APPENDIX A

AIR QUALITY, GREENHOUSE GAS EMISSIONS, & ENERGY SUPPORTING INFORMATION

Air Quality, GHG Emissions, & Energy Supporting Information

Emission Calculation Methodology

Project construction and operation were analyzed. Construction emissions were estimated for off-road equipment, on-road trucks for material delivery and equipment hauling, and worker commute trips. Operational emissions were estimated for area sources, energy sources, stationary sources, onroad vehicles, offroad equipment, solid waste disposal, and water/wastewater conveyance.

Regulatory models used to estimate air quality impacts included:

> California Emissions Estimator Model[1] (CalEEMod) Version 2020.4.0 is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

The CalEEMod emissions inventory includes an estimation of criteria pollutant emissions such as carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO_2), volatile organic compounds (VOC) as reactive organic gases (ROG), particulate matter less than 10 micrometers (coarse or PM10), and particulate matter less than 2.5 micrometers (fine or PM2.5), as well as GHG emissions.

Construction Emissions Assumptions

Grading of the 14.89-acre Project site would be balanced and would not require soil import or export. Construction was estimated to require approximately 10 working days of site preparation, 20 working days of grading, 230 working days of building construction, 270 working days of building construction, 20 working days of paving, and 20 working days of architectural coating. This air quality analysis assumes construction would commence in March 2022 and be complete by April 2023 (approximately one year). **Table 1** provides the estimated construction schedule for the Project:

[1] California Air Pollution Control Officers Association (CAPCOA). 2021. *California Emissions Estimator Model User's Guide Version 2020.4.0*. May 2021. http://www.caleemod.com/

TABLE 1 -- ESTIMATED PROJECT CONSTRUCTION SCHEDULE

Phase	Description	Start	End	Working Days
1	Site Preparation	03/01/2022	03/14/2022	10
2	Grading	03/15/2022	04/11/2022	20
3	Building Construction	04/12/2022	02/27/2023	230
4	Paving	02/28/2023	03/27/2023	20
5	Architectural Coating	03/28/2023	04/24/2023	20

SOURCE: CalEEMod Version 2020.4.0

Project construction would not require on-road haul trucks for soil import/export since the Project site would be balanced. Project construction was estimated to consume a total of approximately 56,000 gallons of diesel fuel and 18,382 gallons of gasoline. Construction equipment assumed by phase is provided in **Table 2.**

TABLE 2 -- ESTIMATED PHASE I CONSTRUCTION EQUIPMENT USAGE

Phase	Equipment	Amount	Daily Hours	HP	Load Factor
Site Preparation	Rubber Tired Dozers	3	8	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8	97	0.37
Grading	Graders	1	8	187	0.41
Grading	Rubber Tired Dozers	1	8	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7	97	0.37
Grading	Scrapers	2	8	367	0.48
Grading	Excavators	2	8	158	0.38
Building Construction	Cranes	1	7	231	0.29
Building Construction	Forklifts	3	8	89	0.20
Building Construction	Generator Sets	1	8	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7	97	0.37
Building Construction	Welders	1	8	46	0.45
Paving	Pavers	2	8	130	0.42
Paving	Paving Equipment	2	8	132	0.36
Paving	Rollers	2	8	80	0.38
Architectural Coating	Air Compressors	1	6	78	0.48

SOURCE: CalEEMod Version 2020.4.0

Operational Emissions Assumptions

Project operational emissions were conservatively analyzed for full buildout of the Project for operational year 2023. Project operations would generate emissions of criteria pollutants and/or GHG emissions from motor vehicles (employees and heavy trucks), landscaping equipment, area sources (e.g., solvents and cleaners), energy use, solid waste disposal, and water/wastewater conveyance. The Project would generate approximately 101 average trips per

day, 35 of which would be heavy trucks (tractor trailers) and the remaining 76 would be employees, visitors, subcontractors, and deliveries.[2]

The Project was estimated to require approximately 4,209,960 kilowatt hours (kWh) per year. Natural gas would not be used and no connections would be made to the Project site. Motor vehicles for Project operations were estimated to consume approximately 12,000 gallons of diesel and approximately 14,000 gallons of gasoline per year.

2 Abrams Associates, 2021. *Transportation Impact Study for Yolo Cold Storage, Yolo County.* August 31, 2021.

Attachments

CalEEMod Version 2020.4.0 Emissions Outputs

- Annual (33 pages)
- Summer Daily (26 pages)
- Winter Daily (26 pages)

Energy Calculations (1 page)

Yolo Cold Storage - Yolo County, Annual

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

Yolo Cold Storage

Yolo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	223.81	1000sqft	5.14	223,814.00	0
Other Asphalt Surfaces	254.90	1000sqft	5.85	254,899.00	0
Parking Lot	160.00	Space	1.44	64,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	54
Climate Zone	2			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 223,814 building square feet with 136 auto spaces and 24 tractor trailer parking spaces

Construction Phase - Approximately one year of construction

Grading - balanced site - 14.89 acres

Vehicle Trips - 101 ADT, Abrams Associates Traffic Engineering, Inc. August 31, 2021

Water And Wastewater - 28,400 gallons per worker x 20 workers. EIA, February 2017. User’s Guide to the 2012 CBECS Large Buildings Water Usage Public Use Microdata File.

Construction Off-road Equipment Mitigation -

Fleet Mix - HHD fleet mixed increase to account for 35 heavy truck trips per day. School bus and motorhome to zero. LDA decreased to account for increased HHD fleet mix.

Energy Use - no natural gas required

Yolo Cold Storage - Yolo County, Annual

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	230.00
tblConstructionPhase	NumDays	30.00	20.00
tblEnergyUse	T24NG	1.13	0.00
tblFleetMix	HHD	0.01	0.35
tblFleetMix	LDA	0.49	0.16
tblFleetMix	MH	3.2350e-003	0.00
tblFleetMix	SBUS	7.0000e-004	0.00
tblGrading	AcresOfGrading	60.00	14.89
tblGrading	AcresOfGrading	15.00	14.89
tblLandUse	LandUseSquareFeet	223,810.00	223,814.00
tblLandUse	LandUseSquareFeet	254,900.00	254,899.00
tblVehicleTrips	ST_TR	2.12	0.45
tblVehicleTrips	SU_TR	2.12	0.45
tblVehicleTrips	WD_TR	2.12	0.45
tblWater	IndoorWaterUseRate	51,756,062.50	568,000.00

2.0 Emissions Summary

Yolo Cold Storage - Yolo County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2895	2.4868	2.5368	6.4400e-003	0.3802	0.1054	0.4856	0.1426	0.0987	0.2412	0.0000	580.8868	580.8868	0.0804	0.0286	591.4046
2023	0.7625	0.4960	0.6284	1.4900e-003	0.0504	0.0208	0.0712	0.0137	0.0195	0.0332	0.0000	134.4684	134.4684	0.0190	6.0500e-003	136.7439
Maximum	**0.7625**	**2.4868**	**2.5368**	**6.4400e-003**	**0.3802**	**0.1054**	**0.4856**	**0.1426**	**0.0987**	**0.2412**	**0.0000**	**580.8868**	**580.8868**	**0.0804**	**0.0286**	**591.4046**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2895	2.4868	2.5368	6.4400e-003	0.2887	0.1054	0.3941	0.0961	0.0987	0.1948	0.0000	580.8865	580.8865	0.0804	0.0286	591.4043
2023	0.7625	0.4960	0.6284	1.4900e-003	0.0504	0.0208	0.0712	0.0137	0.0195	0.0332	0.0000	134.4683	134.4683	0.0190	6.0500e-003	136.7439
Maximum	**0.7625**	**2.4868**	**2.5368**	**6.4400e-003**	**0.2887**	**0.1054**	**0.3941**	**0.0961**	**0.0987**	**0.1948**	**0.0000**	**580.8865**	**580.8865**	**0.0804**	**0.0286**	**591.4043**

Yolo Cold Storage - Yolo County, Annual

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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**21.25**	**0.00**	**16.43**	**29.73**	**0.00**	**16.93**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-3-2022**	**4-2-2022**	0.4706	0.4706
2	**4-3-2022**	**7-2-2022**	0.8046	0.8046
3	**7-3-2022**	**10-2-2022**	0.7495	0.7495
4	**10-3-2022**	**1-2-2023**	0.7584	0.7584
5	**1-3-2023**	**4-2-2023**	0.6939	0.6939
6	**4-3-2023**	**7-2-2023**	0.5577	0.5577
		Highest	0.8046	0.8046

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	tons/yr										MT/yr					
Area	0.9645	5.0000e-005	5.8700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0114	0.0114	3.0000e-005	0.0000	0.0122
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	389.5214	389.5214	0.0630	7.6400e-003	393.3731
Mobile	0.0589	0.4713	0.5689	2.4900e-003	0.1173	3.4600e-003	0.1207	0.0317	3.2900e-003	0.0350	0.0000	237.3276	237.3276	6.9000e-003	0.0298	246.3894
Waste						0.0000	0.0000		0.0000	0.0000	42.7052	0.0000	42.7052	2.5238	0.0000	105.8004
Water						0.0000	0.0000		0.0000	0.0000	0.1802	0.2844	0.4646	0.0186	4.4000e-004	1.0603
Total	**1.0234**	**0.4713**	**0.5748**	**2.4900e-003**	**0.1173**	**3.4800e-003**	**0.1207**	**0.0317**	**3.3100e-003**	**0.0351**	**42.8854**	**627.1447**	**670.0302**	**2.6123**	**0.0379**	**746.6353**

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	0.9645	5.0000e-005	5.8700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0114	0.0114	3.0000e-005	0.0000	0.0122
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	389.5214	389.5214	0.0630	7.6400e-003	393.3731
Mobile	0.0589	0.4713	0.5689	2.4900e-003	0.1173	3.4600e-003	0.1207	0.0317	3.2900e-003	0.0350	0.0000	237.3276	237.3276	6.9000e-003	0.0298	246.3894
Waste						0.0000	0.0000		0.0000	0.0000	42.7052	0.0000	42.7052	2.5238	0.0000	105.8004
Water						0.0000	0.0000		0.0000	0.0000	0.1802	0.2844	0.4646	0.0186	4.4000e-004	1.0603
Total	**1.0234**	**0.4713**	**0.5748**	**2.4900e-003**	**0.1173**	**3.4800e-003**	**0.1207**	**0.0317**	**3.3100e-003**	**0.0351**	**42.8854**	**627.1447**	**670.0302**	**2.6123**	**0.0379**	**746.6353**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	3/14/2022	5	10	
2	Grading	Grading	3/15/2022	4/11/2022	5	20	
3	Building Construction	Building Construction	4/12/2022	2/27/2023	5	230	

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

4	Paving	Paving	2/28/2023	3/27/2023	5	20	
5	Architectural Coating	Architectural Coating	3/28/2023	4/24/2023	5	20	

Acres of Grading (Site Preparation Phase): 14.89

Acres of Grading (Grading Phase): 14.89

Acres of Paving: 7.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 335,721; Non-Residential Outdoor: 111,907; Striped Parking Area: 19,134 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

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

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	228.00	89.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	46.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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					0.0982	0.0000	0.0982	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	**0.0159**	**0.1654**	**0.0985**	**1.9000e-004**	**0.0982**	**8.0600e-003**	**0.1063**	**0.0505**	**7.4200e-003**	**0.0579**	**0.0000**	**16.7197**	**16.7197**	**5.4100e-003**	**0.0000**	**16.8549**

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 Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.7000e-004	2.0300e-003	1.0000e-005	6.6000e-004	0.0000	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5400	0.5400	2.0000e-005	2.0000e-005	0.5452
Total	**2.6000e-004**	**1.7000e-004**	**2.0300e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.7000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5400**	**0.5400**	**2.0000e-005**	**2.0000e-005**	**0.5452**

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					0.0442	0.0000	0.0442	0.0227	0.0000	0.0227	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	**0.0159**	**0.1654**	**0.0985**	**1.9000e-004**	**0.0442**	**8.0600e-003**	**0.0523**	**0.0227**	**7.4200e-003**	**0.0302**	**0.0000**	**16.7197**	**16.7197**	**5.4100e-003**	**0.0000**	**16.8549**

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 Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.7000e-004	2.0300e-003	1.0000e-005	6.6000e-004	0.0000	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5400	0.5400	2.0000e-005	2.0000e-005	0.5452
Total	**2.6000e-004**	**1.7000e-004**	**2.0300e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.7000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5400**	**0.5400**	**2.0000e-005**	**2.0000e-005**	**0.5452**

3.3 Grading - 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					0.0681	0.0000	0.0681	0.0340	0.0000	0.0340	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0363	0.3884	0.2904	6.2000e-004		0.0164	0.0164		0.0150	0.0150	0.0000	54.5346	54.5346	0.0176	0.0000	54.9755
Total	**0.0363**	**0.3884**	**0.2904**	**6.2000e-004**	**0.0681**	**0.0164**	**0.0845**	**0.0340**	**0.0150**	**0.0490**	**0.0000**	**54.5346**	**54.5346**	**0.0176**	**0.0000**	**54.9755**

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

3.3 Grading - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.8000e-004	4.5100e-003	1.0000e-005	1.4700e-003	1.0000e-005	1.4800e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1999	1.1999	4.0000e-005	4.0000e-005	1.2115
Total	**5.8000e-004**	**3.8000e-004**	**4.5100e-003**	**1.0000e-005**	**1.4700e-003**	**1.0000e-005**	**1.4800e-003**	**3.9000e-004**	**1.0000e-005**	**4.0000e-004**	**0.0000**	**1.1999**	**1.1999**	**4.0000e-005**	**4.0000e-005**	**1.2115**

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					0.0307	0.0000	0.0307	0.0153	0.0000	0.0153	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0363	0.3884	0.2904	6.2000e-004		0.0164	0.0164		0.0150	0.0150	0.0000	54.5345	54.5345	0.0176	0.0000	54.9755
Total	**0.0363**	**0.3884**	**0.2904**	**6.2000e-004**	**0.0307**	**0.0164**	**0.0470**	**0.0153**	**0.0150**	**0.0303**	**0.0000**	**54.5345**	**54.5345**	**0.0176**	**0.0000**	**54.9755**

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

3.3 Grading - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.8000e-004	4.5100e-003	1.0000e-005	1.4700e-003	1.0000e-005	1.4800e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1999	1.1999	4.0000e-005	4.0000e-005	1.2115
Total	**5.8000e-004**	**3.8000e-004**	**4.5100e-003**	**1.0000e-005**	**1.4700e-003**	**1.0000e-005**	**1.4800e-003**	**3.9000e-004**	**1.0000e-005**	**4.0000e-004**	**0.0000**	**1.1999**	**1.1999**	**4.0000e-005**	**4.0000e-005**	**1.2115**

3.4 Building Construction - 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	0.1612	1.4757	1.5463	2.5500e-003		0.0765	0.0765		0.0719	0.0719	0.0000	218.9804	218.9804	0.0525	0.0000	220.2919
Total	**0.1612**	**1.4757**	**1.5463**	**2.5500e-003**		**0.0765**	**0.0765**		**0.0719**	**0.0719**	**0.0000**	**218.9804**	**218.9804**	**0.0525**	**0.0000**	**220.2919**

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

3.4 Building Construction - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0132	0.4155	0.1090	1.6600e-003	0.0531	3.6700e-003	0.0568	0.0153	3.5100e-003	0.0189	0.0000	159.6462	159.6462	6.4000e-004	0.0247	167.0116
Worker	0.0621	0.0413	0.4861	1.4000e-003	0.1586	8.3000e-004	0.1595	0.0422	7.6000e-004	0.0430	0.0000	129.2661	129.2661	4.2300e-003	3.8300e-003	130.5140
Total	**0.0753**	**0.4567**	**0.5950**	**3.0600e-003**	**0.2117**	**4.5000e-003**	**0.2162**	**0.0575**	**4.2700e-003**	**0.0618**	**0.0000**	**288.9123**	**288.9123**	**4.8700e-003**	**0.0285**	**297.5256**

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	0.1612	1.4757	1.5463	2.5500e-003		0.0765	0.0765		0.0719	0.0719	0.0000	218.9801	218.9801	0.0525	0.0000	220.2916
Total	**0.1612**	**1.4757**	**1.5463**	**2.5500e-003**		**0.0765**	**0.0765**		**0.0719**	**0.0719**	**0.0000**	**218.9801**	**218.9801**	**0.0525**	**0.0000**	**220.2916**

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

3.4 Building Construction - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0132	0.4155	0.1090	1.6600e-003	0.0531	3.6700e-003	0.0568	0.0153	3.5100e-003	0.0189	0.0000	159.6462	159.6462	6.4000e-004	0.0247	167.0116
Worker	0.0621	0.0413	0.4861	1.4000e-003	0.1586	8.3000e-004	0.1595	0.0422	7.6000e-004	0.0430	0.0000	129.2661	129.2661	4.2300e-003	3.8300e-003	130.5140
Total	**0.0753**	**0.4567**	**0.5950**	**3.0600e-003**	**0.2117**	**4.5000e-003**	**0.2162**	**0.0575**	**4.2700e-003**	**0.0618**	**0.0000**	**288.9123**	**288.9123**	**4.8700e-003**	**0.0285**	**297.5256**

3.4 Building Construction - 2023

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	0.0322	0.2949	0.3330	5.5000e-004		0.0143	0.0143		0.0135	0.0135	0.0000	47.5200	47.5200	0.0113	0.0000	47.8026
Total	**0.0322**	**0.2949**	**0.3330**	**5.5000e-004**		**0.0143**	**0.0143**		**0.0135**	**0.0135**	**0.0000**	**47.5200**	**47.5200**	**0.0113**	**0.0000**	**47.8026**

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

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6900e-003	0.0772	0.0212	3.5000e-004	0.0115	4.4000e-004	0.0120	3.3300e-003	4.2000e-004	3.7500e-003	0.0000	33.4963	33.4963	9.0000e-005	5.1800e-003	35.0408
Worker	0.0125	7.9000e-003	0.0975	2.9000e-004	0.0344	1.7000e-004	0.0346	9.1500e-003	1.6000e-004	9.3100e-003	0.0000	27.3080	27.3080	8.3000e-004	7.7000e-004	27.5581
Total	**0.0142**	**0.0851**	**0.1187**	**6.4000e-004**	**0.0459**	**6.1000e-004**	**0.0465**	**0.0125**	**5.8000e-004**	**0.0131**	**0.0000**	**60.8043**	**60.8043**	**9.2000e-004**	**5.9500e-003**	**62.5989**

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	0.0322	0.2949	0.3330	5.5000e-004		0.0143	0.0143		0.0135	0.0135	0.0000	47.5199	47.5199	0.0113	0.0000	47.8025
Total	**0.0322**	**0.2949**	**0.3330**	**5.5000e-004**		**0.0143**	**0.0143**		**0.0135**	**0.0135**	**0.0000**	**47.5199**	**47.5199**	**0.0113**	**0.0000**	**47.8025**

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

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6900e-003	0.0772	0.0212	3.5000e-004	0.0115	4.4000e-004	0.0120	3.3300e-003	4.2000e-004	3.7500e-003	0.0000	33.4963	33.4963	9.0000e-005	5.1800e-003	35.0408
Worker	0.0125	7.9000e-003	0.0975	2.9000e-004	0.0344	1.7000e-004	0.0346	9.1500e-003	1.6000e-004	9.3100e-003	0.0000	27.3080	27.3080	8.3000e-004	7.7000e-004	27.5581
Total	**0.0142**	**0.0851**	**0.1187**	**6.4000e-004**	**0.0459**	**6.1000e-004**	**0.0465**	**0.0125**	**5.8000e-004**	**0.0131**	**0.0000**	**60.8043**	**60.8043**	**9.2000e-004**	**5.9500e-003**	**62.5989**

3.5 Paving - 2023

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	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	9.5500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0199**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0269**	**20.0269**	**6.4800e-003**	**0.0000**	**20.1888**

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

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.5000e-004	3.1300e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.8764	0.8764	3.0000e-005	2.0000e-005	0.8844
Total	**4.0000e-004**	**2.5000e-004**	**3.1300e-003**	**1.0000e-005**	**1.1000e-003**	**1.0000e-005**	**1.1100e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.8764**	**0.8764**	**3.0000e-005**	**2.0000e-005**	**0.8844**

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	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	9.5500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0199**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0268**	**20.0268**	**6.4800e-003**	**0.0000**	**20.1888**

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

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.5000e-004	3.1300e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.8764	0.8764	3.0000e-005	2.0000e-005	0.8844
Total	**4.0000e-004**	**2.5000e-004**	**3.1300e-003**	**1.0000e-005**	**1.1000e-003**	**1.0000e-005**	**1.1100e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**0.8764**	**0.8764**	**3.0000e-005**	**2.0000e-005**	**0.8844**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6927					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**0.6946**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

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

3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2300e-003	7.8000e-004	9.6000e-003	3.0000e-005	3.3900e-003	2.0000e-005	3.4000e-003	9.0000e-004	2.0000e-005	9.2000e-004	0.0000	2.6876	2.6876	8.0000e-005	8.0000e-005	2.7122
Total	**1.2300e-003**	**7.8000e-004**	**9.6000e-003**	**3.0000e-005**	**3.3900e-003**	**2.0000e-005**	**3.4000e-003**	**9.0000e-004**	**2.0000e-005**	**9.2000e-004**	**0.0000**	**2.6876**	**2.6876**	**8.0000e-005**	**8.0000e-005**	**2.7122**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6927					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**0.6946**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

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

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2300e-003	7.8000e-004	9.6000e-003	3.0000e-005	3.3900e-003	2.0000e-005	3.4000e-003	9.0000e-004	2.0000e-005	9.2000e-004	0.0000	2.6876	2.6876	8.0000e-005	8.0000e-005	2.7122
Total	**1.2300e-003**	**7.8000e-004**	**9.6000e-003**	**3.0000e-005**	**3.3900e-003**	**2.0000e-005**	**3.4000e-003**	**9.0000e-004**	**2.0000e-005**	**9.2000e-004**	**0.0000**	**2.6876**	**2.6876**	**8.0000e-005**	**8.0000e-005**	**2.7122**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Yolo Cold Storage - Yolo County, Annual

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	0.0589	0.4713	0.5689	2.4900e-003	0.1173	3.4600e-003	0.1207	0.0317	3.2900e-003	0.0350	0.0000	237.3276	237.3276	6.9000e-003	0.0298	246.3894
Unmitigated	0.0589	0.4713	0.5689	2.4900e-003	0.1173	3.4600e-003	0.1207	0.0317	3.2900e-003	0.0350	0.0000	237.3276	237.3276	6.9000e-003	0.0298	246.3894

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	100.71	100.71	100.71	299,917	299,917
Total	100.71	100.71	100.71	299,917	299,917

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0
Parking Lot	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	10.00	5.00	7.00	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.487936	0.058646	0.184439	0.150133	0.035429	0.007262	0.027508	0.012857	0.000623	0.000842	0.030390	0.000700	0.003235
Parking Lot	0.487936	0.058646	0.184439	0.150133	0.035429	0.007262	0.027508	0.012857	0.000623	0.000842	0.030390	0.000700	0.003235

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

Refrigerated Warehouse-No Rail	0.158193	0.058646	0.184439	0.150133	0.035429	0.007262	0.027508	0.346535	0.000623	0.000842	0.030390	0.000000	0.000000

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	389.5214	389.5214	0.0630	7.6400e-003	393.3731
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	389.5214	389.5214	0.0630	7.6400e-003	393.3731
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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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

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other 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	0.0000
Parking Lot	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	0.0000
Refrigerated Warehouse-No Rail	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	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**	**0.0000**

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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	tons/yr										MT/yr					
Other 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	0.0000
Parking Lot	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	0.0000
Refrigerated Warehouse-No Rail	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	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**	**0.0000**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	22400	2.0725	3.4000e-004	4.0000e-005	2.0930
Refrigerated Warehouse-No Rail	4.18756e+006	387.4488	0.0627	7.6000e-003	391.2800
Total		**389.5214**	**0.0630**	**7.6400e-003**	**393.3731**

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

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	22400	2.0725	3.4000e-004	4.0000e-005	2.0930
Refrigerated Warehouse-No Rail	4.18756e+006	387.4488	0.0627	7.6000e-003	391.2800
Total		**389.5214**	**0.0630**	**7.6400e-003**	**393.3731**

6.0 Area Detail

6.1 Mitigation Measures Area

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	0.9645	5.0000e-005	5.8700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0114	0.0114	3.0000e-005	0.0000	0.0122
Unmitigated	0.9645	5.0000e-005	5.8700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0114	0.0114	3.0000e-005	0.0000	0.0122

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	0.0693					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.4000e-004	5.0000e-005	5.8700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0114	0.0114	3.0000e-005	0.0000	0.0122
Total	**0.9645**	**5.0000e-005**	**5.8700e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0114**	**0.0114**	**3.0000e-005**	**0.0000**	**0.0122**

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	tons/yr										MT/yr					
Architectural Coating	0.0693					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.4000e-004	5.0000e-005	5.8700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0114	0.0114	3.0000e-005	0.0000	0.0122
Total	**0.9645**	**5.0000e-005**	**5.8700e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0114**	**0.0114**	**3.0000e-005**	**0.0000**	**0.0122**

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.4646	0.0186	4.4000e-004	1.0603
Unmitigated	0.4646	0.0186	4.4000e-004	1.0603

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0.568 / 0	0.4646	0.0186	4.4000e-004	1.0603
Total		**0.4646**	**0.0186**	**4.4000e-004**	**1.0603**

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 Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0.568 / 0	0.4646	0.0186	4.4000e-004	1.0603
Total		**0.4646**	**0.0186**	**4.4000e-004**	**1.0603**

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	42.7052	2.5238	0.0000	105.8004
Unmitigated	42.7052	2.5238	0.0000	105.8004

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	210.38	42.7052	2.5238	0.0000	105.8004
Total		**42.7052**	**2.5238**	**0.0000**	**105.8004**

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

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	210.38	42.7052	2.5238	0.0000	105.8004
Total		**42.7052**	**2.5238**	**0.0000**	**105.8004**

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

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

11.0 Vegetation

Yolo Cold Storage - Yolo County, Summer

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

Yolo Cold Storage

Yolo County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	223.81	1000sqft	5.14	223,814.00	0
Other Asphalt Surfaces	254.90	1000sqft	5.85	254,899.00	0
Parking Lot	160.00	Space	1.44	64,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	54
Climate Zone	2			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 223,814 building square feet with 136 auto spaces and 24 tractor trailer parking spaces

Construction Phase - Approximately one year of construction

Grading - balanced site - 14.89 acres

Vehicle Trips - 101 ADT, Abrams Associates Traffic Engineering, Inc. August 31, 2021

Water And Wastewater - 28,400 gallons per worker x 20 workers. EIA, February 2017. User’s Guide to the 2012 CBECS Large Buildings Water Usage Public Use Microdata File.

Construction Off-road Equipment Mitigation -

Fleet Mix - HHD fleet mixed increase to account for 35 heavy truck trips per day. School bus and motorhome to zero. LDA decreased to account for increased HHD fleet mix.

Energy Use - no natural gas required

Yolo Cold Storage - Yolo County, Summer

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	230.00
tblConstructionPhase	NumDays	30.00	20.00
tblEnergyUse	T24NG	1.13	0.00
tblFleetMix	HHD	0.01	0.35
tblFleetMix	LDA	0.49	0.16
tblFleetMix	MH	3.2350e-003	0.00
tblFleetMix	SBUS	7.0000e-004	0.00
tblGrading	AcresOfGrading	60.00	14.89
tblGrading	AcresOfGrading	15.00	14.89
tblLandUse	LandUseSquareFeet	223,810.00	223,814.00
tblLandUse	LandUseSquareFeet	254,900.00	254,899.00
tblVehicleTrips	ST_TR	2.12	0.45
tblVehicleTrips	SU_TR	2.12	0.45
tblVehicleTrips	WD_TR	2.12	0.45
tblWater	IndoorWaterUseRate	51,756,062.50	568,000.00

2.0 Emissions Summary

Yolo Cold Storage - Yolo County, Summer

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

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6921	38.8783	29.5611	0.0635	19.7823	1.6357	21.3955	10.1375	1.5048	11.6217	0.0000	6,155.8256	6,155.8256	1.9483	0.3295	6,205.6311
2023	69.6052	18.3116	22.7251	0.0596	2.3114	0.7296	3.0411	0.6261	0.6867	1.3128	0.0000	5,957.8469	5,957.8469	0.7167	0.3169	6,068.6555
Maximum	**69.6052**	**38.8783**	**29.5611**	**0.0635**	**19.7823**	**1.6357**	**21.3955**	**10.1375**	**1.5048**	**11.6217**	**0.0000**	**6,155.8256**	**6,155.8256**	**1.9483**	**0.3295**	**6,205.6311**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6921	38.8783	29.5611	0.0635	8.9773	1.6357	10.5906	4.5819	1.5048	6.0661	0.0000	6,155.8256	6,155.8256	1.9483	0.3295	6,205.6311
2023	69.6052	18.3116	22.7251	0.0596	2.3114	0.7296	3.0411	0.6261	0.6867	1.3128	0.0000	5,957.8469	5,957.8469	0.7167	0.3169	6,068.6555
Maximum	**69.6052**	**38.8783**	**29.5611**	**0.0635**	**8.9773**	**1.6357**	**10.5906**	**4.5819**	**1.5048**	**6.0661**	**0.0000**	**6,155.8256**	**6,155.8256**	**1.9483**	**0.3295**	**6,205.6311**

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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	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	48.91	0.00	44.22	51.62	0.00	42.95	0.00	0.00	0.00	0.00	0.00	0.00

Yolo Cold Storage - Yolo County, Summer

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	5.2882	5.9000e-004	0.0652	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1398	0.1398	3.7000e-004		0.1490
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	0.3751	2.4483	3.2503	0.0140	0.6644	0.0190	0.6834	0.1793	0.0181	0.1974		1,464.6808	1,464.6808	0.0404	0.1797	1,519.2272
Total	**5.6632**	**2.4489**	**3.3155**	**0.0140**	**0.6644**	**0.0192**	**0.6836**	**0.1793**	**0.0183**	**0.1977**		**1,464.8206**	**1,464.8206**	**0.0408**	**0.1797**	**1,519.3762**

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	5.2882	5.9000e-004	0.0652	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1398	0.1398	3.7000e-004		0.1490
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	0.3751	2.4483	3.2503	0.0140	0.6644	0.0190	0.6834	0.1793	0.0181	0.1974		1,464.6808	1,464.6808	0.0404	0.1797	1,519.2272
Total	**5.6632**	**2.4489**	**3.3155**	**0.0140**	**0.6644**	**0.0192**	**0.6836**	**0.1793**	**0.0183**	**0.1977**		**1,464.8206**	**1,464.8206**	**0.0408**	**0.1797**	**1,519.3762**

Yolo Cold Storage - Yolo County, Summer

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	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	3/14/2022	5	10	
2	Grading	Grading	3/15/2022	4/11/2022	5	20	
3	Building Construction	Building Construction	4/12/2022	2/27/2023	5	230	
4	Paving	Paving	2/28/2023	3/27/2023	5	20	
5	Architectural Coating	Architectural Coating	3/28/2023	4/24/2023	5	20	

Acres of Grading (Site Preparation Phase): 14.89

Acres of Grading (Grading Phase): 14.89

Acres of Paving: 7.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 335,721; Non-Residential Outdoor: 111,907; Striped Parking Area: 19,134 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

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

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	228.00	89.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	46.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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					19.6453	0.0000	19.6453	10.1012	0.0000	10.1012			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**19.6453**	**1.6126**	**21.2579**	**10.1012**	**1.4836**	**11.5848**		**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0606	0.0313	0.4676	1.2800e-003	0.1369	6.9000e-004	0.1376	0.0363	6.4000e-004	0.0370		129.9735	129.9735	3.6800e-003	3.3200e-003	131.0538
Total	**0.0606**	**0.0313**	**0.4676**	**1.2800e-003**	**0.1369**	**6.9000e-004**	**0.1376**	**0.0363**	**6.4000e-004**	**0.0370**		**129.9735**	**129.9735**	**3.6800e-003**	**3.3200e-003**	**131.0538**

Yolo Cold Storage - Yolo County, Summer

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					8.8404	0.0000	8.8404	4.5455	0.0000	4.5455			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**8.8404**	**1.6126**	**10.4530**	**4.5455**	**1.4836**	**6.0291**	**0.0000**	**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0606	0.0313	0.4676	1.2800e-003	0.1369	6.9000e-004	0.1376	0.0363	6.4000e-004	0.0370		129.9735	129.9735	3.6800e-003	3.3200e-003	131.0538
Total	**0.0606**	**0.0313**	**0.4676**	**1.2800e-003**	**0.1369**	**6.9000e-004**	**0.1376**	**0.0363**	**6.4000e-004**	**0.0370**		**129.9735**	**129.9735**	**3.6800e-003**	**3.3200e-003**	**131.0538**

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

3.3 Grading - 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					6.8116	0.0000	6.8116	3.3955	0.0000	3.3955			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**6.8116**	**1.6349**	**8.4465**	**3.3955**	**1.5041**	**4.8996**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0673	0.0348	0.5196	1.4200e-003	0.1521	7.7000e-004	0.1529	0.0404	7.1000e-004	0.0411		144.4151	144.4151	4.0900e-003	3.6800e-003	145.6153
Total	**0.0673**	**0.0348**	**0.5196**	**1.4200e-003**	**0.1521**	**7.7000e-004**	**0.1529**	**0.0404**	**7.1000e-004**	**0.0411**		**144.4151**	**144.4151**	**4.0900e-003**	**3.6800e-003**	**145.6153**

Yolo Cold Storage - Yolo County, Summer

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

3.3 Grading - 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					3.0652	0.0000	3.0652	1.5280	0.0000	1.5280			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**3.0652**	**1.6349**	**4.7001**	**1.5280**	**1.5041**	**3.0321**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0673	0.0348	0.5196	1.4200e-003	0.1521	7.7000e-004	0.1529	0.0404	7.1000e-004	0.0411		144.4151	144.4151	4.0900e-003	3.6800e-003	145.6153
Total	**0.0673**	**0.0348**	**0.5196**	**1.4200e-003**	**0.1521**	**7.7000e-004**	**0.1529**	**0.0404**	**7.1000e-004**	**0.0411**		**144.4151**	**144.4151**	**4.0900e-003**	**3.6800e-003**	**145.6153**

Yolo Cold Storage - Yolo County, Summer

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

3.4 Building Construction - 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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1429	4.1740	1.1357	0.0176	0.5771	0.0388	0.6159	0.1661	0.0371	0.2032		1,861.5060	1,861.5060	7.5700e-003	0.2875	1,947.3681
Worker	0.7670	0.3968	5.9230	0.0162	1.7344	8.7600e-003	1.7432	0.4601	8.0700e-003	0.4681		1,646.3315	1,646.3315	0.0466	0.0420	1,660.0141
Total	**0.9099**	**4.5709**	**7.0587**	**0.0338**	**2.3115**	**0.0476**	**2.3591**	**0.6261**	**0.0452**	**0.6713**		**3,507.8375**	**3,507.8375**	**0.0542**	**0.3295**	**3,607.3822**

Yolo Cold Storage - Yolo County, Summer

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

3.4 Building Construction - 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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1429	4.1740	1.1357	0.0176	0.5771	0.0388	0.6159	0.1661	0.0371	0.2032		1,861.5060	1,861.5060	7.5700e-003	0.2875	1,947.3681
Worker	0.7670	0.3968	5.9230	0.0162	1.7344	8.7600e-003	1.7432	0.4601	8.0700e-003	0.4681		1,646.3315	1,646.3315	0.0466	0.0420	1,660.0141
Total	**0.9099**	**4.5709**	**7.0587**	**0.0338**	**2.3115**	**0.0476**	**2.3591**	**0.6261**	**0.0452**	**0.6713**		**3,507.8375**	**3,507.8375**	**0.0542**	**0.3295**	**3,607.3822**

Yolo Cold Storage - Yolo County, Summer

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

3.4 Building Construction - 2023

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0855	3.5762	1.0201	0.0170	0.5770	0.0216	0.5987	0.1661	0.0207	0.1867		1,799.7851	1,799.7851	4.7800e-003	0.2780	1,882.7557
Worker	0.7094	0.3505	5.4610	0.0157	1.7344	8.2900e-003	1.7427	0.4601	7.6300e-003	0.4677		1,602.8519	1,602.8519	0.0420	0.0389	1,615.4937
Total	**0.7949**	**3.9267**	**6.4811**	**0.0327**	**2.3114**	**0.0299**	**2.3413**	**0.6261**	**0.0283**	**0.6544**		**3,402.6370**	**3,402.6370**	**0.0468**	**0.3169**	**3,498.2494**

Yolo Cold Storage - Yolo County, Summer

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

3.4 Building Construction - 2023

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0855	3.5762	1.0201	0.0170	0.5770	0.0216	0.5987	0.1661	0.0207	0.1867		1,799.7851	1,799.7851	4.7800e-003	0.2780	1,882.7557
Worker	0.7094	0.3505	5.4610	0.0157	1.7344	8.2900e-003	1.7427	0.4601	7.6300e-003	0.4677		1,602.8519	1,602.8519	0.0420	0.0389	1,615.4937
Total	**0.7949**	**3.9267**	**6.4811**	**0.0327**	**2.3114**	**0.0299**	**2.3413**	**0.6261**	**0.0283**	**0.6544**		**3,402.6370**	**3,402.6370**	**0.0468**	**0.3169**	**3,498.2494**

Yolo Cold Storage - Yolo County, Summer

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

3.5 Paving - 2023

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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.9550					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9877**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0467	0.0231	0.3593	1.0300e-003	0.1141	5.5000e-004	0.1147	0.0303	5.0000e-004	0.0308		105.4508	105.4508	2.7600e-003	2.5600e-003	106.2825
Total	**0.0467**	**0.0231**	**0.3593**	**1.0300e-003**	**0.1141**	**5.5000e-004**	**0.1147**	**0.0303**	**5.0000e-004**	**0.0308**		**105.4508**	**105.4508**	**2.7600e-003**	**2.5600e-003**	**106.2825**

Yolo Cold Storage - Yolo County, Summer

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

3.5 Paving - 2023

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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.9550					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9877**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0467	0.0231	0.3593	1.0300e-003	0.1141	5.5000e-004	0.1147	0.0303	5.0000e-004	0.0308		105.4508	105.4508	2.7600e-003	2.5600e-003	106.2825
Total	**0.0467**	**0.0231**	**0.3593**	**1.0300e-003**	**0.1141**	**5.5000e-004**	**0.1147**	**0.0303**	**5.0000e-004**	**0.0308**		**105.4508**	**105.4508**	**2.7600e-003**	**2.5600e-003**	**106.2825**

Yolo Cold Storage - Yolo County, Summer

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

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	69.2704					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**69.4621**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1431	0.0707	1.1018	3.1600e-003	0.3499	1.6700e-003	0.3516	0.0928	1.5400e-003	0.0944		323.3824	323.3824	8.4700e-003	7.8500e-003	325.9329
Total	**0.1431**	**0.0707**	**1.1018**	**3.1600e-003**	**0.3499**	**1.6700e-003**	**0.3516**	**0.0928**	**1.5400e-003**	**0.0944**		**323.3824**	**323.3824**	**8.4700e-003**	**7.8500e-003**	**325.9329**

Yolo Cold Storage - Yolo County, Summer

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

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	69.2704					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**69.4621**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1431	0.0707	1.1018	3.1600e-003	0.3499	1.6700e-003	0.3516	0.0928	1.5400e-003	0.0944		323.3824	323.3824	8.4700e-003	7.8500e-003	325.9329
Total	**0.1431**	**0.0707**	**1.1018**	**3.1600e-003**	**0.3499**	**1.6700e-003**	**0.3516**	**0.0928**	**1.5400e-003**	**0.0944**		**323.3824**	**323.3824**	**8.4700e-003**	**7.8500e-003**	**325.9329**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3751	2.4483	3.2503	0.0140	0.6644	0.0190	0.6834	0.1793	0.0181	0.1974		1,464.6808	1,464.6808	0.0404	0.1797	1,519.2272
Unmitigated	0.3751	2.4483	3.2503	0.0140	0.6644	0.0190	0.6834	0.1793	0.0181	0.1974		1,464.6808	1,464.6808	0.0404	0.1797	1,519.2272

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	100.71	100.71	100.71	299,917	299,917
Total	100.71	100.71	100.71	299,917	299,917

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0
Parking Lot	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	10.00	5.00	7.00	59.00	0.00	41.00	92	5	3

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.487936	0.058646	0.184439	0.150133	0.035429	0.007262	0.027508	0.012857	0.000623	0.000842	0.030390	0.000700	0.003235
Parking Lot	0.487936	0.058646	0.184439	0.150133	0.035429	0.007262	0.027508	0.012857	0.000623	0.000842	0.030390	0.000700	0.003235
Refrigerated Warehouse-No Rail	0.158193	0.058646	0.184439	0.150133	0.035429	0.007262	0.027508	0.346535	0.000623	0.000842	0.030390	0.000000	0.000000

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

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

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 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
Parking Lot	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
Refrigerated Warehouse-No Rail	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**

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 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
Parking Lot	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
Refrigerated Warehouse-No Rail	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

Yolo Cold Storage - Yolo County, Summer

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	lb/day										lb/day					
Mitigated	5.2882	5.9000e-004	0.0652	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1398	0.1398	3.7000e-004		0.1490
Unmitigated	5.2882	5.9000e-004	0.0652	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1398	0.1398	3.7000e-004		0.1490

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	0.3796					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.9026					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.0400e-003	5.9000e-004	0.0652	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1398	0.1398	3.7000e-004		0.1490
Total	**5.2882**	**5.9000e-004**	**0.0652**	**0.0000**		**2.3000e-004**	**2.3000e-004**		**2.3000e-004**	**2.3000e-004**		**0.1398**	**0.1398**	**3.7000e-004**		**0.1490**

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	0.3796					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.9026					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.0400e-003	5.9000e-004	0.0652	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1398	0.1398	3.7000e-004		0.1490
Total	**5.2882**	**5.9000e-004**	**0.0652**	**0.0000**		**2.3000e-004**	**2.3000e-004**		**2.3000e-004**	**2.3000e-004**		**0.1398**	**0.1398**	**3.7000e-004**		**0.1490**

7.0 Water Detail

7.1 Mitigation Measures Water

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

11.0 Vegetation

Yolo Cold Storage - Yolo County, Winter

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

Yolo Cold Storage

Yolo County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	223.81	1000sqft	5.14	223,814.00	0
Other Asphalt Surfaces	254.90	1000sqft	5.85	254,899.00	0
Parking Lot	160.00	Space	1.44	64,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	54
Climate Zone	2			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 223,814 building square feet with 136 auto spaces and 24 tractor trailer parking spaces

Construction Phase - Approximately one year of construction

Grading - balanced site - 14.89 acres

Vehicle Trips - 101 ADT, Abrams Associates Traffic Engineering, Inc. August 31, 2021

Water And Wastewater - 28,400 gallons per worker x 20 workers. EIA, February 2017. User’s Guide to the 2012 CBECS Large Buildings Water Usage Public Use Microdata File.

