Addendum No. 2 to
Final Environmental Impact Report
SCH # 2007061092

Campus Master Plan Update
California State University, Long Beach

Housing Expansion Phase I – Parkside North Housing Project

California State University, Long Beach
1250 Bellflower Boulevard
Long Beach, California 90840

November 2019

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TABLE OF CONENTS

Chapter **Page**

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1
PURPOSE AND BACKGROUND

1.1 Introduction

California State University, Long Beach (CSULB) has prepared this addendum to the Campus Master Plan Update (2008 Campus Master Plan) Final Program Environmental Impact Report (Master Plan EIR) (State Clearinghouse No. 2007061092) (CSULB 2008) to address the potential environmental impacts associated with minor changes to the 2008 Campus Master Plan, specifically relating to the Housing Expansion Phase I - Parkside North Housing Project (modified Parkside North Project or modified project). This addendum is prepared in accordance with the California Environmental Quality Act of 1970 (CEQA) (Cal. Public Resources Code § 21000, et. seq., as amended) and its implementing guidelines (Cal. Code Regs., Title 14, Section 15000 et. seq., 2019).

The Parkside North Project was originally included in the 2008 Campus Master Plan and analyzed in the Master Plan EIR. In response to additional planning and design-level engineering, the plan for the Parkside North Project was refined and subsequently analyzed in Addendum No. 1 to the Master Plan EIR (July 2019). The off-site export and disposition of soils associated with construction of the Parkside North Project was not anticipated at the time of addendum preparation and no related haul truck trips were assumed in Addendum No. 1. In the time since Addendum No. 1 was prepared, it has been determined that excavated soils will be exported and disposed of offsite. Therefore, this Addendum No. 2 analyzes the potential environmental impacts associated with hauling and disposing excavated soils offsite during construction of the Parkside North Project (modified project). Minor modifications would only occur to the construction procedures related to exported soils; all other aspects of project construction and operation remain unchanged from what is described in the previously certified Master Plan EIR and Addendum No. 1.

1.2 Applicability and Use of an Addendum

CSULB's intent through preparation of this addendum is to evaluate whether the previously adopted CEQA document (Master Plan EIR 2008), including mitigation measures, is still adequate and valid for the modified project. Pursuant to the provisions of CEQA Statutes and Guidelines, CSULB as the lead agency must conduct a fact-based evaluation of proposed changes to a project in order to determine whether further environmental analysis is required, pursuant to Public Resources Code Section 21166 and CEQA Guidelines Section 15162. For a proposed modified project, CEQA Guidelines Sections 15162 and 15164 provide that an Addendum to an adopted Final EIR may be prepared if only minor technical changes or additions are necessary, or none of the following conditions calling for the preparation of a subsequent EIR have occurred:

- Substantial changes are proposed in the project which will require major revisions to the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

- Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

- New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the EIR was certified as complete, shows any of the following:

    - The project will have one or more significant effects not discussed in the EIR;

    - Significant effects previously examined will be substantially more sever than shown in the EIR;

    - Mitigation measures or alternatives previously found not be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

    - Mitigation measures or alternatives that are considerably different from those analyzed in the EIR would substantially reduce one or more significant effects on the environment, but the project proponent decline to adopt the mitigation measure or alternative.

Based on the analysis set forth in this addendum, the CSULB concluded that the modified project does not trigger any of the circumstances above, and that an addendum is the appropriate form of documentation to comply with the requirements of CEQA.

1.3 Format of This Addendum

The previously certified Master Plan EIR and Addendum No. 1 serve as the primary environmental compliance documentation for the project, and this addendum (Addendum No. 2) provides additional clarification and information about the modified project and provides an analysis of those environmental issues resulting from the modified project that were not previously covered by the Master Plan EIR or Addendum No. 1. This addendum should be read together with the full text of the previously certified Master Plan EIR and Addendum No. 1. All applicable mitigation measures from the Master Plan EIR would be applicable to the modified project and, therefore, are incorporated by reference into this addendum.

1.4 Summary of Findings

Based upon the analysis prepared for the modified project, as presented in Chapter 2 of this addendum, implementation of the modified project would not result in substantial changes requiring major revisions to the previously certified Master Plan EIR. Further, the modified project would not result in any environmental impacts that have not already been addressed in the Master Plan EIR, or a substantial increase in the severity of previously identified significant impacts. No new mitigation measures are required for the proposed project. Since only minor additions and clarifications are required to the Master Plan EIR, and none of the conditions described in Public Resources Code Section 21166 or CEQA Guidelines Section 15162 requiring preparation of a subsequent EIR have occurred, CSULB finds that the preparation of an addendum to the Master Plan EIR is the appropriate CEQA documentation for the modified project.

1.5 Lead Agency and Discretionary Approvals

This addendum, along with the previously certified Master Plan EIR and Addendum No. 1, are intended to serve as the environmental documentation for the changes being proposed under the

modified project. The CSU, on behalf of the CSULB campus, is the lead agency under CEQA and has delegated authority to approve the addendum.

