

Appendix B



Refined Project Energy Calculations



MEMORANDUM

TO: Betty Donavanik
FROM: Mark Hagmann, P.E.
SUBJECT: Energy Calculations for 100 W. Walnut Planned Development
DATE: November 24, 2014

The purpose of this memorandum is to evaluate the potential impacts on energy. The California Environmental Quality Act (CEQA) provides that environmental impact reports (EIRs) shall include a detailed statement on significant effects of a project and “[m]itigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy.”¹ The State CEQA Guidelines discuss the requirements for an EIR to address potentially significant effects, and although it does not include energy specifically, it mentions the use of nonrenewable resources.² Provided below is a detailed analysis of the proposed Project’s energy requirements.

Construction Phase Energy Requirements

During construction, the project would consume energy in three general forms: (1) the fuel energy consumed by construction vehicles and equipment; (2) electricity consumed from water used for dust control (supply and conveyance); and (3) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass. These are discussed below.

Energy Consumed by Construction Vehicles and Equipment

Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during site clearing, excavation, and construction. Fuel consumption from on-site heavy-duty construction equipment was calculated based on the equipment mix and usage factors provided in the CalEEMod construction output files included in Appendix XX, Air

¹ *Public Resources Code Section 21000(b)(3).*

² *California Code of Regulations, Title 14, Division 6, Chapter 3, State CEQA Guidelines, Section 16126.2.*

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Quality, of this Draft EIR. The total horsepower was then multiplied by fuel usage estimates per horsepower-hour included in Table A9-3-E of the SCAQMD's *CEQA Air Quality Handbook*. Fuel consumption from construction worker, vendor, and delivery/haul trucks was calculated using the trip rates and distances provided in the CalEEMod construction output files. A total vehicle miles travelled (VMT) was then calculated for each type of trip and divided by the corresponding county-specific miles per gallon calculated using California Air Resources Board's (CARB's) EMFAC 2011 model. EMFAC provides the total annual VMT and fuel consumed for each vehicle type. Consistent with CalEEMod, worker trips were assumed to include 50 percent light duty gasoline auto and 50 percent light duty gasoline trucks. Vendor and delivery/haul trucks were assumed to be heavy-duty diesel trucks. Please refer to attachment A for detailed calculations. A summary of diesel and gasoline consumption for both Phase 1 and Phase 2 construction is provided in Table 1.

Energy Consumed by Dust Control Water Usage

Dust generating construction activities (e.g., demolition, excavation and grading) require the use of water to control fugitive dust. Electricity is consumed as a result of water supply and conveyance. The number of gallons of water per year required for dust control was calculated based on a minimum control efficiency of 66 percent (three times daily) with an application rate of 3,020 gallons per acre per day.³ Electricity from the supply and conveyance of water used for dust control were then calculated using CalEEMod. A summary of the electricity consumed by dust control water usage for both Phase 1 and Phase 2 construction is provided in Table 1.

Bound Energy Contained in Construction Materials

Substantial reductions in energy inputs for construction materials can be achieved by selecting building materials composed of recycled materials that require substantially less energy to produce than non-recycled materials. The incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials. It is reasonable to assume that production of building materials such

³ *Air and Waste Management Association Air Pollution Engineering Manual, 1992 Edition.*



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Table 1
Summary of Energy Use During Construction^a

Fuel Type	Quantity
Diesel	
Phase 1 Off Road	70,208 Gallons
Phase 1 On Road	221,748 Gallons
Subtotal	291,956 Gallons
Phase 2 Off Road	62,721 Gallons
Phase 2 On Road	265,895 Gallons
Subtotal	328,616 Gallons
Total:	620,571 Gallons
Gasoline	
Phase 1 Off Road	0 Gallons
Phase 1 On Road	135,061 Gallons
Subtotal	135,061 Gallons
Phase 2 Off Road	0 Gallons
Phase 2 On Road	82,579 Gallons
Subtotal	82,579 Gallons
Total:	217,640 Gallons
Electricity	
Phase 1 Water Consumption	25,557 kWh
Phase 2 Water Consumption	22,472 kWh
Total:	48,029 kWh
^a Detailed calculations are provided in Attachment 1.	
Source: Matrix Environmental, 2014.	

as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest in minimizing the cost of doing business.



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In addition, Project Design Feature G-1 of this Draft EIR would require the design of the new buildings to incorporate features to be capable of achieving at least Silver certification under LEED. Compliance with this measure would further result in use of sustainable materials and recycled content.

Operational Phase Energy Use

The operational phase would consume energy for multiple purposes including, but not limited to, building heating and cooling, refrigeration, lighting, electronics, office equipment, and commercial machinery (including kitchen appliances). Operational energy would also be consumed from energy related to water usage, and during each vehicle trip associated with these proposed uses.

On-Site Energy Requirements

The proposed Project would consume energy for interior and exterior lighting, heating/ventilating/air conditioning (HVAC), refrigeration, home electronics systems and appliances, and hearths, among other things. On-site energy requirements associated with electricity and natural gas consumption were calculated as part of the greenhouse gas analysis included in Section IV.G., Greenhouse Gas, of the Draft EIR. Excerpts of the CalEEMod output files are provided below in Attachment 1.

Consistent with Regulatory Compliance Measure G-1 (Compliance with specific mandatory requirements of CALGreen Code), the proposed Project would result in a 15 percent minimum reduction in energy use from systems covered by Title 24 and lighting. In addition, Project Design Feature G-2 would prohibit hearths installed in the residences which would substantially reduce natural gas usage associated with this use. As shown in Table 2, these measures would reduce natural gas usage by 24 percent and electricity usage by 12 percent at Project buildout.