Construction Off-road Equipment Mitigation -

Fleet Mix - HHD fleet mixed increase to account for 35 heavy truck trips per day. School bus and motorhome to zero. LDA decreased to account for increased HHD fleet mix.

Energy Use - no natural gas required

Yolo Cold Storage - Yolo County, Winter

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	230.00
tblConstructionPhase	NumDays	30.00	20.00
tblEnergyUse	T24NG	1.13	0.00
tblFleetMix	HHD	0.01	0.35
tblFleetMix	LDA	0.49	0.16
tblFleetMix	MH	3.2350e-003	0.00
tblFleetMix	SBUS	7.0000e-004	0.00
tblGrading	AcresOfGrading	60.00	14.89
tblGrading	AcresOfGrading	15.00	14.89
tblLandUse	LandUseSquareFeet	223,810.00	223,814.00
tblLandUse	LandUseSquareFeet	254,900.00	254,899.00
tblVehicleTrips	ST_TR	2.12	0.45
tblVehicleTrips	SU_TR	2.12	0.45
tblVehicleTrips	WD_TR	2.12	0.45
tblWater	IndoorWaterUseRate	51,756,062.50	568,000.00

2.0 Emissions Summary

Yolo Cold Storage - Yolo County, Winter

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

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6849	38.8866	29.5052	0.0634	19.7823	1.6357	21.3955	10.1375	1.5048	11.6217	0.0000	6,140.4341	6,140.4341	1.9490	0.3363	6,190.4253
2023	69.5903	18.6762	22.1970	0.0580	2.3114	0.7297	3.0411	0.6261	0.6868	1.3129	0.0000	5,790.6910	5,790.6910	0.7172	0.3235	5,903.6289
Maximum	**69.5903**	**38.8866**	**29.5052**	**0.0634**	**19.7823**	**1.6357**	**21.3955**	**10.1375**	**1.5048**	**11.6217**	**0.0000**	**6,140.4341**	**6,140.4341**	**1.9490**	**0.3363**	**6,190.4253**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	3.6849	38.8866	29.5052	0.0634	8.9773	1.6357	10.5906	4.5819	1.5048	6.0661	0.0000	6,140.4341	6,140.4341	1.9490	0.3363	6,190.4253
2023	69.5903	18.6762	22.1970	0.0580	2.3114	0.7297	3.0411	0.6261	0.6868	1.3129	0.0000	5,790.6910	5,790.6910	0.7172	0.3235	5,903.6289
Maximum	**69.5903**	**38.8866**	**29.5052**	**0.0634**	**8.9773**	**1.6357**	**10.5906**	**4.5819**	**1.5048**	**6.0661**	**0.0000**	**6,140.4341**	**6,140.4341**	**1.9490**	**0.3363**	**6,190.4253**

Yolo Cold Storage - 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	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	48.91	0.00	44.22	51.62	0.00	42.95	0.00	0.00	0.00	0.00	0.00	0.00

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	5.2882	5.9000e-004	0.0652	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1398	0.1398	3.7000e-004		0.1490
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	0.3172	2.6752	3.3385	0.0137	0.6644	0.0191	0.6834	0.1793	0.0182	0.1975		1,433.7572	1,433.7572	0.0444	0.1822	1,489.1728
Total	**5.6054**	**2.6758**	**3.4037**	**0.0137**	**0.6644**	**0.0193**	**0.6837**	**0.1793**	**0.0184**	**0.1977**		**1,433.8970**	**1,433.8970**	**0.0447**	**0.1822**	**1,489.3217**

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	5.2882	5.9000e-004	0.0652	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1398	0.1398	3.7000e-004		0.1490
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	0.3172	2.6752	3.3385	0.0137	0.6644	0.0191	0.6834	0.1793	0.0182	0.1975		1,433.7572	1,433.7572	0.0444	0.1822	1,489.1728
Total	**5.6054**	**2.6758**	**3.4037**	**0.0137**	**0.6644**	**0.0193**	**0.6837**	**0.1793**	**0.0184**	**0.1977**		**1,433.8970**	**1,433.8970**	**0.0447**	**0.1822**	**1,489.3217**

Yolo Cold Storage - 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	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	3/14/2022	5	10	
2	Grading	Grading	3/15/2022	4/11/2022	5	20	
3	Building Construction	Building Construction	4/12/2022	2/27/2023	5	230	
4	Paving	Paving	2/28/2023	3/27/2023	5	20	
5	Architectural Coating	Architectural Coating	3/28/2023	4/24/2023	5	20	

Acres of Grading (Site Preparation Phase): 14.89

Acres of Grading (Grading Phase): 14.89

Acres of Paving: 7.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 335,721; Non-Residential Outdoor: 111,907; Striped Parking Area: 19,134 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

Yolo Cold Storage - Yolo County, Winter

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

Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	228.00	89.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	46.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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					19.6453	0.0000	19.6453	10.1012	0.0000	10.1012			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**19.6453**	**1.6126**	**21.2579**	**10.1012**	**1.4836**	**11.5848**		**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0541	0.0388	0.4173	1.1400e-003	0.1369	6.9000e-004	0.1376	0.0363	6.4000e-004	0.0370		116.1212	116.1212	4.3000e-003	3.8300e-003	117.3685
Total	**0.0541**	**0.0388**	**0.4173**	**1.1400e-003**	**0.1369**	**6.9000e-004**	**0.1376**	**0.0363**	**6.4000e-004**	**0.0370**		**116.1212**	**116.1212**	**4.3000e-003**	**3.8300e-003**	**117.3685**

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					8.8404	0.0000	8.8404	4.5455	0.0000	4.5455			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**8.8404**	**1.6126**	**10.4530**	**4.5455**	**1.4836**	**6.0291**	**0.0000**	**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0541	0.0388	0.4173	1.1400e-003	0.1369	6.9000e-004	0.1376	0.0363	6.4000e-004	0.0370		116.1212	116.1212	4.3000e-003	3.8300e-003	117.3685
Total	**0.0541**	**0.0388**	**0.4173**	**1.1400e-003**	**0.1369**	**6.9000e-004**	**0.1376**	**0.0363**	**6.4000e-004**	**0.0370**		**116.1212**	**116.1212**	**4.3000e-003**	**3.8300e-003**	**117.3685**

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

3.3 Grading - 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					6.8116	0.0000	6.8116	3.3955	0.0000	3.3955			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**6.8116**	**1.6349**	**8.4465**	**3.3955**	**1.5041**	**4.8996**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0601	0.0431	0.4637	1.2700e-003	0.1521	7.7000e-004	0.1529	0.0404	7.1000e-004	0.0411		129.0235	129.0235	4.7700e-003	4.2500e-003	130.4095
Total	**0.0601**	**0.0431**	**0.4637**	**1.2700e-003**	**0.1521**	**7.7000e-004**	**0.1529**	**0.0404**	**7.1000e-004**	**0.0411**		**129.0235**	**129.0235**	**4.7700e-003**	**4.2500e-003**	**130.4095**

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

3.3 Grading - 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					3.0652	0.0000	3.0652	1.5280	0.0000	1.5280			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**3.0652**	**1.6349**	**4.7001**	**1.5280**	**1.5041**	**3.0321**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0601	0.0431	0.4637	1.2700e-003	0.1521	7.7000e-004	0.1529	0.0404	7.1000e-004	0.0411		129.0235	129.0235	4.7700e-003	4.2500e-003	130.4095
Total	**0.0601**	**0.0431**	**0.4637**	**1.2700e-003**	**0.1521**	**7.7000e-004**	**0.1529**	**0.0404**	**7.1000e-004**	**0.0411**		**129.0235**	**129.0235**	**4.7700e-003**	**4.2500e-003**	**130.4095**

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

3.4 Building Construction - 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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1375	4.4938	1.1769	0.0176	0.5771	0.0389	0.6160	0.1661	0.0372	0.2033		1,863.2122	1,863.2122	7.3200e-003	0.2879	1,949.1864
Worker	0.6852	0.4918	5.2861	0.0145	1.7344	8.7600e-003	1.7432	0.4601	8.0700e-003	0.4681		1,470.8684	1,470.8684	0.0544	0.0485	1,486.6681
Total	**0.8227**	**4.9855**	**6.4630**	**0.0321**	**2.3115**	**0.0477**	**2.3592**	**0.6261**	**0.0453**	**0.6715**		**3,334.0806**	**3,334.0806**	**0.0617**	**0.3363**	**3,435.8544**

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

3.4 Building Construction - 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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1375	4.4938	1.1769	0.0176	0.5771	0.0389	0.6160	0.1661	0.0372	0.2033		1,863.2122	1,863.2122	7.3200e-003	0.2879	1,949.1864
Worker	0.6852	0.4918	5.2861	0.0145	1.7344	8.7600e-003	1.7432	0.4601	8.0700e-003	0.4681		1,470.8684	1,470.8684	0.0544	0.0485	1,486.6681
Total	**0.8227**	**4.9855**	**6.4630**	**0.0321**	**2.3115**	**0.0477**	**2.3592**	**0.6261**	**0.0453**	**0.6715**		**3,334.0806**	**3,334.0806**	**0.0617**	**0.3363**	**3,435.8544**

Yolo Cold Storage - Yolo County, Winter

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

3.4 Building Construction - 2023

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0793	3.8573	1.0530	0.0171	0.5770	0.0217	0.5987	0.1661	0.0208	0.1868		1,803.0171	1,803.0171	4.5000e-003	0.2786	1,886.1645
Worker	0.6354	0.4340	4.9000	0.0140	1.7344	8.2900e-003	1.7427	0.4601	7.6300e-003	0.4677		1,432.4640	1,432.4640	0.0493	0.0448	1,447.0583
Total	**0.7147**	**4.2913**	**5.9530**	**0.0311**	**2.3114**	**0.0300**	**2.3414**	**0.6261**	**0.0284**	**0.6545**		**3,235.4811**	**3,235.4811**	**0.0538**	**0.3235**	**3,333.2228**

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

3.4 Building Construction - 2023

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0793	3.8573	1.0530	0.0171	0.5770	0.0217	0.5987	0.1661	0.0208	0.1868		1,803.0171	1,803.0171	4.5000e-003	0.2786	1,886.1645
Worker	0.6354	0.4340	4.9000	0.0140	1.7344	8.2900e-003	1.7427	0.4601	7.6300e-003	0.4677		1,432.4640	1,432.4640	0.0493	0.0448	1,447.0583
Total	**0.7147**	**4.2913**	**5.9530**	**0.0311**	**2.3114**	**0.0300**	**2.3414**	**0.6261**	**0.0284**	**0.6545**		**3,235.4811**	**3,235.4811**	**0.0538**	**0.3235**	**3,333.2228**

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

3.5 Paving - 2023

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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.9550					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9877**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0418	0.0286	0.3224	9.2000e-004	0.1141	5.5000e-004	0.1147	0.0303	5.0000e-004	0.0308		94.2411	94.2411	3.2400e-003	2.9500e-003	95.2012
Total	**0.0418**	**0.0286**	**0.3224**	**9.2000e-004**	**0.1141**	**5.5000e-004**	**0.1147**	**0.0303**	**5.0000e-004**	**0.0308**		**94.2411**	**94.2411**	**3.2400e-003**	**2.9500e-003**	**95.2012**

Yolo Cold Storage - Yolo County, Winter

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

3.5 Paving - 2023

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	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.9550					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9877**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0418	0.0286	0.3224	9.2000e-004	0.1141	5.5000e-004	0.1147	0.0303	5.0000e-004	0.0308		94.2411	94.2411	3.2400e-003	2.9500e-003	95.2012
Total	**0.0418**	**0.0286**	**0.3224**	**9.2000e-004**	**0.1141**	**5.5000e-004**	**0.1147**	**0.0303**	**5.0000e-004**	**0.0308**		**94.2411**	**94.2411**	**3.2400e-003**	**2.9500e-003**	**95.2012**

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

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	69.2704					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**69.4621**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1282	0.0876	0.9886	2.8200e-003	0.3499	1.6700e-003	0.3516	0.0928	1.5400e-003	0.0944		289.0059	289.0059	9.9400e-003	9.0500e-003	291.9504
Total	**0.1282**	**0.0876**	**0.9886**	**2.8200e-003**	**0.3499**	**1.6700e-003**	**0.3516**	**0.0928**	**1.5400e-003**	**0.0944**		**289.0059**	**289.0059**	**9.9400e-003**	**9.0500e-003**	**291.9504**

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

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	69.2704					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**69.4621**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1282	0.0876	0.9886	2.8200e-003	0.3499	1.6700e-003	0.3516	0.0928	1.5400e-003	0.0944		289.0059	289.0059	9.9400e-003	9.0500e-003	291.9504
Total	**0.1282**	**0.0876**	**0.9886**	**2.8200e-003**	**0.3499**	**1.6700e-003**	**0.3516**	**0.0928**	**1.5400e-003**	**0.0944**		**289.0059**	**289.0059**	**9.9400e-003**	**9.0500e-003**	**291.9504**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3172	2.6752	3.3385	0.0137	0.6644	0.0191	0.6834	0.1793	0.0182	0.1975		1,433.7572	1,433.7572	0.0444	0.1822	1,489.1728
Unmitigated	0.3172	2.6752	3.3385	0.0137	0.6644	0.0191	0.6834	0.1793	0.0182	0.1975		1,433.7572	1,433.7572	0.0444	0.1822	1,489.1728

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	100.71	100.71	100.71	299,917	299,917
Total	100.71	100.71	100.71	299,917	299,917

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0
Parking Lot	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	10.00	5.00	7.00	59.00	0.00	41.00	92	5	3

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.487936	0.058646	0.184439	0.150133	0.035429	0.007262	0.027508	0.012857	0.000623	0.000842	0.030390	0.000700	0.003235
Parking Lot	0.487936	0.058646	0.184439	0.150133	0.035429	0.007262	0.027508	0.012857	0.000623	0.000842	0.030390	0.000700	0.003235
Refrigerated Warehouse-No Rail	0.158193	0.058646	0.184439	0.150133	0.035429	0.007262	0.027508	0.346535	0.000623	0.000842	0.030390	0.000000	0.000000

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

Yolo Cold Storage - 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

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 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
Parking Lot	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
Refrigerated Warehouse-No Rail	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**

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 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
Parking Lot	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
Refrigerated Warehouse-No Rail	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

Yolo Cold Storage - 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
Category	lb/day										lb/day					
Mitigated	5.2882	5.9000e-004	0.0652	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1398	0.1398	3.7000e-004		0.1490
Unmitigated	5.2882	5.9000e-004	0.0652	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1398	0.1398	3.7000e-004		0.1490

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	0.3796					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.9026					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.0400e-003	5.9000e-004	0.0652	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1398	0.1398	3.7000e-004		0.1490
Total	**5.2882**	**5.9000e-004**	**0.0652**	**0.0000**		**2.3000e-004**	**2.3000e-004**		**2.3000e-004**	**2.3000e-004**		**0.1398**	**0.1398**	**3.7000e-004**		**0.1490**

Yolo Cold Storage - 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	0.3796					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.9026					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.0400e-003	5.9000e-004	0.0652	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1398	0.1398	3.7000e-004		0.1490
Total	**5.2882**	**5.9000e-004**	**0.0652**	**0.0000**		**2.3000e-004**	**2.3000e-004**		**2.3000e-004**	**2.3000e-004**		**0.1398**	**0.1398**	**3.7000e-004**		**0.1490**

7.0 Water Detail

7.1 Mitigation Measures Water

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

11.0 Vegetation

Energy Calculations

Construction Fuel Usage

565	MT CO2	163.4202	MT CO2
10.16	kg/CO2/gal	8.89	kg/CO2/gal
55,569	gals Diesel	18,382	gals Gas

Operational Motor Vehicle Fuel Usage

123	MT CO2
8.89	kg/CO2/gal
13,858	gals Gas
123	MT CO2
10.16	kg/CO2/gal
12,125	gals Diesel

Source: U.S. Energy Information Administration, Carbon Dioxide Emissions Coefficients, February 2, 2016. https://www.eia.gov/environment/emissions/co2_vol_mass.php

Carbon Dioxide Emissions Coefficients by Fuel

Carbon Dioxide (CO_2) Factors:	Pounds CO_2 Per Unit of Volume or Mass	Kilograms CO_2 Volume or Mass	Pounds CO_2 Million Btu	Kilograms CO_2 Million Btu
For homes and businesses				
Propane	12.70/gallon	5.76/gallon	139.05	63.07
Butane	14.80/gallon	6.71/gallon	143.20	64.95
Butane/Propane Mix	13.70/gallon	6.21/gallon	141.12	64.01
Home Heating and Diesel Fuel (Distillate)	22.40/gallon	10.16/gallon	161.30	73.16
Kerosene	21.50/gallon	9.75/gallon	159.40	72.30
Coal (All types)	4,631.50/short ton	2,100.82/short ton	210.20	95.35
Natural Gas	117.10/thousand cubic feet	53.12/thousand cubic feet	117.00	53.07
Gasoline	19.60/gallon	8.89/gallon	157.20	71.30
Residual Heating Fuel (Businesses only)	26.00/gallon	11.79/gallon	173.70	78.79
Other transportation fuels				
Jet Fuel	21.10/gallon	9.57/gallon	156.30	70.90
Aviation Gas	18.40/gallon	8.35/gallon	152.60	69.20

APPENDIX B

BIOLOGICAL RESOURCES ASSESSMENT & YOLO HCP/NCCP APPLICATION

Biological Resources Assessment for the Proposed Yolo Cold Storage Project, Yolo County

Prepared for:

Woodyard, LLC
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Contact: Jim Donovan, Manager
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April 13, 2021

Introduction

Background and Purpose

Woodyard, LLC is proposing to construct a cold storage facility on a 14-acre parcel just north of the City of Woodland, Yolo County (Figure 1). The Yolo Cold Storage Project (project) is currently undergoing environmental review pursuant to the California Environmental Quality Act (CEQA). Yolo County is the lead permitting agency. This biological resource assessment was prepared to describe the biological resources present on and near the site, address potential impacts of the project on biological resources, and to supplement the overall CEQA documentation.

Location and Setting

The proposed project is located on a single parcel (APN# 027-270-046) just north of the City of Woodland. The 14-acre parcel borders Interstate 5 on the south and west and the California Northern Railroad on the east. County Road 19A borders the northeast corner (Figure 2). The proposed project site and most of the surrounding lands are cultivated. Industrial urbanization from the City of Woodland occurs within 0.17 miles of the site to the southeast, and residential urbanization occurs within approximately 0.5 miles south of the site. There is also limited commercial development along the west side of Interstate 5 within approximately 300 feet of the site.

Project Description

The proposed project will be located on a portion of the 14-acre parcel and will include approximately 200,000 square feet of cold storage (refrigerated) warehouse, with loading docks for trucks, a parking field for empty trailers and trucks, and an approximately 2-acre detention basin. Access to the site would be provided along County Road 19A, which extends southeast from County Road 99 (West Street) (Figure 2).

Study Objective

This biological resource assessment is intended to function as the biological resources section of the CEQA documentation and to provide sufficient analysis to address potential adverse effects as defined in the CEQA guidelines. It is also intended to be consistent with the requirements of the Yolo County Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCC).

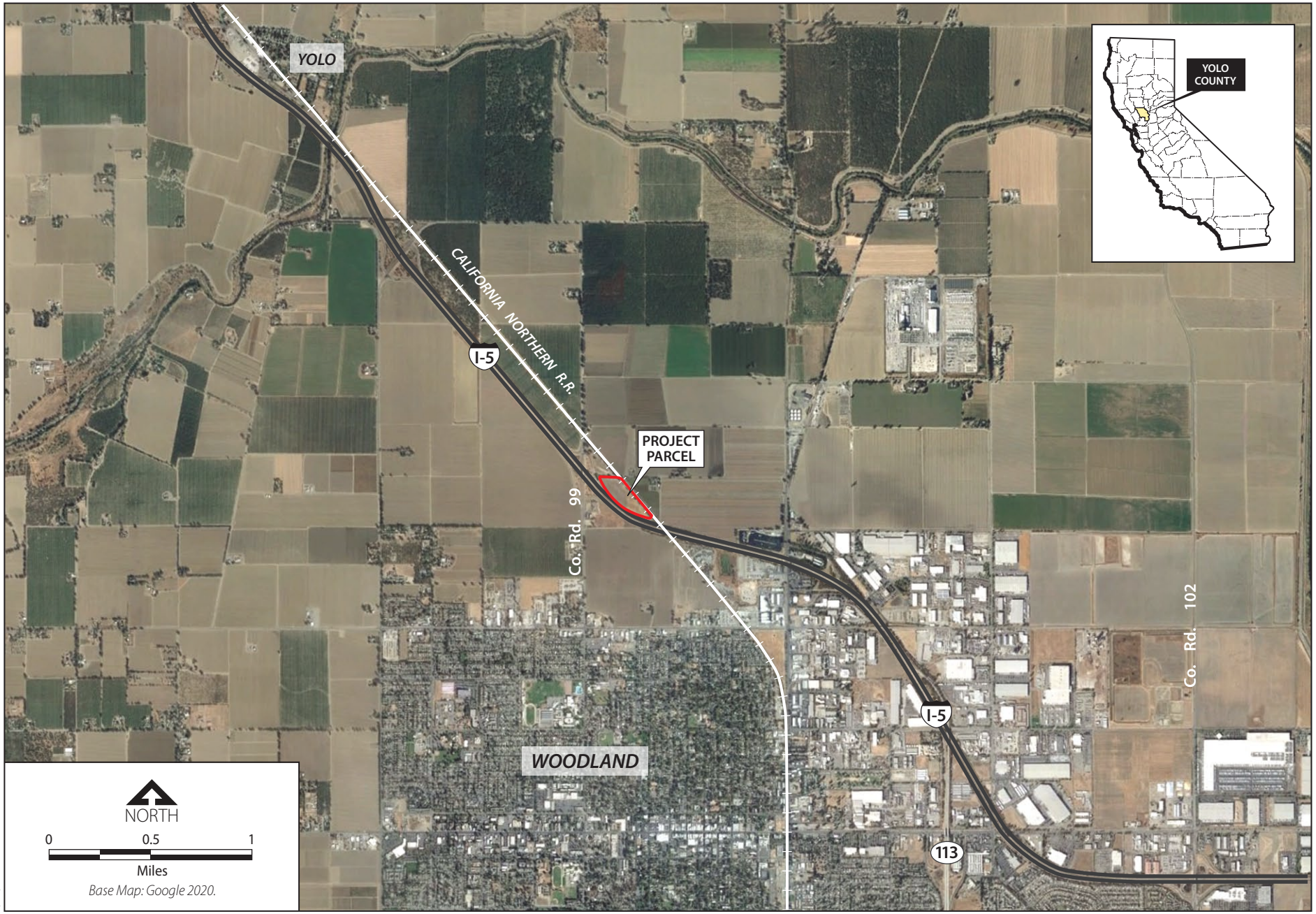

Figure 1
Location of the Proposed Yolo Cold Storage Project

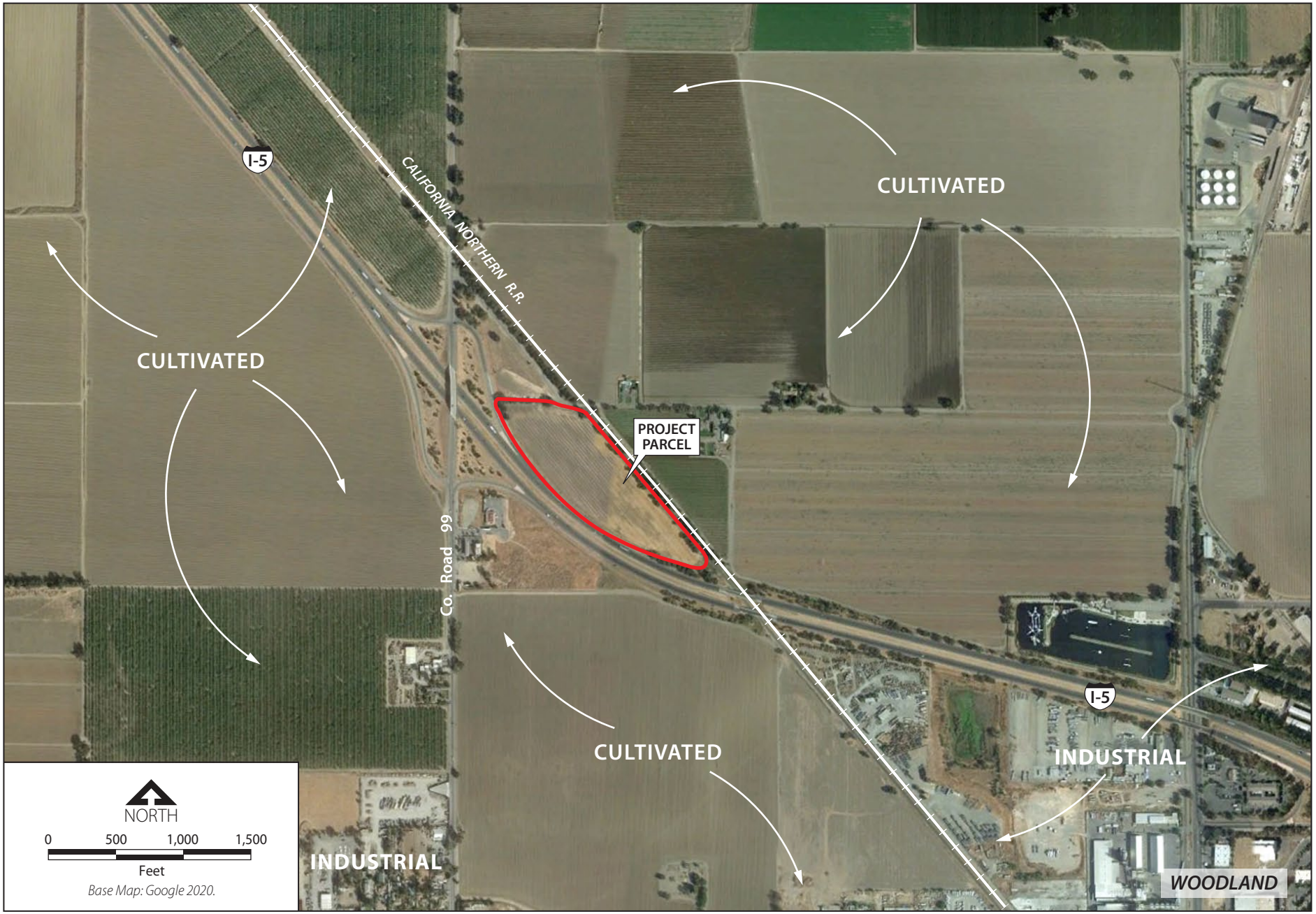

Figure 2
Location and Land Use Setting of the Proposed Yolo Cold Storage Project

Regulatory Framework

Several state and federal laws and regulations and Yolo County policies are relevant to the proposed project. Each is briefly described below.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that significant environmental impacts of proposed projects be reduced to a less-than-significant level through adoption of feasible avoidance, minimization, or mitigation measures unless overriding considerations are identified and documented.

During the CEQA review process, environmental impacts are assessed and a significance determination provided based on pre-established thresholds of significance. Thresholds are established using guidance from CEQA, particularly Appendix G of the State CEQA guidelines and CEQA Section 15065 (Mandatory Findings of Significance). CEQA guidance is then refined or defined based on further direction from the lead agency.

Consistent with Appendix G of the State CEQA guidelines, a biological resource impact is considered significant (before considering offsetting mitigation measures) if the lead agency determines that project implementation would result in one or more of the following:

- Substantial adverse effects, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife (CDFW) or US Fish and Wildlife Service (USFWS);
    - A substantial adverse effect on a special-status wildlife species is typically defined as one that would:
        - Reduce the known distribution of a species,
        - Reduce the local or regional population of a species,
        - Increase predation of a species leading to population reduction,
        - Reduce habitat availability sufficient to affect potential reproduction, or
        - Reduce habitat availability sufficient to constrain the distribution of a species and not allow for natural changes in distributional patterns over time.
- Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or interference with the use of native wildlife nursery sites.
    - Substantial interference with resident wildlife movement is typically defined as obstructions that prevent or limit wildlife access to key habitats, such as water sources or foraging habitats, or obstructions that prohibit access through key movement corridors considered important for wildlife to meet needs for food, water, reproduction, and local dispersal.

- Substantial interference with migratory wildlife movement is typically defined as obstructions that prevent or limit regional wildlife movement through the project area to meet requirements for migration, dispersal, and gene flow that exceed the defined baseline condition.

Consistent with CEQA Section 15065 (Mandatory Findings of Significance), a biological resource impact is considered significant if the project has the potential to:

- substantially degrade the quality of the environment;
- substantially reduce the habitat of a fish or wildlife species;
- cause a fish or wildlife population to drop below self-sustaining levels;
- threaten to eliminate a plant or animal community;
- substantially reduce the number or restrict the range of an endangered, rare or threatened species.

CEQA defines the significance of an impact on a state-listed species based on the following:

- Appendix G of the State CEQA guidelines states that a biological resource impact is considered significant (before considering offsetting mitigation measures) if the lead agency determines that project implementation would result in "substantial adverse effects, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS"; and

- CEQA Section 15065 (Mandatory Findings of Significance), a biological resource impact is considered significant if the project has the potential to "substantially reduce the number or restrict the range of an endangered, rare or threatened species".

Yolo Habitat Conservation Plan/Natural Communities Conservation Plan

The Yolo Habitat Conservation Plan/Natural Communities Conservation Plan (Yolo HCP/NCCP) is a comprehensive, county-wide plan to provide for the conservation of state and federally listed and other sensitive species and the natural communities and agricultural land on which they depend, as well as a streamlined permitting process to address the effects of a range of future anticipated activities on covered species. The Yolo Habitat Conservancy (Conservancy), which consists of Yolo County and the incorporated cities of Davis, West Sacramento, Winters, and Woodland, developed the Yolo HCP/NCCP, which provides the basis for issuance of long-term permits under the Federal Endangered Species Act (FESA) and California Natural Community Conservation Planning Act (NCCPA) that cover an array of public and private activities, including activities that are essential to the ongoing viability of Yolo County's agricultural and urban economies. Specifically, the Yolo HCP/NCCP provides the Permittees (i.e., Yolo County, the four incorporated cities, and the Conservancy) with incidental take permits from both the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) for the 12 sensitive species covered by the plan. This action is pursuant to Section 10(a)(1)(B) of the FESA and Section 2835 of the

NCCPA chapter of the California Fish and Game Code (Fish & Game Code). The Yolo HCP/NCCP ensures compliance with the FESA, NCCPA, and the California Endangered Species Act (CESA) for covered activities that may affect the covered species.

California Fish and Game Code 3503.5 (Birds of Prey)

Section 3503.5 of the Fish and Game Code prohibits the take, possession, or destruction of any birds of prey or their nests or eggs. The California Department of Fish and Wildlife may issue permits authorizing take pursuant to CESA.

Lake and Streambed Alteration Agreement (California Fish and Game Code Section 1600-1607)

A Lake and Streambed Alteration Agreement (LSA) must be issued under Sections 1600-1607 of the California Fish and Game Code to obtain authorization from the California Department of Fish and Game (DFG) if a project would divert, obstruct, or change the natural flow of the bed, channel, or bank of any river, stream, or lake. An LSA must also be issued if the project would use material from the streambeds designated by DFG in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit.

Clean Water Act Sections 401, 402, and 404

Section 404 of the Clean Water Act protects Waters of the U.S., including wetlands and drainages, by requiring projects that would discharge dredge or fill material into them to obtain a permit or authorization from the Corps. The permitting program is designed to minimize the fill of Waters of the U.S. and when impacts cannot be avoided, require compensatory mitigation.

Section 401 of the Clean Water Act requires any applicant for a federal license or permit that could result in any discharge into a navigable water (i.e., Corps permit to fill wetlands), to obtain water quality certification from the Regional Water Quality Control Board (RWQCB). Section 402 of the Clean Water Act requires projects that disturb 1 acre or more or are part of a larger project to notify the State Water Resources Control Board (SWRCB) and to prepare a Stormwater Pollution Protection Plan (SWPPP) that will minimize construction and stormwater related impacts to waterways.

Yolo County General Plan

Because the project area is located outside of the city limits in Yolo County, the Yolo County General Plan is also relevant to this assessment. The Yolo County General Plan includes numerous policies regulating and emphasizing the protection of natural resources. Those most relevant to the proposed project include the following:

- Policy CO-2.1. Consider and maintain the ecological function of landscapes, connecting features, watersheds, and wildlife movement corridors.
- Policy CO-2.3. Preserve and enhance those biological communities that contribute to the county's rich biodiversity including blue oak and mixed oak woodlands, native grassland prairies, wetlands, riparian areas, aquatic habitat, agricultural lands, heritage valley oak trees, remnant valley oak groves, and roadside tree rows.
- Policy CO-2.38. Avoid adverse impacts to wildlife movement corridors and nursery sites (e.g., nest sites, dens, spawning areas, breeding ponds).
- Policy CO-2.41. Require that impacts to species listed under the State or federal Endangered Species Acts, or species identified as special-status by the resource agencies, be avoided to the greatest feasible extent. If avoidance is not possible, fully mitigate impacts consistent with applicable local, State, and Federal requirements.
- Policy CO-2.42. Projects that would impact Swainson's hawk foraging habitat shall participate in the Agreement Regarding Mitigation for Impacts to Swainson's Hawk Foraging Habitat in Yolo County entered into by the CDFG and the Yolo County HCP/NCCP Joint Powers Agency, or satisfy other subsequent adopted mitigation requirements consistent with applicable local, State, and federal requirements.

Methods

Pre-Survey Investigation

Prior to conducting the site visit, available information regarding biological resources on or near the project site was gathered and reviewed. Sources included:

- California Natural Diversity Data Base (2020);
- Yolo County General Plan (Yolo County 2009);
- Yolo County HCP/NCCP (www.yolohabitatconservancy.org/);
- eBird (online database of bird observations) (https://ebird.org/home);
- Tricolored blackbird portal (https://tricolor.ice.ucdavis.edu/).
- 2020 Distribution, Abundance, and Habitat Associations of the Swainson's Hawk in Yolo County (Estep 2020);
- Other local research, surveys, and environmental documents

Aerial photographs and land use/vegetation maps of the project site and surrounding area were also reviewed.

Field Survey and Assessment

A survey area was established that included the project parcel and extended approximately 200-feet around the project parcel. For nesting raptors, including Swainson's hawk, the survey extended to 0.25 miles from the parcel boundary.

A survey and site assessment were conducted on April 5, 2021 from approximately 0900 to 1300 hours. The survey was conducted by walking throughout the entire survey area. Natural

communities, vegetation, and wildlife habitats were inspected, mapped, and photographed; slopes were measured; all trees and tree sizes were documented; wildlife species occurrences were recorded using binoculars and spotting scope; and occurrences and potential habitat for each special-status species was documented.

Results

General Characteristics

Physiography

Located in the interior agricultural region of Yolo County, the surrounding landscape is generally flat, with elevation in the immediate vicinity ranging from 52 to 59 feet above mean sea level and with an imperceptible elevational decrease toward the southeast. Other than slight elevational increases around the perimeter of the parcel to accommodate Interstate 5 and the California Northern Railroad, there are no discernable topographic features. The climate in the vicinity of the project site is mild with average annual maximum temperature of 74.6 degrees Fahrenheit and average annual minimum temperature of 47.6 degrees Fahrenheit, with winter rains and dry summers, and an average annual rainfall of approximately 20 inches.

Land Use

The project parcel is entirely annually cultivated agricultural field bordered by valley oak (*Quercus lobata*) trees on the east, north, and a portion of the south border. Immediately surrounding land use was also entirely agricultural with the exception of the non-cultivated areas within the freeway interchange at Interstate 5 and County Road 99, and the commercial parcel just west of Interstate 5. Lands to the north, east, and west are primarily agricultural with urbanization from the City of Woodland occurring to the south. There are three rural residences within approximately 1,300 feet of the project parcel, all east and northeast of the parcel (Figures 2 and 3).

Biological Communities

The project parcel supports limited distinct biological communities, vegetation associations, or wildlife habitats. The parcel does not support wetlands, natural or artificial aquatic habitats – including channelized watercourses or drainage ditches, or grasslands. The project parcel is limited to three biological communities or wildlife habitats, including cultivated field, valley oak tree row, and ruderal.

Cultivated Field

As noted above, the entire parcel is cultivated field (Figure 3). During the survey, the site had been disked and consisted entirely of non-vegetated disked field (Plates 1 and 2).

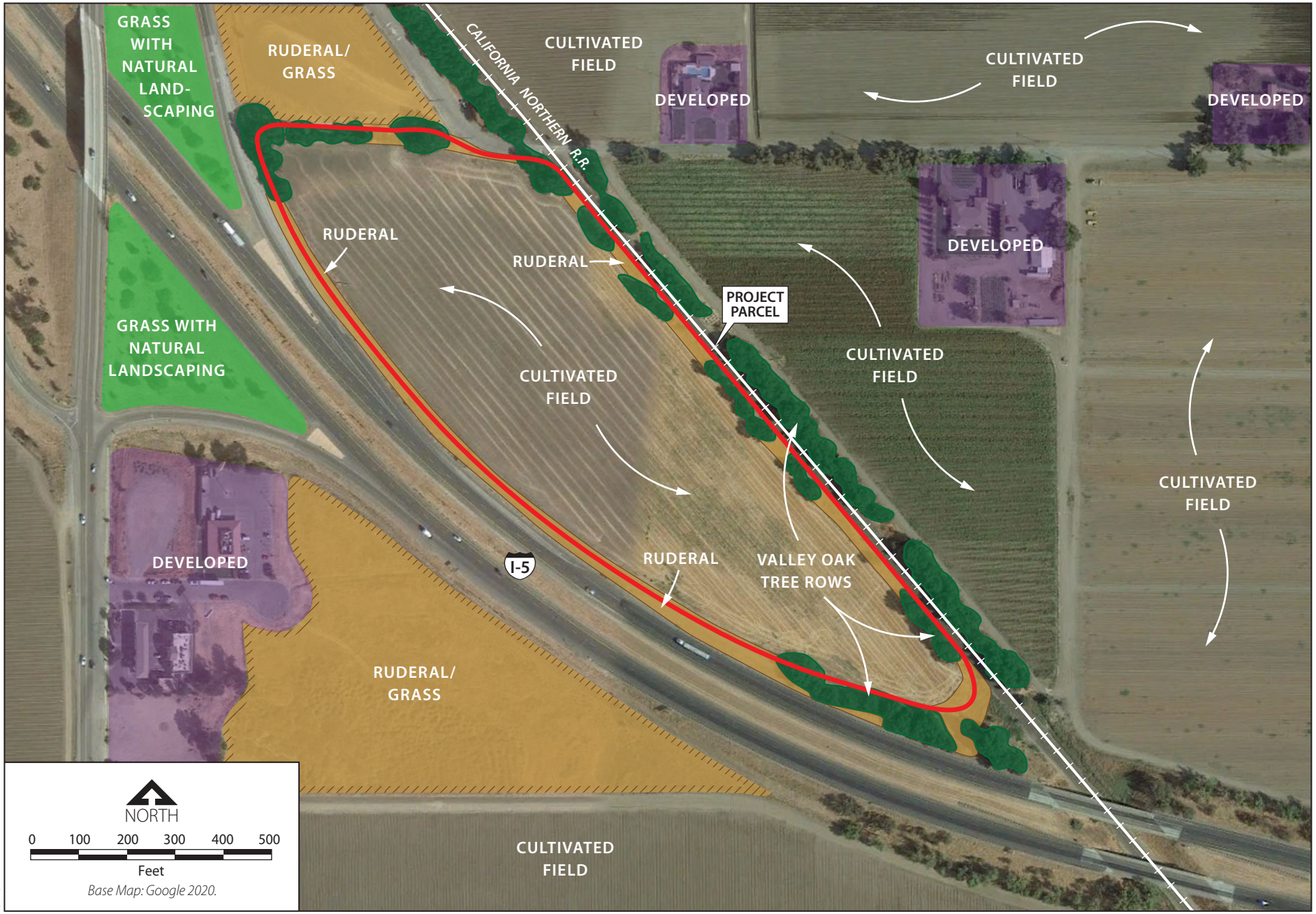

Figure 3
Land Cover Types and Natural Communities on and surrounding the Proposed Yolo Cold Storage Project

Plate 1. Looking north from the south end of the project parcel. The entire site is disked cultivated field. I-5 is on the left background and the County Road 99 overcrossing is in the center background.

