

# Appendix A

Heritage Affordable Housing - Bay Area AQMD Air District, Winter

**Heritage Affordable Housing**  
**Bay Area AQMD Air District, Winter**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	33.00	Dwelling Unit	1.66	33,000.00	99

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	64
<b>Climate Zone</b>	4			<b>Operational Year</b>	2022
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	206.29	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

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

## Heritage Affordable Housing - Bay Area AQMD Air District, Winter

Project Characteristics - total CO2 emission factor from The Climate Registry. Available at: <https://www.theclimateregistry.org/our-members/cris-public-reports/>. Accessed: June 2020.

Land Use - Lot acreage reflects actual size of project site.

The California Department of Finance's 2019 population and housing estimates estimate 2.99 persons per household in the Town of Windsor.

Vehicle Trips - Changes based on Traffic Study completed on December 2019.

Vehicle Emission Factors - EMFAC 2017

Vehicle Emission Factors - EMFAC 2017

Vehicle Emission Factors - EMFAC 2017

Energy Use -

Construction Off-road Equipment Mitigation - Per BAAQMD standards and regulations

Area Mitigation - Per BAAQMD Regulation 8, Rule 3 (Architectural Coatings) and Regulation 6, Rule 3 (Wood-Burning Devices)

Energy Mitigation - % Improvement based on efficiency of 2019 Title 24 Standards compared to 2016 Title 24 Standards.

Water Mitigation -

Waste Mitigation - Per AB 341

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	26
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LotAcreage	0.87	1.66
tblLandUse	Population	94.00	99.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	206.29

## 2.0 Emissions Summary

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Heritage Affordable Housing - Bay Area AQMD Air District, Winter

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	14.4874	0.3315	20.6562	0.0347		2.5606	2.5606		2.5606	2.5606	276.2379	127.1964	403.4343	0.3828	0.0195	418.8215
Energy	8.4200e-003	0.0720	0.0306	4.6000e-004		5.8200e-003	5.8200e-003		5.8200e-003	5.8200e-003		91.8942	91.8942	1.7600e-003	1.6800e-003	92.4403
Mobile	0.2969	1.4982	3.5192	0.0119	1.0768	0.0109	1.0877	0.2881	0.0102	0.2983		1,201.9590	1,201.9590	0.0460		1,203.1089
<b>Total</b>	<b>14.7927</b>	<b>1.9016</b>	<b>24.2061</b>	<b>0.0470</b>	<b>1.0768</b>	<b>2.5773</b>	<b>3.6541</b>	<b>0.2881</b>	<b>2.5767</b>	<b>2.8647</b>	<b>276.2379</b>	<b>1,421.0496</b>	<b>1,697.2875</b>	<b>0.4305</b>	<b>0.0212</b>	<b>1,714.3706</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.9397	0.2358	2.8124	1.4500e-003		0.0316	0.0316		0.0316	0.0316	0.0000	265.7964	265.7964	9.7300e-003	4.7800e-003	267.4650
Energy	5.5900e-003	0.0478	0.0203	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9763	60.9763	1.1700e-003	1.1200e-003	61.3386
Mobile	0.2969	1.4982	3.5192	0.0119	1.0768	0.0109	1.0877	0.2881	0.0102	0.2983		1,201.9590	1,201.9590	0.0460		1,203.1089
<b>Total</b>	<b>1.2422</b>	<b>1.7817</b>	<b>6.3520</b>	<b>0.0136</b>	<b>1.0768</b>	<b>0.0464</b>	<b>1.1232</b>	<b>0.2881</b>	<b>0.0457</b>	<b>0.3338</b>	<b>0.0000</b>	<b>1,528.7316</b>	<b>1,528.7316</b>	<b>0.0569</b>	<b>5.9000e-003</b>	<b>1,531.9124</b>

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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
Percent Reduction	91.60	6.30	73.76	71.02	0.00	98.20	69.26	0.00	98.23	88.35	100.00	-7.58	9.93	86.78	72.18	10.64

