

Air Quality, Greenhouse Gases, and
Fuel Consumption Modeling Outputs
for the
Knights Landing Ridge Cut Erosion
Repair Project

Knights Landing - Yolo County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Knights Landing
Yolo County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	295.60	Acre	295.60	12,876,336.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	54
Climate Zone	2			Operational Year	2032
Utility Company	Valley Clean Energy				
CO2 Intensity (lb/MWhr)	958.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - For modeling assumptions, we are assuming a maximum of 4 months per year of working days. Number of working days was divided evenly for each assumed phase.

Off-road Equipment - Equipment list provided in project description. Water truck is being modeled as a dumper/tender. All phases assumed to have the same equipment used for a conservative analysis.

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Off-road Equipment - Equipment list provided in project description. Water truck is being modeled as a dumper/tender. All phases assumed to have the same equipment used for a conservative analysis.

Grading -

Trips and VMT - Vendor trips not needed for the Project as "hauling" will account for the rock slope material being imported to the site. All information found in the project description

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Vehicle Trips - No operational emissions associated with the proposed project.

Fleet Mix - No operational emissions associated with the proposed project.

Water And Wastewater -

Solid Waste - No operational emissions associated with the proposed project.

Construction Off-road Equipment Mitigation - Yolo County GP Policy CO-6.6

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	4,650.00	35.00
tblConstructionPhase	NumDays	180.00	35.00
tblConstructionPhase	PhaseEndDate	8/10/2043	7/25/2022
tblConstructionPhase	PhaseEndDate	10/13/2025	6/6/2022
tblConstructionPhase	PhaseEndDate	1/1/2024	4/18/2022
tblConstructionPhase	PhaseStartDate	10/14/2025	6/7/2022
tblConstructionPhase	PhaseStartDate	1/2/2024	4/19/2022
tblConstructionPhase	PhaseStartDate	4/25/2023	3/1/2022
tblFleetMix	HHD	0.01	0.00
tblFleetMix	LDA	0.51	1.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.9970e-003	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	2.4490e-003	0.00
tblFleetMix	MHD	0.04	0.00
tblFleetMix	OBUS	4.9200e-004	0.00
tblFleetMix	SBUS	6.4500e-004	0.00

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tblFleetMix	UBUS	1.0250e-003	0.00
tblOffRoadEquipment	HorsePower	247.00	187.00
tblOffRoadEquipment	HorsePower	97.00	247.00
tblOffRoadEquipment	HorsePower	158.00	247.00
tblOffRoadEquipment	HorsePower	16.00	367.00
tblOffRoadEquipment	HorsePower	247.00	97.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.40	0.41
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.48
tblOffRoadEquipment	LoadFactor	0.40	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Scrapers	Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	LandfillCaptureGasFlare	94.00	0.00
tblSolidWaste	LandfillNoGasCapture	6.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	65.00
tblTripsAndVMT	HaulingTripLength	20.00	65.00
tblTripsAndVMT	HaulingTripLength	20.00	65.00
tblTripsAndVMT	HaulingTripNumber	0.00	64.00
tblTripsAndVMT	HaulingTripNumber	0.00	64.00
tblTripsAndVMT	HaulingTripNumber	0.00	64.00
tblTripsAndVMT	VendorTripNumber	2,110.00	0.00
tblTripsAndVMT	WorkerTripNumber	5,408.00	20.00
tblVehicleTrips	CC_TL	8.00	0.00
tblVehicleTrips	CNW_TL	9.00	0.00
tblVehicleTrips	CW_TL	15.00	0.00

2.0 Emissions Summary

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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	5.5446	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689
Energy	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
Mobile	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
Total	5.5446	2.7000e-004	0.0300	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004	0.0000	0.0689

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	5.5446	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689
Energy	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
Mobile	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
Total	5.5446	2.7000e-004	0.0300	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004	0.0000	0.0689

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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	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	Site Preparation	3/1/2022	4/18/2022	5	35	
2	Trenching	Trenching	4/19/2022	6/6/2022	5	35	
3	Erosion Repair	Building Construction	6/7/2022	7/25/2022	5	35	

Acres of Grading (Site Preparation Phase): 17.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 295.6

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	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Dumpers/Tenders	4	8.00	16	0.38
Erosion Repair	Cranes	0	7.00	231	0.29
Erosion Repair	Excavators	2	8.00	158	0.38
Trenching	Excavators	2	8.00	158	0.38
Erosion Repair	Forklifts	0	8.00	89	0.20
Erosion Repair	Generator Sets	0	8.00	84	0.74
Trenching	Rubber Tired Dozers	1	8.00	187	0.41

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Erosion Repair	Rubber Tired Dozers	1	8.00	247	0.40
Erosion Repair	Dumpers/Tenders	4	8.00	16	0.38
Trenching	Tractors/Loaders/Backhoes	1	8.00	247	0.40
Site Preparation	Excavators	2	8.00	247	0.40
Trenching	Dumpers/Tenders	4	8.00	367	0.48
Erosion Repair	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	1	8.00	97	0.37
Erosion Repair	Welders	0	8.00	46	0.45