Plate 2. Looking south from north end of the project parcel. The California northern railroad parallels the oak tree row along the eastern border of the project parcel. County Road 19A, the primary entrance into the parcel is on the extreme left of the photo.

Valley Oak Tree Row

A row of mature valley oak trees extends along the eastern border of the parcel, on both sides of the California Northern Railroad (Figure 3) (Plates 2 and 3). The tree row extends along the southwestern border of the project parcel bordering Interstate 5 for approximately 500 feet (Plate 3). Additional valley oak trees border the northwest corner of the project parcel along the Interstate 5 offramp to County Road 99, and along with several olive trees, on the northern boundary of the project parcel (Plate 4).

Plate 3. Looking north along the California Northern Railroad right-of-way, bordering the east side of the project parcel, which is on the left of the photo. Valley oak tree rows occur on both sides of the right-of-way. Note the ruderal vegetation extending from the edge of the disked field to the railroad right-of-way.

Ruderal

Weedy vegetation occurs along the field edges surrounding the project parcel (Figure 3). On the east side, this vegetation extends for approximately 15 feet into the California Northern Railroad right-of-way (Plate 3). Along the west side, this vegetation extends for approximately 25 feet into the Interstate 5 right-of-way (Plate 5). Vegetation consists of a variety of weed and annual grass species, including yellow star thistle (*Centaurea solstitialis*), cocklebur (*Xanthium strumarium*), Italian thistle (*Carduus pycnocephalus*), prickly lettuce (*Lactuca serriola*), ripgut brome (*Bromus diandrus*), field bindweed (*Convolvulus arvensis*), and wild oat (*Avenua fatua*).

Plate 4. Looking west along the northern border of the project parcel. A row of olive trees occur along with valley oak trees and an almond tree (right side of the photo) along this border.

Plate 5. Looking south along the western border of the project parcel. Note the ruderal vegetation along the edge of the disced field extending into the I-5 right-of-way.

General Wildlife

Due to the lack of vegetation and low natural community diversity, the project parcel supports limited wildlife use. The cultivated field supports fluctuating abundance of small rodents depending on the seasonal condition of the field and the presence of vegetation. Common small rodents in cultivated fields in Yolo County include house mouse (*Mus musculus*), deer mouse (*Peromyscus maniculatus*), pocket gopher (*Thomomys bottae*), and California vole (*Microtus californicus*). The ruderal field edges also support California ground squirrel (*Otospermophilus beecheyi*). These species are prey to foraging raptors, including red-tailed hawk (*Buteo jamaiscensis*), Swainson's hawk (*Buteo swainsoni*), and white-tailed kite (*Elanus leucurus*), all of which are known to occur in the area and regularly forage in cultivated and ruderal habitats, and nest in mature trees, including valley oak trees.

Several other small and medium-sized mammals common in agricultural landscapes may also occur incidentally on the project parcel, including coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), opossum (*Didelphis virginiana*), and raccoon (*Procyon lotor*).

A variety of birds songbirds also occur in the tree rows bordering the site. Among the most common in Yolo County include California scrub jay (*Aphelocoma californica*), northern mockingbird (*Mimus polyglottos*), western kingbird (*Tyrannus verticalis*), American crow (*Corvus brachyrhynchos*), and Mourning dove (*Zenaida macroura*), all of which were observed during the survey in the valley oak tree row. Also observed during the survey were turkey vulture (*Cathartes aura*), red-tailed hawk, and American kestrel (*Falco sparverius*).

Special-status Species

Special-status species are generally defined as species that are assigned a status designation indicating possible risk to the species. These designations are assigned by state and federal resource agencies (e.g., California Department of Fish and Wildlife [CDFW], U.S. Fish and Wildlife Service) or by private research or conservation groups (e.g., National Audubon Society, California Native Plant Society). Assignment to a special-status designation is usually done on the basis of a declining or potentially declining population, either locally, regionally, or nationally. The extent to which a species or population is at risk usually determines the status designation. The factors that determine risk to a species or population generally fall into one of several categories, such as habitat loss or modification affecting the distribution and abundance of a species; environmental contaminants affecting the reproductive potential of a species; or a variety of mortality factors such as hunting or fishing, interference with man-made objects (e.g., collision, electrocution, etc.), invasive species, or toxins.

For purposes of this biological resource assessment, special-status species are defined as follows:

- Species that are listed, proposed, or candidates for listing under the federal Endangered Species Act (50 CFR 17.11 – listed; 61 FR 7591, February 28, 1996 - candidates);

- Species that are listed or proposed for listing under the California Endangered Species Act (Fish and Game Code 1992 Sections 2050 et seq.; 14 CCR Sections 670.1 et seq.);
- Species that are designated as Species of Special Concern by CDFW;
- Species that are designated as Fully Protected by CDFW (Fish and Game Code, Section 3511, 4700, 5050, and 5515;
- Species included on Lists 1B or 2 by the California Native Plant Society (CNPS);
- Species that meet the definition of rare or endangered under CEQA (14 CCR Section 15380).

The presence/absence of special-status species, or their potential for presence, is determined through onsite surveys to detect individuals and evaluate the quality of potential habitats, and through a search of available databases and related source material that documents occurrences of special-status species. Among these is the California Natural Diversity Data Base (CNDDB) a repository of special-status species occurrence data compiled and managed by CDFW. Other sources of data include eBird, an online repository of avian data compiled by researchers and citizen birders, and the results of surveys conducted by researchers and biologists related to other projects or wildlife research. This information is typically available in environmental impact reports, online data repositories such as the Tricolored Blackbird Portal, survey reports prepared in support of local or regional conservation or management plans, or surveys conducted as part of local research projects.

The compiling of available data, including CNDDB records search or eBird searches, may encompass a much larger area than the project and do not address the presence/absence of suitable habitat within the project area. Instead, although existing occurrence data are reported as part of the assessment, the data are used primarily as initial guidance to indicate the species that have been observed or have the potential to occur within the general area of the project and to focus the next step in the assessment, habitat availability. Potential for species to occur is then based on the presence/absence of suitable habitat on or in the vicinity of the project. Finally, specific surveys within suitable habitat determines the actual presence/absence of potentially occurring species. The habitat assessment is also used to verify existing occurrence data from CNDDB or other sources.

Table 1 lists the special-status species with potential to occur in the vicinity of the project based existing information on their local and regional distribution, occurrence data provided by CNDDB and other sources, and the onsite surveys and habitat assessment. The table also describes habitat associations; the presence/absence of suitable habitat; and whether or not the species has been reported from the project or observed during the field survey. Figure 4 illustrates the location of reported special-status species occurrences on or in the vicinity of the project area for each potentially-occurring species. Each species in Table 1 is described in more detail below including habitat associations, the presence/absence of suitable habitat, reported occurrences, and a determination of the potential for occurrence in the vicinity of the project area.

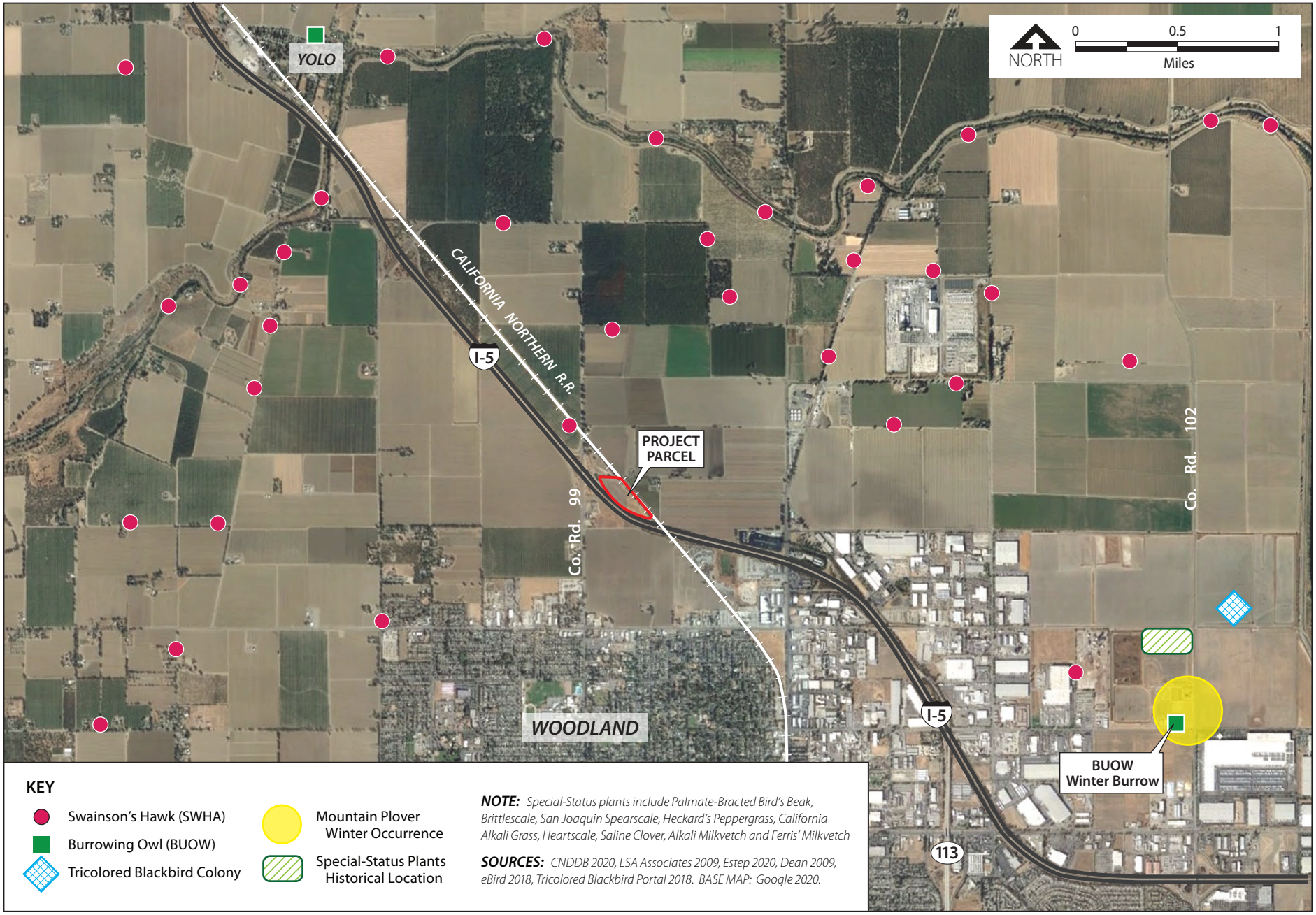

Figure 4
Location of Special-Status Species Occurrences in the Vicinity of the Proposed Yolo Cold Storage Project

Yolo HCP/NCCP

The Yolo HCP/NCCP covers 12 special-status species, four of which have potential to occur in the project area and are included in Table 1. The project area lacks suitable habitat for the remaining eight species, palmate-bracted bird's beak (*Cordylanthus palmatus*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Western pond turtle (*Actinemys marmorata*), giant garter snake (*Thamnophis gigas*), California tiger salamander (*Ambystoma californiense*), yellow-billed cuckoo (*Coccyzus americanus*), Bank swallow (*Riparia riparia*), and Least Bell's Vireo (*Vireo bellii pusillus*), and they are therefore not addressed further.

Table 1. Special-status species with potential to occur in the project area. Green highlighted species are Covered by the Yolo HCP/NCCP.

Species	Status State/ Federal/ CNPS	Habitat Association	Habitat Present in the Project Area	Observed Onsite During Survey	Reported Occurrence in the Project Area
Northern harrier *Circus cyaneus*	CSC/-	Grasslands, pastures, fields, seasonal wetland	Yes	No	No
White-tailed kite *Elanus leucurus*	FP/-	Nests in trees, hunts in grassland/farmland/wetland	Yes	No	No
Swainson's hawk *Buteo swainsoni*	T/-	Nests in trees, hunts in grassland and farmlands	Yes	No	Yes
Burrowing owl *Athene cunicularia*	CSC/-	Grasslands, pasturelands, edges of cultivated fields	Marginal	No	No
Loggerhead shrike *Lanius ludovicianus*	CSC/-	Riparian and other woodlands for nesting, grasslands, cultivated habitats for foraging	Yes	No	No
Tricolored blackbird *Agelaius tricolor*	T/-	Marsh, bramble, willow scrub for nesting; grasslands, pastures, cultivated lands for foraging	Foraging only	No	No
Palid bat *Antrozous pallidus*	CSC/-	Grasslands, shrub lands, woodlands.	Yes	No	No
Western red bat *Lasiurus blossevillii*	CSC/-	Woodland, fruit orchards	Yes	No	No

T=threatened; E=Endangered; CSC=California species of species concern; FP=state fully protected

Swainson's Hawk

The Swainson's hawk is a medium-sized raptor associated with generally flat, open landscapes. In the Central Valley it nests in mature native and nonnative trees and forages in grassland and agricultural habitats. Although a state-threatened species, the Swainson's hawk is relatively common in Yolo County during the spring-summer breeding season due to the availability of nest trees and the agricultural crop patterns that are compatible with Swainson's hawk foraging. A countywide census was conducted in 2020 for the Yolo Habitat Conservancy with a total of 382 active nesting territories reported, 69 of which are within 5 miles of the project site, and three are within 1 mile of the project site (Estep 2020) (Figure 4). The cultivated field on the project site represents suitable foraging habitat for the Swainson's hawk and the surrounding valley oak trees are suitable for nesting.

White-tailed kite

The white-tailed kite, a state fully protected species, is a highly specialized and distinctively-marked raptor associated with open grassland and seasonal wetland landscapes. It typically nests in riparian forests, woodlands, woodlots, and occasionally in isolated trees, primarily willow, valley oak, cottonwood, and walnut) and some nonnative trees. It forages in grassland, seasonal wetland, and agricultural lands, but is more limited in its use of cultivated habitats compared with the Swainson's hawk. As a result, the species occurs throughout most of Yolo County, but in low breeding densities (Dunk 1995, Erichsen 1995, Estep 2020).

No white-tailed kites were detected during the survey and no nests have been reported from the immediate vicinity of the project area. The nearest recently reported nest is approximately 5 miles southeast of the project area along Willow Slough (Estep 2020). Similar to the Swainson's hawk, the cultivated field and surrounding valley oak trees represent suitable nesting and foraging habitat for the white-tailed kite.

Northern Harrier

The northern harrier (*Circus cyaneus*) is a state species of special concern that constructs a rudimentary nest on the ground in marsh, grassland, and some agricultural habitats. They forage in seasonal wetland, grassland, and agricultural habitats. The species is frequently observed throughout most of Yolo County; however, there are relatively few reported nest sites, due largely to the difficulty confirming their locations on the ground. The nearest reported nest site in CNDDB (2020) is approximately 7.5 miles south of the parcel. eBird reports numerous sightings of the species throughout Yolo County, although relatively few in the vicinity of the project site. Northern harriers are known to nest in wheat fields and similar crop types. In its current disked condition, the project site does not support suitable nesting habitat; however, the cultivated field represents suitable foraging habitat for the northern harrier.

Burrowing Owl

The western burrowing owl (*Athene cunicularia*) is a state species of special concern occurring in open, dry grasslands, agricultural and range lands, and desert habitats. In the Central Valley, they are associated with remaining grassland habitats, pasturelands, and edges of agricultural fields. They also occur in vacant lots and remnant grassland or ruderal habitats within urbanizing areas. Historically nesting in larger colonies, due to limited nesting habitat availability most of the more recent occurrences are individual nesting pairs or several loosely associated nesting pairs. The western burrowing owl is a subterranean-nesting species, typically occupying the burrows created by California ground squirrels (*Otospermophilus beecheyi*). They also occupy artificial habitats, such as those created by rock piles and occasionally in open pipes and small culverts. They forage for small rodents and insects in grassland and some agricultural habitats with low vegetative height. Key to western burrowing owl occupancy are grassland or ruderal conditions that maintain very short vegetative height around potential nesting sites. They will generally avoid otherwise suitable grassland habitats if vegetation exceeds 12 inches in height (Gervais et al. 2008).

No burrowing owls or their sign was detected during surveys and there are no reported occurrences on or in the vicinity of the project area. ebird reports several incidental sightings within 3 to 5 miles of the project area (Figure 4), but most nesting occurrences are reported from south of Woodland, east of Davis, and in the panhandle. Ground squirrels occur in the ruderal habitat along the western and northern edges of the project parcel and several burrows were documented that meet the characteristics of a burrowing owl burrow (Plate 6).

Plate 6. Ground squirrel burrows along the ruderal northern edge of the project parcel. Burrows suitable for burrowing owls were detected along the western and northern boundaries, but no burrowing owls or their sign was detected.

Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) occurs in open habitats with scattered trees, shrubs, posts, fences, utility lines, or other perches. It nests in small trees and shrubs and forages for small rodents, reptiles, and insects in pastures and agricultural lands (Humple 2008). An underreported species in CNDDB, no nesting records are available for Yolo County (CNDDB 2020). However, eBird reports numerous incidental records throughout the county. The grassland and oak savannah foothills along the western edge of the valley are thought to be the highest value habitat for this species; but some cultivated landscapes, particularly where riparian corridors occur, may also provide suitable conditions for nesting and foraging.

No loggerhead shrikes were observed on the project site during the survey and none have been reported from the project site. The valley oak tree row and adjacent cultivated field represent suitable nesting and foraging habitat for this species.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) is a state-listed threatened species that nests in colonies from several dozen to several thousand breeding pairs. They have three basic requirements for selecting their breeding colony sites: open accessible water; a protected nesting substrate, including either flooded or thorny or spiny vegetation; and a suitable foraging space providing adequate insect prey within a few miles of the nesting colony (Beedy and Hamilton 1999). Nesting colonies are found in freshwater emergent marshes, in willows, blackberry bramble, thistles, or nettles, and in silage and grain fields (Beedy and Hamilton 1999). Recently reported tricolored blackbird colonies in Yolo County include a site on the Conaway Ranch in eastern Yolo County 5.2 miles southeast of the parcel, and at locations in the Yolo Bypass and along the western edge of the valley (CNDDB 2020). There are no recently reported breeding colonies in the vicinity of the project area; however, eBird reports numerous incidental non-breeding or foraging occurrences throughout the interior of the county. The Tricolored Blackbird Portal reports an ephemeral colony at the intersection of County Road 102 and Kentucky Avenue, 2.5 miles southeast of the project parcel, in 2010 (Figure 4).

There are no records of tricolored blackbirds on the project parcel and there is no suitable nesting habitat present. The cultivated field provides marginally suitable foraging habitat for incidentally-occurring tricolored blackbirds.

Special-status Bats

Two special status bats potentially occur in the vicinity of the project site, including pallid bat (*Antrozous pallidus*) and western red bat (*Lasiurus blossevillii*), both state species of special concern. Pallid bat occurs primarily in shrublands, woodlands, and forested habitats, but also can forage in grasslands and agricultural areas. Western red bat occurs in wooded habitats, including riparian and fruit orchards, and grasslands. Pallid bat roosts colonially in mines, caves, rocky crevices, large hollow trees, and occasionally in large open buildings that are usually abandoned or infrequently inhabited. Western red bat usually roosts solitarily in large trees, but does not rely on hollow trees (Pierson and Rainey 1998, Pierson et al. 2006).

Neither of these species have been reported from the vicinity of the project area, although they are inconspicuous and few surveys have been conducted. Most reported occurrences are from the foothills and high elevation areas of western Yolo County (CNDDB 2020). The valley oak tree row and cultivated field on the project parcel represent marginally suitable habitat for these species.

Impacts of the Project

The project footprint has not yet been finalized. However, the expectation is that it would encompass only a portion of the project parcel.

Biological Communities

Cultivated Field

A portion of the 14-acre cultivated field will be removed by the project. The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). Once the final project footprint is determined, through payment of HCP/NCCP fees or equivalent mitigation, the project will contribute to the HCP/NCCP's conservation strategy, thereby mitigating for the loss of agricultural land cover. Therefore, with incorporation of HCP/NCCP fees or equivalent mitigation and adherence to other HCP/NCCP avoidance and minimization measures, the project's individual impacts and its contribution to cumulative impacts to agricultural land cover are less than significant.

Valley Oak Tree Row

Valley oak tree rows are not anticipated for removal. Most occur with the Interstate 5 and California Northern Railroad rights-of-way. Therefore, the project would have no effect on valley oak trees or the wildlife they support.

Ruderal

Like valley oak tree row, ruderal habitats occur only around the perimeter of the project parcel, the majority of which occurs within the Interstate 5 and California Northern Railroad rights-of-way, and are thus not expected to be affected by the project.

Special-Status Species

Northern Harrier

The cultivated field may support incidental foraging habitat for northern harrier. In its current disked condition, the site does not support suitable nesting habitat. Nesting is also considered unlikely because the project parcel is surrounded by trees that enhance predation risk by providing cover and perches for potential aerial and ground predators in close proximity to potential nesting habitat. Impacts to suitable foraging habitat will occur through removal of the agricultural land cover on the project parcel. However, the relatively small amount removed (<14 acres) would not be considered a significant impact pursuant to CEQA.

White-tailed Kite

No white-tailed kites, a Covered Species under the Yolo HCP/NCCP, were observed during the survey and there are no records of white-tailed kite nesting on or near the project parcel. However, the site supports suitable habitat for kite nesting and foraging. Impacts to foraging habitat and potential disturbance to active nests will occur through removal of a portion of the cultivated field in close proximity to the valley oak tree row.

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). Through payment of HCP/NCCP fees or equivalent mitigation, and adherence to relevant avoidance and minimization measures (AMM16), the project will contribute to the HCP/NCCP's conservation strategy, thereby benefiting the white-tailed kite. Therefore, this Project's individual impacts and its contribution to cumulative impacts to white-tailed kite are less than significant.

Swainson's Hawk

No Swainson's hawks, a Covered Species under the Yolo HCP/NCCP, were observed during the survey and there are no records of Swainson's hawks nesting on the project parcel. However, there are numerous nesting known nest sites in the surrounding landscape, including one site that is 1,450 feet north of the project parcel and a historic site approximately 250 feet south of the parcel. Similar to the white-tailed kite, the site supports suitable habitat for Swainson's hawk nesting and foraging. Impacts to foraging habitat and potential disturbance to active nests will occur through removal of a portion of the cultivated field in close proximity to the valley oak tree row.

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). Through payment of HCP/NCCP fees or equivalent mitigation, and adherence to relevant avoidance and minimization measures (AMM16), the project will contribute to the HCP/NCCP's conservation strategy, thereby benefiting the Swainson's hawk. Therefore, this project's individual impacts and its contribution to cumulative impacts to Swainson's hawk are less than significant.

Burrowing Owl

Although no burrowing owls, a covered species under the Yolo HCP/NCCP, were detected during the survey, suitable habitat – including suitable ground-squirrel-constructed burrows – is present in the ruderal edges along the western and northern boundaries of the project parcel. Impacts to foraging habitat and potential disturbance to active burrows will occur through removal of a portion of the cultivated field in close proximity to the ruderal habitats and potential burrow sites.

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). Through payment of HCP/NCCP fees or

equivalent mitigation, and adherence to relevant avoidance and minimization measures (AMM18), the project will contribute to the HCP/NCCP's conservation strategy, thereby benefiting the burrowing owl. Therefore, this project's individual impacts and its contribution to cumulative impacts to burrowing owl are less than significant.

Loggerhead Shrike

The valley oak tree rows and adjacent cultivated field are considered suitable nesting and foraging habitat for loggerhead shrike. However, the species was not observed onsite during surveys. Potential impacts to this species would occur through removal of the cultivated field, which represents suitable foraging habitat, in close proximity to potential nesting habitat. However, because the species was not detected, because of the small (<14 acres) area impacted by the project, and because of the abundance of similar habitat occurring throughout Yolo County, project activities are not expected to substantially affect the distribution or abundance of the species and would therefore not be considered a significant impact pursuant to CEQA.

Tricolored Blackbird

The project parcel does not support breeding habitat for the tricolored blackbird. The species could forage in the cultivated field incidentally on the parcel; however, because there is no nearby breeding habitat or breeding occurrences, this is not considered a significant loss of foraging habitat.

The project will be implemented in accordance with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). Through payment of HCP/NCCP fees or equivalent mitigation, and adherence to relevant avoidance and minimization measures (AMM18), the project will contribute to the HCP/NCCP's conservation strategy, thereby benefiting the tricolored blackbird. Therefore, this project's individual impacts and its contribution to cumulative impacts to tricolored blackbird are less than significant.

Bats

Because no valley oak trees, potential roosting sites, would be removed by the project, and because of the small (<14 acres) size of the project, project activities are not expected to directly affect or substantially affect the distribution or abundance of either bat species would therefore not be considered a significant impact pursuant to CEQA.

Mitigation Measures

Biological Communities

Impacts to cultivated land will be mitigated through participation in the Yolo HCP/NCCP. Through payment of HCP/NCCP fees and adherence to avoidance and minimization measures, the project will contribute to the HCP/NCCP's conservation strategy, thereby fully mitigating for the loss of cultivated land cover and benefiting associated species, including covered species.

Special-Status Species

Potential impacts to special-status species, including species covered by the Yolo HCP/NCCP, are dependent on the onsite or nearby occurrence of these species during construction of the proposed facility. Species potentially affected included Swainson's hawk, white-tailed kite, and burrowing owl, all covered species. The following AMMs from the Yolo HCP/NCCP address the avoidance of this potential impact on each species. Because surveys were conducted during the 2021 breeding season and these species were not detected, implementation of these AMMs applies only if construction of the proposed project is delayed to subsequent breeding seasons (March – August 2022), or in the case of the burrowing owl, the next winter season (October through January 2021-22). If construction occurs prior to these dates, these AMMs are not required.

AMM16, Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite

The project proponent will retain a qualified biologist to conduct planning-level surveys and identify any nesting habitat present within 1,320 feet of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

If a construction project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent, with guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000), between March 15 and August 30, within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Conservancy and CDFW. If active nests are found during pre-construction surveys, a 1,320-foot initial temporary nest resource protection buffer shall be established. If project related activities within the temporary nest resource protection buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to Chapter 5 Avoidance and Minimization Measures Implementation Handbook Permitting Guide 65 January 2020 avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest resource protection buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot resource protection buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. Up to 20 Swainson's hawk nest trees (documented nesting within the last 5 years) may be removed during the permit term, but they must be removed when not occupied by Swainson's hawks.

For covered activities that involve pruning or removal of a potential Swainson's hawk or white-tailed kite nest tree, the project proponent will conduct pre-construction surveys that are consistent with the guidelines provided by the Swainson's Hawk Technical Advisory Committee

(2000). If active nests are found during pre-construction surveys, no tree pruning or removal of the nest tree will occur during the period between March 1 and August 30 within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active.

AMM18, Minimize Take and Adverse Effects on Western Burrowing Owl.

The project proponent will retain a qualified biologist to conduct planning-level surveys and identify western burrowing owl habitat (as defined in Appendix A) within or adjacent to (i.e., within 500 feet of) a covered activity. If habitat for this species is present, additional surveys for the species by a qualified biologist are required, consistent with CDFW guidelines (2012). If burrowing owls are identified during the planning-level survey, the project proponent will minimize activities that will affect occupied habitat as follows, by implementing preconstruction surveys and other AMMs. If burrowing owls are not found during the planning level survey, then pre-construction surveys are not needed. Occupied habitat is considered fully avoided if the project footprint does not impinge on a resource protection buffer around the suitable burrow. For occupied burrowing owl nest burrows, this resource protection buffer could range from 150 to 1,500 feet (Yolo HCP/NCCP Table 7-1), depending on the time of year and the level of disturbance, based on current guidelines (California Department of Fish and Game 2012).

Refer to Page 65 of the Yolo HCP/NCCP Permitting Handbook for additional guidance.

Literature Cited

Beedy, E.C. and W.J. Hamilton III. 1999. Tricolored Blackbird (*Agelaius tricolor*). In: The Birds of North America, No. 423 (A. Poole and F. Gill [eds.]). The Birds of North America, Inc., Philadelphia, PA.

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Dunk, J.R. 1995. White-tailed Kite (*Elanus leucurus*). *In* The Birds of North America, No. 178 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, and The American Ornithologists' Union, Washington, D.C.

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Estep, J.A. 2020. The 2020 Distribution, Abundance, and Habitat Associations of the Swainson's Hawk (*Buteo swainsoni*) in Yolo County, CA. Prepared for the Yolo Habitat Conservancy, Woodland, CA.

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Yolo County (2009). 2030 Countywide General Plan. Yolo County Planning and Public Works Department, Woodland, CA.

Yolo County Habitat Conservation Plan/Natural Communities Conservation Plan. (www.yolohabitatconservancy.org/).

APPLICATION

PURPOSE OF THIS FORM

Complete this form to apply for incidental take permit coverage under the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (Yolo HCP/NCCP) and submit electronically to your local planning office. The completion of this form satisfies the minimum requirements for permit coverage. The Yolo Habitat Conservancy ("Conservancy") encourages submittal of a preliminary application to your local planning office to ensure timely and accurate completion. Your local agency planning office also may request additional information to clarify or complete your application. Chapter 6 of the Permitting Guide provides instructions for form completion, available along with additional resourceson the Conservancy's web site under the "Permitting" tab. Please note if an application fee is required (see Screening Form, Box D), you should submit this fee to the Conservancy early in the application process. The Conservancy automatically adjusts mitigation fees by March 15th of each year to reflect current land prices and other expenses. If an applicant does not complete their application and issue payment prior to the fee update, the new fees will apply. The applicant may, however, pay mitigation fees early at the previous year's rate consistent with the Conservancy's Early Payment of Mitigation Fees Policy.

Regional-scale data related land cover, sensitive natural communities, and covered species habitats in Yolo is made available through the Yolo HCP/NCCP GeoMapper online mapping tool. The GeoMapper tool is accessible via the Resources tab of the Yolo Habitat Conservancy website below, although it is intended for informational purposes only, All HCP/NCCP permit applicants must have site-specific planning level surveys by a qualified biologist to determine actual land cover and sensitive natural communities and species habitats in and around a project site to determine the correct amount of land cover mitigation fees and project specific Avoidance and Minimization Measures (AMMs).

https://www.yolohabitatconservancy.org/resources

BOX A: Preliminary/Final Application	
Check one box.	
☒ Preliminary Application (signature not required)	☐ Final Application (complete form and signature required)

BOX B: APPLICATION DETAILS		
1 Project name	Yolo Cold Storage	
2 Submittal date	5-3-2021	
3 Application/project file number(s) (assigned by local agency)		
4 YHC internal tracking #		
5 Local agency with approval authority	☒ Yolo County ☐ City of Davis ☐ City of Woodland ☐ City of West Sacramento ☐ City of Winters ☐ Other _____	☐ Special Participating Entity (SPE) **Note**: Applicants not subject to approval from the County or cities, or for projects not specifically identified and not specifically excluded as a covered activity under the Plan, should check this box to request permit coverage as an SPE if desired. SPE permit coverage is not guaranteed, are processed by the Conservancy, and must be approved by the Conservancy Board.

BOX C: PROJECT CONTACT	
1 Property Owner	
1.a Property owner name	ROMINGER FAMILY c/o JIM WIRTH
1.b Mailing address	532 GIBSON DR. STE 200 ROSEVILLE 95678
1.c Phone (home/office)	916 677 8142 1.d Phone (Cellular)
1.e Email	JIM.WIRTH@TRICOMMERCIAL.COM
2 Project Agent/Applicant	
2.a Company/organization	WOODYARD, LLC
2.b Name of primary contact	JIM DONOVAN
2.c Mailing address	2362 BANKS DR, WOODLAND 95776
2.d Phone (office)	2.e Phone (Cellular) 916 642 5875
2.f Email	DONOVAN_JIM@MSN.COM
Permissions	
3 Local agency and/or the Conservancy may contact the property owner directly	☐ Yes ☐ No
4 Local agency and/or the Conservancy may contact the project agent/applicant directly	☐ Yes ☐ No

BOX D: PROJECT INFORMATION	
1 Project address and location	Interstate 5 at County Road 19A (T10N R2E, YOLO COUNTY 95695)
2 Assessor parcel number(s) APNs and acreage by parcel (not applicable for linear projects).	APN# 027-270-046
3 Total acreage of parcel(s) (not applicable for linear projects spanning multiple parcels)	14.89 acres
4 Using the GeoMapper's Spatially Defined Planning Unit Map, find your proposed project site. Check the Planning Unit in which your project lies.	**Yolo County Planning Units** ☐ 1 – Little Blue Ridge ☐ 2 – North Blue Ridge ☐ 3 – South Blue Ridge ☐ 4 – Capay Hills ☐ 5 – Dunnigan Hills ☐ 6 – Upper Cache Creek ☐ 7 – Lower Cache Creek ☐ 8 – Upper Putah Creek ☐ 9 – Lower Putah Creek ☐ 10 – Hungry Hollow Basin ☐ 11 – Willow Slough Basin ☐ 12 – Colusa Basin ☐ 13 – Colusa Basin Plains ☐ 14 – North Yolo Basin ☐ 15 – South Yolo Basin ☐ 16 – Yolo Basin Plains ☐ 17 – North Yolo Bypass ☐ 18 – South Yolo Bypass **Cities** ■ 19 – City of Woodland ☐ 20 – City of Davis ☐ 21 – City of West Sacramento ☐ 22 – City of Winters

BOX D: PROJECT INFORMATION	
5	■ Provide a project description. Please refer to the Permitting Guide for details to include in the project description. Label as **Attachment 1** or indicate in this box the page numbers of the planning level survey where this information can be found.
6	■ Provide a legible vicinity map of the project site and surrounding area (PDF). Refer to the Permitting Guide for more information about details to include on the vicinity map. Label as **Attachment 2.** Rather than a separate PDF, applicant may include the site plan in the planning level survey report. If so, provide page number here: Follows page 1 in BRA
7	■ Provide a site plan that shows the proposed project site and surrounding area. (PDF and CAD or GIS-compatible). Refer to the Permitting Guide for more information about details to include in the site plan and details regarding the required CAD or GIS-compatible digital information to be attached. Label as **Attachment 3.** Rather than a separate PDF, applicant may include the site plan in the planning level survey report or other report. If so, attach report or excerpt and provide report name and page number here: _____

BOX E: NATURAL COMMUNITY AND LAND COVER IMPACTS AND MITIGATION FEES

Complete Items 1-26 below, referring to the Permitting Guide for calculation methods.

- Total fee amount for each land cover type will be auto-generated based on acreage amount (and for recurring temporary impacts, number of years out of the 50-year permit term the impact will occur).
- Temporary impact fee formula = land cover fee x area of temporary effect in acres x (F/50) where F = the number of years in which the activity will occur during the rest of the permit term (until 2069).
- Must include required land cover fee buffer area associated with the project. This is generally 10 feet for linear projects (e.g. roads, utility cooridors, pipelines) and 50 feet for all other projects. See Chapter 3 of the Permitting Guide.
- Fees will be updated annually, typically in March.
- Wetland fees are in addition to land cover fees.

Submit a planning level survey, including a field-verified land cover map and the name and qualifications of the qualified biologist(s) responsible for preparation of the report. Label as **Attachment 4.** Mapped areas shown on the site plan (**Attachment 3** in Box D, Item 7) should be consistent with the acreages entered below. Include photographs of temporary impact areas. Label photos as **Attachment 5**.

Land Cover Types	Land Cover Permanently Impacted by Project (in acres)			Land Cover Temporarily Impacted by Project (in acres)	Years of Recurring Temporary Impact	Fees (Auto Generated)				
	Permanent Impact (acres)	Fee Buffer (acres)	TOTAL			Land Cover Fee (per acre)	Wetland Fee (per acre)	Permanent Impact, Land Cover Fee	Temporary Impact, Land Cover Fee	Wetland Fee
1 ☐ Developed (including ruderal with no covered species habitat)[a]			0.0			$0	$0	$ 0.00	$ 0.00	$ 0.00
2 ☐ Ruderal with covered species habitat [a]			0.0			$15,169	$0	$ 0.00	$ 0.00	$ 0.00
3 ☐ Barren, No Covered Species Habitat			0.0			$0	$0	$ 0.00	$ 0.00	$ 0.00
4 ☐ Barren, With Covered Species Habitat			0.0			$15,169	$0	$ 0.00	$ 0.00	$ 0.00
5 ☐ Vegetated Corridor with Covered Species Habitat			0.0			$15,169	$0	$ 0.00	$ 0.00	$ 0.00
6 ☐ Grassland (all types)			0.0			$15,169	$0	$ 0.00	$ 0.00	$ 0.00
7 ☐ Alkali Prairie			0.0			$15,169	$0	$ 0.00	$ 0.00	$ 0.00
8 ☐ Fresh Emergent Wetland (all types)			0.00			$15,169	$77,366	$ 0.00	$ 0.00	$ 0.00

BOX E: NATURAL COMMUNITY AND LAND COVER IMPACTS AND MITIGATION FEES

9 ☐ Valley Foothill Riparian			0.00			$15,169	$85,683	$ 0.00	$ 0.00	$ 0.00
10 ☐ Lacustrine and Riverine			0.00			$15,169	$62,048	$ 0.00	$ 0.00	$ 0.00
11 ☐ Cultivated Land (all types)	14.89		14.9			$15,169	$0	$ 225,866.41	$ 0.00	$ 0.00
12 ☐ Citrus/Subtropical			0.0			$15,169	$0	$ 0.00	$ 0.00	$ 0.00
13 ☐ Deciduous Fruits/Nuts			0.0			$15,169	$0	$ 0.00	$ 0.00	$ 0.00
14 ☐ Vineyards			0.0			$15,169	$0	$ 0.00	$ 0.00	$ 0.00
15 ☐ Turf Farm			0.0			$15,169	$0	$ 0.00	$ 0.00	$ 0.00
16 ☐ Flowers/Nursery/Tree Farms			0.0			$15,169	$0	$ 0.00	$ 0.00	$ 0.00
17 ☐ Semiag/Incidental to Agriculture			0.0			$15,169	$0	$ 0.00	$ 0.00	$ 0.00
18 ☐ Eucalyptus			0.0			$15,169	$0	$ 0.00	$ 0.00	$ 0.00
							TOTAL	225,866.41	0.00	0.00

19	**TOTAL LAND COVER IMPACTS AND MITIGATION FEES**	$ 225,866.41
20	**APPLICATION FEE** (The application fee is credited towards the cost of the mitigation fees if the application fee is paid prior to the submittal of the mitigation fee payment . Application fee as of January 1, 2020: $1,981)	$ 1,981.00
21	**OTHER CREDITS** (Advanced fee payment or in lieu fee credit – must be verified by Conservancy). Add **Attachment 6**	$
22	**TOTAL LAND COVER IMPACTS AND MITIGATION FEES DUE** (Mitigation fees due are determined at the time of payment unless they were paid in accordance with the Yolo HCP/NCCP Early Payment of Mitigation Fees Policy. See www.yolohabitatconservancy.org for current fee schedule.)	$ 223,885.41

[a] Land cover fees may be applicable if covered species habitat is present.

BOX F: CONDITIONS OF APPROVAL: CONDUCT PLANNING LEVEL SURVEYS

Based on a planning level survey conducted by a qualified biologist using the land cover definitions described in the Permitting Guide in Table 2-1, indicate which sensitive natural communities and covered species are relevant to your project. Indicate below whether suitable covered species habitats are present (Column A) and, where applicable, if there is a need to conduct a more focused survey(s) for covered species (Column B) to confirm presence. Complete species-specific planning level surveys as needed consistent with protocols referenced in Appendix A of the Permitting Guide. Alternatively, covered species presence can be assumed, which would requires adherence to applicable AMMs and implementation of avoidance measures or preconstruction surveys. Attach all species-specific planning level surveys as **Attachment 7**. Describe, map, and tabulate impacts the project will have on each natural community and each species for which habitat is present. Impact calculations must correspond to the permanent and temporary impact calculations in Box E. Label as **Attachment 8**. Alternatively, the impact assessment can be incorporated into the planning level survey. **Important**: Be aware of the timing requirements for conducting a species-specific planning level survey (Table 6-1 in the Permitting Guide) to avoid project delays.

	A. Project Site Conditions Requiring Planning Level Survey	B. Species-Specific Planning Level Survey Results	C. Documentation
Sensitive Natural Communities			
1 Alkali prairie and vernal pool complex	Are vernal pools or alkali seasonal wetlands present within 250 feet of project footprint? ☐ **Yes**. *Design project to avoid vernal pools or alkali seasonal wetlands by 250 feet or lesser buffer if approved by wildlife agencies (see Permitting Guide Table 2-1). Check Box G, AMMs 9 and 10. Go to Column C.* ☒ **No**	N/A	Map attached? (Attachment 4) ☐ **Yes** ☐ **No** If vernal pools or alkali seasonal wetlands are present on or near the site, provide map showing how project avoids these wetlands.
2 Valley foothill riparian	Is valley foothill riparian present within 100 feet of the project site boundary? ☐ **Yes**. *Design project to avoid valley foothill riparian by 100 feet or count all portions within 100 feet in the impact acreage (see Permitting Guide Table 2-1). Check Box G, AMMs 9 and 10. Go to Column C and provide map.* ☒ **No**	N/A	Map attached? (Attachment 4) ☐ **Yes** ☐ **No** Provide map showing the valley foothill riparian in relation to the project footprint.
3 Lacustrine and riverine	Are any streams, rivers, lakes, or ponds within 25 feet of project footprint inside urban planning units, or within 100 feet of project footprint outside urban planning units? ☐ **Yes**. *Design project to avoid these resources by 25 feet inside urban planning units or 100 feet outside urban planning units, or count all portions within these distances in the impact acreage, unless a variance is allowed. Check Box G, AMMs 9 and 10. Go to Column C and provide map.* ☒ **No**	N/A	Map attached? (Attachment 4) ☐ **Yes** ☐ **No** Provide map showing any streams, rivers, lakes, or ponds in relation to the project footprint.