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/2/2021	1/29/2021	5	20	
2	Site Preparation	Site Preparation	1/30/2021	2/2/2021	5	2	
3	Grading	Grading	2/3/2021	2/8/2021	5	4	
4	Building Construction	Building Construction	2/9/2021	11/15/2021	5	200	
5	Paving	Paving	11/16/2021	11/29/2021	5	10	
6	Architectural Coating	Architectural Coating	11/30/2021	12/13/2021	5	10	

**Acres of Grading (Site Preparation Phase): 1**

**Acres of Grading (Grading Phase): 1.5**

**Acres of Paving: 0**

**Residential Indoor: 66,825; Residential Outdoor: 22,275; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

## Heritage Affordable Housing - Bay Area AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	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**

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	24.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

- Replace Ground Cover
- Water Exposed Area
- Water Unpaved Roads
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

**3.2 Demolition - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.7171	2,322.7171	0.5940		2,337.5658
<b>Total</b>	<b>1.9930</b>	<b>19.6966</b>	<b>14.4925</b>	<b>0.0241</b>		<b>1.0409</b>	<b>1.0409</b>		<b>0.9715</b>	<b>0.9715</b>		<b>2,322.7171</b>	<b>2,322.7171</b>	<b>0.5940</b>		<b>2,337.5658</b>



Heritage Affordable Housing - Bay Area AQMD Air District, Winter

**3.2 Demolition - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0443	0.0302	0.2988	9.5000e-004	0.1068	6.7000e-004	0.1075	0.0283	6.2000e-004	0.0290		94.8398	94.8398	2.1500e-003		94.8934
<b>Total</b>	<b>0.0443</b>	<b>0.0302</b>	<b>0.2988</b>	<b>9.5000e-004</b>	<b>0.1068</b>	<b>6.7000e-004</b>	<b>0.1075</b>	<b>0.0283</b>	<b>6.2000e-004</b>	<b>0.0290</b>		<b>94.8398</b>	<b>94.8398</b>	<b>2.1500e-003</b>		<b>94.8934</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.7171	2,322.7171	0.5940		2,337.5658
<b>Total</b>	<b>1.9930</b>	<b>19.6966</b>	<b>14.4925</b>	<b>0.0241</b>		<b>1.0409</b>	<b>1.0409</b>		<b>0.9715</b>	<b>0.9715</b>	<b>0.0000</b>	<b>2,322.7171</b>	<b>2,322.7171</b>	<b>0.5940</b>		<b>2,337.5658</b>

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**3.2 Demolition - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0443	0.0302	0.2988	9.5000e-004	0.0827	6.7000e-004	0.0833	0.0224	6.2000e-004	0.0230		94.8398	94.8398	2.1500e-003		94.8934
<b>Total</b>	<b>0.0443</b>	<b>0.0302</b>	<b>0.2988</b>	<b>9.5000e-004</b>	<b>0.0827</b>	<b>6.7000e-004</b>	<b>0.0833</b>	<b>0.0224</b>	<b>6.2000e-004</b>	<b>0.0230</b>		<b>94.8398</b>	<b>94.8398</b>	<b>2.1500e-003</b>		<b>94.8934</b>

**3.3 Site Preparation - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041		1,666.5174	1,666.5174	0.5390		1,679.9920
<b>Total</b>	<b>1.5558</b>	<b>17.4203</b>	<b>7.5605</b>	<b>0.0172</b>	<b>5.7996</b>	<b>0.7654</b>	<b>6.5650</b>	<b>2.9537</b>	<b>0.7041</b>	<b>3.6578</b>		<b>1,666.5174</b>	<b>1,666.5174</b>	<b>0.5390</b>		<b>1,679.9920</b>

