Stantec

Memo

To:	Andrew Plant	From:	Elena Nuno
	Westmont Development, L.P.		Fresno (Shaw Ave) CA Office
File:		Date:	April 26, 2016

Reference: Westmont of La Mesa Greenhouse Gas Emissions Estimate

Stantec has prepared the following greenhouse gas (GHG) emissions estimate to determine the potential GHG emissions from construction and operation of the Westmont of La Mesa Assisted Living/Memory Care Facility (Project).

GREENHOUSE GAS EMISSIONS ESTIMATES

PROJECT UNDERSTANDING

The Project consists of the development of an assisted living/memory care facility comprised of 113 assisted living suites (123 beds), 27 memory care suites (32 beds), parking, drives, patios, walkways, and open space. The building area totals 124,354 square feet on a footprint of 46,481 square feet. The remaining site breakdown is as follows: patios and walkways (12,599 square feet), drives/parking (39,364 square feet), and open space (46,956 square feet).

GHGS ASSESSED

This analysis is restricted to greenhouse gases (GHGs) identified by Assembly Bill 32 (AB 32), which include carbon dioxide (CO_2), methane (CH4), N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The Project would generate a variety of GHGs, including several defined by AB 32 such as CO_2, CH_4 and N_2O.

Certain GHGs defined by AB 32 would not be emitted by the Project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the Project. Therefore, it is not anticipated that the Project would emit perfluorocarbons or sulfur hexafluoride.

Greenhouse gas emissions associated with the proposed Project construction, and future operations were estimated using CO_2e (Carbon Dioxide Equivalent) emissions as a proxy for all greenhouse gas emissions. In order to obtain the CO_2e, an individual GHG is multiplied by its global warming potential (GWP). The GWP designates on a pound for pound basis the potency of the GHG compared to CO2.

ASSUMPTIONS

Construction Modeling Assumptions

The Project was assumed to start construction in March 2017 and to be completed by April 2018, approximately 14 months. Table 1 provides the anticipated construction schedule.

Table 1: Construction Schedule

Phase	Phase Start Date	Phase End Date	Total Number of Days
Site Preparation	03/01/2017	03/07/2017	5
Site Grading	03/08/2017	05/02/2017	40
Building Construction	05/03/2017	03/06/2018	220
Paving	03/07/2018	03/30/2018	18
Architectural Coating	04/02/2018	04/25/2018	18

The construction equipment list is shown in Table 2. The GHG emissions estimates for construction equipment is based on the horsepower and load factors of the equipment. In general, the horsepower is the power of an engine—the greater the horsepower, the greater the power. The load factor is the average power of a given piece of equipment while in operation compared with its maximum rated horsepower. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity.

Table 2: Construction Equipment Assumptions

Phase	Equipment	Unit Amount	Hours per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	3	8	255	0.4
	Tractors/Loaders/Backhoes	4	8	97	0.37
Grading	Excavators	1	2	162	0.38
	Graders	1	8	174	0.41
	Rubber Tired Dozers	1	8	255	0.4
	Tractors/Loaders/Backhoes	3	8	97	0.37
	Off-Highway Truck	1	4	400	0.38
Building Construction	Cranes	2	7	226	0.29
	Forklifts	4	8	89	0.2
	Generator Sets	2	8	84	0.74
	Tractors/Loaders/Backhoes	4	7	97	0.37
	Welders	2	8	46	0.45
Paving	Cement and Mortar Mixers	2	6	9	0.56
	Pavers	1	8	125	0.42
	Paving Equipment	2	6	130	0.36
	Rollers	2	6	80	0.38
	Tractors/Loaders/Backhoes	1	8	97	0.37
Architectural Coating	Air Compressors	1	6	78	0.48

Notes:
Construction equipment based on CalEEMod default values for a Project of this size.
Off-highway truck added to reflect client input on anticipated 10-wheel dump truck
Hours of operation for the excavator adjusted to reflect use during the first two weeks of grading.
Building equipment quantities adjusted to reflect shortened schedule from default estimate.

Operational Modeling Assumptions

Operational emissions are those emissions that occur during operation of the Project. The major sources are summarized below.

Motor Vehicles

Motor vehicle emissions refer to exhaust emissions from the automobiles that would travel to and from the Project site. The emissions were estimated using CalEEMod.

