Taro Echiburú, DIRECTOR

County of Yolo

DEPARTMENT OF COMMUNITY SERVICES

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NOTICE OF INTENT TO ADOPT A NEGATIVE DECLARATION

Notice is hereby given that the County of Yolo, as lead agency, has prepared an Initial Study/ Negative Declaration (IS/ND) for the below referenced project. The IS/ND analyzes the potential environmental effects associated with the proposed project in accordance with the California Environmental Quality Act (CEQA). In accordance with Section 15072 of the CEQA Guidelines, Yolo County has prepared this Notice of Intent to provide responsible agencies and other interested parties with notice of the availability of the IS/ND and solicit comments and concerns regarding the environmental issues associated with the proposed project.

LEAD AGENCY: Yolo County Department of Community Services
292 West Beamer Street
Woodland, CA 95695

CONTACT PERSON: Stephanie Cormier, Principal Planner
530-666-8041
stephanie.cormier@yolocounty.org

PROJECT TITLE: Yocha Dehe Wintun Nation Fire Access Road (ZF#2019-0017)

PROJECT LOCATION: County Road 78, Brooks, CA 95606 (contiguous to APNs 048-230-002 and 048-010-001)

PROJECT DESCRIPTION:

The “project” is the construction of an approximately 3,500 linear-foot gravel road that would run north from County Road 78 across two properties. The proposed fire access road would provide emergency vehicle access and wildfire protection to lands north of the project site, which are owned by the Yocha Dehe Wintun Nation (Tribe). The project is located on property owned by the Tribe in the community of Brooks. Project activity extends across two parcels which comprise a portion of what is referred to as the ‘Schwarz’ property. The new road would cross two natural drainage features, where a single-barrel eight-foot by eight-foot reinforced concrete box culvert crossing would be constructed at the northernmost crossing to pass the flow under the roadway. An eroding drainage near the new crossing would be stabilized to protect the new road from erosion. The southernmost drainage crossing would have three 36-inch rubber gasketed reinforced concrete pipes installed. Erosion protection would be provided at all culvert outlets.

PUBLIC REVIEW PERIOD: A 30-day public review period of the Initial Study/Negative Declaration will commence **on April 9, 2019 and end on May 9, 2019** during which interested individuals and public agencies may submit written comments on the document. Any written comments on the IS/ND must be received at the above address within the public review period.

AVAILABILITY OF DOCUMENTS: The Initial Study/Negative Declaration is now available for public review at the following location during normal business hours: Yolo County Community Services

Department, 292 W. Beamer Street, Woodland, CA 95695. **The IS/ND has been posted to the Yolo County Web site and may be downloaded and printed at http://www.yolocounty.org/community-services/planning-public-works/planning-division/current-projects.** A PDF digital file of the IS/ND, or a hard (paper) copy of the IS/ND, is also available upon request from the Planning Division at the address or e-mail below.

The Initial Study/ Negative Declaration may be obtained from, and comments (written, e-mailed, or oral) may be directed to:

Stephanie Cormier, Principal Planner
Yolo County Department of Community Services
292 W. Beamer Street
Woodland, CA. 95695
(530) 666-8041
stephanie.cormier@yolocounty.org

All interested parties are invited to send written communications to the Yolo County Community Services Department no later than commencement of the public review period.

Pursuant to California Government Code Section 65009(b)(2) and other provisions of law, any lawsuit challenging the approval of a project described in this notice shall be limited to only those issues raised or described in written correspondence delivered for consideration before the public comment period is closed.

YOLO COUNTY DEPARTMENT OF COMMUNITY SERVICES

INITIAL STUDY/NEGATIVE DECLARATION

YOCHA DEHE WINTUN NATION
FIRE ACCESS ROAD

April 2019

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Figure & Tables

Attachments

1 ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION

1.	***Project Title:***	Yocha Dehe Wintun Nation Fire Access Road
2.	***Lead Agency Name and Address:***	Yolo County Department of Community Services 292 West Beamer Street, Woodland, CA 95695
3.	***Contact Person and Phone Number:***	Stephanie Cormier, Principal Planner, 530-666-8041
4.	***Project Location:***	County Road 78, Brooks, CA 95606
5.	***Project Sponsor's Name and Address:***	Yocha Dehe Wintun Nation P.O. Box 18, Brooks, CA 95606
6.	***General Plan Designation:***	Agriculture (AG)
7.	***Zoning:***	Agricultural Intensive (A-N)

8. ***Description of Project:***

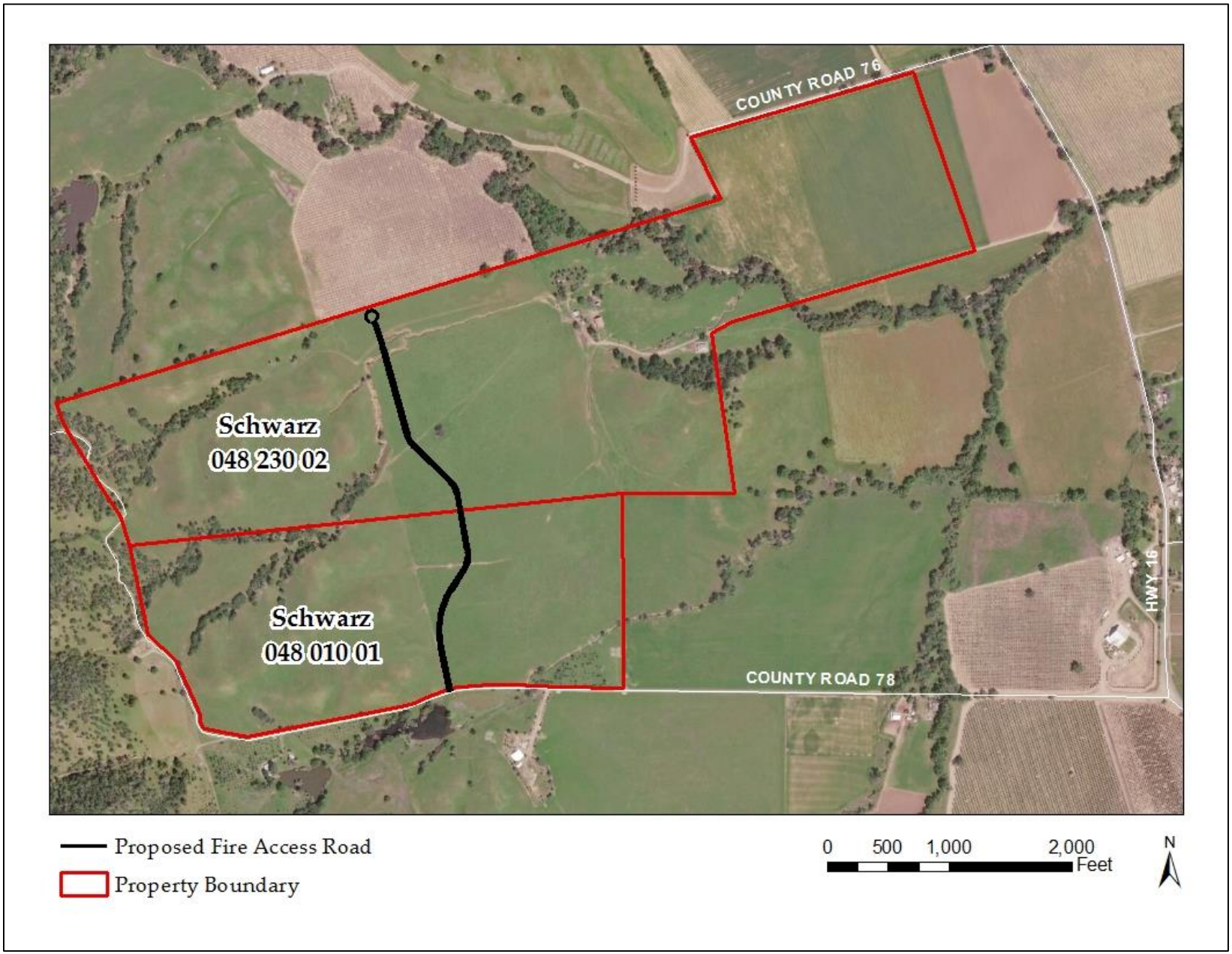
Project Location

The project site is located on property owned by the Yocha Dehe Wintun Nation (Tribe), along State Route 16 (SR-16) in the town of Brooks, in the Capay Valley of Yolo County, CA. It extends across two parcels designated by Yolo County Assessor's parcel numbers (APNs) 048-230-002 and 048-010-001, which comprise a portion of what is referred to as the Schwarz property (**Figure 1**). Several other properties in the Capay Valley are also either owned in fee title by the Tribe ("fee land") or held in trust by the federal government for the Tribe's benefit ("trust land"), collectively referred to as "Tribal land." The project site is located 6 miles northwest of the Town of Esparto, and approximately 1 mile northwest of the existing Cache Creek Casino Resort (Resort), which is adjacent to SR-16. The project site is situated in Township 10 North, Range 3 West, on the Brooks, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles. It is located within the Lower Cache Watershed, Hydrologic Unit Code #18020110 (USGS, 1978).

Project Purpose

The purpose of the Yocha Dehe Wintun Nation Fire Access Road Project (Proposed Project) is to provide emergency vehicle access and wildfire protection to Tribal lands north of the project site.

Figure 1. Proposed Project Location



Project Description

The Proposed Project consists of an approximately 3,500 linear-foot gravel road that would run north from County Road 78 (CR-78) across two parcels of the Tribe's Schwarz property. The project design is detailed in **Attachment 1**. The road would be 24 feet wide to accommodate emergency vehicles, and constructed with 18 inches of Class 2 aggregate base and subgrade, per recommendations detailed in the geotechnical engineering report completed for the Proposed Project (Wallace Kuhl, 2018). It would also include a shoulder constructed of 6 inches of stabilized decomposed granite. A collection system consisting of trapezoidal roadside ditches would be implemented along the western side of the road to collect and convey sheet flows to the proposed culvert crossings at existing wash locations.

The new road would cross two natural drainage features. At the northernmost crossing, a single-barrel 8-foot by 8-foot reinforced concrete box culvert crossing would be constructed to pass the flow under the roadway. An eroding drainage near the new crossing would be stabilized to protect the new road from erosion. At the southernmost drainage crossing, three 36-inch rubber gasketed reinforced concrete pipes would be used.

Erosion protection would be provided at all culvert outlets, at the confluence of roadside ditches near culvert inlets, and within segments of the roadside ditches with velocities in excess of 3.5 feet per second. The culvert crossings would be protected from erosion using 12-inch thick Reno (Gabion) Mattresses. Rock riprap with filter fabric would be installed at the inlet and outlet of each culvert.

Temporary disturbance from construction activities would affect up to an additional 20 feet on either side of the road and drainage features. All areas that are temporarily disturbed would be restored to preconstruction conditions and hydroseeded with native grasses.

Construction equipment would access the project site from CR-78. The equipment staging area would be located by the entrance to the construction site by CR-78. The material stockpiling area would be located on the Tribe's trust land directly north of the new road. All stockpiled material would be maintained in accordance with the Proposed Project's Stormwater Pollution Prevention Plan (SWPPP).

Sediment Control & Best Management Practices

Any proposed construction activities that would occur within potentially jurisdictional waters of the U.S. would be conducted during periods of no or low flow, usually during the dry season, to reduce the quantity of potential sedimentation within the watershed.

To reduce erosion and sedimentation, natural earth drainage channels would be vegetated with native grasses or other permanent vegetative cover. Fully lined channels would be required where side slopes are steeper than 3:1. Unlined channels would have side slopes of 3:1 or flatter.

The applicant would comply with appropriate soil erosion and sediment controls. All exposed soil and other fills, as well as any work below the ordinary high water mark of a potential water of the U.S., would be permanently stabilized at the earliest practicable date. Implementation of the protective measures and Best Management Practices (BMPs) described below would minimize potential impacts related to soils. A SWPPP prepared for the Proposed Project would be implemented and maintained throughout construction, consistent with Construction General Permit requirements. The SWPPP details the BMPs

to be implemented during construction and post-construction operation of the Proposed Project to reduce impacts related to soil erosion and water quality.