Energy Consumed by Water Usage

As discussed above, electricity is consumed as a result of water supply, treatment, and conveyance. Electricity from water usage was calculated as part of the greenhouse gas analysis included in Section IV.G., Greenhouse Gas, of the Draft EIR. Excerpts of the CalEEMod output files are provided below in Attachment 1. Consistent with Regulatory Compliance Measure G-1 (Compliance with specific mandatory requirements of CALGreen

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Table 2
Summary of Annual Energy Use During Operation^a

Source	Without Project Features	With Project Features	Percent Reduction
Existing			
Electricity	479,072 kWh	479,072 kWh	-0%
Phase 1			
Mobile			
Diesel	132,133 Gallons	99,576 Gallons	-25%
Gasoline	806,970 Gallons	608,090 Gallons	-25%
Natural Gas			
Building	6,601,745 kBtu	5,873,272 kBtu	-11%
Hearth	1,921,500 kBtu	149,760 kBtu	-92%
Total	8,523,245 kBtu	6,023,032 kBtu	-29%
Electricity			
Building	9,261,305 kWh	8,240,429 kWh	-11%
Water	1,198,743 kWh	958,993 kWh	-17%
Total	10,460,048 kWh	9,199,422 kWh	-12%
Phase 2			
Mobile			
Diesel	72,971 Gallons	58,376 Gallons	-20%
Gasoline	417,766 Gallons	334,221 Gallons	-20%
Natural Gas			
Building	4,399,330 kBtu	3,762,970 kBtu	-14%
Hearth	0 kBtu	0 kBtu	-0%
Total	4,399,330 kBtu	3,762,970 kBtu	-14%
Electricity			
Building	10,763,140 kWh	9,448,380 kWh	-12%
Water	1,221,345 kWh	977,076 kWh	-20%
Total	11,984,485 kWh	10,425,456 kWh	-13%
Buildout			
Mobile			
Diesel	212,639 Gallons	164,223 Gallons	-23%

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Gasoline	1,217,379 Gallons	940,193 Gallons	-23%
Natural Gas			
Building	11,001,075 kBtu	9,626,242 kBtu	-12%
Hearth	1,921,500 kBtu	149,760 kBtu	-92%
Total	12,922,575 kBtu	9,786,002 kBtu	-24%
Electricity			
Building	20,024,435 kWh	17,688,799 kWh	-12%
Water	2,420,085 kWh	1,938,986 kWh	-20%
Total	22,444,520 kWh	19,627,785 kWh	-13%
<p>^a Detailed calculations are provided in Attachment 1.</p> <p>Source: Matrix Environmental, 2014.</p>			

Code), the proposed Project would result in a 20 percent minimum reduction in water use. As shown in Table 2, this measure would reduce total electricity usage by 13 percent for this use at Project buildout.

Transportation Energy Use

The proposed Project would result in the consumption of fuel related to vehicular travel to and from the Project site. Annual VMT was calculated as part of the greenhouse gas analysis included in Section IV.G., Greenhouse Gas, of the Draft EIR. Based on this annual VMT, gasoline and diesel consumption rates were calculated using the county-specific miles per gallon calculated using EMFAC2011. The vehicle fleet mix was calculated consistent with the CalEEMod default for Los Angeles county. A summary of diesel and gasoline consumption is provided in Table 2.

Project features that would reduce VMT include internal capture (i.e., synergy of proposed mix of land uses) and close proximity to a transit station (less than 0.25 miles from a major transit hub, the Metro Gold Line Memorial Park Station). As shown in Table 1, these measures would reduce gasoline and diesel usage by 23 percent at Project buildout.



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ATTACHMENT 1

Summary of Energy Usage

Summary of Energy Use During Construction

	Project Without Project Features	Project With Project Features		Percent Reduction
Diesel				
Phase 1 Off road	70,208	70,208	Gallons	
Phase 1 On road	221,748	221,748	Gallons	
Subtotal:	291,956	291,956	Gallons	
Phase 2 Off road	62,721	62,721	Gallons	
Phase 2 On road	265,895	265,895	Gallons	
Subtotal:	328,616	328,616	Gallons	
Total:	620,571	620,571	Gallons	
Gasoline				
Phase 1 Off road	-	-		
Phase 1 On road	135,061	135,061	Gallons	
Subtotal:	135,061	135,061	Gallons	
Phase 2 Off road	-	-		
Phase 2 On road	82,579	82,579	Gallons	
Subtotal:	82,579	82,579	Gallons	
Total:	217,640	217,640	Gallons	
Electricity				
Phase 1 Water Consumption	25,557	25,557	kWh	
Phase 2 Water Consumption	22,472	22,472	kWh	
Total:	48,029	48,029	kWh	

Summary of Energy Use During Operations (Existing)

Electricity	479,072	479,072	kWh/Year
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Summary of Energy Use During Operations (Phase 1)

Mobile				
Diesel	132,133	99,576	Gallons	(0.25)
Gasoline	806,970	608,090	Gallons	(0.25)
Natural Gas (building)	6,601,745	5,873,272	kBtu/Year	(0.11)
Natural Gas (hearth)	1,921,500	149,760	kBtu/Year	(0.92)
Subtotal:	8,523,245	6,023,032	kBtu/Year	(0.29)
Electricity (building)	9,261,305	8,240,429	kWh/Year	(0.11)
Electricity (water)	1,198,743	958,993	kWh/Year	(0.20)
Subtotal:	10,460,048	9,199,422	kWh/Year	(0.12)

Summary of Energy Use During Operations (Phase 2)

Mobile				
Diesel	72,971	58,376	Gallons	(0.20)
Gasoline	417,766	334,211	Gallons	(0.20)
Natural Gas (building)	4,399,330	3,762,970	kBtu/Year	(0.14)
Natural Gas (hearth)	-	-	kBtu/Year	#DIV/0!
Subtotal:	4,399,330	3,762,970	kBtu/Year	(0.14)
Electricity (building)	10,763,140	9,448,380	kWh/Year	(0.12)
Electricity (water)	1,221,345	977,076	kWh/Year	(0.20)
Subtotal:	11,984,485	10,425,456	kWh/Year	(0.13)

Summary of Energy Use During Operations (Buildout)

