meet 2016 Title 24 standards, which is 46 percent more efficient than the 2008 Title 24 requirements that were current when the General Plan was adopted.
<i>COS17.1 Reduction of Solid Waste Materials.</i> 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.	<i>Consistent.</i> Areas for storage and collection of recyclables and yard waste would be provided.
<i>COS17.2 Construction and Demolition Waste.</i> Require recycling, reduction and reuse of construction and demolition debris.	<i>Consistent.</i> The Project would prepare a Construction Debris Management Plan that complies with Section 68.508-68.518 of the County Municipal Code, and would divert at least 90 percent of inerts and 70 percent of construction waste from landfills through reuse and recycling.

Consistency with SANDAG's San Diego Forward: The Regional Plan

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. The Project would implement land use and design measures that would create an environment that promotes alternative mode choice (e.g., pedestrian/bicycle networks and proximity to bus routes). For example, the project will work with SANDAG to provide informational materials on rideshare programs like icommute to promote rideshare programs and opportunities. The project is located near job centers and existing land uses and is also currently designated as Village under the Regional Category of the General Plan. The Project will encourage daily physical activity associated with walking and bicycling, by providing public riding and hiking trails as well as creating a public place for the community to gather and have access to cultural activities at the proposed park that will be dedicated to the public. The project will include sidewalks and easy walkability throughout the site and to the nearby bus stop along the project frontage.

Pursuant to mitigation measure GHG-3, the bus stop on Jamacha Boulevard, along the project frontage, will be constructed that will provide access to route 855, Spring Street trolley station located 4.3 miles away and to route 856 which provides access to Rancho San Diego, San Diego State University. Combined these two routes provide over 64 buses per day. Also, given the locations the buses serve, it's expected that additional alternative transportation will be utilized. The bus access will be constructed adjacent to the project site on Jamacha Boulevard as shown on the improvement plans, which will be a condition of project approval. As such, the project would not conflict with SANDAG's RTP/SCS and the corresponding policy objectives set forth in SB 375.

Conclusions

With implementation of the identified design features and Mitigation Measures GHG-1 through GHG-3, the project's net GHG emissions would be reduced to zero. The mitigated project would have no net increase in GHG emissions, as compared to the existing environmental setting (see CEQA Guidelines Section 15064.4(b)(1)). Because the mitigated project would have no net increase in the GHG emissions level, the project would not generate GHG emissions that may have a significant impact on the environment. Further, the project would not result in a considerable contribution to cumulative global GHG emissions. The project would not conflict with any adopted and applicable local or state plans, policies or regulations to reduce GHG emissions.

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The project complies with CARB's draft Second Update to the Scoping Plan, which states that "achieving no net increase in GHG emissions is the correct overall objective."

If you should have any questions regarding these findings, please do not hesitate to contact me at (760) 473-1253 at your convenience.

Sincerely,
Ldn Consulting, Inc.



Jeremy Loudon, Principal

References

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<http://www.energy.ca.gov/2013publications/CEC-400-2013-008/CEC-400-2013-008.pdf>
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CAPCOA. (August 2010). *Quantifying Greenhouse Gas Mitigation Measures*.

Attachments

Attachment A: CalEEMod Annual Emissions
Attachment B: Solar Calculations
Attachment C: CalEEMod Annual Emissions from Solar
Attachment D: Bus Routes (855) and Bus Routes (856)
Attachment E: Climate Change Scoping Plan Recommend Mitigation Measures

Sweetwater Village (unmitigated)
San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.53	Acre	1.53	66,646.80	0
Condo/Townhouse	122.00	Dwelling Unit	18.47	122,000.00	349

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2020
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

Project Characteristics -

Land Use - Actual project area

Construction Phase - Proposed Construction Durations

Off-road Equipment -

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment -

Off-road Equipment - Proposed Construction Equipment

Vehicle Trips - Trip Generation per Project Traffic Study

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use - City Park Lighting intensity is .88 kWh/SF/Year

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Land Use Change -

Sequestration -

Table Name	Column Name	Default Value	New Value
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tblAreaCoating	Area_Nonresidential_Interior	99970	74488

tblAreaCoating	Area_Residential_Exterior	82350	85050
tblAreaCoating	Area_Residential_Interior	247050	255150
tblConstructionPhase	NumDays	20.00	86.00
tblConstructionPhase	NumDays	300.00	319.00
tblConstructionPhase	NumDays	20.00	11.00
tblConstructionPhase	NumDays	30.00	39.00
tblConstructionPhase	PhaseEndDate	11/10/2017	7/13/2017
tblConstructionPhase	PhaseEndDate	3/24/2016	3/25/2016
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tblConstructionPhase	PhaseStartDate	7/14/2017	3/16/2017
tblConstructionPhase	PhaseStartDate	4/23/2016	4/25/2016
tblConstructionPhase	PhaseStartDate	1/31/2016	2/2/2016
tblEnergyUse	LightingElect	0.00	0.88
tblFireplaces	NumberGas	67.10	69.30
tblFireplaces	NumberNoFireplace	12.20	12.60
tblFireplaces	NumberWood	42.70	44.10
tblGrading	AcresOfGrading	117.00	20.00
tblGrading	AcresOfGrading	0.00	20.00
tblLandUse	LotAcreage	7.63	18.47
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblSequestration	NumberOfNewTrees	0.00	244.00
tblSolidWaste	SolidWasteGenerationRate	0.13	0.10
tblSolidWaste	SolidWasteGenerationRate	56.12	57.96

tblTripsAndVMT	HaulingTripNumber	10.00	0.00
tblTripsAndVMT	VendorTripNumber	24.00	22.00
tblTripsAndVMT	WorkerTripNumber	23.00	18.00
tblTripsAndVMT	WorkerTripNumber	116.00	112.00
tblTripsAndVMT	WorkerTripNumber	23.00	22.00
tblVehicleTrips	ST_TR	1.59	20.00
tblVehicleTrips	ST_TR	7.16	8.00
tblVehicleTrips	SU_TR	1.59	20.00
tblVehicleTrips	SU_TR	6.07	8.00
tblVehicleTrips	WD_TR	1.59	20.00
tblVehicleTrips	WD_TR	6.59	8.00
tblWater	IndoorWaterUseRate	7,948,791.13	8,209,407.23
tblWater	OutdoorWaterUseRate	1,822,966.46	1,358,288.74
tblWater	OutdoorWaterUseRate	5,011,194.41	5,175,495.86
tblWoodstoves	NumberCatalytic	6.10	6.30
tblWoodstoves	NumberNoncatalytic	6.10	6.30

2.0 Emissions Summary

[illegible]

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	8.9300	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428
Energy	9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	281.7596	281.7596	9.4500e-003	3.2400e-003	282.9638
Mobile	0.5473	1.2067	5.6529	0.0156	1.0725	0.0179	1.0903	0.2868	0.0165	0.3033	0.0000	1,081.193 2	1,081.193 2	0.0418	0.0000	1,082.070 0
Waste						0.0000	0.0000		0.0000	0.0000	11.7857	0.0000	11.7857	0.6965	0.0000	26.4124
Water						0.0000	0.0000		0.0000	0.0000	2.6045	58.6573	61.2618	0.2699	6.8000e-003	69.0384
Total	9.4864	1.4020	16.3341	0.0199	1.0725	1.3975	2.4699	0.2868	1.3960	1.6829	144.5428	1,477.673 9	1,622.216 7	1.1391	0.0203	1,652.427 4

2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0330	0.0105	0.9094	5.0000e-005		0.0112	0.0112		0.0112	0.0112	0.0000	90.7992	90.7992	3.1500e-003	1.6400e-003	91.3731
Energy	9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	275.9552	275.9552	9.2100e-003	3.2000e-003	277.1395
Mobile	0.5126	1.0185	4.9250	0.0128	0.8718	0.0148	0.8866	0.2332	0.0137	0.2468	0.0000	884.6882	884.6882	0.0347	0.0000	885.4170
Waste						0.0000	0.0000		0.0000	0.0000	8.8392	0.0000	8.8392	0.5224	0.0000	19.8093
Water						0.0000	0.0000		0.0000	0.0000	2.0836	50.2234	52.3069	0.2160	5.4600e-003	58.5362
Total	1.5547	1.1066	5.8674	0.0133	0.8718	0.0323	0.9041	0.2332	0.0311	0.2643	10.9228	1,301.6660	1,312.5888	0.7854	0.0103	1,332.2751

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	83.61	21.07	64.08	33.28	18.71	97.69	63.40	18.71	97.77	84.30	92.44	11.91	19.09	31.05	49.21	19.37

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	172.7520
Vegetation Land Change	-79.6057
Total	93.1463

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Concrete Demolition	Demolition	1/1/2016	1/15/2016	5	11	
2	Site Preparation	Site Preparation	1/16/2016	1/30/2016	5	10	
3	Grading	Grading	2/2/2016	3/25/2016	5	39	
4	Paving	Paving	3/26/2016	4/22/2016	5	20	
5	Building Construction	Building Construction	4/25/2016	7/13/2017	5	319	
6	Architectural Coating	Architectural Coating	3/16/2017	7/13/2017	5	86	

Acres of Grading (Site Preparation Phase): 20

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 255,150; Residential Outdoor: 85,050; Non-Residential Indoor: 74,488; Non-Residential Outdoor: 24,829 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Concrete Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Concrete Demolition	Excavators	2	8.00	162	0.38
Concrete Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	2	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Concrete Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	112.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Concrete Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0800e-003	0.0000	1.0800e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0215	0.2267	0.1738	1.9000e-004		0.0114	0.0114		0.0107	0.0107	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7589
Total	0.0215	0.2267	0.1738	1.9000e-004	1.0800e-003	0.0114	0.0125	1.6000e-004	0.0107	0.0108	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7589

3.2 Concrete Demolition - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349
Total	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0800e-003	0.0000	1.0800e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0215	0.2267	0.1738	1.9000e-004		0.0114	0.0114		0.0107	0.0107	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7588
Total	0.0215	0.2267	0.1738	1.9000e-004	1.0800e-003	0.0114	0.0125	1.6000e-004	0.0107	0.0108	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7588

3.2 Concrete Demolition - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349
Total	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349

3.3 Site Preparation - 2016**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2038	0.1531	1.5000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402
Total	0.0192	0.2038	0.1531	1.5000e-004	0.0708	0.0115	0.0823	0.0343	0.0106	0.0448	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402

3.3 Site Preparation - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611
Total	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611

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					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2038	0.1531	1.5000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402
Total	0.0192	0.2038	0.1531	1.5000e-004	0.0708	0.0115	0.0823	0.0343	0.0106	0.0448	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402

3.3 Site Preparation - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611
Total	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611

3.4 Grading - 2016**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1280	0.0000	0.1280	0.0657	0.0000	0.0657	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1462	1.6613	1.0543	1.3300e-003		0.0813	0.0813		0.0748	0.0748	0.0000	124.9697	124.9697	0.0377	0.0000	125.7613
Total	0.1462	1.6613	1.0543	1.3300e-003	0.1280	0.0813	0.2093	0.0657	0.0748	0.1405	0.0000	124.9697	124.9697	0.0377	0.0000	125.7613

3.4 Grading - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260
Total	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260

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					0.1280	0.0000	0.1280	0.0657	0.0000	0.0657	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1462	1.6613	1.0543	1.3300e-003		0.0813	0.0813		0.0748	0.0748	0.0000	124.9696	124.9696	0.0377	0.0000	125.7612
Total	0.1462	1.6613	1.0543	1.3300e-003	0.1280	0.0813	0.2093	0.0657	0.0748	0.1405	0.0000	124.9696	124.9696	0.0377	0.0000	125.7612

3.4 Grading - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260
Total	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260

