

Preserve at San Juan Operational Emissions - South Coast Air Basin, Annual

**Preserve at San Juan Operational Emissions  
South Coast Air Basin, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	72.00	Dwelling Unit	23.38	129,600.00	206

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	31
<b>Climate Zone</b>	8			<b>Operational Year</b>	2017
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MWhr)</b>	702.44	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

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Project Characteristics -

Land Use - Project Description based on Table 1. 72 dwelling units

Construction Phase - Operational run only

Off-road Equipment -

Trips and VMT - Operational runs only

On-road Fugitive Dust -

Grading -

Architectural Coating - Operational runs only

Vehicle Trips - Trip generation rates obtained from traffic report Table 3-1. 690 weekday trips, Assumed same trip gen for weekend trips as a conservative estimate

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - No wood burning fireplaces

Consumer Products -

Area Coating -

Landscape Equipment -

Energy Use -

Water And Wastewater - Wastewater treatment is on-site

Area Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	87,480.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	262,440.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00

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tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	370.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	35.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblFireplaces	NumberGas	61.20	72.00
tblFireplaces	NumberNoFireplace	7.20	0.00
tblFireplaces	NumberWood	3.60	0.00
tblProjectCharacteristics	OperationalYear	2018	2017
tblTripsAndVMT	VendorTripLength	6.90	7.90
tblTripsAndVMT	VendorTripLength	6.90	7.90
tblTripsAndVMT	VendorTripLength	6.90	7.90
tblTripsAndVMT	VendorTripLength	6.90	7.90
tblTripsAndVMT	VendorTripLength	6.90	7.90
tblTripsAndVMT	VendorTripLength	6.90	7.90
tblTripsAndVMT	WorkerTripLength	14.70	19.80
tblTripsAndVMT	WorkerTripLength	14.70	19.80
tblTripsAndVMT	WorkerTripLength	14.70	19.80
tblTripsAndVMT	WorkerTripLength	14.70	19.80
tblTripsAndVMT	WorkerTripLength	14.70	19.80
tblTripsAndVMT	WorkerTripLength	14.70	19.80
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00

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tblTripsAndVMT	WorkerTripNumber	26.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblVehicleTrips	ST_TR	9.91	9.58
tblVehicleTrips	SU_TR	8.62	9.58
tblVehicleTrips	WD_TR	9.52	9.58
tblWater	IndoorWaterUseRate	4,691,089.84	15,760,000.00
tblWater	OutdoorWaterUseRate	2,957,426.21	106,918,720.00
tblWoodstoves	NumberCatalytic	3.60	0.00
tblWoodstoves	NumberNoncatalytic	3.60	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

## 2.0 Emissions Summary

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**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					
2015											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**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					
2015											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

**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	18.5028	18.5028	1.5500e-003	3.2000e-004	18.6359
Energy											0.0000	316.6227	316.6227	0.0104	3.8800e-003	318.0390
Mobile											0.0000	1,100.4010	1,100.4010	0.0655	0.0000	1,102.0384
Waste											17.1446	0.0000	17.1446	1.0132	0.0000	42.4751
Water											4.9999	443.8645	448.8644	0.5319	0.0159	466.9043
<b>Total</b>											<b>22.1445</b>	<b>1,879.3909</b>	<b>1,901.5355</b>	<b>1.6226</b>	<b>0.0201</b>	<b>1,948.0926</b>

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**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	18.5028	18.5028	1.5500e-003	3.2000e-004	18.6359
Energy											0.0000	316.6227	316.6227	0.0104	3.8800e-003	318.0390
Mobile											0.0000	1,100.4010	1,100.4010	0.0655	0.0000	1,102.0384
Waste											17.1446	0.0000	17.1446	1.0132	0.0000	42.4751
Water											4.9999	420.7772	425.7771	0.5309	0.0157	443.7345
<b>Total</b>											<b>22.1445</b>	<b>1,856.3037</b>	<b>1,878.4482</b>	<b>1.6216</b>	<b>0.0199</b>	<b>1,924.9228</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23	1.21	0.06	0.99	1.19

**3.0 Construction Detail**

**Construction Phase**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/15/2015	6/14/2015	5	0	
2	Site Preparation	Site Preparation	6/15/2015	6/14/2015	5	0	
3	Grading	Grading	6/15/2015	6/14/2015	5	0	
4	Building Construction	Building Construction	6/15/2015	6/14/2015	5	0	
5	Paving	Paving	6/15/2015	6/14/2015	5	0	
6	Architectural Coating	Architectural Coating	6/15/2015	6/14/2015	5	0	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**