BOX F: CONDITIONS OF APPROVAL: CONDUCT PLANNING LEVEL SURVEYS

	A. Project Site Conditions Requiring Planning Level Survey	B. Species-Specific Planning Level Survey Results	C. Documentation
Sensitive Natural Communities			
4 Fresh emergent wetlands	Are there any fresh emergent wetlands within 50 feet of project footprint outside urban planning units? ☐ **Yes**. *Design project to avoid these resources by 50 feet, or count all portions within 50 feet in the impact acreage. Check Box G, AMMs 9 and 10. Go to Column C and provide map).* ***Survey period: May 31–September 30*** ☒ **No**	N/A	Map attached? (Attachment 4) ☐ **Yes** ☐ **No** Provide map of fresh emergent wetlands in relation to the project footprint.
Plants			
5 Palmate-bracted bird's beak	Is suitable habitat present within 250 feet of the project site boundary? (see Permitting Guide Table 2-2) ☐ **Yes**. *Survey for palmate-bracted bird's beak consistent with Permitting Guide Appendix A. Check Box G, AMM 11. Go to Column B.* ***Survey period: May 31–September 30*** ☒ **No**	Is palmate-bracted bird's beak present? ☐ **Yes**. *Design project to avoid occupied habitat as described in AMM 11. Go to Column C.* ☐ **No.** *Go to Column C.*	Species-specific planning level survey report attached? (Attachment 7) ☐ **Yes** ☐ **No** *Include report of species-specific planning level survey and map of habitat and any plants found in relation to project footprint.*
Invertebrates			
6 Valley elderberry longhorn beetle	Is there presence of elderberry shrubs in the project site or within 100 feet outside of the project site boundary that could be impacted by the project? ☐ **Yes**. *Identify and map all elderberry shrubs in and within 100 feet of project footprint with stems greater than one inch in diameter at ground level. For mapped shrubs that cannot be avoided, quantify the number of stems greater than one inch in diameter at ground level, and identify any such stems with valley elderberry longhorn beetle exit holes. Check Box G, AMM 12. Go to Column C and provide survey report.* ***Survey period: Year-round*** ☒ **No**	N/A	Species-specific planning level survey report attached? (Attachment 7) ☐ **Yes** ☐ **No**

BOX F: CONDITIONS OF APPROVAL: CONDUCT PLANNING LEVEL SURVEYS

	A. Project Site Conditions Requiring Planning Level Survey	B. Species-Specific Planning Level Survey Results	C. Documentation
Amphibians			
7 California tiger salamander	Is there presence of California tiger salamander aquatic or upland habitat in the project footprint, or aquatic habitat within 500 feet of the project footprint? ☐ **Yes**. *Check box G, AMM 13. Is the habitat within designated critical habitat for California tiger salamander, as determined using the GeoMapper?* ☐ **Yes**. Design project to avoid designated critical habitat. ☐ **No.** *If aquatic habitat cannot be avoided by 500 feet, either conduct surveys as described in the Permitting Guide Appendix A, or assume species presence.* ***Survey period: After rainfall, November 1 to May 15.*** *Go to Column B.* ■ **No**	Are California tiger salamanders present or assumed to be present in aquatic habitat? ☐ **Yes**. *If the species is present or assumed to be present, the Yolo HCP/NCCP will not allow any loss of occupied aquatic habitat until at least four new occupied breeding pools are discovered or established and protected in the Plan Area. Contact Yolo Habitat Conservancy. Go to Column C.* ☐ **No**	Species-specific planning level survey attached? (Attachment 7) ☐ **Yes** ☐ **No**
Reptiles			
8 Western Pond Turtle	Is western pond turtle habitat present in the project footprint? ☐ **Yes**. Check Box G, AMM 14. A qualified biologist is required to evaluate whether there is moderate to high likelihood of western pond turtle presence. *Go to Columns B and C.* ■ **No**	Moderate to high likelihood of western pond turtle presence? ☐ **Yes:** Check Box F for western pond turtle preconstruction surveys. ☐ **No**	Habitat evaluation attached? (Attachment 7) ☐ **Yes** ☐ **No**
9 Giant Garter Snake	Is there any giant garter snake habitat (as defined in the Permitting Guide, Table 2-2) within the project footprint? ☐ **Yes**. *Design project to avoid or minimize impact on giant garter snake habitat to the extent practicable. If habitat cannot be avoided, see AMM 15. Check Box F for giant garter snake Preconstruction surveys, and check Box G, AMM 15.* ■ **No**	N/A	N/A

BOX F: CONDITIONS OF APPROVAL: CONDUCT PLANNING LEVEL SURVEYS

	A. Project Site Conditions Requiring Planning Level Survey	B. Species-Specific Planning Level Survey Results	C. Documentation
Birds			
10 Swainson's Hawk and White-tailed Kite	Are there suitable Swainson's hawk or white-tailed kite nest trees within 1,320 feet of the project footprint? ☒ **Yes**. *If nest trees cannot be avoided by 1,320 feet, check Box F for hawk and kite Preconstruction surveys, and Box G, AMM 16.* ☐ **No**	N/A	N/A
11 Western yellow-billed cuckoo	Is suitable habitat present within 500 feet of the project site boundary? ☐ **Yes**. *If there are breeding records for the western yellow-billed cuckoo within ¼ mile of the project site from the previous three years (as determined by GeoMapper), then assume species is present. If there are no breeding records with ¼ mile, then either assume species is present or survey consistent with Chapter 6 of the Permitting Guide. See columns B and C. Check Box F for western yellow-billed cuckoo Preconstruction surveys and Check Box G, AMM 17.* ***Survey period: June 1–August 30.*** ☒ **No**	Is western yellow-billed cuckoo present or assumed to be present? ☐ **Yes**. *If project cannot avoid occupied habitat by 500 feet, avoid take of nesting birds as described in AMM 17.* ☐ **No.**	Species Survey attached? (Attachment 7) ☐ **Yes** ☐ **No**
12 Western Burrowing Owl	Is western burrowing owl habitat present on the project site, or within 500 feet of the project site? ☒ **Yes**. *Conduct planning level surveys for occupied habitat as described in Permitting Guide Appendix A. Go to Columns B and C.* ***Survey period: February 1–August 31 during the breeding season; September 1–January 31 during nonbreeding season.*** ☐ **No**	Are burrowing owls present? ☐ **Yes**. *Check Box G, AMM18. If burrows cannot be avoided, consistent with Table 2-3 in the Permitting Guide, Check Box F for western burrowing owl preconstruction surveys.* ☒ **No**	Species-specific planning level survey attached? (Attachment 7) ☒ **Yes** ☐ **No**

BOX F: CONDITIONS OF APPROVAL: CONDUCT PLANNING LEVEL SURVEYS

	A. Project Site Conditions Requiring Planning Level Survey	B. Species-Specific Planning Level Survey Results	C. Documentation
13 Least Bell's Vireo	Is least Bell's vireo habitat present in and within 500 feet of project footprint? ☐ **Yes**. *Check Box G, AMM 19. Are there nesting records for the species within ¼ mile of the site from the previous three years (determined using the GeoMapper)?* ☐ **Yes**. *Assume species is present. See Column B.* ☐ **No.** *Conduct planning level surveys, as described in Permitting Guide Appendix A. See Columns B and C.* ***Survey period: April 1–July 15*** ■ **No**	Are least Bell's vireo nests present or assumed to be present? ☐ **Yes**. *Check Box F for least Bell's vireo preconstruction surveys. Avoid take of birds as described in AMM 19.* ☐ **No.**	Species Survey attached? (Attachment 7) ☐ **Yes** ☐ **No**
14 Bank Swallow	Is bank swallow nesting habitat present on the project site, or within 500 feet of the project site? ☐ **Yes**. *Check Box G, AMM 20. Conduct planning level surveys as described in Permitting Guide Appendix A. Go to Columns B and C.* ***Survey period: March 1–August 15*** ■ **No**	Are nesting bank swallows present? ☐ **Yes**. *Check Box F for bank swallow preconstruction surveys. Avoid take of birds as described in AMM 19.* ☐ **No.**	Species-specific planning level survey attached? (Attachment 7) ☐ **Yes** ☐ **No**
15 Tricolored Blackbird	Is tricolored blackbird nesting habitat present on the project site, or within 1,300 feet of the project site? ☐ **Yes**. *Conduct planning level surveys as described in Permitting Guide Appendix A. Check Box G, AMM 21. Go to Column C.* ***Survey period: March 1–July 30*** ■ **No**	N/A	Species-specific planning level survey attached? (**Attachment 7**) ☐ **Yes** ☐ **No**

BOX G: CONDITIONS OF APPROVAL: CONDUCT PRE-CONSTRUCTION SURVEYS

Indicate which species in **Items 1-7** are relevant to your project. **Important**: Refer to Chapter 4 of the Permitting Guide for information about survey purpose, the land cover types and site conditions requiring preconstruction surveys, survey area size, and survey timing.

Birds			
1	■ Swainson's hawk	4	■ Western burrowing owl
2	■ White-tailed kite	5	☐ Least-Bell's vireo
3	☐ Western yellow-billed cuckoo		
Reptiles			
6	☐ Giant garter snake	7	☐ Western pond turtle

BOX H: CONDITIONS OF APPROVAL: AVOIDANCE AND MINIMIZATION MEASURES (AMMs)

Check the avoidance and minimization measures below that apply to your project. Refer to the Permitting Guide for assistance. Describe how you will fulfill the requirements of each required condition. Plan your construction carefully around the translocation or other dates required by the AMMs. Label as **Attachment 9**.

1	☐	AMM1: *Establish Resource Protection Buffers*
2	☐	AMM 2: *Design Developments to Minimize Indirect Effects at Urban-Habitat Interfaces (this AMM does not apply to new development where it is immediately adjacent to existing developed lands)*
3	■	AMM 3: *Confine and Delineate Work Area*
4	☐	AMM 4: *Cover Trenches and Holes during Construction and Maintenance*
5	■	AMM 5: *Control Fugitive Dust*
6	■	AMM 6: *Conduct Worker Training*
7	■	AMM 7: *Control Nighttime Lighting of Project Construction Sites*
8	■	AMM 8: *Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas*
9	☐	AMM 9: *Establish Resource Protection Buffers around Sensitive Natural Communities*
10	☐	AMM 10: *Avoid and Minimize Effects on Wetlands and Waters*
11	☐	AMM 11: *Minimize Take and Adverse Effects on Palmate-Bracted Bird's Beak*
12	☐	AMM 12: *Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle*
13	☐	AMM 13: *Minimize Take and Adverse Effects on Habitat of California Tiger Salamander*
14	☐	AMM 14: Minimize Take and Adverse Effects on Habitat of Western Pond Turtle
15	☐	AMM 15: *Minimize Take and Adverse Effects on Habitat of Giant Garter Snake*
16	■	AMM 16: *Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite*
17	☐	AMM 17: *Minimize Take and Adverse Effects on Habitat of Western Yellow-Billed Cuckoo*
18	■	AMM 18: *Minimize Take and Adverse Effects on Western Burrowing Owl*
19	☐	AMM 19: *Minimize Take and Adverse Effects on Least Bell's Vireo*
20	☐	AMM 20: *Minimize Take and Adverse Effects on Habitat of Bank Swallow*
21	☐	AMM 21: *Minimize Take and Adverse Effects on Habitat of Tricolored Blackbird*

BOX I: ATTACHMENT CHECKLIST

Indicate which attachments are provided below. **Note**: Attachments must meet the requirements described in Permitting Guide. If these requirements are not met, your application may be delayed.

All Projects

- ■ **Attachment 1**. Project Description (Box C). Attach separately or indicate report page #s here:
- ■ **Attachment 2**. Vicinity map PDF (Box C). Attach separately or indicate report page # here: Follows pg 1
- ■ **Attachment 3**. Site Plan (Box C). Attach separately or indicate report page # here: Also include CAD or GIS compatible data.

Projects with Impacts

- ■ **Attachment 4**. Planning level survey (Box D)
- ☐ **Attachment 5**. Photos of temporary impact areas. Attach separately or indicate report page #s here: N/A
- ☐ **Attachment 6**. Documentation if land is offered in lieu of fees (Box D, Item 30)
- ■ **Attachment 7**. Species-specific planning level survey(s) (Box E). Attach separately or indicate report page #s here: Pages 10-15 in BRA and attached.
- ☐ **Attachment 8**. Unavoidable impacts on covered species. Attach separately or indicate report page #s here:

BOX I: ATTACHMENT CHECKLIST

☐ **Attachment 9**. Description of compliance with avoidance and minimization measures (Box G). Attach separately or indicate report page #s here: Pages 19-20 in BRA

BOX J: SIGNATURES

☑ **By checking the box and signing below I certify all information in the application is true and correct to the best of my knowledge. I also certify I understand the requirements of the AMMs, including dates for elderberry translocation or other dates that may affect construction timing.**

1 Property owner name and contact information	Name	ROMINGER FAMILY c/o JIM WIRTH		
	Phone	916 677-8142	Email	JIM.WIRTH@PACOMMRCAL.COM
2 Property owner signature			Date	5/2/21
3 Project agent/applicant name and contact information	Name	JIM DONOVAN		
	Phone	916 642 5875	Email	DONOVANJIM@MSN.COM
4 Project agent/applicant signature			Date	5/3/21

FORM SUBMITTAL INSTRUCTIONS

Submit this form electronically to the applicable contact below. If the project applicant is seeking HCP/NCCP permit coverage as an SPE, submit the form to the Yolo Habitat Conservancy. The signed Final Application and payment of all other Plan fees is required following project approval and prior to formal Yolo HCP/NCCP approval.

LOCAL AGENCY PLANNINGOFFICE CONTACT INFORMATION

Yolo County	**City of West Sacramento**	**City of Davis**	**City of Woodland**	**City of Winters**
Stephanie Cormier Planning Division Department of Community Services 292 West Beamer Street, Woodland (530) 666-8041	David Tilley Community Development Department 1110 West Capitol Ave., 2nd Floor, West Sacramento (916) 617-4645	Sherri Metzker Community Development & Sustainability 23 Russell Blvd., Suite 2, Davis (530) 757-5610 ext. 7239	Cindy Norris Planning Division 300 First Street, Woodland (530) 661-5911	Dave Dowswell Community Development Department 318 First Street, Winters (530) 794-6714

YOLO HABITAT CONSERVANCY CONTACT INFORMATION

Address: PO Box 2202, Woodland, CA 95776 Phone: 530-666-8150 Email: info@yolohabitatconservancy.org

FOR STAFF USE ONLY

Project planner name		Phone number	
Email		Date	
Covered activity type			
HCP/NCCP Application	☐ Complete ☐ Not complete	☐ Special Participating Entity	

Attachment 1

The project as envisioned will be an approximately 223,000+- square foot cold storage facility. The project will disturb the entire site for grading purposes. In addition to the build, there will be truck trailer parking and employee parking (see Attachment 3).

Attachment 3

Please see attached site plan.

Attachment 9

The following Avoidance and Minimization Measures as required per the Yolo Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP) will be implemented prior to and during construction of the Yolo Cold Storage Project, as needed.

AMM3, Confine and Delineate Work Area. Where natural communities and covered species habitat are present, workers will confine land clearing to the minimum area necessary to facilitate construction activities. Workers will restrict movement of heavy equipment to and from the project site to established roadways to minimize natural community and covered species habitat disturbance.

There are no environmentally sensitive habitats or covered species occurrences in the project area. Covered species habitat (valley oak trees around the perimeter of the project area) provide habitat for two covered species, Swainson's hawk and white-tailed kite. These trees are not planned for removal; however, project activities will be confined to the area outside of the drip line of these trees.

AMM5, Control Fugitive Dust. Workers will minimize the spread of dust from work sites to natural communities or covered species habitats on adjacent lands.

AMM6, Conduct Worker Training. All construction personnel will participate in a worker environmental training program approved/authorized by the Conservancy and administered by a qualified biologist. The training will provide education regarding sensitive natural communities and covered species and their habitats, the need to avoid adverse effects, state and federal protection, and the legal implications of violating the ESA and Natural Community Conservation Planning Act permits. A pre-recorded video presentation by a qualified biologist shown to construction personnel may fulfill the training requirement.

For purposes of this project, worker training will be limited to advising workers to avoid ground disturbance within the drip line of the valley oak trees surrounding the project.

AMM7, Control Nighttime Lighting of Project Construction Sites. Workers will direct all lights for nighttime lighting of project construction sites into the project construction area and minimize the lighting of natural habitat areas adjacent to the project construction area.

AMM8, Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas. Project proponents should locate construction staging and other temporary work areas for covered activities in areas that will ultimately be a part of the permanent project development footprint. If construction staging and other temporary work areas must be located outside of permanent project footprints, they will be located either in areas that do not support habitat for covered species, or are easily restored to prior or improved ecological functions (e.g., grassland and agricultural land). Construction staging and other temporary work areas located outside of project footprints will be sited in areas that avoid adverse effects on the following.

- Occupied western burrowing owl burrows
- Nest sites for covered bird species and all raptors, including noncovered raptors, during the breeding season.

Project proponents will follow specific AMMs for sensitive natural communities and covered species in temporary staging and work areas. For establishment of temporary work areas outside of the project footprint, project proponents will conduct surveys to determine if any of the biological resources listed above are present. Within 1 year following removal of land cover, project proponents will restore temporary work and staging areas to a condition equal to or greater than the covered species habitat function of the affected habitat. Restoration of vegetation in temporary work and staging areas will use clean, native seed mixes approved by the Conservancy that are free of noxious plant species seeds.

AMM16, Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite. The project proponent will retain a qualified biologist to conduct planning-level surveys and identify any nesting habitat present within 1,320 feet of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

If a construction project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent, with guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000), between March 15 and August 30, within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Conservancy and CDFW. If active nests are found during pre-construction surveys, a 1,320-foot initial temporary nest resource protection buffer shall be established. If project related activities within the temporary nest resource protection buffer are determined to be necessary

during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to Chapter 5 Avoidance and Minimization Measures Implementation Handbook Permitting Guide 65 January 2020 avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest resource protection buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot resource protection buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. Up to 20 Swainson's hawk nest trees (documented nesting within the last 5 years) may be removed during the permit term, but they must be removed when not occupied by Swainson's hawks.

For covered activities that involve pruning or removal of a potential Swainson's hawk or white-tailed kite nest tree, the project proponent will conduct pre-construction surveys that are consistent with the guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000). If active nests are found during pre-construction surveys, no tree pruning or removal of the nest tree will occur during the period between March 1 and August 30 within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active.

Because a planning level survey was conducted in 2021 and determined that neither Swainson's hawk nor white-tailed kite occurred on or within 1,320 feet of the project site, AMM16 will not be required if construction occurs during 2021. If construction is postponed until 2022, an additional survey will be conducted per AMM16.

AMM18, Minimize Take and Adverse Effects on Western Burrowing Owl.

The project proponent will retain a qualified biologist to conduct planning-level surveys and identify western burrowing owl habitat (as defined in Appendix A) within or adjacent to (i.e., within 500 feet of) a covered activity. If habitat for this species is present, additional surveys for the species by a qualified biologist are required, consistent with CDFW guidelines (2012). If burrowing owls are identified during the planning-level survey, the project proponent will minimize activities that will affect occupied habitat as follows, by implementing preconstruction surveys and other AMMs. If burrowing owls are not found during the planning level survey, then pre-construction surveys are not needed. Occupied habitat is considered fully avoided if the project footprint does not impinge on a resource protection buffer around the suitable burrow. For occupied burrowing owl nest burrows, this resource protection buffer could range from 150 to 1,500 feet (Yolo HCP/NCCP Table 7-1), depending on the time of year and the level of disturbance, based on current guidelines (California Department of Fish and Game 2012).

Refer to Page 65 of the Yolo HCP/NCCP Permitting Handbook for additional guidance.

Because a planning level survey was conducted in 2021 and determined that there are no occurrences of burrowing owl on or within 500 feet of the project site, AMM18 will not be required if construction occurs during 2021. If construction is postponed until 2022, an additional survey will be conducted per AMM18.

APPENDIX C

CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT

CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT FOR THE ROMINGER COLD STORAGE FACILITY CONSTRUCTION PROJECT, WOODLAND, YOLO COUNTY, CALIFORNIA

Prepared for:
Woodyard, LLC
Jim Donovan, Manager
2362 Banks Drive
Woodland, CA 95776

Prepared by:
Tim Spillane, MA, RPA
and
Phil Hanes, MA, RPA

Natural Investigations Company

3104 O Street, #221
Sacramento, CA 95816

USGS 7.5-Minute Quadrangle: Woodland 1952

Negative Cultural Resources Survey; Patwin Tribe; Low Sensitivity for Buried Sites; Low Paleontological Sensitivity; Woodland, Yolo County

April 2021

Confidential: Archaeological and traditional property locations are considered confidential and should not be disclosed to the general public or unauthorized persons. This document contains sensitive information regarding the nature and location of archaeological sites. Public access to information regarding the location, character, or ownership of a cultural or heritage resource is restricted by law per Section 304 of the National historic Preservation Act; Section 9(a) of the Archaeological Resources Protection Act; Executive Order 13007; and is exempt from the California Public Records Act under Government Code Section 6254.10.

ABSTRACT

Purpose and Scope: Natural Investigations Company, Inc. (Natural Investigations) was retained to provide cultural resource services in support of the Rominger Cold Storage Facility Construction Project (Project) at the intersection of County Road 19A and Interstate Highway 5 in Woodland, Yolo County, California. The services provided include a cultural resources literature search, Sacred Lands File (SLF) search, geoarchaeological and paleontological sensitivity analyses, an intensive pedestrian survey of the Project Area, and preparation of the present assessment report. This study was completed in compliance with the California Environmental Quality Act (CEQA) Section 21083.2 of the statute and Section 15064.5 of the CEQA Guidelines.

Dates of Investigation: The results of the California Historical Resources Information System (CHRIS) records search were received from the Northwest Information Center (NWIC) on March 30, 2021. The Native American Heritage Commission (NAHC) returned the results of the SLF search on April 1, 2021. The University of California Museum of Paleontology (UCMP) records search was completed on April 26, 2021. Finally, Natural Investigations conducted an intensive pedestrian survey of the Project Area on April 8, 2021.

Investigation Constraints: Ground visibility within the Project Area was excellent (75%-100%) with limiting factors being sparse annual grasses and weeds.

Findings of the Investigation: The CHRIS records search indicates that one prior cultural resource study has been completed within the Project Area. No other studies have been completed within the 0.25-mile record search radius. The CHRIS records search also indicates that no cultural resources have been previously recorded within the Project Area, though one has been recorded within the 0.25-mile search radius. The SLF search returned ***negative*** results for Native American resources in the vicinity of the Project. The UCMP records shown no unique geologic features, fossil-bearing strata, or paleontological sites within one mile of the Project Area. No cultural or paleontological resources of any kind were identified during the field survey.

Recommendations: Cultural Resources: Geoarchaeological analysis concludes that the Project Area has low sensitivity for intact archaeological deposits, despite the Late Holocene age (4,000 to 150 years ago) of the underlying landform (Qha and Qhb). Factors significantly reducing the potential for buried archaeological remains within the Project Area include the considerable distance from natural water courses, the absence of previously recorded archaeological sites in the vicinity, the negative findings of the field survey, and the extent of ground-disturbances from past agricultural uses.

Based on the negative results of the CHRIS and SLF searches, as well as the negative findings of the geoarchaeological analysis and field survey, there is no indication that the Project will impact any historical resources as defined under CEQA Section 15064.5, unique archaeological resources as defined under CEQA Section 21083.2(g), or known Native American resources. For these reasons, no further cultural resources work is recommended at this time.

In the event that a cultural resource is inadvertently discovered during Project activities, work must be halted within 30 feet of the find and a qualified archaeologist (36 CFR Part 61) notified immediately so that an assessment of its potential significance can be undertaken.

Paleontological Resources: Review of recent geologic mapping finds the Project is underlain by Late Holocene-aged (4,000 to 150 years ago) alluvium and basin deposits (Qha and Qhb). Late Holocene-aged deposits of the kind are considered to have low paleontological resource potential. Since the fossilization processes take place over millions of years, such geologically immature deposits are unlikely to have fossilized the remains of organisms. None of the geologic units known to contain fossils in Yolo County, including the *Cache Creek Mammoth, Tule Canal, Putah Creek 1* localities, have been mapped within the

Project Area. As no fossils and no unique geologic features have been recorded within the Project Area, and the underlying alluvial and basin deposits are unlikely to contain fossilized remains, the paleontological resource sensitivity of the Project Area is estimated to be low and no further paleontological resource work is recommended at this time.

In the event that a paleontological resource is inadvertently discovered during Project-related work, regardless of the depth of work or location, work must be halted within 30 feet of the find and a qualified paleontologist notified immediately so that an assessment of its potential significance can be undertaken

Disposition of Data: This report will be filed with the Jim Donovan, Manager in Woodland; the NWIC at Sonoma State University in Rohnert Park; the Yolo County Planning Department in Woodland; and Natural Investigations Company in Sacramento. All field notes and other documentation related to the study are on file at the Sacramento office of Natural Investigations.

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INTRODUCTION

Natural Investigations Company, Inc. (Natural Investigations) was retained to provide cultural resource services in support of the Rominger Cold Storage Facility Construction Project (Project) at the intersection of County Road 19A and Interstate Highway 5 in Woodland, Yolo County, California. The services provided include a cultural resources literature search, Sacred Lands File (SLF) search, geoarchaeological and paleontological sensitivity analyses, an intensive pedestrian survey of the Project Area, and preparation of the present assessment report. This study was completed in compliance with the California Environmental Quality Act (CEQA) Section 21083.2 of the statute and Section 15064.5 of the CEQA Guidelines.

PROJECT DESCRIPTION AND LOCATION

The Project is located at the intersection of County Road 19A and Interstate Highway 5, within Assessor's Parcel Number (APN) 027-270-046, in Woodland, Yolo County, California. The Project Area encompasses a total of approximately 15 acres and can be found on the 1952 United States Geological Survey (USGS) Woodland 7.5-minute topographic quadrangle, in unsectioned Rancho Rio de Jesús María, Township 11 north, Range 3 east of the Mount Diablo Base and Meridian (Figure 1).

Woodyard, LLC proposes to develop a cold storage facility at APN 027-270-046 in Woodland. The proposed storage building would a tilt-up warehouse for the storage of agricultural commodities. The building would measure approximately 150,000 square feet. The facility would include truck loading docks and a parking lot for employees. A parking spaces with 30 estimated parking spaces is also proposed at the Project location. Landscaping required would be minimal.

REGULATORY SETTING

Cultural Resources

The current study was completed under the provisions of CEQA. Section 21083.2 of the statute and Section 15064.5 of the CEQA Guidelines provide instructions for a lead agency to consider the effects of Projects on historical resources and cultural resources. A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (Public Resources Code [PRC] Section 21084.1), a resource included in a local register of historical resources (PRC Section 15064.5[a][2]), or any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant (PRC Section 15064.5[a][3]).

PRC Section 5024.1 requires evaluation of historical resources to determine their eligibility for listing in the CRHR. The purpose of the register is to maintain listings of the State's historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established federal criteria for listing in the National Register of Historic Places (NRHP).

According to PRC Section 5024.1(c) (1–4), as well as Section 15064.5(a) (3) (A–D) of the revised CEQA Guidelines, a resource is considered historically significant if it meets at least one of the following criteria:

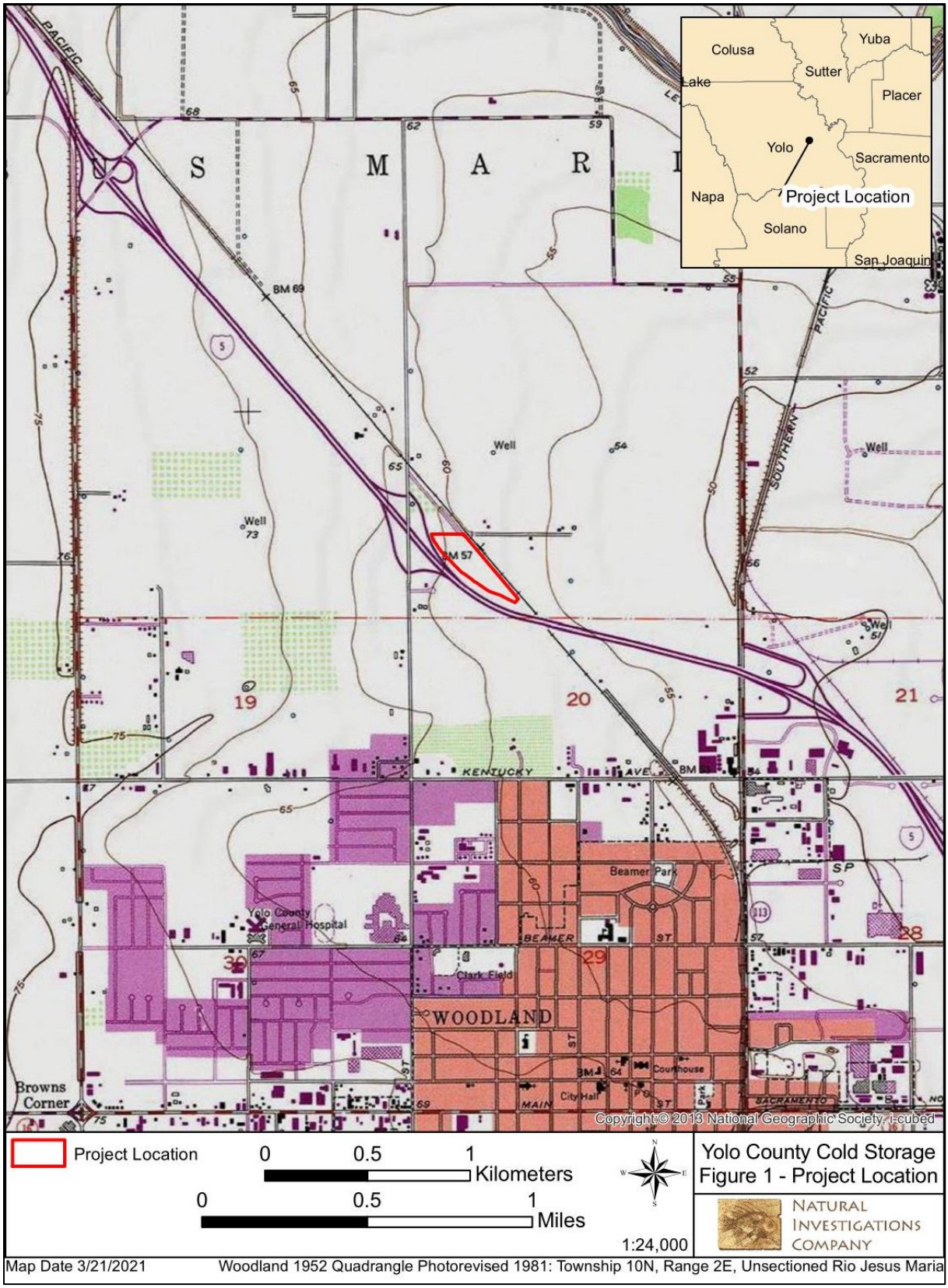

Figure 1. Project Location Map

1) It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2) It is associated with the lives of persons important in our past;
3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4) It has yielded, or may be likely to yield, information important in prehistory or history.

In order to be listed in the CRHR, historical resources must meet at least one of the significance criteria. Resources that do not meet any of these criteria are viewed as not significant. In addition to meeting at least one of the significance criteria, historical resources must possess the quality of *integrity* (location, design, setting, materials, workmanship, feeling, and association). Historic resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance.

Impacts to significant cultural resources from a proposed Project are considered significant if the Project physically destroys or damages all or part of a resource, changes the character of the use of the resource or physical feature within the setting of the resource that contribute to its significance, or introduces visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource.

Under CEQA, if an archaeological site is not a historical resource but meets the definition of a *unique archaeological resource* as defined in PRC Section 21083.2, then it should be treated in accordance with the provisions of that section. PRC Section 21083.2(g) defines a unique archeological resource to mean an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1) Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
2) Has a special and particular quality such as being the oldest of its type or the best example available of its type.
3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Should a site qualify as a unique archaeological resource, it is protected under CEQA. If it can be demonstrated that a Project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (PRC Sections 21083.2[a], [b], and [c]). If the agency determines the site does not qualify, then the site merits no further consideration.

An “historical resource” as defined in PRC Section 21084.1, a “unique archaeological resource” as defined in PRC Section 21083.2(g), or a “nonunique archaeological resource” as defined in PRC Section 21083.2(h) may also be a *tribal cultural resource* (TCR). As defined under PRC Section 21074, TCRs are “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either: (1) included or determined to be eligible for inclusion in the CRHR; included in a local register of historical resources as defined in PRC Section 5020.1(k); or (2) determined by the lead agency to be significant pursuant to the criteria for inclusion in the CRHR set forth in PRC Section 5024.1(c), if supported by substantial evidence and taking into account the significance of the

resource to a California Native American tribe. TCRs were established by Assembly Bill 52, effective July 1, 2015, as a new category of resource under CEQA.

Paleontological Resources

Paleontological resources are limited, non-renewable resources of scientific, cultural, and educational value that are explicitly afforded protection by CEQA, specifically Section VII(f) of Appendix G which addresses the potential for adverse impacts to unique paleontological resources, sites, or geological features. It requires that impacts to such resources be considered in the project review process. While CEQA does not precisely define unique paleontological resources, the treatment of paleontological resources on non-federal lands is usually conducted in accordance with guidance from the criteria established by the Society for Vertebrate Paleontology (SVP 2010). Treatment usually consists of identification, assessment, and mitigation for potential impacts to significant paleontological resources.

PRC Section 5097.5 states that no person shall "knowingly and willfully" excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Public lands include those "owned by, or under the jurisdiction of, the [S]tate, or any city, county, district, authority, or public corporation, or any agency thereof." If paleontological resources are identified within a given project site, the lead agency must take those resources into consideration when evaluating project impacts. The level of consideration may vary with the importance of the resource in question.

In accordance with guidelines established by the SVP (2010), assessments of the scientific significance of fossilized remains are based on whether they can provide data on the taxonomy and phylogeny of ancient organisms, the paleoecology and nature of paleoenvironments in the geologic past, or the stratigraphy and age of geologic units. Because most vertebrate fossils are rare, they are considered important paleontological resources. Conversely, marine invertebrates are generally common, the fossil record is well developed and well documented, and they are generally not considered important paleontological resources. Substantial damage to or destruction of significant paleontological resources as defined by the SVP (2010) would represent a significant impact.

REPORT PREPARATION

Tim Spillane, MA was the Principal Investigator for this cultural resources assessment and authored this report. Mr. Spillane is a Registered Professional Archaeologist (RPA) with more than ten years of experience in California archaeology and exceeds all requirements of the *Secretary of the Interior's Qualification Standard*s (36 CFR Part 61; National Park Service 1983). Phil Hanes, MA, RPA, performed the pedestrian survey for the Project and drafted the field portion of this report. Mr. Hanes also has more than ten years of experience in California archaeology and meets the same qualification standards as Mr. Spillane. Both are cross-trained in paleontology. The format of this report follows the Archaeological Resource Management Reports: Recommended Contents and Format prepared by the Office of Historic Preservation (1990).

ENVIRONMENTAL SETTING

GEOLOGY, HYDROLOGY, AND SOILS

The Project is located at an elevation of between 50 and 70 feet above mean sea level in the Sacramento Valley, on the north side of the Great Valley geomorphic province. The sedimentary geologic formations in the Great Valley province vary in age from Jurassic (199 to 144 million years ago) to Quaternary (200 million years ago to present; Norris and Webb 1990). The older deposits are primarily marine in origin, while the continentally derived, younger sediments, which are mainly sourced from the Sierra Nevada Range, were typically deposited in fluvial, alluvial, and lacustrine environments. There is great variation in the thickness of the sedimentary deposits that fill the Sacramento and San Joaquin valleys to their present elevations. Along the eastern valley edge, the deposits are relatively thin, but range to more than 20,000 feet (6,096 meters) in the south central portion of the valley (Page 1986). In the southeastern Sacramento Valley, the deposits range from 300 to 2,100 feet.

Review of recent geologic mapping published by California Geological Survey (Gutierrez 2011) finds the Project is underlain by Late Holocene-aged (4,000 to 150 years ago) alluvium and basin deposits. The northwestern portion of the Project Area is underlain by alluvium (Qha). These sediments occur on fans, terraces, and in basins and consist of poorly sorted sand, gravel, and silt. Separate types of alluvial deposits are not delineated in these areas. The southeastern portion of the Project Area is underlain by slightly older basin deposits (Qhb). This material consists of fine grained sediments with horizontal stratification deposited by standing or slow moving water in topographic lows (Helley and Harwood 1985; Gutierrez 2011). Given their age, these materials (Qha and Qhb) are considered to have low paleontological resource potential, though they are generally considered sensitive for archaeological remains.

Yolo County is entirely within the Sacramento River Basin Watershed, extending westward from the Sacramento River to Blue and Rocky Ridges on the eastern end of the Coast Ranges. The Sacramento River is the largest river in California, running for 374 miles and draining a total watershed of 21,350 square miles. It flows southward from Mount Shasta to the City of Sacramento, and from there drains into the Sacramento-San Joaquin River Delta. It extends for approximately 70 miles along the western border of Yolo County (Palmer 2012). The Project Area is located approximately 1.75 miles south of Cache Creek and about 3.4 miles east of Moore Canal.

The Soil Survey Geographic Database (SSURGO) maintained by the United States Department of Agriculture (USDA) and National Resource Conservation Service (NRCS) indicates that the Project Area is underlain by soils of the Sycamore Series. Sycamore Series soils consist of silty clay loam occurring in the flood plain of the Sacramento River and its tributaries in central California. Typical A-horizons extend from 0 to 14 inches below the surface and range in color from grayish brown (2.5Y 5/2) to very dark grayish brown (2.5Y 3/2). B-horizons are stratified and extend from 14 to 42 inches below the surface. They range in color from grayish brown (2.5Y 5/2) to dark grayish brown (2.5Y 4/2) or light brownish gray (2.5Y 6/2) at deeper levels. C-horizons extend from 42 to 60 inches below the surface and range in color from light brownish gray (10YR 6/2) to pale brown (10YR 6/3). Sycamore soils are commonly used for orchards, as well as for row, truck, and field crops excluding rice. Radiocarbon dates from the soils indicate that they are of Latest Holocene age (2,000 to 150 years ago; USDA-NRCS 1998; Meyer and Rosenthal 2008).

CURRENT LAND USES

The Project vicinity is used mainly agriculturally, with orchards, as well as row, truck, and field crops all being common. The Project Area is located in northern Woodland, part of the Sacramento Valley in east-central Yolo County. It is surrounded by Cache Creek to the north, the City of Woodland and Davis beyond

to the south, the California Northern Railroad and Sacramento River beyond to the east, and southern reaches of the Dunnigan Hills to the west.

CLIMATE, FLORA, AND FAUNA

The Project vicinity is characterized by hot, dry summers and warm, moist winters. Annual precipitation in this region averages 18.5 inches, with most of the rain falling between October and March. Winter temperature averages 46° Fahrenheit (F), and summer temperatures average 75° F with highs around 100° F. The current Mediterranean climate is dryer and hotter than the conditions present at the time of California's initial occupation (Barbour and Major 1988).

The Project vicinity was historically characterized by vegetation communities near permanent drainages, including grasslands, woodlands, riparian scrub/forest along drainages, with grasslands and oak woodlands in valley foothill areas. This mosaic of ecological communities would have provided a very productive environment. Based on ethnographic descriptions of the Native American groups who historically occupied this region, their hunting-gathering economy was supported by a variety of large and small mammals, edible plant species, fish, and birds (Kroeber 1976; Wilson and Towne 1978).

Over the past 150 years, the environment within the Central Valley has been greatly altered. The construction of extensive levee systems to control the Sacramento and San Joaquin Rivers, reclamation of the Delta islands, and the introduction of agricultural practices, ranching and nonnative Mediterranean grasses are among the major historic modifications. Prior to these changes to the natural landscape, the region was covered with native annual and perennial grasses commonly found in the Valley Grassland Community, such as needlegrass (*Stipa* spp.), bluegrass (*Poa* spp.), and three awn (*Aristida divaricata*) (Munz and Keck 1973). Tule (*Scirpus* sp.) and stands of willow (*Salix* sp.), cottonwood (*Populus fremontii*), and sycamore (*Platanus racemosa*) were supported by the marshy wetlands (Wallace 1978:462). Regional oak groves would have included blue oak (*Quercus douglasii*), interior live oak (*Q. wislizeni*), and valley oak (*Q. lobata*). The plant resources utilized by populations during the prehistoric and ethnohistoric periods would have been available in this series of natural communities.

The larger mammals native to the area would have included mule deer (*Odocoileus hemionus californicus*), black-tailed deer (*O. hemionus columbianus*), tule elk (*Cervus elaphus nannoides*), pronghorn (*Antilocapra americana*), mountain lion (*Felis concolor*), and black bear (*Ursus americanus*). Once common in the valley, tule elk and pronghorn are now restricted to very limited areas and the range of black bears is now limited to the Sierran foothills and mountains (Jameson and Peeters 1988). Small animals, such as rabbit (*Sylvilagus* sp.), black-tailed jackrabbit (*Lepus californicus*), gray squirrel (*Sciurus griseus*), coyote (*Canis latrans*), and gray fox (*Urocyon cinereoargenteus*) would have also been available prior to the major alterations to the landscape in the historic period.