3.5 Paving - 2016**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469

3.5 Paving - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222
Total	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222

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	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469

3.5 Paving - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222
Total	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222

3.6 Building Construction - 2016**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7468	285.7468	0.0628	0.0000	287.0660
Total	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7468	285.7468	0.0628	0.0000	287.0660

3.6 Building Construction - 2016**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	0.0225	0.1935	0.2710	4.7000e-004	0.0129	2.8500e-003	0.0157	3.6900e-003	2.6200e-003	6.3100e-003	0.0000	42.7179	42.7179	3.3000e-004	0.0000	42.7249
Worker	0.0346	0.0457	0.4354	9.9000e-004	0.0808	6.2000e-004	0.0815	0.0215	5.7000e-004	0.0221	0.0000	75.3289	75.3289	3.9800e-003	0.0000	75.4125
Total	0.0571	0.2391	0.7064	1.4600e-003	0.0937	3.4700e-003	0.0972	0.0252	3.1900e-003	0.0284	0.0000	118.0468	118.0468	4.3100e-003	0.0000	118.1374

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	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7464	285.7464	0.0628	0.0000	287.0657
Total	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7464	285.7464	0.0628	0.0000	287.0657

3.6 Building Construction - 2016**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	0.0225	0.1935	0.2710	4.7000e-004	0.0129	2.8500e-003	0.0157	3.6900e-003	2.6200e-003	6.3100e-003	0.0000	42.7179	42.7179	3.3000e-004	0.0000	42.7249
Worker	0.0346	0.0457	0.4354	9.9000e-004	0.0808	6.2000e-004	0.0815	0.0215	5.7000e-004	0.0221	0.0000	75.3289	75.3289	3.9800e-003	0.0000	75.4125
Total	0.0571	0.2391	0.7064	1.4600e-003	0.0937	3.4700e-003	0.0972	0.0252	3.1900e-003	0.0284	0.0000	118.0468	118.0468	4.3100e-003	0.0000	118.1374

3.6 Building Construction - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8012	218.8012	0.0470	0.0000	219.7877
Total	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8012	218.8012	0.0470	0.0000	219.7877

3.6 Building Construction - 2017**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	0.0159	0.1335	0.1977	3.6000e-004	9.9500e-003	1.9100e-003	0.0119	2.8500e-003	1.7600e-003	4.6000e-003	0.0000	32.4301	32.4301	2.4000e-004	0.0000	32.4352
Worker	0.0242	0.0321	0.3030	7.7000e-004	0.0624	4.6000e-004	0.0629	0.0166	4.3000e-004	0.0170	0.0000	55.9231	55.9231	2.8400e-003	0.0000	55.9828
Total	0.0401	0.1656	0.5008	1.1300e-003	0.0724	2.3700e-003	0.0748	0.0194	2.1900e-003	0.0216	0.0000	88.3532	88.3532	3.0800e-003	0.0000	88.4180

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	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8010	218.8010	0.0470	0.0000	219.7874
Total	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8010	218.8010	0.0470	0.0000	219.7874

3.6 Building Construction - 2017**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	0.0159	0.1335	0.1977	3.6000e-004	9.9500e-003	1.9100e-003	0.0119	2.8500e-003	1.7600e-003	4.6000e-003	0.0000	32.4301	32.4301	2.4000e-004	0.0000	32.4352
Worker	0.0242	0.0321	0.3030	7.7000e-004	0.0624	4.6000e-004	0.0629	0.0166	4.3000e-004	0.0170	0.0000	55.9231	55.9231	2.8400e-003	0.0000	55.9828
Total	0.0401	0.1656	0.5008	1.1300e-003	0.0724	2.3700e-003	0.0748	0.0194	2.1900e-003	0.0216	0.0000	88.3532	88.3532	3.0800e-003	0.0000	88.4180

3.7 Architectural Coating - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5465					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0143	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033
Total	2.5607	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033

3.7 Architectural Coating - 2017**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037
Total	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037

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	2.5465					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0143	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033
Total	2.5607	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033

3.7 Architectural Coating - 2017**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037
Total	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.5126	1.0185	4.9250	0.0128	0.8718	0.0148	0.8866	0.2332	0.0137	0.2468	0.0000	884.6882	884.6882	0.0347	0.0000	885.4170
Unmitigated	0.5473	1.2067	5.6529	0.0156	1.0725	0.0179	1.0903	0.2868	0.0165	0.3033	0.0000	1,081.1932	1,081.1932	0.0418	0.0000	1,082.0700

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	30.60	30.60	30.60	65,326	53,104
Condo/Townhouse	976.00	976.00	976.00	2,786,776	2,265,367
Total	1,006.60	1,006.60	1,006.60	2,852,103	2,318,471

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	186.1701	186.1701	7.4900e-003	1.5500e-003	186.8081
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	191.9745	191.9745	7.7300e-003	1.6000e-003	192.6324
NaturalGas Mitigated	9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.7850	89.7850	1.7200e-003	1.6500e-003	90.3315
NaturalGas Unmitigated	9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.7850	89.7850	1.7200e-003	1.6500e-003	90.3315

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	1.68251e+006	9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.7850	89.7850	1.7200e-003	1.6500e-003	90.3315
Total		9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.7850	89.7850	1.7200e-003	1.6500e-003	90.3315

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	1.68251e+006	9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.7850	89.7850	1.7200e-003	1.6500e-003	90.3315
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
Total		9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.7850	89.7850	1.7200e-003	1.6500e-003	90.3315

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	58649.2	19.1671	7.7000e-004	1.6000e-004	19.2328
Condo/Townhouse	528772	172.8075	6.9600e-003	1.4400e-003	173.3996
Total		191.9745	7.7300e-003	1.6000e-003	192.6324

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	58649.2	19.1671	7.7000e-004	1.6000e-004	19.2328
Condo/Townhouse	511012	167.0030	6.7200e-003	1.3900e-003	167.5753
Total		186.1701	7.4900e-003	1.5500e-003	186.8081

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.0330	0.0105	0.9094	5.0000e-005		0.0112	0.0112		0.0112	0.0112	0.0000	90.7992	90.7992	3.1500e-003	1.6400e-003	91.3731
Unmitigated	8.9300	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428

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	0.2596					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7368					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.9060	0.1073	9.7394	3.8000e-003		1.3683	1.3683		1.3683	1.3683	130.1527	54.5841	184.7368	0.1201	0.0102	190.4327
Landscaping	0.0277	0.0105	0.9089	5.0000e-005		5.0000e-003	5.0000e-003		5.0000e-003	5.0000e-003	0.0000	1.4797	1.4797	1.4400e-003	0.0000	1.5100
Total	8.9300	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2596					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7368					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	9.0300e-003	0.0000	4.9000e-004	0.0000		6.2400e-003	6.2400e-003		6.1700e-003	6.1700e-003	0.0000	89.3195	89.3195	1.7100e-003	1.6400e-003	89.8631
Landscaping	0.0277	0.0105	0.9089	5.0000e-005		5.0000e-003	5.0000e-003		5.0000e-003	5.0000e-003	0.0000	1.4797	1.4797	1.4400e-003	0.0000	1.5100
Total	1.0330	0.0105	0.9094	5.0000e-005		0.0112	0.0112		0.0112	0.0112	0.0000	90.7992	90.7992	3.1500e-003	1.6400e-003	91.3731

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	52.3069	0.2160	5.4600e-003	58.5362
Unmitigated	61.2618	0.2699	6.8000e-003	69.0384

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.35829	4.9317	2.0000e-004	4.0000e-005	4.9486
Condo/Townhouse	8.20941 / 5.1755	56.3300	0.2697	6.7600e-003	64.0898
Total		61.2618	0.2699	6.8000e-003	69.0384

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.27543	4.6309	1.9000e-004	4.0000e-005	4.6468
Condo/Townhouse	6.56753 / 4.85979	47.6760	0.2158	5.4200e-003	53.8895
Total		52.3069	0.2160	5.4600e-003	58.5362

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	8.8392	0.5224	0.0000	19.8093
Unmitigated	11.7857	0.6965	0.0000	26.4124

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.1	0.0203	1.2000e-003	0.0000	0.0455
Condo/Townhouse	57.96	11.7654	0.6953	0.0000	26.3669
Total		11.7857	0.6965	0.0000	26.4124

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.075	0.0152	9.0000e-004	0.0000	0.0341
Condo/Townhouse	43.47	8.8240	0.5215	0.0000	19.7752
Total		8.8392	0.5224	0.0000	19.8093

9.0 Operational Offroad

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

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	93.1463	0.0000	0.0000	93.1463

10.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	18.47 / 0	-79.6057	0.0000	0.0000	-79.6057
Total		-79.6057	0.0000	0.0000	-79.6057

10.2 Net New Trees**Species Class**

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	244	172.7520	0.0000	0.0000	172.7520
Total		172.7520	0.0000	0.0000	172.7520

Sweetwater Village (mitigated)
San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.53	Acre	1.53	66,646.80	0
Condo/Townhouse	122.00	Dwelling Unit	18.47	122,000.00	349

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2020
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

Project Characteristics -

Land Use - Actual project area

Construction Phase - Proposed Construction Durations

Off-road Equipment -

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment -

Off-road Equipment - Proposed Construction Equipment

Vehicle Trips - Trip Generation per Project Traffic Study

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use - City Park Lighting intensity is .88 kWh/SF/Year T24 13 E158.53 NG 10379.48 T24 16 E134.43 NG 7192.98

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Land Use Change -

Sequestration -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	33,323.00	24,829.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	99,970.00	74,488.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	82,350.00	85,050.00
tblArchitecturalCoating	ConstArea_Residential_Interior	247,050.00	255,150.00
tblAreaCoating	Area_Nonresidential_Interior	99970	74488

tblAreaCoating	Area_Residential_Exterior	82350	85050
tblAreaCoating	Area_Residential_Interior	247050	255150
tblConstructionPhase	NumDays	20.00	86.00
tblConstructionPhase	NumDays	300.00	319.00
tblConstructionPhase	NumDays	20.00	11.00
tblConstructionPhase	NumDays	30.00	39.00
tblConstructionPhase	PhaseEndDate	11/10/2017	7/13/2017
tblConstructionPhase	PhaseEndDate	3/24/2016	3/25/2016
tblConstructionPhase	PhaseEndDate	1/29/2016	1/30/2016
tblConstructionPhase	PhaseStartDate	7/14/2017	3/16/2017
tblConstructionPhase	PhaseStartDate	4/23/2016	4/25/2016
tblConstructionPhase	PhaseStartDate	1/31/2016	2/2/2016
tblEnergyUse	LightingElect	0.00	0.88
tblEnergyUse	T24E	206.69	134.43
tblEnergyUse	T24NG	10,789.48	7,192.98
tblFireplaces	NumberGas	67.10	69.30
tblFireplaces	NumberNoFireplace	12.20	12.60
tblFireplaces	NumberWood	42.70	44.10
tblGrading	AcresOfGrading	117.00	20.00
tblGrading	AcresOfGrading	0.00	20.00
tblLandUse	LotAcreage	7.63	18.47
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblSequestration	NumberOfNewTrees	0.00	244.00

tblSolidWaste	SolidWasteGenerationRate	0.13	0.10
tblSolidWaste	SolidWasteGenerationRate	56.12	57.96
tblTripsAndVMT	HaulingTripNumber	10.00	0.00
tblTripsAndVMT	VendorTripNumber	24.00	22.00
tblTripsAndVMT	WorkerTripNumber	23.00	18.00
tblTripsAndVMT	WorkerTripNumber	116.00	112.00
tblTripsAndVMT	WorkerTripNumber	23.00	22.00
tblVehicleTrips	ST_TR	1.59	20.00
tblVehicleTrips	ST_TR	7.16	8.00
tblVehicleTrips	SU_TR	1.59	20.00
tblVehicleTrips	SU_TR	6.07	8.00
tblVehicleTrips	WD_TR	1.59	20.00
tblVehicleTrips	WD_TR	6.59	8.00
tblWater	IndoorWaterUseRate	7,948,791.13	8,209,407.23
tblWater	OutdoorWaterUseRate	1,822,966.46	1,358,288.74
tblWater	OutdoorWaterUseRate	5,011,194.41	5,175,495.86
tblWoodstoves	NumberCatalytic	6.10	6.30
tblWoodstoves	NumberNoncatalytic	6.10	6.30