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	8	20.00	0.00	64.00	15.00	9.00	65.00	LD_Mix	HDT_Mix	HHDT
Trenching	8	20.00	0.00	64.00	15.00	9.00	65.00	LD_Mix	HDT_Mix	HHDT
Erosion Repair	8	20.00	0.00	64.00	15.00	9.00	65.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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3.2 Site Preparation - 2022

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	0.9750	8.3578	7.0363	0.0231		0.3109	0.3109		0.2916	0.2916		2,188.8745	2,188.8745	0.6553		2,205.2559
Total	0.9750	8.3578	7.0363	0.0231	6.5523	0.3109	6.8633	3.3675	0.2916	3.6591		2,188.8745	2,188.8745	0.6553		2,205.2559

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	0.0175	0.7722	0.1064	3.6700e-003	0.1035	8.3300e-003	0.1118	0.0283	7.9700e-003	0.0363		388.6493	388.6493	1.0400e-003	0.0611	406.8776
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
Worker	0.0826	0.0471	0.7324	2.1100e-003	0.2281	1.1000e-003	0.2292	0.0605	1.0200e-003	0.0615		214.5839	214.5839	4.9200e-003	4.9000e-003	216.1677
Total	0.1001	0.8193	0.8387	5.7800e-003	0.3316	9.4300e-003	0.3410	0.0888	8.9900e-003	0.0978		603.2331	603.2331	5.9600e-003	0.0660	623.0453

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3.2 Site Preparation - 2022

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					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	0.9750	8.3578	7.0363	0.0231		0.3109	0.3109		0.2916	0.2916	0.0000	2,188.8745	2,188.8745	0.6553		2,205.2559
Total	0.9750	8.3578	7.0363	0.0231	2.9486	0.3109	3.2595	1.5154	0.2916	1.8070	0.0000	2,188.8745	2,188.8745	0.6553		2,205.2559

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	0.0175	0.7722	0.1064	3.6700e-003	0.1035	8.3300e-003	0.1118	0.0283	7.9700e-003	0.0363		388.6493	388.6493	1.0400e-003	0.0611	406.8776
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
Worker	0.0826	0.0471	0.7324	2.1100e-003	0.2281	1.1000e-003	0.2292	0.0605	1.0200e-003	0.0615		214.5839	214.5839	4.9200e-003	4.9000e-003	216.1677
Total	0.1001	0.8193	0.8387	5.7800e-003	0.3316	9.4300e-003	0.3410	0.0888	8.9900e-003	0.0978		603.2331	603.2331	5.9600e-003	0.0660	623.0453

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3.3 Trenching - 2022

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	1.3803	13.7628	11.3156	0.0254		0.6125	0.6125		0.5635	0.5635		2,461.0262	2,461.0262	0.7960		2,480.9248
Total	1.3803	13.7628	11.3156	0.0254		0.6125	0.6125		0.5635	0.5635		2,461.0262	2,461.0262	0.7960		2,480.9248

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	0.0175	0.7722	0.1064	3.6700e-003	0.1035	8.3300e-003	0.1118	0.0283	7.9700e-003	0.0363		388.6493	388.6493	1.0400e-003	0.0611	406.8776
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
Worker	0.0826	0.0471	0.7324	2.1100e-003	0.2281	1.1000e-003	0.2292	0.0605	1.0200e-003	0.0615		214.5839	214.5839	4.9200e-003	4.9000e-003	216.1677
Total	0.1001	0.8193	0.8387	5.7800e-003	0.3316	9.4300e-003	0.3410	0.0888	8.9900e-003	0.0978		603.2331	603.2331	5.9600e-003	0.0660	623.0453

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3.3 Trenching - 2022

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	1.3803	13.7628	11.3156	0.0254		0.6125	0.6125		0.5635	0.5635	0.0000	2,461.026 2	2,461.026 2	0.7960		2,480.924 8
Total	1.3803	13.7628	11.3156	0.0254		0.6125	0.6125		0.5635	0.5635	0.0000	2,461.026 2	2,461.026 2	0.7960		2,480.924 8

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	0.0175	0.7722	0.1064	3.6700e-003	0.1035	8.3300e-003	0.1118	0.0283	7.9700e-003	0.0363		388.6493	388.6493	1.0400e-003	0.0611	406.8776
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
Worker	0.0826	0.0471	0.7324	2.1100e-003	0.2281	1.1000e-003	0.2292	0.0605	1.0200e-003	0.0615		214.5839	214.5839	4.9200e-003	4.9000e-003	216.1677
Total	0.1001	0.8193	0.8387	5.7800e-003	0.3316	9.4300e-003	0.3410	0.0888	8.9900e-003	0.0978		603.2331	603.2331	5.9600e-003	0.0660	623.0453

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Erosion Repair - 2022

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	1.6721	15.5864	13.0442	0.0245		0.7335	0.7335		0.6804	0.6804		2,329.6937	2,329.6937	0.7008		2,347.2137
Total	1.6721	15.5864	13.0442	0.0245		0.7335	0.7335		0.6804	0.6804		2,329.6937	2,329.6937	0.7008		2,347.2137