Mobile				
Diesel	212,639	164,223	Gallons	(0.23)
Gasoline	1,217,379	940,193	Gallons	(0.23)
Natural Gas (building)	11,001,075	9,636,242	kBtu/Year	(0.12)
Natural Gas (hearth)	1,921,500	149,760	kBtu/Year	(0.92)
Subtotal:	12,922,575	9,786,002	kBtu/Year	(0.24)
Electricity (building)	20,024,435	17,688,799	kWh/Year	(0.12)
Electricity (water)	2,420,085	1,938,986	kWh/Year	(0.20)
Subtotal:	22,444,520	19,627,785	kWh/Year	(0.13)

Construction Off Phase 1

Calculation of Diesel Usage During Phase 1 Construction (Offroad Equipment):

PhaseName	OffRoadEquipmentType	Units	Hours	HP	Load Factor	Avg. Daily Factor	Number of Days	Diesel Fuel Usage
Demolition	Air Compressors	2	6.7	78	0.48	0.6	32	482
Demolition	Concrete/Industrial Saws	2	6.7	81	0.73	0.6	32	761
Demolition	Excavators	1	6.7	162	0.38	0.6	32	396
Demolition	Other Construction Equipment	0	2	171	0.42	0.6	32	0
Demolition	Rubber Tired Dozers	0	6.7	255	0.4	0.6	32	0
Demolition	Rubber Tired Loaders	1	6.7	199	0.36	0.6	32	461
Demolition	Sweepers/Scrubbers	1	2	64	0.46	0.6	32	57
Demolition	Tractors/Loaders/Backhoes	1	6.7	97	0.37	0.6	32	231
Demolition	Welders	1	6.7	46	0.45	0.6	32	133
Site Preparation (Holly/Peroni Infrastructure)	Air Compressors	2	6.7	78	0.48	0.6	129	1942
Site Preparation (Holly/Peroni Infrastructure)	Concrete/Industrial Saws	2	4	81	0.73	0.6	129	1831
Site Preparation (Holly/Peroni Infrastructure)	Excavators	1	6.7	162	0.38	0.6	129	1596
Site Preparation (Holly/Peroni Infrastructure)	Other Construction Equipment	0	0	171	0.42	0.6	129	0
Site Preparation (Holly/Peroni Infrastructure)	Paving Equipment	1	4	130	0.36	0.6	129	724
Site Preparation (Holly/Peroni Infrastructure)	Rollers	1	4	80	0.38	0.6	129	471
Site Preparation (Holly/Peroni Infrastructure)	Rubber Tired Dozers	0	0	255	0.4	0.6	129	0
Site Preparation (Holly/Peroni Infrastructure)	Rubber Tired Loaders	1	6.7	199	0.36	0.6	129	1858
Site Preparation (Holly/Peroni Infrastructure)	Signal Boards	4	6.7	6	0.82	0.6	129	510
Site Preparation (Holly/Peroni Infrastructure)	Skid Steer Loaders	1	6.7	64	0.37	0.6	129	614
Site Preparation (Holly/Peroni Infrastructure)	Tractors/Loaders/Backhoes	1	6.7	97	0.37	0.6	129	931
Grading (Shoring & Excavation)	Air Compressors	2	6.7	78	0.48	0.6	108	1625
Grading (Shoring & Excavation)	Bore/Drill Rigs	2	6.7	205	0.5	0.6	108	4450
Grading (Shoring & Excavation)	Cranes	1	4	226	0.29	0.6	108	849
Grading (Shoring & Excavation)	Excavators	2	8	162	0.38	0.6	108	3191
Grading (Shoring & Excavation)	Forklifts	1	6.7	89	0.2	0.6	108	386
Grading (Shoring & Excavation)	Graders	0	0	174	0.41	0.6	108	0
Grading (Shoring & Excavation)	Other Construction Equipment	0	0	171	0.42	0.6	108	0
Grading (Shoring & Excavation)	Rubber Tired Dozers	0	0	255	0.4	0.6	108	0
Grading (Shoring & Excavation)	Rubber Tired Loaders	1	8	199	0.36	0.6	108	1857
Grading (Shoring & Excavation)	Signal Boards	4	6.7	6	0.82	0.6	108	427
Grading (Shoring & Excavation)	Sweepers/Scrubbers	1	2	64	0.46	0.6	108	191
Grading (Shoring & Excavation)	Tractors/Loaders/Backhoes	1	6.7	97	0.37	0.6	108	779
Grading (Shoring & Excavation)	Trenchers	2	6.7	80	0.5	0.6	108	1737
Grading (Shoring & Excavation)	Welders	3	4	46	0.45	0.6	108	805
Foundation & Garage Concrete	Air Compressors	1	6.7	78	0.48	0.6	142	1069
Foundation & Garage Concrete	Cranes	2	4	226	0.29	0.6	142	2234
Foundation & Garage Concrete	Excavators	1	6.7	162	0.38	0.6	142	1757
Foundation & Garage Concrete	Forklifts	2	6.7	89	0.2	0.6	142	1016
Foundation & Garage Concrete	Paving Equipment	1	4	130	0.36	0.6	142	797
Foundation & Garage Concrete	Pumps	2	4	84	0.74	0.6	142	2118
Foundation & Garage Concrete	Rollers	1	4	80	0.38	0.6	142	518
Foundation & Garage Concrete	Rubber Tired Loaders	2	6.7	199	0.36	0.6	142	4089
Foundation & Garage Concrete	Skid Steer Loaders	2	6.7	64	0.37	0.6	142	1352
Foundation & Garage Concrete	Sweepers/Scrubbers	1	2	64	0.46	0.6	142	251
Foundation & Garage Concrete	Tractors/Loaders/Backhoes	2	6.7	97	0.37	0.6	142	2049
Architectural Coating	Air Compressors	0	6	78	0.48	0.6	239	0
Building Construction (Office Steel/Precaste and Res Frame/Skin)		0		0		0.6	196	0
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Air Compressors	4	6.7	78	0.48	0.6	196	5900
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Cranes	2	4	226	0.29	0.6	196	3083
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Forklifts	4	6.7	89	0.2	0.6	196	2805
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Generator Sets	0	0	84	0.74	0.6	196	0
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Pumps	1	4	84	0.74	0.6	196	1462