2.0 Emissions Summary

[illegible]

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	8.9300	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428
Energy	6.7100e-003	0.0573	0.0244	3.7000e-004		4.6300e-003	4.6300e-003		4.6300e-003	4.6300e-003	0.0000	255.4639	255.4639	8.8800e-003	2.7900e-003	256.5158
Mobile	0.5473	1.2067	5.6529	0.0156	1.0725	0.0179	1.0903	0.2868	0.0165	0.3033	0.0000	1,081.193 2	1,081.193 2	0.0418	0.0000	1,082.070 0
Waste						0.0000	0.0000		0.0000	0.0000	11.7857	0.0000	11.7857	0.6965	0.0000	26.4124
Water						0.0000	0.0000		0.0000	0.0000	2.6045	58.6573	61.2618	0.2699	6.8000e-003	69.0384
Total	9.4840	1.3818	16.3255	0.0198	1.0725	1.3958	2.4683	0.2868	1.3944	1.6812	144.5428	1,451.378 3	1,595.921 1	1.1386	0.0198	1,625.979 4

2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0330	0.0105	0.9094	5.0000e-005		0.0112	0.0112		0.0112	0.0112	0.0000	90.7992	90.7992	3.1500e-003	1.6400e-003	91.3731
Energy	6.7100e-003	0.0573	0.0244	3.7000e-004		4.6300e-003	4.6300e-003		4.6300e-003	4.6300e-003	0.0000	249.6595	249.6595	8.6500e-003	2.7400e-003	250.6915
Mobile	0.5311	1.1186	5.3121	0.0143	0.9785	0.0164	0.9949	0.2617	0.0152	0.2769	0.0000	989.1839	989.1839	0.0385	0.0000	989.9914
Waste						0.0000	0.0000		0.0000	0.0000	8.8392	0.0000	8.8392	0.5224	0.0000	19.8093
Water						0.0000	0.0000		0.0000	0.0000	2.0836	50.2234	52.3069	0.2160	5.4600e-003	58.5362
Total	1.5708	1.1864	6.2458	0.0147	0.9785	0.0323	1.0108	0.2617	0.0310	0.2927	10.9228	1,379.8660	1,390.7888	0.7886	9.8400e-003	1,410.4016

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	83.44	14.14	61.74	25.91	8.76	97.69	59.05	8.76	97.78	82.59	92.44	4.93	12.85	30.73	50.38	13.26

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	172.7520
Vegetation Land Change	-79.6057
Total	93.1463

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Concrete Demolition	Demolition	1/1/2016	1/15/2016	5	11	
2	Site Preparation	Site Preparation	1/16/2016	1/30/2016	5	10	
3	Grading	Grading	2/2/2016	3/25/2016	5	39	
4	Paving	Paving	3/26/2016	4/22/2016	5	20	
5	Building Construction	Building Construction	4/25/2016	7/13/2017	5	319	
6	Architectural Coating	Architectural Coating	3/16/2017	7/13/2017	5	86	

Acres of Grading (Site Preparation Phase): 20

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 255,150; Residential Outdoor: 85,050; Non-Residential Indoor: 74,488; Non-Residential Outdoor: 24,829 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Concrete Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Concrete Demolition	Excavators	2	8.00	162	0.38
Concrete Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	2	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Concrete Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	112.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Concrete Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0800e-003	0.0000	1.0800e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0215	0.2267	0.1738	1.9000e-004		0.0114	0.0114		0.0107	0.0107	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7589
Total	0.0215	0.2267	0.1738	1.9000e-004	1.0800e-003	0.0114	0.0125	1.6000e-004	0.0107	0.0108	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7589

3.2 Concrete Demolition - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349
Total	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0800e-003	0.0000	1.0800e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0215	0.2267	0.1738	1.9000e-004		0.0114	0.0114		0.0107	0.0107	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7588
Total	0.0215	0.2267	0.1738	1.9000e-004	1.0800e-003	0.0114	0.0125	1.6000e-004	0.0107	0.0108	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7588

3.2 Concrete Demolition - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349
Total	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349

3.3 Site Preparation - 2016**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2038	0.1531	1.5000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402
Total	0.0192	0.2038	0.1531	1.5000e-004	0.0708	0.0115	0.0823	0.0343	0.0106	0.0448	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402

3.3 Site Preparation - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611
Total	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611

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					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2038	0.1531	1.5000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402
Total	0.0192	0.2038	0.1531	1.5000e-004	0.0708	0.0115	0.0823	0.0343	0.0106	0.0448	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402

3.3 Site Preparation - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611
Total	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611

3.4 Grading - 2016**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1280	0.0000	0.1280	0.0657	0.0000	0.0657	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1462	1.6613	1.0543	1.3300e-003		0.0813	0.0813		0.0748	0.0748	0.0000	124.9697	124.9697	0.0377	0.0000	125.7613
Total	0.1462	1.6613	1.0543	1.3300e-003	0.1280	0.0813	0.2093	0.0657	0.0748	0.1405	0.0000	124.9697	124.9697	0.0377	0.0000	125.7613

3.4 Grading - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260
Total	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260

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					0.1280	0.0000	0.1280	0.0657	0.0000	0.0657	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1462	1.6613	1.0543	1.3300e-003		0.0813	0.0813		0.0748	0.0748	0.0000	124.9696	124.9696	0.0377	0.0000	125.7612
Total	0.1462	1.6613	1.0543	1.3300e-003	0.1280	0.0813	0.2093	0.0657	0.0748	0.1405	0.0000	124.9696	124.9696	0.0377	0.0000	125.7612

3.4 Grading - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260
Total	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260

3.5 Paving - 2016**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469

3.5 Paving - 2016**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222
Total	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222

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	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469

3.5 Paving - 2016**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222
Total	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222

3.6 Building Construction - 2016**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7468	285.7468	0.0628	0.0000	287.0660
Total	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7468	285.7468	0.0628	0.0000	287.0660

3.6 Building Construction - 2016**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	0.0225	0.1935	0.2710	4.7000e-004	0.0129	2.8500e-003	0.0157	3.6900e-003	2.6200e-003	6.3100e-003	0.0000	42.7179	42.7179	3.3000e-004	0.0000	42.7249
Worker	0.0346	0.0457	0.4354	9.9000e-004	0.0808	6.2000e-004	0.0815	0.0215	5.7000e-004	0.0221	0.0000	75.3289	75.3289	3.9800e-003	0.0000	75.4125
Total	0.0571	0.2391	0.7064	1.4600e-003	0.0937	3.4700e-003	0.0972	0.0252	3.1900e-003	0.0284	0.0000	118.0468	118.0468	4.3100e-003	0.0000	118.1374

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	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7464	285.7464	0.0628	0.0000	287.0657
Total	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7464	285.7464	0.0628	0.0000	287.0657

3.6 Building Construction - 2016**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	0.0225	0.1935	0.2710	4.7000e-004	0.0129	2.8500e-003	0.0157	3.6900e-003	2.6200e-003	6.3100e-003	0.0000	42.7179	42.7179	3.3000e-004	0.0000	42.7249
Worker	0.0346	0.0457	0.4354	9.9000e-004	0.0808	6.2000e-004	0.0815	0.0215	5.7000e-004	0.0221	0.0000	75.3289	75.3289	3.9800e-003	0.0000	75.4125
Total	0.0571	0.2391	0.7064	1.4600e-003	0.0937	3.4700e-003	0.0972	0.0252	3.1900e-003	0.0284	0.0000	118.0468	118.0468	4.3100e-003	0.0000	118.1374

3.6 Building Construction - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8012	218.8012	0.0470	0.0000	219.7877
Total	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8012	218.8012	0.0470	0.0000	219.7877

3.6 Building Construction - 2017**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	0.0159	0.1335	0.1977	3.6000e-004	9.9500e-003	1.9100e-003	0.0119	2.8500e-003	1.7600e-003	4.6000e-003	0.0000	32.4301	32.4301	2.4000e-004	0.0000	32.4352
Worker	0.0242	0.0321	0.3030	7.7000e-004	0.0624	4.6000e-004	0.0629	0.0166	4.3000e-004	0.0170	0.0000	55.9231	55.9231	2.8400e-003	0.0000	55.9828
Total	0.0401	0.1656	0.5008	1.1300e-003	0.0724	2.3700e-003	0.0748	0.0194	2.1900e-003	0.0216	0.0000	88.3532	88.3532	3.0800e-003	0.0000	88.4180

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	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8010	218.8010	0.0470	0.0000	219.7874
Total	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8010	218.8010	0.0470	0.0000	219.7874

3.6 Building Construction - 2017**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	0.0159	0.1335	0.1977	3.6000e-004	9.9500e-003	1.9100e-003	0.0119	2.8500e-003	1.7600e-003	4.6000e-003	0.0000	32.4301	32.4301	2.4000e-004	0.0000	32.4352
Worker	0.0242	0.0321	0.3030	7.7000e-004	0.0624	4.6000e-004	0.0629	0.0166	4.3000e-004	0.0170	0.0000	55.9231	55.9231	2.8400e-003	0.0000	55.9828
Total	0.0401	0.1656	0.5008	1.1300e-003	0.0724	2.3700e-003	0.0748	0.0194	2.1900e-003	0.0216	0.0000	88.3532	88.3532	3.0800e-003	0.0000	88.4180

3.7 Architectural Coating - 2017**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5465					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0143	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033
Total	2.5607	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033

3.7 Architectural Coating - 2017**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037
Total	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037

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	2.5465					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0143	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033
Total	2.5607	0.0940	0.0803	1.3000e-004		7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033

3.7 Architectural Coating - 2017**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037
Total	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.5311	1.1186	5.3121	0.0143	0.9785	0.0164	0.9949	0.2617	0.0152	0.2769	0.0000	989.1839	989.1839	0.0385	0.0000	989.9914
Unmitigated	0.5473	1.2067	5.6529	0.0156	1.0725	0.0179	1.0903	0.2868	0.0165	0.3033	0.0000	1,081.1932	1,081.1932	0.0418	0.0000	1,082.0700

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	30.60	30.60	30.60	65,326	59,603
Condo/Townhouse	976.00	976.00	976.00	2,786,776	2,542,637
Total	1,006.60	1,006.60	1,006.60	2,852,103	2,602,241

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	183.2891	183.2891	7.3800e-003	1.5300e-003	183.9172
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	189.0935	189.0935	7.6100e-003	1.5700e-003	189.7415
NaturalGas Mitigated	6.7100e-003	0.0573	0.0244	3.7000e-004		4.6300e-003	4.6300e-003		4.6300e-003	4.6300e-003	0.0000	66.3704	66.3704	1.2700e-003	1.2200e-003	66.7744
NaturalGas Unmitigated	6.7100e-003	0.0573	0.0244	3.7000e-004		4.6300e-003	4.6300e-003		4.6300e-003	4.6300e-003	0.0000	66.3704	66.3704	1.2700e-003	1.2200e-003	66.7744