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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**



























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**3.7 Architectural Coating - 2015**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	1,100.4010	1,100.4010	0.0655	0.0000	1,102.0384
Unmitigated											0.0000	1,100.4010	1,100.4010	0.0655	0.0000	1,102.0384

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	690.05	690.05	690.05	2,357,999	2,357,999
Total	690.05	690.05	690.05	2,357,999	2,357,999

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.544524	0.045551	0.198447	0.129336	0.019135	0.005878	0.019261	0.027434	0.001914	0.002222	0.004531	0.000699	0.001069

5.0 Energy Detail

Historical Energy Use: N

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**5.1 Mitigation Measures Energy**

	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	196.7533	196.7533	8.1200e-003	1.6800e-003	197.4572
Electricity Unmitigated											0.0000	196.7533	196.7533	8.1200e-003	1.6800e-003	197.4572
NaturalGas Mitigated											0.0000	119.8694	119.8694	2.3000e-003	2.2000e-003	120.5817
NaturalGas Unmitigated											0.0000	119.8694	119.8694	2.3000e-003	2.2000e-003	120.5817

**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					
Single Family Housing	2.24627e+006											0.0000	119.8694	119.8694	2.3000e-003	2.2000e-003	120.5817
<b>Total</b>												<b>0.0000</b>	<b>119.8694</b>	<b>119.8694</b>	<b>2.3000e-003</b>	<b>2.2000e-003</b>	<b>120.5817</b>



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**5.2 Energy by Land Use - Natural Gas**

**Mitigated**

	Natural Gas 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					
Single Family Housing	2.24627e+006											0.0000	119.8694	119.8694	2.3000e-003	2.2000e-003	120.5817
<b>Total</b>												<b>0.0000</b>	<b>119.8694</b>	<b>119.8694</b>	<b>2.3000e-003</b>	<b>2.2000e-003</b>	<b>120.5817</b>

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	617514	196.7533	8.1200e-003	1.6800e-003	197.4572
<b>Total</b>		<b>196.7533</b>	<b>8.1200e-003</b>	<b>1.6800e-003</b>	<b>197.4572</b>

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

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	617514	196.7533	8.1200e-003	1.6800e-003	197.4572
<b>Total</b>		<b>196.7533</b>	<b>8.1200e-003</b>	<b>1.6800e-003</b>	<b>197.4572</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	18.5028	18.5028	1.5500e-003	3.2000e-004	18.6359
Unmitigated											0.0000	18.5028	18.5028	1.5500e-003	3.2000e-004	18.6359

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	17.2899	17.2899	3.3000e-004	3.2000e-004	17.3926
Landscaping											0.0000	1.2129	1.2129	1.2200e-003	0.0000	1.2433
<b>Total</b>											<b>0.0000</b>	<b>18.5028</b>	<b>18.5028</b>	<b>1.5500e-003</b>	<b>3.2000e-004</b>	<b>18.6359</b>

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**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	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	17.2899	17.2899	3.3000e-004	3.2000e-004	17.3926
Landscaping											0.0000	1.2129	1.2129	1.2200e-003	0.0000	1.2433
<b>Total</b>											<b>0.0000</b>	<b>18.5028</b>	<b>18.5028</b>	<b>1.5500e-003</b>	<b>3.2000e-004</b>	<b>18.6359</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Use Water Efficient Irrigation System

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	425.7771	0.5309	0.0157	443.7345
Unmitigated	448.8644	0.5319	0.0159	466.9043

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	15.76 / 106.919	448.8644	0.5319	0.0159	466.9043
<b>Total</b>		<b>448.8644</b>	<b>0.5319</b>	<b>0.0159</b>	<b>466.9043</b>

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**7.2 Water by Land Use**

**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	15.76 / 100.397	425.7771	0.5309	0.0157	443.7345
<b>Total</b>		<b>425.7771</b>	<b>0.5309</b>	<b>0.0157</b>	<b>443.7345</b>

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	17.1446	1.0132	0.0000	42.4751
Unmitigated	17.1446	1.0132	0.0000	42.4751

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**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	84.46	17.1446	1.0132	0.0000	42.4751
<b>Total</b>		<b>17.1446</b>	<b>1.0132</b>	<b>0.0000</b>	<b>42.4751</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	84.46	17.1446	1.0132	0.0000	42.4751
<b>Total</b>		<b>17.1446</b>	<b>1.0132</b>	<b>0.0000</b>	<b>42.4751</b>

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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## Preserve at San Juan Operational Emissions - South Coast Air Basin, Annual

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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**11.0 Vegetation**

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