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	0.0175	0.7722	0.1064	3.6700e-003	0.1035	8.3300e-003	0.1118	0.0283	7.9700e-003	0.0363		388.6493	388.6493	1.0400e-003	0.0611	406.8776
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
Worker	0.0826	0.0471	0.7324	2.1100e-003	0.2281	1.1000e-003	0.2292	0.0605	1.0200e-003	0.0615		214.5839	214.5839	4.9200e-003	4.9000e-003	216.1677
Total	0.1001	0.8193	0.8387	5.7800e-003	0.3316	9.4300e-003	0.3410	0.0888	8.9900e-003	0.0978		603.2331	603.2331	5.9600e-003	0.0660	623.0453

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3.4 Erosion Repair - 2022

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	1.6721	15.5864	13.0442	0.0245		0.7335	0.7335		0.6804	0.6804	0.0000	2,329.6937	2,329.6937	0.7008		2,347.2137
Total	1.6721	15.5864	13.0442	0.0245		0.7335	0.7335		0.6804	0.6804	0.0000	2,329.6937	2,329.6937	0.7008		2,347.2137

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	0.0175	0.7722	0.1064	3.6700e-003	0.1035	8.3300e-003	0.1118	0.0283	7.9700e-003	0.0363		388.6493	388.6493	1.0400e-003	0.0611	406.8776
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
Worker	0.0826	0.0471	0.7324	2.1100e-003	0.2281	1.1000e-003	0.2292	0.0605	1.0200e-003	0.0615		214.5839	214.5839	4.9200e-003	4.9000e-003	216.1677
Total	0.1001	0.8193	0.8387	5.7800e-003	0.3316	9.4300e-003	0.3410	0.0888	8.9900e-003	0.0978		603.2331	603.2331	5.9600e-003	0.0660	623.0453

Knights Landing - Yolo County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

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	lb/day										lb/day					
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

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					
Other Non-Asphalt Surfaces	0	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
Total		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

Knights Landing - Yolo County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
Other Non-Asphalt Surfaces	0	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
Total		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

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										lb/day					
Mitigated	5.5446	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689
Unmitigated	5.5446	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689

Knights Landing - Yolo County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.9811					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.5608					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7500e-003	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689
Total	5.5446	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689

Knights Landing - Yolo County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.9811					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.5608					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7500e-003	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689
Total	5.5446	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689

7.0 Water Detail

7.1 Mitigation Measures Water

Knights Landing - Yolo County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Knights Landing
Yolo County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	295.60	Acre	295.60	12,876,336.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	54
Climate Zone	2			Operational Year	2032
Utility Company	Valley Clean Energy				
CO2 Intensity (lb/MWhr)	958.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - For modeling assumptions, we are assuming a maximum of 4 months per year of working days. Number of working days was divided evenly for each assumed phase.

Off-road Equipment - Equipment list provided in project description. Water truck is being modeled as a dumper/tender. All phases assumed to have the same equipment used for a conservative analysis.

Off-road Equipment - Equipment list provided in project description. Water truck is being modeled as a dumper/tender. All phases assumed to have the same equipment used for a conservative analysis.

Off-road Equipment - Equipment list provided in project description. Water truck is being modeled as a dumper/tender. All phases assumed to have the same equipment used for a conservative analysis.

Grading -

Trips and VMT - Vendor trips not needed for the Project as "hauling" will account for the rock slope material being imported to the site. All information found in the project description

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Vehicle Trips - No operational emissions associated with the proposed project.

Fleet Mix - No operational emissions associated with the proposed project.

Water And Wastewater -

Solid Waste - No operational emissions associated with the proposed project.

Construction Off-road Equipment Mitigation - Yolo County GP Policy CO-6.6

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	4,650.00	35.00
tblConstructionPhase	NumDays	180.00	35.00
tblConstructionPhase	PhaseEndDate	8/10/2043	7/25/2022
tblConstructionPhase	PhaseEndDate	10/13/2025	6/6/2022
tblConstructionPhase	PhaseEndDate	1/1/2024	4/18/2022
tblConstructionPhase	PhaseStartDate	10/14/2025	6/7/2022
tblConstructionPhase	PhaseStartDate	1/2/2024	4/19/2022
tblConstructionPhase	PhaseStartDate	4/25/2023	3/1/2022
tblFleetMix	HHD	0.01	0.00
tblFleetMix	LDA	0.51	1.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.9970e-003	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	2.4490e-003	0.00
tblFleetMix	MHD	0.04	0.00
tblFleetMix	OBUS	4.9200e-004	0.00
tblFleetMix	SBUS	6.4500e-004	0.00

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	UBUS	1.0250e-003	0.00
tblOffRoadEquipment	HorsePower	247.00	187.00
tblOffRoadEquipment	HorsePower	97.00	247.00
tblOffRoadEquipment	HorsePower	158.00	247.00
tblOffRoadEquipment	HorsePower	16.00	367.00
tblOffRoadEquipment	HorsePower	247.00	97.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.40	0.41
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.48
tblOffRoadEquipment	LoadFactor	0.40	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Scrapers	Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	LandfillCaptureGasFlare	94.00	0.00
tblSolidWaste	LandfillNoGasCapture	6.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	65.00
tblTripsAndVMT	HaulingTripLength	20.00	65.00
tblTripsAndVMT	HaulingTripLength	20.00	65.00
tblTripsAndVMT	HaulingTripNumber	0.00	64.00
tblTripsAndVMT	HaulingTripNumber	0.00	64.00
tblTripsAndVMT	HaulingTripNumber	0.00	64.00
tblTripsAndVMT	VendorTripNumber	2,110.00	0.00
tblTripsAndVMT	WorkerTripNumber	5,408.00	20.00
tblVehicleTrips	CC_TL	8.00	0.00
tblVehicleTrips	CNW_TL	9.00	0.00
tblVehicleTrips	CW_TL	15.00	0.00