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	1.24374e+006	6.7100e-003	0.0573	0.0244	3.7000e-004		4.6300e-003	4.6300e-003		4.6300e-003	4.6300e-003	0.0000	66.3704	66.3704	1.2700e-003	1.2200e-003	66.7744
Total		6.7100e-003	0.0573	0.0244	3.7000e-004		4.6300e-003	4.6300e-003		4.6300e-003	4.6300e-003	0.0000	66.3704	66.3704	1.2700e-003	1.2200e-003	66.7744

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	1.24374e+006	6.7100e-003	0.0573	0.0244	3.7000e-004		4.6300e-003	4.6300e-003		4.6300e-003	4.6300e-003	0.0000	66.3704	66.3704	1.2700e-003	1.2200e-003	66.7744
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
Total		6.7100e-003	0.0573	0.0244	3.7000e-004		4.6300e-003	4.6300e-003		4.6300e-003	4.6300e-003	0.0000	66.3704	66.3704	1.2700e-003	1.2200e-003	66.7744

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	58649.2	19.1671	7.7000e-004	1.6000e-004	19.2328
Condo/Townhouse	519957	169.9264	6.8400e-003	1.4200e-003	170.5087
Total		189.0935	7.6100e-003	1.5800e-003	189.7415

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	58649.2	19.1671	7.7000e-004	1.6000e-004	19.2328
Condo/Townhouse	502196	164.1220	6.6100e-003	1.3700e-003	164.6844
Total		183.2891	7.3800e-003	1.5300e-003	183.9172

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.0330	0.0105	0.9094	5.0000e-005		0.0112	0.0112		0.0112	0.0112	0.0000	90.7992	90.7992	3.1500e-003	1.6400e-003	91.3731
Unmitigated	8.9300	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428

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	0.2596					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7368					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.9060	0.1073	9.7394	3.8000e-003		1.3683	1.3683		1.3683	1.3683	130.1527	54.5841	184.7368	0.1201	0.0102	190.4327
Landscaping	0.0277	0.0105	0.9089	5.0000e-005		5.0000e-003	5.0000e-003		5.0000e-003	5.0000e-003	0.0000	1.4797	1.4797	1.4400e-003	0.0000	1.5100
Total	8.9300	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2596					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7368					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	9.0300e-003	0.0000	4.9000e-004	0.0000		6.2400e-003	6.2400e-003		6.1700e-003	6.1700e-003	0.0000	89.3195	89.3195	1.7100e-003	1.6400e-003	89.8631
Landscaping	0.0277	0.0105	0.9089	5.0000e-005		5.0000e-003	5.0000e-003		5.0000e-003	5.0000e-003	0.0000	1.4797	1.4797	1.4400e-003	0.0000	1.5100
Total	1.0330	0.0105	0.9094	5.0000e-005		0.0112	0.0112		0.0112	0.0112	0.0000	90.7992	90.7992	3.1500e-003	1.6400e-003	91.3731

7.0 Water Detail**7.1 Mitigation Measures Water**

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	52.3069	0.2160	5.4600e-003	58.5362
Unmitigated	61.2618	0.2699	6.8000e-003	69.0384

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.35829	4.9317	2.0000e-004	4.0000e-005	4.9486
Condo/Townhouse	8.20941 / 5.1755	56.3300	0.2697	6.7600e-003	64.0898
Total		61.2618	0.2699	6.8000e-003	69.0384

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.27543	4.6309	1.9000e-004	4.0000e-005	4.6468
Condo/Townhouse	6.56753 / 4.85979	47.6760	0.2158	5.4200e-003	53.8895
Total		52.3069	0.2160	5.4600e-003	58.5362

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	8.8392	0.5224	0.0000	19.8093
Unmitigated	11.7857	0.6965	0.0000	26.4124

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.1	0.0203	1.2000e-003	0.0000	0.0455
Condo/Townhouse	57.96	11.7654	0.6953	0.0000	26.3669
Total		11.7857	0.6965	0.0000	26.4124

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.075	0.0152	9.0000e-004	0.0000	0.0341
Condo/Townhouse	43.47	8.8240	0.5215	0.0000	19.7752
Total		8.8392	0.5224	0.0000	19.8093

9.0 Operational Offroad

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

10.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	93.1463	0.0000	0.0000	93.1463

10.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	18.47 / 0	-79.6057	0.0000	0.0000	-79.6057
Total		-79.6057	0.0000	0.0000	-79.6057

10.2 Net New Trees**Species Class**

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	244	172.7520	0.0000	0.0000	172.7520
Total		172.7520	0.0000	0.0000	172.7520

Attachment B: Solar Calculations

Source: <https://eosweb.larc.nasa.gov>

		MODEL ELEVATIONS	
Northern boundary		34	
Western boundary		Center	Eastern boundary
-118		Latitude 33.5	-117
		Longitude -117.5	
Southern boundary		33	

Parameters for Tilted Solar Panels:

Monthly Averaged Radiation Incident On An Equator-Pointed Tilted Surface (kWh/m ² /day)													
Lat 33.36 Lon -117.07	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Average
SSE HRZ	3.05	3.80	5.05	6.38	6.72	6.97	6.97	6.52	5.53	4.26	3.44	2.86	5.13
K	0.56	0.56	0.59	0.63	0.60	0.60	0.61	0.62	0.61	0.58	0.60	0.57	0.59
Diffuse	0.90	1.18	1.48	1.71	2.08	2.19	2.07	1.82	1.54	1.25	0.90	0.80	1.50
Direct	5.09	5.27	6.22	7.29	6.91	7.06	7.25	7.16	6.59	5.75	5.76	5.14	6.30
Tilt 0	3.00	3.77	5.00	6.23	6.69	6.93	6.93	6.49	5.45	4.23	3.37	2.83	5.08
Tilt 18	3.96	4.60	5.63	6.53	6.58	6.67	6.74	6.59	5.95	5.03	4.39	3.85	5.55
Tilt 33	4.52	5.02	5.83	6.39	6.13	6.09	6.20	6.29	6.03	5.40	4.98	4.47	5.61
Tilt 48	4.82	5.17	5.71	5.92	5.38	5.21	5.36	5.67	5.78	5.48	5.28	4.83	5.38
Tilt 90	4.19	4.10	3.86	3.16	2.48	2.25	2.35	2.84	3.60	4.15	4.50	4.34	3.48
OPT	4.87	5.17	5.83	6.53	6.71	6.93	6.94	6.61	6.04	5.49	5.31	4.9	5.95
OPT ANG	57.0	48.0	35.0	20.0	5.00	0.00	2.00	12.0	29.0	44.0	55.0	60.0	36.4

NOTE: Diffuse radiation, direct normal radiation and tilted surface radiation are not calculated when the clearness index (K) is below 0.3 or above 0.8.

[Parameter Definition](#)

$$E \text{ (kWh)} = \#Panels * Panel \text{ Rating} * H * 365days * PR$$

#Panels = 122 Units * 10 Panels Each = 1,222 Panels

Panel Rating in kWp = .300 kWp

H= Annual Average irradiation on tilted panels (kwh/m²/year) = 5.95 (365) = 2,171.75

PR=Performance Ratio (Between .5 and .9) = .80

E=Energy (kWh) = 1,220 panels * .300kwp * 2171.75 (kwh/m²/year) *.80 = 65,888.4 kWh

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	-635888	-207.8138	-0.0084	-0.0017	-208.5259
Total		-207.8138	-0.0084	-0.0017	-208.5259

Sweetwater Village Solar

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2020
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

Project Characteristics - Project would install 1220 Solar Panels 300 Watts Each

Land Use - Rooftop Solar

Construction Phase -

Off-road Equipment -

Off-road Equipment - zero hours

Trips and VMT - zero

Grading -

Architectural Coating -

Vehicle Trips -

Woodstoves - asdf

Area Coating -

Landscape Equipment - zero

Energy Use - E=Energy (kWh) = 6500 * .3 * 2171.75 *.80 = 3,387,930 kWh

Water And Wastewater -

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	0
tblConstructionPhase	PhaseEndDate	12/30/2016	12/31/2016
tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblTripsAndVMT	WorkerTripNumber	3.00	0.00

2.0 Emissions Summary

Unmitigated Construction

[illegible]

Mitigated Construction

[illegible][illegible]

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	-207.8138	-207.8138	-0.0084	-0.0017	-208.5259
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-207.8138	-207.8138	-0.0084	-0.0017	-208.5259

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,039,068,850.00	1,039,068,850.00	0.00	0.00	1,042,629,600.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	12/30/2016	12/31/2016	5	1	

Acres of Grading (Site Preparation Phase): 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	0.00	174	0.41

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2016

Unmitigated Construction On-Site

[illegible]

[illegible]

Mitigated Construction Off-Site

[illegible]

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

[illegible]

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

[illegible]

5.2 Energy by Land Use - NaturalGas

Unmitigated

[illegible]

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	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			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	-635888	-207.8138	-0.0084	-0.0017	-208.5259
Total		-207.8138	-0.0084	-0.0017	-208.5259

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	0.0000	0.0000	0.0000	0.0000
Mitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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

**CASH FARES / Tarifas en efectivo**

Exact fare, please / Favor de pagar la cantidad exacta

Day Pass (Regional) / Pase diario (Regional)	\$5.00
One-Way Fare / Tarifa de una dirección	\$2.25
Senior (60+)/Disabled/Medicare Mayores de 60 años/Discapacitados/Medicare	\$1.10*
Children 5 & under / Niños de 5 años o menos Up to two children ride free per paying adult / Máximo dos niños viajan gratis por cada adulto	FREE / GRATIS

MONTHLY PASSES / Pases mensual

Adult / Adulto	\$72.00
Senior (60+)/Disabled/Medicare Mayores de 60 años/Discapacitados/Medicare	\$18.00*
Youths (18 and under) Jóvenes (18 años o menos)	\$36.00*

*I.D. required for discount fare or pass.

*Se requiere identificación para tarifas o pases de descuento.

DAY PASS (REGIONAL) / Pase diario (Regional)

Valid for unlimited travel for one person on Trolley, most MTS buses, NCTD BREEZE and SPRINTER. Valid for a discount on COASTER fares. Not valid on Premium Express, Rural, Access, or special service buses.

Válidos para viajes ilimitados de una sola persona para: el Trolley, la mayoría de los autobuses de MTS, y los servicios del NCTD de BREEZE y SPRINTER. Válidos para acceder a descuentos en el COASTER, pero no para las rutas Premium Express, rurales, Access, ni los servicios especiales.

DIRECTORY / Directorio

Regional Transit Information Información de transporte público regional	511 or/ó (619) 233-3004
TTY/TDD (teletype for hearing impaired) Teletipo para sordos	(619) 234-5005 or/ó (888) 722-4889
InfoExpress (24-hour info via Touch-Tone phone) Información las 24 horas (via teléfono de teclas)	(619) 685-4900
Customer Service / Suggestions Servicio al cliente / Sugerencias	(619) 557-4555
SafeWatch	(619) 557-4500
Lost & Found Objetos extraviados	Weekday Saturday Sunday (619) 448-2720 or/ó (800) 409-3310 (877) 841-3278

The Transit Store1st & Broadway, Downtown San Diego
M-F 9am-5pmFor MTS online trip planning
Planificación de viajes por Internetwww.sdmmts.comFor more information on riding MTS services, pick up a Rider's Guide on a bus or at The Transit Store, or visit www.sdmmts.com.
Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en The Transit Store, o visita a www.sdmmts.com.

Thank you for riding MTS! ¡Gracias por viajar con MTS!

855**Spring St. Trolley – Rancho San Diego**
via Campo Rd.**DESTINATIONS**

- Campo Road
- Casa de Oro Plaza
- Monte Vista High School
- Sweetwater Springs Bl.