The BMPs shall include, but are not limited to, the following:

- Existing vegetation shall be retained where possible. To the extent feasible, grading activities shall be limited to the immediate area required for construction and remediation.
- Temporary erosion control measures (such as silt fences, fiber rolls, vegetated swales, a velocity dissipation structure, staked straw bales, temporary revegetation, rock bag dams, erosion control blankets, and sediment traps) shall be employed for disturbed areas during the wet season.
- No disturbed surfaces shall be left without erosion control measures in place during the winter and spring months.
- Construction activities shall be scheduled to minimize land disturbance during peak runoff periods. Soil conservation practices shall be completed during the fall or late winter to reduce erosion during spring runoff.
- Creating construction zones and grading only one area or part of a construction zone at a time shall minimize exposed areas. If possible during the wet season, grading on a particular zone shall be delayed until protective cover is restored on the previously graded zone.
- Disturbed areas shall be re-vegetated following construction activities.
- Construction area entrances and exits shall be stabilized with crushed aggregate.
- Sediment shall be retained on-site by a system of sediment basins, traps, or other appropriate measures.
- A spill prevention, control, and countermeasure (SPCC) plan shall be developed, which identifies proper storage, collection, and disposal measures for potential pollutants (such as fuel, fertilizers, pesticides, etc.) used on-site.
- Petroleum products shall be stored, handled, used, and disposed of properly in accordance with provisions of the Clean Water Act [33 United States Code (U.S.C.) 1251 to 1387].
- During the wet season, construction materials, including topsoil and chemicals, shall be stored, covered, and isolated to prevent runoff losses and contamination of surface and groundwater.
- Fuel and vehicle maintenance areas shall be established away from all drainage courses and designed to control runoff.
- Sanitary facilities shall be provided for construction workers.
- Disposal facilities shall be provided for soil wastes.
- The Tribe shall require all workers to be trained in the proper handling, use, cleanup, and disposal of all chemical materials used during construction activities and shall provide appropriate facilities to store and isolate contaminants.

- The Tribe shall require all contractors involved in the project to be trained on the potential environmental damages resulting from soil erosion prior to development by conducting a preconstruction conference. Copies of the Proposed Project's erosion control plan shall be distributed at this time. All construction bid packages, contracts, plans, and specifications shall contain language that requires adherence to the plan.

Biological Resource Avoidance and Minimization Measures

The Proposed Project would comply with all required permits related to biological resources. To minimize any potential impacts to biological resources, a number of avoidance and minimization measures (AMMs) would be implemented pursuant to the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). If any natural communities, covered species habitat, or covered species are identified during planning level surveys, then the following AMMs identified in the HCP/NCCP Permitting Guide shall apply (YHC, 2018b):

- AMM1, Establish Buffers
- AMM3, Confine and Delineate Work Area
- AMM5, Control Fugitive Dust
- AMM6, Conduct Worker Training
- AMM7, Control Night-Time Lighting of Project Construction Sites
- AMM8, Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas

Potential foraging habitat for migratory bird and raptor species, including Swainson's hawk and white-tailed kite, is present in the vicinity of the project site. The following measures would be implemented to avoid and minimize potential impacts to special-status birds:

- If feasible, construction activities, including vegetation removal, movement of heavy equipment, and grading, shall be conducted outside the nesting period (generally March 15 to August 30) and outside the peak nesting period for most migratory bird species.
- For construction activities during the nesting period, a qualified biologist shall conduct preconstruction nest surveys for any nesting habitat present within 1,320 feet of the project site, looking for ground-nesting, tree-nesting, and utility pole-nesting birds. The surveys shall be conducted no fewer than 14 days and no more than 30 days before the beginning of construction.
- Construction activities within 500 feet of any active bird nest, or another appropriate distance as determined by a qualified biologist based on the species, shall be postponed until after the nesting period, or until after a qualified biologist has determined that the young have fledged and are independent of the nest site.
- No known active nests shall be disturbed without a permit or other authorization from USFWS and/or CDFW.

- Avoidance and minimization measures detailed in the HCP/NCCP Permitting Guide (under AMM16, Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite) shall be implemented (YHC, 2018b).

Cultural and Historic Resources

The applicant is a federally recognized Native American Tribe with its own Cultural Resources Department and Tribal Historic Preservation Officer (THPO). The applicant would continue to coordinate closely with the Cultural Resources Department, through construction and implementation of the Proposed Project in order to avoid impacts to cultural and historic resources. The Proposed Project would adhere to the *Treatment Protocol for Handling Human Remains and Cultural Items Affiliated with the Yocha Dehe Wintun Nation*, included as **Attachment 2**.

9. ***Surrounding Land Uses and Setting:*** *(Briefly describe the project's surroundings)*	The project site is surrounded by rural agricultural land uses. The two parcels containing the project site are used for cattle grazing. Land uses to the north include walnut orchards, cattle pasture, and a rural residential house used as a Tribal office. Land uses to the east include actively farmed row crops, cattle pasture, and SR-16. To the south, land uses include cattle pasture and almond/olive orchards. Undeveloped annual grasslands dominate the hills to the west.
10. ***Public agencies whose approval is required:*** *(e.g., permits, financing approval, or participation agreement)*	• Yolo County (Grading Permit); • U.S. Army Corps of Engineers (Nationwide Permit #14 – Linear Transportation); • California Department of Fish and Wildlife (Lake or Streambed Alteration Agreement); • State Water Resources Control Board Division of Water Quality (Construction General Permit); • Yolo Habitat Conservancy (Yolo HCP/NCCP); and • Central Valley Regional Water Quality Control Board (401 Certification).
11. ***Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1?*** *If so, is there a plan for consultation that includes, for example, the determination of*	The applicant is a federally recognized Native American Tribe with its own Cultural Resources Department and THPO. Although neither entity has formally requested consultation in accordance with Public Resources Code section 21080.3(b), both have been informally consulted during project design and review. The applicant would continue to coordinate closely with the Cultural Resources Department, through construction and implementation of the Proposed Project. The *Treatment Protocol for Handling Human*

significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?	*Remains and Cultural Items Affiliated with the Yocha Dehe Wintun Nation* (**Attachment 2**) would be followed in order to avoid impacts to cultural resources.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages. Where checked below, the topic with a potentially significant impact will be addressed in an environmental impact report.

☐ Aesthetics	☐ Agriculture and Forest Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology / Soils	☐ Greenhouse Gas Emissions	☐ Hazards / Hazardous Materials
☐ Hydrology / Water Quality	☐ Land Use / Planning	☐ Mineral Resources
☐ Noise	☐ Population / Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities / Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance
	☒ None	☐ None with Mitigation Incorporated

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☒ I find that the proposed project could not have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project COULD have a significant effect on the environment, there WILL NOT be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

4/9/2019

Date

Stephanie Cormier

Printed Name

Principal Planner

Title

Yolo County Department of Community Services

Agency

EVALUATION OF ENVIRONMENTAL IMPACTS

AESTHETICS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics.				
Except as provided in Public Resources Code section 21099 (where aesthetic impacts shall not be considered significant for qualifying residential, mixed-use residential, and employment centers), would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

1.1.1 Environmental Setting

Yolo County is predominantly rural, having an agricultural character throughout most of the eastern portion of the County and a foothill/mountain natural environment character in the western portion of the County. The project site lies within the western half of the County, in the Capay Valley, which provides extensive scenic views of the foothills and mountains toward the west. The project site is located on a flat, undeveloped cattle pasture.

The portion of SR-16 providing regional access to the project area is not a designated California Scenic Highway; however, it is eligible for designation (Caltrans, 2016). SR-16 through the Capay Valley is a County-designated local scenic highway (Yolo County, 2009a).

1.1.2 Discussion

a) Have a substantial adverse effect on a scenic vista?

Less than significant impact. The project site is located on a cattle pasture that is visible from CR-78, but outside the viewshed of SR-16. The gravel road would appear similar in character to other farm roads in the area, and would therefore have a less than significant adverse effect on scenic vistas.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No impact. The Proposed Project would not impact scenic resources.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

No impact. The project site has no publicly accessible scenic vistas, and the Proposed Project would be consistent with the existing visual character of its surroundings.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No impact. No lights would be installed as part of the Proposed Project. The only potential source of light once construction is complete would be from emergency vehicles utilizing the fire access road.

1.2 AGRICULTURE AND FOREST RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. Agriculture and Forest Resources.				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.				
In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

1.2.1 Environmental Setting

Agriculture, vineyards, and rural home site development characterize the land uses in the vicinity of the project site. The project site is located on parcels zoned as Agricultural Intensive (A-N). According to the 2014 Updated Yolo County Zoning Code, the A-N Zone is applied to preserve lands best suited for intensive agricultural uses typically dependent on higher quality soils, water availability, and relatively

flat topography. The purpose of the zone is to promote those uses, while preventing the encroachment of nonagricultural uses. Uses in the A-N Zone are primarily limited to intensive agricultural production and other activities compatible with agricultural uses. This includes allowing agriculturally-related support uses, excluding incompatible uses, and protecting the viability of the family farm (Yolo County, 2018).

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments, which are lower than normal, because they are based upon farming and open space uses as opposed to full market value (DOC, 2019).

1.2.2 Discussion

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No impact. The land impacted by the Proposed Project is used for cattle grazing. It is designated as Farmland of Local Potential (LP) and Grazing Land (G), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency (DOC, 2017). The project site contains no Farmland identified as Prime, Unique, or of Statewide Importance. The Proposed Project would have no impact on Farmland.

b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

Less than significant impact. The project site is located on parcels that are zoned A-N and subject to Williamson Act Contracts. The approximately 423-acre property is primarily used as grazing land, and the addition of a fire access road that will occupy less than one percent of the total land area will not preclude any existing or future ranching, agricultural or open space use activities. The Proposed Project would not conflict with existing zoning or Williamson Act contracts. Impacts would be less than significant.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No impact. The project site contains no forest land or timberland, and none would be affected by the Proposed Project.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No impact. The project site contains no forest land, and none would be affected by the Proposed Project.

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

Less than significant impact. The project site contains no Farmland identified as Prime, Unique, or of Statewide Importance. The Proposed Project would convert 3.5 acres of existing rangeland to a gravel road that would provide for emergency vehicle access and reduction of wildfire risk, including to agricultural land and structures in the area. This represents less than 1% of the total acreage of the parcels containing the project site, with the remaining acreage to continue its existing agricultural use with no other development planned. The Proposed Project would not involve other changes to the existing environment that could result in the conversion of farmland or forest land.

1.3 AIR QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality.				
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations.				
Are significance criteria established by the applicable air district available to rely on for significance determinations?	☒ Yes		☐ No	
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☐	☒
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☒

1.3.1 Environmental Setting

The land surrounding the project site is primarily agricultural. The nearest residence is located approximately 0.6 miles to the east, on CR-78; however, the General Plan does not consider rural home sites on agricultural land to be sensitive receptors. Another residence located approximately 730 feet southeast of the project site is owned by the Tribe and is unoccupied. The nearest school is the Yocha Dehe Wintun Academy, located on the Tribe's trust land approximately 1.6 miles northeast of the project site.

The project site lies within the northwestern portion of the Sacramento Valley Air Basin (SVAB), and within the jurisdiction of the Yolo-Solano Air Quality Management District (YSAQMD). The geographic features giving shape to the Sacramento Valley are the Coast Range to the west, the Sierra Nevada mountain range to the east, and the Cascade Range to the north. These mountain ranges channel winds through the Sacramento Valley, but also inhibit the dispersion of air pollutant emissions.

The U.S. Environmental Protection Agency (USEPA) has designated the SVAB as severe non-attainment for the 8-hour ozone National Ambient Air Quality Standard (NAAQS) in accordance with the Clean Air Act; therefore, ozone is considered an air pollutant of concern in the SVAB and, accordingly, the area surrounding the project site. The SVAB meets the NAAQS or is unclassified for all other pollutants.

Yolo County is classified as a non-attainment area according to both federal and state standards for ozone and particulate matter 10 microns or less in diameter (PM_{10}), a partial non-attainment according to federal standards for particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), and is a moderate maintenance area according to state standards for carbon monoxide (CO).

For the evaluation of project-related air quality impacts, the YSAQMD recommends the use of the significance thresholds identified in **Table 1**.

Table 1. YSAQMD-Recommended Significance Thresholds

Pollutant	**Threshold**
Reactive Organic Gases (ROG)	10 tons/year (approximately 55 pounds/day)
Oxides of Nitrogen (NOX)	10 tons/year (55 approximately pounds/day)
Particulate Matter (PM_{10})	80 pounds/day
Carbon Monoxide (CO)	Violation of State ambient air quality standard

Source: Handbook for Assessing and Mitigating Air Quality impacts (YSAQMD, 2007)

- Long-term Emissions of Criteria Air Pollutants – Significance thresholds have been developed by YSAQMD for project-generated emissions of the criteria air pollutants of primary concern, which consist of ozone-precursor pollutants [reactive organic gases (ROG) and nitrogen oxides (NO_X)] and PM_{10}. Because $PM_{2.5}$ is a subset of PM_{10}, a separate significance threshold has not been established. Operational impacts associated with the Proposed Project would be considered significant if emissions would exceed YSAQMD-recommended significance thresholds.
- Emissions of Criteria Air Pollutants – Construction impacts associated with the Proposed Project would be considered significant if emissions would exceed YSAQMD-recommended significance thresholds, without the incorporation of control measures.
- Conflict with or Obstruct Implementation of Applicable Air Quality Plan – Given the region's non-attainment status for ozone and PM_{10}, project-generated emissions of ozone precursor pollutants (i.e., ROG and NOx) or PM_{10} that would exceed the YSAQMD's recommended project-level significance thresholds, would also be considered to potentially conflict with or obstruct implementation of regional air quality attainment plans.
- Local Mobile-Source CO Concentrations – Local mobile source impacts would be considered significant if the Proposed Project would contribute to CO concentrations at receptor locations in excess of the CAAQS (i.e., 9.0 ppm for 8 hours or 20 ppm for 1 hour).