2.0 Emissions Summary

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	5.5446	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689
Energy	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
Mobile	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
Total	5.5446	2.7000e-004	0.0300	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004	0.0000	0.0689

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	5.5446	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689
Energy	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
Mobile	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
Total	5.5446	2.7000e-004	0.0300	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004	0.0000	0.0689

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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

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	3/1/2022	4/18/2022	5	35	
2	Trenching	Trenching	4/19/2022	6/6/2022	5	35	
3	Erosion Repair	Building Construction	6/7/2022	7/25/2022	5	35	

Acres of Grading (Site Preparation Phase): 17.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 295.6

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	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Dumpers/Tenders	4	8.00	16	0.38
Erosion Repair	Cranes	0	7.00	231	0.29
Erosion Repair	Excavators	2	8.00	158	0.38
Trenching	Excavators	2	8.00	158	0.38
Erosion Repair	Forklifts	0	8.00	89	0.20
Erosion Repair	Generator Sets	0	8.00	84	0.74
Trenching	Rubber Tired Dozers	1	8.00	187	0.41

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Erosion Repair	Rubber Tired Dozers	1	8.00	247	0.40
Erosion Repair	Dumpers/Tenders	4	8.00	16	0.38
Trenching	Tractors/Loaders/Backhoes	1	8.00	247	0.40
Site Preparation	Excavators	2	8.00	247	0.40
Trenching	Dumpers/Tenders	4	8.00	367	0.48
Erosion Repair	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	1	8.00	97	0.37
Erosion Repair	Welders	0	8.00	46	0.45

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	8	20.00	0.00	64.00	15.00	9.00	65.00	LD_Mix	HDT_Mix	HHDT
Trenching	8	20.00	0.00	64.00	15.00	9.00	65.00	LD_Mix	HDT_Mix	HHDT
Erosion Repair	8	20.00	0.00	64.00	15.00	9.00	65.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2022

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	0.9750	8.3578	7.0363	0.0231		0.3109	0.3109		0.2916	0.2916		2,188.8745	2,188.8745	0.6553		2,205.2559
Total	0.9750	8.3578	7.0363	0.0231	6.5523	0.3109	6.8633	3.3675	0.2916	3.6591		2,188.8745	2,188.8745	0.6553		2,205.2559

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	0.0172	0.8363	0.1075	3.6700e-003	0.1035	8.3400e-003	0.1118	0.0283	7.9700e-003	0.0363		388.7214	388.7214	1.0300e-003	0.0611	406.9535
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
Worker	0.0776	0.0584	0.6248	1.8800e-003	0.2281	1.1000e-003	0.2292	0.0605	1.0200e-003	0.0615		191.5256	191.5256	5.4400e-003	5.6600e-003	193.3484
Total	0.0948	0.8947	0.7322	5.5500e-003	0.3316	9.4400e-003	0.3410	0.0888	8.9900e-003	0.0978		580.2470	580.2470	6.4700e-003	0.0668	600.3018

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2022

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					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	0.9750	8.3578	7.0363	0.0231		0.3109	0.3109		0.2916	0.2916	0.0000	2,188.8745	2,188.8745	0.6553		2,205.2559
Total	0.9750	8.3578	7.0363	0.0231	2.9486	0.3109	3.2595	1.5154	0.2916	1.8070	0.0000	2,188.8745	2,188.8745	0.6553		2,205.2559

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	0.0172	0.8363	0.1075	3.6700e-003	0.1035	8.3400e-003	0.1118	0.0283	7.9700e-003	0.0363		388.7214	388.7214	1.0300e-003	0.0611	406.9535
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
Worker	0.0776	0.0584	0.6248	1.8800e-003	0.2281	1.1000e-003	0.2292	0.0605	1.0200e-003	0.0615		191.5256	191.5256	5.4400e-003	5.6600e-003	193.3484
Total	0.0948	0.8947	0.7322	5.5500e-003	0.3316	9.4400e-003	0.3410	0.0888	8.9900e-003	0.0978		580.2470	580.2470	6.4700e-003	0.0668	600.3018

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Trenching - 2022

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	1.3803	13.7628	11.3156	0.0254		0.6125	0.6125		0.5635	0.5635		2,461.0262	2,461.0262	0.7960		2,480.9248
Total	1.3803	13.7628	11.3156	0.0254		0.6125	0.6125		0.5635	0.5635		2,461.0262	2,461.0262	0.7960		2,480.9248

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	0.0172	0.8363	0.1075	3.6700e-003	0.1035	8.3400e-003	0.1118	0.0283	7.9700e-003	0.0363		388.7214	388.7214	1.0300e-003	0.0611	406.9535
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
Worker	0.0776	0.0584	0.6248	1.8800e-003	0.2281	1.1000e-003	0.2292	0.0605	1.0200e-003	0.0615		191.5256	191.5256	5.4400e-003	5.6600e-003	193.3484
Total	0.0948	0.8947	0.7322	5.5500e-003	0.3316	9.4400e-003	0.3410	0.0888	8.9900e-003	0.0978		580.2470	580.2470	6.4700e-003	0.0668	600.3018