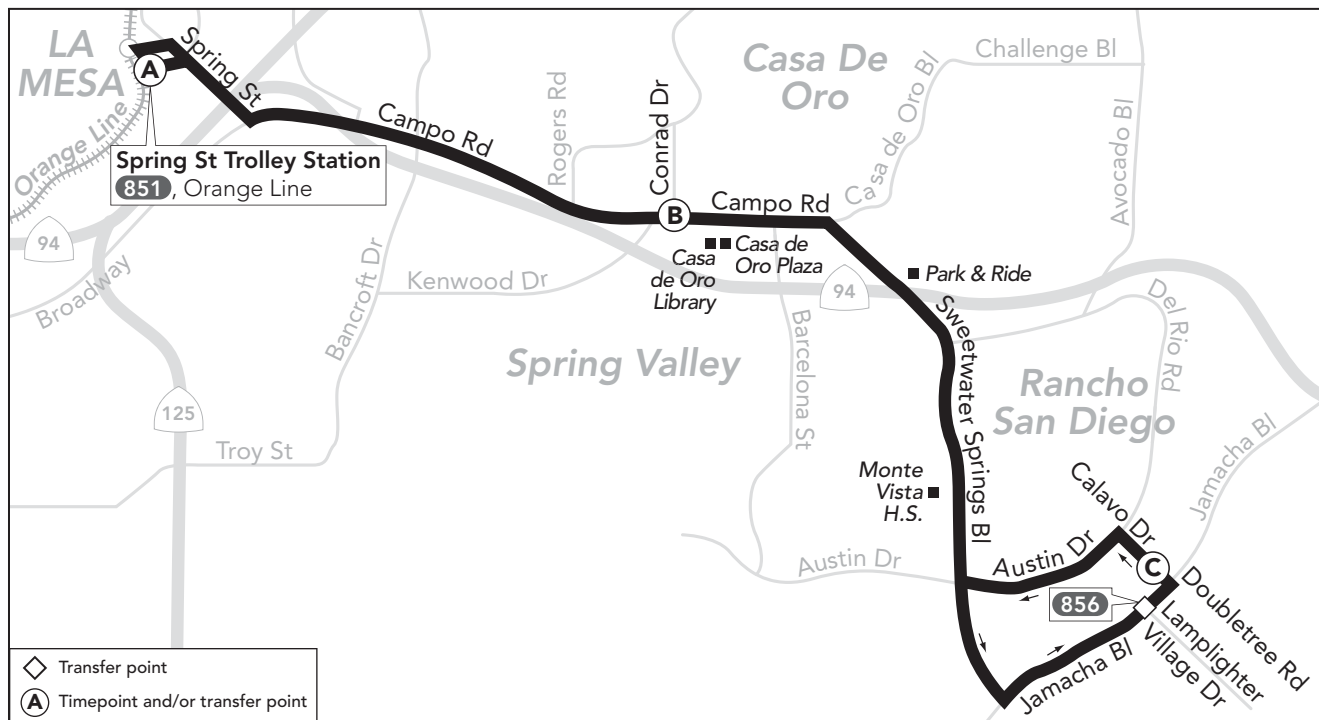


TROLLEY CONNECTIONS

Spring St.

**Plan your trip!**

- On the web**
Visit www.sdmmts.com and click on Travel Planner
- On the phone**
Dial 511 and say "public transportation"
- On the go**
Use the Google Maps app on your smartphone



Alternative formats available upon request. Please call: (619) 557-4555 / Formato alternativo disponible al preguntar. Favor de llamar: (619) 557-4555

Route 855 – Monday through Friday / lunes a viernes

Spring St. Trolley ➡ Rancho San Diego

(A) Spring St. Trolley Station DEPART	(B) Campo Rd. & Conrad Dr.	(C) Calavo/Doubletree & Jamacha Bl. ARRIVE
—	—	—
—	—	—
—	—	—
6:05a	6:14a	6:26a
6:35	6:44	6:56
7:05	7:14	7:26
7:35	7:44	7:56
8:05	8:14	8:26
8:35	8:44	8:56
9:05	9:13	9:23
9:35	9:43	9:53
10:05	10:13	10:23
10:35	10:43	10:53
11:05	11:13	11:23
11:35	11:43	11:53
12:05p	12:13p	12:23p
12:35	12:43	12:53
1:05	1:13	1:23
1:35	1:44	1:56
2:05	2:14	2:26
2:35	2:44	2:56
3:05	3:14	3:26
3:35	3:44	3:56
4:05	4:14	4:26
4:35	4:44	4:56
5:05	5:14	5:26
5:35	5:44	5:56
6:05	6:14	6:26
6:35	6:44	6:56
7:35	7:43	7:53
8:36	8:44	8:54
9:36	9:44	9:54
10:36	10:44	10:54

Rancho San Diego ➡ Spring St. Trolley

(C) Calavo/Doubletree & Jamacha Bl. DEPART	(B) Campo Rd. & Conrad Dr.	(A) Spring St. Trolley Station ARRIVE
5:05a	5:14a	5:24a
5:35	5:44	5:54
6:05	6:14	6:24
6:35	6:44	6:54
7:04	7:14	7:24
7:34	7:44	7:54
8:04	8:14	8:24
8:34	8:44	8:54
9:06	9:15	9:24
9:36	9:45	9:54
10:06	10:15	10:24
10:36	10:45	10:54
11:06	11:15	11:24
11:36	11:45	11:54
12:06p	12:15p	12:24p
12:36	12:45	12:54
1:06	1:15	1:24
1:33	1:43	1:54
2:03	2:13	2:24
2:33	2:43	2:54
3:03	3:13	3:24
3:33	3:43	3:54
4:03	4:13	4:24
4:33	4:43	4:54
5:03	5:13	5:24
5:33	5:43	5:54
6:03	6:13	6:24
—	—	—
7:03	7:13	7:24
8:05	8:14	8:24
9:05	9:14	9:24
10:05	10:14	10:24
—	—	—

Route 855 – Saturday / sábado

Spring St. Trolley ➡ Rancho San Diego

(A) Spring St. Trolley Station DEPART	(B) Campo Rd. & Conrad Dr.	(C) Calavo/Doubletree & Jamacha Bl. ARRIVE
—	—	—
7:05a	7:12a	7:21a
8:05	8:12	8:21
9:05	9:13	9:23
10:05	10:13	10:23
11:05	11:13	11:23
12:05p	12:13p	12:23p
1:05	1:13	1:23
2:05	2:13	2:23
3:05	3:13	3:23
4:05	4:13	4:23
5:05	5:13	5:23
6:05	6:13	6:23
7:05	7:13	7:23
8:05	8:12	8:21
9:05	9:12	9:21

Rancho San Diego ➡ Spring St. Trolley

(C) Calavo/Doubletree & Jamacha Bl. DEPART	(B) Campo Rd. & Conrad Dr.	(A) Spring St. Trolley Station ARRIVE
6:38a	6:47a	6:55a
7:38	7:47	7:55
8:38	8:47	8:55
9:38	9:47	9:56
10:38	10:47	10:56
11:38	11:47	11:56
12:38p	12:47p	12:56p
1:38	1:47	1:56
2:38	2:47	2:56
3:38	3:47	3:56
4:38	4:47	4:56
5:38	5:47	5:56
6:38	6:47	6:56
7:38	7:46	7:54
8:38	8:46	8:54
—	—	—

Route 855 – Sunday / domingo

Spring St. Trolley ➡ Rancho San Diego

(A) Spring St. Trolley Station DEPART	(B) Campo Rd. & Conrad Dr.	(C) Calavo/Doubletree & Jamacha Bl. ARRIVE
—	—	—
7:36a	7:43a	7:52a
8:36	8:43	8:52
9:36	9:44	9:54
10:34	10:42	10:52
11:19	11:27	11:37
12:04p	12:12p	12:22p
12:49	12:57	1:07
1:34	1:42	1:52
2:19	2:27	2:37
3:04	3:12	3:22
3:49	3:57	4:07
4:34	4:42	4:52
5:19	5:27	5:37

Rancho San Diego ➡ Spring St. Trolley

(C) Calavo/Doubletree & Jamacha Bl. DEPART	(B) Campo Rd. & Conrad Dr.	(A) Spring St. Trolley Station ARRIVE
7:07a	7:16a	7:24a
8:07	8:16	8:24
9:06	9:15	9:24
10:06	10:15	10:24
10:53	11:02	11:11
11:38	11:47	11:56
12:23p	12:32p	12:41p
1:08	1:17	1:26
1:53	2:02	2:11
2:38	2:47	2:56
3:23	3:32	3:41
4:08	4:17	4:26
4:53	5:02	5:11
5:38	5:47	5:56

The schedules and other information shown in this timetable are subject to change. MTS does not assume responsibility for errors in timetables nor for any inconvenience caused by delayed buses.

Los horarios e información que se indican en este itinerario están sujetos a cambios. MTS no asume responsabilidad por errores en los itinerarios, ni por ningún perjuicio que se origine por los autobuses demorados.

A Saturday or Sunday schedule will be operated on the following holidays and observed holidays
Se operará con horario de sábado o domingo durante los siguientes días festivos y feriados observados

>>>

New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas

CASH FARES / Tarifas de efectivo

Exact fare, please / Favor de pagar la cantidad exacta	
Day Pass (Regional) / Pase diario (Regional) Compass Card required (\$2) / Se requiere un Compass Card (\$2)	\$5.00
One-Way Fare / Tarifa de una direcccion	\$2.25
Senior (60+)/Disabled/Medicare Mayores de 60 años/Discapacitados/Medicare	\$1.10*
Children 5 & under / Niños de 5 años o menos	FREE / GRATIS Up to two children ride free per paying adult / Máximo dos niños viajan gratis por cada adulto
MONTHLY PASSES / Pases mensual	
Adult / Adulto	\$72.00
Senior (60+)/Disabled/Medicare Mayores de 60 años/Discapacitados/Medicare	\$18.00*
Youths (18 and under) Jóvenes (18 años o menos)	\$36.00*

*I.D. required for discount fare or pass.

*Se requiere identificación para tarifas o pases de descuento.

DAY PASS (REGIONAL) / Pase diario (Regional)

All passes are sold on Compass Card, which can be reloaded and reused for up to five years. Compass Cards are available for \$2 at select outlets. A \$5 Day Pass requires a Compass Card. A paper Day Pass can be purchased on board buses for an additional \$2 fee.

Todos los pases se venden en el Compass Card, el cual puede ser recargado y reutilizado por hasta cinco años. Compass Cards están disponibles por \$2 en selectas sucursales. Un pase de un día por \$5 requiere un Compass Card. Un pase de un día de papel se puede obtener a bordo los autobuses por un costo adicional de \$2.

DIRECTORY / Directorio

Regional Transit Information Información de transporte público regional	511 (619) 233-3004
TTY/TDD (teletype for hearing impaired) Teletipo para sordos	(619) 234-5005 (888) 722-4889
InfoExpress (24-hour info via Touch-Tone phone) Información las 24 horas (vía teléfono de teclas)	(619) 685-4900
Customer Service / Suggestions Servicio al cliente / Sugerencias	(619) 557-4555
SafeWatch	(619) 557-4500
Lost & Found Objetos extraviados	Mon - Sat (619) 448-2720 or/ó (800) 858-0291 Sunday (877) 841-3278

Transit Store 12th & Imperial Transit Center
Downtown San Diego
M-F 9am-5pm

For MTS online trip planning
Planificación de viajes por Internet
sdmts.com

For more information on riding MTS services, pick up a Rider's Guide on a bus or at the Transit Store, or visit sdmts.com.
Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en la Transit Store, o visita a sdmts.com.

Thank you for riding MTS! ¡Gracias por viajar con MTS!