Construction Off Phase 1

Building Construction (Office Steel/Precaste and Res Frame/Skin)	Signal Boards	24	6.7	6	0.82	0.6	196	4652
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Sweepers/Scrubbers	1	2	64	0.46	0.6	196	346
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Tractors/Loaders/Backhoes	0	6.7	97	0.37	0.6	196	0
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Welders	3	6.7	46	0.45	0.6	196	2446
Landscape & Finish	Air Compressors	2	6.7	78	0.48	0.6	65	978
Landscape & Finish	Forklifts	1	6.7	89	0.2	0.6	65	233
Landscape & Finish	Pavers	0	4	125	0.42	0.6	65	0
Landscape & Finish	Paving Equipment	0	4	130	0.36	0.6	65	0
Landscape & Finish	Rollers	1	4	80	0.38	0.6	65	237
Landscape & Finish	Skid Steer Loaders	2		64	0.37	0.6	65	0
Landscape & Finish	Sweepers/Scrubbers	1	2	64	0.46	0.6	65	115
Landscape & Finish	Tractors/Loaders/Backhoes	3	6.7	97	0.37	0.6	65	1407
Total Diesel Usage for Phase 1 Construction (Offroad Equipment)								70,208 gallons of diesel fuel

Notes: Equipment assumptions are provide in the CalEEMod output files and fuel usage estimate of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E

Construction Off Phase 2

Calculation of Diesel Usage During Phase 1 Construction (Offroad Equipment):

PhaseName	OffRoadEquipmentType	Units	Hours	HP	Load Factor	Avg. Daily Factor	Number of Days	Diesel Fuel Usage
Demolition	Air Compressors	2	6.7	78	0.48	0.6	34	512
Demolition	Concrete/Industrial Saws	2	6.7	81	0.73	0.6	34	808
Demolition	Excavators	1	6.7	162	0.38	0.6	34	421
Demolition	Other Construction Equipment	0	2	171	0.42	0.6	34	0
Demolition	Rubber Tired Dozers	0	6.7	255	0.4	0.6	34	0
Demolition	Rubber Tired Loaders	1	6.7	199	0.36	0.6	34	490
Demolition	Sweepers/Scrubbers	1	2	64	0.46	0.6	34	60
Demolition	Tractors/Loaders/Backhoes	1	6.7	97	0.37	0.6	34	245
Demolition	Welders	1	6.7	46	0.45	0.6	34	141
Grading (Shoring & Excavation)	Air Compressors	2	6.7	78	0.48	0.6	106	1595
Grading (Shoring & Excavation)	Bore/Drill Rigs	2	6.7	205	0.5	0.6	106	4368
Grading (Shoring & Excavation)	Cranes	1	4	226	0.29	0.6	106	834
Grading (Shoring & Excavation)	Excavators	2	8	162	0.38	0.6	106	3132
Grading (Shoring & Excavation)	Forklifts	1	6.7	89	0.2	0.6	106	379
Grading (Shoring & Excavation)	Graders	0	0	174	0.41	0.6	106	0
Grading (Shoring & Excavation)	Other Construction Equipment	0	0	171	0.42	0.6	106	0
Grading (Shoring & Excavation)	Rubber Tired Dozers	0	0	255	0.4	0.6	106	0
Grading (Shoring & Excavation)	Rubber Tired Loaders	1	8	199	0.36	0.6	106	1823
Grading (Shoring & Excavation)	Signal Boards	4	6.7	6	0.82	0.6	106	419
Grading (Shoring & Excavation)	Sweepers/Scrubbers	1	2	64	0.46	0.6	106	187
Grading (Shoring & Excavation)	Tractors/Loaders/Backhoes	1	6.7	97	0.37	0.6	106	765
Grading (Shoring & Excavation)	Trenchers	2	6.7	80	0.5	0.6	106	1704
Grading (Shoring & Excavation)	Welders	3	4	46	0.45	0.6	106	790
Foundation & Garage Concrete	Air Compressors	1	6.7	78	0.48	0.6	144	1084
Foundation & Garage Concrete	Cranes	2	4	226	0.29	0.6	144	2265
Foundation & Garage Concrete	Excavators	1	6.7	162	0.38	0.6	144	1782
Foundation & Garage Concrete	Forklifts	2	6.7	89	0.2	0.6	144	1030
Foundation & Garage Concrete	Paving Equipment	1	4	130	0.36	0.6	144	809
Foundation & Garage Concrete	Pumps	2	4	84	0.74	0.6	144	2148
Foundation & Garage Concrete	Rollers	1	4	80	0.38	0.6	144	525
Foundation & Garage Concrete	Rubber Tired Loaders	2	6.7	199	0.36	0.6	144	4147
Foundation & Garage Concrete	Skid Steer Loaders	2	6.7	64	0.37	0.6	144	1371
Foundation & Garage Concrete	Sweepers/Scrubbers	1	2	64	0.46	0.6	144	254
Foundation & Garage Concrete	Tractors/Loaders/Backhoes	2	6.7	97	0.37	0.6	144	2078
Architectural Coating	Air Compressors	0	6	78	0.48	0.6	239	0
Building Construction (Office Steel/Precaste and Res Frame/Skin)		0		0		0.6	195	0
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Air Compressors	4	6.7	78	0.48	0.6	195	5870
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Cranes	2	4	226	0.29	0.6	195	3067
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Forklifts	4	6.7	89	0.2	0.6	195	2791
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Generator Sets	0	0	84	0.74	0.6	195	0
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Pumps	2	4	84	0.74	0.6	195	2909
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Signal Boards	26	6.7	6	0.82	0.6	195	5014
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Sweepers/Scrubbers	2	2	64	0.46	0.6	195	689
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Tractors/Loaders/Backhoes	0	6.7	97	0.37	0.6	195	0
Building Construction (Office Steel/Precaste and Res Frame/Skin)	Welders	4	6.7	46	0.45	0.6	195	3245
Landscape & Finish	Air Compressors	2	6.7	78	0.48	0.6	65	978
Landscape & Finish	Forklifts	1	6.7	89	0.2	0.6	65	233
Landscape & Finish	Pavers	0	4	125	0.42	0.6	65	0
Landscape & Finish	Paving Equipment	0	4	130	0.36	0.6	65	0
Landscape & Finish	Rollers	1	4	80	0.38	0.6	65	237
Landscape & Finish	Skid Steer Loaders	2		64	0.37	0.6	65	0
Landscape & Finish	Sweepers/Scrubbers	1	2	64	0.46	0.6	65	115
Landscape & Finish	Tractors/Loaders/Backhoes	3	6.7	97	0.37	0.6	65	1407
Total Diesel Usage for Phase 2 Construction (Offroad Equipment)								62,721 gallons of diesel fuel