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Trenching - 2022

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	1.3803	13.7628	11.3156	0.0254		0.6125	0.6125		0.5635	0.5635	0.0000	2,461.026 2	2,461.026 2	0.7960		2,480.924 8
Total	1.3803	13.7628	11.3156	0.0254		0.6125	0.6125		0.5635	0.5635	0.0000	2,461.026 2	2,461.026 2	0.7960		2,480.924 8

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	0.0172	0.8363	0.1075	3.6700e-003	0.1035	8.3400e-003	0.1118	0.0283	7.9700e-003	0.0363		388.7214	388.7214	1.0300e-003	0.0611	406.9535
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
Worker	0.0776	0.0584	0.6248	1.8800e-003	0.2281	1.1000e-003	0.2292	0.0605	1.0200e-003	0.0615		191.5256	191.5256	5.4400e-003	5.6600e-003	193.3484
Total	0.0948	0.8947	0.7322	5.5500e-003	0.3316	9.4400e-003	0.3410	0.0888	8.9900e-003	0.0978		580.2470	580.2470	6.4700e-003	0.0668	600.3018

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Erosion Repair - 2022

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	1.6721	15.5864	13.0442	0.0245		0.7335	0.7335		0.6804	0.6804		2,329.6937	2,329.6937	0.7008		2,347.2137
Total	1.6721	15.5864	13.0442	0.0245		0.7335	0.7335		0.6804	0.6804		2,329.6937	2,329.6937	0.7008		2,347.2137

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	0.0172	0.8363	0.1075	3.6700e-003	0.1035	8.3400e-003	0.1118	0.0283	7.9700e-003	0.0363		388.7214	388.7214	1.0300e-003	0.0611	406.9535
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
Worker	0.0776	0.0584	0.6248	1.8800e-003	0.2281	1.1000e-003	0.2292	0.0605	1.0200e-003	0.0615		191.5256	191.5256	5.4400e-003	5.6600e-003	193.3484
Total	0.0948	0.8947	0.7322	5.5500e-003	0.3316	9.4400e-003	0.3410	0.0888	8.9900e-003	0.0978		580.2470	580.2470	6.4700e-003	0.0668	600.3018

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Erosion Repair - 2022

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	1.6721	15.5864	13.0442	0.0245		0.7335	0.7335		0.6804	0.6804	0.0000	2,329.6937	2,329.6937	0.7008		2,347.2137
Total	1.6721	15.5864	13.0442	0.0245		0.7335	0.7335		0.6804	0.6804	0.0000	2,329.6937	2,329.6937	0.7008		2,347.2137

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	0.0172	0.8363	0.1075	3.6700e-003	0.1035	8.3400e-003	0.1118	0.0283	7.9700e-003	0.0363		388.7214	388.7214	1.0300e-003	0.0611	406.9535
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
Worker	0.0776	0.0584	0.6248	1.8800e-003	0.2281	1.1000e-003	0.2292	0.0605	1.0200e-003	0.0615		191.5256	191.5256	5.4400e-003	5.6600e-003	193.3484
Total	0.0948	0.8947	0.7322	5.5500e-003	0.3316	9.4400e-003	0.3410	0.0888	8.9900e-003	0.0978		580.2470	580.2470	6.4700e-003	0.0668	600.3018

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

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	lb/day										lb/day					
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

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					
Other Non-Asphalt Surfaces	0	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
Total		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

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
Other Non-Asphalt Surfaces	0	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
Total		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

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										lb/day					
Mitigated	5.5446	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689
Unmitigated	5.5446	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.9811					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.5608					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7500e-003	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689
Total	5.5446	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.9811					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.5608					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7500e-003	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689
Total	5.5446	2.7000e-004	0.0300	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004		0.0647	0.0647	1.7000e-004		0.0689

7.0 Water Detail

7.1 Mitigation Measures Water

Knights Landing - Yolo County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Knights Landing - Yolo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Knights Landing

Yolo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	295.60	Acre	295.60	12,876,336.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	54
Climate Zone	2			Operational Year	2032
Utility Company	Valley Clean Energy				
CO2 Intensity (lb/MWhr)	958.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - For modeling assumptions, we are assuming a maximum of 4 months per year of working days. Number of working days was divided evenly for each assumed phase.

Off-road Equipment - Equipment list provided in project description. Water truck is being modeled as a dumper/tender. All phases assumed to have the same equipment used for a conservative analysis.

Off-road Equipment - Equipment list provided in project description. Water truck is being modeled as a dumper/tender. All phases assumed to have the same equipment used for a conservative analysis.

Off-road Equipment - Equipment list provided in project description. Water truck is being modeled as a dumper/tender. All phases assumed to have the same equipment used for a conservative analysis.

Grading -

Trips and VMT - Vendor trips not needed for the Project as "hauling" will account for the rock slope material being imported to the site. All information found in the project description

Knights Landing - Yolo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Vehicle Trips - No operational emissions associated with the proposed project.

Fleet Mix - No operational emissions associated with the proposed project.