The operational trip generation rates are shown in Table 3. The trip generation rates for weekdays were derived by the City from SANDAG formulas. The daily trip generation rate for SANDAG is less than the CalEEMod default daily trip rate of 2.74, therefore the default daily trip rate was used in the analysis. The Saturday and Sunday CalEEMod default trip rates were less than SANDAG derived estimates, 2.2 and 2.44 trips per day, respectively, therefore the 2.7 rate was used in the analysis.

Table 3: SANDAG Trip Generation Rates

Land Use	Size	Trip Generation Rate	Total Daily Trips	Weighted Trip Generation Rate for CalEEMod
Assisted Living	113 dwelling units	2.5 trips per dwelling unit	282.5	-
Memory Care	32 beds (27 dwelling units)	3 trips per bed	96	-
Total	**140 dwelling units**		**378.5**	**2.7**

Primary, Pass-by, and Diverted Trips

Primary trips are trips with the specific purpose of visiting the site being studied. The CalEEMod default rate of 86 percent was used in the analysis.

Pass-by trips are made as intermediate stops on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator. Pass-by trips are not diverted from another roadway. The CalEEMod default pass-by trip rate of 3 percent was used in the analysis.

Diverted trips are trips that are attracted to the site from adjacent facilities without direct access to the site. For example, a trip on a freeway that diverts to an exit and a development, adding traffic to the local road, but removing traffic from the freeway. The CalEEMod default rate of 11 percent was used.

Trip Lengths

The CalEEMod default round trip lengths for an urban setting (San Diego County) were used in this analysis. The trip lengths are 10.8 miles home to work trips, 7.3 miles for home to shop trips, and 7.5 miles for home to other trips.

Fleet Mix

The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the Project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline- and diesel-powered vehicles). Table 4 provides the CalEEMod default vehicle fleet mix and the estimated number of vehicle trips by type of vehicle.

Table 4: Default Vehicle Fleet Mix

Vehicle Fleet Category	Description	Percentage of Fleet Mix	Total Daily Trips by this Vehicle Type
LDA	Passenger Cars	51.2	196
LDT1	Light-Duty Trucks GVWR <6,000 lbs. and ETW <= 3,750 lbs)	7.3	28
LDT2	Light-Duty Trucks GVWR <6000 lbs. and ETW 3,751-5,750 lbs	19.2	74
MDV	Medium-Duty Trucks GVWR 6,000-8,500 lbs	13.2	51
LHD1	Light-Heavy-Duty Trucks GVWR 8,501-10,000 lbs	4.0	15
LHD2	Light-Heavy-Duty Trucks GVWR 10,001-14,000 lbs	0.5	2
MHD	Medium-Heavy Duty Diesel GVWR<26,000 lbs	1	4
HHD	Heavy-Heavy Duty Diesel Truck GVWR>26000 lbs	2.3	9
OBUS	Other Buses	.1	0
UBUS	Urban Buses	.2	1
MCY	Motorcycles	.6	2
SBUS	School Buses	.06	0
MH	Motorhomes	.3	1

Notes:
GVWR = gross vehicle weight rating
lbs = pounds

The Project is estimated to generate the following types of deliveries during operation:

Truck Deliveries (25 foot trailers):

- U.S. Foods- 2 times per week
- Dairy 2 times per week

- Bread 2-3 times per week

Medium Duty/Light Heavy Duty Vehicles:

- Landscaping 1 per week
- Carpet cleaning, quarterly for dining and high traffic areas: as needed elsewhere
- Pest control: Monthly
- Housekeeping & chemicals: Monthly
- Activity supplies: Monthly
- Office supplies: Monthly
- Medical supplies: Monthly
- Fire sprinklers: Quarterly inspections and 1 annual certification
- Elevators: Quarterly service

As shown in Table 4, the CalEEMod default vehicle fleet mix overestimates the number of vehicle trip types; therefore, the fleet mix was adjusted to reflect the actual number of deliveries during the operation of the Project. Table 5 provides the revised fleet mix.

