

EXHIBIT B



Technical Consultation, Data Analysis and
Litigation Support for the Environment

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

Paul E. Rosenfeld, PhD
(310) 795-2335
prosenfeld@swape.com

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Mitchell M. Tsai
155 South El Molino, Suite 104
Pasadena, CA 91101

Subject: Comments on the Crenshaw Crossing Project (SCH No. 2021060246)

Dear Mr. Tsai,

We have reviewed the June 2021 Sustainable Communities Environmental Assessment ("SCEA") and Initial Study ("IS") for the Crenshaw Crossing Project ("Project") located in the City of Los Angeles ("City"). The Project proposes to demolish an existing 19,000-SF building along with the associated parking lot, and construct 401 dwelling units, encompassing 339,116-SF of residential space, and 40,996-SF of commercial space, as well as 502 parking spaces, on the 4.18-acre site.

Our review concludes that the IS fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An EIR should be prepared to adequately assess and mitigate the potential air quality, health risk, and greenhouse gas impacts that the project may have on the surrounding environment.

Hazards and Hazardous Materials

A Phase II Environmental Site Assessment ("ESA"), provided as Appendix G.2 to the IS, was prepared to assess impacts from the former uses of the East Block of the Project site, which include gasoline service stations, automobile repair, vehicle washing, and commercial laundering. The Phase II ESA found tetrachloroethylene (PCE), a carcinogenic chlorinated solvent, at an elevated concentration on the eastern portion of the East Block. The SCEA concludes:

"This elevated PCE concentration appears to be relatively anomalous and not indicative of any significant soil vapor impacts on the East Site" (p. 4.0-105).

Furthermore, the SCEA states that the Phase II ESA “recommends no further action or investigation regarding the presence of PCE and no further action or investigation regarding the environmental condition of the Project Site” (p. 4.0-105). However, we find this conclusion to be incorrect.

PCE in soil vapor was found at a concentration of 1570 ug/m³ at a depth of 5 feet, which well exceeds the residential screening level of 460 ug/m³ (Appendix G.2, Table 2). The Phase II ESA attributed the PCE detection to a former dry cleaner to the south of Obama Boulevard (p. 7). The finding of PCE should be reviewed by a regulatory agency to ensure that characterization of the contamination is complete and poses no risk to future residents. An EIR should be prepared to demonstrate that the Phase II ESA was submitted to the California Department of Toxic Substances Control (“DTSC”) under the voluntary cleanup program and that the DTSC has reviewed the findings and concurs with the conclusion that no further action is required.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The IS’s air quality analysis relies on emissions calculated with CalEEMod.2016.3.2 (p. 4.0-29).¹ CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act (“CEQA”) requires that such changes be justified by substantial evidence. Once all of the values are inputted into the model, the Project’s construction and operational emissions are calculated, and “output files” are generated. These output files disclose to the reader what parameters are utilized in calculating the Project’s air pollutant emissions and make known which default values are changed as well as provide justification for the values selected.

When reviewing the Project’s CalEEMod output files, provided in the Air Quality Study (“AQ Study”) and the Greenhouse Gas Emission Output Files (“GHG Study”) as Appendix A and Appendix E, respectively, to the IS, we found that several model inputs were not consistent with information disclosed in the IS. As a result, the Project’s construction and operational emissions are underestimated. As a result, an EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction and operation of the Project will have on local and regional air quality.

Failure to Model Parking

Regarding the proposed number of parking spaces on the Project site, the IS states:

“The Project would provide approximately 502 vehicle parking spaces, consisting of 232 spaces on the West Site and 270 spaces on the East Site” (p. 2.0-24).

¹ CAPCOA (November 2017) CalEEMod User’s Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4.

However, review of the CalEEMod output files demonstrates that the “Crenshaw Crossing” model fails to include any amount of parking (see excerpt below) (Appendix A, pp. 32, 62; Appendix F, pp. 2).

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	401.00	Dwelling Unit	3.40	339,116.00	1147
Regional Shopping Center	41.00	1000sqft	0.00	40,996.00	0

This omission presents an issue, as CalEEMod includes 63 different land use types that are each assigned a distinctive set of energy usage emission factors.² Furthermore, the land use size feature is used throughout CalEEMod to determine default variable and emission factors that go into the model’s calculations. The square footage of parking land uses is used for certain calculations such as determining the area to be painted and stripped (i.e., VOC emissions from architectural coatings) and volume to be ventilated (i.e., energy impacts).³ Thus, by failing to include the proposed parking space, the model underestimates the Project’s construction-related and operational emissions and should not be relied upon to determine Project significance.

Failure to Model All Proposed Land Uses

According to the IS, the Project proposes to construct the following land uses (see excerpt below) (p. 2.0-20):

Table 2.0-2 Project Development Summary			
	West Site	East Site	Total
Lot Area	84,250.94	98,188.68	182,439.62
Floor Area			
Residential	196,107	143,009	339,116
Commercial and Community	10,696	30,300	40,996
Total Floor Area	206,803	173,309	380,112
Floor Area Ratio (FAR)	2.45:1	1.77:1	2.08:1
Residential Units			
Studio	78	64	142
1 Bedroom	93	100	193
2 Bedroom	54	12	66
Total – Residential Units	225	176	401
Commercial and Community Uses (sf)			
Community Space	2,650		2,650
Metro Bike Storage	542		542
Grocery Store		22,277	22,277
Retail and Restaurant	7,504	8,023	15,527
Total – Commercial and Community Uses	10,696	30,300	40,996

As demonstrated above, the model should have included 22,277-SF of “Supermarket” and 15,527-SF of “High Turnover (Sit Down Restaurant),” in order to conduct the most conservative analysis. However,

² “CalEEMod User’s Guide, Appendix D.” CAPCOA, September 2016, available at: http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/05_appendix-d2016-3-1.pdf?sfvrsn=2.

³ “CalEEMod User Guide, available at: <http://www.caleemod.com/>, p. 2.

review of the CalEEMod output files demonstrates that the “Crenshaw Crossing” model fails to differentiate between the above-mentioned commercial and community land use types, and includes all 40,996-SF as “Regional Shopping Center” (see excerpt below) (Appendix A, pp. 32, 62; Appendix F, pp. 2).

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	401.00	Dwelling Unit	3.40	339,116.00	1147
Regional Shopping Center	41.00	1000sqft	0.00	40,996.00	0

As you can see in the excerpt above, the model fails to distinguish between the different land use types within the proposed commercial and community uses, such as the proposed grocery store and restaurant space.

These inconsistencies present an issue, as CalEEMod includes 63 different land use types that are each assigned a distinctive set of energy usage emission factors.⁴ Furthermore, each land use type includes a specific trip rate that CalEEMod uses to calculate mobile-source emissions.⁵ Thus, by failing to include all proposed land use types, the model may underestimate the Project’s construction-related and operational emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Individual Construction Phase Lengths

Review of the CalEEMod output files demonstrates that the “Crenshaw Crossing” model includes several changes to the default individual construction phase lengths (see excerpt below) (Appendix A, pp. 34, 35, 64, 65; Appendix F, pp. 4, 5).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	89.00
tblConstructionPhase	NumDays	230.00	429.00
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	8.00	40.00
tblConstructionPhase	NumDays	18.00	75.00

As a result of these changes, the model includes a construction schedule as follows (see excerpt below) (Appendix A, pp. 39, 69; Appendix F, pp. 9):

⁴ “CalEEMod User’s Guide, Appendix D.” CAPCOA, September 2016, available at:

http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/05_appendix-d2016-3-1.pdf?sfvrsn=2.

⁵ CalEEMod User’s Guide, available at: http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01_user-39-s-guide2016-3-1.pdf?sfvrsn=2, p. 14.

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Demolition	Demolition	3/1/2021	4/30/2021	5	45
2	Grading	Grading	5/1/2021	6/25/2021	5	40
3	Building Construction	Building Construction	6/26/2021	2/16/2023	5	429
4	Architectural Coating	Architectural Coating	10/16/2022	2/16/2023	5	89
5	Paving	Paving	2/17/2023	6/1/2023	5	75

As you can see in the excerpts above, the demolition phase length was increased by roughly 125%, from the default value of 20 to 45 days; the grading phase length was increased by roughly 400%, from the default value of 8 to 40 days; the building construction phase length was increased by roughly 87%, from the default value of 230 to 429 days; the architectural coating phase length was increased by roughly 394%, from the default value of 18 to 89 days; and the paving phase length was increased by roughly 316%, from the default value of 18 to 75 days. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.⁶ According to the "User Entered Comments & Non-Default Data" table, the justification provided for this change is: "Based on construction schedule to take place Start of 2nd Quarter 2021 to 2nd Quarter 2023" (Appendix A, pp. 32, 62; Appendix F, pp. 2). Furthermore, regarding the anticipated construction schedule, the IS states:

"Construction of the Project would begin second quarter of 2021 and is expected to be completed by second quarter of 2023. Construction would occur over five phases: (1) demolition; (2) grading; (3) building construction; (4) paving; and (5) architectural coating" (p. 4.0-29).

As demonstrated above, construction is anticipated to begin the second quarter of 2021 and end by the second quarter of 2023. Thus, Project construction is anticipated to last two years. However, these justifications are insufficient, as the IS fails to justify or explain why the individual construction phase lengths were disproportionately altered. Furthermore, the modeled construction schedule lasts 2.25 years, instead of only two years. Thus, the construction schedule included in the model is overestimated.

These unsubstantiated changes present an issue, as the construction emissions are improperly spread out over a longer period of time for some phases, but not others. According to the CalEEMod User's Guide, each construction phase is associated with different emissions activities (see excerpt below).⁷

⁶ CalEEMod User Guide, available at: <http://www.caleemod.com/>, p. 2, 9

⁷ "CalEEMod User's Guide." CAPCOA, November 2017, available at: http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 31.

Demolition involves removing buildings or structures.

Site Preparation involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.

Grading involves the cut and fill of land to ensure that the proper base and slope is created for the foundation.

Building Construction involves the construction of the foundation, structures and buildings.

Architectural Coating involves the application of coatings to both the interior and exterior of buildings or structures, the painting of parking lot or parking garage striping, associated signage and curbs, and the painting of the walls or other components such as stair railings inside parking structures.

Paving involves the laying of concrete or asphalt such as in parking lots, roads, driveways, or sidewalks.

As such, by disproportionately altering individual construction phase lengths without proper justification, the model's calculations are altered and may underestimate emissions. Thus, by including unsubstantiated changes to the default individual construction phase lengths, the model may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Unsubstantiated Changes to Gas Fireplace Values

Review of the CalEEMod output files demonstrates that the "Crenshaw Crossing" model includes several reductions to the default gas fireplace values (see excerpt below) (Appendix A, pp. 35, 65; Appendix F, pp. 5).

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	340.85	0.00
tblFireplaces	NumberNoFireplace	40.10	0.00

As you can see in the excerpt above, the model assumes that the Project would not include any gas fireplaces. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.⁸ According to the "User Entered Comments and Non-Default Data" table, the justification provided for these changes is "No woodstoves, no fireplace" (Appendix A, pp. 32, 62; Appendix F, pp. 2): Furthermore, regarding the use of fireplaces, the IS states:

"The GHG emissions for the Project were calculated using CalEEMod. All fireplaces were assumed to be natural gas burning, based on SCAQMD Rule 445" (IS, pp. 4.0-91).

⁸ CalEEMod User's Guide, available at: : http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 2, 9.

As demonstrated above, the IS correctly states that all fireplaces should be assumed to be natural gas burning due to SCAQMD Rule 445. However, the model fails to include any gas fireplaces. As such, the changes included in the model are inconsistent with the information provided by the IS.

This inconsistency presents an issue, as CalEEMod uses the number of gas fireplaces to calculate the Project's area-source operational emissions.⁹ Thus, by failing to include any gas fireplaces, the model underestimates the Project's area-source operational emissions and should not be relied upon to determine Project significance.

Incorrect Application of Construction-Related Mitigation Measures

Review of the CalEEMod output files demonstrates that the "Crenshaw Crossing" model includes the following construction-related mitigation measures (see excerpt below) (Appendix A, pp. 41, 71; Appendix F, pp. 11):

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.¹⁰ According to the "User Entered Comments and Non-Default Data" table, the justification provided for the inclusion of these measures is: "SCAQMD Fugitive Dust Rule 403" (Appendix A, pp. 33, 63; Appendix F, pp. 3). Furthermore, regarding SCAQMD Rule 403, the IS states:

"The emission calculations assume the use of standard construction practices, such as compliance with SCAQMD Rule 403—Fugitive Dust, which requires all unpaved demolition and construction areas to be wetted at least three times a day during excavation and construction to minimize the generation of fugitive dust" (p. 4.0-29).

However, the inclusion of the above-mentioned construction-related mitigation measures remains unsupported for two reasons.

First, the inclusion of the construction-related mitigation measure, based on the Project's compliance with SCAQMD Rule 403, is unsupported. According to the Association of Environmental Professionals ("AEP") *CEQA Portal Topic Paper* on mitigation measures:

"By definition, mitigation measures are not part of the original project design. Rather, mitigation measures are actions taken by the lead agency to reduce impacts to the environment resulting

⁹ CalEEMod User Guide, available at: <http://www.caleemod.com/>, p. 40.

¹⁰ CalEEMod User Guide, available at: http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 2, 9.

from the original project design. Mitigation measures are identified by the lead agency after the project has undergone environmental review and are above-and-beyond existing laws, regulations, and requirements that would reduce environmental impacts.”¹¹

As you can see in the excerpt above, mitigation measures “are not part of the original project design” and are intended to go “above-and-beyond” existing regulatory requirements. As such, the inclusion of these measures, based on the Project’s vague compliance with SCAQMD Rule 403, is incorrect.

Second, simply because the IS references SCAQMD Rule 403 does not justify the inclusion of the above-mentioned construction-related mitigation measures in the model. Specifically, according to SCAQMD Rule 403, Projects can either water unpaved roads 3 times per day, water unpaved roads 1 time per day and limit vehicle speeds to 15 mph or apply a chemical stabilizer (see excerpt below).¹²

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS
Unpaved Roads	(4a) Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR (4b) Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR (4c) Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.

As you can see in the above excerpt, none of the fugitive dust control actions specified are explicitly required by SCAQMD Rule 403, and should therefore not be included in the model. By incorrectly including several construction-related mitigation measures without properly committing to their implementation, the model underestimates the Project’s construction-related emissions and should not be relied upon to determine Project significance.

Incorrect Application of Operational Mitigation Measures

Review of the CalEEMod output files demonstrates that the “Crenshaw Crossing” model includes the following energy-, area-, water-, and waste-related operational mitigation measures (see excerpts below) (Attachment A, pp. 57, 58, 60, 71, 85, 87, 88, 90; Appendix F, pp. 26, 28, 30 31):

Energy-Related Mitigation Measures:

5.1 Mitigation Measures Energy

Exceed Title 24

¹¹ “CEQA Portal Topic Paper Mitigation Measures.” AEP, February 2020, available at: <https://cegaportal.org/tp/CEQA%20Mitigation%202020.pdf>, p. 5.

¹² “RULE 403. FUGITIVE DUST.” SCAQMD, June 2005, available at: <http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf>, p. 403-21, Table 2.

Area-Related Mitigation Measures:

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use Low VOC Cleaning Supplies

Water-Related Mitigation Measures:

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

Waste-Related Mitigation Measures:

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.¹³ However the "User Entered Comments and Non-Default Data" table, only provides justification for the inclusion of the water- and waste-related operational mitigation measures, which are as follows:

- "Low Flow fixtures meeting WaterSense Guidelines, achieving 30% reduction;" and
- "LEED and CALGreen 75% diversion rate" (Appendix A, pp. 33, 63; Appendix F, pp. 3)

Furthermore, regarding Title 24 standards, the IS states:

"The Project would also be constructed pursuant to applicable local and State requirements, including but not limited California Building Energy Efficiency Title 24 Standards to provide increased energy efficiency through use of efficient fixtures and other energy conservation features" (p. 2.0-27).