Water And Wastewater -

Solid Waste - No operational emissions associated with the proposed project.

Construction Off-road Equipment Mitigation - Yolo County GP Policy CO-6.6

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	4,650.00	35.00
tblConstructionPhase	NumDays	180.00	35.00
tblConstructionPhase	PhaseEndDate	8/10/2043	7/25/2022
tblConstructionPhase	PhaseEndDate	10/13/2025	6/6/2022
tblConstructionPhase	PhaseEndDate	1/1/2024	4/18/2022
tblConstructionPhase	PhaseStartDate	10/14/2025	6/7/2022
tblConstructionPhase	PhaseStartDate	1/2/2024	4/19/2022
tblConstructionPhase	PhaseStartDate	4/25/2023	3/1/2022
tblFleetMix	HHD	0.01	0.00
tblFleetMix	LDA	0.51	1.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.9970e-003	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.13	0.00
tblFleetMix	MH	2.4490e-003	0.00
tblFleetMix	MHD	0.04	0.00
tblFleetMix	OBUS	4.9200e-004	0.00
tblFleetMix	SBUS	6.4500e-004	0.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	UBUS	1.0250e-003	0.00
tblOffRoadEquipment	HorsePower	247.00	187.00
tblOffRoadEquipment	HorsePower	97.00	247.00
tblOffRoadEquipment	HorsePower	158.00	247.00
tblOffRoadEquipment	HorsePower	16.00	367.00
tblOffRoadEquipment	HorsePower	247.00	97.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.40	0.41
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.48
tblOffRoadEquipment	LoadFactor	0.40	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Scrapers	Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	LandfillCaptureGasFlare	94.00	0.00
tblSolidWaste	LandfillNoGasCapture	6.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	65.00
tblTripsAndVMT	HaulingTripLength	20.00	65.00
tblTripsAndVMT	HaulingTripLength	20.00	65.00
tblTripsAndVMT	HaulingTripNumber	0.00	64.00
tblTripsAndVMT	HaulingTripNumber	0.00	64.00
tblTripsAndVMT	HaulingTripNumber	0.00	64.00
tblTripsAndVMT	VendorTripNumber	2,110.00	0.00
tblTripsAndVMT	WorkerTripNumber	5,408.00	20.00
tblVehicleTrips	CC_TL	8.00	0.00
tblVehicleTrips	CNW_TL	9.00	0.00
tblVehicleTrips	CW_TL	15.00	0.00

2.0 Emissions Summary

Knights Landing - Yolo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2022	5-31-2022	0.4269	0.4269
2	6-1-2022	8-31-2022	0.3525	0.3525
		Highest	0.4269	0.4269

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	1.0116	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2800e-003	5.2800e-003	1.0000e-005	0.0000	5.6200e-003
Energy	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
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0116	2.0000e-005	2.7000e-003	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	5.2800e-003	5.2800e-003	1.0000e-005	0.0000	5.6200e-003

Knights Landing - Yolo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.0116	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2800e-003	5.2800e-003	1.0000e-005	0.0000	5.6200e-003
Energy	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
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0116	2.0000e-005	2.7000e-003	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	5.2800e-003	5.2800e-003	1.0000e-005	0.0000	5.6200e-003

	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

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	3/1/2022	4/18/2022	5	35	
2	Trenching	Trenching	4/19/2022	6/6/2022	5	35	
3	Erosion Repair	Building Construction	6/7/2022	7/25/2022	5	35	

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Acres of Grading (Site Preparation Phase): 17.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 295.6

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	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Dumpers/Tenders	4	8.00	16	0.38
Erosion Repair	Cranes	0	7.00	231	0.29
Erosion Repair	Excavators	2	8.00	158	0.38
Trenching	Excavators	2	8.00	158	0.38
Erosion Repair	Forklifts	0	8.00	89	0.20
Erosion Repair	Generator Sets	0	8.00	84	0.74
Trenching	Rubber Tired Dozers	1	8.00	187	0.41
Erosion Repair	Rubber Tired Dozers	1	8.00	247	0.40
Erosion Repair	Dumpers/Tenders	4	8.00	16	0.38
Trenching	Tractors/Loaders/Backhoes	1	8.00	247	0.40
Site Preparation	Excavators	2	8.00	247	0.40
Trenching	Dumpers/Tenders	4	8.00	367	0.48
Erosion Repair	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	1	8.00	97	0.37
Erosion Repair	Welders	0	8.00	46	0.45

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
Site Preparation	8	20.00	0.00	64.00	15.00	9.00	65.00	LD_Mix	HDT_Mix	HHDT
Trenching	8	20.00	0.00	64.00	15.00	9.00	65.00	LD_Mix	HDT_Mix	HHDT
Erosion Repair	8	20.00	0.00	64.00	15.00	9.00	65.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2022

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					0.1147	0.0000	0.1147	0.0589	0.0000	0.0589	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1463	0.1231	4.0000e-004		5.4400e-003	5.4400e-003		5.1000e-003	5.1000e-003	0.0000	34.7500	34.7500	0.0104	0.0000	35.0101
Total	0.0171	0.1463	0.1231	4.0000e-004	0.1147	5.4400e-003	0.1201	0.0589	5.1000e-003	0.0640	0.0000	34.7500	34.7500	0.0104	0.0000	35.0101