Table 5: Revised Vehicle Fleet Mix

Vehicle Fleet Category	Description	Percentage of Fleet Mix	Total Daily Trips by this Vehicle Type
LDA	Passenger Cars	58.4	224
LDT1	Light-Duty Trucks GVWR <6,000 lbs. and ETW <= 3,750 lbs)	7.3	28
LDT2	Light-Duty Trucks GVWR <6000 lbs. and ETW 3,751-5,750 lbs	19.2	73.7
MDV	Medium-Duty Trucks GVWR 6,000-8,500 lbs	13.2	50.6
LHD1	Light-Heavy-Duty Trucks GVWR 8,501-10,000 lbs	0.3	1.2
LHD2	Light-Heavy-Duty Trucks GVWR 10,001-14,000 lbs	0.1	0.4
MHD	Medium-Heavy Duty Diesel GVWR<26,000 lbs	0.1	0.4
HHD	Heavy-Heavy Duty Diesel Truck GVWR>26000 lbs	0.25	1
OBUS	Other Buses	.1	0.4
UBUS	Urban Buses	.2	0.8
MCY	Motorcycles	.6	2.3
SBUS	School Buses	0	0
MH	Motorhomes	.25	1

Notes:
GVWR = gross vehicle weight rating
lbs = pounds

Electricity

There would be emissions from the power plants that would generate electricity to be used by the Project (for lighting, etc.). CalEEMod was used to estimate these indirect GHG emissions from the Project. The 2013 Title 24 standards are 25 percent more efficient for residential developments, however, the CalEEMod emission factors have not been updated, therefore the energy use was assumed to be 25 percent more efficient than what is in the model.

The Project may also include the following sustainable features which would further reduce energy use (note that because the exact measures selected are unknown at this time, no further adjustments to energy use were made in the model):

- AC – SEER 13 or higher
- Insulation – R-18 or higher in walls (R-13 in warmer climates)
- Insulation – R-38 or higher in the attics (R-30 in warmer climates)
- Heater efficiency of 80% or higher
- If using a heat Pump Systems - HSPF - 7.7 or higher
- Hydronic Heat Systems
- Ductless Systems
- Windows with SHGC and U-Factors of .35 or lower
- Heating and cooling consumption needs to be 50% better than certain energy standards

Water

GHG emissions are emitted from the use of electricity to pump water to the Project and to treat wastewater. CalEEMod defaults were used.

It was assumed the Project would comply with California Green Building Code, which requires a mandatory 20 percent reduction in indoor water use and compliance with outdoor irrigation efficiency measures.

RESULTS

Greenhouse gas emissions from Project construction equipment and worker vehicles are shown in Table 5.

Table 6: Construction Greenhouse Gas Emissions

Year	Emissions ($MTCO_2e$)
2017	513
2018	137
Total	**650**
Annualized over 20 years	**32.5**
Note: Construction emissions annualized over an anticipated 20-year Project lifespan.	

Long-term, operational GHG emissions would result from Project generated vehicular traffic, onsite combustion of natural gas, operation of any landscaping equipment, offsite generation of electrical power over the life of the Project, the energy required to convey water to and wastewater from the Project Site, and the emissions associated with the hauling and disposal of solid waste from the Project Site. Operational emissions for the Project are shown in Table 6.

Table 7: Operational Greenhouse Gas Emissions (2017)

Emission Source	Emissions ($MTCO_2e$)
Area Sources	88
Energy	242
Mobile (Motor Vehicles)	372
Waste	44
Water	59
Total Operational Emissions	804
Annualized Construction Emissions	33
Total Project Emissions	837
Notes: a. Includes CalEEMod "mitigation" for pedestrian infrastructure and compliance with 2013 Title 24 Standards, California Green Building Code, and City recycling regulatory measures.	

STANTEC CONSULTING SERVICES INC.

Elena Nuño
Senior Air Quality Scientist, Associate
Phone: 559.355.0580
Elena.Nuno@stantec.com

Attachment: CalEEMod Output Results and Mitigation Report

Westmont of La Mesa

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.37	Acre	1.37	0.00	0
Parking Lot	68.00	Space	0.90	0.00	0
Congregate Care (Assisted Living)	140.00	Dwelling Unit	8.75	124,354.00	400

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	10			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Site Plan (124,354 sf building)

Construction Phase - Based on applicant provided schedule, 14 months of construction

Off-road Equipment -

Off-road Equipment - Construction equipment adjusted to reflect shorter schedule than default

Off-road Equipment - 10-wheel dump truck
Adjusted excavator hours of operation to reflect 2 weeks of use during grading phase

Off-road Equipment -

Off-road Equipment -

Trips and VMT - HHDT during grading = water truck

Demolition -

Grading - Based on site plan

Architectural Coating - Compliance with Rule 1103

Vehicle Trips - Weighted trip generation rate = 2.7 trips per unit per SANDAG trip generation, however default weekday trip generation is higher, so that was used for weekday. Saturday and Sunday default trip generation is lower, so SANDAG value of 2.7 was used.