- Toxic Air Contaminants – Exposure to toxic air contaminants would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 10 in 1 million or would result in a Hazard Index greater than 1.
- Odors – Odor impacts would be considered significant if the Proposed Project has the potential to frequently expose members of the public to objectionable odors.

1.3.2 Discussion

a) Conflict with or obstruct implementation of the applicable air quality plan?

No impact. A potential source of air pollutants associated with the Proposed Project would come in the form of temporarily increased vehicle emissions during construction. Vehicles would be used to deliver construction materials for the Proposed Project, and diesel engine powered equipment would be used during construction. Construction activities for the Proposed Project would be limited in duration and extent. Following construction, the Proposed Project would be used for emergency vehicle access, which would result in minimal emissions.

Construction and operation of the Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less than significant impact. During construction, the Proposed Project would emit oxides of nitrogen (NOX) and particulate matter less than 10 microns in diameter (PM10), for which the SVAB is designated non-attainment, as well as reactive organic gases (ROG). Construction of the Proposed Project would include the use of heavy machinery and require construction vehicles to travel to and from the site. Construction of the Proposed Project would generate PM10 (dust) primarily from "fugitive" sources (i.e., emissions released from grading and earth moving activities). Dust would be minimized through the use of a water truck and other BMPs. Criteria air pollutants of concern – ozone precursors (ROG and NOX) and PM10 – would primarily be emitted from the operation of heavy equipment, construction machinery, and construction worker automobile trips. The Proposed Project would involve grading, earthmoving, and shipment of materials. Unmitigated emissions would be less than the *de minimis* threshold of 25 tons per year for ROG and NOX, and less than the *de minimis* threshold of 100 tons per year for PM10.

Construction and operation of the Proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment.

c) Expose sensitive receptors to substantial pollutant concentrations?

No impact. Given the minimal emissions that would result from the Proposed Project and the distance to the nearest sensitive receptors, the Proposed Project would not expose any sensitive receptors to substantial pollutant concentrations.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

No impact. Construction of the Proposed Project would generate fugitive dust, as well as minor odors from heavy equipment, which would dissipate quickly. Use of the fire access road could result in minimal dust emissions or odors. No emissions are anticipated to extend beyond the immediate vicinity of the project site, and there would be no effect on a substantial number of people.

1.4 BIOLOGICAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. Biological Resources.				
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

1.4.1 Environmental Setting

The Capay Valley has a Mediterranean climate that is temperate and rainy in the winter while hot and dry in the summer. The northern part of the valley includes elevations high enough to precipitate snow, while the southern portion near the community of Esparto has night frosts only a few times a year. Summer highs regularly rise above 110 degrees Fahrenheit (°F).

The natural landscape in the vicinity of the project site consists of annual grassland, oak woodland, and riparian woodland along a seasonal creek. The terrain in the project area supports a wide variety of common wildlife and provides nesting habitat for birds. Most of the project site has been previously disturbed by regular farming practices.

The project site is located on annual grassland, used primarily for cattle pasture. This habitat type corresponds to "nonnative annual grassland – 42200" in the Holland classification system (Holland, 1986) and the "California annual grassland series" in the CNPS Vegetation Classification system (Sawyer and Keeler-Wolf, 2008). This habitat is dominated by a mix of nonnative grasses and forbs including wild oat (*Avena fatua*), soft brome (*Bromus hordeaceus),* medusahead grass *(Elymus caput-medusae),* barbed goatgrass *(Aegilops triuncialis),* foxtail barley (*Hordeum murinum ssp. glaucum*), yellow star-thistle (*Centaurea solstitialis*), prickly lettuce (*Lactuca serriola*), and rose clover (*Trifolium hirtum*), with the occasional isolated oak. The southern end of the parcel terminates at CR-78, a gravel roadway.

Surrounding land uses include orchards and other forms of intensive agriculture, rural residences, undeveloped land used as cattle pasture, and the Resort.

1.4.2 Discussion

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish and Wildlife Service (USFWS)?

Less than significant. Field surveys have been previously conducted in the vicinity of the project area (AES, 2017; AES, 2012; AES, 2008; and AES, 2003). Field surveys of the project site were conducted in 2018 on the days of August 24, October 1, and December 7. No special-status species were observed during the surveys.

No special-status species are expected to occur on the project site. A Biological Assessment was completed for the Proposed Project, in order to identify federal and state special-status species with the potential to occur on the project site. None of the identified special-status species were observed during field surveys, and no critical habitat is present in the project area. Additionally, avoidance measures have been identified in the project scope and will be implemented as standard construction conditions.

Field surveys of the project site would be conducted prior to, during, and following construction of the Proposed Project. The Proposed Project would have a less than significant adverse effect, either directly or through habitat modifications, on any federal or state special-status species.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or the USFWS?

No impact. No riparian habitats or other sensitive natural communities occur on or in the immediate vicinity of the project site. The Proposed Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than significant. An aquatic resources delineation was completed for the Proposed Project, which identified two potentially jurisdictional intermittent and ephemeral drainages. The drainages are highly incised, sparsely vegetated with nonnative grasses, and would be dry during construction. The Project proposes minimal disturbance (approximately 0.03 acre) at two drainage crossings, and will not result in impeding flows. The Proposed Project is designed to be sensitive to biological resources, and would be subject to the requirements of a Section 404 Nationwide Permit from the U.S. Army Corps of Engineers (USACE) and a Lake or Streambed Alteration Agreement from CDFW to construct road crossings over these drainages, as well as a Construction General Permit from the State Water Resources Control Board Division of Water Quality. The Proposed Project would have a less than significant adverse effect on state or federally protected wetlands.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No impact. No established wildlife corridors or native wildlife nursery sites occur on or in the immediate vicinity of the project site. The Proposed Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No impact. The Tribe would comply with applicable permit requirements. The Proposed Project would not conflict with any local policies or ordinances protecting biological resources.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No impact. The final Yolo HCP/NCCP was adopted in April 2018, permitted, and began implementation on January 11, 2019. The HCP/NCCP was prepared by the Yolo Habitat Conservancy, a joint powers agency comprised of the County of Yolo and the cities of Davis, West Sacramento, Winters, and Woodland. The HCP/NCCP is a model conservation plan to provide Endangered Species Act permits and associated mitigation for infrastructure (e.g. roads, bridges, and levees) and development activities (e.g. agricultural facilities, housing, and commercial buildings), identified for construction over the next 50 years in Yolo County (YHC, 2019). The HCP/NCCP covers twelve state- and/or federally protected species. Most discretionary development projects in Yolo County are now subject to the Yolo HCP/NCCP and must submit an application for Yolo HCP/NCCP coverage.

Although the Project is not subject to a County discretionary approval, the Tribe may seek approval under the Yolo HCP/NCCP for potential impacts to annual grassland habitat as a Special Participating Entity. Thus, the Project would not conflict with the provisions of the HCP/NCCP, or other approved local, regional, or state habitat conservation plans.

1.5 CULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. Cultural Resources.				
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☐	☒
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

1.5.1 Environmental Setting

The applicant is a federally recognized Native American Tribe with its own Cultural Resources Department and THPO. The applicant would continue to coordinate closely with the Cultural Resources Department, through construction and implementation of the Proposed Project.

Tribal land and the SR-16 corridor have been thoroughly surveyed in recent years, and several cultural resources have been documented.

A cultural resources inventory was conducted in 2009 in the vicinity of the project site (AES, 2012). The cultural resources study included a records search, literature review, field survey, and Native American consultation to identify and evaluate any prehistoric and historic-period resources within the vicinity of the project site. Documentation of cultural resources was achieved through review of pertinent anthropological literature, historic documents and maps, a records search at the Northwest Information Center, consultation with the Tribe, and a field examination by archaeologists who meet the Secretary of the Interior's professional qualification standards. There are no known Native American cultural sites, historic-period features, or archeological deposits, nor are there any paleontological resources within the area of proposed disturbance.

If any previously unknown historic artifacts, archeological resources, or cultural resources are discovered during project activities, the THPO would be notified immediately. Construction activities that could affect the artifacts would be avoided until the required coordination has been completed.

If human remains are encountered, work would halt in the vicinity of the find and the Yolo County Coroner would be notified immediately. The THPO would also be contacted immediately, pursuant to 36 Code of Federal Regulations (C.F.R.) Part 800.13 of the National Historic Preservation Act: *Post-Review Discoveries*, 43 C.F.R. § 10.4 (2006) of the Native American Graves Protection and Repatriation Act:

Inadvertent Discoveries, and the *Treatment Protocol for Handling Human Remains and Cultural Items Affiliated with the Yocha Dehe Wintun Nation* (**Attachment 2**).

1.5.2 Discussion

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

No impact. There are no known historical resources pursuant to Section 15064.5 that would be impacted by the Proposed Project.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

No impact. There are no known archaeological resources pursuant to Section 15064.5 that would be impacted by the Proposed Project.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Less than significant impact. There are no known cultural resources or remains that would be impacted by the Proposed Project. Even so, adherence to the *Treatment Protocol for Handling Human Remains and Cultural Items Affiliated with the Yocha Dehe Wintun Nation* (**Attachment 2**) would ensure minimization of any potential impacts.

1.6 ENERGY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Energy.				
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

1.6.1 Environmental Setting

Electricity is provided to the Capay Valley primarily by Pacific Gas and Electric Company (PG&E) through power lines along SR-16. Currently, 35% of PG&E's total energy production is from zero-emission sources (USEPA, 2019).

The project site is located on an undeveloped portion of the parcels affected. A former rural residence and ranch area are located on the northcentral portion of the northern parcel. The structures, which are no longer in use, are connected to PG&E power lines that access the property via CR-78.

1.6.2 Discussion

a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than significant. The consumption of energy resources would be limited to transportation energy. During construction, temporary transportation energy use would result from delivery vehicles and heavy equipment. After construction, sporadic transportation energy use would result from emergency vehicles.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No impact. The Proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

1.7 GEOLOGY AND SOILS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Geology and Soils.				
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

1.7.1 Environmental Setting

The project site is located in the southeastern section of the Northern Coast Range geomorphic province (CSUN, 2007). The eastern portion of the Coast Range is characterized by parallel ridges and valleys that trend approximately west of north, creating terrain consisting of moderate to very steep uplands and terraces. Quaternary and Cretaceous geologic formations make up the majority of rocks in the Coast Range, including sandstone, mudstone, and conglomerates, with some volcaniclastic rocks (CGS, 2010; USGS 2016).

The project site is located within the Cache Creek watershed in the Capay Valley. The Capay Valley is long, relatively flat, and bordered by low, steep mountains and sharp, deep canyons. The valley floor tips downward to the east, confining Cache Creek primarily to the eastern side of the valley. The Capay Valley contains valuable soil resources, supporting a variety of agricultural uses that are a vital part of the Yolo County economy. Protection of the County's soil resources is an important aspect of the County of Yolo 2030 Countywide General Plan (General Plan) (Yolo County, 2009b).

The topography in the vicinity of the project site is comprised of flat valley floor close to SR-16, sloping toward the Blue Hills on the western edge of the parcels containing the project site. Rolling hills in the vicinity range in elevation from approximately 320 to 480 feet above mean sea level. Soils on the project site are mostly sloped, well-drained, Balcom silty clay loam, Brentwood silty clay loam, and Tehama loam (NRCS, 2019).

1.7.2 Discussion

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) …Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)

No impact. The project site is located approximately 12 miles from the Hunting Creek section of the Hunting Creek-Berryessa fault, portions of which are delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, and approximately 5 miles from the Great Valley fault zone (USGS, 2006). Because the Proposed Project would be confined to the Tribe's lands and because it would be built to meet or exceed the requirements of the California Building Code, including those relating to earthquake design features and soil and geological conditions, implementation of the Proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.

ii) …Strong seismic ground shaking?

No impact. The Proposed Project would not increase the exposure of people or structures to adverse effects in the event of ground shaking.

iii) …Seismic-related ground failure, including liquefaction?

No impact. The soils on the project site are not subject to liquefaction. No impact to people or structures attributable to seismic-related ground failure, including liquefaction, would occur as a result of the Proposed Project.

iv) …Landslides?

No impact. The Proposed Project would be constructed on generally flat ground with stable slopes. Grading activities during the construction of the Proposed Project would primarily consist of excavation of approximately 5,000 cubic yards of earth fill. The excavated area would be contoured to blend into the adjoining land, and any sloped areas would be constructed with protective erosion control features. All earthwork, including excavation, fill, and construction, would be performed in accordance with the Proposed Project's geotechnical engineering report (Wallace Kuhl, 2018), and earthwork activities would be monitored and inspected by the project geotechnical engineer. Therefore, it is highly unlikely that a landslide would result from the limited grading activities associated with construction of the Proposed Project.

b) Result in substantial soil erosion or the loss of topsoil?