The Central Valley once held an extensive, rich, marshy wetland habitat. Among the migratory waterfowl and other birds that continue to utilize the remnants of this natural feeding ground are mallard duck (*Anas platyrhynchos*), green-winged teal (*A. crecca*), northern pintail (*A. acuta*), great blue heron (*Ardea herodias*), belted kingfisher (*Ceryle alcyon*), red-winged blackbird (*Agelaius phoeniceus*), rock dove *(Columba livia)*, northern flicker woodpecker (*Colaptes auratus*), black-shouldered kite *(Elanus caeruleus*), red-tailed hawk (*Buteo jamaicensis*), and northern harrier (*Circus cyaneus*). The region's rivers housed a variety of anadromous and freshwater fish species, such as sturgeon (*Acipenser transmontanus*), salmon (*Oncorhynchus* sp.), and rainbow trout/steelhead (*O. mykiss*), some of which are still fished today.

POTENTIAL FOR BURIED ARCHAEOLOGICAL DEPOSITS

Recent geoarchaeological studies completed for the California Department of Transportation (Caltrans), District 3, which includes Yolo County, find that alluvial fans, floodplains, and flood-basins consistently contain buried archaeological deposits (Meyer and Rosenthal 2008). The Late Holocene-aged (4,000 to 150 years ago) alluvium and basin deposits (Qha and Qha) underlying the Project Area, and the later Sycamore Series soils formed at their surface, are generally classed as highly sensitive for buried archaeological remains, particularly for remains from the Upper Archaic and Emergent Periods.

As noted in the District 3 report and other recent geoarchaeological studies (e.g., Meyer et al. 2011), however, discovery of buried sites depends on a number of site-specific variables, not just the age of the landform. These factors include distance from watercourses, micro-topographic variations (e.g., the presence of buried stream channels, former sloughs, springs, or natural levees), proximity to known archaeological sites, and the extent of past ground disturbances.

Prehistoric and ethnographic habitation sites in this part of the Central Valley are primarily found near watercourses on high ridges, knolls, elevated natural levees, or on sandy islands in the Delta. The nearest natural freshwater source to the Project Area is Cache Creek, but it is almost two miles away. Additionally, no prehistoric sites have previously recorded within 0.25 miles of the Project Area. These factors indicate strongly that the Project Area was not conducive to prehistoric occupation. Review of historical source material and the results of field survey confirm that the entire Project Area has been subject to ground-disturbances from agricultural uses for at least half a century, likely longer. So, in the unlikely event that subgrade archaeological deposits are discovered at the Project location, the probability that they remain intact is low. Finally, no indication of subgrade cultural materials was observed in geotechnical borings, rodent burrows, or other areas of ground-disturbance during the field survey.

Considering the distance of the Project Area from natural water courses, the absence of previously recorded archaeological sites in the vicinity, and the extent of ground-disturbances across the Project Area from past agricultural uses, the potential for the discovery of intact archaeological deposits, including buried archaeological deposits, materials, or features, by implementation of this Project is estimated to be low, despite the Late Holocene age of the underlying landform.

CULTURAL SETTING

PREHISTORIC OVERVIEW

A tripartite classification scheme for cultural change in California's Sacramento Valley, Sacramento–San Joaquin Delta, and San Joaquin Valley developed as the result of efforts of a number of researchers since the 1930s and has been further refined over the succeeding decades (e.g., Bennyhoff and Fredrickson 1994; Heizer and Fenenga 1939; Heizer 1949; Fredrickson 1973; 1974; 1994; Moratto 2004). As recently summarized by Rosenthal and others (2007), and with the timeframes adjusted for modern calibration curves for radiocarbon dates, the chronological sequence for the Central Valley is: Paleo-Indian (11,500–8550 cal [calibrated] B.C.), Lower Archaic (8550–5550 cal B.C.), Middle Archaic (5550–550 cal B.C.), Upper Archaic (550 cal B.C.–cal A.D. 1100), and Emergent or Late Prehistoric Period (cal A.D. 1100–Historic Contact).

Subsequent to the Paleo-Indian and Lower Archaic periods, the cultural framework within the greater study region is further divided into three regionally based "patterns." Specific to Central Valley prehistory and the current study region, the regionally based patterns defined by Fredrickson (1973; 1974) are the Windmiller, Berkeley, and Augustine. The patterns mark changes in distinct artifact types, subsistence

orientation, and settlement patterns, which began circa 5550 cal B.C. and lasted until historic contact in the early 1800s. They were initially identified at three archaeological sites: the Windmiller site (CA-SAC-107) near the Cosumnes River in Sacramento County; the West Berkeley site (CA-ALA-307) on the east side of the Bay in Alameda County; and the Augustine site (CA-SAC-127) in the Sacramento–San Joaquin Delta. In general, the patterns conform to three temporal divisions: Middle Archaic Period/Windmiller Pattern, Upper Archaic Period/Berkeley Pattern, Late Prehistoric Period/Augustine Pattern.

Paleo-Indian and Lower Archaic Periods (11,500–5550 cal B.C.)

There is little evidence of the Paleo-Indian and Lower Archaic periods in the Central Valley (Rosenthal et al. 2007:151; Dillon 2002). As shown by geoarchaeological studies (e.g., Meyer and Rosenthal 2004b; 2004a; 2008; White 2003), large segments of the Late Pleistocene landscape throughout the central California lowlands have been buried or removed by periodic episodes of deposition or erosion. Periods of climate change and associated alluvial deposition occurred at the end of the Pleistocene (approximately 9050 cal B.C.) and at the beginning of the early Middle Holocene (approximately 5550 cal B.C.). Earlier studies had also estimated that Paleo-Indian and Lower Archaic sites along the lower stretch of the Sacramento River and San Joaquin River drainage systems had been buried by Holocene alluvium up to 33 feet (10 meters) thick that was deposited during the last 5,000 to 6,000 years (Moratto 2004). The formation of the Sacramento–San Joaquin Delta began during the early Middle Holocene (Atwater and Belknap 1980; Goman and Wells 2000). After approximately 1,000 cal B.C. during the Late Holocene, there were renewed episodes of alluvial fan and floodplain deposition (Rosenthal et al. 2007).

The archaeological evidence that is available for the Paleo-Indian Period is comprised primarily by basally thinned, fluted projectile points. These points are morphologically similar to well-dated Clovis points found elsewhere in North America. In the Central Valley, fluted points have been recovered from remnant features of the Pleistocene landscape at only three archaeological localities (Woolfsen Mound, CA-MER-215, in Merced County, Tracey Lake in San Joaquin County, and Tulare Lake basin in Kings County).

In the Central Valley, the Lower Archaic Period is mainly represented by isolated finds as the early landscape was buried by natural alluvial fan and floodplain deposition (Rosenthal et al. 2007). The earliest confirmed archaeological evidence for habitation of the immediate Sacramento vicinity was recovered from below 10 feet of overburden and extending to a depth of 10-22 feet below current street level with dates for occupation on a stable paleo-sandbar at CA-SAC-38 from 8,500 to 3,000 years ago (Tremaine 2008). At Lower Archaic foothill sites in eastern Contra Costa County (CA-CCO-637; Meyer and Rosenthal 1998) and Calaveras County (Skyrocket site CA-CAL-629/630; LaJeunesse and Pryor 1996), abundant milling slabs and handstones have been recovered. In Kern County on the ancient shoreline of Buena Vista Lake, stratified cultural deposits at CA-KER-116 have yielded a stemmed projectile point, chipped stone crescents, and the remains of fish, birds, and shellfish, but no milling tools or plant remains.

Middle Archaic Period/Windmiller Pattern (5550–550 cal B.C.)

For the first 3,000 years of the Middle Archaic, archaeological sites on the valley floor are relatively scarce, in part due to natural geomorphic processes, unlike the foothills where a number of buried sites have been found (Rosenthal et al. 2007). On the valley floor, sites are more common after 2550 cal. B.C. The archaeological record in the valley and foothills indicates the subsistence system during this period included a wide range of natural resources (e.g., plants, small and large mammals, fish, and waterfowl) that indicate people followed a seasonal foraging strategy (Fredrickson 1973; Heizer 1949; Ragir 1972; Moratto 2004). Some researchers (e.g., Moratto 2004) suggest populations may have occupied lower elevations during the winter and shifted to higher elevations in the summer. Others (e.g., Rosenthal et al. 2007) also suggest there was increasing residential stability along Central Valley river corridors during the Middle Archaic.

Excavations at Windmiller Pattern sites have yielded abundant remains of terrestrial fauna (deer, tule elk, pronghorn, and rabbits) and fish (sturgeon, salmon, and smaller fishes). Projectile points with a triangular blade and contracting stems are common at Windmiller Pattern sites. A variety of fishing implements such as angling hooks, composite bone hooks, spears, and baked clay artifacts, which may have been used as net or line sinkers, are also relatively common. The points are classified within the Sierra Contracting Stem and Houx Contracting Stem series (Justice 2002). The presence of milling implements (grinding slabs, handstones, and mortar fragments) indicates that acorns or seeds were an important part of the Middle Archaic diet (Moratto 2004; Rosenthal et al. 2007). In the foothills, pine nut and acorn remains have been recovered from sites in Fresno (CA-FRE-61) and Calaveras (CA-CAL-629/630 and CA-CAL-789) counties.

The variety of artifacts recovered from Windmiller Pattern sites includes shell beads, ground and polished charmstones, and bone tools, as well as impressions of twined basketry. Baked clay items include pipes, discoids, and cooking "stones" as well as the net sinkers. Burials in cemetery areas, which were separate from habitation areas, were accompanied by a variety of grave goods. The presence of an established trade network is indicated by the recovery of *Olivella* shell beads, obsidian tools, and quartz crystals. Obsidian sources during the Middle Archaic included quarries in the North Coast Ranges, eastern Sierra, and Cascades (Rosenthal et al. 2007).

Upper Archaic Period/Berkeley Pattern (550 cal B.C.–cal A.D. 1100)

Better understood than any of the preceding periods (Rosenthal et al. 2007), the Upper Archaic is characterized by a shift over a 1,000-year period to the more specialized, adaptive Berkeley Pattern. Excavated archaeological sites signal an increase in mortars and pestles, as well as archaeobotanical remains, accompanied by a decrease in slab milling stones and handstones. Archaeologists generally agree mortars and pestles are better suited to crushing and grinding acorns, while milling slabs and handstones may have been used primarily for grinding wild grass grains and seeds (Moratto 2004). The proportional change indicates a shift during the Berkeley Pattern to a greater reliance on acorns as a dietary staple (Fredrickson 1974; Moratto 2004; Wohlgemuth 2004). Innovations such as new types of shell beads, charmstones, bone tools, and ceremonial blades are additional evidence of the more specialized technology present during this period.

The artifact assemblage in Berkeley Pattern sites demonstrates that populations continued to exploit a variety of natural resources. In addition to seeds and acorns, hunting persisted as an important aspect of food procurement (Fredrickson 1973). Large, mounded villages that developed around 2,700 years ago in the Delta region included accumulations of habitation debris and features, such as hearths, house floors, rock-lined ovens, and burials (Rosenthal et al. 2007). The remains of a variety of aquatic resources in the large shell midden/mounds that developed near salt or fresh water indicate exploitation of shellfish was relatively intensive.

Berkeley Pattern artifact assemblages are also characterized by *Olivella* shell beads, *Haliotis* ornaments, and a variety of bone tool types. Mortuary practices continue to be dominated by interment, although a few cremations have been discovered at sites dating to this period. Trade networks brought obsidian toolstone to the Central Valley from the North Coast Ranges and the east side of the Sierra Nevada Range.

Emergent Period/Augustine Pattern (cal A.D. 1100–Historic Contact)

The comprehensive archaeological record for the Emergent or Late Prehistoric Period in the Central Valley shows an increase in the number of archaeological sites associated with the Augustine Pattern in the lower Sacramento Valley/Delta region, as well as an increase in the number and diversity of artifacts. The Emergent Period was shaped by a number of cultural innovations, such as the bow and arrow and more

elaborate and diverse fishing technology, as well as an elaborate social and ceremonial organization. Dart and atlatl technology was effectively replaced by the introduction of the bow and arrow. Additionally, the cultural patterns typical of the Augustine Pattern as viewed from the archaeological record are reflected in the cultural traditions known from historic period Native American groups (Moratto 2004; Rosenthal et al. 2007).

The faunal and botanical remains recovered at Emergent Period archaeological sites indicate the occupants relied on a diverse assortment of mammals, fish, and plant parts, including acorns and pine nuts. Hopper mortars, shaped mortars and pestles, and bone awls used to produce coiled baskets are among the variety of artifacts recovered from Augustine Pattern sites. The toolkit during this period also included bone fish hooks, harpoons, and gorge hooks for fishing, as well as the bow and arrow for hunting. Small, Gunther barbed series projectile points have been found at sites dating to the early part of the period, while Desert-side notched points appear later in the period. The Stockton serrated arrow point also appears in archaeological assemblages dating to this period and in some parts of the lower Sacramento Valley, Cosumnes Brownware is present. The appearance of ceramics during this period is likely a direct improvement on the prior baked clay industry (Rosenthal et al. 2007).

During the Emergent Period, numerous villages, ranging in size from small to large, were established along the valley floor sloughs and river channels and along the foothills sidestreams. House floors or other structural remains have been preserved at some sites dating to this period (e.g., CA-CAL-1180/H, CA-SAC-29, CA-SAC-267). The increase in sedentism and population growth led to the development of social stratification, with an elaborate social and ceremonial organization. Examples of items associated with rituals and ceremonials include flanged tubular pipes and baked clay effigies representing animals and humans. Mortuary practices changed to include flexed burials, cremation of high-status individuals, and pre-interment burning of offerings in a burial pit. Currency, in the form of clamshell disk beads, also developed during this period together with extensive exchange networks (Fredrickson 1973; Moratto 2004; Rosenthal et al. 2007).

ETHNOGRAPHIC OVERVIEW

The Project is located within the ethnographic territory of the Patwin tribe (Johnson 1978). The Patwin occupied lands in the southern portion of the Sacramento River Valley to the west of the Sacramento River, from the town of Princeton southward to San Pablo and Suisun Bays. The Patwin spoke a distinct dialect of Wintuan known as Southern Wintuan which belongs the Penutian language family (Merriam 1966; Johnson 1978).

Low natural rises along streams and rivers were the preferred location for Patwin villages, which typically had bedrock mortars, dance houses, sweathouses, and acorn granaries, and many had cemeteries. Typical communities included a central village with several smaller satellite villages. Groups constructed temporary brush shelters while hunting or gathering seasonal plant resources, frequently at higher elevations. Among the major villages established and occupied by the Patwin at the time of European contact were *Aguasto*, *Bo´-do*, *Chemocu*, *Churup*, *Dok´–dok*, *Gapa*, *Imil*, *Katsil*, *Kisi*, *Koh´pah de´-he*, *Koru*, and *Kusêmpu*, (Johnson 1978). The Patwin usually buried their dead, though cremation was common in instances when a tribal member died away from the village (Kroeber 1925; Johnson 1978).

Natural resources were abundant in the area but varied seasonally, so the subsistence economy of the Patwin tribe was based on a combination of fishing, hunting, and the collection of plant foods. Like most native Californian groups, they relied heavily on the acorn, and used a wide variety of tools, implements and enclosures to collect and process food resources. These included bows and arrows, traps, harpoons, hooks, nets, portable stone mortars, bedrock mortars and pestles, various woven tools, and canoes made of tule

balsa or logs. The Patwin also traded with neighboring groups for shell ornaments, monetary beads, steatite, and obsidian (Johnson 1978).

Europeans arrived in Patwin territory relatively late in the colonial history of North America. Though their first contact with Northern California Native peoples probably occurred as early as 1579 (Sir Francis Drake's expedition), there are no published accounts of European contact with the tribe until 1832-33 when a party of American trappers working for the Hudson's Bay Company passed through the area. This delay of European intrusions into Patwin lands is unique for California's contact period considering that Spanish missions were established around San Francisco Bay and up to the Sonoma Valley in the late 1700's and early 1800's. Historical records are clear that contact with the Spanish occurred in 1841 when Salvador Vallejo sent men into the area to round up Indians to work on his Sonoma Valley Ranch. Patwin groups are also known to have been forcibly taken by the Spanish to Mission Dolores in San Francisco (Johnson 1978).

The remote nature of much of Patwin lands served to buffer local populations from many of the disrupting activities that were taking place elsewhere in California during its early history. Most written accounts indicate that traditional life continued for many Patwin groups until the 1870's. However, gradually from the mid-19th century, enslavement and mistreatment by Spanish soldiers and missionaries, Mexican land barons, European settlers, and gold diggers, combined with a lack of natural immunity to European diseases, decimated approximately 75% of the Patwin population, wiping out entire villages and forcing the survivors to retreat into the hills (Cook 1976a).

By the mid-1850s, American pioneers and families were making their homes where the tribe had been well-established for millennia. The new settlers planted orchards and tended cattle ranches and farms. Mines yielded quicksilver, gold, and borax. Privately owned toll roads were dug through valleys and into the mountains, bringing more people, who built stores, banks, churches, saloons, and other businesses, forming dozens of new communities. Today, Wintun descendants, including the Patwin, as well as the Nomlaki and Wintu proper, total about 2,500 people and three federally recognized Patwin rancherías remain (SDSU 2010).

HISTORIC OVERVIEW

California History

Post-contact California history is divided into three distinct periods: the Spanish Period (1769–1822), the Mexican Period (1822–1848), and the American Period (1848–present). Although there were brief visits by Spanish, Russian, and British explorers from 1529 to 1769, the first significant settlement in California was established by the Spanish at San Diego in 1769. Between 1769 and 1823, 21 missions were built by the Spanish and the Franciscan Order along the coast between San Diego and San Francisco. The Spanish expeditions into the Central Valley in 1806 and 1808 led by Lieutenant Gabriel Moraga explored along the main rivers, including the American, Calaveras, Cosumnes, Feather, Merced, Mokelumne, Sacramento, San Joaquin, and Stanislaus. Moraga is said to have named the lower Sacramento River and the valley region "Sacramento"("the Holy Sacrament"; Hoover et al. 2002).

In 1813, Moraga led another expedition in the lower portion of the Central Valley and gave the San Joaquin River its name (Hoover et al. 2002). The abundance of wildlife, such as waterfowl, fish, and fur-bearing animals, within or along the banks of the rivers attracted immigrants to this region. The last Spanish expedition into California's interior was led by Luis Arguello in 1817. He and his men traveled up the Sacramento River, past the future site of the City of Sacramento to the mouth of the Feather River, before returning to the coast (Beck and Haase 1974:18, 20; Gunsky 1989:3–4).

The first American trapper to enter California was Jedediah Smith, who explored along the Sierra Nevada in 1826 and in 1827, entering the Sacramento Valley and traveling along the American and Cosumnes Rivers. In 1827, Smith also traveled through the San Joaquin Valley. Other trappers soon followed, including employees of the Hudson's Bay Company in 1832 (Hoover et al. 1966). Between 1830 and 1833, and again in 1837, diseases were introduced by the non-indigenous explorers, trappers, and settlers. These along with relocation to the missions, military raids, and settlement by non-native groups, decimated native Californian populations, communities, and tribes in the Sacramento and San Joaquin valleys (Cook 1976a; 1976b).

The American Period was initiated in 1848 with the signing of the Treaty of Guadalupe Hidalgo, which ended the Mexican–American War (1846–1848) and incorporated California as a territory of the United States. Gold was discovered at John Sutter's Mill on the American River in Coloma the same year, and by 1849, nearly 90,000 people had journeyed to the gold fields to share in the riches. In 1850, largely as a result of the Gold Rush, California became the thirty-first state. Four years later, the bustling boomtown of Sacramento became the state capital. In contrast to the economic boom and population growth that enabled statehood, the loss of land and territory (including traditional hunting and gathering locales), malnutrition, starvation, and violence contributed to the further decline of indigenous Californians from the Northern California coast to the Sierra Nevada foothills (Chartkoff and Chartkoff 1984; Gunsky 1989).

Yolo County History

Yolo County was one of the original 27 counties created with California's statehood in 1850. The name Yolo may be derived from the Native American name *Yo-loy*, meaning "a place abounding in rushes" or of the name of the chief, *Yodo*, or of the village of *Yodoi*. Fremont became the first county seat in 1850, but was replaced by Broderick a year later. Cacheville was made the seat in 1957, before Woodland was chosen as the permanent seat in 1862. Until its jurisdictional boundaries were redrawn in the mid-1920s, Yolo County included a large portion of the land now in neighboring Colusa County. Among the first recorded contacts between Westerners and the Native Americans of the region occurred with the arrival of Jedediah Smith and the other early fur trappers in the 1830s. Most notably were the French-Canadian hunters who established small settlements along Cache Creek (Bancroft 1888; Hoover et al. 2002).

Five land grants, two of which overlapped with neighboring counties, were also issued in present-day Yolo County during the Mexican Period. The first white settler to receive a land grant from the Mexican government was William Gordon, who established a farm for the production of wheat and other crops following his acquisition of the property in 1842. Gordon's Ranch, also known as Rancho Quesesosi, was an 8,894-acre allotment spanning both sides of Cache Creek in the heart of Yolo County, extending eastward from Hungry Hollow. To its west was Rancho Cañada de Capay, a 40,079-acre grant in the Capay Valley given to the three brothers Santiago, Nemicio, and Francisco Berreyesa in 1846. East of Gordon's Ranch was Rancho Rio de Jesus Maria, a 26,637-acre property given to Thomas M. Hardy by the Mexican government in 1843. The name refers to the river now known as Cache Creek. Rancho Río de los Putos at the southern border of Yolo County was granted to American, William Wolfskill, by Governor Juan Alavarado in 1842. Wolfskill had previously established a settlement within the Pueblo de Los Angeles in 1831 and considerably expended his land holdings with this acquisition in the north (Robinson 1948; Hoover et al. 2002).

The most historically significant rancho in the county belonged to Swiss pioneer Johann (John) Sutter. The 48,839-acre settlement known as New Helvetia, or "New Switzerland" was established at the confluence of the American and Sacramento Rivers. Located roughly 2.25 miles east of Davis, it included the entire eastern portion of Yolo County, encompassing the City of West Sacramento and the City of Sacramento in neighboring Sacramento County. Sutter arrived in the area with his party in August of 1839 and after acquiring Mexican citizenship, was granted the land by Governor Juan Bautista Alvarado in 1841. New

Helvetia became a substantial agricultural center and trading post. (Hoover et al. 2002). Sutter organized the diversion of water from the American River for irrigation, (Bidwell 1971) and established a launch service for freight and passengers traveling between Sacramento and San Francisco Bay (Hoover et al. 2002). His efforts paved the way for a lucrative farming industry not only in Sacramento, but throughout the Sacramento Valley.

With the influx of miners during the Gold Rush, Yolo County's population grew from an estimated 1,080 people in 1849, to 9,900 by 1870. The construction of several railroad lines throughout the county, including the California Pacific in 1868 and the Central Pacific Railroad in 1876, led to further population growth and development. By 1871, railroads in the county extended from Vallejo to Dixon and Davis, and to Washington (West Sacramento), Woodland, and Vacaville (Yolo County 2005).

The first town established in Yolo County was Fremont, founded in 1849 along the confluence of the Sacramento and Feather Rivers. Soon additional communities arose along the many rivers and streams of the county, including Knights Landing, Washington, Cacheville (now Yolo), Clarksburg, Winters, Esparto, Capay, Guinda, and Davisville (now Davis). The local population was densest in west-central Yolo, near Putah and Cache Creeks. Many of the earliest settlers adopted cattle raising, though crop production soon overtook ranching as the lead industry. Runoff and sedimentation from the Coast Ranges to the west and the flooding of the Sacramento River to the east made the soils of Yolo County particularly fertile, and the extensive network of waterways made irrigation feasible (Gregory 1913).

Recognizing the agricultural potential of their communities, Yolo County farmers were among the first to build irrigation canals in the Sacramento Valley. James Moore was the first to claim water from Cache Creek by building an irrigation ditch in 1856 (known as Moore's Ditch). Also in the late 1850s, Jerome Davis supplied water to his orchards and vineyards in today's City of Davis. In the vicinity of Winters, canal development can be traced back at least to the late 1800s. In 1903, the Yolo County Consolidated Water Company (YCCWC) bought many existing ditch systems and constructed canals to supply local ditch companies in the Winters, Madison, and Davis areas (Caltrans and JRP 2000; Larkey and Walters 1987).

The lengthy Capay Canal was one of YCCWC's facilities. The canal distributed water from Cache Creek at its northern extent near Esparto. Cache Creek was an important source of the expansion of agriculture in Yolo County. Soon after YCCWC was organized in 1903, it extended the existing canal approximately 3 miles to Winters. The Capay Canal extended alongside the Coast Range from north of Union School Slough, then south of Chickahominy Slough beside the Clear Lake Branch of the Southern Pacific Railroad, before turning eastward to parallel the north side of Putah Creek. The availability of Cache Creek water was a key factor in the establishment of the State Farm (later the University of California's College of Agriculture) at Davis. Between 1903 and 1905, the YCCWC also extended the Capay Canal east along Putah Creek to Davis (Woodland Daily Democrat 1907; Russel 1940; Larkey and Walters 1987).

As monumental flood control and reclamation efforts were being undertaken throughout the region, Yolo's agricultural industry continued to grow into the 20th century. Large agricultural companies like Holland Land Company of Clarksburg and River Garden Farms of Knights Landing developed large farms that provided jobs and produce for the county's ever growing population. Technological advancements that revolutionized crop planting and rotation, irrigation, cultivation, harvesting, and transportation, along with mechanized farm equipment resulted in increased production and profits following World War II. Today there are approximately 1,000 active farms in Yolo County, totaling nearly 500,000 cultivated acres. Urbanization in places like Davis, Woodland and West Sacramento, has also opened up new markets, with retail trade, health care, social assistance, and manufacturing having become leading local industries (Garoogian 2013).

Project Area History

A review of the USGS Mineral Resource Data System (MRDS) finds no significant historical mining claims within one mile of the Project Area (USGS 2021). Additionally, no resources listed in the Built Environment Resources Directory or California Inventory of Historic Resources are present within one mile of the Project Area (DPR 1976).

The 1858 plat map of the Rio de Jesús María Rancho shows that the Project Area is located within an undeveloped field and a road to Sacramento is in place to its west, along the approximate path of modern-day Interstate Highway 5 (GLO 1858a). The General Land Office (GLO) land plat of the same year shows a number of small homesteads or farms present in the surrounding area, with individual properties attributed to Browning, High, Isabel, Stroughtenberg, and Welch. The Project property is shown as a vacant field with an east-west bearing ditch depicted to its south (GLO 1858b).

The 1871 official map of Yolo County shows that the Project property is on land belonging to Joel Watkins. Watkins has a farm just northeast of the Project Area, and another property belonging to O.N. Hershey is shown to its north. Nelson's Bridge is depicted across Cache Creek to the northeast of both properties, and Woodside is well developed to the south (Henning 1871). By 1900, the Watkins property is under ownership of Jason Watkins. Irene Coil owns a 320-acre parcel north of the Project Area and several small lots are present between the Project location and Woodside. The Southern Pacific Railroad is shown just east of the Project Area (Ashley 1900). The 1926 version of the official county map shows the Project Area under ownership of B.A. Herdyke, with parcels attributed to Irene Coil Whitney and Mary Motta to the north and south respectively (Proctor 1926).

Review of later historical topographic maps and aerial photography finds that the Project Area has been subject to very little direct development, though construction of various kinds has occurred around it. The 1907 USGS Woodland 15-minute topographic quadrangle shows the Southern Pacific Route present east of the Project and County Road 19A in place to its north. A possible sports field is depicted just south of Kentucky Avenue, which is also constructed by that time, and a number of small farm houses are present in the surrounding area (USGS 1907). The 1941 version of the 15-minute Woodland quadrangle shows a structure in place just east of the railroad tracks and south of County Road 19A. The Willow Oak School and County Hospital are present north of Woodland and southwest of the Project Area, and a number of agricultural fields are scattered between them. The Project property remains entirely vacant (USGS 1941).

No significant changes of the Project vicinity are noted on the USGS Woodland 7.5-minute quadrangle of 1952. Several wells are present in the surrounding area and the development patterns have not changed (USGS 1952). Later versions of the map show that Interstate Highway 5 is constructed between 1968 and 1977. An aerial photograph from 1968 shows the Project Area entirely cleared and possibly in use for the cultivation of row crops. A small farm is shown on the east side of County Road 99, just south of modern-day Bernard Street. It contains two structures and a fenced corral. No further development of the Project Area is shown on later aerial images or topographic maps (Google 2021; NETR 2021).

RESEARCH METHODS AND FINDINGS

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

A California Historical Resources Information System (CHRIS) records search was conducted by the Northwest Information Center (NWIC) on the campus of Sonoma State University to determine whether prehistoric or historic cultural resources have been previously recorded within the Project Area, the extent to which the Project Area has been previously surveyed, and the number and type of cultural resources

within a 0.25-mile radius of the Project limits. The results of the CHRIS search were returned on March 30, 2021. The archival search of the archaeological and historical records, national and state databases, and historic maps included the following sources:

- National Register of Historic Places: listed properties
- California Register of Historical Resources: listed resources
- Historic Property Data File for Yolo County
- Archaeological Determinations of Eligibility
- Built Environment Resources Directory
- California Inventory of Historical Resources
- Historical GLO land plat maps

Previous Studies

The CHRIS records search indicates that one prior cultural resource study has been completed within the Project Area. No other studies have been completed within the 0.25-mile record search radius. The previous study within the Project Area was completed in 2015. Additional information on this study is provided in Table 1 below.

Table 1. Previous Studies within 0.25-Mile Radius of Project Area

NWIC Report No. S-	Study	Author and Year	Proximity to Project Area
46943	The History and Archaeology of the California-Pacific; the Central-Pacific; the Southern-Pacific; and the California-Northern Railroad Routes Through Yolo County, California: 1869-Present	Crull and Hanson 2015	Within

Previously Recorded Resources

The CHRIS records search also indicates that no cultural resources have been previously recorded within the Project Area, though one has been recorded within the 0.25-mile search radius. The previously recorded resource within 0.25 miles is the Central Pacific Railroad Route through Yolo County (P-57-000977). The Yolo County corridor of the railroad extends from Davis to Woodland, and from there northwestward toward Dunnigan and onward into neighboring Colusa County. The line was operated as the Central-Pacific Route between 1871 and 1885; as the Southern Pacific Route between 1885 and the 1960s; and as the California-Northern Route from 1993 to the present (Crull 2015). Additional information on this resource is provided in Table 2 below.

Table 2. Previously Recorded Resources within 0.25-Mile Radius of Project Area

Primary No. (P-57-)	Trinomial (CA-YOL-)	Brief Description	Recorded By and Year	Proximity to Project Area
977	NA	Central Pacific Railroad	Crull 2015	Outside, within 0.25 miles

OTHER SOURCES

Natural Investigations staff reviewed the additional historical maps and aerial photographs listed below. The results of our review of these sources are incorporated in the Project Area History section above.

- USGS Woodland 15-minute topographic quadrangles of 1907 and 1941
- USGS Yolo 15-minute topographic quadrangle of 1915
- USGS Woodland 7.5-minute topographic quadrangles of 1952, 1953, 2012, 2015, and 2018
- Aerial photographs of 1968, 1993, 2005, 2009, 2010, 2012, 2014, and 2016

SACRED LANDS FILE SEARCH

Natural Investigations contacted the Native American Heritage Commission (NAHC) requesting a search of their SLF for traditional cultural resources within or near the Project Area. The results of the search returned by the NAHC on April 1, 2021 were ***negative*** for Native American cultural resources in the Project vicinity. Additional information on the Native American outreach efforts undertaken in support of the Project is provided in Appendix A of this report.

PALEONTOLOGICAL RECORDS SEARCH AND SENSITIVITY

Natural Investigations conducted a search of the paleontological records maintained by the University of California Museum of Paleontology (UCMP) on April 26, 2021. The records search included a review of the UCMP's specimen and locality catalogs for Yolo County. The purpose of the search was to estimate the paleontological sensitivity of the Project vicinity; to confirm whether any paleontological resources have been previously identified within or near the Project location; and to determine whether implementation of the Project may impact significant paleontological resources.

The UCMP database indicates that 133 fossil localities have been recorded within Yolo County (UCMP 2021). Of these, only 20 are known to contain vertebrate fossil remains. Eleven of the 20 vertebrate localities contain marine specimens from the Pliocene-aged (5.3 to 2.6 million years ago) Tehama Formation, which is found in the Coast Ranges province in the western margin of Yolo County and is considered highly sensitive for paleontological resources. Two Putah Creek localities contained within the Late-Pliocene to Early Pleistocene-aged (3.6 to 0.005 million years ago) Montezuma Formation have produced vertebrate fossils, including the remains of mammoth (*†Mammuthus* sp.) and ground sloth (*†Glossotherium harlani*).

Two Rancholabrean-aged (240,000 years to 11,000 years) fossils have been recovered from a locality contained in the Red Bluff Formation near Woodland. Both are from an extinct species of horse (*†Equus* sp.). Eight Rancholabrean mammal fossils have also been recovered from the *Willow Slough 1* locality within the Modesto Formation, while the *Solano Concrete Quarry* locality yielded two Rancholabrean mammoth fossils. The *Cache Creek Mammoth*, *Tule Canal*, *Putah Creek 1* localities have each yielded a single Rancholabrean-aged fossil, from extinct species of mammoth (*†Mammuthus* sp.), deer (*†Cervus* sp.), and saber-toothed cat (*†Smilodon* sp.) respectively. Five vertebrate fossil localities in Yolo County are unassociated with any particular formation. The *Stevenson Bridge* locality yielded three specimens of Rancholabrean-aged mammoth and ground sloth.

Paleontological resources occur in geologic units (e.g., formations or members). The probability of finding significant fossils at a given location can be estimated based on previous records of fossils recovered from the geologic units present in and/or adjacent to it. The geological setting and the number of known fossil localities help to estimate a location's paleontological sensitivity. As noted above, the treatment of paleontological resources on non-federal lands usually follows the SVP *Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontological Resources guidance from the Society for Vertebrate Paleontology* (2010). Treatment typically consists of identification, assessment, and mitigation for potential impacts to significant paleontological resources.

The SVP defines four levels of paleontological sensitivity: *High*, *Low*, *Undetermined*, and *No Potential*. High Potential geologic units are those from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered. These are regarded as having high potential to contain additional significant paleontological resources. Low Potential geologic units are those that are poorly represented by fossil specimens in institutional collections, or that are known to preserve fossils only in rare circumstances. Undetermined Potential geologic units are those for which little or no information is available concerning their paleontological content, geologic age, and depositional history. No Potential geologic units such as high-grade metamorphic rocks (e.g., gneisses and schists) and plutonic igneous rocks (e.g. granites and diorites) are those that would not preserve fossil resources under any circumstances (SVP 2010).

Review of recent geologic mapping finds the Project is underlain by Late Holocene-aged (4,000 to 150 years ago) alluvium and basin deposits. The northwestern portion of the Project Area is underlain by alluvium (Qha), while the southeastern portion of the Project Area is underlain by slightly older basin deposits (Qhb). Given their age, these materials are considered to have low paleontological resource potential. Since the fossilization processes take place over millions of years, such geologically immature deposits are unlikely to have fossilized the remains of organisms.

None of the geologic units known to contain fossils in Yolo County, including the *Cache Creek Mammoth*, *Tule Canal*, *Putah Creek 1* localities, are present within the Project Area. As no fossils and no unique geologic features have been recorded within the Project Area, and the underlying alluvial and basin deposits are unlikely to contain fossilized remains, the paleontological resource sensitivity of the Project Area is estimated to be low based on SVP criteria (SVP 2010). Nevertheless, the field survey completed as part of this assessment included inspection for geologic outcrops that may contain paleontological resources.

FIELD METHODS AND FINDINGS

METHODS

An intensive pedestrian survey of the Project Area was conducted by Natural Investigations archaeologist, Phil Hanes, on April 8, 2021. All portions of the 15-acre Project Area were surveyed intensively using transects spaced no greater than 15 meters apart. During the pedestrian survey, all visible ground surface within the Project Area was carefully examined for cultural material (e.g., flaked stone tools, tool-making debris, stone milling tools, or fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic-era debris (e.g., metal, glass, ceramics). Ground disturbances (e.g., animal burrows, drainages, dirt roads, etc.) and geologic outcrops were visually inspected. A digital camera was used to take photographs of the Project Area, a Munsell® Soil Color Chart used to record soil color, and a handheld BE-3300-GPS global positioning system (GPS) unit with sub-meter accuracy was used to record locational data.

FINDINGS

No cultural or paleontological resources of any kind were identified during the field survey. Additionally, no indication of subgrade cultural materials was noted in geotechnical borings, rodent burrows, or other areas of ground-disturbance during the field survey. The Project Area is comprised of a single parcel of agricultural land located immediately east of the County Road 99 exit from Interstate 5 in Woodland, Yolo County (Photograph 1). The Project Area is accessed from address 39181 County Road 19A. The Project Area is bounded by undeveloped lands to the north, the Interstate 5 corridor to the south and west, the

California Northern Railroad to the east (Photograph 2). The Project Area is presently vacant and appears to have been recently disked.

Modern trash has been dumped in the northwestern corner of the property (Photograph 3) and recently used farm equipment was noted in the northeastern corner (Photograph 4). Evidence of recent geotechnical tests was observed at several locations within the Project Area (Photograph 5). Several river cobbles were observed within the parcel, though no indication of cultural modification was observed. The railroad corridor appears to be actively used and is entirely outside of the Project Area. Ground visibility within the Project Area was excellent (75%-100%) with limiting factors being sparse annual grasses and weeds (Photograph 6). Topography on the property was generally flat with an average elevation of 55 feet above msl.

Photograph 1. Overview agricultural field in Project Area (view south)

Photograph 2. Overview of railroad corridor (view north)

Photograph 3. Overview of recently dumped trash (view north)

Photograph 4. Overview of recently used farm equipment (view east)

Photograph 5. Overview of recent geotechnical test location (view south)

Photograph 6. Overview of high visibility in Project Area (view west)

CONCLUSIONS AND RECOMMENDATIONS

CULTURAL RESOURCES

No cultural resources of any kind were identified during the field survey conducted as part of this assessment. Geoarchaeological analysis concludes that the Project Area has low sensitivity for intact archaeological deposits, despite the Late Holocene age (4,000 to 150 years ago) of the underlying landform (Qha and Qhb). Factors significantly reducing the potential for buried archaeological remains within the Project Area include the considerable distance from natural water courses, the absence of previously recorded archaeological sites in the vicinity, and the extent of ground-disturbances from past agricultural uses.

Based on the negative results of the CHRIS and SLF searches, as well as the negative findings of the geoarchaeological analysis and field survey, there is no indication that the Project will impact any historical resources as defined under CEQA Section 15064.5, unique archaeological resources as defined under CEQA Section 21083.2(g), or known Native American resources. For these reasons, no further cultural resources work is recommended at this time.

In the event that a cultural resource is inadvertently discovered during Project activities, work must be halted within 30 feet of the find and a qualified archaeologist (36 CFR Part 61) notified immediately so that an assessment of its potential significance can be undertaken. Construction activities may continue in other areas, but may not resume in the area of the find until Yolo County (County) provides written permission. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted and would be discussed in consultation with the County, affiliated tribal organizations, and any other relevant regulatory agencies or invested parties, as appropriate.

Although unlikely, the discovery of human remains is always a possibility. State of California Health and Safety Code Section 7050.5 covers these discoveries, except on federal lands. This code section states that no further disturbance may occur until the County Coroner has made a determination of origin and disposition of the remains pursuant to PRC Section 5097.98. The County Coroner must be notified of the find immediately upon discovery. If the human remains are determined to be of Native American origin, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendent (MLD). The MLD must complete an inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

PALEONTOLOGICAL RESOURCES

Review of recent geologic mapping finds the Project is underlain by Late Holocene-aged (4,000 to 150 years ago) alluvium and basin deposits (Qha and Qhb). Late Holocene-aged deposits of the kind are considered to have low paleontological resource potential. Since the fossilization processes take place over millions of years, such geologically immature deposits are unlikely to have fossilized the remains of organisms. None of the geologic units known to contain fossils in Yolo County, including the *Cache Creek Mammoth*, *Tule Canal*, *Putah Creek 1* localities, have been mapped within the Project Area. As no fossils and no unique geologic features have been recorded within the Project Area, and the underlying alluvial and basin deposits are unlikely to contain fossilized remains, the paleontological resource sensitivity of the Project Area is estimated to be low based on SVP criteria (SVP 2010) and no further paleontological resource work is recommended at this time.

In the event that a paleontological resource is inadvertently discovered during Project-related work, regardless of the depth of work or location, work must be halted within 30 feet of the find and a qualified paleontologist (SVP 2010) notified immediately so that an assessment of its potential significance can be undertaken. If the find is determined to be significant, it should be salvaged following the standards of the SVP (2010) and curated at a certified repository such as the UCMP.

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APPENDIX A:
Sacred Lands File Search Results

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
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nahc@nahc.ca.gov
NAHC.ca.gov

April 1, 2021

Cindy Arrington, MS, RPA. Principal
Natural Investigations Co., Inc.

Via Email to: cindy@naturalinvestigations.com

Re: Yolo County Cold Storage (1003) Project, Yolo County

Dear Ms. Arrington:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Sarah.Fonseca@nahc.ca.gov.