Vechicle Emission Factors - Revised fleet mix to reflect actual deliveres

Vechicle Emission Factors -

Woodstoves - No woodburning devices

Area Coating - Compliance with Rule 1103

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	83,939.00	94,500.00
tblArchitecturalCoating	ConstArea_Residential_Interior	251,817.00	283,500.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_Residential_Exterior	83939	94500
tblAreaCoating	Area_Residential_Interior	251817	283500
tblConstructionPhase	NumDays	230.00	220.00
tblConstructionPhase	NumDays	8.00	40.00
tblFireplaces	NumberGas	85.25	109.00
tblFireplaces	NumberNoFireplace	15.50	31.00
tblFireplaces	NumberWood	54.25	0.00
tblGrading	AcresOfGrading	20.00	3.34
tblLandUse	LandUseSquareFeet	59,677.20	0.00
tblLandUse	LandUseSquareFeet	27,200.00	0.00

tblLandUse	LandUseSquareFeet	140,000.00	124,354.00
tblLandUse	LotAcreage	0.61	0.90
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblSolidWaste	SolidWasteGenerationRate	141.44	127.75
tblTripsAndVMT	HaulingTripNumber	0.00	80.00
tblTripsAndVMT	VendorTripNumber	17.00	15.00
tblTripsAndVMT	WorkerTripNumber	18.00	15.00
tblTripsAndVMT	WorkerTripNumber	112.00	101.00
tblTripsAndVMT	WorkerTripNumber	22.00	20.00
tblVehicleEF	HHD	0.02	2.5000e-003
tblVehicleEF	LDA	0.51	0.58
tblVehicleEF	LHD1	0.04	3.0000e-003
tblVehicleEF	LHD2	5.1860e-003	1.0000e-003
tblVehicleEF	MH	3.4580e-003	2.5000e-003
tblVehicleEF	MHD	0.01	1.0000e-003
tblVehicleEF	OBUS	1.8640e-003	1.0000e-003
tblVehicleEF	SBUS	6.0100e-004	0.00
tblVehicleTrips	ST_TR	2.20	2.70
tblVehicleTrips	SU_TR	2.44	2.70
tblWater	IndoorWaterUseRate	10,098,873.97	9,121,563.59
tblWater	OutdoorWaterUseRate	6,366,681.42	5,750,550.96
tblWoodstoves	NumberCatalytic	7.75	0.00
tblWoodstoves	NumberNoncatalytic	7.75	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					
2017											0.0000	510.6522	510.6522	0.1058	0.0000	512.8737
2018											0.0000	136.6667	136.6667	0.0273	0.0000	137.2404
Total											**0.0000**	**647.3189**	**647.3189**	**0.1331**	**0.0000**	**650.1142**

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					
2017											0.0000	510.6517	510.6517	0.1058	0.0000	512.8732
2018											0.0000	136.6665	136.6665	0.0273	0.0000	137.2403
Total											**0.0000**	**647.3183**	**647.3183**	**0.1331**	**0.0000**	**650.1135**

	ROG	**NOx**	**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**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	87.5531	87.5531	3.3300e-003	1.5700e-003	88.1110
Energy											0.0000	265.9759	265.9759	8.8200e-003	3.1100e-003	267.1256
Mobile											0.0000	379.2729	379.2729	0.0175	0.0000	379.6410
Waste											25.9321	0.0000	25.9321	1.5325	0.0000	58.1155
Water											2.8939	59.6951	62.5889	0.2996	7.5200e-003	71.2109
Total											**28.8260**	**792.4970**	**821.3229**	**1.8618**	**0.0122**	**864.2039**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	87.5531	87.5531	3.3300e-003	1.5700e-003	88.1110
Energy											0.0000	240.4975	240.4975	8.1900e-003	2.7100e-003	241.5092
Mobile											0.0000	371.8875	371.8875	0.0172	0.0000	372.2489
Waste											19.4491	0.0000	19.4491	1.1494	0.0000	43.5866
Water											2.3151	49.5805	51.8956	0.2398	6.0300e-003	58.7994
Total											**21.7642**	**749.5186**	**771.2827**	**1.4179**	**0.0103**	**804.2551**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**24.50**	**5.42**	**6.09**	**23.84**	**15.49**	**6.94**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/1/2017	3/7/2017	5	5	
2	Grading	Grading	3/8/2017	5/2/2017	5	40	
3	Building Construction	Building Construction	5/3/2017	3/6/2018	5	220	
4	Paving	Paving	3/7/2018	3/30/2018	5	18	
5	Architectural Coating	Architectural Coating	3/31/2018	4/25/2018	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.34