1.6 Project Description

1.6.1 Overview of Campus Master Plan and EIR

The 2008 Campus Master Plan provides for comprehensive guidance for physical and programmatic improvements to accommodate 31,000 full-time equivalent (FTE) students through 2020 at CSULB. Up to approximately 1.2 million square feet in new or replacement structures were proposed to meet this need. In addition, area plans on campus were identified for more detailed development, including the Student Services Addition, Peterson Hall 1 and 2 Replacement, the Liberal Arts Complex, Student Housing, and the Soccer Field and Sports Buildings. Many of these have been completed since the adoption of the Campus Master Plan.

The 2008 Campus Master Plan EIR evaluated, at the program level, the effects of the maximum growth that could occur on the campus under the plan. Environmental impacts were evaluated in the Master Plan EIR to the extent possible at an appropriate level of detail given the level of project information available at that time. Additionally, appropriate programmatic mitigation measures were developed that provide for performance standards to reduce the impacts of future projects to a less than significant level, where feasible.

Overall, the 2008 Campus Master Plan EIR evaluated the construction of 2,000 new bed spaces on campus. Specifically, the 2008 Campus Master Plan provides for more than 2,000 new beds in both the Parkside and Hillside Residential Housing complexes, as well as adding new dining rooms, convenience stores, coffee houses, laundry facilities, and seminar, activity, and conference rooms. “Campus Housing Phase 1,” described in the Campus Master Plan, would include almost 1,000 beds, a dining common, a coffee house, offices, and other amenities in the Parkside and Hillside Residential Housing complexes. Phase 2 would include more than 1,000 beds and other support facilities. However, none of these bed spaces have been built on the campus to date.

The portion of Campus Housing Phase 1 planned on the Parkside North project site in the 2008 Campus Master Plan consisted of two L-shaped residential buildings containing 522 beds (508 student beds and 14 resident assistant [RA] beds). These included two residence halls around a central yard at the current site of the Housing Administration Office (the project site). The south residence hall was planned to be four stories while the north residence hall was planned to be three stories to maintain a low profile closer to and facing nearby off-campus uses.

1.6.2 Housing Expansion Phase 1 – Parkside North Housing Project

Addendum No. 1

The project analyzed in Addendum No. 1 proposed a three- to four-story student housing building located on a site identified for a student housing building and the building characteristics were similar, but not identical, to the building described in the 2008 Campus Master Plan and the Master Plan PEIR. The project includes demolition of the existing, approximately 3,800-gross-square-foot (GSF) Housing and Residential Life (HRL) Office building on the site and construction of a new, approximately 136,000-GSF residential building. Utility infrastructure improvements, as well as new lighting and landscaping, would also be provided. The project does not include additional parking facilities. All applicable mitigation measures identified in the 2008 Campus Master Plan

EIR and included in the adopted Mitigation Monitoring and Reporting Program were included as part of the project analyzed in Addendum No. 1.