Notes: Equipment assumptions are provide in the CalEEMod output files and fuel usage estimate of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

EMFAC2011 Emissions Inventory

Region Type: County

Region: Los Angeles

Calendar Year: 2014

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Region	Veh_Class	Fuel	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	Fuel_GAS (1000 gallons/day)	
Los Angele	LDA	GAS	Aggregate	3611852	1.24E+08	22766127	5595.867	22.07279
Los Angele	LDT1	GAS	Aggregate	400502.2	13852119	2433741	727.9151	19.02986
Los Angele	LDT2	GAS	Aggregate	1140446	41417462	7179079	2553.751	16.21829
					Composite LDA/LDT1/LDT2:			19.84843 miles per gallon
Los Angele	T7 tractor construction	DSL	Aggregate	2002.179	152067.3	0	0	5.627894 miles per gallon

Construction On Phase 2

Calculation of Gasoline and Diesel Usage During Phase 2 Construction (Onroad Vehicles):

PhaseName	Daily Worker	Daily Vendor	Days	Total Worker	Total Vendor	Total Haul Trips	Trip Length (miles)			Total Length (miles)			Avg. Daily Factor (worker and vendor)	Gallons of Fuel	
	Trips	Trips		Trips	Trips		Trips	Worker	Vendor	Haul	Worker	Vendor		Haul	Gasoline
Demolition	25	0	34	850	0	416	14.7	10	15	12495	0	6240	0.6	378	1,109
Grading (Shoring & Excavation)	70	36	106	7420	3816	38880	14.7	10	15	109074	38160	583200	0.6	3,297	107,695
Foundation & Garage Concrete	310	172	144	44640	24768	0	14.7	10	15	656208	247680	0	0.6	19,837	26,406
Building Construction	650	336	195	126750	65520	0	14.7	18.57	15	1863225	1216706	0	0.6	56,324	129,715
Landscape & Finish	95	14	65	6175	910	0	14.7	10	15	90772.5	9100	0	0.6	2,744	970
													Total:	82,579	265,895
Worker miles per gallon =	19.8 gasoline														
Vendor/Haul miles per gallon =	5.6 diesel														

Notes: Consistent with CalEEMod worker vehicles are assumed to be gasoline and 50% LDA, 25%LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy Duty Trucks (T7).

Water Usage for Control of Fugitive Dust during Construction:

Phase 1	Days	Average Daily Acreage Disturbed	Gallons Per Year	Electricity (Kwhr)
Demolition	32	5	483200	4,700
Grading (Shoring & Ex	129	5	1947900	18,947
Foundation & Garage (108	0	0	-
Building Construction	196	0	0	-
Landscape & Finish	65	1	196300	1,909
	65 Subtotal:		2,627,400	25,557

Phase 2	Days	Average Daily Acreage Disturbed	Gallons Per Year	Electricity (Kwhr)
Demolition	34	5	513400	4,994
Grading (Shoring & Ex	106	5	1600600	15,569
Foundation & Garage (144	0	0	-
Building Construction	195	0	0	-
Landscape & Finish	65	1	196300	1,909
	Subtotal:		2,310,300	22,472
	Total:		4,937,700	48,029

Notes: Gallons per year of water usage for dust control is calculated based on a minimum control efficiency of 66% (three times daily) with an application rate of 3,020 g;
CalEEMod Default: Each gallon of delivered potable water in Southern California is associated with 0.009727 kWhr of electricity).