Sincerely,

Sarah Fonseca
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Yolo County
4/1/2021

Cachil Dehe Band of Wintun Indians of the Colusa Indian Community
Clifford Mota, Tribal Preservation Liaison
3730 Highway 45 Wintun
Colusa, CA, 95932
Phone: (530) 458 - 8231
cmota@colusa-nsn.gov

Cachil Dehe Band of Wintun Indians of the Colusa Indian Community
Daniel Gomez, Chairman
3730 Highway 45 Wintun
Colusa, CA, 95932
Phone: (530) 458 - 8231
dgomez@colusa-nsn.gov

Cortina Rancheria - Kletsel Dehe Band of Wintun Indians
Charlie Wright, Chairperson
P.O. Box 1630 Wintun
Williams, CA, 95987
Phone: (530) 473 - 3274
Fax: (530) 473-3301

Yocha Dehe Wintun Nation
Isaac Bojorquez, Director of Cultural Resources
PO Box 18 Brooks, CA 95606 Patwin
Phone: (530) 796 - 0103
ibojorquez@yochadehe-nsn.gov

Yocha Dehe Wintun Nation
Leland Kinter, THPO
P.O. Box 18 Patwin
Brooks, CA, 95606
Phone: (530) 796 - 3400
thpo@yochadehe-nsn.gov

Yocha Dehe Wintun Nation
Anthony Roberts, Chairperson
P.O. Box 18 Patwin
Brooks, CA, 95606
Phone: (530) 796 - 3400
aroberts@yochadehe-nsn.gov

Yocha Dehe Wintun Nation
Laverne Bill, Site Protection Manager
P.O. Box 18 Patwin
Brooks, CA, 95606
Phone: (530) 796 - 3400
lbill@yochadehe-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Yolo County Cold Storage (1003) Project, Yolo County.

APPENDIX D

SOIL RESOURCE REPORT

United States Department of Agriculture

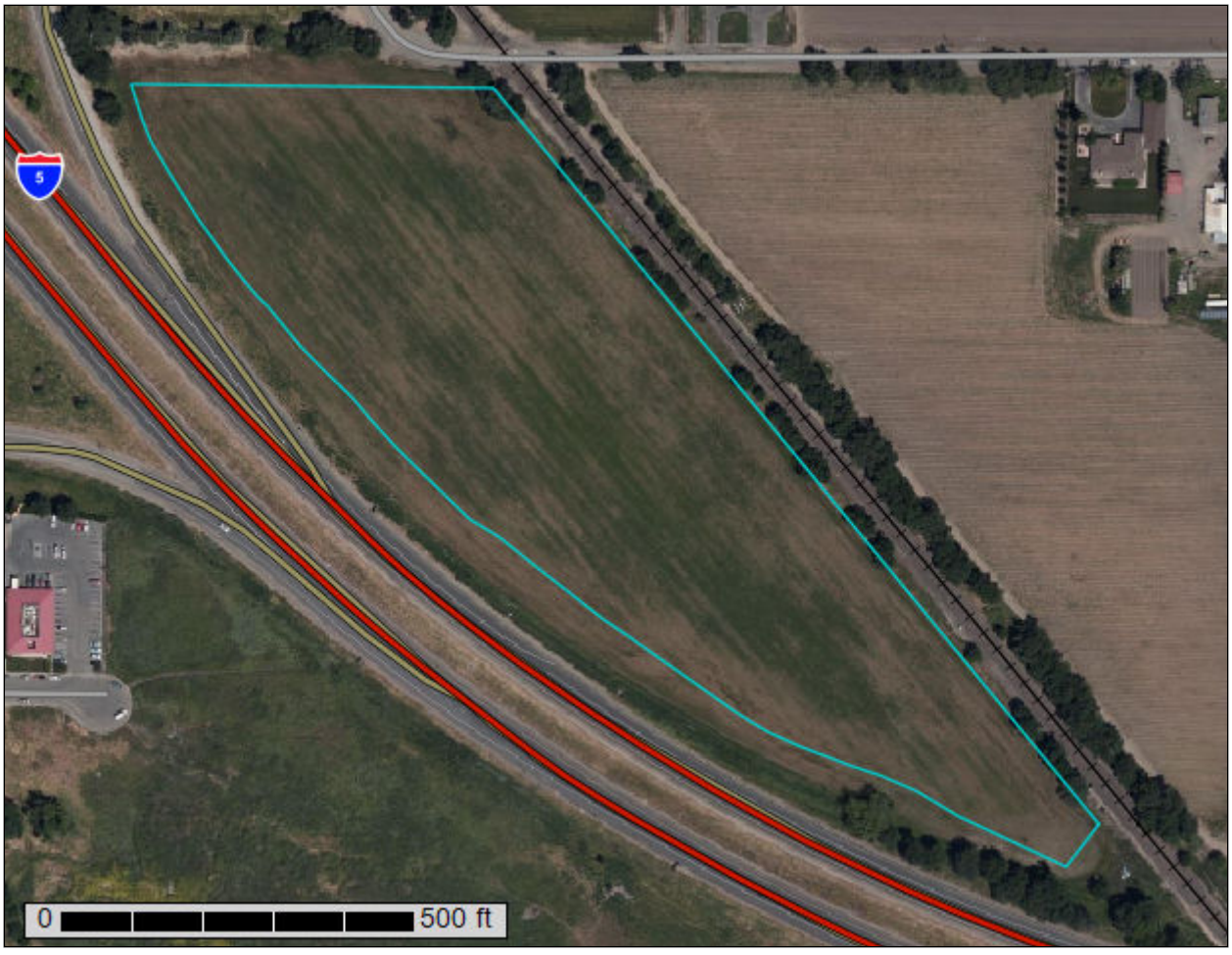
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Yolo County, California

ZF #2021-0019



June 1, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

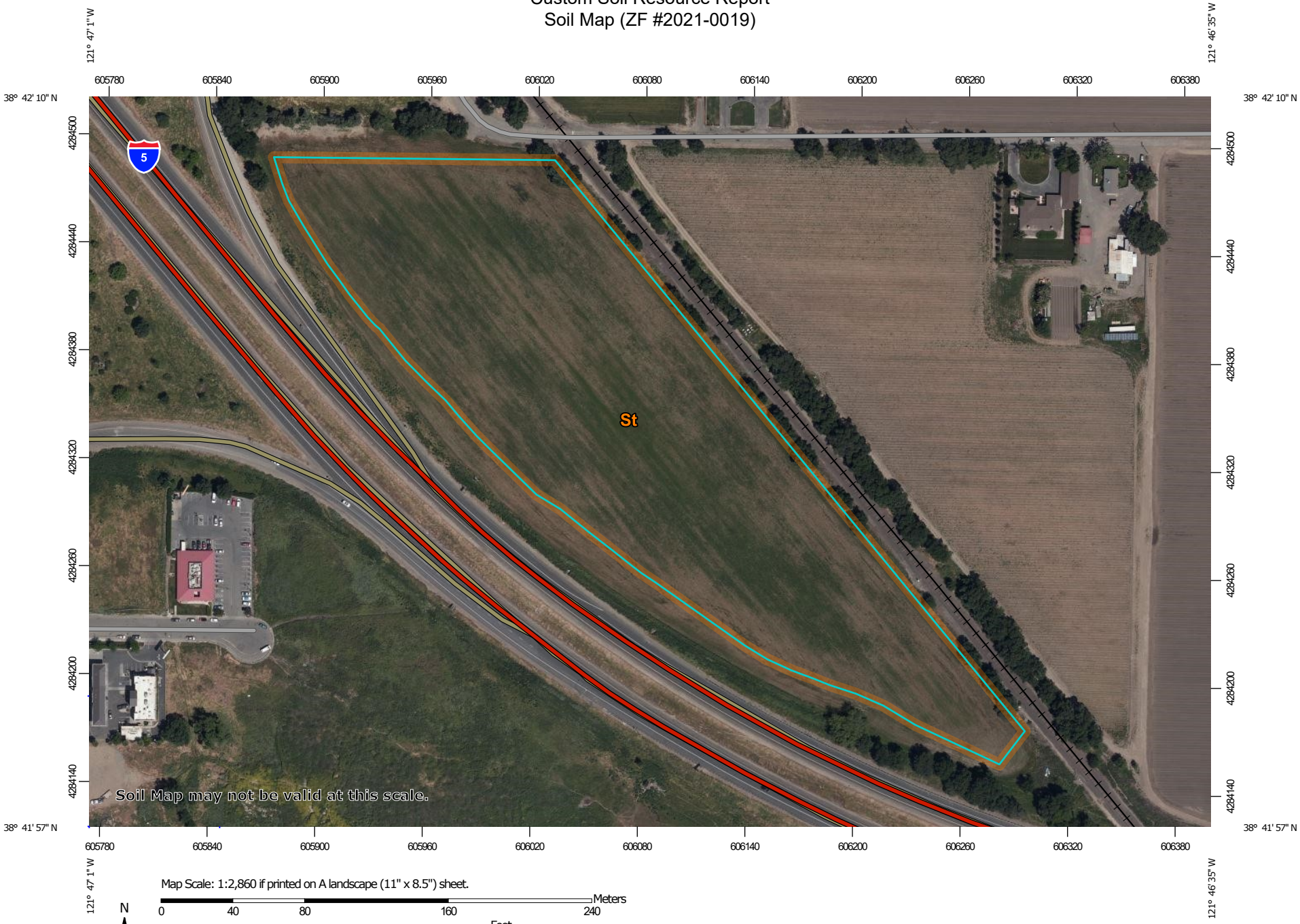
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (ZF #2021-0019)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Yolo County, California
Survey Area Data: Version 16, Jun 1, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 26, 2019—May 1, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (ZF #2021-0019)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
St	Sycamore silty clay loam, drained, 0 percent slopes, MLRA 17	12.0	100.0%
Totals for Area of Interest		**12.0**	**100.0%**

Map Unit Descriptions (ZF #2021-0019)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Yolo County, California

St—Sycamore silty clay loam, drained, 0 percent slopes, MLRA 17

Map Unit Setting

National map unit symbol: 2xcbr
Elevation: 20 to 80 feet
Mean annual precipitation: 20 to 21 inches
Mean annual air temperature: 61 to 62 degrees F
Frost-free period: 319 to 330 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Sycamore and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sycamore

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

Ap - 0 to 4 inches: silty clay loam
A - 4 to 14 inches: silty clay loam
Bw - 14 to 26 inches: silty clay loam
Bwk - 26 to 44 inches: silty clay loam
C - 44 to 60 inches: loam

Properties and qualities

Slope: 0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 60 to 72 inches
Frequency of flooding: NoneRare
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline (0.2 to 0.7 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Yolo

Percent of map unit: 3 percent
Hydric soil rating: No

Brentwood

Percent of map unit: 3 percent
Hydric soil rating: No

Tyndall

Percent of map unit: 3 percent
Hydric soil rating: No

Maria

Percent of map unit: 3 percent
Landform: Alluvial fans
Hydric soil rating: Yes

Merritt

Percent of map unit: 3 percent
Hydric soil rating: No

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Building Site Development

Building site development interpretations are designed to be used as tools for evaluating soil suitability and identifying soil limitations for various construction purposes. As part of the interpretation process, the rating applies to each soil in its described condition and does not consider present land use. Example interpretations can include corrosion of concrete and steel, shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

Small Commercial Buildings (ZF #2021-0019)

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification of the soil). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected.

"Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report
Map—Small Commercial Buildings (ZF #2021-0019)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Lines
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Points
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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Tables—Small Commercial Buildings (ZF #2021-0019)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
St	Sycamore silty clay loam, drained, 0 percent slopes, MLRA 17	Very limited	Sycamore (85%)	Flooding (1.00)	12.0	100.0%
				Shrink-swell (0.49)		
Totals for Area of Interest					**12.0**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Very limited	12.0	100.0%
Totals for Area of Interest	**12.0**	**100.0%**

Rating Options—Small Commercial Buildings (ZF #2021-0019)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

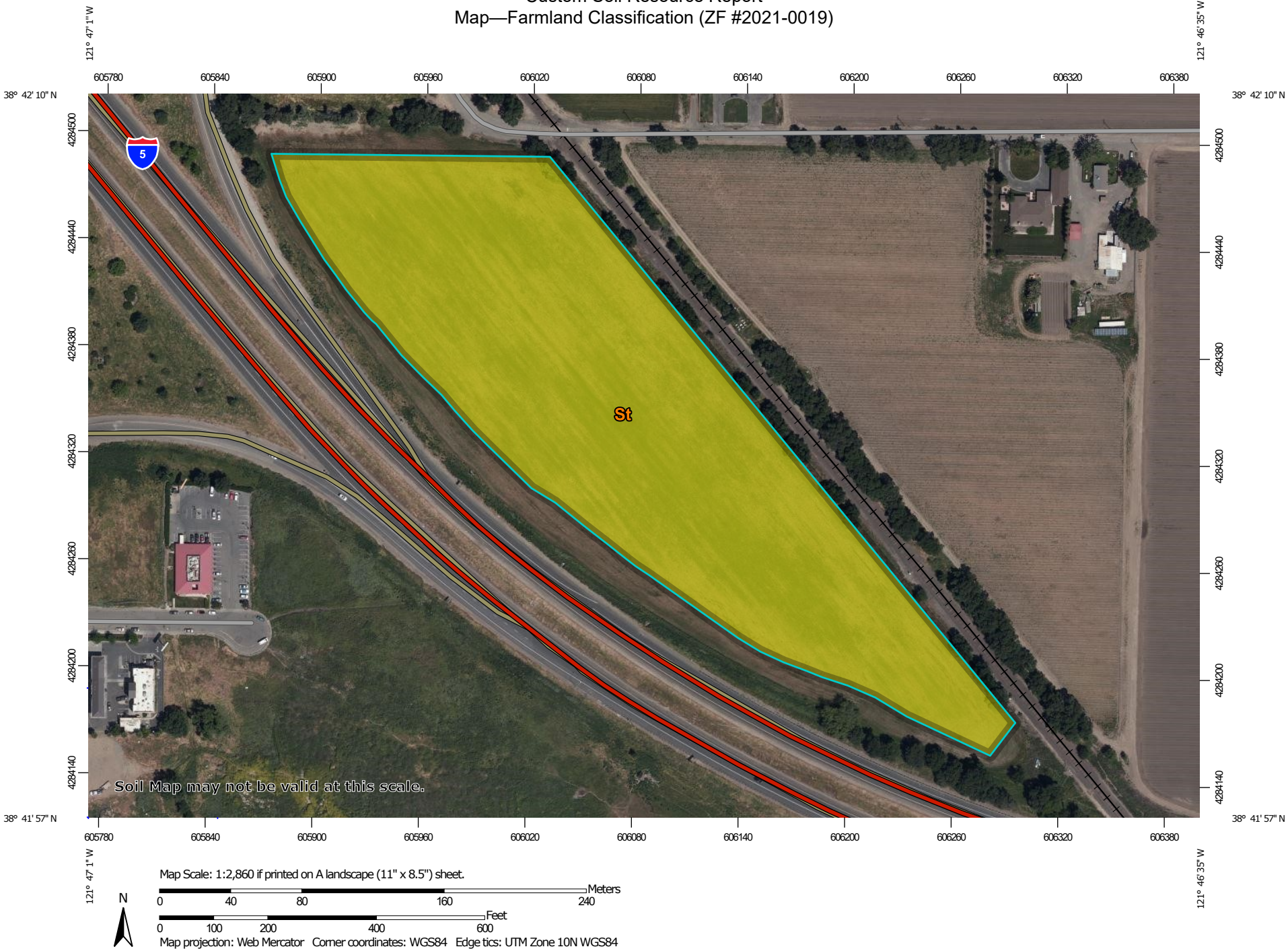
Land Classifications

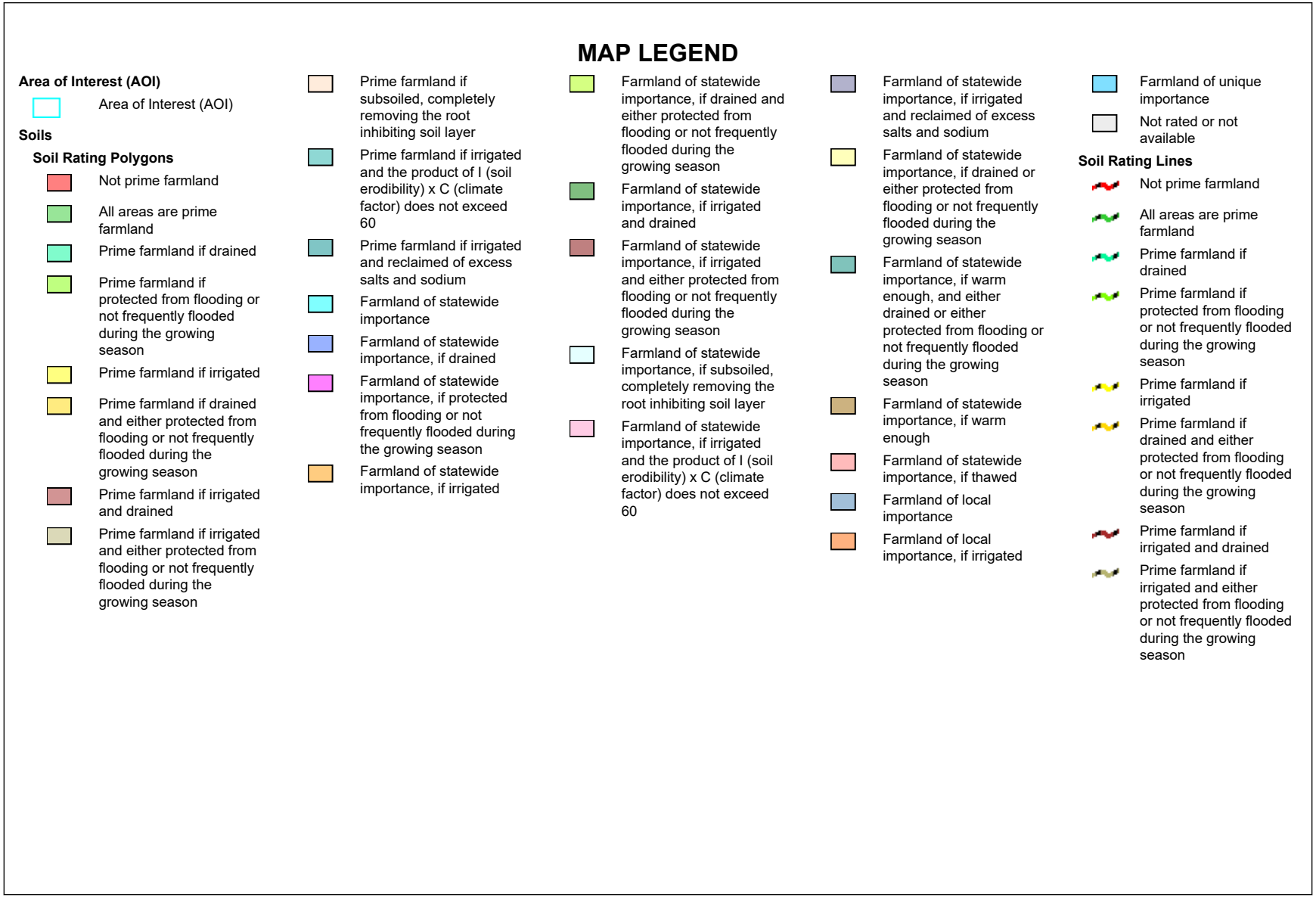
Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

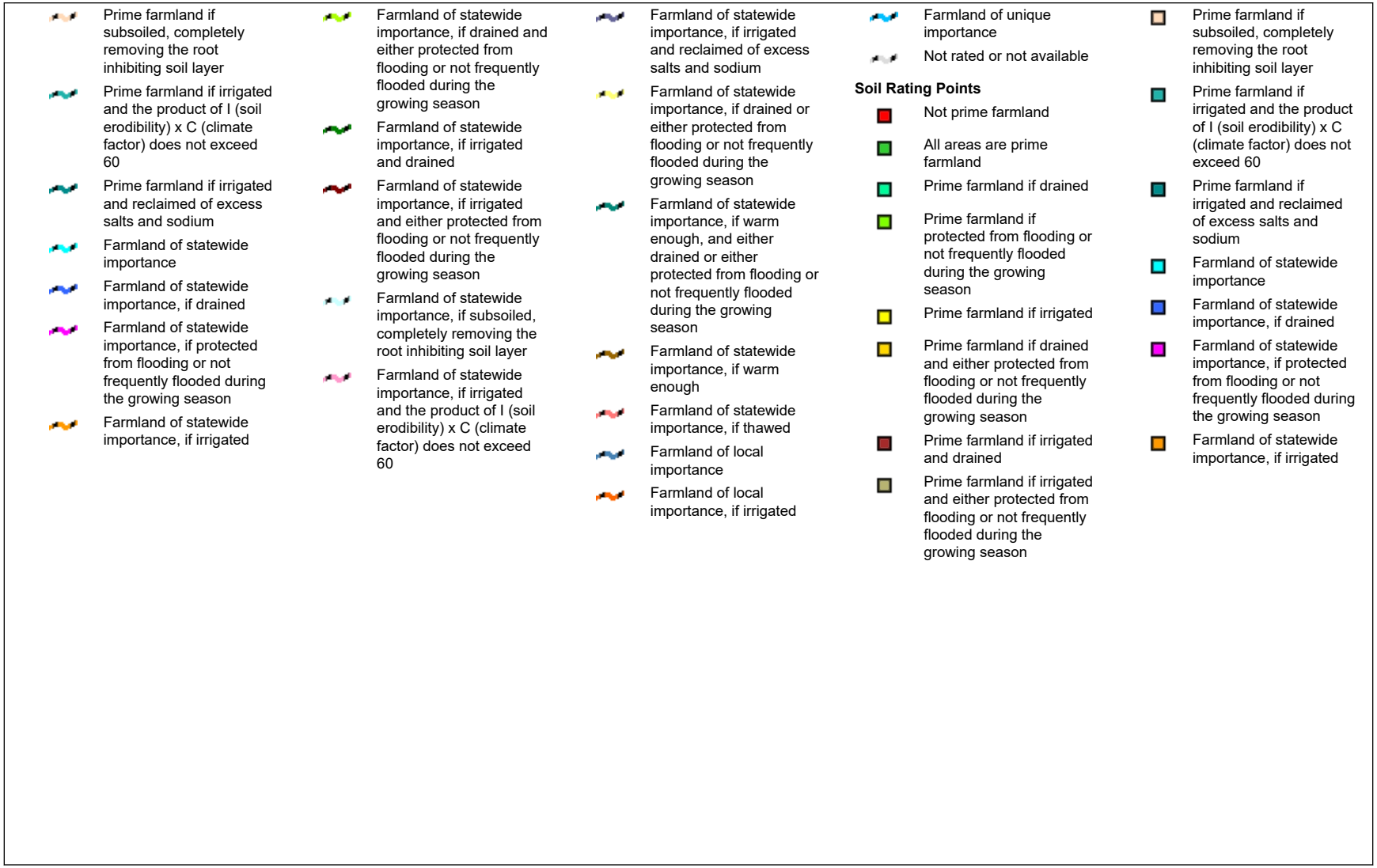
Farmland Classification (ZF #2021-0019)

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Map—Farmland Classification (ZF #2021-0019)




MAP LEGEND
Area of Interest (AOI)
Area of Interest (AOI)
Soils
Soil Rating Polygons
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Lines
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season


Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
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- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Yolo County, California
Survey Area Data: Version 16, Jun 1, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 26, 2019—May 1, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Farmland Classification (ZF #2021-0019)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
St	Sycamore silty clay loam, drained, 0 percent slopes, MLRA 17	Prime farmland if irrigated	12.0	100.0%
Totals for Area of Interest			**12.0**	**100.0%**

Rating Options—Farmland Classification (ZF #2021-0019)

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Nonirrigated Capability Class (ZF #2021-0019)

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations that show suitability and limitations of groups of soils for rangeland, for woodland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels-capability class, subclass, and unit. Only class and subclass are included in this data set.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have few limitations that restrict their use.

Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

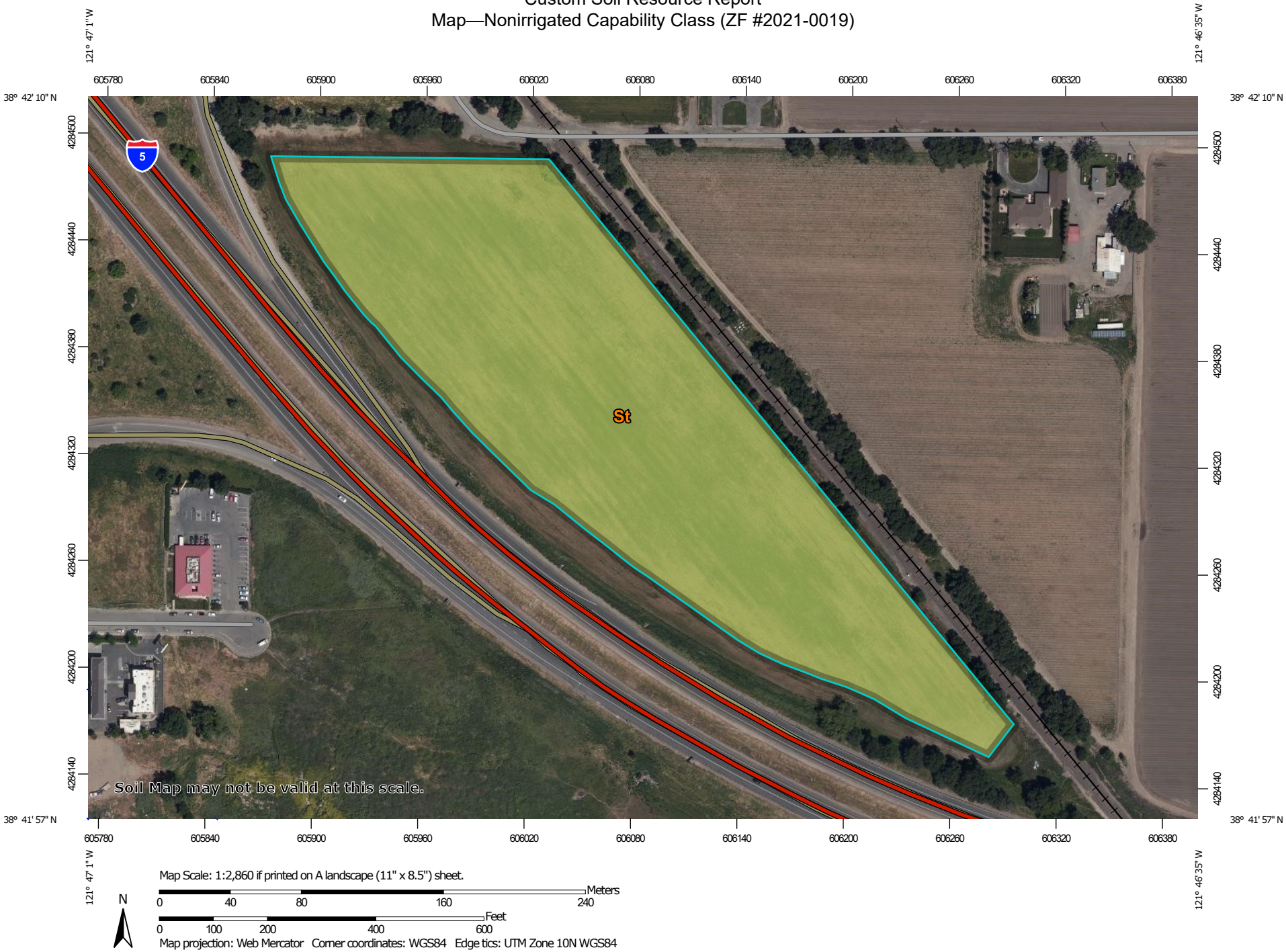
Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Map—Nonirrigated Capability Class (ZF #2021-0019)



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Capability Class - I
- Capability Class - II
- Capability Class - III
- Capability Class - IV
- Capability Class - V
- Capability Class - VI
- Capability Class - VII
- Capability Class - VIII
- Not rated or not available

Soil Rating Lines

- Capability Class - I
- Capability Class - II
- Capability Class - III
- Capability Class - IV
- Capability Class - V
- Capability Class - VI
- Capability Class - VII
- Capability Class - VIII
- Not rated or not available

Soil Rating Points

- Capability Class - I
- Capability Class - II
- Capability Class - III
- Capability Class - IV
- Capability Class - V
- Capability Class - VI
- Capability Class - VII
- Capability Class - VIII
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Yolo County, California
Survey Area Data: Version 16, Jun 1, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 26, 2019—May 1, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Nonirrigated Capability Class (ZF #2021-0019)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
St	Sycamore silty clay loam, drained, 0 percent slopes, MLRA 17	4	12.0	100.0%
Totals for Area of Interest			**12.0**	**100.0%**

Rating Options—Nonirrigated Capability Class (ZF #2021-0019)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Land Classifications

This folder contains a collection of tabular reports that present a variety of soil groupings. The reports (tables) include all selected map units and components for each map unit. Land classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

California Revised Storie Index (CA) (ZF #2021-0019)

The Revised Storie Index is a rating system based on soil properties that govern the potential for soil map unit components to be used for irrigated agriculture in California.

The Revised Storie Index assesses the productivity of a soil from the following four characteristics:

- Factor A: degree of soil profile development

- Factor B: texture of the surface layer

- Factor C: steepness of slope

- Factor X: drainage class, landform, erosion class, flooding and ponding frequency and duration, soil pH, soluble salt content as measured by electrical conductivity, and sodium adsorption ratio

Revised Storie Index numerical ratings have been combined into six classes as follows:

- Grade 1: Excellent (81 to 100)

- Grade 2: Good (61 to 80)

- Grade 3: Fair (41 to 60)

- Grade 4: Poor (21 to 40)

- Grade 5: Very poor (11 to 20)

- Grade 6: Nonagricultural (10 or less)

Reference:

O'Geen, A.T., Southard, S.B., Southard, R.J. 2008. A Revised Storie Index for Use with Digital Soils Information. University of California Division of Agriculture and Natural Resources. Publication 8355. http://anrcatalog.ucanr.edu/pdf/8335.pdf

Report—California Revised Storie Index (CA) (ZF #2021-0019)

California Revised Storie Index (CA)–Yolo County, California			
Map symbol and soil name	**Pct. of map unit**	**California Revised Storie Index (CA)**	
		Rating class	**Value**
St—Sycamore silty clay loam, drained, 0 percent slopes, MLRA 17			
Sycamore	85	Grade 2 - Good	63

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

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Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

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United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX E

FLOODPLAIN EFFECTS ANALYSIS

LAUGENOUR AND MEIKLE
CIVIL ENGINEERING · LAND SURVEYING · PLANNING

MEMORANDUM

TO: FLOODPLAIN ADMINISTRATOR
COUNTY OF YOLO
DEPARTMENT OF COMMUNITY SERVICES
292 WEST BEAMER STREET
WOODLAND, CALIFORNIA 95695

FROM: BRIAN DELEMOS, P.E., CA C66421
LAUGENOUR AND MEIKLE

DATE: AUGUST 11, 2021

SUBJECT: FLOODPLAIN EFFECTS ANALYSIS FOR THE WOODYARD, LLC PROJECT AT COUNTY ROAD 19A AND WEST STREET, WOODLAND, CALIFORNIA

INTRODUCTION:

This memorandum was prepared in support of the subject proposed project. The Site Plan for the project and its location are shown on **Exhibit 1, Site Plan for Proposed Buildings**. **Exhibit 2, Location of the Proposed Buildings in the Floodplain** shows the location of the proposed buildings of the project within the FEMA floodplain. This memorandum presents a summary of an analysis of potential effects of the proposed project to the floodplain. Because the effects to the floodplain appear to be relatively minor, the analysis is abbreviated. The topics discussed in the following sections include:

- Analysis Criteria
- Floodplain Effects

ANALYSIS CRITERIA:

The effects to the floodplain of the proposed development were evaluated based on County Code Section 8-4.403(a). According to Section 8-4.403(a), the Floodplain Administrator shall review all Flood Hazard Development Permits to determine that:

The proposed development does not adversely affect the carrying capacity of areas where base flood elevations have been determined but a floodway has not been designated. For purposes of this chapter, "adversely affects" means that the cumulative effect of the proposed development when combined with all other existing and anticipated development will increase the water surface elevation of the base flood more than one foot at any point."

FLOODPLAIN EFFECTS:

Reviewing the exhibits, the proposed buildings of the project, along with any minor grading at the site, would add only relatively minor obstruction to the relatively wide floodplain. Considering this, and that the project area is agricultural and no other significant development is anticipated, it is very unlikely that the project would increase the water surface elevation of the base flood more than one foot at any point. Thus, the proposed project would not be likely to adversely affect the floodplain.

If you have any questions, please feel free to call me at (530) 662-1755, or e-mail me at bdelemos@lmce.net.

Enclosures

EXHIBITS

IMPROVEMENT PLANS
FOR
WOODYARD STORAGE

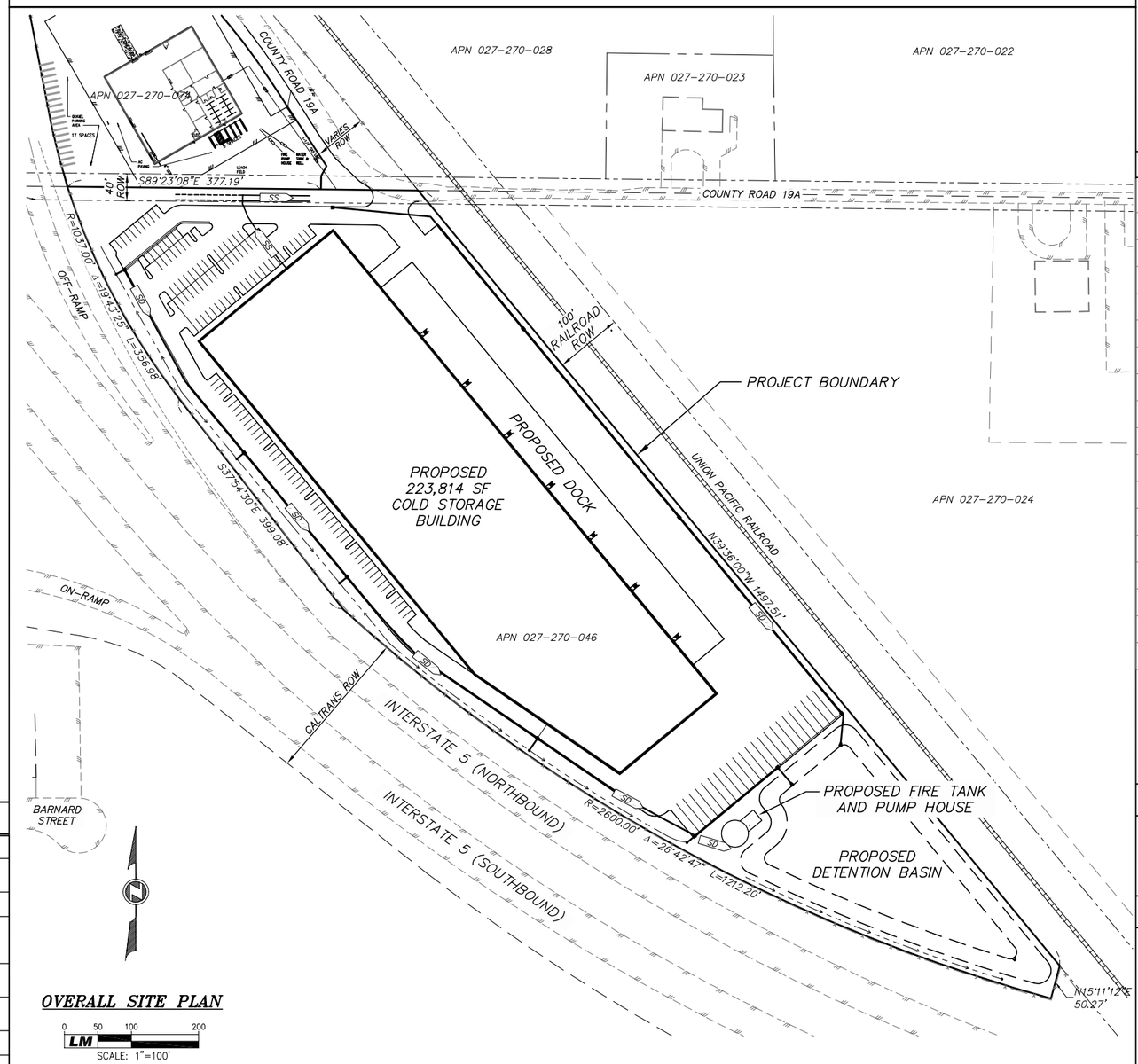
COUNTY ROAD 19A, WOODLAND — YOLO COUNTY, CA

LEGEND

PROPOSED	EXISTING	
12"SD	12"SD	STORM DRAIN AND MANHOLE
12"PSD		PERFORATED STORM DRAIN
6"SS	6"SS	SANITARY SEWER AND MANHOLE
8"SFM	8"SFM	SANITARY SEWER FORCE MAIN
P	P	SEWER PUMP STATION
		FIRE HYDRANT AND VALVE ASSEMBLY
10"W	10"W	WATER MAIN, VALVE, DOUBLE DETECTOR CHECK VALVE, METER & BLOWOFF VALVE
JT JT	JT JT	JOINT UTILITY TRENCH
GAS GAS	GAS GAS	GAS MAIN
(UG)E	(OH)E	ELECTRICAL LINE (UG–UNDERGROUND, OH–OVERHEAD)
(UG)T	(OH)T	TELEPHONE LINE (UG–UNDERGROUND, OH–OVERHEAD)
SL SL	SL SL	STREET LIGHT CONDUIT, WIRING & PULL BOX
SL SL E2	SL SL	STREET LIGHT SERVICE POINT AT UTILITY CO. BOX
		STREET LIGHT AND POLE
		UTILITY POLE WITH DOWN GUY & ANCHOR
PP, TP, JP	PP, TP, JP	POWER POLE, TELEPHONE POLE, JOINT POLE
x x x x	x x x x	FENCE
		VERTICAL CURB, GUTTER & SIDEWALK WITH DRIVEWAY
		CATCH BASIN OR DRAINAGE INLET
		FLOWLINE OF DITCH OR SWALE
		DIRECTION OF SURFACE DRAINAGE FLOW
		CUT OR FILL SLOPE
		RIGHT OF WAY OR PROPERTY LINE
		STREET CENTERLINE OR BASELINE
		SURVEY MONUMENT
		SIGN
		TREE
		TREE TO BE REMOVED
58.60 FG	19.79 × 12.04	EXISTING GROUND SURFACE ELEVATION
58.60 FL		EDGE OF PAVEMENT AND ELEVATION
59.10 TC, 58.60 AC, 58.60 FC		FLOW LINE GRADE
59.10 TC, 58.60 FG, 57.10 SG		TOP OF CURB GRADE/ASPHALT GRADE
60.50± TC, 60.00± FL, 60.50± FC, 60.50± AC, 60.50± BEW		FINISHED CONCRETE GRADE
		TOP OF CURB/FINISHED GRADE/SUBGRADE ELEVATION
		MATCH EXISTING GRADE (FIELD VERIFY)
		PUBLIC UTILITY EASEMENT
		ROLL CURB, GUTTER, & SIDEWALK
		GRADING RIDGE

UTILITY REPRESENTATIVES

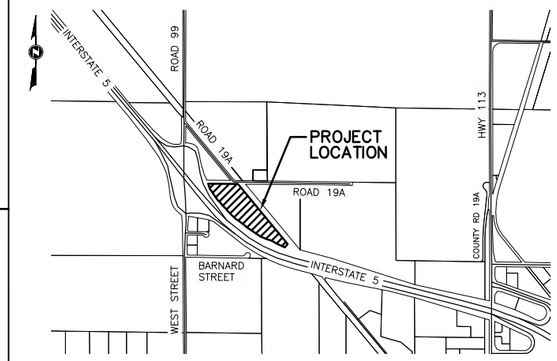
UTILITY	COMPANY	REPRESENTATIVE	PHONE NUMBER
GAS & ELECTRIC	P.G.&E.	BRANDON KING	(916) 351–0516
TELEPHONE	AT&T	LISA MARANO	(916) 484–2420
TELEPHONE	YOLO COUNTY TELECOMMUNICATIONS	TOM BATES	(530) 506–5012
CABLE TV	WAVE BROADBAND	FRANK BARGIEL	(916) 223–0123
WATER, SEWER, AND DRAINAGE	CITY OF WOODLAND	PUBLIC WORKS DEPARTMENT	(530) 661–5962
FIRE	CITY OF WOODLAND	REBECCA RAMIREZ	(530) 661–5860
USA			(800) 227–2600



OVERALL SITE PLAN

0 50 100 200
LM
SCALE: 1"=100'

VICINITY MAP



SHEET INDEX

GEOTECHNICAL REPORT

"GEOTECHNCIAL ENGINEERING REPORT", FILE NO. 4677–003, APRIL 15, 2021, RANEY GEOTECHNICAL INC, 3140 BEACON BOULEVARD, WEST SACRAMENTO, CA 95691.

BENCH MARKS

DESIGNATION – HPGN CA 03 08, CALIFORNIA DEPARTMENT OF TRANSPORTATION

DESCRIPTION:

FOUND CADT SURVEY DISK ATOP AN ALUMINUM ALLOY ROD ENCASED IN A PIPE WITH LOGO CAP SURROUNDED BY CONCRETE SET FLUSH WITH THE GROUND 62.7' NORTHWEST CENTER OF HWY 16 AND 148.6' SOUTH–SOUTHWEST OF THE CENTER OF THE SOUTHBOUND EXIT RAMP OF I–5 AND 52.2' NORTHEAST OF THE CENTER OF A PAVED ROAD LEADING NORTH AND 5.9' SOUTHEAST OF THE END OF A BARBED WIRE FENCE AND 3' SOUTHEAST OF A WITNESS POST.

DATUM: NAVD 88 ELEV: 77.7

REDUCED PLOT

DESIGNED BY TCT
DRAWN BY MSW
CHECKED BY TCT

REV.	DATE	DESCRIPTION	BY	APP'D.