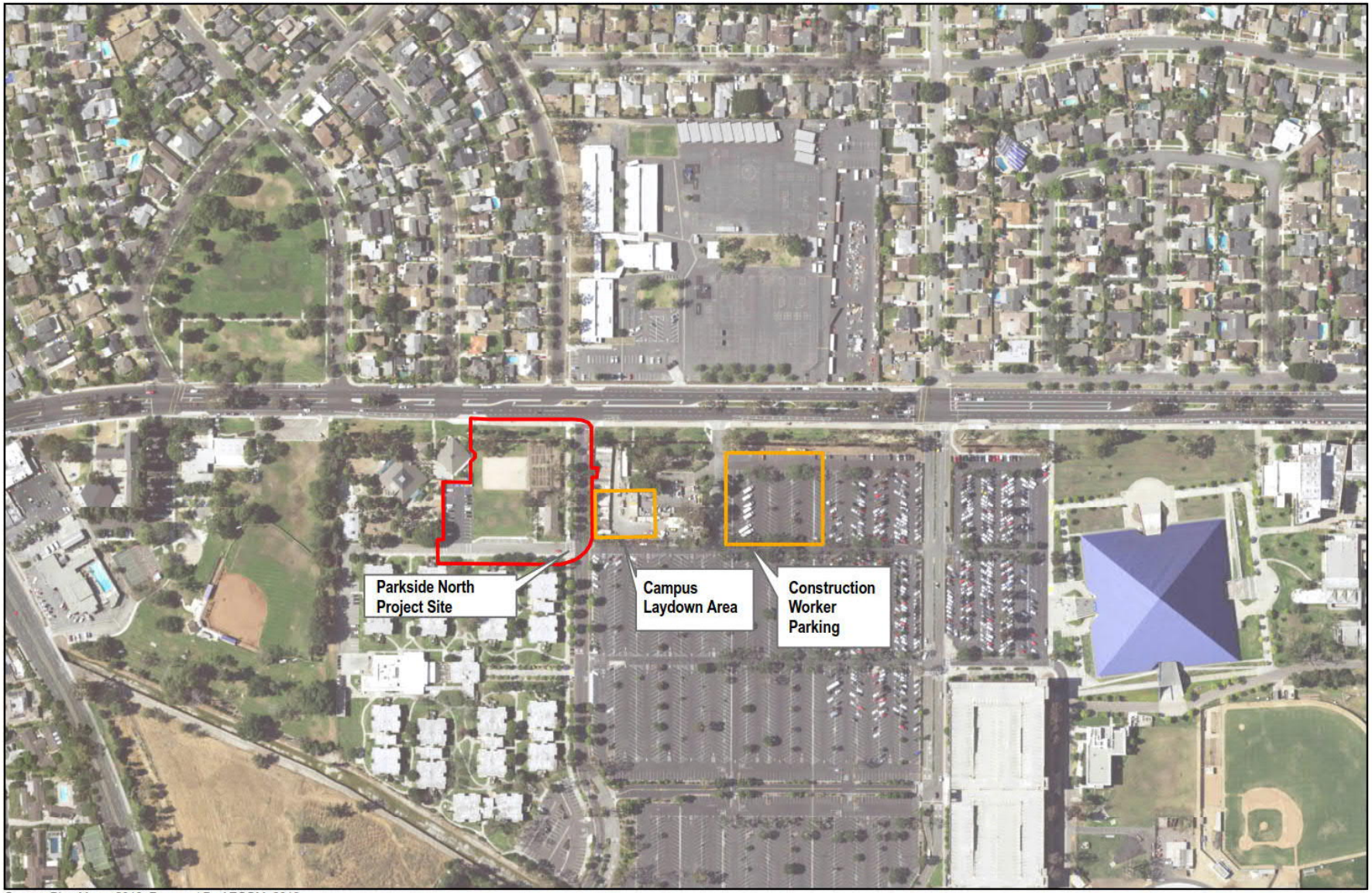
The Master Plan EIR evaluated the construction of a total of 522 student beds on the project site in two 3- to 4-story L-shaped buildings with a central courtyard. The modifications to the project analyzed in Addendum No. 1 included a reduction in the number of student beds to 476 (net decrease of 46 student beds), the addition of 4 apartments for faculty and staff, and some changes to the building configurations and orientations on the site.

Addendum No. 2

Construction of the Parkside North Project as described in Addendum No. 1 began in July 2019. The export of soils was not previously anticipated and no related haul truck trips were assumed in Addendum No. 1. In the time since Addendum No. 1 was prepared, it has been determined that excavated soils would be exported and disposed of offsite. Minor modifications to the project evaluated in Addendum No. 1, therefore, would only occur with respect to the construction procedures related to exported soils; all other aspects of project construction and operation remain unchanged from what is described in the previously certified Master Plan EIR and Addendum No. 1. Additionally, all applicable mitigation measures identified in the previously certified Master Plan EIR are incorporated into the modified project analyzed in this Addendum No. 2.

The modifications to the project analyzed in this Addendum No. 2 are limited to the removal of approximately 4,050 cubic yards (cy) of excavated soils to be hauled offsite for disposal. The excavated soils are currently being stored onsite in the area identified as Construction Worker Parking in Figure 1. It is anticipated that excavated soils would be disposed at the Puente Hills Material Recovery Site, which is the closest facility that accepts construction and demolition waste, including soil, asphalt, and concrete.[1] The soils would continue to be stockpiled onsite until excavation activities are completed, which is anticipated to be December 2019. The excavated soils would then be removed from the site over a period of up to 7 days, resulting in approximately 400 haul truck trips.

[1] Sanitation Districts of Los Angeles County, Services, Solid Waste, Materials Recovery and Transfer Facilities, Puente Hills Materials Recovery Facility, Load Requirements, available at: https://www.lacsd.org/services/solidwaste/mrts/loadrequirement.asp, accessed October 22, 2019.



Source: Bing Maps, 2018; Prepared By AECOM, 2019.

0 160 330 Feet

1" = 330'

Staging Areas

Project Boundary

Figure 1

Project Location Map

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CHAPTER 2
ENVIRONMENTAL ANALYSIS

The following analysis takes into consideration the preparation of the environmental documentation prepared at earlier stages of a project, evaluates the adequacy of the earlier documentation in assessing potential environmental impacts resulting from project modifications, and is consistent with Section 21166 of the Public Resources Code and Section 15162 of the CEQA Guidelines. A Notice of Determination for the project was adopted by the California State University Board of Trustees (BOT) in May 2008, and Addendum No. 1 to the certified Master Plan EIR was prepared in June 2019.