¹³ CalEEMod User's Guide, available at: http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 2, 9.

Furthermore, regarding the use of low VOC paint and compliance with VOC content limits, the IS describes SCAQMD Rule 1113 as follows:

“Rule 1113 limits the VOC content of coatings, with a VOC content limit for flat coatings of 50 q grams per liter (g/L)” (p. 4.0-22).

Furthermore, regarding the use of low-flow appliances, the IS states:

“[T]he Project would be designed and constructed to incorporate environmentally sustainable design features that would be equivalent to the Silver level under the LEED green building program that would reduce energy and water usage. The Project would include energy efficient lighting fixtures, ENERGY Star rated appliances for residential dwelling units, low-flow water features, and energy efficient mechanical heating and ventilation systems” (p. 4.0-61).

Finally, regarding the waste reduction measures, the IS states:

“The Project would promote this goal by complying with waste reduction measures mandated by CALGreen and City’s Green Building Code, as well as solid waste diversion policies administered by CalRecycle that in turn reduce GHG emissions. A waste management plan for the construction and demolition waste would be prepared to comply with both LEED and CalGreen requirements to achieve a 75 percent diversion rate.” (p. 4.0-97).

However, the inclusion of the above-mentioned operational mitigation measures remains unsupported for two reasons.

First, the inclusion of the operational mitigation measures, based on the Project’s purported compliance with Title 24, CALGreen, CalRecycle, and SCAQMD Rule 1113, is unsupported. As previously stated, according to the AEP *CEQA Portal Topic Paper* on mitigation measures:

“By definition, mitigation measures are not part of the original project design. Rather, mitigation measures are actions taken by the lead agency to reduce impacts to the environment resulting from the original project design. Mitigation measures are identified by the lead agency after the project has undergone environmental review and are above-and-beyond existing laws, regulations, and requirements that would reduce environmental impacts.”¹⁴

As you can see in the excerpt above, mitigation measures “are not part of the original project design” and are intended to go “above-and-beyond” existing regulatory requirements. As such, the inclusion of these measures, based on the Project’s vague compliance with Title 24, SCAQMD Rule 1113, LEED, and CalRecycle, is unsubstantiated.

¹⁴ “CEQA Portal Topic Paper Mitigation Measures.” AEP, February 2020, *available at*: <https://cegaportal.org/tp/CEQA%20Mitigation%202020.pdf>, p. 5.

Second, while the IS discusses the above-mentioned design features as Program-level mitigation measures, the IS fails to formally include them as Project-level mitigation measures. This is incorrect, as AEP guidance states:

“While not “mitigation”, a good practice is to include those project design feature(s) that address environmental impacts in the mitigation monitoring and reporting program (MMRP). Often the MMRP is all that accompanies building and construction plans through the permit process. If the design features are not listed as important to addressing an environmental impact, it is easy for someone not involved in the original environmental process to approve a change to the project that could eliminate one or more of the design features without understanding the resulting environmental impact” (emphasis added).¹⁵

As you can see in the excerpt above, design features that are not formally included as mitigation measures in a Mitigation Monitoring and Reporting Program (“MMRP”) may be eliminated from the Project’s design altogether. Furthermore, review of the Project’s Mitigation Monitoring Program demonstrates that these operational design features are not included (p. 5.0-3 – 5.0-16). Thus, as the above-mentioned energy-, area-, water-, and waste-related operational measures are not formally included as mitigation measures, we cannot guarantee that they would be implemented, monitored, and enforced on the Project site. As a result, the inclusion of the above-mentioned operational mitigation measures in the model is incorrect. By including several operational mitigation measures without properly committing to their implementation, the model may underestimate the Project’s operational emissions and should not be relied upon to determine Project significance.

Updated Analysis Indicates a Potentially Significant Air Quality Impact

In an effort to more accurately estimate the Project’s construction-related and operational emissions, we prepared updated an CalEEMod model, using the Project-specific information provided by the IS. In our updated models, we included the proposed land use types and sizes; proportionally increased the individual construction phase lengths to match the proposed construction duration; corrected the number of gas fireplaces; and excluded the incorrect construction-related and operational mitigation measures (see Attachment A).

Our updated analysis estimates that the VOC and NO_x emissions associated with Project construction exceed the applicable SCAQMD thresholds of 75- and 100-pounds per day (“lbs/day”), respectively, as referenced by the IS (p. 4.0-30) (see table below).¹⁶

¹⁵ “CEQA Portal Topic Paper Mitigation Measures.” AEP, February 2020, *available at*: <https://cegaportal.org/tp/CEQA%20Mitigation%202020.pdf>, p. 6.

¹⁶ “South Coast AQMD Air Quality Significance Thresholds.” SCAQMD, April 2019, *available at*: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>.

Model	VOC	NOX
IS Construction	38	84
SWAPE Construction	76	146
% Increase	100%	74%
SCAQMD Regional Threshold (lbs/day)	75	100
Threshold Exceeded?	Yes	Yes

As you can see in the excerpt above, the VOC and NO_x emissions associated with Project construction, as estimated by SWAPE, increase by approximately 100% and 74%, respectively, and exceed the applicable SCAQMD significance thresholds. Thus, our updated modeling demonstrates that the Project would result in a potentially significant air quality impact that was not previously identified or addressed in the IS. As a result, an EIR should be prepared to adequately assess and mitigate the potential air quality impacts that the Project may have on the surrounding environment.

Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

The IS concludes that the proposed Project would have a less-than-significant health risk impact, based on a localized significance threshold (“LST”) analysis, without conducting a quantified construction or operational health risk analysis (“HRA”) (p. 4.0-32 - 4.0-33). Specifically, regarding potential health risk impacts associated with Project construction, the IS states:

“Project construction would result in short-term emissions of diesel particulate matter, which is a TAC. Diesel particulate matter poses a carcinogenic health risk that is generally measured using an exposure period of 30 years for sensitive residential receptors. Off-road heavy-duty diesel equipment would emit diesel particulate matter over the course of the construction period. Diesel particulate matter is a source of PM_{2.5} (diesel particles are typically 2.5 microns and smaller). As identified above, the nearest sensitive receptors are located 30 to 200 feet from the Project Site. As shown in Table 4.3-3 localized diesel particulate matter would be below localized thresholds and there would be no significant impacts to the sensitive receptors located around the Project Site. As mentioned previously, the Project would implement Mitigation Measure PMM AQ-1 from SCAG’s 2020–2045 RTP/SCS, which would reduce emissions associated with NO_x. Therefore, construction impacts would be less than significant with implementation of this mitigation measure” (p. 4.0-32 - 4.0-33).

As demonstrated above, the IS concludes that the Project would result in a less-than-significant construction-related health risk impact because localized diesel particulate matter (“DPM”) emissions would be below localized significance thresholds and the Project would implement Mitigation Measure PMM AQ-1 from SCAG’s 2020–2045 RTP/SCS, which would reduce NO_x emissions. Furthermore, regarding potential health risk impacts associated with Project operation, the IS states:

“The results of the operational LST analysis are provided in Table 4.3-4: Localized Operational Emissions. As shown in Table 4.3-4, emissions would not exceed the localized significance

thresholds for operation. Therefore, localized operational impacts to sensitive receptors located around the Project Site would be less than significant” (p. 4.0-33).

As demonstrated above, the IS concludes that the Project would result in a less-than-significant operational health risk impact because DPM emissions associated with Project operation would be below localized significance thresholds. However, the IS’s evaluation of the Project’s potential health risk impacts, as well as the subsequent less-than-significant impact conclusion, is incorrect for four reasons.

First, the use of an LST analysis to determine the health risk impacts posed to nearby, existing sensitive receptors as a result of the Project’s construction-related and operational toxic air contaminant (“TAC”) emissions is incorrect. While the LST method assesses the impact of pollutants at a local level, it only evaluates impacts from criteria air pollutants. According to the *Final Localized Significance Threshold Methodology* document prepared by the SCAQMD, the LST analysis is only applicable to NO_x, CO, PM₁₀, and PM_{2.5} emissions, which are collectively referred to as criteria air pollutants.¹⁷ Because the LST method can only be applied to criteria air pollutants, this method cannot be used to determine whether emissions from TACs, specifically DPM, a known human carcinogen, would result in a significant health risk impact to nearby sensitive receptors. As a result, health impacts from exposure to TACs, such as DPM, were not analyzed, thus leaving a gap in the analysis of the IS.

Second, the IS fails to quantitatively evaluate the Project’s construction-related and operational TACs or make a reasonable effort to connect these emissions to potential health risk impacts posed to nearby existing sensitive receptors. This is incorrect, as construction of the proposed Project will produce emissions of DPM through the exhaust stacks of construction equipment over a potential construction duration of 2 years (p. 4.0-29). Furthermore, the IS indicates that the proposed land uses are expected to generate approximately 3,881 average daily vehicle trips, which will generate additional exhaust emissions and continue to expose nearby sensitive receptors to DPM emissions (p. 4.0-31). However, the IS fails to evaluate the potential Project-generated TACs or indicate the concentrations at which such pollutants would trigger adverse health effects. Thus, without making a reasonable effort to connect the Project’s construction-related and operational TAC emissions to the potential health risks posed to nearby receptors, the IS is inconsistent with CEQA’s requirement to correlate the increase in emissions generated by the Project with the potential adverse impacts on human health.

Third, the IS’s conclusion is inconsistent with guidance from the Office of Environmental Health Hazard Assessment (“OEHHA”), the organization responsible for providing guidance on conducting HRAs in California, as well as local air district guidelines. OEHHA released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* in February 2015. This guidance document describes the types of projects that warrant the preparation of an HRA. The OEHHA document recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors. As the Project’s construction duration vastly exceeds the 2-month

¹⁷ “Final Localized Significance Threshold Methodology.” SCAQMD, Revised July 2008, *available at*: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf>.

requirement set forth by OEHHA, it is clear that the Project meets the threshold warranting a quantified HRA under OEHHA guidance. Furthermore, the OEHHA document recommends that exposure from projects lasting more than 6 months be evaluated for the duration of the project and recommends that an exposure duration of 30 years be used to estimate individual cancer risk for the maximally exposed individual resident (“MEIR”). Even though we were not provided with the expected lifetime of the Project, we can reasonably assume that the Project will operate for at least 30 years, if not more. Therefore, we recommend that health risk impacts from Project operation also be evaluated, as a 30-year exposure duration vastly exceeds the 6-month requirement set forth by OEHHA. These recommendations reflect the most recent state health risk policies, and as such, we recommend that an analysis of health risk impacts posed to nearby sensitive receptors from Project-generated DPM emissions be included in an EIR for the Project.

Fourth, by claiming a less than significant impact without conducting a quantified construction or operational HRA for nearby, existing sensitive receptors, the IS fails to compare the Project’s cumulative excess cancer risk to the applicable SCAQMD numeric threshold of 10 in one million, and lacks evidence to support its conclusion that the health risk would be under the threshold.¹⁸ Thus, pursuant to CEQA and SCAQMD guidance, an analysis of the health risk posed to nearby, existing receptors from Project construction and operation should have been conducted.

Screening-Level Analysis Indicates a Potentially Significant Health Risk Impact

In order to conduct our screening-level risk analysis we relied upon AERSCREEN, which is a screening level air quality dispersion model.¹⁹ The model replaced SCREEN3, and AERSCREEN is included in the OEHHA²⁰ and the California Air Pollution Control Officers Associated (“CAPCOA”)²¹ guidance as the appropriate air dispersion model for Level 2 health risk screening analyses (“HRSAs”). A Level 2 HRSA utilizes a limited amount of site-specific information to generate maximum reasonable downwind concentrations of air contaminants to which nearby sensitive receptors may be exposed. If an unacceptable air quality hazard is determined to be possible using AERSCREEN, a more refined modeling approach is required prior to approval of the Project.

In order to estimate the health risk impacts posed to residential sensitive receptors as a result of the Project’s construction-related and operational TAC emissions, we prepared a preliminary HRA using the annual PM₁₀ exhaust estimates from the CalEEMod output files provided in the IS. Consistent with recommendations set forth by OEHHA, we assumed residential exposure begins during the third trimester stage of life. The CalEEMod model indicates that construction activities will generate approximately 1,787 pounds of DPM over the 2.25-year construction period (Appendix A, p. 21-22). The

¹⁸ “South Coast AQMD Air Quality Significance Thresholds.” SCAQMD, April 2019, *available at*: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>.

¹⁹ U.S. EPA (April 2011) AERSCREEN Released as the EPA Recommended Screening Model, http://www.epa.gov/ttn/scram/guidance/clarification/20110411_AERSCREEN_Release_Memo.pdf

²⁰ “Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, *available at*: http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf

²¹ CAPCOA (July 2009) Health Risk Assessments for Proposed Land Use Projects, http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf.

AERSCREEN model relies on a continuous average emission rate to simulate maximum downward concentrations from point, area, and volume emission sources. To account for the variability in equipment usage and truck trips over Project construction, we calculated an average DPM emission rate by the following equation:

$$\text{Emission Rate} \left(\frac{\text{grams}}{\text{second}} \right) = \frac{1787.4 \text{ lbs}}{822 \text{ days}} \times \frac{453.6 \text{ grams}}{\text{lbs}} \times \frac{1 \text{ day}}{24 \text{ hours}} \times \frac{1 \text{ hour}}{3,600 \text{ seconds}} = \mathbf{0.0114 \text{ g/s}}$$

Using this equation, we estimated a construction emission rate of 0.0114 grams per second (“g/s”). Subtracting the 2.25-year construction period from the total residential duration of 30 years, we assumed that after Project construction, the sensitive receptor would be exposed to the Project’s operational DPM for an additional 27.75 years, approximately. The operational CalEEMod emissions indicate that operational activities will generate approximately 138 pounds of DPM per year throughout operation. Applying the same equation used to estimate the construction DPM rate, we estimated the following emission rate for Project operation:

$$\text{Emission Rate} \left(\frac{\text{grams}}{\text{second}} \right) = \frac{138.2 \text{ lbs}}{365 \text{ days}} \times \frac{453.6 \text{ grams}}{\text{lbs}} \times \frac{1 \text{ day}}{24 \text{ hours}} \times \frac{1 \text{ hour}}{3,600 \text{ seconds}} = \mathbf{0.00199 \text{ g/s}}$$

Using this equation, we estimated an operational emission rate of 0.00199 g/s. Construction and operational activity was simulated as a 4.18-acre rectangular area source in AERSCREEN with dimensions of approximately 184- by 92-meters. A release height of three meters was selected to represent the height of exhaust stacks on operational equipment and other heavy-duty vehicles, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution.

The AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project site. EPA guidance suggests that in screening procedures, the annualized average concentration of an air pollutant be estimated by multiplying the single-hour concentration by 10%.²² According to the IS, the nearest sensitive receptors are “located 30 to 200 feet from the Project Site,” or 9 to 60 meters (p. 4.0-32). However, review of the AERSCREEN output files demonstrates that the maximally exposed individual resident (“MEIR”) is located approximately 75 meters from the Project site. Thus, the single-hour concentration estimated by AERSCREEN for Project construction is approximately 18.44 µg/m³ DPM at approximately 75 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 1.844 µg/m³ for Project construction at the MEIR. For Project operation, the single-hour concentration estimated by AERSCREEN is 3.21 µg/m³ DPM at approximately 75 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 0.321 µg/m³ for Project operation at the MEIR.

²² “Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised.” EPA, 1992, *available at*: http://www.epa.gov/ttn/scram/guidance/guide/EPA-454R-92-019_OCR.pdf; *see also* “Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments.” OEHHA, February 2015, *available at*: <https://oehha.ca.gov/media/downloads/crn/2015guidancemanual.pdf> p. 4-36.