Acres of Paving: 0

Residential Indoor: 283,500; Residential Outdoor: 94,500; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	2.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Off-Highway Trucks	1	4.00	400	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	2	7.00	226	0.29
Building Construction	Forklifts	4	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	4	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56

Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	2	6.00	130	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	15.00	0.00	80.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	14	101.00	15.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	9.0789	9.0789	2.7800e-003	0.0000	9.1373
Total											**0.0000**	**9.0789**	**9.0789**	**2.7800e-003**	**0.0000**	**9.1373**

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
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	0.3233	0.3233	2.0000e-005	0.0000	0.3236
Total											**0.0000**	**0.3233**	**0.3233**	**2.0000e-005**	**0.0000**	**0.3236**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	9.0788	9.0788	2.7800e-003	0.0000	9.1373
Total											**0.0000**	**9.0788**	**9.0788**	**2.7800e-003**	**0.0000**	**9.1373**

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
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	0.3233	0.3233	2.0000e-005	0.0000	0.3236
Total											**0.0000**	**0.3233**	**0.3233**	**2.0000e-005**	**0.0000**	**0.3236**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	60.0529	60.0529	0.0184	0.0000	60.4393
Total											**0.0000**	**60.0529**	**60.0529**	**0.0184**	**0.0000**	**60.4393**

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	2.6857	2.6857	2.0000e-005	0.0000	2.6861
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	2.1553	2.1553	1.1000e-004	0.0000	2.1576

Total											**0.0000**	**4.8410**	**4.8410**	**1.3000e-004**	**0.0000**	**4.8437**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	60.0529	60.0529	0.0184	0.0000	60.4393
Total											**0.0000**	**60.0529**	**60.0529**	**0.0184**	**0.0000**	**60.4393**

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	2.6857	2.6857	2.0000e-005	0.0000	2.6861
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	2.1553	2.1553	1.1000e-004	0.0000	2.1576
Total											**0.0000**	**4.8410**	**4.8410**	**1.3000e-004**	**0.0000**	**4.8437**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road											0.0000	346.0700	346.0700	0.0811	0.0000	347.7723
Total											**0.0000**	**346.0700**	**346.0700**	**0.0811**	**0.0000**	**347.7723**

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
Vendor											0.0000	27.5200	27.5200	2.1000e-004	0.0000	27.5243
Worker											0.0000	62.7662	62.7662	3.1900e-003	0.0000	62.8332
Total											**0.0000**	**90.2862**	**90.2862**	**3.4000e-003**	**0.0000**	**90.3575**

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											0.0000	346.0696	346.0696	0.0811	0.0000	347.7719
Total											**0.0000**	**346.0696**	**346.0696**	**0.0811**	**0.0000**	**347.7719**

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
Vendor											0.0000	27.5200	27.5200	2.1000e-004	0.0000	27.5243
Worker											0.0000	62.7662	62.7662	3.1900e-003	0.0000	62.8332
Total											**0.0000**	**90.2862**	**90.2862**	**3.4000e-003**	**0.0000**	**90.3575**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road											0.0000	93.0556	93.0556	0.0216	0.0000	93.5083
Total											**0.0000**	**93.0556**	**93.0556**	**0.0216**	**0.0000**	**93.5083**

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
Vendor											0.0000	7.3481	7.3481	6.0000e-005	0.0000	7.3492
Worker											0.0000	16.4118	16.4118	8.1000e-004	0.0000	16.4287
Total											**0.0000**	**23.7598**	**23.7598**	**8.7000e-004**	**0.0000**	**23.7779**

