

APPENDIX D

Air Quality and Noise

D-1

Construction Activity Schedule

D-1 Construction Activity Schedule

Kilarc Cow Creek Equipment and Vehicle Schedule for Proposed Project										
Phase or Activity	Offroad Equipments and Onroad Vehicles				Offroad BHP	Planned Schedule		Duration days	Offroad hours/day	Onroad miles/day
	Name or Type	Category	Qty.			weeks	days/week			
Phase 1: Site Prep/Road Work	Motor Grader (CAT120M)	offroad	1	145	5	6	30	10		
	Dump Truck	onroad HD	1		5	6	30		50	
	Water Truck	onroad HD	1		5	6	30		20	
	Pickup	onroad LD	1		5	6	30		100	
Phase 2: Demolition - canals and appurtenant features	Dozer (CAT D3)	offroad	1	80	5	23	115	10		
	Motor Terrain Loader (CAT 210C)	offroad	1	73	5	23	115	10		
	Backhoe (CAT 450E)	offroad	1	137	5	23	115	10		
	Dump Truck	onroad HD	1		5	23	115		50	
	Pickup	onroad LD	1		5	23	115		100	
Phase 3: Demolition - Dams and appurtenant structures	Dozer (CAT D3)	offroad	1	80	5	11	55	10		
	Motor Terrain Loader (CAT 210C)	offroad	1	73	5	11	55	10		
	Backhoe (CAT 450E)	offroad	1	137	5	11	55	10		
	Crane (hoist works)	offroad	1	270	5	2	10	5		
	Dump Truck	onroad HD	1		5	11	55		50	
	Tactor Trailer	onroad HD	1		5	2	10		100	
	Crane (transport)	onroad MD	1		5	2	10		10	
Pickup	onroad LD	1		5	11	55		100		

Project Notes:

Offroad equipment types selected for size and ground pressure required by work conditions. Actual equipment will be up to contractor.

Assumes all work is sequential with single set of equipment.

Snow, wet road, and fire season restrictions will limit work to approximately 30-34 weeks/year.

General Notes:

Name or Type - identify offroad equipment and onroad vehicles to be used by common name or type

Category - all offroad is "offroad"; onroad is either "light duty" (LD), "medium duty" (MD), or "heavy duty" (HD) by weight class: LD up to 3 tons, MD 3 to 8 tons, HD over 8 tor

Quantity - how many will be used during phase or activity

Offroad Rating - enter offroad equipment engine rated horsepower (does not apply to onroad vehicles)

Planned Schedule - enter weeks needed and working days per week

Offroad - enter offroad equipment hours per day planned usage (does not apply to onroad vehicles)

Onroad - enter onroad vehicles miles per day planned usage (does not apply to offroad equipments)

D-2

CalEEMod Estimate Air Quality Emissions Reports (Summer and Winter)

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Summer

Kilarc-Cow Creek Hydro License Surrender Shasta County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	184.32	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW/hr)	641.35	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Summer

Project Characteristics -

Land Use - The 184.32 acres represents the project boundary area. The actual amount of ground disturbance is unknown but is expected to be substantially smaller.

Construction Phase - Preliminary construction phase and duration established by PGE.

Off-road Equipment - Equipment type and usage established by PGE. Crawler Tractor = CAT D3 Dozer, Excavator = CAT 319C Loader.

Off-road Equipment - Equipment type and usage established by PGE. Crawler Tractor = CAT D3 Dozer, Excavator = CAT 319C Loader

Off-road Equipment - Preliminary construction phase and duration established by PGE.

Trips and VMT - Ph 2 Vendor Trips = Dump Truck. Ph 3 Vendor Trips=Dump Truck, Tractor, Crane. Haul trips for debris removal are accounted for in vendor trips.

Demolition -

Grading - Fugitive dust from ground disturbance will be addressed with local air district control measures.

Off-road Equipment - Equipment type and usage established by PGE.