2.1 Air Quality

Addendum No. 1 stated that short-term, construction-related air quality impacts were analyzed in Section 3.9 of the Master Plan EIR. The Master Plan EIR found that construction emissions could result in a significant impact by exceeding South Coast Air Quality Management District (SCAQMD) thresholds for nitrogen oxides (NO_X) and particulate matter ten microns or less in diameter (PM_{10}), and included mitigation measures to reduce construction-related air pollutant emissions to a less than significant level. The mitigation measures, as listed on Page xix of the Master Plan EIR, include:

1. Exposed surfaces are watered as needed.
2. Soils stabilizers are applied to disturbed inactive areas as needed.
3. Ground cover is replaced quickly in inactive areas.
4. All stockpiles are covered with tarps or plastic sheeting.
5. All unpaved haul roads are watered daily and all access points used by haul trucks are kept clean during the site grading.
6. Speed on unpaved roads is reduced to below 15 miles per hour.
7. Trucks carrying contents subject to airborne dispersal are covered.
8. Grading and other high-dust activities cease during high wind conditions (wind speeds exceeding a sustained rate of 25 miles an hour).
9. Diesel particulate filters are installed on diesel equipment and trucks.
10. All construction equipment will be properly tuned.
11. To reduce emissions from idling, the contractor shall ensure that all equipment and vehicles not in use for more than 5 minutes are turned off, whenever feasible.
12. Low VOC-content paint, stucco, or other architectural coatings materials will be utilized to the extent possible.
13. Low VOC-content asphalt and concrete will be utilized to the extent possible.

14. The University will continue to comply with SCAQMD Rule 1403 (Asbestos Emissions from Renovation/Demolition Activities) and other pertinent regulations when working on structures containing asbestos, lead, or other toxic materials.

15. As appropriate, outdoor activities at the campus will be limited during high-dust and other heavy construction activities, including painting.

16. If construction activities occur adjacent to classrooms, student dormitories, health facilities and other sensitive receptors the University will either:

    i. Make findings and notify each sensitive receptor that construction activity will not affect such receptor, or

    ii. Install and maintain filters on interior ventilation system to reduce intake of pollutants until construction activity ceases.

Addendum No. 1 did not reassess the air quality emissions that were presented in the Master Plan EIR because student housing was contemplated for the project site in the Campus Master Plan and Master Plan EIR. Similarly, this analysis to support Addendum No. 2 does not quantify all construction emissions associated with the project because those emissions have already been accounted for in the Master Plan EIR. The following emissions analysis is limited to potential impacts associated with the additional haul trucks and associated pollutant emissions associated with the modified project. There is no nexus for the additional 400 truck trips on the regional roadway network to interfere with air quality plans, generate substantial odors, or result in significant localized exposure to toxic air contaminant emissions.

Truck emissions from soil exports were estimated using the California Emissions Estimator Model (CalEEMod). The analysis considers NO_X, PM_{10}, particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), and carbon monoxide (CO). Table 1 shows maximum daily emissions presented in the Master Plan EIR in addition to soil export emissions. The additional emissions would not result in a previously undisclosed impact. $PM_{2.5}$ emissions would increase by 1.5 percent, which is not considered a more severe impact than that disclosed in the Master Plan EIR. Maximum daily NO_X emissions would increase by 12 percent by up to seven days. This would not exacerbate the previously discussed significant impact due to the short-term duration of haul activity.

Table 1

Estimated Peak Day Construction Emissions

Phase	Daily Emissions (Pounds Per Day)				
	VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
Master Plan EIR Emissions					
Maximum Regional Daily Emissions	32	298	136	182	48
Regional Significance Threshold	75	100	550	150	55
Exceed Regional Threshold?	No	Yes	No	Yes	No
Modified Project Emissions					
Haul Truck Daily Emissions	1.0	35	6.9	2.3	0.73
Revised Maximum Regional Daily Emissions	33	333	143	184	49
Regional Significance Threshold	75	100	550	150	55
Exceed Regional Threshold?	No	Yes	No	Yes	No

Note: Emissions modeling files can be found in Appendix A to this Addendum.
Source: TAHA, 2019.

The modified project would be required to comply with the California Air Resources Board (CARB) Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to five minutes. It is mandatory for all construction projects in the South Coast Air Basin (Basin) to comply with SCAQMD Rule 403 for Fugitive Dust, which includes measures to prevent the generation of visible dust plumes. Compliance with the provisions and best management practices propagated by Rule 403, such as the application of water as a dust suppressant to exposed stockpiles and disturbed ground surfaces, would reduce regional fugitive dust PM_{10} and $PM_{2.5}$ emissions. Additionally, as previously discussed, the mitigation measures identified in the Master Plan EIR would also be applicable to the modified project to further reduce air quality impacts. Therefore, the modified project would not result in new or more severe air quality impacts, and no new mitigation measures are required.