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											0.0000	93.0555	93.0555	0.0216	0.0000	93.5082
Total											**0.0000**	**93.0555**	**93.0555**	**0.0216**	**0.0000**	**93.5082**

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
Vendor											0.0000	7.3481	7.3481	6.0000e-005	0.0000	7.3492
Worker											0.0000	16.4118	16.4118	8.1000e-004	0.0000	16.4287
Total											**0.0000**	**23.7598**	**23.7598**	**8.7000e-004**	**0.0000**	**23.7779**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road											0.0000	15.0641	15.0641	4.5600e-003	0.0000	15.1599
Paving											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											**0.0000**	**15.0641**	**15.0641**	**4.5600e-003**	**0.0000**	**15.1599**

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
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	1.2446	1.2446	6.0000e-005	0.0000	1.2459

Total											**0.0000**	**1.2446**	**1.2446**	**6.0000e-005**	**0.0000**	**1.2459**

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											0.0000	15.0641	15.0641	4.5600e-003	0.0000	15.1599
Paving											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											**0.0000**	**15.0641**	**15.0641**	**4.5600e-003**	**0.0000**	**15.1599**

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
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	1.2446	1.2446	6.0000e-005	0.0000	1.2459
Total											**0.0000**	**1.2446**	**1.2446**	**6.0000e-005**	**0.0000**	**1.2459**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3025
Total											**0.0000**	**2.2979**	**2.2979**	**2.2000e-004**	**0.0000**	**2.3025**

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
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	1.2446	1.2446	6.0000e-005	0.0000	1.2459
Total											**0.0000**	**1.2446**	**1.2446**	**6.0000e-005**	**0.0000**	**1.2459**

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											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3025
Total											**0.0000**	**2.2979**	**2.2979**	**2.2000e-004**	**0.0000**	**2.3025**

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
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	1.2446	1.2446	6.0000e-005	0.0000	1.2459
Total											**0.0000**	**1.2446**	**1.2446**	**6.0000e-005**	**0.0000**	**1.2459**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	371.8875	371.8875	0.0172	0.0000	372.2489

Unmitigated											0.0000	379.2729	379.2729	0.0175	0.0000	379.6410

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	383.60	378.00	378.00	1,090,726	1,068,911
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	383.60	378.00	378.00	1,090,726	1,068,911

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Congregate Care (Assisted	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.584000	0.073499	0.191840	0.131575	0.003000	0.001000	0.001000	0.002500	0.001000	0.002072	0.006564	0.000000	0.002500

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

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

Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	169.9712	169.9712	6.8400e-003	1.4200e-003	170.5536
Electricity Unmitigated											0.0000	176.3714	176.3714	7.1000e-003	1.4700e-003	176.9758
NaturalGas Mitigated											0.0000	70.5263	70.5263	1.3500e-003	1.2900e-003	70.9556
NaturalGas Unmitigated											0.0000	89.6045	89.6045	1.7200e-003	1.6400e-003	90.1498

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Congregate Care (Assisted Living)	1.67913e+006											0.0000	89.6045	89.6045	1.7200e-003	1.6400e-003	90.1498
Other Non-Asphalt Surfaces	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total												**0.0000**	**89.6045**	**89.6045**	**1.7200e-003**	**1.6400e-003**	**90.1498**

Mitigated

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

Congregate Care (Assisted Living)	1.32161e+006												0.0000	70.5263	70.5263	1.3500e-003	1.2900e-003	70.9556
Other Non-Asphalt Surfaces	0												0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total													**0.0000**	**70.5263**	**70.5263**	**1.3500e-003**	**1.2900e-003**	**70.9556**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	539678	176.3714	7.1000e-003	1.4700e-003	176.9758
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**176.3714**	**7.1000e-003**	**1.4700e-003**	**176.9758**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	520094	169.9712	6.8400e-003	1.4200e-003	170.5536
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**169.9712**	**6.8400e-003**	**1.4200e-003**	**170.5536**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	87.5531	87.5531	3.3300e-003	1.5700e-003	88.1110
Unmitigated											0.0000	87.5531	87.5531	3.3300e-003	1.5700e-003	88.1110