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3.2 Site Preparation - 2022

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	3.0000e-004	0.0143	1.8700e-003	6.0000e-005	1.7600e-003	1.5000e-004	1.9100e-003	4.8000e-004	1.4000e-004	6.2000e-004	0.0000	6.1706	6.1706	2.0000e-005	9.7000e-004	6.4600
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	1.2700e-003	9.1000e-004	0.0109	3.0000e-005	3.8600e-003	2.0000e-005	3.8800e-003	1.0300e-003	2.0000e-005	1.0400e-003	0.0000	3.1180	3.1180	8.0000e-005	8.0000e-005	3.1448
Total	1.5700e-003	0.0153	0.0127	9.0000e-005	5.6200e-003	1.7000e-004	5.7900e-003	1.5100e-003	1.6000e-004	1.6600e-003	0.0000	9.2886	9.2886	1.0000e-004	1.0500e-003	9.6048

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					0.0516	0.0000	0.0516	0.0265	0.0000	0.0265	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1463	0.1231	4.0000e-004		5.4400e-003	5.4400e-003		5.1000e-003	5.1000e-003	0.0000	34.7500	34.7500	0.0104	0.0000	35.0100
Total	0.0171	0.1463	0.1231	4.0000e-004	0.0516	5.4400e-003	0.0570	0.0265	5.1000e-003	0.0316	0.0000	34.7500	34.7500	0.0104	0.0000	35.0100

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3.2 Site Preparation - 2022

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	3.0000e-004	0.0143	1.8700e-003	6.0000e-005	1.7600e-003	1.5000e-004	1.9100e-003	4.8000e-004	1.4000e-004	6.2000e-004	0.0000	6.1706	6.1706	2.0000e-005	9.7000e-004	6.4600
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	1.2700e-003	9.1000e-004	0.0109	3.0000e-005	3.8600e-003	2.0000e-005	3.8800e-003	1.0300e-003	2.0000e-005	1.0400e-003	0.0000	3.1180	3.1180	8.0000e-005	8.0000e-005	3.1448
Total	1.5700e-003	0.0153	0.0127	9.0000e-005	5.6200e-003	1.7000e-004	5.7900e-003	1.5100e-003	1.6000e-004	1.6600e-003	0.0000	9.2886	9.2886	1.0000e-004	1.0500e-003	9.6048

3.3 Trenching - 2022

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	0.0242	0.2409	0.1980	4.4000e-004		0.0107	0.0107		9.8600e-003	9.8600e-003	0.0000	39.0706	39.0706	0.0126	0.0000	39.3865
Total	0.0242	0.2409	0.1980	4.4000e-004		0.0107	0.0107		9.8600e-003	9.8600e-003	0.0000	39.0706	39.0706	0.0126	0.0000	39.3865

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3.3 Trenching - 2022

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	3.0000e-004	0.0143	1.8700e-003	6.0000e-005	1.7600e-003	1.5000e-004	1.9100e-003	4.8000e-004	1.4000e-004	6.2000e-004	0.0000	6.1706	6.1706	2.0000e-005	9.7000e-004	6.4600
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	1.2700e-003	9.1000e-004	0.0109	3.0000e-005	3.8600e-003	2.0000e-005	3.8800e-003	1.0300e-003	2.0000e-005	1.0400e-003	0.0000	3.1180	3.1180	8.0000e-005	8.0000e-005	3.1448
Total	1.5700e-003	0.0153	0.0127	9.0000e-005	5.6200e-003	1.7000e-004	5.7900e-003	1.5100e-003	1.6000e-004	1.6600e-003	0.0000	9.2886	9.2886	1.0000e-004	1.0500e-003	9.6048

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	0.0242	0.2409	0.1980	4.4000e-004		0.0107	0.0107		9.8600e-003	9.8600e-003	0.0000	39.0706	39.0706	0.0126	0.0000	39.3865
Total	0.0242	0.2409	0.1980	4.4000e-004		0.0107	0.0107		9.8600e-003	9.8600e-003	0.0000	39.0706	39.0706	0.0126	0.0000	39.3865

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3.3 Trenching - 2022

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	3.0000e-004	0.0143	1.8700e-003	6.0000e-005	1.7600e-003	1.5000e-004	1.9100e-003	4.8000e-004	1.4000e-004	6.2000e-004	0.0000	6.1706	6.1706	2.0000e-005	9.7000e-004	6.4600
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	1.2700e-003	9.1000e-004	0.0109	3.0000e-005	3.8600e-003	2.0000e-005	3.8800e-003	1.0300e-003	2.0000e-005	1.0400e-003	0.0000	3.1180	3.1180	8.0000e-005	8.0000e-005	3.1448
Total	1.5700e-003	0.0153	0.0127	9.0000e-005	5.6200e-003	1.7000e-004	5.7900e-003	1.5100e-003	1.6000e-004	1.6600e-003	0.0000	9.2886	9.2886	1.0000e-004	1.0500e-003	9.6048

3.4 Erosion Repair - 2022

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	0.0293	0.2728	0.2283	4.3000e-004		0.0128	0.0128		0.0119	0.0119	0.0000	36.9856	36.9856	0.0111	0.0000	37.2637
Total	0.0293	0.2728	0.2283	4.3000e-004		0.0128	0.0128		0.0119	0.0119	0.0000	36.9856	36.9856	0.0111	0.0000	37.2637