We calculated the excess cancer risk to the MEIR using applicable HRA methodologies prescribed by OEHHA. Consistent with the 2.25-year construction schedule included in the Project's CalEEMod output files, the annualized average concentration for Project construction was used for the entire third trimester of pregnancy (0.25 years) and the entire infantile stage of life (0 – 2 years); and the annualized averaged concentration for operation was used for the remainder of the 30-year exposure period, which makes up the entire child (2 – 16 years) and adult stage of life (16 – 30 years).

Consistent with OEHHA guidance and recommended by the SCAQMD, BAAQMD, and SJVAPCD guidance, we used Age Sensitivity Factors ("ASF") to account for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution.^{23, 24, 25} According to this guidance, the quantified cancer risk should be multiplied by a factor of ten during the third trimester of pregnancy and during the first two years of life (infant), as well as multiplied by a factor of three during the child stage of life (2 – 16 years). We also included the quantified cancer risk without adjusting for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution in accordance with older OEHHA guidance from 2003. This guidance utilizes a less health protective scenario than what is currently recommended by SCAQMD, the air quality district with jurisdiction over the City, and several other air districts in the state. Furthermore, in accordance with the guidance set forth by OEHHA, we used the 95th percentile breathing rates for infants.²⁶ Finally, according to SCAQMD guidance, we used a Fraction of Time At Home ("FAH") Value of 1 for the 3rd trimester and infant receptors.²⁷ We used a cancer potency factor of 1.1 (mg/kg-day)⁻¹ and an averaging time of 25,550 days. The results of our calculations are shown below.

²³ "Draft Environmental Impact Report (DEIR) for the Proposed The Exchange (SCH No. 2018071058)." SCAQMD, March 2019, *available at*: <http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/march/RVC190115-03.pdf?sfvrsn=8>, p. 4.

²⁴ "California Environmental Quality Act Air Quality Guidelines." BAAQMD, May 2017, *available at*: http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, p. 56; see also "Recommended Methods for Screening and Modeling Local Risks and Hazards." BAAQMD, May 2011, *available at*: <http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/BAAQMD%20Modeling%20Approach.ashx>, p. 65, 86.

²⁵ "Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document." SJVAPCD, May 2015, *available at*: <https://www.valleyair.org/busind/pto/staff-report-5-28-15.pdf>, p. 8, 20, 24.

²⁶ "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act," July 2018, *available at*: <http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab2588supplementalguidelines.pdf>, p. 16.

"Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at*: <https://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf>

²⁷ "Risk Assessment Procedures for Rules 1401, 1401.1, and 212." SCAQMD, August 2017, *available at*: http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf, p. 7.

The Maximally Exposed Individual at an Existing Residential Receptor (MEIR)							
Age Group	Emissions Source	Duration (years)	Concentration (ug/m3)	Breathing Rate (L/kg-day)	Cancer Risk (without ASFs*)	ASF	Cancer Risk (with ASFs*)
3rd Trimester	Construction	0.25	1.844	361	2.51E-06	10	2.51E-05
Infant (Age 0 - 2)	Construction	2	1.844	1090	6.06E-05	10	6.06E-04
Child (Age 2 - 16)	Operation	14	0.321	572	3.87E-05	3	1.16E-04
Adult (Age 16 - 30)	Operation	14	0.321	261	1.29E-05	1	1.29E-05
Lifetime		30			1.15E-04		7.61E-04

* We, along with CARB and SCAQMD, recommend using the more updated and health protective 2015 OEHHA guidance, which includes ASFs.

As demonstrated in the table above, the mitigated excess cancer risks for the 3rd trimester of pregnancy, infants, children, and adults at the MEIR located approximately 75 meters away, over the course of Project construction and operation, utilizing ASFs, is approximately 25.1, 606, 116, and 12.9 in one million, respectively. The excess cancer risk over the course of a residential lifetime (30 years), utilizing ASFs, is approximately 761 in one million. The 3rd trimester, infant, child, adult, and lifetime cancer risks exceed the SCAQMD threshold of 10 in one million, thus resulting in a potentially significant impact not previously addressed or identified by the IS.

Utilizing ASFs is the most conservative, health-protective analysis according to the most recent guidance by OEHHA and reflects recommendations from the air district. Results without ASFs are presented in the table above, although we do not recommend utilizing these values for health risk analysis. Regardless, the excess cancer risks for the 3rd trimester of pregnancy, infants, children, and adults at the MEIR located approximately 75 meters away, over the course of Project construction and operation, without ASFs, are approximately 2.51, 60.6, 38.7, and 12.9 in one million, respectively. The excess cancer risk over the course of a residential lifetime (30 years), without ASFs, is approximately 115 in one million. The infant, child, adult, and lifetime cancer risks exceed the SCAQMD threshold of 10 in one million, thus resulting in a potentially significant impact not previously addressed or identified by the IS. While we recommend the use of ASFs, the Project's cancer risk without ASFs, as estimated by SWAPE, exceeds the SCAQMD threshold regardless.

An agency must include an analysis of health risks that connects the Project's air emissions with the health risk posed by those emissions. Our analysis represents a screening-level HRA, which is known to be conservative and tends to err on the side of health protection.²⁸ The purpose of the screening-level construction and operational HRA shown above is to demonstrate the link between the proposed

²⁸ "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, available at: <https://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf>, p. 1-5

Project's emissions and the potential health risk. Our screening-level HRA demonstrates that construction and operation of the Project could result in a potentially significant health risk impact, when correct exposure assumptions and up-to-date, applicable guidance are used. Therefore, since our screening-level HRA indicates a potentially significant impact, the City should prepare an EIR with an HRA which makes a reasonable effort to connect the Project's air quality emissions and the potential health risks posed to nearby receptors. Thus, the City should prepare an updated, quantified air pollution model as well as an updated, quantified refined health risk analysis which adequately and accurately evaluates health risk impacts associated with both Project construction and operation.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The IS estimates that the Project would generate net annual greenhouse gas ("GHG") emissions of 6,417- and 8,121-metric tons of carbon dioxide equivalents per year ("MT CO₂e/year"), with and without LEED features, respectively. Furthermore, based on a service population of 1,115 people, the IS estimates a service population efficiency value of 5.8- and 7.3-metric tons of carbon dioxide equivalents per service population per year ("MT CO₂e/SP/year"), with and without LEED features, respectively (p. 4.0-95, Table 4.8-6).

Source	Without LEED Feature MTCO₂e per year	With LEED Features MTCO₂e per year	Percent Reduction
Construction (amortized)	122	122	0
Area	7	5	29%
Energy	1,397	1,329	5%
Mobile	6,116	4,701	23%
Waste	114	29	75%
Water	365	231	37%
Total	8,121	6,417	21%
Estimated Service Population (Residents and Employees)	1,115	1,115	—
GHG Efficiency MTCO ₂ e/yr./SP	7.3	5.8	—

*Source: Refer to **Appendix A** for GHG Annual Outputs.*

However, the IS elects not to apply a quantitative GHG threshold. Instead, the IS concludes:

"The Project adheres to regulatory compliance measures and LEED features that would reduce the Project's GHG emissions profile. The reduction in the GHG emissions shows that the Project would not conflict with applicable plans including the Los Angeles Green Building Code, L.A. Green Plan/ClimateLA, and the SCAG 2020–2045 RTP/SCS. In addition, the mixed-use nature of the Project and its proximity to mass transit would not exceed thresholds of emissions and

would further reduce what emissions are produced through the above regulations and applicable air quality plans so that the Project would have a less than significant direct or indirect impact on the environment” (p. 4.0-96).

Furthermore, the IS relies upon the Project’s consistency with the City’s Green Building Code, L.A. Green Plan/ClimateLA Plan, the Sustainable City pLAN/L.A.’s Green New Deal, SCAG’s 2020-2045 RTP/SCS, Integrated Growth Forecast, and VMT Reduction Strategies and Policies in order to conclude that the Project would result in a less-than-significant GHG impact (p. 4.0-96 – 4.0-99). However, the IS’s GHG analysis, as well as the subsequent less-than-significant impact conclusion, is incorrect for four reasons.

- (1) The IS’s quantitative GHG analysis relies upon an incorrect and unsubstantiated air model;
- (2) The IS incorrectly relies upon unsubstantiated GHG reduction measures;
- (3) The IS’s unsubstantiated air model indicates a potentially significant impact; and
- (4) The IS fails to consider the performance-based standards under SCAG’s RTP/SCS.

1) Incorrect and Unsubstantiated Quantitative Analysis of Emissions

As previously stated, the IS estimates that the Project would generate net annual GHG emissions of 6,417- and 8,121-MT CO₂e/year, with and without LEED features, respectively (p. 4.0-95, Table 4.8-6). However, the quantitative GHG analysis provided in the IS is unsubstantiated. As previously discussed, when we reviewed the Project’s CalEEMod output files, provided in the AQ Study and GHG Study as Appendix A and Appendix E to the IS, we found that several of the values inputted into the model are not consistent with information disclosed in the IS. As a result, the model underestimates the Project’s emissions, and the quantitative GHG analysis provided in the IS should not be relied upon to determine Project significance. An EIR should be prepared that adequately assesses the potential GHG impacts that construction and operation of the proposed Project may have on the surrounding environment.

2) Incorrect Reliance on GHG Reduction Measures

As previously stated, the IS estimates that the Project would generate net annual GHG emissions of 6,417- and 8,121-MT CO₂e/year, with and without LEED features, respectively (p. 4.0-95, Table 4.8-6). Regarding the implementation of LEED features to reduce GHG emissions, the IS states:

“When taking into consideration the LEED features and the CalGreen and L.A. Green Building Code requirements explained above, the result would be a 21 percent reduction in GHG emissions, as shown in Table 4.8-6: Total Greenhouse Gas Emissions[...]

The Project adheres to regulatory compliance measures and LEED features that would reduce the Project’s GHG emissions profile. The reduction in the GHG emissions shows that the Project would not conflict with applicable plans including the Los Angeles Green Building Code, L.A. Green Plan/ClimateLA, and the SCAG 2020–2045 RTP/SCS. In addition, the mixed-use nature of the Project and its proximity to mass transit would not exceed thresholds of emissions and would further reduce what emissions are produced through the above regulations and applicable air quality plans so that the Project would have a less than significant direct or indirect impact on the environment” (p. 4.0-96 - 4.0-97).

However, the use of LEED reduction measures is unsupported. As previously discussed, none of these design features are formally included as mitigation measures. This incorrect, as AEP guidance states:

“While not ‘mitigation’, a good practice is to include those project design feature(s) that address environmental impacts in the mitigation monitoring and reporting program (MMRP). Often the MMRP is all that accompanies building and construction plans through the permit process. If the design features are not listed as important to addressing an environmental impact, it is easy for someone not involved in the original environmental process to approve a change to the project that could eliminate one or more of the design features without understanding the resulting environmental impact.”²⁹

As you can see in the excerpt above, design features that are not formally included as mitigation measures may be eliminated from the Project’s design altogether. Thus, as the above-mentioned GHG reduction measures are not formally included as mitigation measures, we cannot guarantee that they would be implemented, monitored, and enforced on the Project site.

3) Failure to Identify a Potentially Significant GHG Impact

In an effort to quantitatively evaluate the Project’s GHG emissions, we compared the Project’s GHG emissions, as estimated by the IS, to the SCAQMD 2035 efficiency target of 3.0 MT CO₂e/year, which was calculated by applying a 40% reduction to the 2020 targets.³⁰ When applying the SCAQMD 2035 efficiency target of 3.0 MT CO₂e/year, the Project’s incorrect and unsubstantiated air model indicates a potentially significant GHG impact.³¹ As previously stated, based on a service population of 1,115 people, the IS estimates a service population efficiency value of 5.8- and 7.3-MT CO₂e/SP/year, with and without LEED features, respectively (see summary below) (p. 4.0-95, Table 4.8-6).

²⁹ “CEQA Portal Topic Paper Mitigation Measures.” AEP, February 2020, available at: <https://ceqaportal.org/tp/CEQA%20Mitigation%202020.pdf>, p. 6.

³⁰ “Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15.” SCAQMD, September 2010, available at: [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf), p. 2.

³¹ “Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15.” SCAQMD, September 2010, available at: [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf), p. 2.

Greenhouse Gas Emissions per Capita, Exceedances under SCAQMD 2035 Service Population Efficiency Target		
Source	IS Modeling	
	Without LEED Features	With LEED Features
Emissions (MT CO ₂ e/year)	8,121	6,417
Service Population	1,115	1,115
Service Population Efficiency (MT CO ₂ e/SP/year)	7.3	5.8
3.0 MT CO₂e/SP/year (2035 SCAQMD Target) Exceeded?	Yes	Yes

As demonstrated above, the Project's service population efficiency values, both with and without LEED Features, as estimated by the IS, exceed the SCAQMD 2035 efficiency target of 3.0 MT CO₂e/year, indicating a potentially significant impact not previously identified or addressed by the IS. As a result, the IS's less-than-significant GHG impact conclusion should not be relied upon. An EIR should be prepared, including an updated GHG analysis and incorporating additional mitigation measures to reduce the Project's GHG emissions to less-than-significant levels.

4) Failure to Consider Performance-based Standards under SCAG's RTP/SCS

As stated above, the IS concludes that the Project would be consistent with SCAG's 2020-2045 RTP/SCS (p. 4.0-98). However, the IS fails to consider whether the Project meets any of the specific performance-based goals underlying SCAG's RTP/SCS and SB 375, such as: i) per capita GHG emission targets, or ii) daily vehicles miles traveled ("VMT") per capita benchmarks.

i. SB 375 Per Capita GHG Emission Goals

SB 375 was signed into law in September 2008 to enhance the state's ability to reach AB 32 goals by directing CARB to develop regional 2020 and 2035 GHG emission reduction targets for passenger vehicles (autos and light-duty trucks). In March 2018, CARB adopted updated regional targets requiring a 19 percent decrease in VMT for the SCAG region by 2035. This goal is reflected in SCAG's 2020 RTP/SCS Program Environmental Impact Report ("PEIR"),³² in which the 2020 RTP/SCS PEIR updates the per capita emissions to 21.3 lbs/day in 2020 and 18.8 lbs/day in 2035 (see excerpt below).³³

³² "Connect SoCal Certified Final Program Environmental Impact Report." SCAG, May 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocial_complete.pdf?1607981618.

³³ "Connect SoCal Certified Final Program Environmental Impact Report." SCAG, May 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocial_complete.pdf?1607981618, p. 3.8-74.

**Table 3.8-10
SB 375 Analysis**

	2005 (Baseline)	2020 (Plan)	2035 (Plan)
Resident population (per 1,000)	17,161	19,194	21,110
CO2 emissions (per 1,000 tons)	204.0 ^(a)	204.5 ^(b)	198.6 ^(b)
Per capita emissions (pounds/day)	23.8	21.3	18.8
% difference from Plan (2020) to Baseline (2005)			-8%
% difference from Plan (2035) to Baseline (2005)			-19% ^(c)

Note:

(a) Based on EMFAC2007

(b) Based on EMFAC2014 and SCAG modeling, 2019.

(c) Includes off-model adjustments for 2035 and 2045

Source: SCAG modeling, 2019.

<http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

In order to evaluate consistency with this SB 375 objective and SCAG's RTP/SCS performance-based goals, SWAPE calculated the Project's per-capita CO₂ emissions from passenger and light duty vehicles (calculations attached hereto as Attachment D). First, total annual GHG mobile emissions were multiplied by the percentage of auto and light-duty truck fleet mix, then converted into total pounds per day, then divided by the estimated service population of 1,115. The below table shows the per capita emissions for the Project based on the IS's modeling (see table below).