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	18.75	0.00
tblLandUse	GreenSpaceAllowEdit	1.00	0.00
tblLandUse	GreenSpaceSquareFeet	8,028,979.20	0.00
tblLandUse	LandUseSquareFeet	8,028,979.20	0.00
tblLandUse	LotAcreage	184.32	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Summer

tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
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tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	PhaseName		Demolition - Phase 3
tbIOffRoadEquipment	PhaseName		Demolition - Phase 2
tbIOffRoadEquipment	PhaseName		Demolition - Phase 3
tbIOffRoadEquipment	PhaseName		Site Preparation - Phase 1
tbIOffRoadEquipment	PhaseName		Demolition - Phase 2
tbIOffRoadEquipment	PhaseName		Demolition - Phase 3
tbIOffRoadEquipment	UsageHours	8.00	10.00
tbIOffRoadEquipment	UsageHours	8.00	10.00
tbIOffRoadEquipment	UsageHours	8.00	0.00
tbIOffRoadEquipment	UsageHours	8.00	0.00
tbIProjectCharacteristics	OperationalYear	2018	2020
tbIProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripLength	6.60	35.00
tblTripsAndVMT	VendorTripLength	6.60	50.00
tblTripsAndVMT	VendorTripLength	6.60	25.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	WorkerTripLength	16.80	100.00
tblTripsAndVMT	WorkerTripLength	16.80	100.00
tblTripsAndVMT	WorkerTripLength	16.80	100.00

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Summer

tblTripsAndVMT	WorkerTripNumber	20.00	1.00
tblTripsAndVMT	WorkerTripNumber	8.00	1.00
tblTripsAndVMT	WorkerTripNumber	10.00	1.00

2.0 Emissions Summary

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Summer

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 - Phase 1	Site Preparation	7/2/2018	8/10/2018	5	30	
2	Demolition - Phase 2	Demolition	8/13/2018	1/18/2019	5	115	Demo canals and appurtenant structures
3	Demolition - Phase 3	Demolition	1/19/2019	4/5/2019	5	55	Demo dams and appurtenant structures

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

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation - Phase 1	Graders	1	10.00	187	0.41
Site Preparation - Phase 1	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation - Phase 1	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Demolition - Phase 2	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition - Phase 2	Crawler Tractors	1	10.00	212	0.43
Demolition - Phase 2	Excavators	0	8.00	158	0.38
Demolition - Phase 2	Excavators	1	10.00	158	0.38
Demolition - Phase 2	Rubber Tired Dozers	0	8.00	247	0.40
Demolition - Phase 2	Tractors/Loaders/Backhoes	1	10.00	97	0.37
Demolition - Phase 3	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition - Phase 3	Cranes	1	5.00	231	0.29
Demolition - Phase 3	Crawler Tractors	1	10.00	212	0.43
Demolition - Phase 3	Excavators	1	10.00	158	0.38
Demolition - Phase 3	Rubber Tired Dozers	0	8.00	247	0.40
Demolition - Phase 3	Tractors/Loaders/Backhoes	1	10.00	97	0.37

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 - Phase 1	8	1.00	2.00	0.00	100.00	35.00	20.00	LD_Mix	HDT_Mix	HHDT
Demolition - Phase 2	3	1.00	1.00	0.00	100.00	50.00	20.00	LD_Mix	HDT_Mix	HHDT
Demolition - Phase 3	4	1.00	3.00	0.00	100.00	25.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Summer

3.4 Demolition - Phase 3 - 2019

Mitigated Construction On-Site

Category	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
	lb/day															
Off-Road	1.6948	20.0210	11.6150	0.0238		0.8927	0.8927		0.8213	0.8213						2,370.5479
Total	1.6948	20.0210	11.6150	0.0238		0.8927	0.8927		0.8213	0.8213						2,370.5479