Less than significant impact. Construction of the Proposed Project would involve earth-moving activities such as grading, excavation, stockpiling of soil, installation of a new road, and the use of heavy machinery and equipment. Any excavated soil would be disposed of on the adjacent trust lands through balanced cut and fill. These activities would create the potential for impacts related to erosion by exposing soils stockpiled on the trust lands to erosion by stormwater. With the implementation of BMPs described under **Project Information** and in the SWPPP, this impact would be less than significant.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

No impact. The soils on the project site are composed primarily of Tehama loam with 0-2% slopes, Brentwood silty clay loam with 0-2% slopes, and Balcom silty clay loam with 15-30% slopes (NRCS, 2019). A Geotechnical Engineering Report for the Proposed Project determined that the native soils are capable of supporting the work once the surface and near-surface soils are properly moisture-conditioned and compacted during earthwork operations.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?

No impact. The geotechnical engineering report for the Proposed Project (Wallace Kuhl, 2018) determined the access road would not be impacted by expansive soils.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No impact. The Proposed Project does not entail the use of septic tanks or alternative waste water disposal systems.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No impact. The Proposed Project site does not contain any unique paleontological resource or site or unique geologic features.

1.8 GREENHOUSE GAS EMISSIONS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. Greenhouse Gas Emissions.				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

1.8.1 Environmental Setting

Greenhouse gases (GHGs) are primarily water vapor, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), which trap the heat of the sun within the Earth's atmosphere, preventing radiation from dissipating into space. GHG sources are both anthropogenic and natural. Some examples of anthropogenic sources are combustion of fossil fuel, evaporation of synthetic chemicals, agriculture, and combustion of coal. Natural sources include water vapor and naturally occurring N_2O, CO_2, O_3, and CH_4. Because GHGs are relatively stable in the atmosphere and essentially uniformly dispersed throughout the troposphere and stratosphere, the climatic impact of GHG emissions does not depend on the location of the emissions.

Yolo County adopted its Climate Action Plan in 2011 as an implementation measure of the General Plan. The Climate Action Plan includes emissions inventories for 1990 and 2008, reduction goals, and implementation measures. The inventories only include unincorporated land, and therefore do not include the four incorporated cities, University of California Davis, special districts, state- or federally owned land, or trust land (Yolo County, 2011). The 2008 inventory is shown in **Table 2**.

1.8.2 Discussion

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than significant. Minor GHG emissions would result during construction of the Proposed Project in the form of mobile emissions from trucks and heavy equipment. The quantity of emissions from these temporary sources would be less than significant. Once completed, the Proposed Project would generate less than significant GHG emissions from emergency vehicles using the new road.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No impact. The Proposed Project would generate a negligible amount of GHG emissions and would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Table 2. Unincorporated Yolo County Greenhouse Gas Inventory (2008)

Sector	**MT CO2e / year**
Agriculture	297,341
Transportation	105,253
Energy	181,447
Solid Waste	6,871
Wastewater	974
Stationary Source	30,583
Mining & Construction	29,271
Total	**651,740**

Note: MT CO2e = metric tons of carbon dioxide equivalents
Source: Yolo County, 2011.

1.9 HAZARDS AND HAZARDOUS MATERIALS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. Hazards and Hazardous Materials.				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒

1.9.1 Environmental Setting

There are no identified signs of contamination on the project site. Land uses adjacent to the project site are primarily agricultural. Hazardous materials sometimes associated with these adjacent land uses include agricultural chemicals such as fertilizers and pesticides, waste oils associated with maintenance of farming equipment, and aboveground storage tanks used to store diesel and unleaded fuel for farming equipment.

A Phase I Environmental Site Assessment (ESA) was completed in 2017 to identify Recognized Environmental Conditions (RECs) on or in the vicinity of the parcels containing the project site (Ninyo & Moore, 2017). RECs include the presence or likely presence of any hazardous materials or petroleum products that indicate an existing release, past release, or threat of release into soil, groundwater, or any structure. No records of contamination were found during preparation of the Phase I ESA. The Phase I ESA concluded that there was no evidence of RECs on the parcels containing the project site, and no further studies for hazardous materials were recommended.

1.9.2 Discussion

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than significant. During construction of the Proposed Project, limited quantities of miscellaneous hazardous substances such as fuels, solvents, and oils for heavy equipment, would be used and stored on the project site. As with any liquid or solid, the handling and transfer from one container to another has the potential for an accidental release. If used, stored, and disposed of properly, these materials would not pose a hazard to the public or environment. An SPCC plan would be developed to identify the proper storage, collection, and disposal measures for potential pollutants (such as fuel, fertilizers, pesticides, etc.) used on-site. Operation of the Proposed Project would not require the routine transport, use, or disposal of hazardous materials.

The implementation of the Proposed Project would result in a less than significant hazard to the public or the environmental through the routine transport, use, or disposal of hazardous materials.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?

Less than significant. During construction and operation of the Proposed Project, it is possible accident conditions could release hazardous materials from construction equipment or emergency vehicles into the environment. Once complete, the fire access road would not be utilized for public access, thereby minimizing the number of vehicles on the new road. With safe construction and driving practices, no significant hazard would be created.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

No impact. The nearest school is the Yocha Dehe Wintun Academy, located 1.25 miles away. The closest off-reservation schools are in Esparto, approximately 7 miles southeast of the project site.

Implementation of the Proposed Project would not result in hazardous emissions or handling of hazardous materials, substances, or waste. No impact would occur.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No impact. The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No impact. The project site is not located within an airport land use plan or within 2 miles of a public airport or public use airport.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No impact. The Proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The Proposed Project would improve emergency response and evacuation.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

No impact. The Proposed Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. The Proposed Project would improve access of emergency vehicles to remote areas, and the road itself would provide a firebreak, which would further reduce the risk of wildland fires.

1.10 HYDROLOGY AND WATER QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. Hydrology and Water Quality.				
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) Result in substantial on- or off-site erosion or siltation;	☐	☐	☒	☐
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☐	☒
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) Impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

1.10.1 Environmental Setting

The project site falls within the Yolo Subbasin, which is located in the southern portion of the Sacramento Valley Groundwater Basin. The Yolo groundwater subbasin includes the majority of Yolo County. The Capay Hills to the east of the project site provide a barrier between the main part of the subbasin and the Capay Valley, but the Capay Valley is interconnected and part of the Yolo subbasin (DWR, 2016).

The 2014 California Sustainable Groundwater Management Act (SGMA) requires the formation of groundwater sustainability agencies (GSA) to prepare and implement plans for long-term groundwater sustainability. The applicant is a member of the GSA for the Yolo subbasin, which covers the project site. A groundwater sustainability plan for the subbasin has not yet been completed.

Cache Creek is the primary surface water feature in the Capay Valley. The creek flows generally southeast from Clear Lake, through the Capay Valley, into the Sacramento Valley, and to its discharge point at the Cache Creek Settling Basin and the Yolo Bypass (located just north of the City of Woodland). Runoff on the project site generally flows from the hills to the west, through existing ephemeral drainages toward a seasonal tributary to Cache Creek.

1.10.2 Discussion

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less than significant. Construction activities (earth moving, grading, and excavation) generally have the potential to cause erosion, which can increase sediment discharge to surface waters during storm events and thereby degrade surface water quality. Equipment and materials used during construction have the potential to leak fluids, which could potentially be mobilized by stormwater. Construction site pollutants typically include particulate matter, sediment, oils and greases, concrete, paints, and adhesives. Discharge of any of these pollutants could theoretically result in contamination of area drainages and ultimately Cache Creek; however, with implementation of the stormwater management BMPs included in the Proposed Project design, the potential for water quality degradation would be greatly reduced or eliminated, and the Proposed Project would not violate any water quality standards or waste discharge requirements.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No impact. The Proposed Project would have no impact on the demand or use of groundwater.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) …Result in substantial on- or off-site erosion or siltation?

Less than significant. Construction and implementation of the Proposed Project has the potential to create stormwater runoff that could result in on- or off-site erosion or siltation. The Proposed Project has been designed to minimize erosion and sedimentation through temporary and permanent features detailed in the Proposed Project's design specifications and SWPPP. Temporary BMPs such as straw

waddles and silt fences would be used to reduce erosion and sedimentation during construction. All inlets and outlets for culverts and storm drains would be protected with rock riprap. Once construction is complete, all temporarily disturbed areas would be stabilized and hydroseeded. With these and the other BMPs detailed under **Project Information**, any on- or off-site erosion or siltation impact would be less than significant.

ii) …Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

No impact. The Proposed Project would construct a pervious gravel road with stormwater drains and culverts. The Proposed Project is not anticipated to increase impervious surface area or the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

iii) …Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than significant. There are currently no existing stormwater drainage systems on the project site. Design of the Proposed Project's drainage system was developed for the 200-year, 24-hour storm event to allow the roadway to remain operational even under low-frequency storm events (Wood/Patel, 2018). The Proposed Project includes a drainage system to manage stormwater during storm events and prevent flooding. Furthermore, the sediment and erosion control measures incorporated into the design would prevent any runoff from becoming polluted. With these design elements in place, any potential runoff impacts would be less than significant.

iv) …Impede or redirect flood flows?

Less than significant. The Proposed Project has been designed with a stormwater drainage system to allow natural flows across the site, while reducing the risk of flooding, sedimentation, and erosion. The Proposed Project would cross one ephemeral drainage and one intermittent drainage. The crossings are designed to minimize impacts to flood flows using pipe and box culverts with erosion protection. The culvert crossings would allow natural flows to continue unimpeded within the existing drainage. The Proposed Project would comply with the requirements of a Nationwide Permit from the USACE and a Lake or Streambed Alteration Agreement from the CDFW to construct these crossings. Incorporation of the permit requirements and design elements would reduce any impediment or redirection of flood flows resulting from the Proposed Project to a less than significant level.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No impact. The project site is not located in a flood hazard, tsunami, or seiche zone.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No impact. The construction and implementation of the Proposed Project would not impact water quality or use groundwater.

1.11 LAND USE AND PLANNING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. Land Use and Planning.				
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

1.11.1 Environmental Setting

The project site, which is located on land zoned for agricultural uses, is subject to the Williamson Act and the General Plan, including the Capay Valley Area Plan. The Capay Valley Area Plan establishes policies and implementation measures relevant to land use and development, recreation, open space and conservation, and housing and community development in the vicinity of the project site (Yolo County, 2010). A majority of the land surrounding the project site is used for agricultural land uses, open space, or rural home sites.

1.11.2 Discussion

a) Physically divide an established community?

No impact. The project site is located on undeveloped agricultural land used for cattle grazing and would not physically divide an established community.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No impact. The Proposed Project would occur on a property that is subject to the General Plan, Capay Valley Area Plan, and Williamson Act. It would result in land use that is consistent with these plans.

1.12 MINERAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. Mineral Resources.				
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

1.12.1 Environmental Setting

Mineral resources in Yolo County include natural gas, sand and gravel, limestone, clay, and mineral water. Mineral resources are cataloged by the California Division of Mines and Geology in accordance with the Surface Mining and Reclamation Act of 1975 (SMARA). SMARA requires the State Geologist to classify lands into Mineral Resource Zones (MRZ) based on the known or inferred mineral resource potential of that land. Natural gas and mined aggregate are the primary mineral resources in Yolo County. There are 6 aggregate mines and 25 natural gas fields currently in operation within the County. Cache Creek is an MRZ-2 area with significant known aggregate resources (Yolo County, 2009b). There are no identified MRZs on the project site, with the closest being the Granite Construction Company's aggregate mine located at 15560 CR-87 in Esparto, approximately 5.5 miles southeast of the project site.

1.12.2 Discussion

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

No impact. The closest identified off-reservation mineral resource is more than 5 miles from the project site.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No impact. The project site is not located within a locally important mineral resource recovery site.

1.13 NOISE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. Noise.				
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

1.13.1 Environmental Setting

The project site is mostly surrounded by agricultural land owned by (or held in trust for the benefit of) the Tribe. The primary sources of noise in the vicinity of the project site are vehicle traffic on SR-16 and typical agricultural operations. The nearest residence is located approximately 0.6 miles to the east, on CR-78; however, the General Plan does not consider rural home sites on agricultural land to be sensitive receptors.

1.13.2 Discussion

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

Less than significant. The project site is located on uninhabited land and is 0.6 miles from the nearest residence. Noise typically associated with heavy machinery would temporarily occur during construction of the Proposed Project. Once complete, the Proposed Project could result in infrequent increases in ambient noise resulting from emergency vehicles. Any increase in ambient noise levels in the vicinity of the project site would be less than significant.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less than significant. Groundborne vibration typically associated with heavy machinery would temporarily occur during construction of the Proposed Project. Given the distance to the nearest residence, the Proposed Project would result in less than significant impacts associated with groundborne vibration or groundborne noise levels.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No impact. The closest private airstrip is the G3 Ranch Airport-63CL, located approximately 2.3 miles from the project site at 19725 CR-78A. The closest public airport is located in Woodland, over 13 miles from the project site. The private airstrip is rarely active and is located over 2 miles from the project site. The Proposed Project would not expose people working in the area to excessive noise levels.