**CO₂e Per Capita Emissions from Passenger & Light-Duty Trucks,
Exceedances under RTP/SCS Performance-Based SB 375 Goals**

Sources	IS Modeling
Annual Mobile Emissions (MT CO ₂ e/year)	4,701.00
Passenger & Light-Duty Fleet Mix (%)	91.50%
Daily CO ₂ e Emissions (lbs/day)	25,980.21
Service Population	1,115
Per Capita Emissions (lbs/day/SP)	23.3
21.3 lbs/day/SP (2020 Goal) Exceeded?	Yes
18.8 lbs/day/SP (2035 Goal) Exceeded?	Yes

As shown in the above table, when utilizing the IS's modeling, the Project would result in 23.3 pounds per day per service population ("lbs/day/SP") emissions. This exceeds both SCAG's 2020 and 2035 targets of 21.3- and 18.8-lbs/day/SP, respectively, indicating that the Project is inconsistent with SB 375 and SCAG's RTP/SCS.

ii. SB 375 RTP/SCS Daily VMT Per Capita Target

Under the SCAG's 2020 RTP/SCS, daily VMT per capita in the SCAG region should decrease from 23.2 VMT in 2016 to 20.7 VMT by 2045.³⁴ Daily VMT per capita in Los Angeles County should decrease from 22.2 to 19.2 VMT during that same period.³⁵

Here, however, the IS fails to consider any of the above-mentioned performance-based VMT targets. In order to evaluate consistency with the RTP/SCS's performance-based VMT reduction targets, SWAPE calculated the Project's VMT from passenger and light duty vehicles (calculations attached hereto as Attachment D). First, annual VMTs from passenger automobile and light-duty vehicle were calculated based on the CalEEMod default fleet mix, converted into daily VMT, and divided by the estimated service population of 1,115. The below table shows the daily VMT per capita for the Project based on the modeling provided in the IS (see table below).

Daily VMT Per Capita from Passenger & Light-Duty Trucks, Exceedances under RTP/SCS Performance-Based SB 375 Target	
Sources	IS Modeling
Annual VMT from Auto & Light-Duty Vehicles	10,388,575
Daily VMT from Auto & Light-Duty Vehicles	28,462
Service Population	1,115
Daily VMT Per Capita	25.53
23.2 VMT (SCAG-Wide 2016 Baseline) Exceeded?	Yes
20.7 VMT (SCAG-Wide 2045 Target) Exceeded?	Yes
22.2 VMT (Los Angeles County 2016 Baseline) Exceeded?	Yes
19.2 VMT (Los Angeles County 2045 Target) Exceeded?	Yes

As shown in the above table, based on a service population of 1,115, the Project would result in 25.53 VMT per capita from passenger auto and light-duty truck vehicles. This exceeds all SCAG-wide and Los Angeles County-specific benchmarks and targets under SCAG's 2020 RTP/SCS. Thus, based on the modeling provided in the IS, the Project would exceed the 2016 baseline and 2045 target VMT per capita values for both Los Angeles County and the SCAG region as a whole, indicating that the Project conflicts with the SCAG's RTP/SCS and SB 375.

Failure to Consider All Feasible Mitigation Measures under SCAG's RTP/SCS

According to the SCEA:

³⁴ "Connect SoCal." SCAG, September 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176, pp. 138.

³⁵ "Connect SoCal." SCAG, September 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176, pp. 138.

“To comply with PRC Section 21151.2, the City has reviewed all mitigation measures contained in the SCAG 2020–2045 RTP/SCS Program EIR[...] For each such applicable mitigation measure, the City considered whether to incorporate the prior mitigation measures as stated in those EIR's or an equally or more effective City mitigation measure or federal, State, regional, or City regulation” (p. 3.0-13).

Specifically, the SCEA evaluates the Project’s consistency with the Air Quality Project Level Mitigation Measures (“PMM-AQ-1”) listed in SCAG’s 2020 RTP/SCS PEIR, ³⁶ as described below (p. 3.0-14 – 3.0-20):

SCAG RTP/SCS 2020-2045	
Air Quality Project Level Mitigation Measures – PMM-AQ-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:	
a) Minimize land disturbance.	
b) Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.	
c) Cover trucks when hauling dirt.	
d) Stabilize the surface of dirt piles if not removed immediately.	
e) Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.	
f) Minimize unnecessary vehicular and machinery activities.	
g) Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.	
h) Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.	
i) On Caltrans projects, Caltrans Standard Specifications 10-Dust Control, 17-Watering, and 18-Dust Palliative shall be incorporated into project specifications.	
j) Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet.	
k) Ensure that all construction equipment is properly tuned and maintained.	
l) Minimize idling time to 5 minutes—saves fuel and reduces emissions.	
m) Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.	

³⁶ “4.0 Mitigation Measures.” Connect SoCal Program Environmental Impact Report Addendum #1, September 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocial_addendum_4_mitigationmeasures.pdf?1606004420, p. 4.0-2 – 4.0-10; 4.0-19 – 4.0-23; See also: “Certified Final Connect SoCal Program Environmental Impact Report.” Southern California Association of Governments (SCAG), May 2020, available at: <https://scag.ca.gov/peir>.

n) Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
o) Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites.
p) As appropriate require that portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, obtain CARB Portable Equipment Registration with the state or a local district permit. Arrange appropriate consultations with the CARB or the District to determine registration and permitting requirements prior to equipment operation at the site.
q) Require projects within 500 feet of residences, hospitals, or schools to use Tier 4 equipment for all engines above 50 horsepower (hp) unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds.
r) Projects located within the South Coast Air Basin should consider applying for South Coast AQMD "SOON" funds which provides funds to applicable fleets for the purchase of commercially available low-emission heavy-duty engines to achieve near-term reduction of NOx emissions from in-use off-road diesel vehicles.
s) Projects located within AB 617 communities should review the applicable Community Emissions Reduction Plan (CERP) for additional mitigation that can be applied to individual projects.
t) Where applicable, projects should provide information about air quality related programs to schools, including the Environmental Justice Community Partnerships (EJCP), Clean Air Ranger Education (CARE), and Why Air Quality Matters programs.
u) Projects should work with local cities and counties to install adequate signage that prohibits truck idling in certain locations (e.g., near schools and sensitive receptors).
v) As applicable for airport projects, the following measures should be considered...
w) As applicable for port projects, the following measures should be considered...
x) As applicable for rail projects, the following measures should be considered...
y) Projects that will introduce sensitive receptors within 500 feet of freeways and other sources should consider installing high efficiency of enhanced filtration units, such as Minimum Efficiency Reporting Value (MERV) 13 or better. Installation of enhanced filtration units can be verified during occupancy inspection prior to the issuance of an occupancy permit.
z) Develop an ongoing monitoring, inspection, and maintenance program for the MERV filters.
aa) Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities.
bb) The following criteria related to diesel emissions shall be implemented on by individual project sponsors as appropriate and feasible [...]
cc) Project should exceed Title-24 Building Envelope Energy Efficiency Standards (California Building Standards Code). The following measures can be used to increase energy efficiency [...]

In regard to the applicability of the above-mentioned mitigation measures, the SCEA states:

"Items 'a' through 'p' are not incorporated into the Project because the Project would substantially implement the applicable portions of this SCAG mitigation measure, as the Project would be required to comply with regulations set forth by CARB and the South Coast Air Quality Management District (SCAQMD). Applicable regulatory requirements of the CARB and SCAQMD would include CARB's requirement relative to idling and SCAQMD's Rule 403 regarding dust control, Rule 1113 regarding VOC limits, and Regulation XIII regarding emission control measures" (p. 3.0-14).

As demonstrated above, the SCEA claims that the Project would substantially implement the applicable portions of PMM-AQ-1, which refers to the Project’s formal air quality mitigation measure, which requires Tier 4 Final equipment, the consideration of applying for ‘SOON’ funds, and signage that prohibits truck idling (p. 4.0-35). However, our analysis demonstrates that the Project would result in a potentially significant air quality and health risk impact that should be mitigated further. As such, we recommend that the Project incorporate **all** applicable measures, including Items ‘a’ through ‘p’ of SCAG’s PMM-AQ-1, as formal mitigation measures.

Furthermore, our analysis demonstrates that the Project would result in a potentially significant GHG impact that should be mitigated further. As such, we recommend the IS incorporate the Greenhouse Gas Project Level Mitigation Measures (“PMM-GHG-1”) listed in SCAG’s 2020 RTP/SCS PEIR ³⁷ as formal mitigation measures, as described below:

SCAG RTP/SCS 2020-2045	
Greenhouse Gas Project Level Mitigation Measures – PMM-GHG-1	
In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i> , a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:	
a) Integrate green building measures consistent with CALGreen (California Building Code Title 24), local building codes and other applicable laws, into project design including	i. Use energy efficient materials in building design, construction, rehabilitation, and retrofit. ii. Install energy-efficient lighting, heating, and cooling systems (cogeneration); water heaters; appliances; equipment; and control systems. iii. Reduce lighting, heating, and cooling needs by taking advantage of light-colored roofs, trees for shade, and sunlight. iv. Incorporate passive environmental control systems that account for the characteristics of the natural environment. v. Use high-efficiency lighting and cooking devices. vi. Incorporate passive solar design. vii. Use high-reflectivity building materials and multiple glazing. viii. Prohibit gas-powered landscape maintenance equipment. ix. Install electric vehicle charging stations. x. Reduce wood burning stoves or fireplaces. xi. Provide bike lanes accessibility and parking at residential developments.
b) Reduce emissions resulting from projects through implementation of project features, project design, or other measures, such as those described in Appendix F of the State CEQA Guidelines.	

³⁷ “4.0 Mitigation Measures.” Connect SoCal Program Environmental Impact Report Addendum #1, September 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocial_addendum_4_mitigationmeasures.pdf?1606004420, p. 4.0-2 – 4.0-10; 4.0-19 – 4.0-23; See also: “Certified Final Connect SoCal Program Environmental Impact Report.” Southern California Association of Governments (SCAG), May 2020, available at: <https://scag.ca.gov/peir>.

c) Include off-site measures to mitigate a project's emissions.
d) Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to: i. Use energy and fuel-efficient vehicles and equipment; ii. Deployment of zero- and/or near zero emission technologies; iii. Use lighting systems that are energy efficient, such as LED technology; iv. Use the minimum feasible amount of GHG-emitting construction materials; v. Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production; vi. Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse; vii. Incorporate design measures to reduce energy consumption and increase use of renewable energy; viii. Incorporate design measures to reduce water consumption; ix. Use lighter-colored pavement where feasible; x. Recycle construction debris to maximum extent feasible; xi. Plant shade trees in or near construction projects where feasible; and xii. Solicit bids that include concepts listed above.
e) Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following: i. Promote transit-active transportation coordinated strategies; ii. Increase bicycle carrying capacity on transit and rail vehicles; iii. Improve or increase access to transit; iv. Increase access to common goods and services, such as groceries, schools, and day care; v. Incorporate affordable housing into the project; vi. Incorporate the neighborhood electric vehicle network; vii. Orient the project toward transit, bicycle and pedestrian facilities; viii. Improve pedestrian or bicycle networks, or transit service; ix. Provide traffic calming measures; x. Provide bicycle parking; xi. Limit or eliminate park supply; xii. Unbundle parking costs; xiii. Provide parking cash-out programs; xiv. Implement or provide access to commute reduction program;
f) Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;
g) Improving transit access to rail and bus routes by incentives for construction and transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and
h) Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs including but not limited to measures that: i. Provide car-sharing, bike sharing, and ride-sharing programs; ii. Provide transit passes; iii. Shift single occupancy vehicle trips to carpooling or vanpooling, for example providing ride-matching services;

iv. Provide incentives or subsidies that increase that use of modes other than single-occupancy vehicle; v. Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms; vi. Provide employee transportation coordinators at employment sites; vii. Provide a guaranteed ride home service to users of non-auto modes.
i) Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
j) Land use siting and design measures that reduce GHG emissions, including: i. Developing on infill and brownfields sites; ii. Building compact and mixed-use developments near transit; iii. Retaining on-site mature trees and vegetation, and planting new canopy trees; iv. Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and v. Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.
k) Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities. The measures provided above are also intended to be applied in low income and minority communities as applicable and feasible.
l) Require at least five percent of all vehicle parking spaces include electric vehicle charging stations, or at a minimum, require the appropriate infrastructure to facilitate sufficient electric charging for passenger vehicles and trucks to plug-in.
m) Encourage telecommuting and alternative work schedules, such as: i. Staggered starting times ii. Flexible schedules iii. Compressed work weeks
n) Implement commute trip reduction marketing, such as: i. New employee orientation of trip reduction and alternative mode options ii. Event promotions iii. Publications
o) Implement preferential parking permit program
p) Implement school pool and bus programs
q) Price workplace parking, such as: i. Explicitly charging for parking for its employees; ii. Implementing above market rate pricing; iii. Validating parking only for invited guests; iv. Not providing employee parking and transportation allowances; and v. Educating employees about available alternatives.

These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently, reduce emissions released during Project construction and operation. An EIR should be prepared to include all feasible mitigation measures, as well as include an updated air quality, health risk, and GHG analysis to ensure that the necessary mitigation measures are implemented to reduce emissions to below thresholds. The EIR should also demonstrate a commitment

to the implementation of these measures prior to Project approval, to ensure that the Project's significant emissions are reduced to the maximum extent possible.

Disclaimer

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

A handwritten signature in blue ink, appearing to read "M Hagemann".

Matt Hagemann, P.G., C.Hg.

A handwritten signature in blue ink, appearing to read "Paul Rosenfeld".

Paul E. Rosenfeld, Ph.D.

Attachment A: CalEEMod Output Files
Attachment B: Health Risk Calculations
Attachment C: AERSCREEN Output Files
Attachment D: SCAG Calculations
Attachment E: Matt Hagemann CV
Attachment F: Paul E. Rosenfeld CV

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	502.00	Space	4.52	200,800.00	0
High Turnover (Sit Down Restaurant)	15.53	1000sqft	0.36	15,527.00	0
Apartments Mid Rise	401.00	Dwelling Unit	3.40	339,116.00	1147
Regional Shopping Center	3.19	1000sqft	0.07	3,192.00	0
Supermarket	22.28	1000sqft	0.51	22,277.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	11			Operational Year	2023

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1227.89	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

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Project Characteristics -

Land Use - See SWAPE comment regarding parking and all land uses.

Construction Phase - See SWAPE comment on Unsubstantiated Changes to Individual Construction Phase Lengths.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent in the IS

Trips and VMT - Consistent with the IS's model.

Demolition - Consistent with the IS's model.

Grading - Consistent with the IS's model.

Vehicle Trips - Trip rates altered to be consistent with the total number of daily trips in the IS's model.

Woodstoves - See SWAPE comment on Unsubstantiated Changes to Gas Fireplace Values.

Construction Off-road Equipment Mitigation - Consistent with the IS's model.