Mitigated Construction Off-Site

Category	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
	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
Vendor	0.0403	0.8481	0.1926	2.4800e-003	0.0694	0.0102	0.0797	0.0200	9.7700e-003	0.0298						258.9030
Worker	0.0332	0.0286	0.3459	8.4000e-004	0.0760	5.0000e-004	0.0765	0.0201	4.6000e-004	0.0206						83.1725
Total	0.0736	0.8767	0.5385	3.3200e-003	0.1454	0.0107	0.1561	0.0401	0.0102	0.0504						342.0755

4.0 Operational Detail - Mobile

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Summer

4.1 Mitigation Measures Mobile

Category	lb/day										lb/day					
	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
Mitigated					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Unmitigated					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
City Park	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	14.70	6.60	6.60	33.00	48.00	19.00	66	28	6			

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Recreational	0.504118	0.034156	0.184227	0.115679	0.038681	0.007500	0.013254	0.090536	0.001365	0.001353	0.006129	0.001330	0.001672

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Summer

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	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															
Mitigated	1.7800e-003	1.7000e-004	0.0189	0.0000	7.0000e-005	7.0000e-005	7.0000e-005	7.0000e-005	7.0000e-005	7.0000e-005						0.0430
Unmitigated	1.7800e-003	1.7000e-004	0.0189	0.0000	7.0000e-005	7.0000e-005	7.0000e-005	7.0000e-005	7.0000e-005	7.0000e-005						0.0430

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Summer

6.2 Area by SubCategory

Unmitigated

SubCategory	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
lb/day																
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
Landscaping	1.7800e-003	1.7000e-004	0.0189	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005						0.0430
Total	1.7800e-003	1.7000e-004	0.0189	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005						0.0430

Mitigated

SubCategory	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
lb/day																
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
Landscaping	1.7800e-003	1.7000e-004	0.0189	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005						0.0430
Total	1.7800e-003	1.7000e-004	0.0189	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005						0.0430

7.0 Water Detail

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Summer

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

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

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Winter

Kilarc-Cow Creek Hydro License Surrender Shasta County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	184.32	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW/hr)	641.35	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Winter

Project Characteristics -

Land Use - The 184.32 acres represents the project boundary area. The actual amount of ground disturbance is unknown but is expected to be substantially smaller.

Construction Phase - Preliminary construction phase and duration established by PGE.

Off-road Equipment - Equipment type and usage established by PGE. Crawler Tractor = CAT D3 Dozer, Excavator = CAT 319C Loader.

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Trips and VMT - Ph 2 Vendor Trips = Dump Truck. Ph 3 Vendor Trips=Dump Truck, Tractor, Crane. Haul trips for debris removal are accounted for in vendor trips.

Demolition -

Grading - Fugitive dust from ground disturbance will be addressed with local air district control measures.

Off-road Equipment - Equipment type and usage established by PGE.

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tblLandUse	GreenSpaceSquareFeet	8,028,979.20	0.00
tblLandUse	LandUseSquareFeet	8,028,979.20	0.00
tblLandUse	LotAcreage	184.32	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Winter

tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
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tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	PhaseName		Demolition - Phase 3
tbIOffRoadEquipment	PhaseName		Demolition - Phase 2
tbIOffRoadEquipment	PhaseName		Demolition - Phase 3
tbIOffRoadEquipment	PhaseName		Site Preparation - Phase 1
tbIOffRoadEquipment	PhaseName		Demolition - Phase 2
tbIOffRoadEquipment	PhaseName		Demolition - Phase 3
tbIOffRoadEquipment	UsageHours	8.00	10.00
tbIOffRoadEquipment	UsageHours	8.00	10.00
tbIOffRoadEquipment	UsageHours	8.00	0.00
tbIOffRoadEquipment	UsageHours	8.00	0.00
tbIProjectCharacteristics	OperationalYear	2018	2020
tbIProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripLength	6.60	35.00
tblTripsAndVMT	VendorTripLength	6.60	50.00
tblTripsAndVMT	VendorTripLength	6.60	25.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	WorkerTripLength	16.80	100.00
tblTripsAndVMT	WorkerTripLength	16.80	100.00
tblTripsAndVMT	WorkerTripLength	16.80	100.00