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**3.3 Site Preparation - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0273	0.0186	0.1839	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		58.3629	58.3629	1.3200e-003		58.3960
<b>Total</b>	<b>0.0273</b>	<b>0.0186</b>	<b>0.1839</b>	<b>5.9000e-004</b>	<b>0.0657</b>	<b>4.1000e-004</b>	<b>0.0661</b>	<b>0.0174</b>	<b>3.8000e-004</b>	<b>0.0178</b>		<b>58.3629</b>	<b>58.3629</b>	<b>1.3200e-003</b>		<b>58.3960</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1487	0.0000	2.1487	1.0944	0.0000	1.0944			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041	0.0000	1,666.5174	1,666.5174	0.5390		1,679.9920
<b>Total</b>	<b>1.5558</b>	<b>17.4203</b>	<b>7.5605</b>	<b>0.0172</b>	<b>2.1487</b>	<b>0.7654</b>	<b>2.9141</b>	<b>1.0944</b>	<b>0.7041</b>	<b>1.7985</b>	<b>0.0000</b>	<b>1,666.5174</b>	<b>1,666.5174</b>	<b>0.5390</b>		<b>1,679.9920</b>

Heritage Affordable Housing - Bay Area AQMD Air District, Winter

**3.3 Site Preparation - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0273	0.0186	0.1839	5.9000e-004	0.0509	4.1000e-004	0.0513	0.0138	3.8000e-004	0.0142		58.3629	58.3629	1.3200e-003		58.3960
<b>Total</b>	<b>0.0273</b>	<b>0.0186</b>	<b>0.1839</b>	<b>5.9000e-004</b>	<b>0.0509</b>	<b>4.1000e-004</b>	<b>0.0513</b>	<b>0.0138</b>	<b>3.8000e-004</b>	<b>0.0142</b>		<b>58.3629</b>	<b>58.3629</b>	<b>1.3200e-003</b>		<b>58.3960</b>

**3.4 Grading - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869		1,365.0648	1,365.0648	0.4415		1,376.1020
<b>Total</b>	<b>1.2884</b>	<b>14.3307</b>	<b>6.3314</b>	<b>0.0141</b>	<b>4.9143</b>	<b>0.6379</b>	<b>5.5522</b>	<b>2.5256</b>	<b>0.5869</b>	<b>3.1125</b>		<b>1,365.0648</b>	<b>1,365.0648</b>	<b>0.4415</b>		<b>1,376.1020</b>

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**3.4 Grading - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0273	0.0186	0.1839	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		58.3629	58.3629	1.3200e-003		58.3960
<b>Total</b>	<b>0.0273</b>	<b>0.0186</b>	<b>0.1839</b>	<b>5.9000e-004</b>	<b>0.0657</b>	<b>4.1000e-004</b>	<b>0.0661</b>	<b>0.0174</b>	<b>3.8000e-004</b>	<b>0.0178</b>		<b>58.3629</b>	<b>58.3629</b>	<b>1.3200e-003</b>		<b>58.3960</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8207	0.0000	1.8207	0.9357	0.0000	0.9357			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869	0.0000	1,365.0648	1,365.0648	0.4415		1,376.1020
<b>Total</b>	<b>1.2884</b>	<b>14.3307</b>	<b>6.3314</b>	<b>0.0141</b>	<b>1.8207</b>	<b>0.6379</b>	<b>2.4586</b>	<b>0.9357</b>	<b>0.5869</b>	<b>1.5226</b>	<b>0.0000</b>	<b>1,365.0648</b>	<b>1,365.0648</b>	<b>0.4415</b>		<b>1,376.1020</b>

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**3.4 Grading - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0273	0.0186	0.1839	5.9000e-004	0.0509	4.1000e-004	0.0513	0.0138	3.8000e-004	0.0142		58.3629	58.3629	1.3200e-003		58.3960
<b>Total</b>	<b>0.0273</b>	<b>0.0186</b>	<b>0.1839</b>	<b>5.9000e-004</b>	<b>0.0509</b>	<b>4.1000e-004</b>	<b>0.0513</b>	<b>0.0138</b>	<b>3.8000e-004</b>	<b>0.0142</b>		<b>58.3629</b>	<b>58.3629</b>	<b>1.3200e-003</b>		<b>58.3960</b>