Mobile Land Use Mitigation - Consistent with the IS/MND's model.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

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tblConstEquipMitigation	Tier	No Change	Tier 1
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 1
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	34.00
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tblConstructionPhase	NumDays	20.00	34.00
tblConstructionPhase	NumDays	20.00	34.00
tblConstructionPhase	PhaseEndDate	5/6/2022	3/3/2023
tblConstructionPhase	PhaseEndDate	3/11/2022	11/29/2022
tblConstructionPhase	PhaseEndDate	3/26/2021	4/15/2021
tblConstructionPhase	PhaseEndDate	4/23/2021	6/2/2021
tblConstructionPhase	PhaseEndDate	4/8/2022	1/16/2023
tblConstructionPhase	PhaseStartDate	4/9/2022	1/17/2023
tblConstructionPhase	PhaseStartDate	4/24/2021	6/3/2021
tblConstructionPhase	PhaseStartDate	3/27/2021	4/16/2021
tblConstructionPhase	PhaseStartDate	3/12/2022	11/30/2022
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	340.85	360.90
tblFireplaces	NumberNoFireplace	40.10	0.00
tblFireplaces	NumberWood	20.05	0.00
tblGrading	MaterialExported	0.00	34,000.00
tblGrading	MaterialImported	0.00	6,500.00
tblLandUse	LandUseSquareFeet	15,530.00	15,527.00

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tblLandUse	LandUseSquareFeet	401,000.00	339,116.00
tblLandUse	LandUseSquareFeet	3,190.00	3,192.00
tblLandUse	LandUseSquareFeet	22,280.00	22,277.00
tblLandUse	LotAcreage	10.55	3.40
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblTripsAndVMT	HaulingTripLength	20.00	86.20
tblTripsAndVMT	HaulingTripLength	20.00	86.20
tblTripsAndVMT	WorkerTripNumber	43.00	40.00
tblTripsAndVMT	WorkerTripNumber	60.00	50.00
tblVehicleTrips	ST_TR	6.39	3.02
tblVehicleTrips	ST_TR	158.37	0.00
tblVehicleTrips	ST_TR	49.97	1,209.44
tblVehicleTrips	ST_TR	177.59	0.00
tblVehicleTrips	SU_TR	5.86	3.02
tblVehicleTrips	SU_TR	131.84	0.00
tblVehicleTrips	SU_TR	25.24	1,209.44

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tbiVehicleTrips	SU_TR	166.44	0.00
tbiVehicleTrips	WD_TR	6.65	3.02
tbiVehicleTrips	WD_TR	127.15	0.00
tbiVehicleTrips	WD_TR	42.70	1,209.44
tbiVehicleTrips	WD_TR	102.24	0.00
tbiWoodstoves	NumberCatalytic	20.05	0.00
tbiWoodstoves	NumberNoncatalytic	20.05	0.00
tbiWoodstoves	WoodstoveDayYear	25.00	0.00
tbiWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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2.1 Overall Construction**Unmitigated Construction**

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
2021	0.8209	8.3973	6.6269	0.0225	0.9110	0.2783	1.1894	0.2482	0.2662	0.5144	0.0000	2,073.630 ₃	2,073.630 ₃	0.2242	0.0000	2,079,235 ₃
2022	0.8901	6.6184	7.7548	0.0186	0.5713	0.2920	0.8634	0.1532	0.2810	0.4341	0.0000	1,634.575 ₅	1,634.575 ₅	0.2051	0.0000	1,639,702 ₆
2023	1.3071	0.1954	0.2902	5.5000e-004	0.0175	0.0105	0.0280	4.6600e-003	9.9000e-003	0.0146	0.0000	48.1294	48.1294	7.9200e-003	0.0000	48.3273
Maximum	1.3071	8.3973	7.7548	0.0225	0.9110	0.2920	1.1894	0.2482	0.2810	0.5144	0.0000	2,073.630 ₃	2,073.630 ₃	0.2242	0.0000	2,079,235 ₃

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
2021	0.5461	9.4383	7.9983	0.0225	0.9110	0.2598	1.1708	0.2482	0.2584	0.5066	0.0000	2,073.629 ₄	2,073.629 ₄	0.2242	0.0000	2,079,234 ₄
2022	0.5894	8.4809	9.4709	0.0186	0.5713	0.3141	0.8854	0.1532	0.3133	0.4665	0.0000	1,634.574 ₄	1,634.574 ₄	0.2051	0.0000	1,639,701 ₅
2023	1.2987	0.2465	0.3257	5.5000e-004	0.0175	0.0114	0.0289	4.6600e-003	0.0112	0.0158	0.0000	48.1293	48.1293	7.9200e-003	0.0000	48.3273
Maximum	1.2987	9.4383	9.4709	0.0225	0.9110	0.3141	1.1708	0.2482	0.3133	0.5066	0.0000	2,073.629 ₄	2,073.629 ₄	0.2242	0.0000	2,079,234 ₄

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	19.34	-19.42	-21.29	0.00	0.00	-0.77	-0.21	0.00	-4.64	-2.69	0.00	0.00	0.00	0.00	0.00	0.00
Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)					Maximum Mitigated ROG + NOX (tons/quarter)								
1	3-1-2021	5-31-2021	3.9537					4.1793								
2	6-1-2021	8-31-2021	2.2216					2.4508								
3	9-1-2021	11-30-2021	2.1439					2.3718								
4	12-1-2021	2-28-2022	1.9910					2.3338								
5	3-1-2022	5-31-2022	1.9580					2.3714								
6	6-1-2022	8-31-2022	1.9548					2.3683								
7	9-1-2022	11-30-2022	1.9316					2.3383								
8	12-1-2022	2-28-2023	1.7940					1.9065								
9	3-1-2023	5-31-2023	0.0828					0.0827								
		Highest	3.9537					4.1793								

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2.2 Overall Operational

Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Area	1.6484	0.1226	4.1751	7.0000e-004		0.0290	0.0290		0.0290	0.0290	0.0000	93.4340	93.4340	8.1900e-003	1.5900e-003	94.1123
Energy	0.0419	0.3703	0.2405	2.2900e-003		0.0290	0.0290		0.0290	0.0290	0.0000	2.823.6618	2.823.6618	0.0648	0.0194	2.831.0574
Mobile	1.2521	5.5502	15.4691	0.0565	4.7377	0.0434	4.7811	1.2699	0.0403	1.3102	0.0000	5.228.7158	5.228.7158	0.2638	0.0000	5.235.3106
Waste						0.0000	0.0000		0.0000	0.0000	101.1463	0.0000	101.1463	5.9776	0.0000	250.5858
Water						0.0000	0.0000		0.0000	0.0000	10.7306	350.4985	361.2291	1.1104	0.0277	397.2548
Total	2.9425	6.0431	19.8846	0.0595	4.7377	0.1013	4.8390	1.2699	0.0983	1.3682	111.8769	8,496.3101	8,608.1871	7.4248	0.0487	8,808.3208

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2.2 Overall Operational**Mitigated Operational**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Area	1.6484	0.1226	4.1751	7.0000e-004		0.0290	0.0290		0.0290	0.0290	0.0000	93.4340	93.4340	8.1900e-003	1.5900e-003	94.1123
Energy	0.0419	0.3703	0.2405	2.2900e-003		0.0290	0.0290		0.0290	0.0290	0.0000	2.8236618	2.8236618	0.0648	0.0194	2.8310574
Mobile	1.1327	4.8983	12.4773	0.0436	3.5727	0.0340	3.6067	0.9576	0.0316	0.9892	0.0000	4.0369456	4.0369456	0.2109	0.0000	4.0422171
Waste						0.0000	0.0000		0.0000	0.0000	101.1463	0.0000	101.1463	5.9776	0.0000	250.5858
Water						0.0000	0.0000		0.0000	0.0000	10.7306	350.4985	361.2291	1.1104	0.0277	397.2548
Total	2.8230	5.3912	16.8928	0.0466	3.5727	0.0919	3.6647	0.9576	0.0895	1.0472	111.8769	7,304.5399	7,416.4168	7.3719	0.0487	7,615.2273

	ROG	NOx	CO	SO2	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	4.06	10.79	15.05	21.69	24.59	9.27	24.27	24.59	8.89	23.46	0.00	14.03	13.84	0.71	0.00	13.55

3.0 Construction Detail**Construction Phase**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2021	4/15/2021	5	34	
2	Grading	Grading	4/16/2021	6/2/2021	5	34	
3	Building Construction	Building Construction	6/3/2021	11/29/2022	5	389	
4	Paving	Paving	11/30/2022	1/16/2023	5	34	
5	Architectural Coating	Architectural Coating	1/17/2023	3/3/2023	5	34	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 34

Acres of Paving: 4.52

Residential Indoor: 686,710; Residential Outdoor: 228,903; Non-Residential Indoor: 61,494; Non-Residential Outdoor: 20,498; Striped Parking Area: 12,048 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Bore/Drill Rigs	2	6.00	221	0.50
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Crushing/Proc. Equipment	1	6.00	85	0.78
Demolition	Excavators	1	8.00	158	0.38
Demolition	Generator Sets	1	6.00	84	0.74
Demolition	Other Construction Equipment	2	6.00	172	0.42
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Dumpers/Tenders	2	6.00	16	0.38

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Grading	Excavators	4	8.00	158	0.38
Grading	Graders	2	8.00	187	0.41
Grading	Plate Compactors	2	6.00	8	0.43
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Skid Steer Loaders	2	6.00	65	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Trenchers	2	6.00	78	0.50
Building Construction	Air Compressors	8	7.00	78	0.48
Building Construction	Bore/Drill Rigs	2	6.00	221	0.50
Building Construction	Cement and Mortar Mixers	12	6.00	9	0.56
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	4	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Other General Industrial Equipment	2	6.00	88	0.34
Building Construction	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Air Compressors	2	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Concrete/Industrial Saws	2	6.00	81	0.73
Paving	Forklifts	2	6.00	89	0.20
Paving	Other General Industrial Equipment	2	6.00	88	0.34
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Surfacing Equipment	1	6.00	263	0.30
Paving	Sweepers/Scrubbers	1	6.00	64	0.46
Paving	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Trenchers	2	6.00	78	0.50
Architectural Coating	Air Compressors	1	6.00	78	0.48

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Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	11	28.00	0.00	1,829.00	14.70	6.90	86.20	LD_Mix	HDT_Mix	HHDT
Grading	17	40.00	0.00	4,004.00	14.70	6.90	86.20	LD_Mix	HDT_Mix	HHDT
Building Construction	35	388.00	82.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	24	50.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	78.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Demolition - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1979	0.0000	0.1979	0.0300	0.0000	0.0300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0681	0.6347	0.5490	1.0800e-003		0.0318	0.0318	0.0303	0.0303	0.0303	0.0000	94.3787	94.3787	0.0203	0.0000	94.8857
Total	0.0681	0.6347	0.5490	1.0800e-003	0.1979	0.0318	0.2298	0.0300	0.0303	0.0603	0.0000	94.3787	94.3787	0.0203	0.0000	94.8857

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3.2 Demolition - 2021**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	0.0281	0.8134	0.2138	2.7500e-003	0.0677	3.1400e-003	0.0708	0.0186	3.0100e-003	0.0216	0.0000	270.7581	270.7581	0.0163	0.0000	271.1665
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	2.0500e-003	1.5900e-003	0.0180	5.0000e-005	5.2200e-003	4.0000e-005	5.2600e-003	1.3900e-003	4.0000e-005	1.4200e-003	0.0000	4.7073	4.7073	1.4000e-004	0.0000	4.7107
Total	0.0302	0.8150	0.2318	2.8000e-003	0.0729	3.1800e-003	0.0761	0.0200	3.0500e-003	0.0230	0.0000	275.4654	275.4654	0.0165	0.0000	275.8772

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					0.1979	0.0000	0.1979	0.0300	0.0000	0.0300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0392	0.8049	0.7322	1.0800e-003		0.0315	0.0315		0.0311	0.0311	0.0000	94.3786	94.3786	0.0203	0.0000	94.8856
Total	0.0392	0.8049	0.7322	1.0800e-003	0.1979	0.0315	0.2294	0.0300	0.0311	0.0611	0.0000	94.3786	94.3786	0.0203	0.0000	94.8856

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3.2 Demolition - 2021**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	0.0281	0.8134	0.2138	2.7500e-003	0.0677	3.1400e-003	0.0708	0.0186	3.0100e-003	0.0216	0.0000	270.7581	270.7581	0.0163	0.0000	271.1665
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	2.0500e-003	1.5900e-003	0.0180	5.0000e-005	5.2200e-003	4.0000e-005	5.2600e-003	1.3900e-003	4.0000e-005	1.4200e-003	0.0000	4.7073	4.7073	1.4000e-004	0.0000	4.7107
Total	0.0302	0.8150	0.2318	2.8000e-003	0.0729	3.1800e-003	0.0761	0.0200	3.0500e-003	0.0230	0.0000	275.4654	275.4654	0.0165	0.0000	275.8772

3.3 Grading - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1222	0.0000	0.1222	0.0585	0.0000	0.0585	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0697	0.7322	0.5417	1.0000e-003		0.0346	0.0346		0.0319	0.0319	0.0000	87.0904	87.0904	0.0277	0.0000	87.7825
Total	0.0697	0.7322	0.5417	1.0000e-003	0.1222	0.0346	0.1568	0.0585	0.0319	0.0904	0.0000	87.0904	87.0904	0.0277	0.0000	87.7825

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3.3 Grading - 2021**Unmitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0616	1.7807	0.4681	6.0200e-003	0.1482	6.8800e-003	0.1550	0.0407	6.5800e-003	0.0473	0.0000	592.7368	592.7368	0.0358	0.0000	593.6307
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	2.9300e-003	2.2800e-003	0.0257	7.0000e-005	7.4500e-003	6.0000e-005	7.5100e-003	1.9800e-003	6.0000e-005	2.0400e-003	0.0000	6.7246	6.7246	2.0000e-004	0.0000	6.7296
Total	0.0645	1.7829	0.4938	6.0900e-003	0.1556	6.9400e-003	0.1625	0.0427	6.6400e-003	0.0493	0.0000	599.4614	599.4614	0.0360	0.0000	600.3603

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Fugitive Dust					0.1222	0.0000	0.1222	0.0585	0.0000	0.0585	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0421	0.8521	0.7070	1.0000e-003		0.0290	0.0290		0.0286	0.0286	0.0000	87.0903	87.0903	0.0277	0.0000	87.7824
Total	0.0421	0.8521	0.7070	1.0000e-003	0.1222	0.0290	0.1512	0.0585	0.0286	0.0871	0.0000	87.0903	87.0903	0.0277	0.0000	87.7824

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3.3 Grading - 2021**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	0.0616	1.7807	0.4681	6.0200e-003	0.1482	6.8800e-003	0.1550	0.0407	6.5800e-003	0.0473	0.0000	592.7368	592.7368	0.0358	0.0000	593.6307
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	2.9300e-003	2.2800e-003	0.0257	7.0000e-005	7.4500e-003	6.0000e-005	7.5100e-003	1.9800e-003	6.0000e-005	2.0400e-003	0.0000	6.7246	6.7246	2.0000e-004	0.0000	6.7296
Total	0.0645	1.7829	0.4938	6.0900e-003	0.1556	6.9400e-003	0.1625	0.0427	6.6400e-003	0.0493	0.0000	599.4614	599.4614	0.0360	0.0000	600.3603

3.4 Building Construction - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4421	3.7186	3.5287	6.7400e-003		0.1979	0.1979		0.1907	0.1907	0.0000	572.0060	572.0060	0.1058	0.0000	574.6510
Total	0.4421	3.7186	3.5287	6.7400e-003		0.1979	0.1979		0.1907	0.1907	0.0000	572.0060	572.0060	0.1058	0.0000	574.6510

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3.4 Building Construction - 2021**Unmitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0194	0.6150	0.1668	1.5800e-003	0.0393	1.2500e-003	0.0405	0.0113	1.2000e-003	0.0125	0.0000	153.6167	153.6167	9.4200e-003	0.0000	153.8522
Worker	0.1269	0.0988	1.1151	3.2300e-003	0.3231	2.6600e-003	0.3258	0.0858	2.4500e-003	0.0883	0.0000	291.6119	291.6119	8.5800e-003	0.0000	291.8264
Total	0.1462	0.7138	1.2819	4.8100e-003	0.3624	3.9100e-003	0.3663	0.0972	3.6500e-003	0.1008	0.0000	445.2285	445.2285	0.0180	0.0000	445.6786

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.2239	4.4695	4.5516	6.7400e-003		0.1853	0.1853		0.1853	0.1853	0.0000	572.0053	572.0053	0.1058	0.0000	574.6504
Total	0.2239	4.4695	4.5516	6.7400e-003		0.1853	0.1853		0.1853	0.1853	0.0000	572.0053	572.0053	0.1058	0.0000	574.6504

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3.4 Building Construction - 2021**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	0.0194	0.6150	0.1668	1.5800e-003	0.0393	1.2500e-003	0.0405	0.0113	1.2000e-003	0.0125	0.0000	153.6167	153.6167	9.4200e-003	0.0000	153.8522
Worker	0.1269	0.0988	1.1151	3.2300e-003	0.3231	2.6600e-003	0.3258	0.0858	2.4500e-003	0.0883	0.0000	291.6119	291.6119	8.5800e-003	0.0000	291.8264
Total	0.1462	0.7138	1.2819	4.8100e-003	0.3624	3.9100e-003	0.3663	0.0972	3.6500e-003	0.1008	0.0000	445.2285	445.2285	0.0180	0.0000	445.6786