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SDSU – Rancho SD /
Cuyamaca College

via College Grove /
Spring Valley

DESTINATIONS

- College Grove Center
- Cuyamaca College
- Lemon Grove Depot
- Rancho San Diego Village
- SDSU
- Spring Valley
- Spring Valley Swap Meet

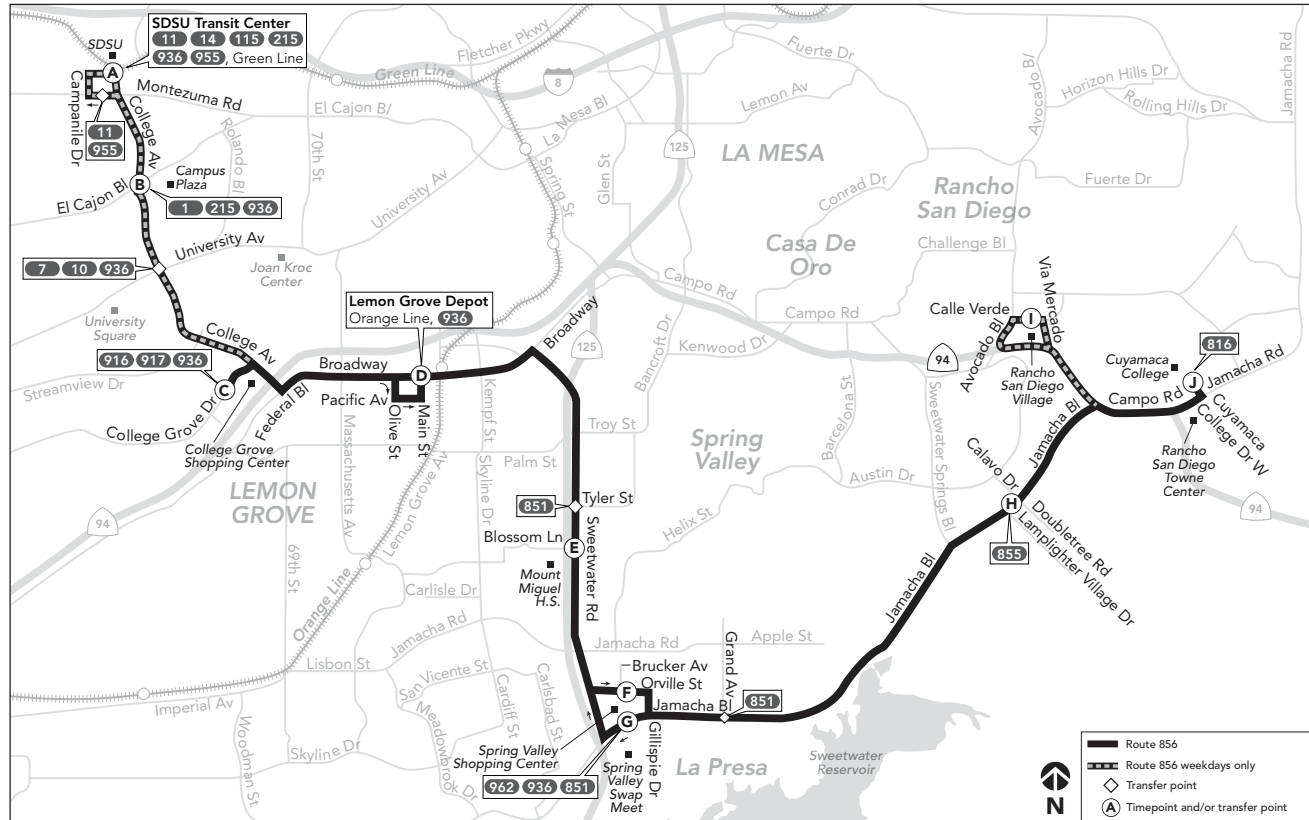


SDSU
Lemon Grove



09/16

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Plan your trip!**On the web**

Visit sdmts.com and click on *Trip Planner*

**On the phone**

Dial 511 and say "public transportation"

**On the go**

Visit sdmts.com/onthego to find smartphone apps

**compass card****S/D/M and Youth Compass Card**

All riders using reduced fares must comply with one of the following options:

Option 1 (Recommended by MTS)

MTS offers a picture ID on a Compass Card to eliminate the need to carry multiple identifications for proof of eligibility.

Option 2

Riders using a standard S/D/M or Youth Compass Card or a one-way ticket must carry supporting identification to prove eligibility.

For additional benefits of **Option 1** and/or list of valid forms of ID for **Option 2** go to: www.sdmts.com/fares_discounted.asp.



Route 856 – Monday through Friday / lunes a viernes**Rancho San Diego ➡ Spring Valley ➡ Lemon Grove ➡ SDSU**

(J) Cuyamaca College DEPART	(I) Rancho San Diego Village	(H) Jamacha Bl. & Doubletree Rd.	(G) Spring Valley Shopping Center	(E) Sweetwater & Blossom Ln.	(D) Lemon Grove Depot (Broadway)	(C) College Grove Center	(B) College Av. & El Cajon Bl.	(A) SDSU T.C. ARRIVE
–	4:29a	4:34a	4:44a	4:49a	5:00a	5:09a	5:16a	5:22a
–	4:59	5:04	5:14	5:19	5:30	5:39	5:46	5:52
–	5:29	5:34	5:44	5:49	6:00	6:09	6:16	6:22
5:51a	5:58	6:03	6:13	6:18	6:30	6:39	6:46	6:53
–	6:26	6:31	6:42	6:48	7:00	7:10	7:17	7:24
6:46	6:53	6:58	7:09	7:15	7:28	7:39	7:48	7:56
7:15	7:22	7:27	7:39	7:45	7:58	8:09	8:18	8:26
7:45	7:52	7:57	8:09	8:15	8:28	8:39	8:48	8:56
8:15	8:22	8:27	8:39	8:45	8:58	9:09	9:18	9:26
8:47	8:54	8:59	9:10	9:16	9:29	9:40	9:48	9:55
9:17	9:24	9:29	9:40	9:46	9:59	10:10	10:18	10:25
9:47	9:54	9:59	10:10	10:16	10:29	10:40	10:48	10:55
10:17	10:24	10:29	10:40	10:46	10:59	11:10	11:18	11:25
10:46	10:53	10:58	11:09	11:15	11:28	11:39	11:47	11:54
11:16	11:23	11:28	11:39	11:45	11:58	12:09p	12:17p	12:24p
11:46	11:53	11:58	12:09p	12:15p	12:28p	12:40	12:48	12:56
12:14p	12:22p	12:27p	12:38	12:44	12:58	1:10	1:18	1:26
12:44	12:52	12:57	1:08	1:14	1:28	1:40	1:48	1:56
1:14	1:22	1:27	1:38	1:44	1:58	2:10	2:18	2:26
1:44	1:52	1:57	2:08	2:14	2:28	2:40	2:48	2:56
2:12	2:20	2:26	2:38	2:44	2:58	3:10	3:18	3:26
2:42	2:50	2:56	3:08	3:14	3:28	3:40	3:48	3:56
3:12	3:20	3:26	3:38	3:44	3:58	4:10	4:18	4:26
3:42	3:50	3:56	4:08	4:14	4:28	4:40	4:48	4:56
4:12	4:20	4:26	4:38	4:44	4:58	5:10	5:18	5:26
4:44	4:52	4:58	5:09	5:15	5:28	5:40	5:48	5:56
5:14	5:22	5:28	5:39	5:45	5:58	6:10	6:18	6:26
5:46	5:54	5:59	6:10	6:16	6:29	6:40	6:48	6:55
6:18	6:26	6:31	6:41	6:47	6:59	7:10	7:18	7:25
6:58	7:06	7:11	7:21	7:26	7:38	7:48	7:55	8:02
8:03	8:10	8:15	8:25	8:30	8:40	8:50	8:57	9:04
9:03	9:10	9:15	9:25	9:30	9:40	9:49	9:56	10:02

SDSU ➡ Lemon Grove ➡ Spring Valley ➡ Rancho San Diego

(A) SDSU T.C. DEPART	(B) College Av. & El Cajon Bl.	(C) College Grove Center	(D) Lemon Grove Depot (Main St.)	(E) Sweetwater & Blossom Ln.	(F) Orville St. & Brucker Av.	(H) Jamacha Bl. & Doubletree Rd.	(I) Rancho San Diego Village	(J) Cuyamaca College ARRIVE
5:37a	5:41a	5:49a	6:00a	6:07a	6:12a	6:22a	6:27a	6:35a
6:07	6:11	6:19	6:30	6:37	6:42	6:53	6:59	7:07
6:35	6:39	6:48	6:59	7:06	7:11	7:23	7:29	7:37
7:04	7:08	7:17	7:28	7:36	7:41	7:53	7:59	8:08
7:34	7:38	7:47	7:59	8:07	8:12	8:24	8:30	8:39
8:05	8:09	8:18	8:30	8:38	8:43	8:54	9:00	9:09
8:35	8:39	8:48	9:00	9:08	9:13	9:24	9:30	9:39
9:05	9:09	9:18	9:30	9:38	9:43	9:54	10:00	10:09
9:34	9:38	9:48	10:01	10:09	10:14	10:25	10:31	10:40
10:04	10:08	10:18	10:31	10:39	10:44	10:55	11:01	11:10
10:34	10:38	10:48	11:01	11:09	11:14	11:25	11:31	11:40
11:03	11:08	11:18	11:32	11:40	11:45	11:56	12:02p	12:11p
11:33	11:38	11:48	12:02p	12:10p	12:15p	12:26p	12:32	12:41
12:03p	12:08p	12:18p	12:32	12:40	12:45	12:56	1:02	1:11
12:33	12:38	12:48	1:02	1:10	1:15	1:26	1:32	1:41
1:04	1:09	1:19	1:33	1:41	1:46	1:57	2:03	2:12
1:34	1:39	1:49	2:03	2:11	2:16	2:27	2:33	2:42
2:04	2:09	2:19	2:33	2:41	2:46	2:57	3:03	3:12
2:34	2:39	2:49	3:03	3:12	3:17	3:29	3:35	3:45
3:04	3:09	3:19	3:33	3:42	3:47	3:59	4:05	4:15
3:34	3:39	3:49	4:03	4:12	4:17	4:29	4:35	4:45
4:04	4:09	4:19	4:33	4:42	4:47	4:59	5:05	5:15
4:34	4:39	4:49	5:03	5:12	5:17	5:29	5:35	5:45
5:04	5:09	5:19	5:33	5:42	5:47	5:59	6:05	6:15
5:34	5:39	5:49	6:03	6:11	6:16	6:28	6:34	6:43
6:04	6:09	6:19	6:32	6:40	6:44	6:55	7:01	7:10
6:34	6:39	6:49	7:02	7:10	7:14	7:25	7:31	7:40
7:04	7:09	7:19	7:31	7:39	7:43	7:54	7:59	8:08
8:05	8:09	8:18	8:30	8:38	8:42	8:53	8:58	9:07
9:22	9:26	9:34	9:45	9:52	9:56	10:06	10:11	–
10:22	10:26	10:34	10:45	10:52	10:56	11:06	11:11	–

Route 856 – Saturday / sábado**Rancho San Diego ➡ Spring Valley ➡ Lemon Grove ➡ SDSU**