2.2 Energy

Addendum No. 1 stated that potential impacts related to energy use were not analyzed in detail in the Master Plan EIR. The Master Plan EIR included a brief qualitative discussion of energy consumption in the discussion of the 2008 Campus Master Plan's significant irreversible effects in Chapter 5.0, Cumulative and Long-Term Effects. The discussion disclosed that energy would be consumed as part of implementation of the Campus Master Plan through both construction and operation, but would not be considered a wasteful use of resources. Consistent with the current CEQA standard of practice, Addendum No. 1 provided a comprehensive, quantitative energy analysis. The significance criteria used to evaluate the impacts associated with energy were based on Appendix G of the CEQA Guidelines (14 CCR 15000 *et seq.).* Accordingly, impacts were assessed based on the potential for the wasteful, inefficient, or unnecessary consumption of energy and the potential to conflict with renewable energy plans or energy efficiency plans.

The truck trips related to soil export under the modified project do not change the analysis related to conflicting with renewable energy or energy efficiency plans. The potential for an impact under the modified project would be less than significant, as identified in Addendum No. 1.

Petroleum would be consumed throughout construction of the project. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction, and transportation of construction materials and construction worker commutes would also result in petroleum consumption. Heavy-duty construction equipment associated with construction activities and on-site haul trucks involved in relocating dirt around the project site would rely on diesel fuel. Construction workers would travel to and from the project site throughout the duration of construction. It is assumed that construction workers would travel to and from the project site in gasoline-powered vehicles.

Addendum No. 1 estimated that the project would result in consumption of an approximately 70,987 gallons of petroleum during the construction phase. For the modified project, the 400 haul truck trips required for soil export are estimated to require an additional 1,623 gallons of diesel fuel, as shown in Table 2. Therefore, the revised total petroleum consumption for the modified project, including the additional 400 truck trips for soil export, would be approximately 72,610 gallons, as shown in Table 3.

The modified project would use best practices to export soil in an efficient manner and eliminate the potential for the wasteful consumption of petroleum. Exported soils would be disposed of at the closest facility that accepts such materials, and the modified project would be required to comply with CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to five minutes. Therefore, because petroleum use for soil export activities would be minimized to the extent feasible and represents a relatively small amount of fuel consumption, and would not be wasteful or inefficient, impacts would be less than significant. The modified project would not result in new or more severe energy impacts, and no new mitigation measures are required.

Table 2

Modified Project Haul Truck Diesel Demand

Phase	Trips	Vehicle CO_2 (Metric Tons)	kg/CO_2/Gallon[a]	Gallons
Soil Export (Modified Project)	400	16.57	10.21	1,623

[a.] Rate obtained from The Climate Registry 2018 default emission factors.

Source: TAHA, 2019; CSU Long Beach, 2019.

Table 3

Project Construction Diesel Demand

Phase	Gallons
Parkside North Project (Addendum No. 1)	
Construction Equipment	36,496
Construction Worker	26,595
Construction Vendor Truck	7,828
Construction Haul Truck – Demolition	68
Project Total	**70,987**
Modified Project (Addendum No. 2)	
Construction Haul Truck – Soil Export	1,623
Revised Project Total	**72,610**

Source: TAHA, 2019; CSU Long Beach, 2019.

2.3 Greenhouse Gas Emissions

Addendum No. 1 stated that potential impacts related to GHG emissions were not analyzed in the Master Plan EIR. Therefore, Addendum No. 1 provided a comprehensive analysis of GHG emissions. The significance criteria used to evaluate the impacts associated with GHG emissions were based on Appendix G of the CEQA Guidelines (14 California Code of Regulations (CCR) 15000 *et seq.*). Accordingly, impacts were assessed based on the generation of GHG emissions and the potential for the project to conflict with GHG reduction plans.

The truck trips related to soil export under the modified project do not change the analysis related to conflicting with GHG reduction plans; therefore, the impact under the modified project would be less than significant, as identified in Addendum No. 1. This analysis focuses on additional GHG emissions from truck trips for soil export during construction. However, per SCAQMD guidance, the impact analysis considers construction and operational emissions together and therefore my construction emissions should be amortized over the operational life of the project, which for this project is assumed to be 30 years. Thus, the impact analysis compares estimated operational emissions plus amortized construction emissions to the recommended SCAQMD threshold of 3,500 metric tons of carbon dioxide equivalent ($MTCO_2e$) per year.

GHG emissions were estimated for construction and operational sources using CalEEMod. Construction details, including schedule and equipment mix are listed in Addendum No. 1. Construction would generate emissions through equipment exhaust, truck exhaust, and worker vehicle exhaust. Operations would generate GHG emissions through the operation of landscape maintenance equipment, energy use (natural gas and generation of electricity consumed by the project), solid waste disposal, and consumption of electricity associated with water supply, treatment, and distribution, and wastewater treatment. The Master Plan, including the modified project, would not result in an increase in enrollment. Rather, the Master Plan and associated projects would shift commuting students into campus housing and would reduce vehicle miles traveled associated with commuter trips to campus. The project described in Addendum No. 1 would result in a net decrease in vehicle trips compared to existing conditions and mobile source emissions were not included in the analysis.