3.4 Building Construction - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.6320	5.1864	5.4509	0.0105		0.2648	0.2648		0.2555	0.2555	0.0000	892.1912	892.1912	0.1634	0.0000	896.2755
Total	0.6320	5.1864	5.4509	0.0105		0.2648	0.2648		0.2555	0.2555	0.0000	892.1912	892.1912	0.1634	0.0000	896.2755

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3.4 Building Construction - 2022**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	0.0283	0.9111	0.2460	2.4500e-003	0.0612	1.7100e-003	0.0629	0.0177	1.6400e-003	0.0193	0.0000	237.4170	237.4170	0.0142	0.0000	237.7715
Worker	0.1855	0.1391	1.6020	4.8500e-003	0.5038	4.0200e-003	0.5079	0.1338	3.7100e-003	0.1375	0.0000	438.7013	438.7013	0.0121	0.0000	439.0033
Total	0.2138	1.0502	1.8480	7.3000e-003	0.5650	5.7300e-003	0.5708	0.1515	5.3500e-003	0.1568	0.0000	676.1182	676.1182	0.0263	0.0000	676.2748

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	0.3461	6.9635	7.0942	0.0105		0.2878	0.2878		0.2878	0.2878	0.0000	892.1901	892.1901	0.1634	0.0000	896.2744
Total	0.3461	6.9635	7.0942	0.0105		0.2878	0.2878		0.2878	0.2878	0.0000	892.1901	892.1901	0.1634	0.0000	896.2744

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3.4 Building Construction - 2022**Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0283	0.9111	0.2460	2.4500e-003	0.0612	1.7100e-003	0.0629	0.0177	1.6400e-003	0.0193	0.0000	237.4170	237.4170	0.0142	0.0000	237.7715
Worker	0.1855	0.1391	1.6020	4.8500e-003	0.5038	4.0200e-003	0.5079	0.1338	3.7100e-003	0.1375	0.0000	438.7013	438.7013	0.0121	0.0000	439.0033
Total	0.2138	1.0502	1.8480	7.3000e-003	0.5650	5.7300e-003	0.5708	0.1515	5.3500e-003	0.1568	0.0000	676.1182	676.1182	0.0263	0.0000	676.7748

3.5 Paving - 2022**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0420	0.3801	0.4358	7.0000e-004		0.0214	0.0214		0.0201	0.0201	0.0000	60.7797	60.7797	0.0153	0.0000	61.1622
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0420	0.3801	0.4358	7.0000e-004		0.0214	0.0214		0.0201	0.0201	0.0000	60.7797	60.7797	0.0153	0.0000	61.1622

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3.5 Paving - 2022**Unmitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3200e-003	1.7400e-003	0.0200	6.0000e-005	6.3000e-003	5.0000e-005	6.3500e-003	1.6700e-003	5.0000e-005	1.7200e-003	0.0000	5.4864	5.4864	1.5000e-004	0.0000	5.4902
Total	2.3200e-003	1.7400e-003	0.0200	6.0000e-005	6.3000e-003	5.0000e-005	6.3500e-003	1.6700e-003	5.0000e-005	1.7200e-003	0.0000	5.4864	5.4864	1.5000e-004	0.0000	5.4902

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0272	0.4655	0.5087	7.0000e-004		0.0206	0.0206		0.0202	0.0202	0.0000	60.7797	60.7797	0.0153	0.0000	61.1621
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0272	0.4655	0.5087	7.0000e-004		0.0206	0.0206		0.0202	0.0202	0.0000	60.7797	60.7797	0.0153	0.0000	61.1621

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3.5 Paving - 2022**Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3200e-003	1.7400e-003	0.0200	6.0000e-005	6.3000e-003	5.0000e-005	6.3500e-003	1.6700e-003	5.0000e-005	1.7200e-003	0.0000	5.4864	5.4864	1.5000e-004	0.0000	5.4902
Total	2.3200e-003	1.7400e-003	0.0200	6.0000e-005	6.3000e-003	5.0000e-005	6.3500e-003	1.6700e-003	5.0000e-005	1.7200e-003	0.0000	5.4864	5.4864	1.5000e-004	0.0000	5.4902

3.5 Paving - 2023**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0188	0.1689	0.2081	3.4000e-004		9.1300e-003	9.1300e-003		8.5700e-003	8.5700e-003	0.0000	29.0718	29.0718	7.2800e-003	0.0000	29.2538
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0188	0.1689	0.2081	3.4000e-004		9.1300e-003	9.1300e-003		8.5700e-003	8.5700e-003	0.0000	29.0718	29.0718	7.2800e-003	0.0000	29.2538

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3.5 Paving - 2023**Unmitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0400e-003	7.5000e-004	8.8100e-003	3.0000e-005	3.0100e-003	2.0000e-005	3.0400e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.5279	2.5279	7.0000e-005	0.0000	2.5295
Total	1.0400e-003	7.5000e-004	8.8100e-003	3.0000e-005	3.0100e-003	2.0000e-005	3.0400e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.5279	2.5279	7.0000e-005	0.0000	2.5295

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0127	0.2190	0.2432	3.4000e-004		9.5900e-003	9.5900e-003		9.4400e-003	9.4400e-003	0.0000	29.0718	29.0718	7.2800e-003	0.0000	29.2538
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0127	0.2190	0.2432	3.4000e-004		9.5900e-003	9.5900e-003		9.4400e-003	9.4400e-003	0.0000	29.0718	29.0718	7.2800e-003	0.0000	29.2538

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3.5 Paving - 2023**Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0400e-003	7.5000e-004	8.8100e-003	3.0000e-005	3.0100e-003	2.0000e-005	3.0400e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.5279	2.5279	7.0000e-005	0.0000	2.5295
Total	1.0400e-003	7.5000e-004	8.8100e-003	3.0000e-005	3.0100e-003	2.0000e-005	3.0400e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.5279	2.5279	7.0000e-005	0.0000	2.5295

3.6 Architectural Coating - 2023**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Archit. Coating	1.2789					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2600e-003	0.0222	0.0308	5.0000e-005		1.2000e-003	1.2000e-003		1.2000e-003	1.2000e-003	0.0000	4.3405	4.3405	2.6000e-004	0.0000	4.3470
Total	1.2822	0.0222	0.0308	5.0000e-005		1.2000e-003	1.2000e-003		1.2000e-003	1.2000e-003	0.0000	4.3405	4.3405	2.6000e-004	0.0000	4.3470

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3.6 Architectural Coating - 2023**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	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	5.0300e-003	3.6300e-003	0.0425	1.3000e-004	0.0145	1.1000e-004	0.0146	3.8600e-003	1.0000e-004	3.9600e-003	0.0000	12.1891	12.1891	3.1000e-004	0.0000	12.1970
Total	5.0300e-003	3.6300e-003	0.0425	1.3000e-004	0.0145	1.1000e-004	0.0146	3.8600e-003	1.0000e-004	3.9600e-003	0.0000	12.1891	12.1891	3.1000e-004	0.0000	12.1970

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2789					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0100e-003	0.0231	0.0312	5.0000e-005		1.6200e-003	1.6200e-003		1.6200e-003	1.6200e-003	0.0000	4.3405	4.3405	2.6000e-004	0.0000	4.3470
Total	1.2799	0.0231	0.0312	5.0000e-005		1.6200e-003	1.6200e-003		1.6200e-003	1.6200e-003	0.0000	4.3405	4.3405	2.6000e-004	0.0000	4.3470

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3.6 Architectural Coating - 2023**Mitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0300e-003	3.6300e-003	0.0425	1.3000e-004	0.0145	1.1000e-004	0.0146	3.8600e-003	1.0000e-004	3.9600e-003	0.0000	12.1891	12.1891	3.1000e-004	0.0000	12.1970
Total	5.0300e-003	3.6300e-003	0.0425	1.3000e-004	0.0145	1.1000e-004	0.0146	3.8600e-003	1.0000e-004	3.9600e-003	0.0000	12.1891	12.1891	3.1000e-004	0.0000	12.1970

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

Increase Transit Accessibility

Integrate Below Market Rate Housing

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Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Mitigated	1.1327	4.8983	12.4773	0.0436	3.5727	0.0340	3.6067	0.9576	0.0316	0.9892	0.0000	4,036.9456	4,036.9456	0.2109	0.0000	4,042.2171
Unmitigated	1.2521	5.5502	15.4691	0.0565	4.7377	0.0434	4.7811	1.2699	0.0403	1.3102	0.0000	5,228.7158	5,228.7158	0.2638	0.0000	5,235.3106

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate				Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT	Annual VMT	Annual VMT	Annual VMT
Apartment Mid Rise	1,211.02	1,211.02	1211.02	4,138,239	3,120,688			
Enclosed Parking with Elevator	0.00	0.00	0.00					
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00					
Regional Shopping Center	3,858.11	3,858.11	3858.11	8,344,498	6,292,669			
Supermarket	0.00	0.00	0.00					
Total	5,069.13	5,069.13	5,069.13	12,482,737	9,413,357			

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		
Apartment Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3		
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0		
High Turnover (Sit Down Restaurant)	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43		
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11		
Supermarket	16.60	8.40	6.90	6.50	74.50	19.00	34	30	36		

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
Enclosed Parking with Elevator	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
High Turnover (Sit Down Restaurant)	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
Regional Shopping Center	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
Supermarket	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,408.710 6	2,408.710 6	0.0569	0.0118	2,413.640 3
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,408.710 6	2,408.710 6	0.0569	0.0118	2,413.640 3
NaturalGas Mitigated	0.0419	0.3703	0.2405	2.2900e-003		0.0290	0.0290		0.0290	0.0290	0.0000	414.9512	414.9512	7.9500e-003	7.6100e-003	417.4170
NaturalGas Unmitigated	0.0419	0.3703	0.2405	2.2900e-003		0.0290	0.0290		0.0290	0.0290	0.0000	414.9512	414.9512	7.9500e-003	7.6100e-003	417.4170

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

Land Use	NaturalGas Use kBTU/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr												MT/yr					
Apartment Mid Rise	3.69599e+006	0.0199	0.1703	0.0725	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	197.2323	197.2323	3.7800e-003	3.6200e-003	198.4043
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	3.58301e+006	0.0193	0.1756	0.1475	1.0500e-003		0.0134	0.0134		0.0134	0.0134	0.0000	191.2031	191.2031	3.6600e-003	3.5100e-003	192.3393
Regional Shopping Center	5234.88	3.0000e-005	2.6000e-004	2.2000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2794	0.2794	1.0000e-005	1.0000e-005	0.2810
Supermarket	491653	2.6500e-003	0.0241	0.0202	1.4000e-004		1.8300e-003	1.8300e-003		1.8300e-003	1.8300e-003	0.0000	26.2365	26.2365	5.0000e-004	4.8000e-004	26.3924
Total		0.0419	0.3703	0.2405	2.2800e-003		0.0290	0.0290		0.0290	0.0290	0.0000	414.9512	414.9512	7.9500e-003	7.6200e-003	417.4170

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

Land Use	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	kBTU/yr	tons/yr											MT/yr				
Apartments Mid Rise	3.69599e+006	0.0199	0.1703	0.0725	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	197.2323	197.2323	3.7800e-003	3.6200e-003	198.4043
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	3.58301e+006	0.0193	0.1756	0.1475	1.0500e-003		0.0134	0.0134		0.0134	0.0134	0.0000	191.2031	191.2031	3.6600e-003	3.5100e-003	192.3393
Regional Shopping Center	5234.88	3.0000e-005	2.6000e-004	2.2000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2794	0.2794	1.0000e-005	1.0000e-005	0.2810
Supermarket	491653	2.6500e-003	0.0241	0.0202	1.4000e-004		1.8300e-003	1.8300e-003		1.8300e-003	1.8300e-003	0.0000	26.2365	26.2365	5.0000e-004	4.8000e-004	26.3924
Total		0.0419	0.3703	0.2405	2.2800e-003		0.0290	0.0290		0.0290	0.0290	0.0000	414.9512	414.9512	7.9500e-003	7.6200e-003	417.4170

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

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.58799e +006	884.4505	0.0209	4.3200e- 003	886.2606
Enclosed Parking with Elevator	1.17669e +006	655.3700	0.0155	3.2000e- 003	656.7112
High Turnover (Sit Down Restaurant)	685362	381.7202	9.0200e- 003	1.8700e- 003	382.5014
Regional Shopping Center	43092	24.0006	5.7000e- 004	1.2000e- 004	24.0497
Supermarket	831600	463.1694	0.0109	2.2600e- 003	464.1174
Total		2,408.710 6	0.0569	0.0118	2,413.640 3

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

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartment Mid Rise	1.58799e +006	884.4505	0.0209	4.3200e- 003	886.2606
Enclosed Parking with Elevator	1.17669e +006	655.3700	0.0155	3.2000e- 003	656.7112
High Turnover (Sit Down Restaurant)	685362	381.7202	9.0200e- 003	1.8700e- 003	382.5014
Regional Shopping Center	43092	24.0006	5.7000e- 004	1.2000e- 004	24.0497
Supermarket	831600	463.1694	0.0109	2.2600e- 003	464.1174
Total		2,408.710 6	0.0569	0.0118	2,413.640 3

6.0 Area Detail**6.1 Mitigation Measures Area**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.6484	0.1226	4.1751	7.0000e-004		0.0290	0.0290		0.0290	0.0290	0.0000	93.4340	93.4340	8.1900e-003	1.5900e-003	94.1123
Unmitigated	1.6484	0.1226	4.1751	7.0000e-004		0.0290	0.0290		0.0290	0.0290	0.0000	93.4340	93.4340	8.1900e-003	1.5900e-003	94.1123

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	0.1279					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3865					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	8.7600e-003	0.0748	0.0318	4.8000e-004		6.0500e-003	6.0500e-003		6.0500e-003	6.0500e-003	0.0000	86.6655	86.6655	1.6600e-003	1.5900e-003	87.1805
Landscaping	0.1253	0.0477	4.1432	2.2000e-004		0.0229	0.0229		0.0229	0.0229	0.0000	6.7685	6.7685	6.5300e-003	0.0000	6.9318
Total	1.6484	0.1226	4.1751	7.0000e-004		0.0290	0.0290		0.0290	0.0290	0.0000	93.4340	93.4340	8.1900e-003	1.5900e-003	94.1123

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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	0.1279					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.3865					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	8.7600e-003	0.0748	0.0318	4.8000e-004		6.0500e-003	6.0500e-003		6.0500e-003	6.0500e-003	0.0000	86.6655	86.6655	1.6600e-003	1.5900e-003	87.1805
Landscaping	0.1253	0.0477	4.1432	2.2000e-004		0.0229	0.0229		0.0229	0.0229	0.0000	6.7685	6.7685	6.5300e-003	0.0000	6.9318
Total	1.6484	0.1226	4.1751	7.0000e-004		0.0290	0.0290		0.0290	0.0290	0.0000	93.4340	93.4340	8.1900e-003	1.5900e-003	94.1123

7.0 Water Detail**7.1 Mitigation Measures Water**

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	361.2291	1.1104	0.0277	397.2548
Unmitigated	361.2291	1.1104	0.0277	397.2548

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	26.1268 / 16.4712	299.6866	0.8582	0.0215	327.5569
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	4.71388 / 0.300886	37.5433	0.1545	3.8000e-003	42.5379
Regional Shopping Center	0.236291 / 0.144824	2.6847	7.7600e-003	1.9000e-004	2.9368
Supermarket	2.74642 / 0.0849407	21.3145	0.0900	2.2100e-003	24.2233
Total		361.2291	1.1104	0.0277	397.2548

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7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartment Mid Rise	26.1268 / 16.4712	299.6866	0.8582	0.0215	327.5569
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	4.71388 / 0.300886	37.5433	0.1545	3.8000e-003	42.5379
Regional Shopping Center	0.236291 / 0.144824	2.6847	7.7600e-003	1.9000e-004	2.9368
Supermarket	2.74642 / 0.0849407	21.3145	0.0900	2.2100e-003	24.2233
Total		361.2291	1.1104	0.0277	397.2548

8.0 Waste Detail**8.1 Mitigation Measures Waste**

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	101.1463	5.9776	0.0000	250.5858
Unmitigated	101.1463	5.9776	0.0000	250.5858

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	184.46	37.4437	2.2129	0.0000	92.7652
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	184.81	37.5148	2.2171	0.0000	92.9412
Regional Shopping Center	3.35	0.6800	0.0402	0.0000	1.6847
Supermarket	125.66	25.5078	1.5075	0.0000	63.1946
Total		101.1463	5.9776	0.0000	250.5858

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8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartment Mid Rise	184.46	37.4437	2.2129	0.0000	92.7652
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	184.81	37.5148	2.2171	0.0000	92.9412
Regional Shopping Center	3.35	0.6800	0.0402	0.0000	1.6847
Supermarket	125.66	25.5078	1.5075	0.0000	63.1946
Total		101.1463	5.9776	0.0000	250.5858

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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11.0 Vegetation

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Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	502.00	Space	4.52	200,800.00	0
High Turnover (Sit Down Restaurant)	15.53	1000sqft	0.36	15,527.00	0
Apartments Mid Rise	401.00	Dwelling Unit	3.40	339,116.00	1147
Regional Shopping Center	3.19	1000sqft	0.07	3,192.00	0
Supermarket	22.28	1000sqft	0.51	22,277.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	11			Operational Year	2023

Utility Company Los Angeles Department of Water & Power

CO2 Intensity (lb/MW/hr)	1227.89	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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1.3 User Entered Comments & Non-Default Data

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Project Characteristics -

Land Use - See SWAPE comment regarding parking and all land uses.