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3.4 Erosion Repair - 2022

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	3.0000e-004	0.0143	1.8700e-003	6.0000e-005	1.7600e-003	1.5000e-004	1.9100e-003	4.8000e-004	1.4000e-004	6.2000e-004	0.0000	6.1706	6.1706	2.0000e-005	9.7000e-004	6.4600
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	1.2700e-003	9.1000e-004	0.0109	3.0000e-005	3.8600e-003	2.0000e-005	3.8800e-003	1.0300e-003	2.0000e-005	1.0400e-003	0.0000	3.1180	3.1180	8.0000e-005	8.0000e-005	3.1448
Total	1.5700e-003	0.0153	0.0127	9.0000e-005	5.6200e-003	1.7000e-004	5.7900e-003	1.5100e-003	1.6000e-004	1.6600e-003	0.0000	9.2886	9.2886	1.0000e-004	1.0500e-003	9.6048

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	0.0293	0.2728	0.2283	4.3000e-004		0.0128	0.0128		0.0119	0.0119	0.0000	36.9856	36.9856	0.0111	0.0000	37.2637
Total	0.0293	0.2728	0.2283	4.3000e-004		0.0128	0.0128		0.0119	0.0119	0.0000	36.9856	36.9856	0.0111	0.0000	37.2637

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3.4 Erosion Repair - 2022

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	3.0000e-004	0.0143	1.8700e-003	6.0000e-005	1.7600e-003	1.5000e-004	1.9100e-003	4.8000e-004	1.4000e-004	6.2000e-004	0.0000	6.1706	6.1706	2.0000e-005	9.7000e-004	6.4600
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	1.2700e-003	9.1000e-004	0.0109	3.0000e-005	3.8600e-003	2.0000e-005	3.8800e-003	1.0300e-003	2.0000e-005	1.0400e-003	0.0000	3.1180	3.1180	8.0000e-005	8.0000e-005	3.1448
Total	1.5700e-003	0.0153	0.0127	9.0000e-005	5.6200e-003	1.7000e-004	5.7900e-003	1.5100e-003	1.6000e-004	1.6600e-003	0.0000	9.2886	9.2886	1.0000e-004	1.0500e-003	9.6048

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5.0 Energy Detail

Historical Energy Use: N

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	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	1.0116	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2800e-003	5.2800e-003	1.0000e-005	0.0000	5.6200e-003
Unmitigated	1.0116	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2800e-003	5.2800e-003	1.0000e-005	0.0000	5.6200e-003

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	0.1790					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8324					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2800e-003	5.2800e-003	1.0000e-005	0.0000	5.6200e-003
Total	1.0116	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2800e-003	5.2800e-003	1.0000e-005	0.0000	5.6200e-003

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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	0.1790					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8324					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.5000e-004	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2800e-003	5.2800e-003	1.0000e-005	0.0000	5.6200e-003
Total	1.0116	2.0000e-005	2.7000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.2800e-003	5.2800e-003	1.0000e-005	0.0000	5.6200e-003

7.0 Water Detail

7.1 Mitigation Measures Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Knights Landing - Yolo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Knights Landing - Yolo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Knights Landing - Yolo County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

Project Marine Vessels Emissions

Knights Landing Ridge Cut Erosion Repair Project

Marine Vessel	Pollutant	Emission Rate (Tons/Day)	Total Pounds Daily	Total Tons Annually¹
CHC - AE Work Boats	NOx	0.0014	2.81	0.04
	ROG	0.0002	0.40	0.01
	PM10	0.0000	0.10	0.00
	PM2.5	0.0000	0.09	0.00
	CO	0.0010	2.06	0.03
	SO2	0.0000	0.00	0.00

¹ Annual Pollutants are based on 30 work days per year.
All emission factors sourced from OFFROAD 2017.

Project Marine Vessels Greenhouse Gas Emissions

Knights Landing Ridge Cut Erosion Repair Project

Marine Vessel	Pollutant	Emission Rate (Tons/Day)	Total Pounds Daily	Total Metric Tons Annually¹
CHC - AE Others (Rescue)	CO2e	0.020795808	41.59	0.57

¹ Annual GHG Emissions are based on 30 work days per year.
All emission factors sourced from OFFROAD 2017.

**Proposed Project
Total Construction-Related Fuel Usage**

Table 1. Demolition & Grading Year One			
Action	Carbon Dioxide Equivalents (CO₂e) in Metric Tons¹	Conversion of Metric Tons to Kilograms²	Construction Equipment Emission Factor²
Project Implementation	660	660,000	10.15
Total Gallons Consumed During Project Implementation for One Year:			65,025

Notes:
 Fuel used by all construction equipment, including vehicle hauling trucks, assumed to be diesel.
¹Per CalEEMod Output Files found in Air Quality and Greenhouse Gas Emissions Assessment Attachment C

Sources:
¹ECORP Consulting, 2021.
²Climate Registry. 2016. *General Reporting Protocol for the Voluntary Reporting Program version 2.1*. January 2016.
<http://www.theclimateregistry.org/wp-content/uploads/2014/11/General-Reporting-Protocol-Version-2.1.pdf>