Table 3 shows GHG emissions estimated in Addendum No. 1. As shown therein, emissions were determined to be 605.16 $MTCO_2e$ per year, which would be less than the 3,500 $MTCO_2e$-per-year significance threshold. The table also shows $MTCO_2e$ emissions associated with truck trips for soil export under the modified project. The additional 0.55 $MTCO_2e$, when amortized over 30 years and added to the total in Table 3, increases project-related emissions to 605.71 $MTCO_2e$ per year. Emissions would still be less than 3,500 $MTCO_2e$ per year significance threshold. Therefore, the modified project would not result in new or more severe GHG impacts, and no new mitigation measures are required.

Table 4

Estimated Annual GHG Emissions

Emissions Source	Metric Tons per Year			
	CO_2	CH_4	N_2O	CO_2e
Area	4.08	0.00	0.00	4.17
Energy	470.34	0.02	0.01	472.63
Mobile	0.00	0.00	0.00	0.00
Solid Waste	22.60	1.33	0.00	55.98
Water Supply and Wastewater	45.02	0.13	0.00	49.40
Total	542.04	1.49	0.01	582.19
Amortized Construction Emissions –Addendum No. 1				22.97
Total – Addendum No. 1				*605.16*
Modified Project: Amortized Construction Emissions – Soil Export				0.55
Total – Modified Project plus Addendum No. 1				*605.71*
SCAQMD Threshold				3,500
Threshold Exceeded				No

Source: TAHA, 2019; CSU Long Beach, 2019.

2.4 Hydrology and Water Quality

Construction impacts to hydrology and water quality were addressed in the Master Plan EIR and Addendum No. 1. As discussed in Addendum No. 1, the Master Plan EIR indicated that the 2008 Campus Master Plan would result in an increase in impervious surfaces on the campus, and impacts related to water quality were found to be less than significant with the implementation of stormwater drainage improvements and compliance with application regulations for stormwater runoff. Additionally, because the project described in Addendum No. 1 would disturb more than 1 acre of soil, preparation of a Stormwater Pollution Prevention Plan pursuant to the National Pollutant Discharge Elimination System Construction General Permit would be required to implement Best Management Practices (BMPs) for erosion control and runoff. These BMPs could include, but would not be limited to, scheduling excavation work for dry weather; using as little water as possible for dust control; and covering stockpiles and excavated soil with wraps or plastic sheeting.

The modified project does not involve disturbance of any greater volume of soils than is described in Addendum No. 1. Rather, the modified project would export excavated soils offsite. The

Stormwater Pollution Prevention Plan outlining BMPs prepared for the project described in Addendum No. 1 would also apply to the modified project. As such, with compliance with existing regulations, the modified project would not result in new or more severe impacts to hydrology and water quality, and no new mitigation measures are required.

2.5 Transportation

Addendum No. 1 stated that construction-period traffic and circulation impacts were analyzed in Section 3.9 of the Master Plan EIR, and were found to be less than significant with the implementation of mitigation measures, including the use of City-designated truck routes and avoiding peak travel times to the extent feasible on Interstate 405, Interstate 605, and State Route 22. Under the modified project, excavated soils would be hauled to the Puente Hills Materials Recovery Facility for disposal. The mitigation measures listed in the Master Plan EIR would also be applicable to the modified project. Additionally, similar to the project described in Addendum No. 1, the modified project would not result in any changes to the roadway network or internal vehicle, bicycle, or pedestrian circulation. With implementation of the mitigation measures, the modified project would not result in new or more severe transportation impacts related to construction traffic and circulation, and no new mitigation measures are required.

Addendum No. 1 also provided a traffic impact analysis based on Senate Bill 743 and the 2018 update to Section 15064.3 of the CEQA Guidelines, which require the significance of traffic impacts to be based on vehicle miles traveled (VMT). As discussed in Addendum No. 1, the 2019 California State University Transportation Impact Study Manual (TISM) provides procedures for screening out projects from detailed VMT analysis. Among the types of projects identified in the TISM as eligible to be screened out of VMT analysis are projects generating less than 110 vehicle trips per day. As discussed in Section 1.2, Project Description above, the modified project would result in approximately 400 haul truck trips over a period of up to 7 days. As such, the modified project would result in approximately 60 haul truck trips per day, which is below the 110 trip-per-day screening threshold for VMT analysis. Therefore, the modified project would not result in new or more severe transportation impacts related to haul truck trips, and no new mitigation measures are required.

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CHAPTER 3
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CHAPTER 4
REFERENCES

California State University, Long Beach (CSULB).

May 2008. *Campus Master Plan Update*.

July 2019. *Addendum to the Final Environmental Impact Report, Campus Master Plan, Housing Expansion Phase I – Parkside North Housing Project*.

HDR. May 2008. *Final Program Environmental Impact Report, Campus Master Plan Update, California State University, Long Beach*.