**3.5 Building Construction - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
<b>Total</b>	<b>1.8125</b>	<b>13.6361</b>	<b>12.8994</b>	<b>0.0221</b>		<b>0.6843</b>	<b>0.6843</b>		<b>0.6608</b>	<b>0.6608</b>		<b>2,001.2200</b>	<b>2,001.2200</b>	<b>0.3573</b>		<b>2,010.1517</b>

Heritage Affordable Housing - Bay Area AQMD Air District, Winter

**3.5 Building Construction - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0131	0.4169	0.1120	1.0600e-003	0.0271	9.3000e-004	0.0280	7.7900e-003	8.9000e-004	8.6800e-003		112.6509	112.6509	5.8700e-003		112.7976
Worker	0.0818	0.0557	0.5516	1.7600e-003	0.1972	1.2400e-003	0.1984	0.0523	1.1400e-003	0.0534		175.0888	175.0888	3.9600e-003		175.1878
<b>Total</b>	<b>0.0949</b>	<b>0.4726</b>	<b>0.6636</b>	<b>2.8200e-003</b>	<b>0.2242</b>	<b>2.1700e-003</b>	<b>0.2264</b>	<b>0.0601</b>	<b>2.0300e-003</b>	<b>0.0621</b>		<b>287.7397</b>	<b>287.7397</b>	<b>9.8300e-003</b>		<b>287.9854</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
<b>Total</b>	<b>1.8125</b>	<b>13.6361</b>	<b>12.8994</b>	<b>0.0221</b>		<b>0.6843</b>	<b>0.6843</b>		<b>0.6608</b>	<b>0.6608</b>	<b>0.0000</b>	<b>2,001.2200</b>	<b>2,001.2200</b>	<b>0.3573</b>		<b>2,010.1517</b>

Heritage Affordable Housing - Bay Area AQMD Air District, Winter

**3.5 Building Construction - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0131	0.4169	0.1120	1.0600e-003	0.0221	9.3000e-004	0.0230	6.5600e-003	8.9000e-004	7.4500e-003		112.6509	112.6509	5.8700e-003		112.7976
Worker	0.0818	0.0557	0.5516	1.7600e-003	0.1526	1.2400e-003	0.1538	0.0414	1.1400e-003	0.0425		175.0888	175.0888	3.9600e-003		175.1878
<b>Total</b>	<b>0.0949</b>	<b>0.4726</b>	<b>0.6636</b>	<b>2.8200e-003</b>	<b>0.1747</b>	<b>2.1700e-003</b>	<b>0.1768</b>	<b>0.0479</b>	<b>2.0300e-003</b>	<b>0.0500</b>		<b>287.7397</b>	<b>287.7397</b>	<b>9.8300e-003</b>		<b>287.9854</b>

**3.6 Paving - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.7739</b>	<b>7.7422</b>	<b>8.8569</b>	<b>0.0135</b>		<b>0.4153</b>	<b>0.4153</b>		<b>0.3830</b>	<b>0.3830</b>		<b>1,296.8664</b>	<b>1,296.8664</b>	<b>0.4111</b>		<b>1,307.1442</b>