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Winter

tblTripsAndVMT	WorkerTripNumber	20.00	1.00
tblTripsAndVMT	WorkerTripNumber	8.00	1.00
tblTripsAndVMT	WorkerTripNumber	10.00	1.00

2.0 Emissions Summary

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Winter

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 - Phase 1	Site Preparation	7/2/2018	8/10/2018	5	30	
2	Demolition - Phase 2	Demolition	8/13/2018	1/18/2019	5	115	Demo canals and appurtenant structures
3	Demolition - Phase 3	Demolition	1/19/2019	4/5/2019	5	55	Demo dams and appurtenant structures

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

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation - Phase 1	Graders	1	10.00	187	0.41
Site Preparation - Phase 1	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation - Phase 1	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Demolition - Phase 2	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition - Phase 2	Crawler Tractors	1	10.00	212	0.43
Demolition - Phase 2	Excavators	0	8.00	158	0.38
Demolition - Phase 2	Excavators	1	10.00	158	0.38
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Demolition - Phase 2	Tractors/Loaders/Backhoes	1	10.00	97	0.37
Demolition - Phase 3	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition - Phase 3	Cranes	1	5.00	231	0.29
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Demolition - Phase 3	Tractors/Loaders/Backhoes	1	10.00	97	0.37

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 - Phase 1	8	1.00	2.00	0.00	100.00	35.00	20.00	LD_Mix	HDT_Mix	HHDT
Demolition - Phase 2	3	1.00	1.00	0.00	100.00	50.00	20.00	LD_Mix	HDT_Mix	HHDT
Demolition - Phase 3	4	1.00	3.00	0.00	100.00	25.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Winter

3.4 Demolition - Phase 3 - 2019

Mitigated Construction On-Site

Category	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
lb/day																
Off-Road	1.6948	20.0210	11.6150	0.0238	0.8927	0.8927	0.8927	0.8213	0.8213	0.8213						2,370.5479
Total	1.6948	20.0210	11.6150	0.0238	0.8927	0.8927	0.8927	0.8213	0.8213	0.8213						2,370.5479

Mitigated Construction Off-Site

Category	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
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
Vendor	0.0411	0.8938	0.2056	2.4500e-003	0.0694	0.0103	0.0797	0.0200	9.8300e-003	0.0298						255.9030
Worker	0.0350	0.0343	0.2601	7.2000e-004	0.0760	5.0000e-004	0.0765	0.0201	4.6000e-004	0.0206						71.9487
Total	0.0761	0.9281	0.4657	3.1700e-003	0.1454	0.0108	0.1562	0.0401	0.0103	0.0504						327.8516

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

Category	lb/day											lb/day				
	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
Mitigated					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Unmitigated					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
City Park	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	H-O or C-NW	Primary	Diverted	Pass-by	Primary	Diverted	Pass-by
City Park	14.70	6.60	6.60	6.60	33.00	48.00	19.00	19.00	66	28	6			

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Recreational	0.504118	0.034156	0.184227	0.115679	0.038681	0.007500	0.013254	0.090536	0.001365	0.001353	0.006129	0.001330	0.001672

Kilaro-Cow Creek Hydro License Surrender - Shasta County, Winter

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	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															
Mitigated	1.7800e-003	1.7000e-004	0.0189	0.0000	7.0000e-005	7.0000e-005	7.0000e-005	7.0000e-005	7.0000e-005	7.0000e-005						0.0430
Unmitigated	1.7800e-003	1.7000e-004	0.0189	0.0000	7.0000e-005	7.0000e-005	7.0000e-005	7.0000e-005	7.0000e-005	7.0000e-005						0.0430