1.14 POPULATION AND HOUSING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. Population and Housing.				
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

1.14.1 Environmental Setting

The project site is located in the Capay Valley of unincorporated Yolo County, which is characterized by scattered rural residences. The population estimate for unincorporated Yolo County in 2015 was 26,885, which is about 12.8% of the total County population (DOF, 2016). In 2016, the housing units in the unincorporated portions of the County represented 9.7% of the total units within the County. The unincorporated portions of the County had a vacancy rate greater than the County and State (AES, 2017). The Tribe's population and residential housing is currently limited to one parcel of trust land on Puhkum Road, located approximately 1.5 miles northeast of the project site.

1.14.2 Discussion

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less than significant. The Proposed Project would not create housing or employment opportunities that would directly induce population growth. The Proposed Project would provide emergency vehicle access to a residential community approved on the Tribe's trust land immediately north of the project site. The residential community, was fully evaluated for impacts in a 2012 Environmental Assessment prepared pursuant to the National Environmental Policy Act (AES, 2012). The Environmental Assessment found no significant impacts, and the Bureau of Indian Affairs issued a Finding of No Significant Impact. The Environmental Assessment and the Finding of No Significant Impact have been upheld by the Interior Board of Indian Appeals and the United States District Court for the Eastern District of California. Therefore, while the Proposed Project would support a housing development on

trust land, it would not induce substantial unplanned population growth, either directly or indirectly. Impacts would be less than significant.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No impact. The project site is located on cattle grazing land and would not displace any people or housing.

1.15 PUBLIC SERVICES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. Public Services.				
Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

1.15.1 Environmental Setting

The Yocha Dehe Fire Department (YDFD) station, which is located on the Tribe's Resort property, provides fire protection and emergency response to Tribal lands (including the project site) and the surrounding community, in cooperation with other regional fire departments via mutual aid agreements. YDFD is also the first responder to vehicular accidents within the area between Interstate 505 (I-505) to the east and the Yolo-Napa county line to the west.

The Yolo County Office of Emergency Services (OES) provides multi-jurisdictional support for emergency planning, coordinated training programs, and incident response. OES is designated as the lead response agency for Yolo County in the event of a major emergency.

Woodland Memorial Hospital, operated by a non-profit organization, is located 23 miles from the project site and provides emergency room medical services to the Capay Valley and western Yolo County.

Tribal security patrols Tribal lands, and the Yolo County Sheriff's Department is called when a suspect is detained or when assistance is needed.

The California Highway Patrol (CHP) is the chief off-reservation law enforcement agency for traffic-related issues on SR-16. The closest CHP substation to the project site is located at 13739 Andrew Stevens Drive in Woodland.

The closest public schools to the project site are in the Esparto Unified School District, located in the community of Esparto (approximately 7 miles east of the project site) and the community of Madison (approximately 10 miles east of the project site). The Tribe's Yocha Dehe Wintun Academy is located at the Tribal community on Puhkum Road.

1.15.2 Discussion

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: Fire protection? Police protection? Schools? Parks? Other public facilities?

No impact. The Proposed Project would improve access of existing fire protection services. It would not involve new or physically altered governmental facilities, nor would it adversely affect any performance objectives for public services.

1.16 RECREATION

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. Recreation.				
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

1.16.1 Environmental Setting

A number of parks and recreational facilities are located in unincorporated Yolo County. The two closest public parks to the project site are the Vernon A. Nichols Park in Guinda, and the Esparto Community Park in Esparto. In addition, the Yocha Dehe Golf Club is located on the Tribe's trust property approximately 2 miles east of the project site.

1.16.2 Discussion

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No impact. The Proposed Project would not result in an increase in population or recreational users.

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

No impact. The Proposed Project would not include recreational facilities or require the construction or expansion of recreational facilities.

1.17 TRANSPORTATION

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. Transportation.				
Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☐	☒
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☐	☒

1.17.1 Environmental Setting

SR-16 is an undivided two-lane rural state route providing access to the Capay Valley. It begins at SR-20 in Colusa County and traverses southeast to its connection with I-5 to the east. The speed limit along SR-16 is generally 55 miles per hour (mph), with speed limits as low as 25 to 35 mph in urbanized areas.

Public transit service for Yolo County is provided by the Yolo County Transportation District, which operates YoloBus. YoloBus Route 215 serves the communities of Woodland, Madison, Esparto, and Capay, terminating at the Resort on SR-16.

The project site is accessible via CR-78, which is paved at its junction with SR-16 but primarily a gravel road.

1.17.2 Discussion

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

No impact. The Proposed Project would construct a private access road on the Tribe's property, to be used primarily by emergency vehicles. The Proposed Project would not result in long-term impacts on traffic or transportation, and would not conflict with the General Plan or any other program, plan, ordinance, or policy addressing the circulation system.

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3(b), which pertains to vehicle miles travelled?

Less than significant. Traffic to the project site could increase temporarily during construction. Once complete, the Proposed Project would not impact traffic or vehicle miles travelled.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No impact. The Proposed Project has been designed to comply with the California Building Code with respect to safe access for emergency vehicles, and would not result in hazards due to geometric design features or incompatible uses.

d) Result in inadequate emergency access?

No impact. The purpose of the Proposed Project is to improve emergency access.

1.18 TRIBAL CULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. Tribal Cultural Resources.				
Has a California Native American Tribe requested consultation in accordance with Public Resources Code section 21080.3.1(b)?	☐ Yes		☒ No	
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☐	☐	☐	☒

1.18.1 Environmental Setting

The Tribe maintains a Cultural Resources Department and THPO, both of which have been notified of the Proposed Project. Although neither has formally requested consultation in accordance with Public Resources Code section 21080.3(b), both have been informally consulted during project design and review. No known historic or cultural resources will be affected by the Proposed Project. On-site cultural monitors and other BMPs would ensure that unanticipated discoveries do not result in significant impacts.

The Proposed Project would comply with the *Treatment Protocol for Handling Human Remains and Cultural Items Affiliated with the Yocha Dehe Wintun Nation* (**Attachment 2**).

1.18.2 Discussion

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

No impact. The project site has been previously surveyed for historic resources and does not contain any known cultural or historic resources that would be impacted. There are no known cultural or historic resources listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k) on the project site.

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

No impact. The project is located on property owned by a Native American Tribe with its own Cultural Resources Department and THPO. No resources significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1 have been identified on the project site.

1.19 UTILITIES AND SERVICE SYSTEMS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. Utilities and Service Systems.				
Would the project:				
a) Require or result in the relocation or construction of construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

1.19.1 Environmental Setting

The project site consists of undeveloped grassland used for cattle grazing. The closest structures are an abandoned rural residence and ranch located on one of the parcels containing the project site. The abandoned structures are connected to PG&E power transmission lines via CR-78. Two groundwater wells are located on the same parcel. No potable water, wastewater, or other utility systems are located on the project site.

The management of non-hazardous solid waste in Yolo County is mandated by state law, including Assembly Bill 939 (AB 939), and is guided by policies at the state and local levels. In accordance with AB 939, the County is required to divert 50% of its total waste stream from landfill disposal (AES, 2017). In 2014, the unincorporated areas of Yolo County accounted for approximately 11.6% of the total 170,525 tons transferred (CalRecycle, 2019). Waste Management, Inc. (WM) transports solid waste from Tribal

lands to the Yolo County Central Landfill. WM also provides temporary waste removal services for construction and demolition debris. No waste is currently generated on the project site requiring removal.

1.19.2 Discussion

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?

No impact. The Proposed Project consists of an unlit gravel road. It would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

No impact. Any water required for dust control during construction of the Proposed Project would be delivered to the site via water truck. Once construction is complete, the Proposed Project would have no regular demand for water.

c) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?

No impact. No wastewater treatment provider serves the project site, and the Proposed Project would not generate any demand for wastewater treatment.

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

No impact. During construction of the Proposed Project, a limited amount of construction debris could be generated, and would be hauled away by WM. After construction, no solid waste would be generated.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No impact. The Proposed Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

1.20 WILDFIRE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. Wildfire.				
Is the project located in or near state responsibility areas or lands classified as high fire hazard severity zones?		☐ Yes		☒ No
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

1.20.1 Environmental Setting

YDFD provides fire protection and emergency services on Tribal land. YDFD, along with three local volunteer fire departments, provide the entire Capay Valley region with fire protection and emergency services. YDFD is also the first responder to fire, vehicular accident, and hazardous materials incidents within the area between I-505 to the east and the Yolo-Napa county line to the west.

YDFD, the Capay Valley Fire Protection District, the Esparto Fire Protection District, and 19 other fire protection agencies maintain a mutual aid agreement that commits each jurisdiction to give aid to specified parties.

A seasonal fire station operated by the California Department of Forestry and Fire Protection (CAL FIRE), located approximately 1.3 miles east of the project site, provides regional wildland fire protection. CAL FIRE also protects State Responsibility Areas, which comprise a large portion of unincorporated Yolo County. The project site is located within an area designated as a Moderate Fire Hazard Severity Zone

(CAL FIRE, 2007). The Brooks station is staffed during the fire season (May through October). Thus, adequate resources to combat wildfire in and around the project site are available in the immediate vicinity of the project site.

The Yolo County OES provides multi-jurisdictional support for emergency planning, coordinated training programs, and multi-jurisdictional incident response. OES is designated as the lead response agency for Yolo County in the event of a major emergency.

1.20.2 Discussion

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No impact. The Proposed Project would provide emergency vehicle access, as well as an evacuation route, to the residential community planned for the property immediately north of the project site. The Proposed Project would not impair any emergency plan.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less than significant. The Proposed Project would be constructed on a relatively flat grassland used for cattle grazing and would not have a significant impact on the landscape, including slope and prevailing winds. The equipment used during construction of the Proposed Project would have the potential to create sparks, which could ignite dry grass or vegetation on the project site. However, the likelihood of a fire hazard would be reduced by contractor training on wildfire risks and fire-safe construction measures, an on-site water truck for dust control and fire prevention, and the proximity of the YDFD. Once construction is complete, the Proposed Project would reduce the risk of wildfires.

c) Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No impact. The Proposed Project is a gravel road that would serve as a fuel break for future wildfires, and would not exacerbate fire risk.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No impact. The Proposed Project has been designed to prevent flooding and drainage changes (Wood/Patel, 2018).

1.21 MANDATORY FINDINGS OF SIGNIFICANCE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. Mandatory Findings of Significance.				
a) Does the project have 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, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

1.21.1 Environmental Setting

The Proposed Project has been designed to minimize potential impacts to the environment and cultural and historic resources, and to comply with federal, state, and local regulations. An aquatic resources delineation and biological assessment have been completed for the Proposed Project, neither of which identified any significant impacts to natural resources. The applicant, a Native American Tribe, would consult with its Cultural Resources Department and THPO throughout the entirety of project construction and implementation.

The Proposed Project is a gravel fire access road to be constructed on Tribal land used for cattle grazing. It would comply with all relevant agencies and regulations, including, but not necessarily limited to: Yolo County (Grading Permit); USACE (Nationwide Permit #14 – Linear Transportation); CDFW (Lake or Streambed Alteration Agreement); State Water Resources Control Board Division of Water Quality (Construction General Permit); Yolo HCP/NCCP; and the Central Valley Regional Water Quality Control Board (401 Certification).

Other current and foreseeable projects in the vicinity of the project site include a hotel expansion at the Resort (Cache Creek Hotel Expansion Project or HEP) and a residential community on Tribal land immediately north of the project site. Both of these projects are on trust land, and are therefore not subject to CEQA, state laws, or local ordinances. Moreover, both have already completed all applicable environmental review requirements and processes.

The HEP is currently underway, with construction completion scheduled for 2019, and will feature a 459-room hotel, ballroom, restaurant, and back-of-house support space, for a total net gain of 499,747 square feet. In accordance with the Tribal-State Compact between the Tribe and the State of California, a Tribal Environmental Impact Report was prepared for the HEP, in order to analyze its potential off-reservation environmental impacts (AES, 2017).

The residential community will eventually consist of ten single-family residences, with supporting roads, utilities, and other infrastructure. The Proposed Project would provide emergency vehicle access and wildfire protection to the community. Please see **Section 1.14.2** for additional detail on the residential community.

1.21.2 Discussion

a) Does the project have 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, or eliminate important examples of the major periods of California history or prehistory?

Less than significant. No special-status species were observed on the project site during field surveys. No critical habitat or fish habitat is present on the project site. Preconstruction biological and nesting bird surveys would be completed for the Proposed Project. The Proposed Project has been designed to safely manage stormwater and flood flows, and avoid erosion and siltation that could impact water quality within the watershed. The two drainages that would require culvert crossings are unvegetated and highly incised, and would be dry during construction. A cultural survey of the site did not identify any cultural or historic resources, and cultural monitors would be on-site during construction activities.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

No impact. Individually, the Proposed Project would have impacts that are of minimal significance and limited to its immediate location. Both the HEP and planned residential development have been assessed for their individual impacts. The HEP has no cumulative relationship with the Proposed Project, and is

consistent with the long-term commercial use of the Tribal land upon which it is being developed. While the Proposed Project would provide fire protection and emergency vehicle access to the residential community, it would not increase the potential for impacts to occur as a result of that project. The Proposed Project would not result in impacts that are cumulatively considerable.

c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

No impact. The purpose of the Proposed Project is to improve public safety by increasing emergency vehicle access and wildfire prevention. It would have no adverse effects on human beings.