EMFAC2011 Emissions Inventory

Region Type: Air Basin

Region: South Coast

Calendar Year: 2016

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	Fuel_GAS (1000 gallo	Fuel_DSL (1000 gallons/day)	MPG	Gallons per Mile
South Coas	2016	Annual	LDA	GAS	Aggregatec	Aggregatec	5792946	197227585.3	36554822	8702.393	0		
South Coas	2016	Annual	LDA	DSL	Aggregatec	Aggregatec	19944.38	641906.7725	118879.9	0	20.92368		
South Coas	2016	Annual	LDT1	GAS	Aggregatec	Aggregatec	679603.8	23162319.54	4131718	1180.899	0		
South Coas	2016	Annual	LDT1	DSL	Aggregatec	Aggregatec	986.7277	32799.68335	5390.438	0	1.1015		
South Coas	2016	Annual	LDT2	GAS	Aggregatec	Aggregatec	1906231	69273763.33	12003786	4145.804	0		
South Coas	2016	Annual	LDT2	DSL	Aggregatec	Aggregatec	909.5953	32749.32759	5384.245	0	1.083479		
South Coas	2016	Annual	LHD1	GAS	Aggregatec	Aggregatec	284690.6	12366184.3	4241466	930.8355	0		
South Coas	2016	Annual	LHD1	DSL	Aggregatec	Aggregatec	90210.03	3795072.061	1134729	0	197.834		
South Coas	2016	Annual	LHD2	GAS	Aggregatec	Aggregatec	29939.19	1297406.09	446049.3	97.97908	0		
South Coas	2016	Annual	LHD2	DSL	Aggregatec	Aggregatec	30260.04	1255797.096	380633.2	0	65.60775		
South Coas	2016	Annual	MCY	GAS	Aggregatec	Aggregatec	227541.6	1670667.586	455037.7	41.95667	0		
South Coas	2016	Annual	MDV	GAS	Aggregatec	Aggregatec	1578951	53597082.47	9841016	4075.01	0		
South Coas	2016	Annual	MDV	DSL	Aggregatec	Aggregatec	1602.617	55714.55887	9491.371	0	1.820078		
South Coas	2016	Annual	MH	GAS	Aggregatec	Aggregatec	61440.65	687733.2402	6146.523	48.68237	0		
South Coas	2016	Annual	MH	DSL	Aggregatec	Aggregatec	10737.48	117391.92	1073.748	0	13.07592		
South Coas	2016	Annual	OBUS	GAS	Aggregatec	Aggregatec	7059.94	279800.0529	322415.2	22.555	0		
South Coas	2016	Annual	OBUS	DSL	Aggregatec	Aggregatec	5888.305	462410.8364	0	0	68.17204		
South Coas	2016	Annual	SBUS	GAS	Aggregatec	Aggregatec	1539.034	55328.03626	6156.135	5.155739	0		
South Coas	2016	Annual	SBUS	DSL	Aggregatec	Aggregatec	4728.28	173445.121	0	0	24.10532		
South Coas	2016	Annual	T6	GAS	Aggregatec	Aggregatec	23872.25	1138606.917	477636	87.84788	0		
South Coas	2016	Annual	T6	DSL	Aggregatec	Aggregatec	84940.37	4933187.862	0	0	554.2305		
South Coas	2016	Annual	T7	GAS	Aggregatec	Aggregatec	1631.331	241446.7458	32639.67	19.12008	0		
South Coas	2016	Annual	T7	DSL	Aggregatec	Aggregatec	78771.49	11259565.23	0	0	2023.301		
South Coas	2016	Annual	UBUS	GAS	Aggregatec	Aggregatec	1816.281	195045.2553	7265.125	17.92242	0		
South Coas	2016	Annual	UBUS	DSL	Aggregatec	Aggregatec	7196.83	771338.9875	28787.32	0	194.8977		
Totals								384,724,348		19,376.16	3,166.15	17.1	0.059
Total (Gas)								361192968.9	0.938836			18.6	0.054
Total (DSL)								23531379.45	0.061164			7.4	0.135

EMFAC2011 Emissions Inventory

Region Type: Air Basin

Region: South Coast

Calendar Year: 2020

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Region	CalYr	Season	Veh_Class	Fuel	Mdlyr	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	Fuel_GAS (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
South Coas	2020	Annual	LDA	GAS	Aggregated	Aggregated	5,962,903	203,195,464	37,640,937	8,935.02	0.00
South Coas	2020	Annual	LDA	DSL	Aggregated	Aggregated	20,499	657,371	125,683	0.00	21.18
South Coas	2020	Annual	LDT1	GAS	Aggregated	Aggregated	698,686	23,776,980	4,227,852	1,207.52	0.00
South Coas	2020	Annual	LDT1	DSL	Aggregated	Aggregated	1,013	34,846	5,837	0.00	1.15
South Coas	2020	Annual	LDT2	GAS	Aggregated	Aggregated	1,980,366	72,336,808	12,463,753	4,307.47	0.00
South Coas	2020	Annual	LDT2	DSL	Aggregated	Aggregated	946	34,112	5,848	0.00	1.11
South Coas	2020	Annual	LHD1	GAS	Aggregated	Aggregated	302,688	13,021,681	4,509,593	971.12	0.00
South Coas	2020	Annual	LHD1	DSL	Aggregated	Aggregated	97,218	4,040,404	1,222,884	0.00	210.12
South Coas	2020	Annual	LHD2	GAS	Aggregated	Aggregated	31,499	1,360,186	469,281	101.67	0.00
South Coas	2020	Annual	LHD2	DSL	Aggregated	Aggregated	32,172	1,314,224	404,681	0.00	68.45
South Coas	2020	Annual	MCY	GAS	Aggregated	Aggregated	238,649	1,755,415	477,250	44.20	0.00
South Coas	2020	Annual	MDV	GAS	Aggregated	Aggregated	1,649,350	55,656,936	10,194,301	4,224.44	0.00
South Coas	2020	Annual	MDV	DSL	Aggregated	Aggregated	1,669	56,813	10,064	0.00	1.84
South Coas	2020	Annual	MH	GAS	Aggregated	Aggregated	64,998	731,934	6,502	51.07	0.00
South Coas	2020	Annual	MH	DSL	Aggregated	Aggregated	11,405	123,378	1,141	0.00	13.74
South Coas	2020	Annual	OBUS	GAS	Aggregated	Aggregated	7,258	274,476	331,460	21.89	0.00
South Coas	2020	Annual	OBUS	DSL	Aggregated	Aggregated	6,260	502,138	0	0.00	73.15
South Coas	2020	Annual	SBUS	GAS	Aggregated	Aggregated	1,618	58,153	6,473	5.32	0.00
South Coas	2020	Annual	SBUS	DSL	Aggregated	Aggregated	4,757	172,040	0	0.00	23.86
South Coas	2020	Annual	T6	GAS	Aggregated	Aggregated	25,026	1,200,687	500,719	90.70	0.00
South Coas	2020	Annual	T6	DSL	Aggregated	Aggregated	88,451	5,274,432	0	0.00	587.80
South Coas	2020	Annual	T7	GAS	Aggregated	Aggregated	1,686	230,158	33,740	18.05	0.00
South Coas	2020	Annual	T7	DSL	Aggregated	Aggregated	86,280	12,834,988	0	0.00	2,295.96
South Coas	2020	Annual	UBUS	GAS	Aggregated	Aggregated	1,890	202,978	7,562	18.50	0.00
South Coas	2020	Annual	UBUS	DSL	Aggregated	Aggregated	7,395	792,664	29,581	0.00	195.47