Kilarc-Cow Creek Hydro License Surrender - Shasta County, Winter

6.2 Area by SubCategory

Unmitigated

SubCategory	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
lb/day																
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
Landscaping	1.7800e-003	1.7000e-004	0.0189	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005						0.0430
Total	1.7800e-003	1.7000e-004	0.0189	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005						0.0430

Mitigated

SubCategory	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
lb/day																
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
Landscaping	1.7800e-003	1.7000e-004	0.0189	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005						0.0430
Total	1.7800e-003	1.7000e-004	0.0189	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005						0.0430

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

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

D-3

CalEEMod Estimated GHG Annual Emissions Reports

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	184.32	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW/hr)	641.35	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics -

Land Use - The 184.32 acres represents the project boundary area. The actual amount of ground disturbance is unknown but is expected to be substantially smaller.

Construction Phase - Preliminary construction phase and duration established by PGE.

Off-road Equipment - Equipment type and usage established by PGE. Crawler Tractor = CAT D3 Dozer, Excavator = CAT 319C Loader.

Off-road Equipment - Equipment type and usage established by PGE. Crawler Tractor = CAT D3 Dozer, Excavator = CAT 319C Loader

Off-road Equipment - Preliminary construction phase and duration established by PGE.

Trips and VMT - Ph 2 Vendor Trips = Dump Truck. Ph 3 Vendor Trips=Dump Truck, Tractor, Crane. Haul trips for debris removal are accounted for in vendor trips.

Demolition -

Grading - Fugitive dust from ground disturbance will be addressed with local air district control measures.

Off-road Equipment - Equipment type and usage established by PGE.

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	18.75	0.00
tblLandUse	GreenSpaceAllowEdit	1.00	0.00
tblLandUse	GreenSpaceSquareFeet	8,028,979.20	0.00
tblLandUse	LandUseSquareFeet	8,028,979.20	0.00
tblLandUse	LotAcreage	184.32	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

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tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	PhaseName		Demolition - Phase 3
tbIOffRoadEquipment	PhaseName		Demolition - Phase 2
tbIOffRoadEquipment	PhaseName		Demolition - Phase 3
tbIOffRoadEquipment	PhaseName		Site Preparation - Phase 1
tbIOffRoadEquipment	PhaseName		Demolition - Phase 2
tbIOffRoadEquipment	PhaseName		Demolition - Phase 3
tbIOffRoadEquipment	UsageHours	8.00	10.00
tbIOffRoadEquipment	UsageHours	8.00	10.00
tbIOffRoadEquipment	UsageHours	8.00	0.00
tbIOffRoadEquipment	UsageHours	8.00	0.00
tbIProjectCharacteristics	OperationalYear	2018	2020
tbIProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripLength	6.60	35.00
tblTripsAndVMT	VendorTripLength	6.60	50.00
tblTripsAndVMT	VendorTripLength	6.60	25.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	WorkerTripLength	16.80	100.00
tblTripsAndVMT	WorkerTripLength	16.80	100.00
tblTripsAndVMT	WorkerTripLength	16.80	100.00

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tblTripsAndVMT	WorkerTripNumber	20.00	1.00
tblTripsAndVMT	WorkerTripNumber	8.00	1.00
tblTripsAndVMT	WorkerTripNumber	10.00	1.00

2.0 Emissions Summary

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2.2 Overall Operational

Mitigated Operational

Category	tons/yr										MT/yr					
	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
Area	1.6000e-004	2.0000e-005	1.7000e-003	0.0000	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005						3.5100e-003
Mobile					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Waste					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						7.9710
Water					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						224.4848
Total	1.6000e-004	2.0000e-005	1.7000e-003	0.0000	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005						232.4593