LM LAUGENOUR AND MEIKLE
CIVIL ENGINEERING · LAND SURVEYING · PLANNING
608 COURT STREET, WOODLAND, CALIFORNIA 95695 · PHONE: (530) 662–1755
P.O. BOX 828, WOODLAND, CALIFORNIA 95776 · FAX: (530) 662–4602
BY _____
TODD C. TOMMERAASON
DATE 05/07/2021 P.E. 59277
REGISTERED PROFESSIONAL ENGINEER · TODD C. TOMMERAASON · No. 59277 · CIVIL · STATE OF CALIFORNIA

IMPROVEMENT PLANS FOR WOODYARD STORAGE
COUNTY ROAD 19A, WOODLAND — YOLO COUNTY, CALIFORNIA
TITLE SHEET

SCALE 1"=100'
DATE: 05/07/2021

C-001
SHEET 1 OF 17

\Land Projects\4147–5\dwg\4147–5_C001.dwg

EXHIBIT 1 - SITE PLAN FOR PROPOSED BUILDINGS

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 10. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum.** For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, MD 20910-3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov/.

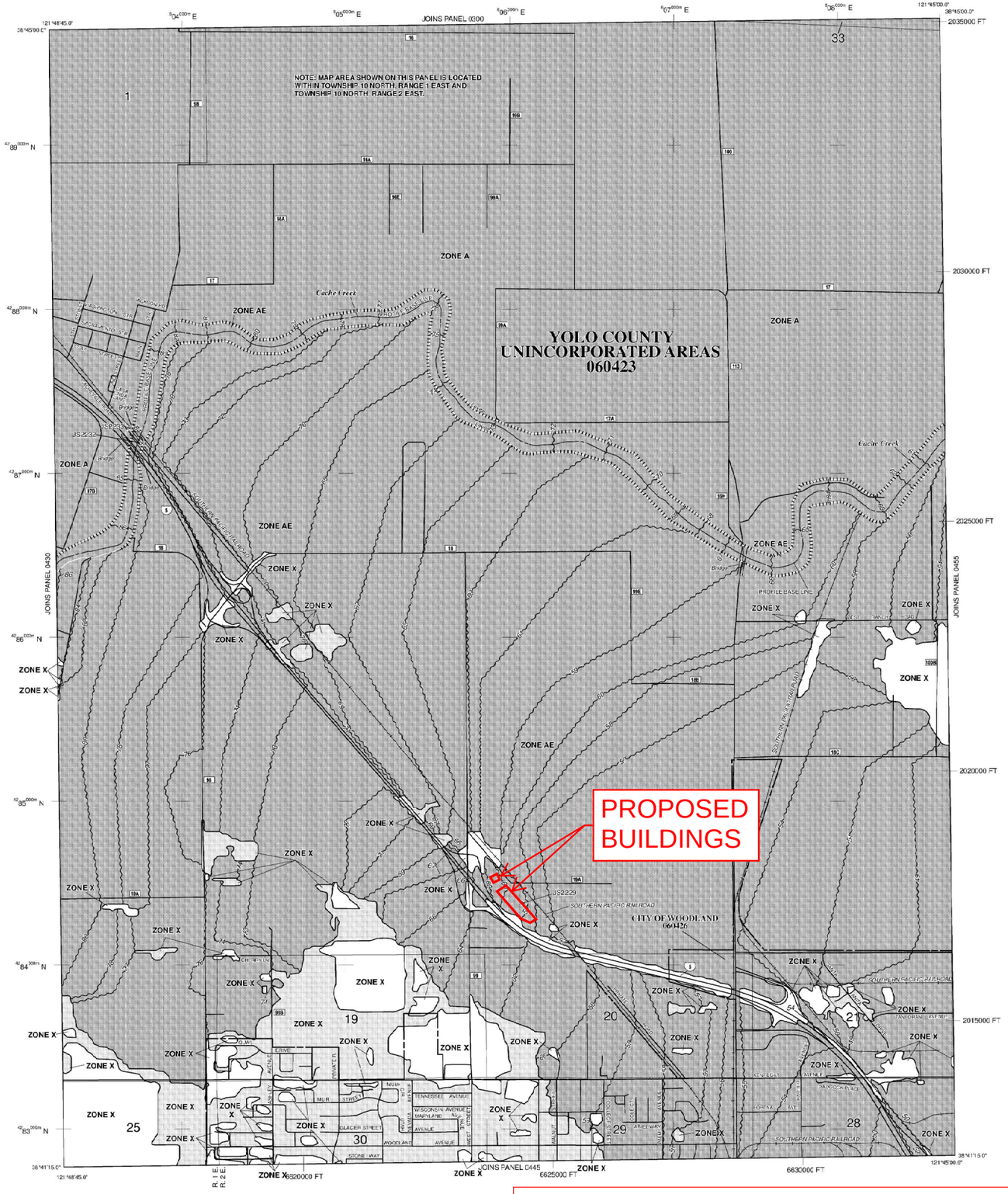
Base map transportation information shown on this FIRM was provided in digital format from Sacramento Area Council of Governments (SACOG). These data were developed in conjuction with the tax assessor's parcel base map and published by SACOG in June 2005.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the *Flood Insurance Study report (which contains authoritative hydraulic data)* may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the **FEMA Map Service Center** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the **FEMA Map Service Center** website or by calling the FEMA Map Information eXchange.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** No Base Flood Elevations determined.
- **ZONE AE** Base Flood Elevations determined.
- **ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** Area to be protected from 1% annual chance flood by a Federal Flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

- (A)—(A) Cross section line
- (23)—(23) Transect line
- 97°07'30", 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4275000mN 1000-meter Universal Transverse Mercator grid ticks, zone 10
- 6000000 FT 5000-foot grid ticks: California State Plane coordinate system, II zone (FIPSZONE 0402), Lambert Conformal Conic
- DX5510 Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
June 16, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
May 16, 2012 - to change Base Flood Elevations, to add Base Flood Elevation, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to delete Special Flood Hazard Areas, to reflect updated topographic information, and to advance suffix.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0435H

FIRM
FLOOD INSURANCE RATE MAP

YOLO COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 435 OF 785
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
YOLO COUNTY	060423	0435	H
WOODLAND, CITY OF	060426	0435	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06113C0435H

MAP REVISED
MAY 16, 2012

EXHIBIT 2 - LOCATION OF THE PROPOSED BUILDINGS IN THE FLOODPLAIN

APPENDIX F

TRANSPORTATION IMPACT STUDY

Transportation Impact Study

Yolo Cold Storage

Yolo County

Prepared by:
Abrams Associates
1875 Olympic Boulevard, Suite 210
Walnut Creek CA 94596

Abrams Associates
TRAFFIC ENGINEERING, INC.

August 31, 2021

Yolo Cold Storage Project
Yolo County

TRANSPORTATION IMPACT STUDY

1) EXECUTIVE SUMMARY

This traffic operations report describes the existing and future conditions for transportation with and without the proposed project. The project would be located just east of the I-5 interchange with Road 99 and West Street in Yolo County. The project is proposed to include a cold storage facility with 223,814 square feet of building space and approximately 20 employees. The site is currently undeveloped. Driveway access to the site would be via Road 19A. This study presents information on the regional and local roadway networks that serve the project site, the pedestrian and transit conditions in the area, and provides an analysis of the effects on transportation facilities associated with the project. This study has been conducted in accordance with the requirements and methodologies set forth by the Yolo County, Caltrans, and the applicable provisions of CEQA. Based on the project's design and a detailed analysis conducted according to the required transportation impact analysis guidelines there would be no significant impacts to traffic operations according to established traffic engineering standards and no off-site traffic or transportation mitigations would be required. Based on the County's adopted transportation impact analysis guidelines and CEQA Guidelines section 15064.3(c) the project would not have a significant impact on VMT, subject to approval by the County.[1]

2) PROJECT DESCRIPTION

As noted above, the proposed project includes a cold storage facility with 223,814 square feet of building space and approximately 20 employees. The site is currently undeveloped. All access to the site would be via Road 19A. **Figure 1** shows the location of the project and the surrounding roadway network. **Figure 2** shows the proposed site plan for the project.

3) ENVIRONMENTAL SETTING

This section of the report describes the roadways, traffic conditions and other existing transportation characteristics in the vicinity of the project. The primary basis of the analysis is the peak hour level of service for the key intersections. Throughout this report, these peak hours will be identified as the AM and PM peak hours.

[1] *Transportation Impact Study Guidelines, Yolo County, Woodland, CA*, February, 2010.

FIGURE 1 | PROJECT LOCATION AND STUDY INTERSECTIONS
TRANSPORTATION IMPACT STUDY
Yolo Cold Storage
Yolo County

Abrams Associates
TRAFFIC ENGINEERING, INC.

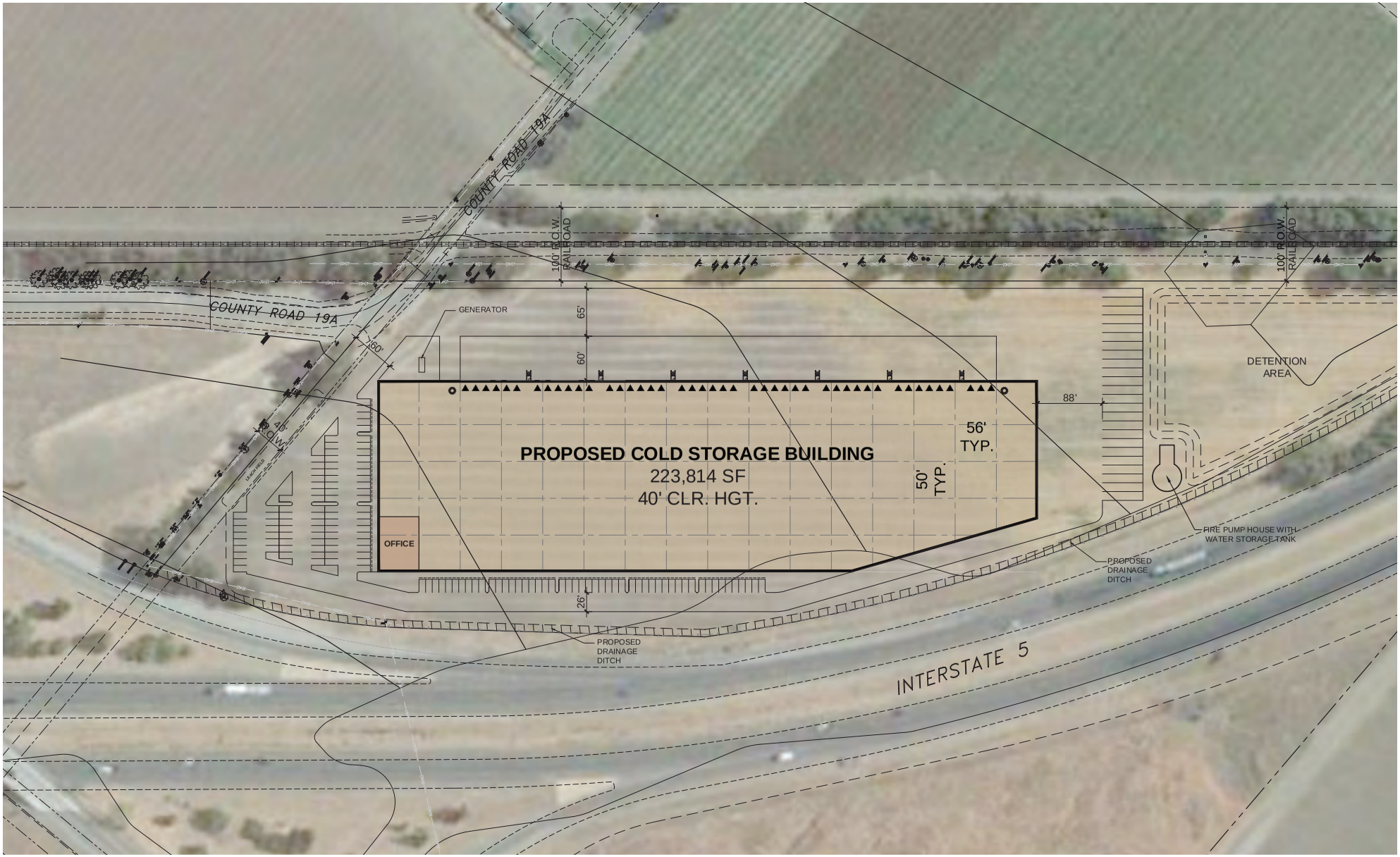


FIGURE 2 | SITE PLAN
TRANSPORTATION IMPACT STUDY
Yolo Cold Storage
Yolo County

Abrams Associates
TRAFFIC ENGINEERING, INC.

3.1 Project Study Intersections

Based on the project's trip generation and the potential for traffic impacts a list of project study intersections was prepared. **Figure 1** shows the location of the project study intersections. There are four (4) study intersections included in the analysis.

Project Study Intersections

1. *County Road 19A at County Road 99*
2. *I-5 Northbound Ramps at County Road 99/West Street*
3. *I-5 Southbound Ramps at West Street*
4. *Project Access at County Road 19A*

3.2 Traffic Analysis Scenarios

The study intersections were evaluated for the following five scenarios:

- Scenario 1: *Existing Conditions* – Level of Service (LOS) based on existing peak hour volumes and existing intersection configurations.
- Scenario 2: *Existing Plus Project* – Existing traffic volumes plus trips from the proposed project.
- Scenario 3: *Baseline (No Project) Conditions* – The Baseline (Year 2022) scenario is based on the existing volumes plus growth in background traffic plus the traffic from all reasonably foreseeable developments that could substantially affect the volumes at the project study intersections. For this analysis it was conservatively assumed that traffic would return to pre-covid levels by 2022 (conservatively assumed to be a 20% increase over the traffic volumes counted in August of 2021).
- Scenario 4: *Baseline Plus Project Conditions* – This scenario is based on the Baseline traffic volumes plus the trips from the proposed project.
- Scenario 5: *Cumulative Conditions* – This scenario includes year 2040 cumulative volumes based on planned and approved projects based on the SACSIM19 Travel Demand Forecast Model.
- Scenario 6: *Cumulative Plus Project Conditions* – This scenario includes year 2040 cumulative volumes plus the trips from the proposed project.

3.3 Existing Roadway Network

As discussed previously, the project location and the surrounding roadway network are illustrated in **Figure 1**. It should be mentioned that there are no Routes of Regional Significance located within the immediate project study area. The following is a more detailed description of the arterials that could be affected by the project:

- **I-5** – I-5 is a four-lane north-south freeway facility that connects the City of Woodland with the Sacramento region. I-5 is a major interstate that links northern and southern California with Oregon and Washington. Although is is a north-south freeway, near the project I-5 has a generally east-west orientation. Near the study area, access to I-5 is provided at the State Road 99/West Street interchange.

- **County Road 99** – Road 99 is a two-lane rural roadway that extends north from I-5 in the project area and terminates to the north at County Road 18. To the south of I-5 Road 99 is called West Street and is designated as a two-lane highway in the County's General Plan.

- **County Road 19A** – Road 19A is an east-west two lane rural roadway extending east from Road 99 just north of I-5. The roadway would provided access to the proposed project and also extends past it to serve about three residences located to the east of the project site.

3.4 Intersection Analysis Methodology

Existing operational conditions at the four (4) study intersections have been evaluated according to the requirements set forth by Yolo County using the methodology set forth in the Transportation Impact Study Guidelines (dated February, 2010). Analysis of traffic operations was conducted using the 6th Edition of the *Highway Capacity Manual* (*HCM*) Level of Service (LOS) methodology with Synchro software.[2] Level of service is an expression, in the form of a scale, of the relationship between the capacity of an intersection (or roadway segment) to accommodate the volume of traffic moving through it at any given time. The level of service scale describes traffic flow with six ratings ranging from A to F, with "A" indicating relatively free flow of traffic and "F" indicating stop-and-go traffic characterized by traffic jams. As the amount of traffic moving through a given intersection or roadway segment increases, the traffic flow conditions that motorists experience deteriorate as the capacity of the intersection is reached. Under such conditions relatively small incidents (e.g., momentary engine stall) can cause considerable fluctuations in speeds and delays that lead to traffic congestion. This near-capacity situation is labeled level of service (LOS) E. Beyond LOS E, the intersection or roadway segment capacity has been exceeded, and arriving traffic will exceed the ability of the intersection to accommodate it.

[2] *Highway Capacity Manual – Sixth Edition*, Transportation Research Board, Washington D.C., 2016.

For signalized intersections, The *HCM* methodology determines the capacity of each lane group approaching the intersection. The LOS is then based on average control delay (in seconds per vehicle) for the various movements within the intersection. A combined weighted average control delay and LOS are presented for the intersection. A summary of the HCM results and copies of the detailed HCM LOS calculations are included in the appendix to this report. **Table 1** summarizes the relationship between LOS, average control delay, and the volume to capacity ratio at signalized intersections.

For unsignalized (all-way stop controlled and two-way stop controlled) intersections, the average control delay and LOS operating conditions are calculated by approach (e.g., northbound) and movement (e.g., northbound left-turn) for those movements that are subject to delay. In general, the operating conditions for unsignalized intersections are presented for the worst approach. **Table 2** summarizes the relationship between LOS and average control delay at unsignalized intersections.

3.5 Existing Conditions Traffic Operations Analysis (Scenario 1)

The existing intersection geometry at each of the project study intersections can be seen in **Figure 3** and the existing traffic volumes at each are presented in **Figure 4.** Traffic counts at the study intersections were conducted in August of 2021. **Table 3** summarizes the associated LOS computation results for the existing weekday AM and PM peak hour conditions. Please note that the corresponding LOS analysis calculation sheets are presented in the *Traffic Analysis Appendix.* As shown in **Table 3**, all of the study intersections currently have acceptable conditions (LOS D or better) during the weekday AM and PM peak hours.

3.6 Pedestrian and Bicycle Facilities

Bicycle paths, lanes and routes are typical examples of bicycle transportation facilities, which are defined by Caltrans as being in one of the following four classes:

Class I – Provides a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized.

Class II – Provides a restricted right-of-way designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross-flows by pedestrians and motorists permitted.

Class III – Provides a route designated by signs or permanent markings and shared with pedestrians and motorists.

Class IV – Provides an adjacent bike lane or bikeway that is physically separated from motor vehicle traffic.

In the project vicinity, there are no pedestrian or bicycle facilities, with the exception of a sidewalk on the east side of Road 99 from the I-5 northbound ramps to the Arco Station.

TABLE 1
SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description of Operations	Average Delay (sec/veh)	Volume to Capacity Ratio
A	Insignificant Delays: No approach phase is fully used and no vehicle waits longer than one red indication.	≤ 10	< 0.60
B	Minimal Delays: An occasional approach phase is fully used. Drivers begin to feel restricted.	> 10 to 20	> 0.61 to 0.70
C	Acceptable Delays: Major approach phase may become fully used. Most drivers feel somewhat restricted.	> 20 to 35	> 0.71 to 0.80
D	Tolerable Delays: Drivers may wait through no more than one red indication. Queues may develop but dissipate rapidly without excessive delays.	> 35 to 55	> 0.81 to 0.90
E	Significant Delays: Volumes approaching capacity. Vehicles may wait through several signal cycles and long vehicle queues from upstream.	> 55 to 80	> 0.91 to 1.00
F	Excessive Delays: Represents conditions at capacity, with extremely long delays. Queues may block upstream intersections.	> 80	> 1.00

SOURCES: 2010 *Highway Capacity Manual*, Transportation Research Board, 2011. *Technical Procedures Update,* Contra Costa Transportation Authority, January 16, 2013.

TABLE 2
UNSIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description of Operations	Average Delay (seconds/vehicle)
A	No delay for stop-controlled approaches.	0 to 10
B	Operations with minor delays.	> 10 to 15
C	Operations with moderate delays.	> 15 to 25
D	Operations with some delays.	> 25 to 35
E	Operations with high delays and long queues.	> 35 to 50
F	Operation with extreme congestion, with very high delays and long queues unacceptable to most drivers.	> 50

SOURCE: 2010 *Highway Capacity Manual*, Transportation Research Board, 2011.

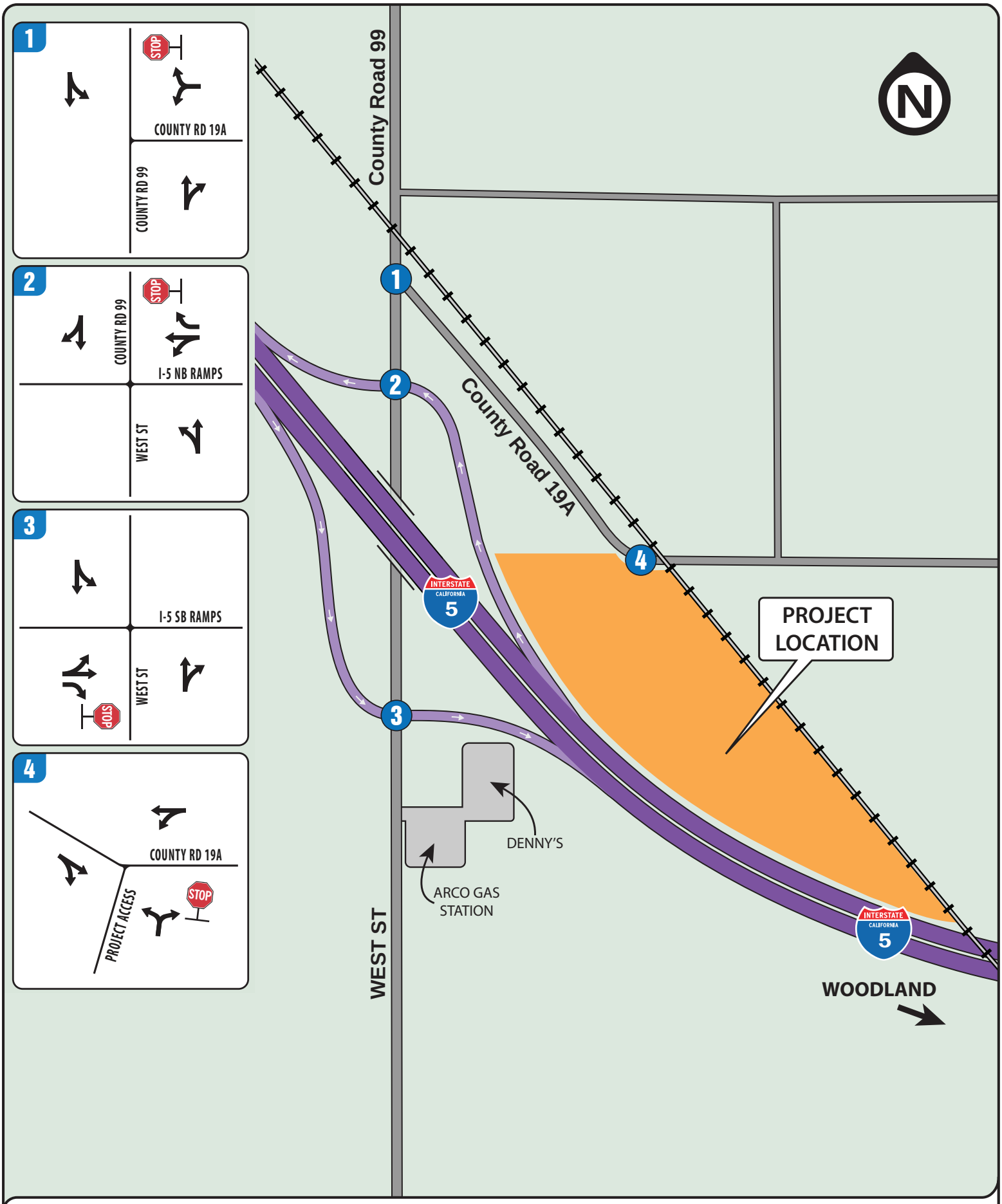


FIGURE 3 | EXISTING LANE CONFIGURATION
TRANSPORTATION IMPACT STUDY
Yolo Cold Storage
Yolo County

Abrams Associates
TRAFFIC ENGINEERING, INC.

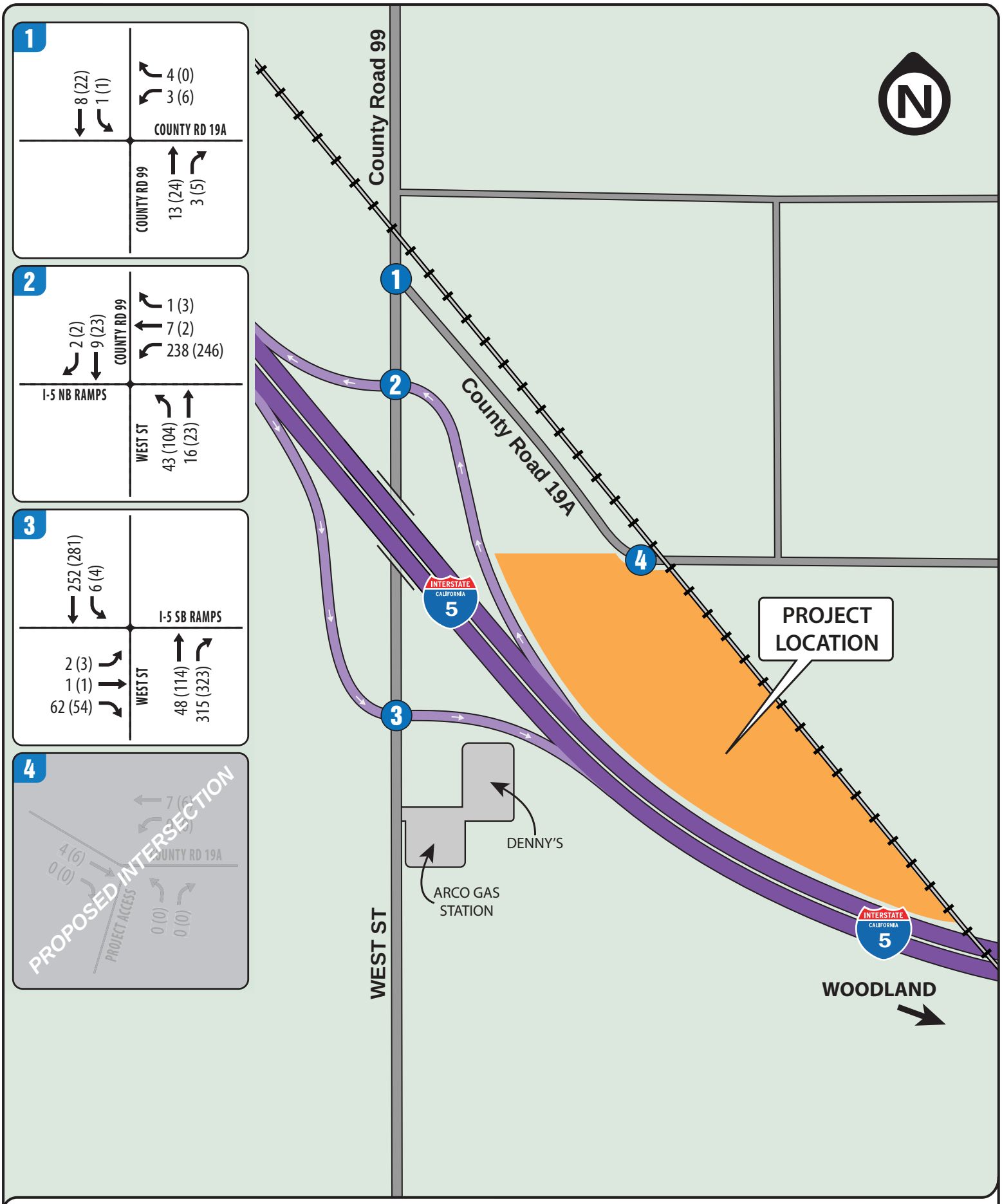


FIGURE 4 | EXISTING AM(PM) PEAK HOUR TRAFFIC VOLUMES
TRANSPORTATION IMPACT STUDY
Yolo Cold Storage
Yolo County

Abrams Associates
TRAFFIC ENGINEERING, INC.

TABLE 3
EXISTING INTERSECTION LEVEL OF SERVICE CONDITIONS

INTERSECTION		CONTROL	PEAK HOUR	EXISTING	
				Delay	LOS
1	COUNTY ROAD 19A & COUNTY ROAD 99	Side Street Stop	AM	8.5	A
			PM	8.8	A
2	I-5 NORTHBOUND RAMPS & WEST ST/COUNTY ROAD 99	Side Street Stop	AM	11.3	B
			PM	14.5	B
3	I-5 SOUTHBOUND RAMPS & WEST ST	Side Street Stop	AM	10.3	B
			PM	10.6	B
4	PROJECT ACCESS & COUNTY ROAD 19A	Side Street Stop	AM	N/A	N/A
			PM	N/A	N/A

SOURCE: Abrams Associates, 2021

NOTES: HCM LOS results are presented in terms of average intersection delay in seconds per vehicle. For stop-controlled intersections the results for the worst side street approach are presented.

3.7 Transit Service

The major public transit operator providing service within or adjacent to the study area is the Yolo County Transportation District, which is described below.

Yolo County Transportation District – The Yolo County Transportation District (YCTD) provides public transit service (Yolobus) in and around the City of Woodland. The 2006 Short Range Transit Plan (SRTP) sets the stage for implementing short-term service improvements while establishing a long-term transit vision. The SRTP does not identify any short-term transit enhancements near the project site but the City of Woodland and YCTD are currently proceeding with planning for a new Downtown Transit Center. Yolobus operates Routes 211 and 212 in west Woodland on weekdays with approximate one-hour headways. The nearest bus stop to the project site is approximately 1.3 miles away at the intersection of West Street and Beamer Street.

3.8 Heavy Rail

Approximately 100 feet east of the proposed project driveway there is an at-grade rail crossing on Road 19A for the California Northern Railroad tracks in this area. Unlike roadways, U.S. freight railroads are owned by private organizations who are responsible for their own maintenance and improvement projects. The crossing has currently has standard railroad crossing signage and is controlled with yield signs on both approaches.

4) REGULATORY CONTEXT

Existing policies, laws and regulations that apply to the proposed project are summarized below.

4.1 State

Caltrans - The California Department of Transportation (Caltrans) has jurisdiction over State highways. Therefore, Caltrans controls all construction, modification, and maintenance of State highways, such as I-5. Any improvements to these roadways would require Caltrans' approval. The Guide for the Preparation of Traffic Impact Studies provides consistent guidance for Caltrans staff who review local development and land use change proposals. The Guide also informs local agencies about the information needed for Caltrans to analyze the traffic impacts to state highway facilities which include freeway segments, on- or off-ramps, and signalized intersections.

California Public Utilities Commission - In California the Public Utilities Commission (CPUC) is designated as the agency that regulates highway/railroad crossings, pursuant to the Public Utilities Code. CPUC staff ensure that highway-rail and pathway-rail crossings are safely designed, constructed, and maintained. The Rail Crossings and Engineering Branch (RCEB) engineers evaluate requests to construct new rail crossings or modify existing crossings. They also evaluate rail crossing configurations after train-related incidents occur at rail crossings, and review complaints regarding rail crossings safety or conditions.

4.2 Local

Yolo County General Plan - The Transportation and Circulation Element included in the Yolo County General Plan was prepared pursuant to Section 65302(b) of the California Government Code. The Transportation and Circulation Element addresses the location and extent of existing and planned transportation routes, terminals, and other local public utilities and facilities. The General Plan identifies roadway and transit goals and policies that have been adopted to ensure that the transportation system of the County will have adequate capacity to serve planned growth. These goals and policies are intended to provide a plan and implementation measures for an integrated, multi-modal transportation system that will safely and efficiently meet the transportation needs of all economic and social segments of the County.

4.3 Significance Criteria

The goal of Yolo County is to maintain Level of Service (LOS) C during the peak hours. Project-related operational impacts on the City's intersections are considered significant if project-related traffic causes the Level of Service (LOS) rating to deteriorate from LOS C or better to LOS D, E or F. If an intersection(s) is operating unacceptably before the addition of project trips, it would be considered an operational impact if the project adds at least 10 peak hour trips.

In addition, according to CEQA guidelines and the County's Transportation Analysis Policy, a project would have a significant impact if it would:

- Conflict with a plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, including transit, roadway, bicycle and pedestrian facilities?
- Would the project conflict with or be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b)?
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment).
- Result in inadequate emergency vehicle access.

5) IMPACTS AND MITIGATION MEASURES

5.1 Project Trip Generation

The vehicle trip generation for the project is shown in **Table 4**. The trip generation rates are based on the Institute of Transportation Engineers (ITE) rates for warehousing (ITE Land Use Code 150) taken from the 10th Edition of the ITE Trip Generation Manual. It should be noted that ITE also provides trip rates for a cold storage warehouse (ITE Land Use Code 157). The peak hour trip rates for the cold storage warehouse category are about a third less than the warehousing trip rates, but since a portion of the project is proposed to be standard warehousing (and to be conservative) the ITE warehousing trip rates have been utilized for this analysis.

Based on the project's forecast employment the project would generate an increase in traffic of about 101 trips per day with 12 new vehicle trips during the AM peak hour and 13 trips during the PM peak hour. The trips generated by this proposed development are estimated for the peak commute hours which represent the peak of adjacent street traffic.

TABLE 4
TRIP GENERATION CALCULATIONS

Land Use	ITE Code	Size	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
ITE Warehousing Rates - Trips per Employee	150		5.05	0.44	0.17	0.61	0.24	0.42	0.66
Trip Generation from the Proposed Project		20 employees	**101**	**9**	**3**	**12**	**5**	**8**	**13**

SOURCE: ITE Trip Generation, 10th Edition, Washington D.C., September 2017.

It should be noted that to be conservative, the analysis of peak hour traffic operations and level of service utilizes higher trip generation estimates based on the square footage of the proposed building using the ITE rates per square foot. Based on the square footage of the project it could potentially generate an increase in traffic of up to 38 new vehicle trips during the AM peak hour and 43 trips during the PM peak hour. These estimates were used to evaluate the project's potential for traffic impacts.

5.2 Project Trip Distribution

The trip distribution assumptions have been based on the project's proximity to freeway interchanges, the existing directional split at nearby intersections, and the overall land use patterns in the area. **Figure 5** shows the project traffic that would be added at each of the study intersections.

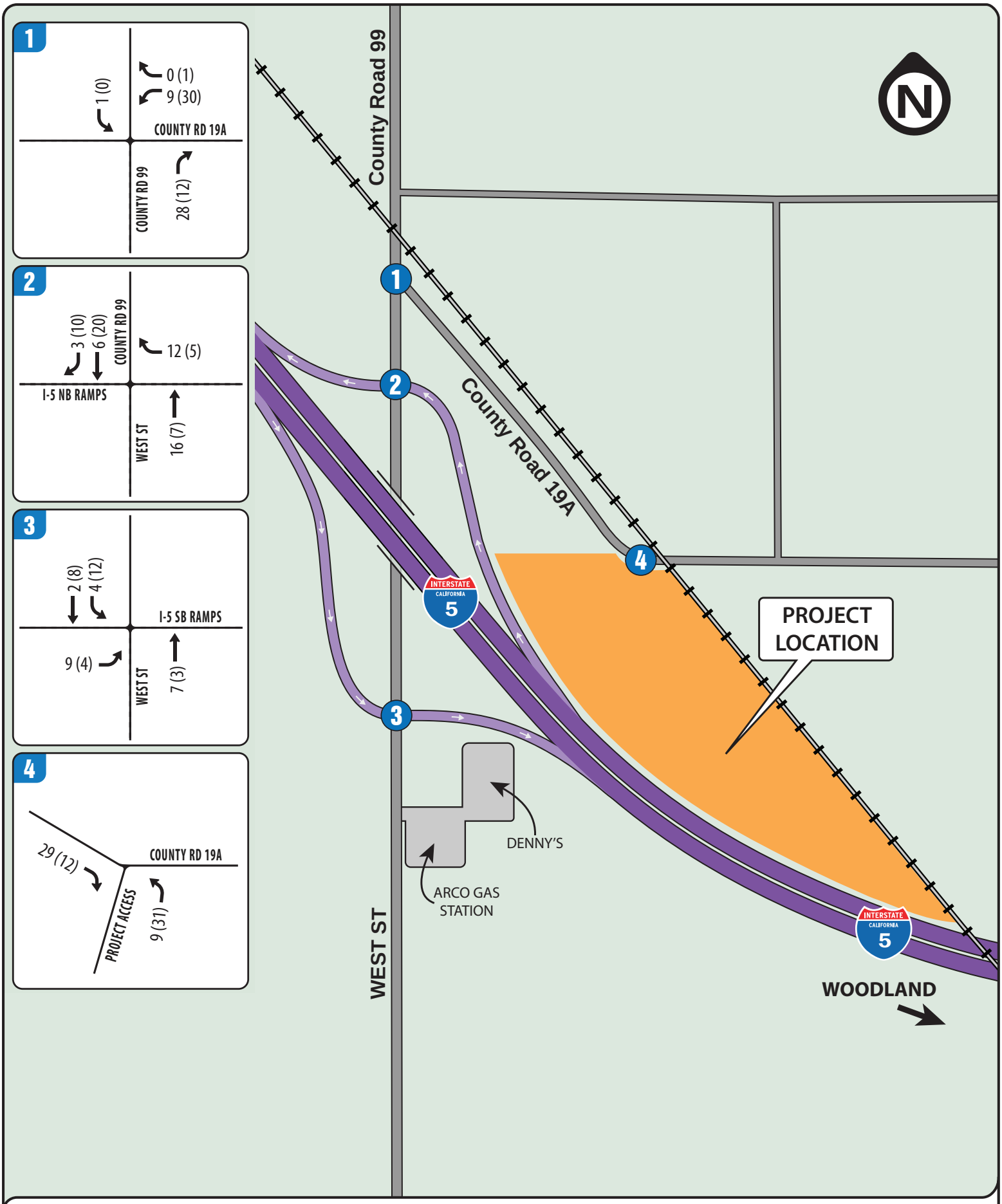


FIGURE 5 | PROJECT AM(PM) PEAK HOUR TRIPS
TRANSPORTATION IMPACT STUDY
Yolo Cold Storage
Yolo County

Abrams Associates
TRAFFIC ENGINEERING, INC.

5.3 Existing Plus Project Traffic Operations Analysis (Scenario 2)

This scenario evaluates the existing conditions with the addition of traffic from the proposed project. The traffic volumes for each of the study intersections for the Existing Plus Project scenario are shown in **Figure 6**. The capacity calculations for the Existing Plus Project scenario are shown in **Table 5**. As shown in **Table 5**, all of the existing project study intersections currently have acceptable operations during the weekday AM and PM peak hours.

TABLE 5
EXISTING PLUS PROJECT INTERSECTION LEVEL OF SERVICE CONDITIONS

	INTERSECTION	CONTROL	PEAK HOUR	EXISTING		EXISTING PLUS PROJECT	
				Delay	LOS	Delay	LOS
1	COUNTY ROAD 19A & COUNTY ROAD 99	Side Street Stop	AM	8.5	A	8.7	A
			PM	8.8	A	9.0	A
2	I-5 NORTHBOUND RAMPS & WEST ST/COUNTY ROAD 99	Side Street Stop	AM	11.3	B	11.5	B
			PM	14.5	B	15.2	C
3	I-5 SOUTHBOUND RAMPS & WEST ST	Side Street Stop	AM	10.3	B	10.6	B
			PM	10.6	B	10.9	B
4	PROJECT ACCESS & COUNTY ROAD 19A	Side Street Stop	AM	N/A	N/A	8.7	A
			PM	N/A	N/A	8.8	A

SOURCE: Abrams Associates, 2021

NOTES: HCM LOS results are presented in terms of average intersection delay in seconds per vehicle. For stop-controlled intersections the results for the worst side street approach are presented.

5.4 Baseline Traffic Operations Analysis (Scenario 3)

The Baseline scenario evaluates the existing conditions with the addition of traffic from reasonably foreseeable projects in the area and general baseline growth in traffic. For this analysis the baseline volumes were developed based on the assumption that the project completion and full occupancy date would be 2022 with a conservative assumption that the traffic volumes in the study area will have returned to 95% of pre-covid levels. This was conservatively assumed to be a 20% increase over the traffic volumes counted in August of 2021. The traffic volumes for each of the study intersections for the Baseline scenario are shown in **Figure 7**. **Table 6** summarizes the associated LOS computation results for the Baseline weekday AM and PM peak hour conditions.

5.5 Baseline *Plus Project* Traffic Operations Analysis (Scenario 4)

The Baseline plus proposed project traffic forecasts were developed by adding traffic from proposed project to the baseline traffic volumes. The traffic volumes for each of the study intersections for the Baseline Plus Project scenario are shown in **Figure 8**. **Table 6** summarizes the LOS results for the Baseline and Baseline Plus Project weekday AM and PM peak hour conditions. As shown in **Table 6**, all of the study intersections would continue to have acceptable conditions (LOS D or better) under the Baseline Plus Project scenario during the weekday AM and PM peak hours.