Sanitation Districts of Los Angeles County. Puente Hills Materials Recovery Facility, Load Requirements. Available at: https://www.lacsd.org/services/solidwaste/mrts/loadrequirement.asp

Terry A. Hayes Associates Inc. November 2019. *Parkside North Housing Project – Revised Air Quality, Energy, and Greenhouse Gas (GHG) Emissions Analysis Related to Soil Export*.

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APPENDIX A

Air Quality and Greenhouse Gas Emissions Modeling Data

CSU LB Master Plan Daily Truck Haul Trips - South Coast AQMD Air District, Summer

CSU LB Master Plan Daily Truck Haul Trips

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	242.00	Dwelling Unit	1.50	136,317.00	476

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	592.74	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Compliance with SCE 2020 33% RPS

Land Use - Project Specific information provided by CSULB

Construction Phase - Calculating daily trip emissions for 57 truck haul round trips (114 one-way trips per day)

Off-road Equipment - Only analyzing material export from site

Trips and VMT - Calculating daily emissions for 57 truck haul round trips (114 one way trips).

Grading - Grading was acounted for in the EIR

Woodstoves - No proposed fireplaces.

Energy Use -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	4.00	1.00
tblFireplaces	NumberGas	205.70	0.00
tblFireplaces	NumberNoFireplace	24.20	0.00
tblFireplaces	NumberWood	12.10	0.00
tblGrading	MaterialExported	0.00	4,050.00
tblGrading	MeanVehicleSpeed	7.10	0.00
tblLandUse	LandUseSquareFeet	242,000.00	136,317.00
tblLandUse	LotAcreage	6.37	1.50
tblLandUse	Population	692.00	476.00
tblOffRoadEquipment	HorsePower	187.00	0.00
tblOffRoadEquipment	HorsePower	247.00	0.00
tblOffRoadEquipment	HorsePower	97.00	0.00
tblOffRoadEquipment	LoadFactor	0.41	0.00
tblOffRoadEquipment	LoadFactor	0.40	0.00
tblOffRoadEquipment	LoadFactor	0.37	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	592.74
tblTripsAndVMT	HaulingTripLength	20.00	22.00
tblTripsAndVMT	HaulingTripNumber	506.00	114.00
tblTripsAndVMT	VendorTripLength	6.90	0.00
tblTripsAndVMT	WorkerTripLength	14.70	0.00
tblWoodstoves	NumberCatalytic	12.10	0.00
tblWoodstoves	NumberNoncatalytic	12.10	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	1.0086	35.3510	6.8513	0.0971	2.6491	0.1347	2.7838	0.6698	0.1289	0.7987	0.0000	10,481.8612	10,481.8612	0.7013	0.0000	10,499.3930
Maximum	**1.0086**	**35.3510**	**6.8513**	**0.0971**	**2.6491**	**0.1347**	**2.7838**	**0.6698**	**0.1289**	**0.7987**	**0.0000**	**10,481.8612**	**10,481.8612**	**0.7013**	**0.0000**	**10,499.3930**

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					
2019	1.0086	35.3510	6.8513	0.0971	2.6491	0.1347	2.7838	0.6698	0.1289	0.7987	0.0000	10,481.8612	10,481.8612	0.7013	0.0000	10,499.3930
Maximum	**1.0086**	**35.3510**	**6.8513**	**0.0971**	**2.6491**	**0.1347**	**2.7838**	**0.6698**	**0.1289**	**0.7987**	**0.0000**	**10,481.8612**	**10,481.8612**	**0.7013**	**0.0000**	**10,499.3930**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	11/4/2019	11/4/2019	5	1	

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
Grading	0	0.00	0.00	114.00	0.00	0.00	22.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4580	0.0000	0.4580	0.0694	0.0000	0.0694			0.0000			0.0000
Total					**0.4580**	**0.0000**	**0.4580**	**0.0694**	**0.0000**	**0.0694**			**0.0000**			**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0086	35.3510	6.8513	0.0971	2.1911	0.1347	2.3258	0.6005	0.1289	0.7293		10,481.8612	10,481.8612	0.7013		10,499.3930
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0086**	**35.3510**	**6.8513**	**0.0971**	**2.1911**	**0.1347**	**2.3258**	**0.6005**	**0.1289**	**0.7293**		**10,481.8612**	**10,481.8612**	**0.7013**		**10,499.3930**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4580	0.0000	0.4580	0.0694	0.0000	0.0694			0.0000			0.0000
Total					**0.4580**	**0.0000**	**0.4580**	**0.0694**	**0.0000**	**0.0694**			**0.0000**			**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0086	35.3510	6.8513	0.0971	2.1911	0.1347	2.3258	0.6005	0.1289	0.7293		10,481.8612	10,481.8612	0.7013		10,499.3930
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0086**	**35.3510**	**6.8513**	**0.0971**	**2.1911**	**0.1347**	**2.3258**	**0.6005**	**0.1289**	**0.7293**		**10,481.8612**	**10,481.8612**	**0.7013**		**10,499.3930**

CSU LB Master Plan Daily Truck Haul Trips - South Coast AQMD Air District, Annual

CSU LB Master Plan Daily Truck Haul Trips

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	242.00	Dwelling Unit	1.50	136,317.00	476

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	592.74	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Compliance with SCE 2020 33% RPS

Land Use - Project Specific information provided by CSULB

Construction Phase - Calculating total emissions for 57 daily truck haul round trips (114 one-way trips per day) for 7 days.