Percent Reduction	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
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation - Phase 1	Site Preparation	7/2/2018	8/10/2018	5	30	
2	Demolition - Phase 2	Demolition	8/13/2018	1/18/2019	5	115	Demo canals and appurtenant structures
3	Demolition - Phase 3	Demolition	1/19/2019	4/5/2019	5	55	Demo dams and appurtenant structures

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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

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation - Phase 1	Graders	1	10.00	187	0.41
Site Preparation - Phase 1	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation - Phase 1	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Demolition - Phase 2	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition - Phase 2	Crawler Tractors	1	10.00	212	0.43
Demolition - Phase 2	Excavators	0	8.00	158	0.38
Demolition - Phase 2	Excavators	1	10.00	158	0.38
Demolition - Phase 2	Rubber Tired Dozers	0	8.00	247	0.40
Demolition - Phase 2	Tractors/Loaders/Backhoes	1	10.00	97	0.37
Demolition - Phase 3	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition - Phase 3	Cranes	1	5.00	231	0.29
Demolition - Phase 3	Crawler Tractors	1	10.00	212	0.43
Demolition - Phase 3	Excavators	1	10.00	158	0.38
Demolition - Phase 3	Rubber Tired Dozers	0	8.00	247	0.40
Demolition - Phase 3	Tractors/Loaders/Backhoes	1	10.00	97	0.37

Trips and VMT

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3.4 Demolition - Phase 3 - 2019

Mitigated Construction Off-Site

Category	tons/yr										MT/yr					
	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
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	1.1100e-003	0.0243	5.4500e-003	7.0000e-005	1.8300e-003	2.8000e-004	2.1100e-003	5.3000e-004	2.7000e-004	8.0000e-004						6.4276
Worker	8.6000e-004	8.5000e-004	7.4700e-003	2.0000e-005	1.9900e-003	1.0000e-005	2.0000e-003	5.3000e-004	1.0000e-005	5.4000e-004						1.8557
Total	1.9700e-003	0.0251	0.0129	9.0000e-005	3.8200e-003	2.9000e-004	4.1100e-003	1.0600e-003	2.8000e-004	1.3400e-003						8.2833

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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Category	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
	MT/yr															
Mitigated					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Unmitigated					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00				
Total	0.00	0.00	0.00				

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-C	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
City Park	14.70	6.60	6.60	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Recreational	0.504118	0.034156	0.184227	0.115679	0.038681	0.007500	0.013254	0.090536	0.001365	0.001353	0.006129	0.001330	0.001672

5.0 Energy Detail

Historical Energy Use: N

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5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

Category	tons/yr										MT/yr					
	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
Mitigated	1.6000e-004	2.0000e-005	1.7000e-003	0.0000	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005						3.5100e-003
Unmitigated	1.6000e-004	2.0000e-005	1.7000e-003	0.0000	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005						3.5100e-003

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6.2 Area by SubCategory

Unmitigated

SubCategory	tons/yr										MT/yr					
	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
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
Landscaping	1.6000e-004	2.0000e-005	1.7000e-003	0.0000	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005						3.5100e-003
Total	1.6000e-004	2.0000e-005	1.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.5100e-003

Mitigated

SubCategory	tons/yr										MT/yr					
	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
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
Landscaping	1.6000e-004	2.0000e-005	1.7000e-003	0.0000	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005	1.0000e-005						3.5100e-003
Total	1.6000e-004	2.0000e-005	1.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.5100e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				224,4848
Unmitigated				224,4848

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 219,614				224,4848
Total					224,4848

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 219,614				224,4848
Total					224,4848

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				7.9710
Unmitigated				7.9710

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8.2 Waste by Land Use

Unmitigated

Land Use	Waste Disposed tons	Total CO2	CH4	N2O	CO2e
City Park	15.85				7.9710
Total					7.9710

Mitigated

Land Use	Waste Disposed tons	Total CO2	CH4	N2O	CO2e
City Park	15.85				7.9710
Total					7.9710

9.0 Operational Offroad

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

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
----------------	--------

11.0 Vegetation