2 REFERENCES

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ATTACHMENT 1

PROJECT DESIGN SHEETS

IMPROVEMENT PLANS FOR
YDWN FIRE ACCESS ROAD

TOWN OF BROOKS — YOLO COUNTY, CALIFORNIA

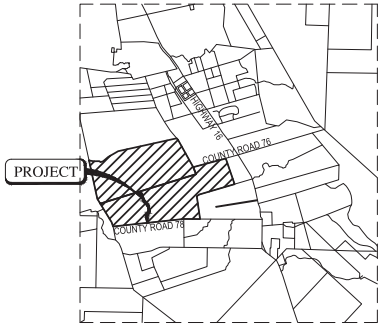
LEGEND & ABBREVIATIONS

SY	SQUARE YARD
D.G.	DECOMPOSED GRANITE
A.B.C.	AGGREGATE BINDER COURSE
1500	PROPOSED MAJOR CONTOUR ELEVATION
1501	PROPOSED MINOR CONTOUR ELEVATION
1500	EXISTING MAJOR CONTOUR ELEVATION
1501	EXISTING MINOR CONTOUR ELEVATION
	PIPE CULVERT
	RIP-RAP
	DRAINAGE FLOW
	TURF REINFORCEMENT MAT A PER CONSTRUCTION PLANS
	STABILIZED CONSTRUCTION ENTRANCE PER CASQA TC-1.
	CONCRETE WASHOUT PIT MATERIAL PER CASQA WM-8 WITH POSTED SIGNS.
	PLANNED STAGING, MATERIAL AND WASTE STORAGE AREA AND SOLID WASTE STORAGE AREA PER CASQA WM-1 TO WM-6.
	HYDROSEEDING PER CASQA EC-4.
	FIBER ROLLS PER CASQA SE-5.
	APPROXIMATE LIMIT OF CLEARING AND GRADING.
	EXISITING FENCE
SSD#	SITE STORMWATER DISCHARGE LOCATION
SL	SAMPLING LOCATION
	CHECK DAMS, SE-4

HYDROSEED MATERIALS SHALL CONSIST OF:

WOOD CELLULOSE FIBER AT 1,800 LBS/ACRE
ORGANIC FERTILIZER 5-3-2 AT 500 LBS/ACRE
BINDER AT 100 LBS/ACRE
SEED SHALL BE APPLIED AT 65 LBS/ACRE
ZORRO FESCUE
CREEPING RED FESCUE
HYKON ROSE CLOVER
BLANDO BROME

LOCATION MAP
N.T.S.



VICINITY MAP
N.T.S.

OWNER / DEVELOPER

YOCHA DEHE DEVELOPMENT
18960 PUHKUM ROAD
BROOKS, CALIFORNIA 95606
PHONE: 530-796-5747
CONTACT: MARK WILSON, DIRECTOR OF DEVELOPMENT

ENGINEER & SURVEYOR

2051 WEST NORTHERN AVE
SUITE 100
PHOENIX, ARIZONA 85021
PHONE: (602)335-8500
FAX: (602)335-8580
CONTACT: MICHAEL YOUNG, P.E.

BENCHMARK

GWM32 COUNTY OF YOLO BENCHMARK. BRASS CAP SET IN TOP OF CONCRETE POST, 1 MILE WEST ALONG COUNTY ROAD 78 AND 18 FEET SOUTH OF THE CENTERLINE OF THE ROAD, ELEVATION = 369.2'

BASIS OF BEARING

THE BASIS OF BEARING FOR THIS SURVEY IS THE GRID BEARING OF S09°38'12"E, BETWEEN NGS DESIGNATION "GWM 32" AND "BROOKS", AS CALUCATED FROM NGS DATA SHEETS.

EARTHWORK QUANTITIES (ESTIMATED)

RAW CUT:	7,419 CY
RAW FILL:	2,064 CY

QUANTITIES ARE ESTIMATED IN PLACE. NO PRECOMPACTION, SHRINK OR SWELL IS ASSUMED.

PAVING QUANTITIES (ESTIMATED)

18" A.B.C.	8,537 SY
6" STABILIZED D.G. SHOULDER	1,606 SY
GATE	1 EA
CATTLE GUARD - FEDERAL LANDS HIGHWAY 619-1	1 EA
FENCE	265 LF

STORM DRAIN QUANTITIES (ESTIMATED)

24" RGRCP CLASS V	37 LF
36" RGRCP CLASS V	141 LF
HEADWALL - C.O.S. S-280	2 EA
HEADWALL - C.O.S. S-280 (MODIFIED FOR 3 PIPES)	2 EA
HANDRAIL	2 EA
RIP-RAP (D50=6")	87 CY
GABIONS	61 CY
CULVERT INLET WINGWALL - CALTRANS D84	1 EA
CULVERT OUTLET WINGWALL - CALTRANS D84	1 EA
8'X8' PRECAST REINFORCED CONCRETE BOX CULVERT - CALTRANS D83A	47 LF

CIVIL SHEET INDEX

TOTAL SHEETS - 15

AGENCY/UTILITY CONTACTS

UTILITY		REPRESENATIVE	
GAS	PGE DISTR VACAVILLE	ENGINEERING	800-743-5000
ELECTRICITY	PGE DISTR VACAVILLE	ENGINEERING	800-743-5000
PHONE	PACIFIC BELL	ENGINEERING	415-542-9000
CABLE	AT&T TRANSMISSION OF CA.	NANCY SPENCE	770-918-5424
PHONE/INTERNET	FRONTIER (PATTERSON)	ENGINEERING	209-829-0256 EXT. 456 209-892-0256 EXT. 456
WATER/SEWER	COUNTY OF YOLO	TODD RIDDIOUGH	530-666-8039
FIRE	COUNTY OF YOLO	TODD RIDDIOUGH	530-666-8039

FIRE DISTRICT

APPROVED FOR FIRE HYDRANTS (AS APPROPRIATE)

TITLE

DATE APPROVED

SERVICE DISTRICT

APPROVED FOR WATER, SEWER AND STREETLIGHTS

TITLE

DATE APPROVED

YOLO COUNTY
PLANNING AND PUBLIC WORKS

REVIEWED FOR CONFORMANCE WITH THE YOLO COUNTY IMPROVEMENT STANDARDS. THE UNDERSIGNED SHALL NOT BE LIABLE FOR ERRORS AND OMISSION ON THE PLANS.

P.E. _____ REGISTRATION EXPIRES _____

DESIGNED: MY
DRAWN: DC
CHECKED: FMK

NO.	BY	DATE	REVISON	APP'D	DATE

DESIGN ENGINEER
BY FRANK MINGFENG KOO
ENGINEER'S NAME
DATE 1/29/2019 P.E. FRANK KOO
REGISTRATION EXPIRES 12/31/2019

WOOD/PATEL
MISSION: CLIENT SERVICE ®
(602) 335-8500
WWW.WOODPATEL.COM

IMPROVEMENT PLANS FOR
YDWN FIRE ACCESS ROAD
COVER SHEET

SCALE	
HORIZONTAL	N/A
VERTICAL	N/A
DATE	1/29/2019
JOB NUMBER	184801.04
WORK ORDER NO:	

SHEET 1 OF 15

Z:\2018\184801.04\Dwg\Imp\SWARZ4801-04-001-CV.dwg

(CHECKED BY: FMK DESIGNED BY: DAC DRAFTED BY: DAC)

ENGINEER'S NOTES

1. COUNTY OF YOLO IMPROVEMENT STANDARDS (LATEST EDITION INCLUDING LATEST REVISION) ARE INCORPORATED INTO THIS PLAN IN THEIR ENTIRETY.

2. ALL WORK REQUIRED TO COMPLETE THE CONSTRUCTION COVERED BY THIS PLAN SHALL BE IN ACCORDANCE WITH COUNTY OF YOLO IMPROVEMENT STANDARDS AND DETAILS UNLESS SPECIFIED OTHERWISE IN THESE PLANS OR ELSEWHERE IN THE CONTRACT DOCUMENTS. CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH ALL REQUIRED STANDARD SPECIFICATIONS, DETAILS AND SUPPLEMENTS PRIOR TO BIDDING THE WORK FOR THE CONSTRUCTION COVERED BY THIS PLAN.

3. THE CONTRACTOR IS RESPONSIBLE FOR ALL METHODS, SEQUENCING, AND SAFETY CONCERNS ASSOCIATED WITH THIS PROJECT DURING CONSTRUCTION, UNLESS SPECIFICALLY ADDRESSED OTHERWISE IN THIS PLAN OR ELSEWHERE IN THE CONTRACT.

4. THE CONTRACTOR IS TO COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS APPLICABLE TO THE CONSTRUCTION COVERED BY THIS PLAN.

5. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND COMPLYING WITH ALL PERMITS REQUIRED TO COMPLETE ALL WORK COVERED BY THIS PLAN.

6. THE QUANTITIES AND SITE CONDITIONS DEPICTED IN THESE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE SUBJECT TO ERROR AND OMISSION. CONTRACTORS SHALL SATISFY THEMSELVES AS TO ACTUAL QUANTITIES AND SITE CONDITIONS PRIOR TO BIDDING THE WORK FOR THE CONSTRUCTION COVERED BY THIS PLAN.

7. A REASONABLE EFFORT HAS BEEN MADE TO SHOW THE LOCATIONS OF EXISTING UNDERGROUND FACILITIES AND UTILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND/OR FACILITIES CAUSED DURING THEIR CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL CALL 48 HOURS IN ADVANCE FOR BLUE STAKE (1-800-STAKE-IT) PRIOR TO ANY EXCAVATION.

8. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION OF CONSTRUCTION AFFECTING UTILITIES AND THE COORDINATION OF ANY NECESSARY UTILITY RELOCATION WORK.

9. ALL PAVING, GRADING, EXCAVATION, TRENCHING, PIPE BEDDING, CUT FILL AND BACKFILL SHALL COMPLY WITH THE RECOMMENDATIONS SET FORTH IN THE SOILS (GEOTECHNICAL) REPORT FOR THIS PROJECT IN ADDITION TO THE REFERENCED REQUIRED SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL BE AWARE THAT CERTAIN UTILITIES REQUIRE PROPER ATTENTION AND CAREFUL PLANNING DURING SITE CONSTRUCTION. PLEASE NOTE THAT UTILITIES ON THESE PLANS MAY NOT EXHIBIT THE FULL PROTECTIVE COVER REQUIRED DURING THE SUBGRADE PREPARATION PHASE OF THE CONSTRUCTION. IN SUCH INSTANCES, THE CONTRACTOR SHALL PROVIDE ADDITIONAL PROTECTION (SUCH AS RAMPING) OR INCREASED PIPE STRENGTH TO PROVIDE THE NECESSARY PROTECTION REQUIRED TO PREVENT DAMAGE DURING THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL HOLD THE ENGINEER HARMLESS IN ALL CASES FOR DAMAGES TO UTILITIES WHERE INADEQUATE PROTECTIVE MEASURES OCCUR.

10. THE CONTRACTOR IS TO VERIFY THE LOCATION AND THE ELEVATIONS OF ALL EXISTING UTILITIES AT POINTS OF TIE-IN PRIOR TO COMMENCING ANY NEW CONSTRUCTION. SHOULD ANY LOCATION OR ELEVATION DIFFER FROM THAT SHOWN ON THESE PLANS, THE CONTRACTOR SHALL CONTACT THE OWNER'S AGENT.

11. CONTRACTOR TO VERIFY AND COORDINATE ALL DIMENSIONS AND SITE LAYOUT WITH ARCHITECT'S FINAL SITE PLAN AND FINAL BUILDING DIMENSIONS BEFORE STARTING WORK. REPORT DISCREPANCIES TO OWNER'S AGENT.

12. COORDINATION BETWEEN ALL PARTIES IS ESSENTIAL PART OF CONTRACT.

13. CONTRACTOR IS RESPONSIBLE FOR PROJECT AND SITE CONDITIONS, AND TO WORK WITH WEATHER CONDITIONS AS THE PROJECT SITE MAY BE LOCATED IN A FLOOD PRONE AREA AND SUBJECT TO FLOODING AND ITS HAZARDS.

14. THE CONTRACTOR IS TO VERIFY THE LOCATION, ELEVATION, CONDITION, AND PAVEMENT CROSS-SLOPE OF ALL EXISTING SURFACES AT POINTS OF TIE-IN AND MATCHING, PRIOR TO COMMENCEMENT OF GRADING, PAVING, CURB AND GUTTER, OR OTHER SURFACE CONSTRUCTION. SHOULD EXISTING LOCATIONS, ELEVATIONS, CONDITION, OR PAVEMENT CROSS-SLOPE DIFFER FROM THAT SHOWN ON THESE PLANS, RESULTING IN THE DESIGN INTENT REFLECTED ON THESE PLANS NOT ABLE TO BE CONSTRUCTED, THE CONTRACTOR SHALL NOTIFY THE OWNER'S AGENT IMMEDIATELY FOR DIRECTION ON HOW TO PROCEED PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR ACCEPTS RESPONSIBILITY FOR ALL COSTS ASSOCIATED WITH CORRECTIVE ACTION IF THESE PROCEDURES ARE NOT FOLLOWED.