Heritage Affordable Housing - Bay Area AQMD Air District, Winter

**3.6 Paving - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0443	0.0302	0.2988	9.5000e-004	0.1068	6.7000e-004	0.1075	0.0283	6.2000e-004	0.0290		94.8398	94.8398	2.1500e-003		94.8934
<b>Total</b>	<b>0.0443</b>	<b>0.0302</b>	<b>0.2988</b>	<b>9.5000e-004</b>	<b>0.1068</b>	<b>6.7000e-004</b>	<b>0.1075</b>	<b>0.0283</b>	<b>6.2000e-004</b>	<b>0.0290</b>		<b>94.8398</b>	<b>94.8398</b>	<b>2.1500e-003</b>		<b>94.8934</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.7739</b>	<b>7.7422</b>	<b>8.8569</b>	<b>0.0135</b>		<b>0.4153</b>	<b>0.4153</b>		<b>0.3830</b>	<b>0.3830</b>	<b>0.0000</b>	<b>1,296.8664</b>	<b>1,296.8664</b>	<b>0.4111</b>		<b>1,307.1442</b>

Heritage Affordable Housing - Bay Area AQMD Air District, Winter

**3.6 Paving - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0443	0.0302	0.2988	9.5000e-004	0.0827	6.7000e-004	0.0833	0.0224	6.2000e-004	0.0230		94.8398	94.8398	2.1500e-003		94.8934
<b>Total</b>	<b>0.0443</b>	<b>0.0302</b>	<b>0.2988</b>	<b>9.5000e-004</b>	<b>0.0827</b>	<b>6.7000e-004</b>	<b>0.0833</b>	<b>0.0224</b>	<b>6.2000e-004</b>	<b>0.0230</b>		<b>94.8398</b>	<b>94.8398</b>	<b>2.1500e-003</b>		<b>94.8934</b>

**3.7 Architectural Coating - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	46.4601					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>46.6790</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

Heritage Affordable Housing - Bay Area AQMD Air District, Winter

**3.7 Architectural Coating - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0170	0.0116	0.1149	3.7000e-004	0.0411	2.6000e-004	0.0413	0.0109	2.4000e-004	0.0111		36.4768	36.4768	8.3000e-004		36.4975
<b>Total</b>	<b>0.0170</b>	<b>0.0116</b>	<b>0.1149</b>	<b>3.7000e-004</b>	<b>0.0411</b>	<b>2.6000e-004</b>	<b>0.0413</b>	<b>0.0109</b>	<b>2.4000e-004</b>	<b>0.0111</b>		<b>36.4768</b>	<b>36.4768</b>	<b>8.3000e-004</b>		<b>36.4975</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	46.4601					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
<b>Total</b>	<b>46.6790</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

Heritage Affordable Housing - Bay Area AQMD Air District, Winter

**3.7 Architectural Coating - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0170	0.0116	0.1149	3.7000e-004	0.0318	2.6000e-004	0.0321	8.6200e-003	2.4000e-004	8.8500e-003		36.4768	36.4768	8.3000e-004		36.4975
<b>Total</b>	<b>0.0170</b>	<b>0.0116</b>	<b>0.1149</b>	<b>3.7000e-004</b>	<b>0.0318</b>	<b>2.6000e-004</b>	<b>0.0321</b>	<b>8.6200e-003</b>	<b>2.4000e-004</b>	<b>8.8500e-003</b>		<b>36.4768</b>	<b>36.4768</b>	<b>8.3000e-004</b>		<b>36.4975</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

Heritage Affordable Housing - Bay Area AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2969	1.4982	3.5192	0.0119	1.0768	0.0109	1.0877	0.2881	0.0102	0.2983		1,201.9590	1,201.9590	0.0460		1,203.1089
Unmitigated	0.2969	1.4982	3.5192	0.0119	1.0768	0.0109	1.0877	0.2881	0.0102	0.2983		1,201.9590	1,201.9590	0.0460		1,203.1089

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	219.45	210.87	193.38	495,411	495,411
Total	219.45	210.87	193.38	495,411	495,411

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
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768

5.0 Energy Detail

Historical Energy Use: N

Heritage Affordable Housing - Bay Area AQMD Air District, Winter

**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	lb/day										lb/day					
NaturalGas Mitigated	5.5900e-003	0.0478	0.0203	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9763	60.9763	1.1700e-003	1.1200e-003	61.3386
NaturalGas Unmitigated	8.4200e-003	0.0720	0.0306	4.6000e-004		5.8200e-003	5.8200e-003		5.8200e-003	5.8200e-003		91.8942	91.8942	1.7600e-003	1.6800e-003	92.4403