Construction Phase - See SWAPE comment on Unsubstantiated Changes to Individual Construction Phase Lengths.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent with the IS's model.

Off-road Equipment - Consistent in the IS

Trips and VMT - Consistent with the IS's model.

Demolition - Consistent with the IS's model.

Grading - Consistent with the IS's model.

Vehicle Trips - Trip rates altered to be consistent with the total number of daily trips in the IS's model.

Woodstoves - See SWAPE comment on Unsubstantiated Changes to Gas Fireplace Values.

Construction Off-road Equipment Mitigation - Consistent with the IS's model.

Mobile Land Use Mitigation - Consistent with the IS/MND's model.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 1
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 1
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

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tblConstEquipMitigation	Tier	No Change	Tier 1
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 1
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	34.00
tblConstructionPhase	NumDays	230.00	389.00
tblConstructionPhase	NumDays	20.00	34.00
tblConstructionPhase	NumDays	20.00	34.00
tblConstructionPhase	NumDays	20.00	34.00
tblConstructionPhase	PhaseEndDate	5/6/2022	3/3/2023
tblConstructionPhase	PhaseEndDate	3/11/2022	11/29/2022
tblConstructionPhase	PhaseEndDate	3/26/2021	4/15/2021
tblConstructionPhase	PhaseEndDate	4/23/2021	6/2/2021
tblConstructionPhase	PhaseEndDate	4/8/2022	1/16/2023
tblConstructionPhase	PhaseStartDate	4/9/2022	1/17/2023
tblConstructionPhase	PhaseStartDate	4/24/2021	6/3/2021
tblConstructionPhase	PhaseStartDate	3/27/2021	4/16/2021
tblConstructionPhase	PhaseStartDate	3/12/2022	11/30/2022
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	340.85	360.90
tblFireplaces	NumberNoFireplace	40.10	0.00
tblFireplaces	NumberWood	20.05	0.00
tblGrading	MaterialExported	0.00	34,000.00
tblGrading	MaterialImported	0.00	6,500.00
tblLandUse	LandUseSquareFeet	15,530.00	15,527.00

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tblLandUse	LandUseSquareFeet	401,000.00	339,116.00
tblLandUse	LandUseSquareFeet	3,190.00	3,192.00
tblLandUse	LandUseSquareFeet	22,280.00	22,277.00
tblLandUse	LotAcreage	10.55	3.40
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblTripsAndVMT	HaulingTripLength	20.00	86.20
tblTripsAndVMT	HaulingTripLength	20.00	86.20
tblTripsAndVMT	WorkerTripNumber	43.00	40.00
tblTripsAndVMT	WorkerTripNumber	60.00	50.00
tblVehicleTrips	ST_TR	6.39	3.02
tblVehicleTrips	ST_TR	158.37	0.00
tblVehicleTrips	ST_TR	49.97	1,209.44
tblVehicleTrips	ST_TR	177.59	0.00
tblVehicleTrips	SU_TR	5.86	3.02
tblVehicleTrips	SU_TR	131.84	0.00
tblVehicleTrips	SU_TR	25.24	1,209.44

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tbiVehicleTrips	SU_TR	166.44	0.00
tbiVehicleTrips	WD_TR	6.65	3.02
tbiVehicleTrips	WD_TR	127.15	0.00
tbiVehicleTrips	WD_TR	42.70	1,209.44
tbiVehicleTrips	WD_TR	102.24	0.00
tbiWoodstoves	NumberCatalytic	20.05	0.00
tbiWoodstoves	NumberNoncatalytic	20.05	0.00
tbiWoodstoves	WoodstoveDayYear	25.00	0.00
tbiWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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2.1 Overall Construction (Maximum Daily Emission)**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	7.8875	143.0151	64.1396	0.4180	16.5030	2.6549	18.9443	5.9892	2.5565	8.2534	0.0000	44,609.27 62	44,609.27 62	4.1176	0.0000	44,712.21 53
2022	7.1248	52.3705	62.3868	0.1524	4.8619	2.2828	7.1447	1.3013	2.2007	3.5020	0.0000	14,796.73 36	14,796.73 36	1.7656	0.0000	14,840.87 33
2023	75.7154	30.8241	39.5424	0.0664	0.8719	1.6646	2.2235	0.2312	1.5616	1.7098	0.0000	6,355.820 6	6,355.820 6	1.4727	0.0000	6,392.638 8
Maximum	75.7154	143.0151	64.1396	0.4180	16.5030	2.6549	18.9443	5.9892	2.5565	8.2534	0.0000	44,609.27 62	44,609.27 62	4.1176	0.0000	44,712.21 53

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	6.2615	150.0645	77.5984	0.4180	16.5030	2.4898	18.6143	5.9892	2.4864	8.0615	0.0000	44,609.27 62	44,609.27 62	4.1176	0.0000	44,712.21 53
2022	4.7121	67.3671	76.2539	0.1524	4.8619	2.4765	7.3384	1.3013	2.4732	3.7745	0.0000	14,796.73 36	14,796.73 36	1.7656	0.0000	14,840.87 33
2023	75.5832	39.9385	45.9300	0.0664	0.8719	1.7486	2.3075	0.2312	1.7199	1.8682	0.0000	6,355.820 6	6,355.820 6	1.4727	0.0000	6,392.638 8
Maximum	75.5832	150.0645	77.5984	0.4180	16.5030	2.4898	18.6143	5.9892	2.4864	8.0615	0.0000	44,609.27 62	44,609.27 62	4.1176	0.0000	44,712.21 53

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	4.60	-13.78	-20.30	0.00	0.00	-1.71	0.18	0.00	-5.71	-1.78	0.00	0.00	0.00	0.00	0.00	0.00

2021.08.26_CrenshawCrossings_CalEEMod - Los Angeles-South Coast County, Summer

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.0007	6.3686	35.6933	0.0400		0.6674	0.6674		0.6674	0.6674	0.0000	7,702.276 5	7,702.276 5	0.2041	0.1401	7,749.132 5
Energy	0.2298	2.0290	1.3176	0.0125		0.1587	0.1587		0.1587	0.1587		2,506.330 9	2,506.330 9	0.0480	0.0460	2,521.224 8
Mobile	7.3068	29.4289	87.6417	0.3220	26.5436	0.2381	26.7817	7.1032	0.2214	7.3246		32,806.88 78	32,806.88 78	1.6042		32,846.99 35
Total	17.5373	37.8266	124.6526	0.3744	26.5436	1.0642	27.6078	7.1032	1.0475	8.1507	0.0000	43,015.49 53	43,015.49 53	1.8564	0.1861	43,117.35 08

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.0007	6.3686	35.6933	0.0400		0.6674	0.6674		0.6674	0.6674	0.0000	7,702.276 5	7,702.276 5	0.2041	0.1401	7,749.132 5
Energy	0.2298	2.0290	1.3176	0.0125		0.1587	0.1587		0.1587	0.1587		2,506.330 9	2,506.330 9	0.0480	0.0460	2,521.224 8
Mobile	6.6392	26.1322	69.9719	0.2485	20.0168	0.1864	20.2032	5.3566	0.1733	5.5299		25,332.91 98	25,332.91 98	1.2773		25,364.85 14
Total	16.8697	34.5299	106.9828	0.3009	20.0168	1.0125	21.0293	5.3566	0.9994	6.3560	0.0000	35,541.52 72	35,541.52 72	1.5294	0.1861	35,635.20 87

2021.08.26_CrenshawCrossings_CalEEMod - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	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	3.81	8.72	14.18	19.63	24.59	4.85	23.83	24.59	4.59	22.02	0.00	17.38	17.38	17.61	0.00	17.35

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2021	4/15/2021	5	34	
2	Grading	Grading	4/16/2021	6/2/2021	5	34	
3	Building Construction	Building Construction	6/3/2021	11/29/2022	5	389	
4	Paving	Paving	11/30/2022	1/16/2023	5	34	
5	Architectural Coating	Architectural Coating	1/17/2023	3/3/2023	5	34	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 34

Acres of Paving: 4.52

Residential Indoor: 686,710; Residential Outdoor: 228,903; Non-Residential Indoor: 61,494; Non-Residential Outdoor: 20,498; Striped Parking Area: 12,048 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Air Compressors	1	8.00	78	0.48
Demolition	Bore/Drill Rigs	2	6.00	221	0.50
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Crushing/Proc. Equipment	1	6.00	85	0.78
Demolition	Excavators	1	8.00	158	0.38

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Demolition	Generator Sets	1	6.00	84	0.74
Demolition	Other Construction Equipment	2	6.00	172	0.42
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Dumpers/Tenders	2	6.00	16	0.38
Grading	Excavators	4	8.00	158	0.38
Grading	Graders	2	8.00	187	0.41
Grading	Plate Compactors	2	6.00	8	0.43
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Skid Steer Loaders	2	6.00	65	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Trenchers	2	6.00	78	0.50
Building Construction	Air Compressors	8	7.00	78	0.48
Building Construction	Bore/Drill Rigs	2	6.00	221	0.50
Building Construction	Cement and Mortar Mixers	12	6.00	9	0.56
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	4	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Other General Industrial Equipment	2	6.00	88	0.34
Building Construction	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Air Compressors	2	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Concrete/Industrial Saws	2	6.00	81	0.73
Paving	Forklifts	2	6.00	89	0.20
Paving	Other General Industrial Equipment	2	6.00	88	0.34

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Paving	Paving Equipment	2	6.00	132	0.36
Paving	Surfacing Equipment	1	6.00	263	0.30
Paving	Sweepers/Scrubbers	1	6.00	64	0.46
Paving	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Trenchers	2	6.00	78	0.50
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
Demolition	11	28.00	0.00	1,829.00	14.70	6.90	86.20	LD_Mix	HDT_Mix	HHDT
Grading	17	40.00	0.00	4,004.00	14.70	6.90	86.20	LD_Mix	HDT_Mix	HHDT
Building Construction	35	388.00	82.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	24	50.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	78.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

2021.08.26_CrenshawCrossings_CalEEMod - Los Angeles-South Coast County, Summer

3.2 Demolition - 2021**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Fugitive Dust	11.6436	0.0000	11.6436	1.7629	0.0000	1.7629	1.7629	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	4.0063	37.3378	32.2928	0.0638	1.8716	1.8716	1.8716	1.7822	1.7822	1.7822	6,119.691 3	6,119.691 3	6,119.691 3	1.3148		6,152.561 7
Total	4.0063	37.3378	32.2928	0.0638	11.6436	1.8716	13.5152	1.7629	1.7822	3.5451		6,119.691 3	6,119.691 3	1.3148		6,152.561 7

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	1.6514	45.5991	12.5402	0.1621	4.0503	0.1845	4.2348	1.1099	0.1765	1.2864		17,589.58 48	17,589.58 48	1.0547		17,615.95 16
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1200	0.0825	1.1278	3.2000e- 003	0.3130	2.5300e- 003	0.3155	0.0830	2.3300e- 003	0.0853		318.8556	318.8556	9.4000e- 003		319.0904
Total	1.7714	45.6816	13.6680	0.1653	4.3632	0.1870	4.5503	1.1929	0.1789	1.3718		17,908.44 03	17,908.44 03	1.0641		17,935.04 21

2021.08.26_CrenshawCrossings_CalEEMod - Los Angeles-South Coast County, Summer

3.2 Demolition - 2021**Mitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Fugitive Dust	11.6436	0.0000	11.6436	1.7629	0.0000	1.7629	1.7629	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3028	47.3494	43.0682	0.0638	11.6436	1.8513	1.8513	1.8300	1.8300	1.8300	0.0000	6,119.691 3	6,119.691 3	1.3148	1.3148	6,152.561 7
Total	2.3028	47.3494	43.0682	0.0638	11.6436	1.8513	13.4948	1.7629	1.8300	3.5929	0.0000	6,119.691 3	6,119.691 3	1.3148		6,152.561 7

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	1.6514	45.5991	12.5402	0.1621	4.0503	0.1845	4.2348	1.1099	0.1765	1.2864	17,589.58 48	17,589.58 48	17,589.58 48	1.0547		17,615.95 16
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	0.1200	0.0825	1.1278	3.2000e- 003	0.3130	2.5300e- 003	0.3155	0.0830	2.3300e- 003	0.0853	318.8556	318.8556	318.8556	9.4000e- 003		319.0904
Total	1.7714	45.6816	13.6680	0.1653	4.3632	0.1870	4.5503	1.1929	0.1789	1.3718		17,908.44 03	17,908.44 03	1.0641		17,935.04 21

2021.08.26_CrenshawCrossings_CalEEMod - Los Angeles-South Coast County, Summer

3.3 Grading - 2021**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Fugitive Dust	..	..	..	..	7.1892	0.0000	7.1892	3.4409	0.0000	3.4409			0.0000			0.0000
Off-Road	4.1009	43.0730	31.8662	0.0587		2.0338	2.0338		1.8744	1.8744		5,647.099 3	5,647.099 3	1.7953		5,691.981 3
Total	4.1009	43.0730	31.8662	0.0587	7.1892	2.0338	9.2229	3.4409	1.8744	5.3152		5,647.099 3	5,647.099 3	1.7953		5,691.981 3

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	3.6151	99.8243	27.4527	0.3548	8.8667	0.4039	9.2706	2.4298	0.3865	2.8162		38,506.66 89	38,506.66 89	2.3089		38,564.39 05
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1715	0.1179	1.6111	4.5700e- 003	0.4471	3.6100e- 003	0.4507	0.1186	3.3300e- 003	0.1219		455.5079	455.5079	0.0134		455.8435
Total	3.7866	99.9421	29.0638	0.3593	9.3138	0.4075	9.7214	2.5484	0.3898	2.9381		38,962.17 68	38,962.17 68	2.3223		39,020.23 40