Totals	CalYr	Season	Veh_Class	Fuel	Mdlyr	Speed	Population	VMT	Trips	Fuel_GAS	Fuel_DSL
Total (Gas)							399,639,267			19,996.96	3,493.82
Total (DSL)							25837409.98	0.93534817	0.06465183		

MPG	Gallons per Mile
17.0	0.059
18.7	0.053
7.4	0.135

**Pasadena Parsons Site-Existing
Los Angeles-South Coast County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1,361.00	Space	12.25	544,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	12			Operational Year	2013
Utility Company	Pasadena Water & Power				
CO2 Intensity (lb/MWhr)	1664.14	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2013

5.0 Energy Detail

5.3 Energy by Land Use - Electricity

Land Use	Electricity Use kWh/yr				
Parking Lot	479072				
Total	479072				

Pasadena Parsons Site Phase 1 Project
Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	210.00	1000sqft	2.26	210,000.00	0
Enclosed Parking with Elevator	1,536.00	Space	2.00	614,400.00	0
Quality Restaurant	2.50	1000sqft	0.10	2,500.00	0
Apartments Low Rise	475.00	Dwelling Unit	2.26	475,000.00	969
Strip Mall	15.00	1000sqft	0.10	15,000.00	0

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Mitigated Annual VMT
	Weekday	Saturday	Sunday	
Apartments Low Rise	2,731.25	2,968.75	2517.50	7,488,639
Enclosed Parking with Elevator	0.00	0.00	0.00	
General Office Building	1,785.00	384.30	159.60	3,492,146
Quality Restaurant	205.00	215.05	164.45	228,907
Strip Mall	600.00	569.10	276.60	837,648
Total	5,321.25	4,137.20	3,118.15	12,047,340

Miles/Gallon % Fleet Mix	With Project Features	
	Gasoline	Diesel
	18.6	7.4
	0.938836	0.061164
Total (Gallons):	608,090	99,576

5.2 Energy by Land Use - Natural Gas

Mitigated

Land Use	Natural Gas Use (kBtu/yr)																			
Enclosed Parking with Elevator	0																			
General Office Building	1,963,296,006																			
Quality Restaurant	565,564																			
Strip Mall	227,775																			
Apartments Low Rise	3,321,646,006																			
Total	5,873,272																			

5.3 Energy by Land Use - Electricity

Mitigated

Land Use	Electricity Use (kWh/yr)																			
Apartments Low Rise	1,652,356,006																			
Enclosed Parking with Elevator	3,537,410,006																			
General Office Building	2,739,146,006																			
Quality Restaurant	1,102,441																			
Strip Mall	200,635																			
Total	8,240,429																			

7.2 Water by Land Use

Mitigated

Land Use	Indoor/Outdoor Use (Mgal)		Electricity (kWh/yr)
	Indoor	Outdoor	
Apartments Low Rise	24.7585 / 15.6086		
Enclosed Parking with Elevator	0 / 0		
General Office Building	29.8523 / 18.3008		
Quality Restaurant	0.607067 / 0.038749		
Strip Mall	0.88887 / 0.544791		
Total	56.113737	34.49294	958992.8

CalEEMod Default: Inside water--Each gallon of delivered, treated, and distributed potable water in Southern California is associated with 0.01111 kWhr of electricity
 CalEEMod Default: Outside water--Each gallon of delivered potable water in Southern California is associated with 0.009727 kWhr of electricity

Pasadena Parsons Site Phase 1 BAU
Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	210.00	1000sqft	2.26	210,000.00	0
Enclosed Parking with Elevator	1,536.00	Space	2.00	614,400.00	0
Quality Restaurant	2.50	1000sqft	0.10	2,500.00	0
Apartments Low Rise	475.00	Dwelling Unit	2.28	475,000.00	989
Strip Mall	15.00	1000sqft	0.10	15,000.00	0

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT
	Weekday	Saturday	Sunday	
Apartments Low Rise	3,002.00	3,263.25	2,764.50	10,269,884
Enclosed Parking with Elevator	0.00	0.00	0.00	
General Office Building	1,785.00	384.30	159.60	4,357,670
Quality Restaurant	225.00	236.03	180.50	313,509
Strip Mall	800.00	569.10	276.60	1,045,259
Total	5,612.00	4,452.68	3,381.20	15,986,322

Without Project Feat
Gasoline Diesel
Miles/Gallon 18.6 7.4
% Fleet Mix 0.938836 0.061164
Total (Gallons): 806,910 132,133

5.2 Energy by Land Use - NaturalGas

Unmitigated

Land Use	NaturalGas Use kBtU/yr																		
Apartments Low Rise	3.69642e+006																		
Enclosed Parking with Elevator	0																		
General Office Building	2.2953e+006																		
Quality Restaurant	582825																		
Strip Mall	25500																		
Total	6601745																		

5.3 Energy by Land Use - Electricity

Unmitigated

Land Use	Electricity Use kWh/yr																		
Apartments Low Rise	1.72412e+006																		
Enclosed Parking with Elevator	4.14106e+006																		
General Office Building	3.0513e+006																		
Quality Restaurant	117275																		
Strip Mall	227550																		
Total	9261305																		

7.2 Water by Land Use

Unmitigated

Land Use	Indoor/Outdoor Use		Electricity kWh/yr
	Mgal	Mgal	
Apartments Low Rise	30.9482 / 19.5108		
Enclosed Parking with Elevator	0 / 0		
General Office Building	37.3241 / 22.8761		
Quality Restaurant	0.758834 / 0.0484362		
Strip Mall	1.11109 / 0.680989		
Total	70.14222	43.11633	1198743

CalEEMod Default: Inside water--Each gallon of delivered, treated, and distributed potable water in Southern California is associated with 0.01111 kWhr of electricity
 CalEEMod Default: Outside water--Each gallon of delivered potable water in Southern California is associated with 0.009727 kWhr of electricity

Enclosed Parking with Elevator	4.19837e+006				
General Office Building	5.25001e+006				
Quality Restaurant	0				
Total	9448380				

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Indoor	Outdoor	Electricity
Land Use	Mgal	Mgal	Mgal	KWh/yr
Apartments Low Rise	0 / 0			
Enclosed Parking with Elevator	0 / 0			
General Office Building	71.5378 / 43.8458			
Quality Restaurant	0 / 0			
Total		71.5378	43.8458	1221345

Mitigated

	Indoor/Outdoor Use	Indoor	Outdoor	Electricity
Land Use	Mgal	Mgal	Mgal	KWh/yr
Apartments Low Rise	0 / 0			
Enclosed Parking with Elevator	0 / 0			
General Office Building	57.2303 / 35.0766			
Quality Restaurant	0 / 0			
Total		57.2303	35.0766	977076

CalEEMod Default: Inside water--Each gallon of delivered, treated, and distributed potable water in Southern California is associated with 0.01111 kWhr of electricity
 CalEEMod Default: Outside water--Each gallon of delivered potable water in Southern California is associated with 0.009727 kWhr of electricity

Pasadena Parsons Site-Buildout
Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	612.50	1000sqft	5.86	612,500.00	0
Enclosed Parking with Elevator	3,359.00	Space	4.00	1,343,600.00	0
Quality Restaurant	2.50	1000sqft	0.10	2,500.00	0
Apartments Low Rise	475.00	Dwelling Unit	2.26	475,000.00	969
Strip Mall	15.00	1000sqft	0.10	15,000.00	0

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
Apartments Low Rise	2,731.25	2,968.75	2517.50	9,344,690	7,511,114
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	5,206.25	1,120.88	465.50	12,709,872	10,215,994
Quality Restaurant	205.00	215.05	164.45	285,641	229,594
Strip Mall	600.00	569.10	276.60	1,045,259	840,162
Total	8,742.50	4,873.78	3,424.05	23,385,462	18,796,865

Miles/Gallon % Fleet Mix	With Project Features
	Gasoline Diesel
	18.7 7.4
	0.935348 0.064652
Total (Gallons):	940,193 164,223

5.2 Energy by Land Use - NaturalGas

Mitigated

Land Use	NaturalGas Use kB1U/yr												
		Enclosed Parking with Elevator	0										
General Office Building	5.72626e+006												
Quality Restaurant	565564												
Strip Mall	22777.5												
Apartments Low Rise	3.32164e+006												
Total	9636242												

5.3 Energy by Land Use - Electricity

Mitigated

Land Use	Electricity Use kWh/yr												
		Apartments Low Rise	1.65295e+006										
Enclosed Parking with Elevator	7.73578e+006												
General Office Building	7.98914e+006												
Quality Restaurant	110244												
Strip Mall	200685												
Total	17688799												

7.2 Water by Land Use

Mitigated

Land Use	Indoor/Outdoor Use Mgal	Indoor Mgal	Outdoor Mgal	Electricity kWh/yr
Enclosed Parking with Elevator	0 / 0			
General Office Building	87.0895 / 53.3775			
Quality Restaurant	0.897067 / 0.038749			
Strip Mall	0.88887 / 0.544791			
Total		113.34394	69.86964	1938986

CalEEMod Default: Inside water--Each gallon of delivered, treated, and distributed potable water in Southern California is associated with 0.01111 kWhr of electricity
CalEEMod Default: Outside water--Each gallon of delivered potable water in Southern California is associated with 0.009727 kWhr of electricity

Pasadena Parsons Site-Buildout BAU
Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	612.50	1000sqft	5.86	612,500.00	0
Enclosed Parking with Elevator	3,359.00	Space	4.00	1,343,600.00	0
Quality Restaurant	2.50	1000sqft	0.10	2,500.00	0
Apartments Low Rise	475.00	Dwelling Unit	2.26	475,000.00	969
Strip Mall	15.00	1000sqft	0.10	15,000.00	0

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	3,002.00	3,263.25	2764.50	10,269,884	10,269,884
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	5,206.25	1,120.88	465.50	12,709,872	12,709,872
Quality Restaurant	225.00	236.03	180.50	313,509	313,509
Strip Mall	600.00	569.10	276.60	1,045,259	1,045,259
Total	9,033.25	5,189.25	3,687.10	24,338,523	24,338,523

	Without Project Featur	
	Gasoline	Diesel
Miles/Gallon	18.7	7.4
% Fleet Mix	0.93534817	0.064652
Total (Gallons):	1,217,379	212,639

5.2 Energy by Land Use - NaturalGas

Unmitigated

Land Use	NaturalGas Use										
	kBTU/yr										
Apartments Low Rise	3.69842e+006										
Enclosed Parking with Elevator	0										
General Office Building	6.69463e+006										
Quality Restaurant	582525										
Strip Mall	25500										
Total	11001075										

5.3 Energy by Land Use - Electricity

Unmitigated

Land Use	Electricity Use										
	kWh/yr										
Apartments Low Rise	1.72412e+006										
Enclosed Parking with Elevator	9.05586e+006										
General Office Building	8.89963e+006										
Quality Restaurant	117275										
Strip Mall	227550										
Total	20024435										

7.2 Water by Land Use

Unmitigated

Land Use	Indoor/Outdoor or Use	Indoor	Outdoor	Electricity
	Mgal	Mgal	Mgal	kWh/yr
Apartments Low Rise	30.9462 / 19.6198			
Enclosed Parking with Elevator	0 / 0			
General Office Building	108.862 / 66.7218			
Quality Restaurant	0.758834 / 0.0484362			
Strip Mall	1.11109 / 0.690989			
Total		141.67993	86.96203	2420085

CalEEMod Default: Inside water--Each gallon of delivered, treated, and distributed potable water in Southern California is associated with 0.01111 kWhr of electricity
 CalEEMod Default: Outside water--Each gallon of delivered potable water in Southern California is associated with 0.009727 kWhr of electricity