**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	lb/day										lb/day					
Apartments Mid Rise	781.101	8.4200e-003	0.0720	0.0306	4.6000e-004		5.8200e-003	5.8200e-003		5.8200e-003	5.8200e-003		91.8942	91.8942	1.7600e-003	1.6800e-003	92.4403
<b>Total</b>		<b>8.4200e-003</b>	<b>0.0720</b>	<b>0.0306</b>	<b>4.6000e-004</b>		<b>5.8200e-003</b>	<b>5.8200e-003</b>		<b>5.8200e-003</b>	<b>5.8200e-003</b>		<b>91.8942</b>	<b>91.8942</b>	<b>1.7600e-003</b>	<b>1.6800e-003</b>	<b>92.4403</b>

Heritage Affordable Housing - Bay Area AQMD Air District, Winter

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0.518298	5.5900e-003	0.0478	0.0203	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003		60.9763	60.9763	1.1700e-003	1.1200e-003	61.3386
<b>Total</b>		<b>5.5900e-003</b>	<b>0.0478</b>	<b>0.0203</b>	<b>3.0000e-004</b>		<b>3.8600e-003</b>	<b>3.8600e-003</b>		<b>3.8600e-003</b>	<b>3.8600e-003</b>		<b>60.9763</b>	<b>60.9763</b>	<b>1.1700e-003</b>	<b>1.1200e-003</b>	<b>61.3386</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior
- Use only Natural Gas Hearths

Heritage Affordable Housing - Bay Area AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.9397	0.2358	2.8124	1.4500e-003		0.0316	0.0316		0.0316	0.0316	0.0000	265.7964	265.7964	9.7300e-003	4.7800e-003	267.4650
Unmitigated	14.4874	0.3315	20.6562	0.0347		2.5606	2.5606		2.5606	2.5606	276.2379	127.1964	403.4343	0.3828	0.0195	418.8215

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1273					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7062					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	13.5716	0.3000	17.9307	0.0345		2.5455	2.5455		2.5455	2.5455	276.2379	122.2941	398.5320	0.3780	0.0195	413.8010
Landscaping	0.0823	0.0314	2.7255	1.4000e-004		0.0151	0.0151		0.0151	0.0151		4.9022	4.9022	4.7300e-003		5.0205
<b>Total</b>	<b>14.4874</b>	<b>0.3315</b>	<b>20.6562</b>	<b>0.0347</b>		<b>2.5606</b>	<b>2.5606</b>		<b>2.5606</b>	<b>2.5606</b>	<b>276.2379</b>	<b>127.1964</b>	<b>403.4343</b>	<b>0.3828</b>	<b>0.0195</b>	<b>418.8215</b>



Heritage Affordable Housing - Bay Area AQMD Air District, Winter

**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1273					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7062					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0239	0.2044	0.0870	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	260.8941	260.8941	5.0000e-003	4.7800e-003	262.4445
Landscaping	0.0823	0.0314	2.7255	1.4000e-004		0.0151	0.0151		0.0151	0.0151		4.9022	4.9022	4.7300e-003		5.0205
<b>Total</b>	<b>0.9397</b>	<b>0.2358</b>	<b>2.8124</b>	<b>1.4400e-003</b>		<b>0.0316</b>	<b>0.0316</b>		<b>0.0316</b>	<b>0.0316</b>	<b>0.0000</b>	<b>265.7964</b>	<b>265.7964</b>	<b>9.7300e-003</b>	<b>4.7800e-003</b>	<b>267.4649</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

Heritage Affordable Housing - Bay Area AQMD Air District, Winter

Institute Recycling and Composting Services

**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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**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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