(J) Cuyamaca College DEPART	(I) Rancho San Diego Village	(H) Jamacha Bl. & Doubletree Rd.	(G) Spring Valley Shopping Center	(E) Sweetwater & Blossom Ln.	(D) Lemon Grove Depot (Broadway)	(C) College Grove Center	(B) College Av. & El Cajon Bl.	(A) SDSU T.C. ARRIVE
A 5:26a	–	5:34a	5:44a	5:49a	6:00a	6:09a	–	–
A 6:26	–	6:34	6:44	6:49	7:00	7:09	–	–
A 7:40	–	7:48	7:59	8:04	8:15	8:25	–	–
A 8:40	–	8:48	8:59	9:04	9:15	9:25	–	–
A 9:36	–	9:44	9:56	10:01	10:13	10:24	–	–
A 10:36	–	10:44	10:56	11:01	11:13	11:24	–	–
A 11:36	–	11:44	11:56	12:01p	12:13p	12:24p	–	–
A 12:36p	–	12:44p	12:56p	1:01	1:13	1:25	–	–
A 1:36	–	1:44	1:56	2:01	2:13	2:25	–	–
A 2:36	–	2:44	2:56	3:01	3:13	3:25	–	–
A 3:36	–	3:44	3:56	4:01	4:13	4:25	–	–
A 4:37	–	4:45	4:56	5:01	5:13	5:25	–	–
A 5:37	–	5:45	5:56	6:01	6:13	6:24	–	–
A 6:40	–	6:48	6:58	7:03	7:14	7:24	–	–
A 7:41	–	7:49	7:59	8:04	8:15	8:25	–	–
A 8:42	–	8:50	9:00	9:05	9:15	9:24	–	–

SDSU ➡ Lemon Grove ➡ Spring Valley ➡ Rancho San Diego

(A) SDSU T.C. DEPART	(B) College Av. & El Cajon Bl.	(C) College Grove Center	(D) Lemon Grove Depot (Main St.)	(E) Sweetwater & Blossom Ln.	(F) Orville St. & Brucker Av.	(H) Jamacha Bl. & Doubletree Rd.	(I) Rancho San Diego Village	(J) Cuyamaca College ARRIVE
–	–	A 6:34a	6:45a	6:52a	6:57a	7:07a	–	7:14a
–	–	A 7:34	7:45	7:52	7:57	8:08	–	8:15
–	–	A 8:33	8:46	8:53	8:58	9:09	–	9:16
–	–	A 9:33	9:46	9:53	9:58	10:09	–	10:16
–	–	A 10:32	10:46	10:53	10:58	11:09	–	11:17
–	–	A 11:32	11:46	11:53	11:58	12:09p	–	12:17p
–	–	A 12:32p	12:46p	12:53p	12:58p	1:09	–	1:17
–	–	A 1:33	1:47	1:54	1:59	2:10	–	2:18
–	–	A 2:33	2:47	2:54	2:59	3:10	–	3:18
–	–	A 3:33	3:47	3:54	3:59	4:10	–	4:18
–	–	A 4:33	4:47	4:54	4:59	5:10	–	5:18
–	–	A 5:33	5:46	5:53	5:58	6:09	–	6:17
–	–	A 6:32	6:45	6:52	6:57	7:08	–	7:15
–	–	A 7:32	7:45	7:52	7:57	8:08	–	8:15
–	–	8:33	8:45	8:52	8:57	9:08	–	–
–	–	9:34	9:45	9:52	9:56	10:06	–	–

Route 856 – Sunday / domingo**Rancho San Diego ➡ Spring Valley ➡ Lemon Grove ➡ SDSU**

(J) Cuyamaca College DEPART	(I) Rancho San Diego Village	(H) Jamacha Bl. & Doubletree Rd.	(G) Spring Valley Shopping Center	(E) Sweetwater & Blossom Ln.	(D) Lemon Grove Depot (Broadway)	(C) College Grove Center	(B) College Av. & El Cajon Bl.	(A) SDSU T.C. ARRIVE
A 6:26a	–	6:34a	6:44a	6:49a	7:00a	7:09a	–	–
A 7:40	–	7:48	7:59	8:04	8:15	8:25	–	–
A 8:40	–	8:48	8:59	9:04	9:15	9:25	–	–
A 9:36	–	9:44	9:56	10:01	10:13	10:24	–	–
A 10:36	–	10:44	10:56	11:01	11:13	11:24	–	–
A 11:36	–	11:44	11:56	12:01p	12:13p	12:24p	–	–
A 12:36p	–	12:44p	12:56p	1:01	1:13	1:25	–	–
A 1:36	–	1:44	1:56	2:01	2:13	2:25	–	–
A 2:36	–	2:44	2:56	3:01	3:13	3:25	–	–
A 3:36	–	3:44	3:56	4:01	4:13	4:25	–	–
A 4:37	–	4:45	4:56	5:01	5:13	5:25	–	–
A 5:37	–	5:45	5:56	6:01	6:13	6:24	–	–

SDSU ➡ Lemon Grove ➡ Spring Valley ➡ Rancho San Diego

(A) SDSU T.C. DEPART	(B) College Av. & El Cajon Bl.	(C) College Grove Center	(D) Lemon Grove Depot (Main St.)	(E) Sweetwater & Blossom Ln.	(F) Orville St. & Brucker Av.	(H) Jamacha Bl. & Doubletree Rd.	(I) Rancho San Diego Village	(J) Cuyamaca College ARRIVE
–	–	A 7:33a	7:45a	7:52a	7:57a	8:08a	–	8:15a
–	–	A 8:33	8:46	8:53	8:58	9:09	–	9:16
–	–	A 9:33	9:46	9:53	9:58	10:09	–	10:16
–	–	A 10:32	10:46	10:53	10:58	11:09	–	11:17
–	–	A 11:32	11:46	11:53	11:58	12:09p	–	12:17p
–	–	A 12:32p	12:46p	12:53p	12:58p	1:09	–	1:17
–	–	A 1:33	1:47	1:54	1:59	2:10	–	2:18
–	–	A 2:33	2:47	2:54	2:59	3:10	–	3:18
–	–	A 3:33	3:47	3:54	3:59	4:10	–	4:18
–	–	A 4:33	4:47	4:54	4:59	5:10	–	5:18
–	–	A 5:32	5:46	5:53	5:58	6:09	–	6:17
–	–	A 6:32	6:45	6:52	6:57	7:08	–	7:15

A = Route 856A does not serve Rancho San Diego Village en route to/from Cuyamaca College / Ruta 856A no ofrece servicio a Rancho San Diego Village en camino hacia y desde Cuyamaca College

A Saturday or Sunday schedule will be operated on the following holidays and observed holidays
Se operará con horario de sábado o domingo durante los siguientes días festivos y feriados observados

>>> New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas

ATTACHMENT E

ASSESSMENT OF MITIGATION MEASURES

RECOMMENDED BY THE CALIFORNIA AIR RESOURCES BOARD

TO REDUCE GREENHOUSE GAS EMISSIONS

Appendix B of *The 2017 Climate Change Scoping Plan Update* (January 2017 Draft) is a reference document prepared by the California Air Resources Board (CARB) regarding mitigation measures that could be required of individual projects under the California Environmental Quality Act (CEQA), if feasible, when the local jurisdiction is the lead agency.

CARB states that the appendix “should be viewed as a general reference document;” it “should not be interpreted as official guidance or as dictating requirements.” CARB relatedly notes that “[n]ot all of the listed local measures or CEQA measures listed will be relevant to, or appropriate for, a given area or project. Nothing in the Scoping Plan or this appendix limits the discretion conferred to lead agencies in determining the appropriate level and type of mitigation, so long as their decisions are supportable by evidence in the record as required by CEQA. There is no ‘one size fits all’ solution and different policies will be more suitable in urban and suburban areas versus rural areas, among other considerations.”

The purpose of this attachment is to assess the potential applicability of CARB’s identified mitigation measures to the Project. Where potentially applicable, this attachment then discusses whether the Project implements the identified mitigation measures and/or other comparable strategies designed to reduce greenhouse gas emissions. As illustrated by the tabular analysis that follows, the Project implements a wide range of strategies that will reduce greenhouse gas emissions on the Project site and within the County of San Diego.

**Evaluation of the Project's Utilization of Mitigation Measures
Identified by The California Air Resources Board in Appendix B of the 2017 Scoping Plan Update**

Mitigation Options	Project Evaluation
Construction	
Enforce idling time restrictions for construction vehicles	<i>Consistent.</i> As a matter of regulatory compliance, construction equipment shall be operated in accordance with the California Air Resources Board's (CARB) Airborne Toxic Control Measure (ATCM) that limits diesel-fueled commercial motor vehicle idling. In accordance with the subject ATCM (see Cal. Code Regs., tit. 13, §2485), the drivers of diesel-fueled commercial motor vehicles meeting certain specifications shall not idle the vehicle's primary diesel engine for longer than five minutes at any location. The ATCM requires the owners and motor carriers that own or dispatch such vehicles to ensure compliance with the ATCM requirements. For additional information, please see https://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm.
Require construction vehicles to operate with the highest tier engines commercially available	<i>Consistent.</i> At a minimum all nonroad, diesel engine construction equipment shall comply with United States Environmental Protection Agency – Certified Tier 2 emission standards and include best available control technology devices certified by the California Air Resources Board, except as follows: Require the use of Tier III, or higher, construction equipment whenever available. Also, to the extent practicable and feasible, contractors will be required to implement the following: utilize electricity to power appropriate types and categories of construction equipment (e.g., hand tools), utilize electric and renewable fuel powered construction equipment if commercially available in the San Diego region, and utilize diesel equipment fleets consisting of Tier IV and biodiesel that exceed existing emissions standards if commercially available in the San Diego region. *Modeling was conservatively conducted using Tier II equipment and the use of higher tiered equipment would result in lower emissions.
Divert and recycle construction and demolition waste, and use	<i>Consistent.</i> As a matter of regulatory compliance, the Project

Mitigation Options	Project Evaluation
locally-sourced building materials with a high recycled material content to the greatest extent feasible	would comply with the County of San Diego's ordinance regarding the disposal of construction and demolition debris. The subject ordinance requires that 90% of inert materials and 70% of all other materials associated with construction and demolition activities be recycled. The ordinance also requires the preparation and submittal of a Construction and Demolition Debris Management Plan and a refundable Performance Guarantee prior to building permit issuance. For additional information, please see http://www.sandiegocounty.gov/dpw/recycling/cdhome.html .
Minimize tree removal, and mitigate indirect GHG emissions increases that occur due to vegetation removal, loss of sequestration, and soil disturbance	<i>Consistent.</i> The proposed project will increase the amount of vegetation on the site through landscaping slopes and commons areas per the landscape plans. In order to increase the net number of trees in the county, the Project will plant a minimum of 244 trees within the project site as referenced within the Landscape Plan, which is equivalent to two trees per unit. In addition, the Project will construct a 2.08-acre public park on site.
Utilize existing grid power for electric energy rather than operating temporary gasoline/diesel powered generators	<i>Consistent.</i> To the extent practicable and feasible, electricity will be used to power appropriate types and categories of construction equipment (e.g., hand tools).
Increase use of electric and renewable fuel powered construction equipment and require renewable diesel fuel where commercially available	<i>Consistent.</i> To the extent practicable and feasible, electric and renewable fuel powered construction equipment, biodiesel, will be utilized when commercially available in the San Diego region.
Require diesel equipment fleets to be lower emitting than any current emission standard	<i>Consistent.</i> To the extent practicable and feasible, diesel equipment fleets consisting of Tier IV and biodiesel that exceed existing emissions standards will be utilized when commercially available in the San Diego region.
Operation	
Comply with lead agency's standards for mitigating transportation impacts under SB 743	<i>Not Applicable.</i> The Governor's Office of Planning and Research (OPR) has not yet adopted amendments to the State CEQA