15. CONTRACTOR IS RESPONSIBLE TO COORDINATE UTILITY CROSSINGS AT CULVERT CROSSINGS BEFORE STARTING WORK ON CULVERT. COORDINATE WITH OWNER REPRESENTATIVE. VERIFY UTILITY LINES AND/OR CONDUITS ARE IN PLACE BEFORE STARTING CULVERT WORK.

16. THIS PROJECT REQUIRES A REGULAR ONGOING MAINTENANCE PROGRAM FOR THE DESIGNED DRAINAGE SYSTEM(S) TO PRESERVE THE DESIGN INTEGRITY AND THE ABILITY TO PERFORM ITS OPERATIONAL INTENT. FAILURE TO PROVIDE MAINTENANCE WILL JEOPARDIZE THE DRAINAGE SYSTEM(S)' PERFORMANCE AND MAY LEAD TO IT'S INABILITY TO PERFORM PROPERLY AND/OR CAUSE DAMAGE ELSEWHERE IN THE PROJECT.

YOLO COUNTY NOTES

A. UNLESS SHOWN OR SPECIFIED OTHERWISE, ALL CONSTRUCTION AND MATERIALS SHALL COMPLY WITH THE LATEST EDITION OF THE YOLO COUNTY IMPROVEMENT STANDARDS.

B. THE CONTRACTOR SHALL NOT PERFORM ANY WORK SHOWN ON THESE PLANS UNTIL THE SIGNATURE OF APPROVAL OF THE COUNTY ENGINEER IS AFFIXED HEREON AND ALL APPLICABLE PERMITS HAVE BEEN OBTAINED.

C. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE COUNTY STAFF, OTHER AGENCY STAFF, CONTRACTOR, MATERIAL TESTING LAB, CONSULTANTS, AND OTHER APPROPRIATE PERSONNEL REPRESENTING THE DEVELOPER AT LEAST TWO (2) WORKING DAY IN ADVANCE OF ANY CONSTRUCTION ACTIVITIES.

D. CONTRACTORS SHALL BE RESPONSIBLE FOR COORDINATING THEIR OPERATIONS WITH ALL REQUIRED MATERIALS TESTING SERVICES AS REQUIRED BY THE YOLO COUNTY IMPROVEMENT STANDARDS AND THE COUNTY INSPECTOR. EACH PHASE OF CONSTRUCTION SHALL BE TESTED AND APPROVED BY THE COUNTY INSPECTOR PRIOR TO PROCEEDING TO SUBSEQUENT PHASES.

E. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES INVOLVED IN THE DEVELOPMENT PRIOR TO BEGINNING OF WORK.

F. UTILITIES TO BE INSTALLED UNDER EXISTING PAVEMENTS SHALL BE DIRECTIONALLY BORED.

G. NO PAVEMENT WORK WILL OCCUR WITHIN THE ROAD RIGHT-OF-WAY PRIOR TO COMPLETION OF ANY NECESSARY UTILITY POLE REMOVAL AND UTILITY UNDERGROUNDING WORK WITHIN THAT RIGHT-OF-WAY.

H. CONTRACTOR SHALL NOTIFY "UNDERGROUND SERVICE ALERT" AT 811 AT LEAST TWO (2) WORKING DAYS BEFORE STARTING ANY EXCAVATION ACTIVITIES.

I. MATERIALS SUBMITTALS FOR MATERIAL INCORPORATED INTO THE WORK INCLUDING, BUT NOT LIMITED TO, AGGREGATE BASE, ASPHALT CONCRETE, AND CONCRETE MATERIALS SHALL BE SUBMITTED TO THE COUNTY AT LEAST TWO (2) WEEKS PRIOR TO DELIVERY OF MATERIALS TO THE SITE.

J. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND/OR OTHER SURVEY MARKERS DURING CONSTRUCTION. ALL MONUMENTS OR MARKERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED BY A LICENSED CALIFORNIA LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.

K. PRIOR TO REQUESTING COUNTY ACCEPTANCE OF IMPROVEMENTS, THE CONTRACTOR SHALL BE SET STANDARD SURVEY MONUMENTS AT LOCATIONS REFERENCED BY ENGINEER. ALL SURVEY MONUMENTS SHALL BE PUNCHED AND SHALL BEAR THE LICENSE NUMBER OF THE SURVEYOR.

L. CONTRACTOR SHALL NOTIFY THE APPROPRIATE SPECIAL DISTRICT, AFTER RECEIPT OF PERMITS AND PAYMENT OF REQUIRED FEES, PRIOR TO MAKING WATER OR SEWER TAPS.

M. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL CURRENTLY APPLICABLE SAFETY LAWS OF ALL JURISDICTIONAL BODIES. THE CONTRACTOR IS DIRECTED TO CONTACT THE CALIFORNIA STATE DEPARTMENT OF INDUSTRIAL RELATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BARRICADES, SAFETY DEVICES, AND CONTROL OF TRAFFIC WITHIN AND AROUND THE CONSTRUCTION AREA. FOR ALL TRENCH EXCAVATION 5 FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL OBTAIN A PERMIT FROM THE CALIFORNIA STATE DIVISION OF INDUSTRIAL RELATIONS PRIOR TO BEGINNING ANY EXCAVATION.

N. PUBLIC SAFETY AND TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH THE CALTRANS TRAFFIC MANUAL AND AS MAY BE DIRECTED BY THE COUNTY. ANY LANE CLOSURES (VEHICLE OR BICYCLE) SHALL BE APPROVED IN ADVANCE BY THE COUNTY. SAFE VEHICULAR, BICYCLE, AND PEDESTRIAN ACCESS SHALL BE PROVIDED AT ALL TIMES.

O. THE CONTRACTOR SHALL MAINTAIN CONTINUOUS TEMPORARY TRAFFIC BARRICADES, WITH OPERABLE FLASHING DEVICES, SPACED AT INTERVALS OF NOT TO EXCEED 50 FEET WHENEVER THE WORK AREA IS ADJACENT TO AN EXISTING TRAFFIC LANE AND THERE IS A PAVEMENT CUT, TRENCH OR DITCH IS MORE THAN 10 FEET FROM A TRAFFIC LANE, THEN THE BARRICADE SPACING MAY BE GREATER, PROVIDED THAT IT DOES NOT EXCEED 200 FEET.

P. CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES CONTRACTOR SHALL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONTRACTOR FURTHER AGREES TO INDEMNIFY AND HOLD THE COUNTY OF YOLO, ITS OFFICERS, EMPLOYEES, AGENTS AND VOLUNTEERS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT.

Q. ALL CONSTRUCTION AND MATERIAL DELIVERY VEHICLES SHALL USE THE DESIGNATED ACCESS AND HAUL ROUTE(S) TO THE CONSTRUCTION SITE. ROUTE(S) IS ALONG COUNTY ROAD 78 TO FIRE ACCESS ROAD BEGINNING. ANY DEVIATION IN ROUTE(S) SHALL BE SUBJECT TO COUNTY ENGINEER APPROVAL. THE ROUTE(S) SHALL BE MONITORED DURING THE PROJECT FOR ANY DAMAGE AND DEBRIS ATTRIBUTABLE TO THE PROJECT VEHICLES. ALL DAMAGE AND DEBRIS AS A RESULT OF THE PROJECT SHALL BE REPAIRED PER COUNTY STANDARDS.

YOLO COUNTY NOTES (CONT.)

R. IN THE EVENT THAT ANY STREET OR PORTION OF ANY STREET WILL BE CLOSED TO EMERGENCY TRAFFIC, THE CONTRACTOR SHALL NOTIFY YOLO COUNTY COMMUNICATIONS DISPATCH AT (530)666-8920 PRIOR TO CLOSURE, AND IMMEDIATELY AFTER REOPENING SAID STREET.

S. CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING HIS OPERATION ENTIRELY OUTSIDE OF ANY FLOODPLAIN BOUNDARIES UNLESS OTHERWISE APPROVED.

T. CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING HIS OPERATION ENTIRELY OUTSIDE OF ANY "NO GRADING" AREA. THESE AREAS SHALL BE CLEARLY DELINEATED IN THE FIELD PRIOR TO CONSTRUCTION.

U. WHERE WORK IS BEING DONE IN AN OFF-SITE EASEMENT THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNER TWO (2) DAYS PRIOR TO COMMENCING WORK WITHIN SAID EASEMENT. COPIES OF ALL SIGNED/APPROVED OFF-SITE EASEMENT AND/OR RIGHT-OF-ENTRY DOCUMENTS SHALL BE PROVIDED TO THE COUNTY.

V. CONTRACTOR SHALL NOT DISPOSE OF CHLORINATED OR OTHER CHEMICALLY TREATED WATER INTO ANY DRAINAGE SYSTEM.

W. CONTRACTOR SHALL PROVIDE EVIDENCE TO COUNTY OF NOTIFICATION OF LAKE OR STREAMBED ALTERATION TO THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE, IF NECESSARY.

YOLO COUNTY
PLANNING AND PUBLIC WORKS

REVIEWED FOR CONFORMANCE WITH THE YOLO COUNTY IMPROVEMENT STANDARDS. THE UNDERSIGNED SHALL NOT BE LIABLE FOR ERRORS AND OMISSION ON THE PLANS.

P.E._____ REGISTRATION EXPIRES _____

DESIGNED: MY
DRAWN: DC
CHECKED: FMK

NO.	BY	DATE	REVISON	APP'D	DATE

DESIGN ENGINEER
BY FRANK MINGFENG KOO
ENGINEER'S NAME
DATE 1/29/2019 P.E. FRANK KOO
REGISTRATION EXPIRES 12/31/2019

LICENSED PROFESSIONAL ENGINEER FRANK MINGFENG KOO No. C-67309 STATE OF CALIFORNIA

WOOD/PATEL
MISSION: CLIENT SERVICE ®
(602) 335-8500
WWW.WOODPATEL.COM

IMPROVEMENT PLANS FOR YDWN FIRE ACCESS ROAD

GENERAL NOTES

SCALE	
HORIZONTAL	N/A
VERTICAL	N/A
DATE	1/29/2019
JOB NUMBER	184801.04
WORK ORDER NO:	

SHEET 2 OF 15

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(CHECKED BY: FMK DESIGNED BY: DAC DRAFTED BY: DAC)

N

0 250 500

Horz. 1 in. = 250 ft.

LEGEND

1 PAVING & DRAINAGE PLAN SHEET NUMBER

PAVING & DRAINAGE PLAN SHEET MATCHLINE

PROPERTY BOUNDARY

YOLO COUNTY
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IMPROVEMENT PLANS FOR YDWN FIRE ACCESS ROAD

OVERALL SITE PLAN

SCALE	
HORIZONTAL	1" = 250'
VERTICAL	N/A
DATE	1/29/2019
JOB NUMBER	184801.04
WORK ORDER NO:	