2021.08.26_CrenshawCrossings_CalEEMod - Los Angeles-South Coast County, Summer

3.3 Grading - 2021**Mitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Fugitive Dust	..	..	..	..	7.1892	0.0000	7.1892	3.4409	0.0000	3.4409	..	..	0.0000	..	..	0.0000
Off-Road	2.4749	50.1224	41.5901	0.0587	..	1.7038	1.7038	..	1.6825	1.6825	0.0000	5,647.099 3	5,647.099 3	1.7953	..	5,691.981 2
Total	2.4749	50.1224	41.5901	0.0587	7.1892	1.7038	8.8930	3.4409	1.6825	5.1234	0.0000	5,647.099 3	5,647.099 3	1.7953	..	5,691.981 2

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	3.6151	99.8243	27.4527	0.3548	8.8667	0.4039	9.2706	2.4298	0.3865	2.8162	..	38,506.66 89	38,506.66 89	2.3089	..	38,564.39 05
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	..	0.0000	0.0000	0.0000	..	0.0000
Worker	0.1715	0.1179	1.6111	4.5700e- 003	0.4471	3.6100e- 003	0.4507	0.1186	3.3300e- 003	0.1219	..	455.5079	455.5079	0.0134	..	455.8435
Total	3.7866	99.9421	29.0638	0.3593	9.3138	0.4075	9.7214	2.5484	0.3898	2.9381	..	38,962.17 68	38,962.17 68	2.3223	..	39,020.23 40

2021.08.26_CrenshawCrossings_CalEEMod - Los Angeles-South Coast County, Summer

3.4 Building Construction - 2021**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	5.8169	48.9289	46.4306	0.0887		2.6036	2.6036		2.5086	2.5086		8,296.429 ₃	8,296.429 ₃	1.5346		8,334.793 ₈
Total	5.8169	48.9289	46.4306	0.0887		2.6036	2.6036		2.5086	2.5086		8,296.429₃	8,296.429₃	1.5346		8,334.793₈

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2493	7.9613	2.0813	0.0211	0.5250	0.0163	0.5413	0.1512	0.0156	0.1667		2,254.021 ₂	2,254.021 ₂	0.1328		2,257.340 ₉
Worker	1.6632	1.1432	15.6276	0.0444	4.3369	0.0350	4.3720	1.1502	0.0323	1.1825		4,418.427 ₀	4,418.427 ₀	0.1302		4,421.681 ₇
Total	1.9124	9.1045	17.7089	0.0655	4.8619	0.0513	4.9132	1.3013	0.0479	1.3492		6,672.448₂	6,672.448₂	0.2630		6,679.022₇

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3.4 Building Construction - 2021**Mitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	2.9462	58.8094	59.8895	0.0887		2.4385	2.4385		2.4385	2.4385	0.0000	8,296.429 ₃	8,296.429 ₃	1.5346		8,334.793 ₈
Total	2.9462	58.8094	59.8895	0.0887		2.4385	2.4385		2.4385	2.4385	0.0000	8,296.429 ₃	8,296.429 ₃	1.5346		8,334.793 ₈

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2493	7.9613	2.0813	0.0211	0.5250	0.0163	0.5413	0.1512	0.0156	0.1667		2,254.021 ₂	2,254.021 ₂	0.1328		2,257.340 ₉
Worker	1.6632	1.1432	15.6276	0.0444	4.3369	0.0350	4.3720	1.1502	0.0323	1.1825		4,418.427 ₀	4,418.427 ₀	0.1302		4,421.681 ₇
Total	1.9124	9.1045	17.7089	0.0655	4.8619	0.0513	4.9132	1.3013	0.0479	1.3492		6,672.448 ₂	6,672.448 ₂	0.2630		6,679.022 ₇

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3.4 Building Construction - 2022**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	5.330	43.768	45.994	0.0887		2.2346	2.2346		2.1558	2.1558		8,299.345 5	8,299.345 5	1.5197		8,337.338 1
Total	5.330	43.768	45.994	0.0887		2.2346	2.2346		2.1558	2.1558		8,299.345 5	8,299.345 5	1.5197		8,337.338 1

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2339	7.5711	1.9692	0.0209	0.5250	0.0142	0.5392	0.1512	0.0136	0.1648		2,234.384 3	2,234.384 3	0.1282		2,237.589 9
Worker	1.5579	1.0326	14.4182	0.0428	4.3369	0.0340	4.3709	1.1502	0.0313	1.1814		4,263.003 8	4,263.003 8	0.1177		4,265.945 3
Total	1.7918	8.6037	16.3874	0.0637	4.8619	0.0482	4.9101	1.3013	0.0449	1.3462		6,497.388 1	6,497.388 1	0.2459		6,503.535 2

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3.4 Building Construction - 2022**Mitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	2.9203	58.7634	59.8665	0.0887		2.4283	2.4283		2.4283	2.4283	0.0000	8,299.345 5	8,299.345 5	1.5197		8,337.338 1
Total	2.9203	58.7634	59.8665	0.0887		2.4283	2.4283		2.4283	2.4283	0.0000	8,299.345 5	8,299.345 5	1.5197		8,337.338 1

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2339	7.5711	1.9692	0.0209	0.5250	0.0142	0.5392	0.1512	0.0136	0.1648		2,234.384 3	2,234.384 3	0.1282		2,237.589 9
Worker	1.5579	1.0326	14.4182	0.0428	4.3369	0.0340	4.3709	1.1502	0.0313	1.1814		4,263.003 8	4,263.003 8	0.1177		4,265.945 3
Total	1.7918	8.6037	16.3874	0.0637	4.8619	0.0482	4.9101	1.3013	0.0449	1.3462		6,497.388 1	6,497.388 1	0.2459		6,503.535 2

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3.5 Paving - 2022**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	3.6500	33.0548	37.8955	0.0611		1.8643	1.8643		1.7496	1.7496		5,825.928 ₃	5,825.928 ₃	1.4665		5,862.591 ₂
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	3.6500	33.0548	37.8955	0.0611		1.8643	1.8643		1.7496	1.7496		5,825.928₃	5,825.928₃	1.4665		5,862.591₂

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2008	0.1331	1.8580	5.5100e-003	0.5589	4.3700e-003	0.5633	0.1482	4.0300e-003	0.1523		549.3562	549.3562	0.0152		549.7352
Total	0.2008	0.1331	1.8580	5.5100e-003	0.5589	4.3700e-003	0.5633	0.1482	4.0300e-003	0.1523		549.3562	549.3562	0.0152		549.7352

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3.5 Paving - 2022**Mitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	2.3677	40.4818	44.2367	0.0611		1.7884	1.7884		1.7566	1.7566	0.0000	5,825.928 ₃	5,825.928 ₃	1.4665		5,862.591 ₂
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.3677	40.4818	44.2367	0.0611		1.7884	1.7884		1.7566	1.7566	0.0000	5,825.928₃	5,825.928₃	1.4665		5,862.591₂

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2008	0.1331	1.8580	5.5100e-003	0.5589	4.3700e-003	0.5633	0.1482	4.0300e-003	0.1523		549.3562	549.3562	0.0152		549.7352
Total	0.2008	0.1331	1.8580	5.5100e-003	0.5589	4.3700e-003	0.5633	0.1482	4.0300e-003	0.1523		549.3562	549.3562	0.0152		549.7352

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3.5 Paving - 2023**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	3.4257	30.7037	37.8313	0.0611		1.6603	1.6603		1.5577	1.5577		5,826.579 6	5,826.579 6	1.4591		5,863.056 1
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	3.4257	30.7037	37.8313	0.0611		1.6603	1.6603		1.5577	1.5577		5,826.579 6	5,826.579 6	1.4591		5,863.056 1

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1885	0.1204	1.7111	5.3100e-003	0.5589	4.2500e-003	0.5631	0.1482	3.9100e-003	0.1521		529.2410	529.2410	0.0137		529.5828
Total	0.1885	0.1204	1.7111	5.3100e-003	0.5589	4.2500e-003	0.5631	0.1482	3.9100e-003	0.1521		529.2410	529.2410	0.0137		529.5828

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3.5 Paving - 2023**Mitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	2.3126	39.8181	44.2189	0.0611		1.7444	1.7444		1.7160	1.7160	0.0000	5,826.579 6	5,826.579 6	1.4591		5,863.056 1
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.3126	39.8181	44.2189	0.0611		1.7444	1.7444		1.7160	1.7160	0.0000	5,826.579 6	5,826.579 6	1.4591		5,863.056 1

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1885	0.1204	1.7111	5.3100e-003	0.5589	4.2500e-003	0.5631	0.1482	3.9100e-003	0.1521		529.2410	529.2410	0.0137		529.5828
Total	0.1885	0.1204	1.7111	5.3100e-003	0.5589	4.2500e-003	0.5631	0.1482	3.9100e-003	0.1521		529.2410	529.2410	0.0137		529.5828

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3.6 Architectural Coating - 2023**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Archit. Coating	75.2297					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	75.4213	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2941	0.1878	2.6693	8.2800e-003	0.8719	6.6300e-003	0.8785	0.2312	6.1100e-003	0.2373		825.6160	825.6160	0.0213		826.1491
Total	0.2941	0.1878	2.6693	8.2800e-003	0.8719	6.6300e-003	0.8785	0.2312	6.1100e-003	0.2373		825.6160	825.6160	0.0213		826.1491

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3.6 Architectural Coating - 2023**Mitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Archit. Coating	75.2297					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0168		281.8690
Total	75.2891	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0168		281.8690

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2941	0.1878	2.6693	8.2800e-003	0.8719	6.6300e-003	0.8785	0.2312	6.1100e-003	0.2373		825.6160	825.6160	0.0213		826.1491
Total	0.2941	0.1878	2.6693	8.2800e-003	0.8719	6.6300e-003	0.8785	0.2312	6.1100e-003	0.2373		825.6160	825.6160	0.0213		826.1491

4.0 Operational Detail - Mobile

2021.08.26_CrenshawCrossings_CalEEMod - Los Angeles-South Coast County, Summer

4.1 Mitigation Measures Mobile

Increase Transit Accessibility

Integrate Below Market Rate Housing

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.6392	26.1322	69.9719	0.2485	20.0168	0.1864	20.2032	5.3566	0.1733	5.5299		25,332.9198	25,332.9198	1.2773		25,364.8514
Unmitigated	7.3068	29.4289	87.6417	0.3220	26.5436	0.2381	26.7817	7.1032	0.2214	7.3246		32,806.8878	32,806.8878	1.6042		32,846.9935

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
Apartment Mid Rise	1,211.02	1,211.02	1211.02	4,138,239	3,120,688
Enclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Regional Shopping Center	3,858.11	3,858.11	3858.11	8,344,498	6,292,669
Supermarket	0.00	0.00	0.00		
Total	5,069.13	5,069.13	5,069.13	12,482,737	9,413,357

4.3 Trip Type Information

2021.08.26_CrenshawCrossings_CalEEMod - Los Angeles-South Coast County, Summer

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	H-W or C-W	H-S or C-C	Primary	Diverted	Pass-by	
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	40.20	19.20	86	11	3	
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0.00	0.00	0	0	0	
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	8.50	72.50	37	20	43	
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	16.30	64.70	54	35	11	
Supermarket	16.60	8.40	6.90	6.50	74.50	19.00	6.50	74.50	34	30	36	

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
Enclosed Parking with Elevator	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
High Turnover (Sit Down Restaurant)	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
Regional Shopping Center	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862
Supermarket	0.545842	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.031333	0.002546	0.002133	0.005184	0.000692	0.000862

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

2021.08.26_CrenshawCrossings_CalEEMod - Los Angeles-South Coast County, Summer

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
NaturalGas Mitigated	0.2298	2.0290	1.3176	0.0125		0.1587	0.1587	0.1587		0.1587		2,506.330 ₉	2,506.330 ₉	0.0480	0.0460	2,521.224 ₈
NaturalGas Unmitigated	0.2298	2.0290	1.3176	0.0125		0.1587	0.1587	0.1587		0.1587		2,506.330 ₉	2,506.330 ₉	0.0480	0.0460	2,521.224 ₈

5.2 Energy by Land Use - NaturalGas

Unmitigated

Land Use	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	kBTU/yr	lb/day										lb/day					
Apartment Mid Rise	10126	0.1092	0.9332	0.3971	5.9600e-003		0.0755	0.0755		0.0755	0.0755		1,191.295 ₁	1,191.295 ₁	0.0228	0.0218	1,198.374 ₃
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	9816.47	0.1059	0.9624	0.8084	5.7700e-003		0.0731	0.0731		0.0731	0.0731		1,154.878 ₅	1,154.878 ₅	0.0221	0.0212	1,161.741 ₄
Regional Shopping Center	14.3421	1.5000e-004	1.4100e-003	1.1800e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		1.6873	1.6873	3.0000e-005	3.0000e-005	1.6973
Supermarket	1347	0.0145	0.1321	0.1109	7.9000e-004		0.0100	0.0100		0.0100	0.0100		158.4701	158.4701	3.0400e-003	2.9100e-003	159.4118
Total		0.2297	2.0291	1.3176	0.0125		0.1587	0.1587		0.1587	0.1587		2,506.330₉	2,506.330₉	0.0480	0.0460	2,521.224₈

2021.08.26_CrenshawCrossings_CalEEMod - Los Angeles-South Coast County, Summer

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	lb/day											lb/day				
Apartments Mid Rise	10.126	0.1092	0.9332	0.3971	5.9600e-003		0.0755	0.0755		0.0755	0.0755		1,191.2951	1,191.2951	0.0228	0.0218	1,198.3743
Enclosed Parking with Elevator	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
High Turnover (Sit Down Restaurant)	9.81647	0.1059	0.9624	0.8084	5.7700e-003		0.0731	0.0731		0.0731	0.0731		1,154.8785	1,154.8785	0.0221	0.0212	1,161.7414
Regional Shopping Center	0.0143421	1.5000e-004	1.4100e-003	1.1800e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		1.6873	1.6873	3.0000e-005	3.0000e-005	1.6973
Supermarket	1.347	0.0145	0.1321	0.1109	7.9000e-004		0.0100	0.0100		0.0100	0.0100		158.4701	158.4701	3.0400e-003	2.9100e-003	159.4118
Total		0.2297	2.0291	1.3176	0.0125		0.1587	0.1587		0.1587	0.1587		2,506.3309	2,506.3309	0.0480	0.0460	2,521.2248

6.0 Area Detail**6.1 Mitigation Measures Area**

2021.08.26_CrenshawCrossings_CalEEMod - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.0007	6.3686	35.6933	0.0400		0.6674	0.6674		0.6674	0.6674	0.0000	7,702.2765	7,702.2765	0.2041	0.1401	7,749,1325
Unmitigated	10.0007	6.3686	35.6933	0.0400		0.6674	0.6674		0.6674	0.6674	0.0000	7,702.2765	7,702.2765	0.2041	0.1401	7,749,1325

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.7008					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.5973					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.7006	5.9867	2.5475	0.0382		0.4840	0.4840		0.4840	0.4840	0.0000	7,642.5882	7,642.5882	0.1465	0.1401	7,688,0043
Landscaping	1.0020	0.3819	33.1458	1.7500e-003		0.1834	0.1834		0.1834	0.1834		59.6883	59.6883	0.0576		61,1282
Total	10.0007	6.3686	35.6934	0.0400		0.6674	0.6674		0.6674	0.6674	0.0000	7,702.2766	7,702.2766	0.2041	0.1401	7,749,1325

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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	lb/day										lb/day					
Architectural Coating	0.7008					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.5973					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.7006	5.9867	2.5475	0.0382		0.4840	0.4840		0.4840	0.4840	0.0000	7,642.588 ₂	7,642.588 ₂	0.1465	0.1401	7,688.004 ₃
Landscaping	1.0020	0.3819	33.1458	1.7500e-003		0.1834	0.1834		0.1834	0.1834		59.6883	59.6883	0.0576		61.1282
Total	10.0007	6.3686	35.6934	0.0400		0.6674	0.6674		0.6674	0.6674	0.0000	7,702.276₆	7,702.276₆	0.2041	0.1401	7,749.132₅

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

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Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation