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											0.0000	85.8538	85.8538	1.6500e-003	1.5700e-003	86.3763
Landscaping											0.0000	1.6993	1.6993	1.6900e-003	0.0000	1.7347
Total											**0.0000**	**87.5531**	**87.5531**	**3.3400e-003**	**1.5700e-003**	**88.1110**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											0.0000	85.8538	85.8538	1.6500e-003	1.5700e-003	86.3763
Landscaping											0.0000	1.6993	1.6993	1.6900e-003	0.0000	1.7347
Total											**0.0000**	**87.5531**	**87.5531**	**3.3400e-003**	**1.5700e-003**	**88.1110**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	51.8956	0.2398	6.0300e-003	58.7994
Unmitigated	62.5889	0.2996	7.5200e-003	71.2109

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	9.12156 / 5.75055	62.5889	0.2996	7.5200e-003	71.2109
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**62.5889**	**0.2996**	**7.5200e-003**	**71.2109**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	7.29725 / 5.39977	51.8956	0.2398	6.0300e-003	58.7994
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**51.8956**	**0.2398**	**6.0300e-003**	**58.7994**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	19.4491	1.1494	0.0000	43.5866
Unmitigated	25.9321	1.5325	0.0000	58.1155

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Congregate Care (Assisted Living)	127.75	25.9321	1.5325	0.0000	58.1155
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**25.9321**	**1.5325**	**0.0000**	**58.1155**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			

Congregate Care (Assisted Living)	95.8125	19.4491	1.1494	0.0000	43.5866
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**19.4491**	**1.1494**	**0.0000**	**43.5866**

9.0 Operational Offroad

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

10.0 Vegetation

Westmont of La Mesa

San Diego County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Cement and Mortar Mixers	Diesel	No Change	0	2	No Change	0.00
Cranes	Diesel	No Change	0	2	No Change	0.00
Excavators	Diesel	No Change	0	1	No Change	0.00
Forklifts	Diesel	No Change	0	4	No Change	0.00
Generator Sets	Diesel	No Change	0	2	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Off-Highway Trucks	Diesel	No Change	0	1	No Change	0.00

Pavers	Diesel	No Change	0	1	No Change	0.00
Paving Equipment	Diesel	No Change	0	2	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	4	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	12	No Change	0.00
Welders	Diesel	No Change	0	2	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors							0.00000E+000	2.29793E+000	2.29793E+000	2.20000E-004	0.00000E+000	2.30252E+000
Cement and Mortar Mixers							0.00000E+000	6.18670E-001	6.18670E-001	6.00000E-005	0.00000E+000	6.20020E-001
Cranes							0.00000E+000	1.00461E+002	1.00461E+002	3.08900E-002	0.00000E+000	1.01110E+002
Excavators							0.00000E+000	2.45512E+000	2.45512E+000	7.50000E-004	0.00000E+000	2.47092E+000
Forklifts							0.00000E+000	6.21605E+001	6.21605E+001	1.91100E-002	0.00000E+000	6.25618E+001
Generator Sets							0.00000E+000	1.24346E+002	1.24346E+002	9.83000E-003	0.00000E+000	1.24552E+002
Graders							0.00000E+000	1.15684E+001	1.15684E+001	3.54000E-003	0.00000E+000	1.16429E+001
Off-Highway Trucks							0.00000E+000	1.21949E+001	1.21949E+001	3.74000E-003	0.00000E+000	1.22734E+001
Pavers							0.00000E+000	3.71439E+000	3.71439E+000	1.16000E-003	0.00000E+000	3.73868E+000
Paving Equipment							0.00000E+000	4.94525E+000	4.94525E+000	1.54000E-003	0.00000E+000	4.97758E+000
Rollers							0.00000E+000	3.23206E+000	3.23206E+000	1.01000E-003	0.00000E+000	3.25319E+000
Rubber Tired Dozers							0.00000E+000	2.27025E+001	2.27025E+001	6.96000E-003	0.00000E+000	2.28486E+001
Tractors/Loaders/Backhoes							0.00000E+000	1.33514E+002	1.33514E+002	4.10400E-002	0.00000E+000	1.34376E+002
Welders							0.00000E+000	4.14085E+001	4.14085E+001	8.74000E-003	0.00000E+000	4.15922E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					