Mitigation Options	Project Evaluation
	Guidelines pursuant to Senate Bill (SB) 743. Additionally, the County of San Diego has not adopted guidelines or guidance regarding the implementation of SB 743 at the jurisdictional level, and its obligation to do so will be triggered upon completion of OPR's amendment process to the State CEQA Guidelines.
Require on-site EV charging capabilities for parking spaces serving the project to meet jurisdiction-wide EV proliferation goals	<i>Consistent.</i> The Project would plumb every residential unit for a Level 2 electric vehicle (EV) charging station, and would install 2 Level 2 charging stations within the common parking areas on-site. The Project also would install one Level 2 charging station at the public park the Project will be providing.
Allow for new construction to install fewer on-site parking spaces than required by local municipal building code, if appropriate ¹ ¹ This is not to be confused with the Americans with Disabilities Act (ADA) requirements or other minimum parking requirements for dedicating space to clean air vehicles and/or EV charging infrastructure.	<i>Not Applicable. Project is meeting the County's parking requirements</i>
Dedicate on-site parking for shared vehicles	<i>Consistent.</i> As a matter of regulatory compliance, the Project would comply with Section 5.106.5.2 of the 2016 California Green Building Standards Code (CALGreen Code), which requires the provision of designated parking for shared vehicles.
Provide adequate, safe, convenient, and secure on-site bicycle parking and storage in multi-family residential projects and in non-residential projects	<i>Consistent.</i> The Project is designed to include bicycle parking facilities and bicycle circulation improvements to encourage the use of bicycles consistent with CAL Green standards.
Provide on- and off-site safety improvements for bike, pedestrian, and transit connections, and/or implement relevant improvements identified in an applicable bicycle and/or pedestrian master plan	<i>Consistent.</i> The Project would provide infrastructure (e.g., designated bike lanes and multi-purpose/multi-use trails) and related amenities for bicyclists and pedestrians that is intended to facilitate the creation of integrated, walkable neighborhood. Additionally, the Project site is serviced by public transit opportunities. The Project will also include frontage improvements to Jamacha Road and Sweetwater Springs that

Mitigation Options	Project Evaluation
	include a painted Class II bike lane along the frontage. Project is also installing a bus stop on Jamacha Road along the project frontage.
Require on-site renewable energy generation	<i>Consistent.</i> The Project's will enhance efficiencies in the building envelopes and the utilization of on-site renewable energy sources (i.e., rooftop solar).
Prohibit wood-burning fireplaces in new development, and require replacement of wood-burning fireplaces for renovations over a certain size developments	<i>Consistent.</i> AIR#1- All fireplaces installed in the Project's residential development areas must be natural gas and non-wood burning fireplaces.
Require cool roofs and "cool parking" that promotes cool surface treatment for new parking facilities as well as existing surface lots undergoing resurfacing	<i>Consistent.</i> The Project's parking facilities will be required to comply with the County's Parking Design Manual that requires parking areas to minimize the heat island effect that results from asphalt and/or large building block surfaces such as parking lots. The Project's parking facilities will achieve cooling benefits through the implementation of cool roof design with special roof tiles and radiant barrier insulation. Additionally, the Project's parking facilities will be required to comply the vegetation requirements of the Parking Design Manual, that are mindful of the need to provide shading and reduce the formation of urban heat islands
Require solar-ready roofs	<i>Consistent.</i> As discussed above, the Project's residential development would utilize rooftop solar to achieve emission reductions.
Require organic collection in new developments	<i>Consistent.</i> The Project will work with the local waste collection services to provide areas for storage and collection of recyclables and yard waste for each residence
Require low-water landscaping in new developments. Require water efficient landscape maintenance to conserve water and reduce landscape waste.	<i>Consistent.</i> The Project's landscape and irrigation plans shall be submitted to the County of San Diego for review and approval prior to the start of construction. Such plans are required to comply with the County's Water Conservation Landscaping Ordinance, the Water Efficient Landscape Design Manual, and other enumerated requirements.

Mitigation Options	Project Evaluation
Achieve Zero Net Energy performance targets prior to dates required by CALGreen	<i>Consistent.</i> The project has incorporated design features that would increase building efficiencies beyond what the current building code requirements by utilizing and applying a number of sustainable building design elements to the project. For example: High-Efficiency HVAC system, Sealed (tight) air ducts that minimize heating and cooling HVAC losses, tankless water heaters, Low E dual pane windows.
Require new construction, including municipal building construction, to achieve third-party green building certifications, such as the GreenPoint Rated program or the LEED rating system	<i>Consistent.</i> Many of the Project's design features are consistent with the types of green building strategies recommended by GreenPoint and LEED.
Require the design of bike lanes to connect to the regional bicycle network	<i>Consistent.</i> The Project includes frontage improvements to Jamacha Road and Sweetwater Springs that include a painted Class II bike lanes along the project's frontage.
Expand urban forestry and green infrastructure in new land development	<i>Consistent.</i> The proposed project will increase the amount of vegetation on the site through landscaping slopes and commons areas per the landscape plans. As discussed above, in order to increase the net number of trees in the county, the Project would include the installation of a minimum of 244 trees within the project site which is equivalent to two trees per unit. In addition, the Project will construct a 2.08-acre public park on site. An 8-foot wide public riding and hiking trail along the northern side of Jamacha Boulevard will be included in the Project, consistent with the County Trails Network (and Spring Valley Community Plan). Additionally, a 10-foot wide (cleared) trail easement is proposed located along the eastern Project boundary (for future construction of a public trail by others);
Require preferential parking spaces for park and ride to incentivize carpooling, vanpooling, commuter bus, electric vehicles, and rail service use	<i>Consistent.</i> As a matter of regulatory compliance, the Project would comply with Section 5.106.5.2 of the 2016 CALGreen Code, which requires the provision of designated parking for shared vehicles and clean air vehicles. The Project would also incentive electric vehicles by plumbing every residential unit for a Level 2 electric vehicle charging station, installing 2 Level 2 charging

Mitigation Options	Project Evaluation
	stations within the common parking areas and one Level 2 charging station at the public park. The project will also enhance transit use by the construction of a bus stop on Jamacha Boulevard, along the project frontage, with access to route 855 providing access to Spring Street trolley station located 4.3 miles away and route 856 which provides access to Rancho San Diego, San Diego State University, and Cuyamaca College. Combined these two routes provide over 64 buses per day.
Require a transportation management plan for specific plans which establishes a numeric target for non-SOV travel and overall VMT	<i>Consistent. Not applicable</i>
Develop a rideshare program targeting commuters to major employment centers	<i>Consistent.</i> Project will work with SANDAG to provide informational materials on rideshare programs like icommute to promote rideshare programs and opportunities.
Require the design of bus stops/shelters/express lanes in new developments to promote the usage of mass-transit	<i>Consistent.</i> The project will construct a bus stop on Jamacha Boulevard, along the project frontage, that will provide access to Route 855, the Spring Street trolley station located 4.3 miles away and Route 856 which covers Rancho San Diego, San Diego State University, and Cuyamaca College. Combined these two routes provide over 64 buses per day.
Require gas outlets in residential backyards for use with outdoor cooking appliances such as gas barbeques if natural gas service is available	<i>Consistent.</i> The Project would provide natural gas outlets in all residential backyards and within the common areas of multi-family development areas.
Require the installation of electrical outlets on the exterior walls of both the front and back of residences to promote the use of electric landscape maintenance equipment	<i>Consistent.</i> The Project would provide electrical outlets in all residential backyards and within the common areas of multi-family development areas.
Require the design of the electric boxes in new residential unit garages to promote electric vehicle usage	<i>Consistent.</i> The Project would plumb a Level 2 EV charging station for every residential unit.
Require electric vehicle charging station (Conductive/inductive) and signage for non-residential developments	<i>Consistent.</i> The Project would install two Level 2 charging stations (and related signage) within the common parking areas of the Project and one Level 2 charging station at the public park.
Provide electric outlets to promote the use of electric landscape	<i>Consistent.</i> The Project would provide electrical outlets in all

Mitigation Options	Project Evaluation
maintenance equipment to the extent feasible on parks and public/quasi-public lands	residential backyards and within the common areas of multi-family development areas.
Require each residential unit to be "solar ready," including installing the appropriate hardware and proper structural engineering	<i>Consistent.</i> As discussed above, the Project's residential development would install rooftop solar on every residence.
Require the installation of energy conserving appliances such as on-demand tank-less water heaters and whole-house fans	<i>Consistent.</i> The Project design features include a number of sustainable building design elements that includes tank-less water heaters.
Require each residential and commercial building equip buildings with energy efficient AC units and heating systems with programmable thermostats/timers	<i>Consistent.</i> The Project design features include a number of sustainable building design elements that includes energy efficient AC units and heating systems with programmable thermostats/timers.
Require large-scale residential developments and commercial buildings to report energy use, and set specific targets for per-capita energy use	<i>Not Applicable.</i>
Require each residential and commercial building to utilize low flow water fixtures such as low flow toilets and faucets	<i>Consistent.</i> As a matter of regulatory compliance, the Project would install low flow water fixtures in the project.
Require the use of energy-efficient lighting for all street, parking, and area lighting	<i>Consistent.</i> As a matter of regulatory compliance, the Project would be required to use energy efficient fixtures and bulbs.
Require the landscaping design for parking lots to utilize tree cover	<i>Consistent.</i> The Project's parking facilities will be required to comply with the County's Parking Design Manual that provides measures that require parking areas to minimize the heat island effect that results from asphalt and/or large building block surfaces such as parking lots. Additionally, the Project's parking facilities will be required to comply the vegetation requirements of the Parking Design Manual, that also provide measures that require shading in order to reduce the formation of urban heat islands.
Incorporate water retention in the design of parking lots and landscaping	<i>Consistent.</i> The Project would install stormwater detention basins, bio-retention areas, permeable pavers and other best management practices described in the Drainage Study

Mitigation Options	Project Evaluation
	(Preliminary CEQA Drainage Study, July 2015 by RBF Consulting) and Major Stormwater Management Plan (Major Stormwater Management Plan and Hydromodification Study (Major SWMP) for Sweetwater Place, July 2015 by RBF Consulting), which will contribute to the proposed project being hydrologically invisible. The project proposes and will be required to implement the site design measures and/or source control BMPs and/or treatment control BMPs to reduce potential pollutants to the maximum extent practicable from entering storm water runoff: Refer also to the County of San Diego Water Conservation in Landscaping Ordinance and the Water Efficient Landscape Design Manual for current information regarding irrigation requirements. Irrigation requirements are provided in Section 86.709 of the Water Conservation in Landscaping Ordinance and Section E of the Landscape Design Manual. a. General Requirements
Require the development project to propose an off-site mitigation project which should generate carbon credits equivalent to the anticipated GHG emission reductions. This would be implemented via an approved protocol for carbon credits from California Air Pollution Control Officers Association (CAPCOA), the California Air Resources Board, or other similar entities determined acceptable by the local air district	<i>Consistent.</i> the Project would purchase and retire carbon offsets per mitigation measure GHG-2 and M-GHG-2. The purchased carbon offsets shall achieve real, permanent, quantifiable, verifiable, and enforceable reductions (Cal. Health & Saf. Code Section 38562(d)(1)) and will need to be issued by: (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.
Require the project to purchase carbon credits from the CAPCOA GHG Reduction Exchange Program, American Carbon Registry (ACR), Climate Action Reserve (CAR) or other similar carbon credit registry determined to be acceptable by the County of San Diego Planning & Development Services.	<i>Consistent.</i> As discussed above, require the Project to purchase carbon offsets in a quantity that is sufficient to reduce the Project's GHG emissions to zero over a 30-year period.
Encourage the applicant to consider generating or purchasing local	<i>Consistent.</i> As discussed above, require the Project to purchase

Mitigation Options	Project Evaluation
and California-only carbon credits as the preferred mechanism to implement its off-site mitigation measure for GHG emissions and that will facilitate the State's efforts in achieving the GHG emission reduction goal	carbon offsets in a quantity that is sufficient to reduce the Project's GHG emissions to zero over a 30-year period. It is anticipated that the Project will utilize a portfolio of carbon offsets that secure reductions in GHG emissions within the State of California, United States and beyond.