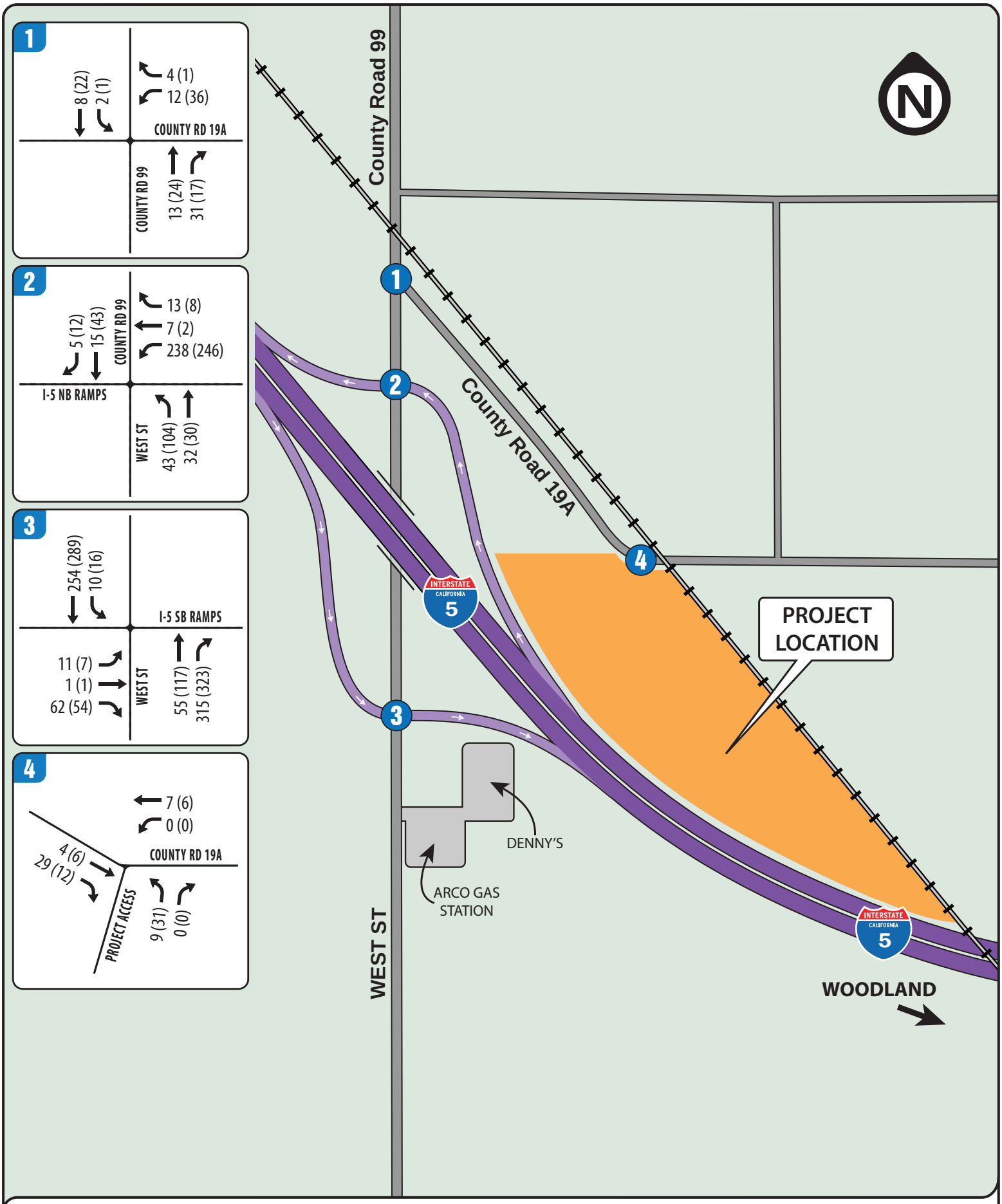


FIGURE 6 | EXISTING PLUS PROJECT AM(PM) PEAK HOUR TRAFFIC VOLUMES
TRANSPORTATION IMPACT STUDY
Yolo Cold Storage
Yolo County

Abrams Associates
TRAFFIC ENGINEERING, INC.

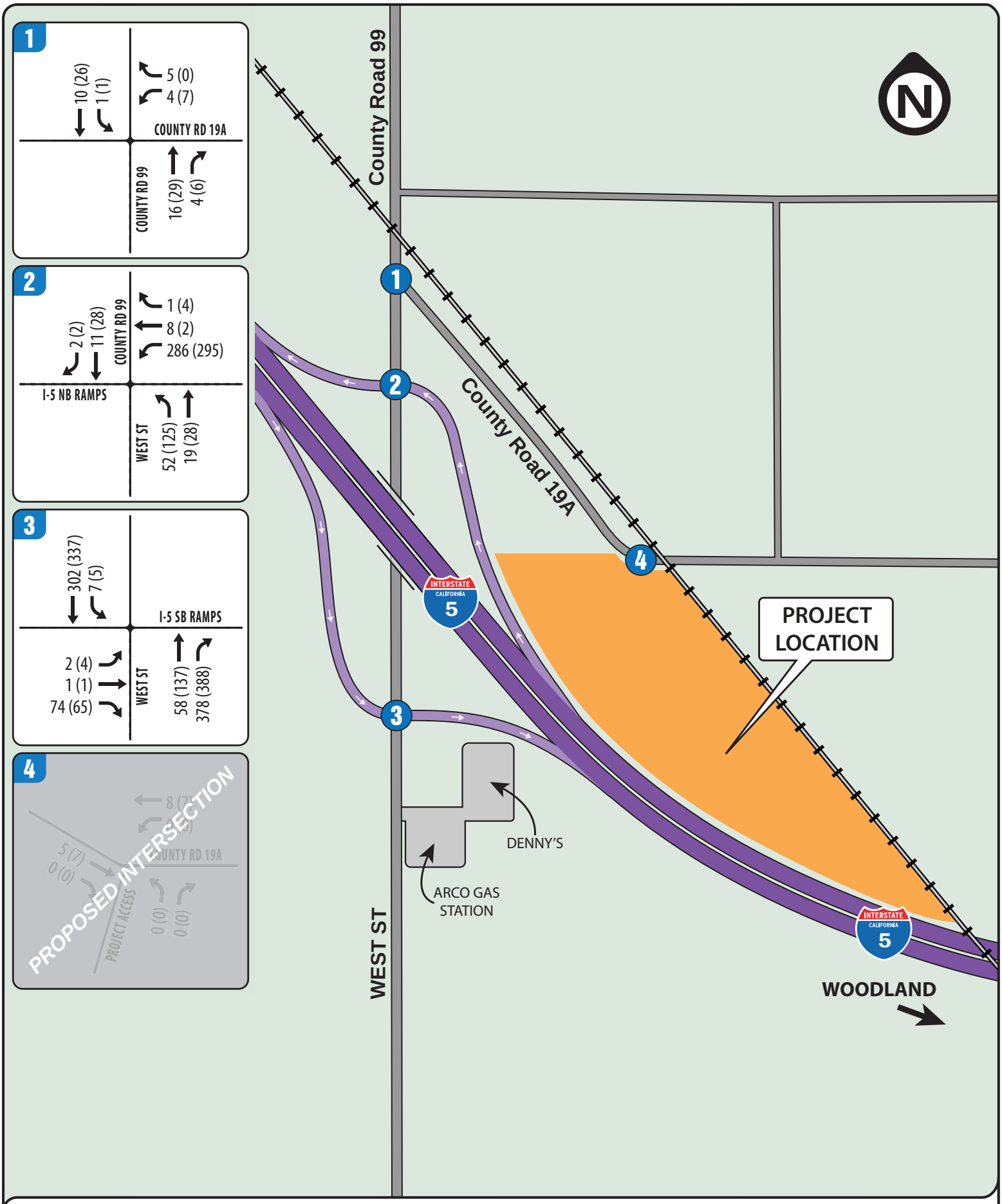


FIGURE 7 | BASELINE AM(PM) PEAK HOUR TRAFFIC VOLUMES
TRANSPORTATION IMPACT STUDY
Yolo Cold Storage
Yolo County

Abrams Associates
TRAFFIC ENGINEERING, INC.

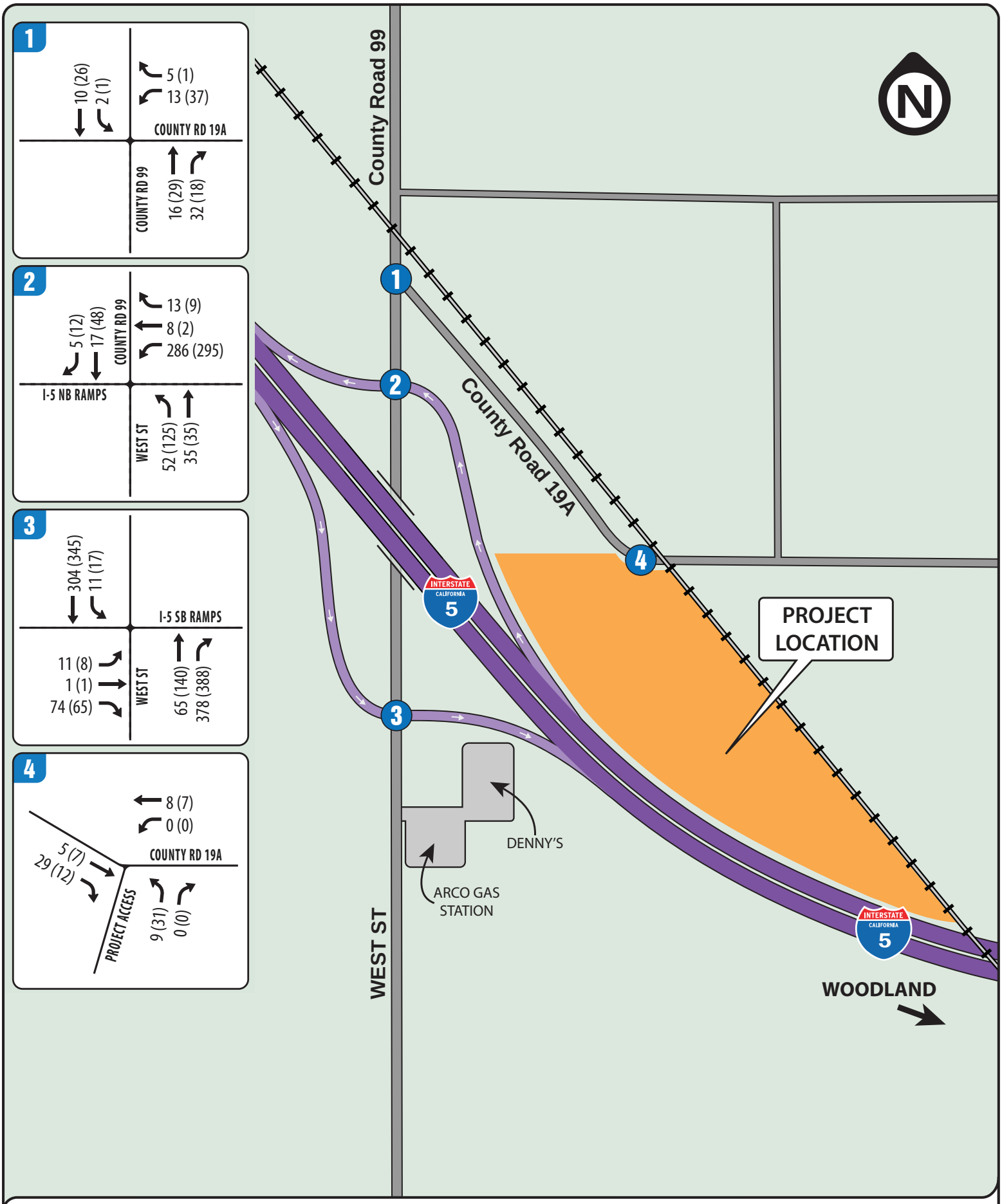


FIGURE 8 | BASELINE PLUS PROJECT AM(PM) PEAK HOUR TRAFFIC VOLUMES

TRANSPORTATION IMPACT STUDY

Yolo Cold Storage

Yolo County

Abrams Associates
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TABLE 6
BASELINE PLUS PROJECT INTERSECTION LEVEL OF SERVICE CONDITIONS

	INTERSECTION	CONTROL	PEAK HOUR	BASELINE		BASELINE PLUS PROJECT	
				Delay	LOS	Delay	LOS
1	COUNTY ROAD 19A & COUNTY ROAD 99	Side Street Stop	AM	8.6	A	8.8	A
			PM	8.9	A	9.1	A
2	I-5 NORTHBOUND RAMPS & WEST ST/COUNTY ROAD 99	Side Street Stop	AM	12.4	B	12.7	B
			PM	18.3	C	19.6	C
3	I-5 SOUTHBOUND RAMPS & WEST ST	Side Street Stop	AM	10.9	B	11.2	B
			PM	11.3	B	11.7	B
4	PROJECT ACCESS & COUNTY ROAD 19A	Side Street Stop	AM	N/A	N/A	8.7	A
			PM	N/A	N/A	8.8	A

SOURCE: Abrams Associates, 2021

NOTES: HCM LOS results are presented in terms of average intersection delay in seconds per vehicle. For stop-controlled intersections the results for the worst side street approach are presented.

5.6 Internal Circulation and Safety

Internal Circulation - No internal site circulation or access issues have been identified that would cause a traffic safety problem or any unusual traffic congestion or delay. In general, the project was not found to cause (or substantially increase) any safety hazards due to any design features or incompatible uses.

Safety - Although the project would increase vehicle and pedestrian traffic in the project vicinity it is not expected to significantly impact or change the design of any existing facilities or create any new safety problems in the area. Based on the established significance criteria the project's impacts on transportation safety would be less than significant and no mitigation would be required.

Rail Crossing - Although the project would increase vehicle and pedestrian traffic in the vicinity of the adjacent rail crossing, the majority of traffic to the site would be to and from the I-5 direction and little or no traffic would be expected to be added to the existing rail crossing. However, a review of the crossing based on the Federal Railroad Administration's *Highway-Rail Crossing Handbook* (Third Edition) indicates that additional signage and pavement markings may be appropriate for the crossing. These could include installation of railroad crossing pavement markings and railroad advance warning signs (Caltrans sign code W10-1) on each approach to the crossing. These should be located a minimum of 100 feet in advance of the rails, in accordance with Table 2C-4 of the California Manual of Uniform Traffic Control Devices (CAMUTCD).

5.7 Pedestrian and Bicycle Impacts

The County does not have level of service standards for pedestrian or bicycle facilities. Nevertheless, use of existing facilities by the users of the project would not be expected to overcrowd those facilities or decrease their performance or safety. The proposed project would not significantly impact or change the design of any existing or planned pedestrian facilities and should not create any new safety problems for pedestrians or bicyclists in the area. The project could add some bicyclists in the area but the volumes added would not be expected to add a significant number of bicyclists to any substandard bicycle facilities. In relation to the existing conditions, the proposed project would not cause substantial changes to the pedestrian or bicycle traffic in the area and would not significantly impact or require changes to the design of any existing bicycle or pedestrian facilities.

5.8 Transit Impacts

The project would not result in degradation of the level of service (or a significant increase in delay) on any roadway segments currently being utilized by bus transit in the area and, as such, no significant impacts to bus transit are expected. The proposed project would not interfere with VTA light rail, BART, or any existing bus routes and would not remove or relocate any existing bus stops. The proposed project could potentially help support existing transit services with additional transit ridership and would not conflict with any transit plans or goals of BART or the VTA. As a result, the project would not be expected to result in any significant impacts to bus transit service in the area.

5.9 Vehicle Miles Traveled

One performance measure that can be used to quantify the transportation impacts of a project is vehicle miles traveled (VMT). This section presents the extent of the VMT-related transportation impacts caused by the Project. The City has adopted a new transportation analysis policy that specifies vehicle miles traveled as the new metric for evaluating transportation impacts, and therefore a project's effect on automobile delay shall no longer constitute a significant impact. Because VMT is a relatively new method for measuring transportation impacts under CEQA, less data exists to estimate VMT than trip generation based on use and location. VMT is typically estimated using an area-wide travel demand model from a regional transportation agency that calculates VMT based on the number of vehicles multiplied by the typical distance traveled by each vehicle originating from or driving to a certain area.

VMT is a particularly useful metric for evaluating the impacts of growth on greenhouse gas (GHG) emissions because it can be used to estimate fuel consumption by motor vehicles. Increases in VMT cause proportional increases in greenhouse gas emissions and air pollution. The Office of Planning and Research (OPR) released their final proposed Guidelines in a Technical Advisory on Evaluating Transportation Impacts in CEQA, dated December 2018. This document states "*Absent substantial evidence indicating that a project would generate a*

potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact." The project meets these requirements and therefore, subject to City approval, this project would be considered to have a less than significant impact on the VMT in the area.

5.10 Cumulative Traffic Operations Analysis (Scenario 5)

For the cumulative conditions, the intersection traffic volumes were based on the existing turning movements plus incremental growth in background traffic based on the VTA's traffic forecasting model. **Figure 9** presents the cumulative build-out traffic volumes for the project study intersections. **Table 8** summarizes the LOS results for the Cumulative (Year 2040) traffic

TABLE 8
CUMULATIVE PLUS PROJECT INTERSECTION LEVEL OF SERVICE CONDITIONS

	INTERSECTION	CONTROL	PEAK HOUR	CUMULATIVE		CUMULATIVE PLUS PROJECT	
				Delay	LOS	Delay	LOS
1	COUNTY ROAD 19A & COUNTY ROAD 99	Side Street Stop	AM	8.6	A	8.8	A
			PM	8.9	A	9.1	A
2	I-5 NORTHBOUND RAMPS & WEST ST/COUNTY ROAD 99	Side Street Stop	AM	13.2	B	13.6	B
			PM	21.8	C	24.2	C
3	I-5 SOUTHBOUND RAMPS & WEST ST	Side Street Stop	AM	11.2	B	11.6	B
			PM	11.7	B	12.1	B
4	PROJECT ACCESS & COUNTY ROAD 19A	Side Street Stop	AM	N/A	N/A	8.7	A
			PM	N/A	N/A	8.8	A

SOURCE: Abrams Associates, 2021

NOTES: HCM LOS results are presented in terms of average intersection delay in seconds per vehicle. For stop-controlled intersections the results for the worst side street approach are presented.

conditions at each of the project study intersections. As shown on this table, the project study intersections would continue to have acceptable conditions during the weekday AM and PM peak commute hours.

5.11 Cumulative Plus Project Traffic Operations Analysis (Scenario 6)

Figure 10 presents the cumulative build-out traffic volumes including the traffic from the proposed project**. Table 8** summarizes the LOS results for the Cumulative Plus Project (Year 2040) traffic conditions at each of the project study intersection. As shown on this table, the project study intersections would continue to have acceptable conditions during the weekday AM and PM peak commute hours.

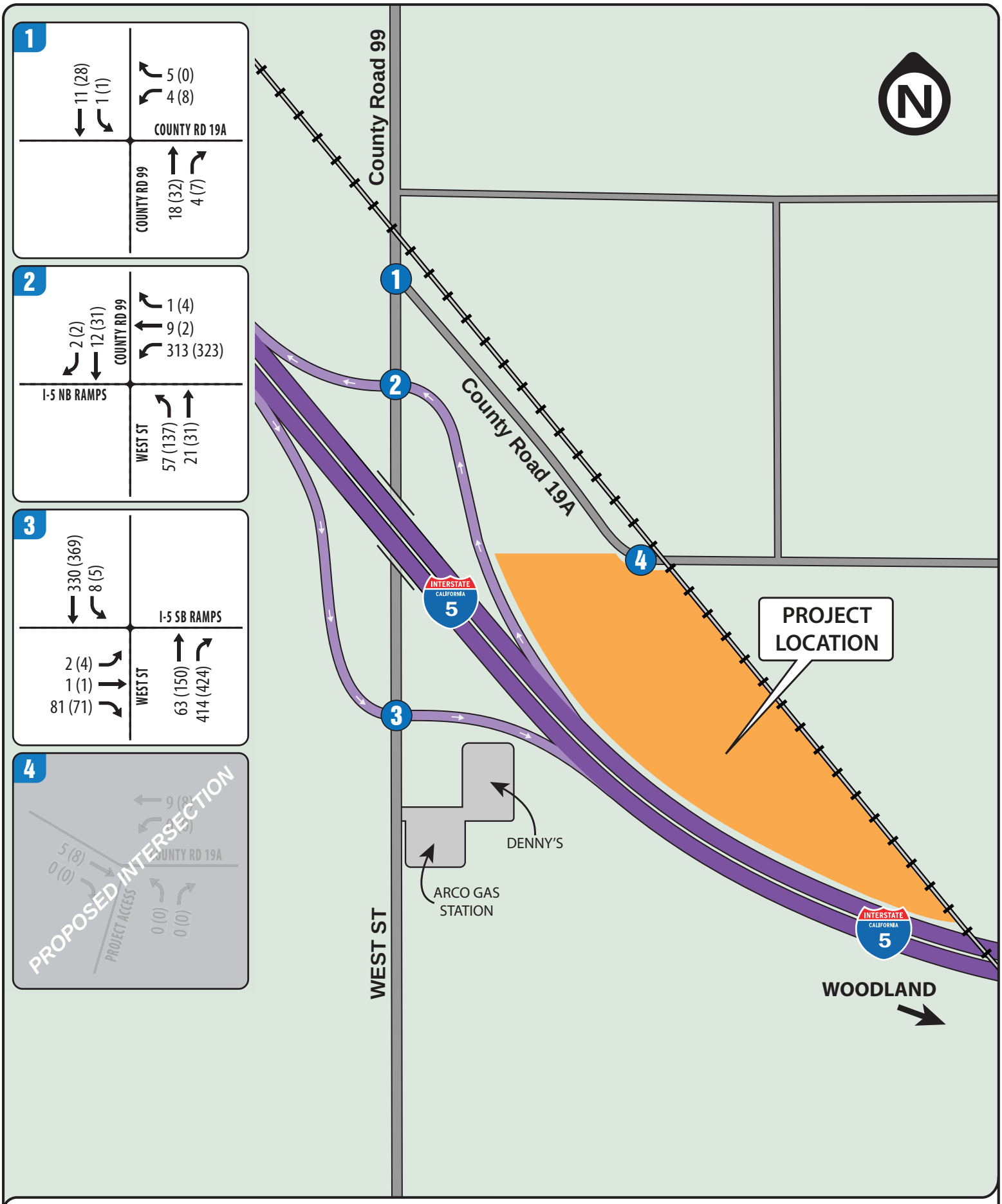

FIGURE 9 | CUMULATIVE AM(PM) PEAK HOUR TRAFFIC VOLUMES
TRANSPORTATION IMPACT STUDY
Yolo Cold Storage
Yolo County

Abrams Associates
TRAFFIC ENGINEERING, INC.

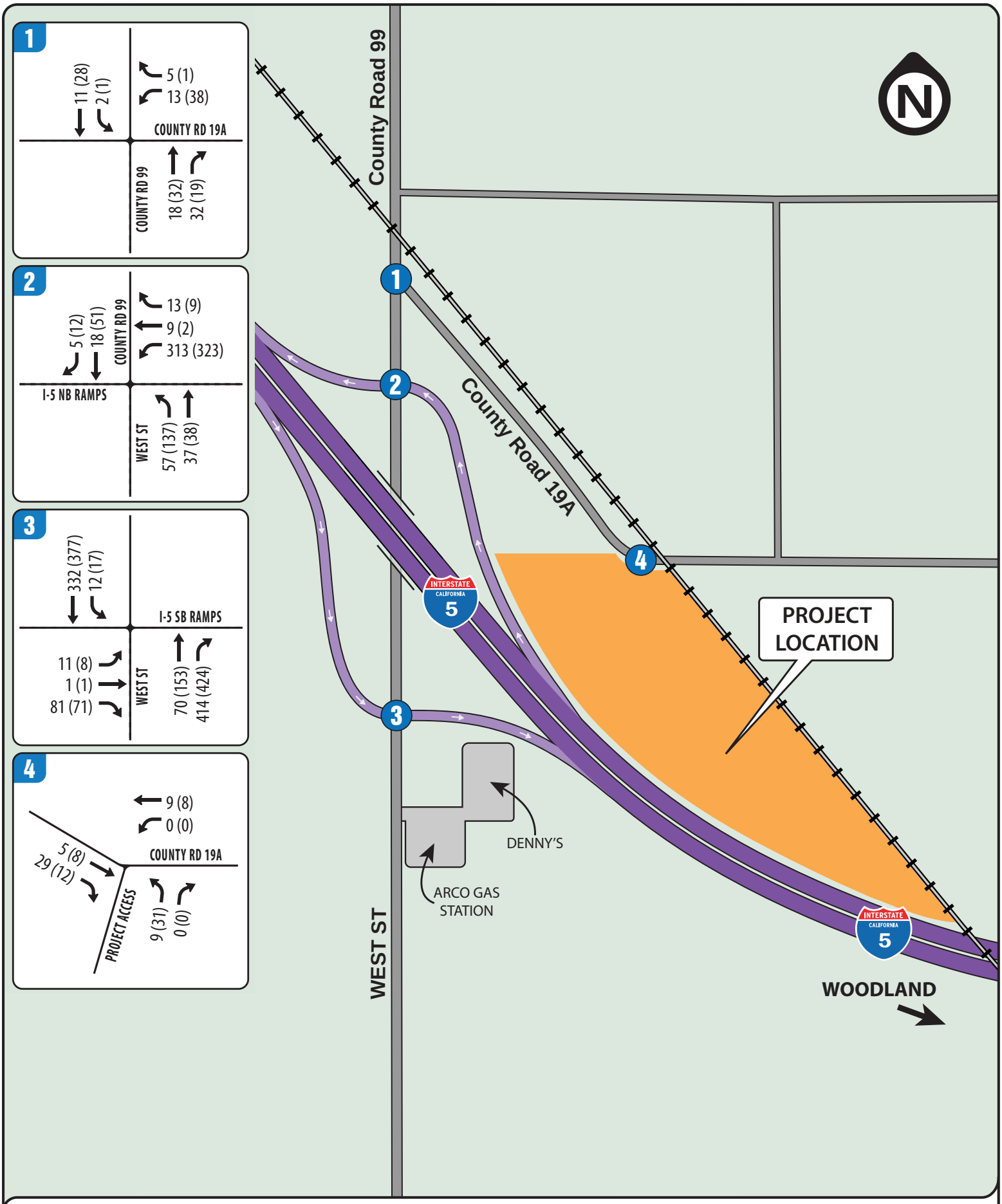

FIGURE 10 | CUMULATIVE PLUS PROJECT AM(PM) PEAK HOUR TRAFFIC VOLUMES
TRANSPORTATION IMPACT STUDY
Yolo Cold Storage
Yolo County

Abrams Associates
TRAFFIC ENGINEERING, INC.

5.12 Impacts and Mitigation Measures

Based on the project's design and a detailed analysis conducted according to the required guidelines there would be no significant transportation impacts according to established traffic engineering standards and no off-site traffic or transportation mitigations would be required.

Impact #1 Impacts related to conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or potential decreases to the performance or safety of such facilities.

The project would not result in degradation of the level of service (or a significant increase in delay) on any roadway segments currently being utilized by bus transit in the area and would not increase ridership beyond existing capacity. As such, no significant impacts to transit would be expected to occur. In addition, the proposed project would not significantly impact or change the design of any existing pedestrian facilities and would not create any new safety problems for pedestrians in the area. The project will add some bicyclists in the area but the volumes added would not be expected to significantly impact any existing bicycle facilities. In relation to the existing conditions, the proposed project would not cause substantial changes to the pedestrian or bicycle traffic in the area and would not significantly impact or require changes to the design of any existing or planned bicycle or pedestrian facilities.

Mitigation Measure(s)

None required.

Impact #2 Impacts relating to demolition and construction activities

The increase in traffic as a result of demolition and construction activities associated with the proposed project has been quantified assuming a worst-case single phase construction period of 12 months.

Heavy Equipment

Approximately five pieces of heavy equipment are estimated to be transported on and off the site each month throughout the demolition and construction of the proposed project. Heavy equipment transport to and from the site could cause traffic impacts in the vicinity of the project site during construction. However, each load would be required to obtain all necessary permits, which would include conditions. Prior to issuance of grading and building permits, the project applicant would be required to submit a Traffic Control Plan.

The requirements within the Traffic Control Plan include, but are not limited to, the following: truck drivers would be notified of and required to use the most direct route between the site and the freeway, as determined by the County Engineering

Department; all site ingress and egress would occur only at the main driveways to the project site and construction activities may require installation of temporary (or ultimate) traffic signals as determined by the County Engineer; specifically designated travel routes for large vehicles would be monitored and controlled by flaggers for large construction vehicle ingress and egress; any debris and mud on nearby streets caused by trucks would be monitored daily and may require instituting a street cleaning program. In addition, the transport of heavy equipment being hauled to and from the site each month would be short-term and temporary.

Employees

The weekday work is expected to begin around 7:00 AM and end around 4:00 PM. The construction worker arrival peak would occur between 6:30 AM and 7:30 AM, and the departure peak would occur between 4:00 PM and 5:00 PM. These peak hours are slightly before the countywide commute peaks. It should be noted that the number of trips generated during construction would not only be temporary, but would also be substantially less than the proposed project at buildout. Based on past construction of similar projects, construction workers could require parking for up to 50 vehicles during the peak construction period. Additionally, deliveries, visits, and other activities may generate peak non-worker parking demand of 10 to 15 trucks and automobiles per day. Therefore, up to 65 vehicle parking spaces may be required during the peak construction period for the construction employees. Furthermore, the Traffic Control Plan requires construction employee parking be provided on the project site whenever possible to eliminate conflicts with nearby residential areas. Because the construction of the project can be staggered so that construction worker parking demand is met by using on-site parking, the impacts of construction-related employee traffic and parking are considered less-than-significant.

Construction Material Import/Export

The project would also require removal of existing debris as well as the importation of construction material, including raw materials for the building pads, the buildings, and landscaping. During the maximum peak construction period, the project could generate approximately 15 truck trips per day. Furthermore, under the provisions of the Traffic Control Plan, if importation and exportation of material becomes a traffic nuisance, then the County Engineer may limit the hours the activities can take place.

Traffic Control Plan

The Traffic Control Plan would indicate how parking for construction workers would be provided during construction and ensure a safe flow of traffic in the project area

during construction. This analysis assumed construction of the entire project in one phase to identify the potential worst-case traffic effects. If the project is built in phases over time, the effects of each phase will be the same or less. Each phase will be subject to a Traffic Control Plan and oversight by the County Engineer. The last phase may require added worker parking measures, depending on the circumstances, as there will not be any remaining vacant land for parking. Therefore, the demolition and construction activities associated with the proposed project or its individual phases would not lead to noticeable congestion in the vicinity of the site or the perception of decreased traffic safety resulting in a ***less-than-significant*** impact.

Mitigation Measure(s)
None required.

Impact #3 Impacts related to site access and circulation.

The proposed project would have one access driveway for employees and deliveries. With the proposed stop-controlled exit for the project the driveway would be forecast to have acceptable operations. Based on a review of the proposed site plan it was determined that the site circulation should function well and would not cause any safety or operational problems. The project site design has been required to conform to County design standards and is not expected to create any significant impacts to pedestrians, bicyclists or traffic operations. Therefore, impacts related to access and circulation to the proposed project would be ***less-than-significant*** with implementation of the following mitigation measure.

Mitigation Measure(s)
None required.

Impact #4 Impacts regarding emergency vehicle access on and surrounding the proposed project site.

Sufficient emergency access is determined by factors such as number of access points, roadway width, and proximity to fire stations. The land use plan for the proposed project would include an access driveway on South Main Street. All lane widths within the project would meet the minimum width that can accommodate an emergency vehicle. In addition, the addition of traffic from project traffic would not result in any significant changes to emergency vehicle response times in the area. Therefore, subject to approval from the County and the fire department, the development of the proposed project is expected to have ***less-than-significant*** impacts regarding emergency vehicle access.

Mitigation Measure(s)
None required.

APPENDIX G

TREATMENT PROTOCOL FOR HANDLING HUMAN REMAINS AND CULTURAL ITEMS AFFILIATED WITH THE YOCHA DEHE WINTUN NATION

YOCHA DEHE
CULTURAL RESOURCES

Treatment Protocol for Handling Human Remains and Cultural Items Affiliated with the Yocha Dehe Wintun Nation

The purpose of this Protocol is to formalize procedures for the treatment of Native American human remains, grave goods, ceremonial items, and items of cultural patrimony, in the event that any are found in conjunction with development, including archaeological studies, excavation, geotechnical investigations, grading, and any ground disturbing activity. This Protocol also formalizes procedures for Tribal monitoring during archaeological studies, grading, and ground-disturbing activities.

I. Cultural Affiliation

The Yocha Dehe Wintun Nation ("Tribe") traditionally occupied lands in Yolo, Solano, Lake, Colusa and Napa Counties. The Tribe has designated its Cultural Resources Committee ("Committee") to act on the Tribe's behalf with respect to the provisions of this Protocol. Any human remains which are found in conjunction with Projects on lands culturally-affiliated with the Tribe shall be treated in accordance with Section III of this Protocol. Any other cultural resources shall be treated in accordance with Section IV of this Protocol.

II. Inadvertent Discovery of Native American Human Remains

Whenever Native American human remains are found during the course of a Project, the determination of Most Likely Descendant ("MLD") under California Public Resources Code Section 5097.98 will be made by the Native American Heritage Commission ("NAHC") upon notification to the NAHC of the discovery of said remains at a Project site. If the location of the site and the history and prehistory of the area is culturally-affiliated with the Tribe, the NAHC contacts the Tribe; a Tribal member will be designated by the Tribe to consult with the landowner and/or project proponents.

Should the NAHC determine that a member of an Indian tribe other than Yocha Dehe Wintun Nation is the MLD, and the Tribe is in agreement with this determination, the terms of this Protocol relating to the treatment of such Native American human remains shall not be applicable; however, that situation is very unlikely.

III. Treatment of Native American Remains

In the event that Native American human remains are found during development of a Project and the Tribe or a member of the Tribe is determined to be MLD pursuant to Section II of this Protocol, the following provisions shall apply. The Medical Examiner shall immediately be notified, ground disturbing activities in that location shall cease and the Tribe shall be allowed, pursuant to

California Public Resources Code Section 5097.98(a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and grave goods should be treated and disposed of with appropriate dignity.

The Tribe shall complete its inspection and make its MLD recommendation within forty-eight (48) hours of getting access to the site. The Tribe shall have the final determination as to the disposition and treatment of human remains and grave goods. Said determination may include avoidance of the human remains, reburial on-site, or reburial on tribal or other lands that will not be disturbed in the future.

The Tribe may wish to rebury said human remains and grave goods or ceremonial and cultural items on or near the site of their discovery, in an area which will not be subject to future disturbances over a prolonged period of time. Reburial of human remains shall be accomplished in compliance with the California Public Resources Code Sections 5097.98(a) and (b).

The term "human remains" encompasses more than human bones because the Tribe's traditions call for the burial of associated cultural items with the deceased (funerary objects), and/or the ceremonial burning of Native American human remains, funerary objects, grave goods and animals. Ashes, soils and other remnants of these burning ceremonies, as well as associated funerary objects and unassociated funerary objects buried with or found near the Native American remains are to be treated in the same manner as bones or bone fragments that remain intact.

IV. Non-Disclosure of Location of Reburials

Unless otherwise required by law, the site of any reburial of Native American human remains shall not be disclosed and will not be governed by public disclosure requirements of the California Public Records Act, Cal. Govt. Code § 6250 et seq. The Medical Examiner shall withhold public disclosure of information related to such reburial pursuant to the specific exemption set forth in California Government Code Section 6254(r). The Tribe will require that the location for reburial is recorded with the California Historic Resources Inventory System ("CHRIS") on a form that is acceptable to the CHRIS center. The Tribe may also suggest that the landowner enter into an agreement regarding the confidentiality of site information that will run with title on the property.

V. Treatment of Cultural Resources

Treatment of all cultural items, including ceremonial items and archeological items will reflect the religious beliefs, customs, and practices of the Tribe. All cultural items, including ceremonial items and archeological items, which may be found at a Project site should be turned over to the Tribe for appropriate treatment, unless otherwise ordered by a court or agency of competent jurisdiction. The Project Proponent should waive any and all claims to ownership of Tribal ceremonial and cultural items, including archeological items, which may be found on a Project site in

favor of the Tribe. If any intermediary, (for example, an archaeologist retained by the Project Proponent) is necessary, said entity or individual shall not possess those items for longer than is reasonably necessary, as determined solely by the Tribe.

VI. Inadvertent Discoveries

If additional significant sites or sites not identified as significant in a Project environmental review process, but later determined to be significant, are located within a Project impact area, such sites will be subjected to further archeological and cultural significance evaluation by the Project Proponent, the Lead Agency, and the Tribe to determine if additional mitigation measures are necessary to treat sites in a culturally appropriate manner consistent with CEQA requirements for mitigation of impacts to cultural resources. If there are human remains present that have been identified as Native American, all work will cease for a period of up to 30 days in accordance with Federal Law.

VIII. Work Statement for Tribal Monitors

The description of work for Tribal monitors of the grading and ground disturbing operations at the development site is attached hereto as Addendum I and incorporated herein by reference.

YOCHA DEHE
CULTURAL RESOURCES

ADDENDUM I

Yocha Dehe Wintun Nation
Tribal Monitors
Description of Work and Treatment Protocol

I. Preferred Treatment

The preferred protocol upon the discovery of Native American human remains is to (1) secure the area, (2) cover any exposed human remains or other cultural items, and (3) avoid further disturbances in the area.

II. Comportment

All parties to the action are strongly advised to treat the remains with appropriate dignity, as provided in Public Resource Code Section 5097.98. We further recommend that all parties to the action treat tribal representatives and the event itself with appropriate respect. For example, jokes and antics pertaining to the remains or other inappropriate behavior are ill advised.

III. Excavation Methods

If, after the Yocha Dehe Tribal representative has been granted access to the site and it is determined that avoidance is not feasible, an examination of the human remains will be conducted to confirm they are human and to determine the position, posture, and orientation of the remains. At this point, we recommend the following procedures:

(A) Tools. All excavation in the vicinity of the human remains will be conducted using fine hand tools and fine brushes to sweep loose dirt free from the exposure.

(B) Extent of Exposure. In order to determine the nature and extent of the grave and its contents, controlled excavation should extend to a full buffer zone around the perimeter of the remains.

(C) Perimeter Balk. To initiate the exposure, a perimeter balk (especially, a shallow trench) should be excavated, representing a reasonable buffer a minimum of 10 cm around the maximum extent of the known skeletal remains, with attention to counter-intuitive discoveries or unanticipated finds relating to this or other remains. The dirt from the perimeter balk should be bucketed, distinctly labeled, and screened for cultural materials.

(D) Exposure Methods. Excavation should then proceed inward from the walls of the balk as well as downward from the surface of the exposure. Loose dirt should be scooped out and brushed off into a dustpan or other collective device. Considerable care should be given to ensure that human remains are not further impacted by the process of excavation.

YOCHA DEHE
CULTURAL RESOURCES

(E) Provenience. Buckets, collection bags, notes, and tags should be fully labeled per provenience, and a distinction should be made between samples collected from: (1) **Perimeter Balk** (described above), (2) **Exposure** (dirt removed in exposing the exterior/burial plan and associations, and (3) **Matrix** (dirt from the interstices between bones or associations). Thus, each burial may have three bags, "Burial 1 Perimeter Balk," "Burial 1 Exposure Balk," "Burial 1 Matrix."

Please note the provisions below with respect to handling and conveyance of records and samples.

(F) Records. The following records should be compiled in the field: (1) a detailed scale drawing of the burial, including the provenience of and full for all human remains, associated artifacts, and the configuration of all associated phenomena such as burial pits, evidence for preinterment grave pit burning, soil variability, and intrusive disturbance, (2) complete a formal burial record using the consultants proprietary form or other standard form providing information on site #, unit or other proveniences, level depth, depth and location of the burial from a fixed datum, workers, date(s), artifact list, skeletal inventory, and other pertinent observations, (3) crew chief and worker field notes that may supplement or supercede information contained in the burial recording form, and (4) photographs, including either or standard photography or high-quality (400-500 DPI or 10 MP recommended) digital imaging.

(G) Stipulations for Acquisition and Use of Imagery. Photographs and images may be used only for showing location or configuration of questionable formation or for the position of the skeleton. They are not to be duplicated for publication unless a written release is obtained from the Tribe.

(H) Association. Association between the remains and other cultural materials should be determined in the field in consultation with an authorized Tribal representative, and may be amended per laboratory findings. Records of provenience and sample labels should be adequate to determine association or degree of likelihood of association of human remains and other cultural materials.

(I) Samples. For each burial, all **Perimeter Balk** soil is to be 1/8"-screened. All **Exposure** soil is to be 1/8"-screened, and a minimum of one 5-gallon bucket of excavated but unscreened Exposure soil is to be collected, placed in a plastic garbage bag in the bucket. All **Matrix** soil is to be carefully excavated, screened as appropriate, and then collected in plastic bags placed in 5-gallon buckets.

(J) Human remains are not to be cleaned in the field.

(K) Blessings. Prior to any physical action related to human remains, a designated tribal representative will conduct prayers and blessings over the remains. The archaeological consultant will be responsible for insuring that individuals and tools involved in the action are available for traditional blessings and prayers, as necessary.

IV. Lab Procedures
No laboratory studies are permitted without consultation with the tribe. Lab methods are determined on a project-specific basis in consultation with Yocha Dehe Wintun Nation representatives. The following procedures are recommended:

(A) Responsibility. The primary archaeological consultant will be responsible for insuring that all lab procedures follow stipulations made by the Tribe.

(B) Blessings. Prior to any laboratory activities related to the remains, a designated tribal representative will conduct prayers and blessings over the remains. The archaeological consultant will be responsible for insuring that individuals and tools involved in the action are available for traditional blessings and prayers, as necessary.

(C) Physical Proximity of Associations. To the extent possible, all remains, associations, samples, and original records are to be kept together throughout the laboratory process. In particular, **Matrix** dirt is to be kept in buckets and will accompany the remains to the lab. The primary archaeological consultant will be responsible for copying all field records and images, and insuring that the original notes and records accompany the remains throughout the process.

(*E) Additional Lab Finds*. Laboratory study should be done making every effort to identify unanticipated finds or materials missed in the field, such as objects encased in dirt or human remains misidentified as faunal remains in the field. In the event of discovery of additional remains, materials, and other associations the tribal representatives are to be contacted immediately.

V. Re-internment without Further Disturbance
No laboratory studies are permitted on human remains and funerary objects. The preferred treatment preference for exhumed Native American human remains is reburial in an area not subject to further disturbance. Any objects associated with remains will be reinterred with the remains.

YOCHA DEHE
CULTURAL RESOURCES

VI. Curation of Recovered Materials

Should all, or a sample, of any archaeological materials collected during the data recovery activities – with the exception of Human Remains – need to be curated, an inventory and location information of the curation facility shall be given to tribe for our records.