Air Compressors							0.00000E+000	2.29793E+000	2.29793E+000	2.20000E-004	0.00000E+000	2.30252E+000
Cement and Mortar Mixers							0.00000E+000	6.18670E-001	6.18670E-001	6.00000E-005	0.00000E+000	6.20020E-001
Cranes							0.00000E+000	1.00461E+002	1.00461E+002	3.08900E-002	0.00000E+000	1.01110E+002
Excavators							0.00000E+000	2.45512E+000	2.45512E+000	7.50000E-004	0.00000E+000	2.47092E+000
Forklifts							0.00000E+000	6.21604E+001	6.21604E+001	1.91100E-002	0.00000E+000	6.25617E+001
Generator Sets							0.00000E+000	1.24345E+002	1.24345E+002	9.83000E-003	0.00000E+000	1.24552E+002
Graders							0.00000E+000	1.15684E+001	1.15684E+001	3.54000E-003	0.00000E+000	1.16429E+001
Off-Highway Trucks							0.00000E+000	1.21949E+001	1.21949E+001	3.74000E-003	0.00000E+000	1.22734E+001
Pavers							0.00000E+000	3.71439E+000	3.71439E+000	1.16000E-003	0.00000E+000	3.73867E+000
Paving Equipment							0.00000E+000	4.94524E+000	4.94524E+000	1.54000E-003	0.00000E+000	4.97757E+000
Rollers							0.00000E+000	3.23206E+000	3.23206E+000	1.01000E-003	0.00000E+000	3.25319E+000
Rubber Tired Dozers							0.00000E+000	2.27025E+001	2.27025E+001	6.96000E-003	0.00000E+000	2.28486E+001
Tractors/Loaders/Backhoes							0.00000E+000	1.33514E+002	1.33514E+002	4.10400E-002	0.00000E+000	1.34376E+002
Welders							0.00000E+000	4.14085E+001	4.14085E+001	8.74000E-003	0.00000E+000	4.15921E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cement and Mortar Mixers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19449E-006	1.19449E-006	0.00000E+000	0.00000E+000	1.18683E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.12612E-006	1.12612E-006	0.00000E+000	0.00000E+000	1.11889E-006
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.20631E-006	1.20631E-006	0.00000E+000	0.00000E+000	1.20432E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.64421E-007	8.64421E-007	0.00000E+000	0.00000E+000	8.58894E-007
Off-Highway Trucks	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.20012E-007	8.20012E-007	0.00000E+000	0.00000E+000	8.14769E-007
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	2.67474E-006

Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	2.02214E-006	2.02214E-006	0.00000E+000	0.00000E+000	2.00901E-006
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.32144E-006	1.32144E-006	0.00000E+000	0.00000E+000	1.31299E-006
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.12348E-006	1.12348E-006	0.00000E+000	0.00000E+000	1.19069E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.20748E-006	1.20748E-006	0.00000E+000	0.00000E+000	1.20215E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Grading	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Grading	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Site Preparation	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.63	3.63	3.66	3.40	3.63
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.95	1.95	1.77	0.00	1.95
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.29	21.29	21.51	21.34	21.29
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	20.00	16.94	17.09	19.97	19.81	17.43
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting: Suburban Center

Mitigation Selected	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00	0.00	0.00	
No	Land Use	Increase Diversity	-0.01	0.13		
No	Land Use	Improve Walkability Design	0.00	0.00		
No	Land Use	Improve Destination Accessibility	0.00	0.00		
No	Land Use	Increase Transit Accessibility	0.25	0.00		
No	Land Use	Integrate Below Market Rate Housing	0.00	0.00		

	Land Use	Land Use SubTotal	0.00			
Yes	Neighborhood Enhancements	Improve Pedestrian Network	2.00	Project Site and Connecting Off-Site		
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.01			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.02			
No	Parking Policy Pricing	Limit Parking Supply	0.00	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00	0.00		
No	Transit Improvements	Expand Transit Network	0.00	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		0.00	
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.02			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"	4.50			
No	Commute	Workplace Parking Charge		0.00		
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program	10.00			
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			

		Total VMT Reduction	0.02			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
Yes	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	250.00
No	Use Low VOC Paint (Residential Exterior)	250.00
No	Use Low VOC Paint (Non-residential Interior)	250.00
No	Use Low VOC Paint (Non-residential Exterior)	250.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	25.00	
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Apply Water Conservation on Strategy	20.00	6.10
No	Use Reclaimed Water	0.00	0.00
No	Use Grey Water	0.00	
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	25.00