Off-road Equipment - Only analyzing material export from site

Trips and VMT - Calculating total emissions for 57 daily truck haul round trips (114 one way trips) for 7 days

Grading - Grading was acounted for in the EIR

Woodstoves - No proposed fireplaces.

Energy Use -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	4.00	7.00
tblFireplaces	NumberGas	205.70	0.00
tblFireplaces	NumberNoFireplace	24.20	0.00
tblFireplaces	NumberWood	12.10	0.00
tblGrading	MaterialExported	0.00	4,050.00
tblGrading	MeanVehicleSpeed	7.10	0.00
tblLandUse	LandUseSquareFeet	242,000.00	136,317.00
tblLandUse	LotAcreage	6.37	1.50
tblLandUse	Population	692.00	476.00
tblOffRoadEquipment	HorsePower	187.00	0.00
tblOffRoadEquipment	HorsePower	247.00	0.00
tblOffRoadEquipment	HorsePower	97.00	0.00
tblOffRoadEquipment	LoadFactor	0.41	0.00
tblOffRoadEquipment	LoadFactor	0.40	0.00
tblOffRoadEquipment	LoadFactor	0.37	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	592.74
tblTripsAndVMT	HaulingTripLength	20.00	22.00
tblTripsAndVMT	HaulingTripNumber	506.00	400.00
tblTripsAndVMT	VendorTripLength	6.90	0.00
tblTripsAndVMT	WorkerTripLength	14.70	0.00
tblWoodstoves	NumberCatalytic	12.10	0.00
tblWoodstoves	NumberNoncatalytic	12.10	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	1.7900e-003	0.0641	0.0124	1.7000e-004	4.0100e-003	2.4000e-004	4.2500e-003	1.0700e-003	2.3000e-004	1.3000e-003	0.0000	16.5653	16.5653	1.1400e-003	0.0000	16.5938
Maximum	**1.7900e-003**	**0.0641**	**0.0124**	**1.7000e-004**	**4.0100e-003**	**2.4000e-004**	**4.2500e-003**	**1.0700e-003**	**2.3000e-004**	**1.3000e-003**	**0.0000**	**16.5653**	**16.5653**	**1.1400e-003**	**0.0000**	**16.5938**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	1.7900e-003	0.0641	0.0124	1.7000e-004	4.0100e-003	2.4000e-004	4.2500e-003	1.0700e-003	2.3000e-004	1.3000e-003	0.0000	16.5653	16.5653	1.1400e-003	0.0000	16.5938
Maximum	**1.7900e-003**	**0.0641**	**0.0124**	**1.7000e-004**	**4.0100e-003**	**2.4000e-004**	**4.2500e-003**	**1.0700e-003**	**2.3000e-004**	**1.3000e-003**	**0.0000**	**16.5653**	**16.5653**	**1.1400e-003**	**0.0000**	**16.5938**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	11/4/2019	11/12/2019	5	7	

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
Grading	0	0.00	0.00	400.00	0.00	0.00	22.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3000e-004	0.0000	2.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					**2.3000e-004**	**0.0000**	**2.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7900e-003	0.0641	0.0124	1.7000e-004	3.7800e-003	2.4000e-004	4.0200e-003	1.0400e-003	2.3000e-004	1.2700e-003	0.0000	16.5653	16.5653	1.1400e-003	0.0000	16.5938
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.7900e-003**	**0.0641**	**0.0124**	**1.7000e-004**	**3.7800e-003**	**2.4000e-004**	**4.0200e-003**	**1.0400e-003**	**2.3000e-004**	**1.2700e-003**	**0.0000**	**16.5653**	**16.5653**	**1.1400e-003**	**0.0000**	**16.5938**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3000e-004	0.0000	2.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					**2.3000e-004**	**0.0000**	**2.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7900e-003	0.0641	0.0124	1.7000e-004	3.7800e-003	2.4000e-004	4.0200e-003	1.0400e-003	2.3000e-004	1.2700e-003	0.0000	16.5653	16.5653	1.1400e-003	0.0000	16.5938
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.7900e-003**	**0.0641**	**0.0124**	**1.7000e-004**	**3.7800e-003**	**2.4000e-004**	**4.0200e-003**	**1.0400e-003**	**2.3000e-004**	**1.2700e-003**	**0.0000**	**16.5653**	**16.5653**	**1.1400e-003**	**0.0000**	**16.5938**