SHEET 3 OF 15

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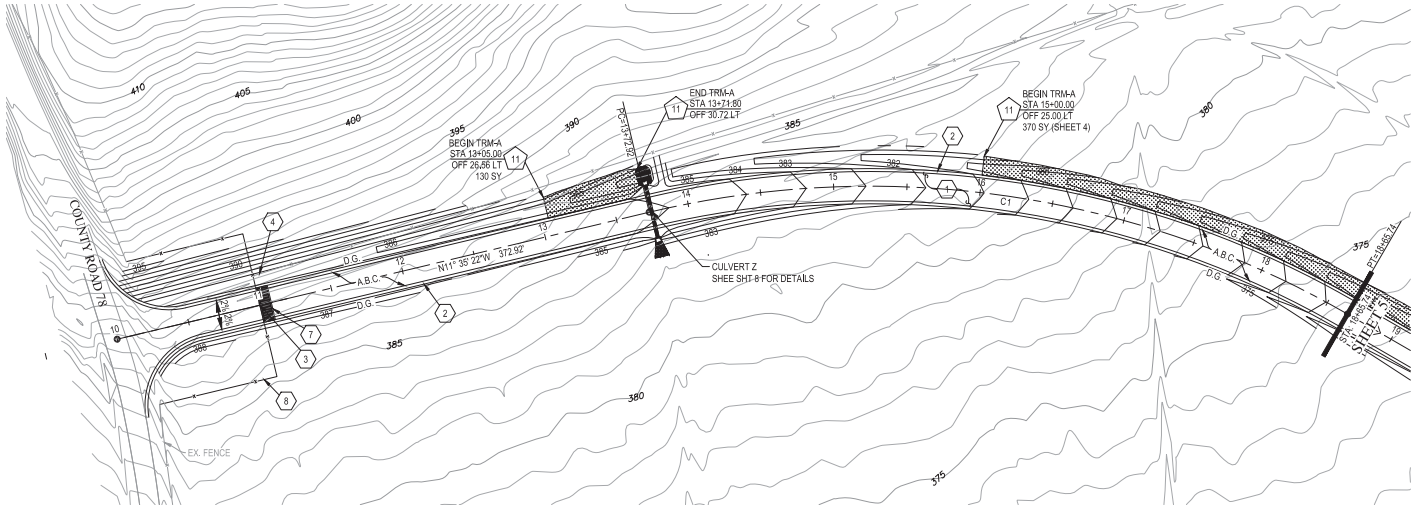
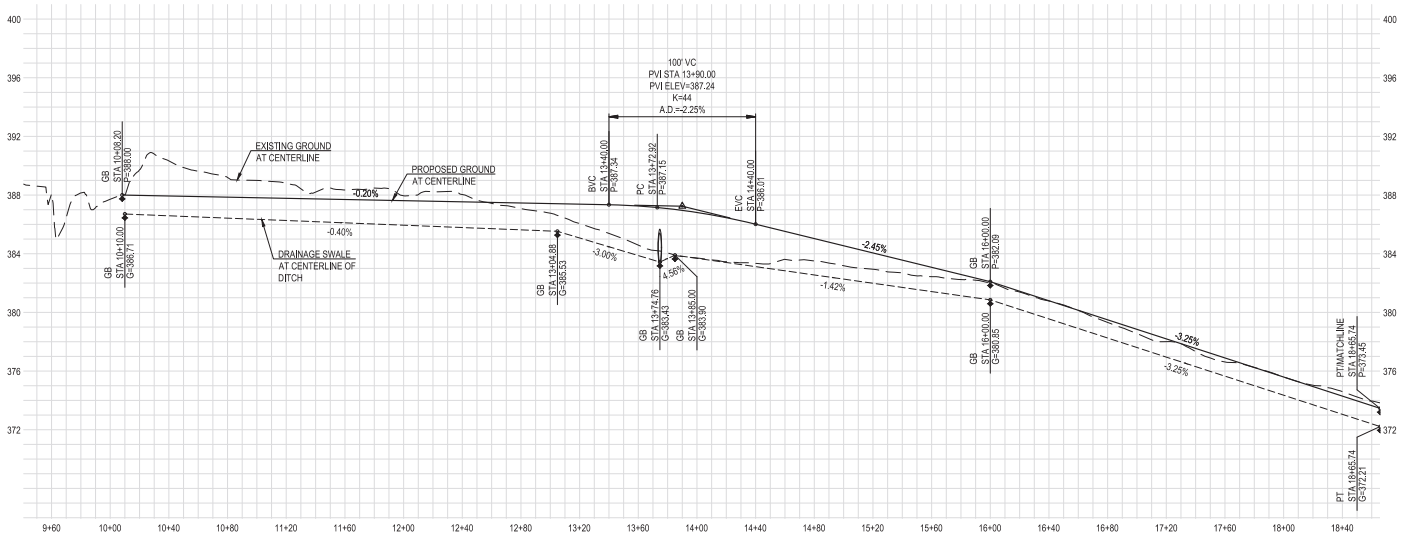
(CHECKED BY: FMK DESIGNED BY: DAC DRAFTED BY: DAC)



CENTERLINE CURVE TABLE					
CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD
C1	43°26'29"	650.00'	492.83'	258.94	481.11

FIRE ACCESS ROAD

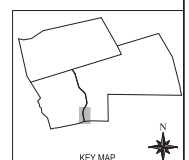


PAVING NOTES

1. CONSTRUCT FIRE ACCESS ROAD WITH 18" CLASS 2 AGGREGATE BASE AND SUBGRADE PER GEOTECHNICAL REPORT. ALTERNATIVE STRUCTURAL SECTION OF 12" OF CLASS 2 AGGREGATE BASE OVER 12" OF LIME TREATED SUBGRADE IS ACCEPTABLE. ALL COMPACTION, TREATMENT, ETC. PER GEOTECHNICAL REPORT.
2. CONSTRUCT STABILIZED SHOULDER WITH 4" OF COMPACTED DECOMPOSED GRANITE OVER 4" OF CLASS B CEMENT TREATED AGGREGATE BASE OVER 12" OF LIME TREATED SUBGRADE. ALL COMPACTION, TREATMENT, ETC. PER GEOTECHNICAL REPORT.
3. CONTRACTOR TO INSTALL 24' WIDE ACCESS GATE TO MEET YDWN FIRE DEPARTMENT STANDARDS.
4. REMOVE AND REPLACE EXISTING FENCE AT OWNERS DIRECTION.
7. CONTRACTOR TO INSTALL CATTLE GUARD PER FEDERAL LANDS HIGHWAY STANDARD DETAIL 619-1. SEE SHEET 10 FOR DETAIL.
8. CONTRACTOR TO INSTALL NEW RANCH FENCE PER OWNER'S SPECIFICATIONS.

STORM DRAIN NOTES

11. INSTALL MACCAFERRI MACMAT 20.4 TURF REINFORCEMENT MAT, SEE SHEET 9 FOR TECHNICAL DATA SHEET.



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IMPROVEMENT PLANS FOR YDWN FIRE ACCESS ROAD

PAVING & DRAINAGE PLAN

SCALE		SHEET
HORIZONTAL	1" = 40'	4
VERTICAL	1" = 4'	OF
DATE	1/29/2019	15
JOB NUMBER	184801.04	
WORK ORDER NO:		

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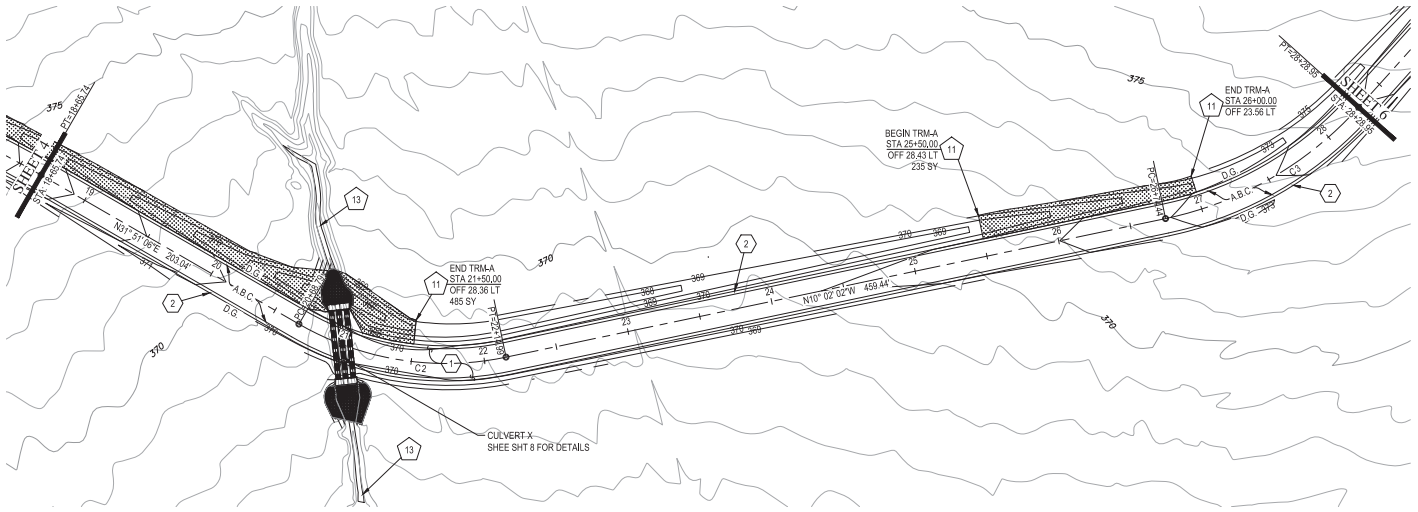
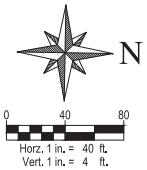
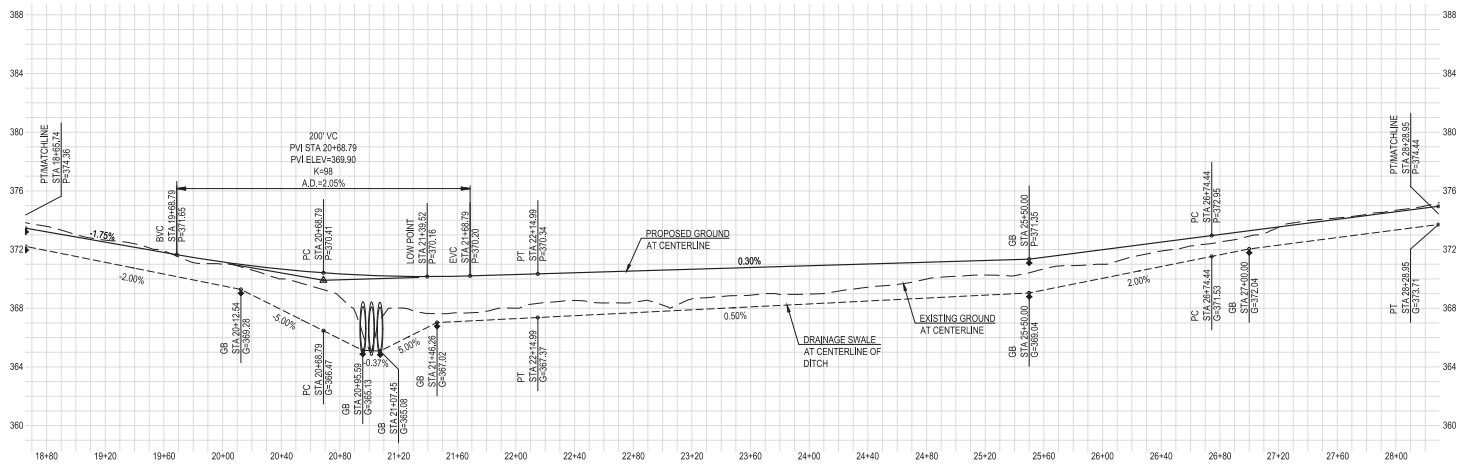
(CHECKED BY: FMK DESIGNED BY: DAC DRAFTED BY: DAC)





CENTERLINE CURVE TABLE					
CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD
C2	41°53'08"	200.00'	146.21'	76.54	142.97
C3	36°08'05"	245.00'	154.51'	79.92	151.97

FIRE ACCESS ROAD



PAVING NOTES

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STORM DRAIN NOTES

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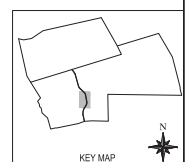
13. ACOE JURISDICTIONAL FEATURE. CONTRACTOR TO PROTECT AS REQUIRED PER PERMIT.



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IMPROVEMENT PLANS FOR YDWN FIRE ACCESS ROAD

PAVING & DRAINAGE PLAN

SCALE	
HORIZONTAL	1" = 40'
VERTICAL	1" = 4'
DATE	1/29/2019
JOB NUMBER	184801.04
WORK ORDER NO:	

SHEET 5 OF 15

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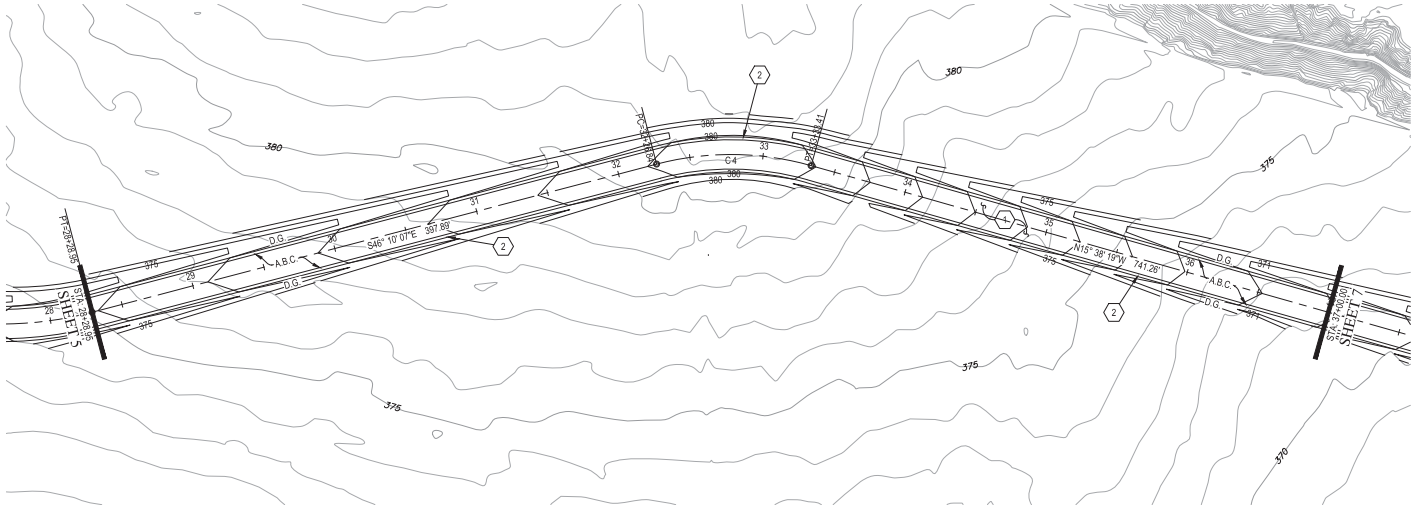
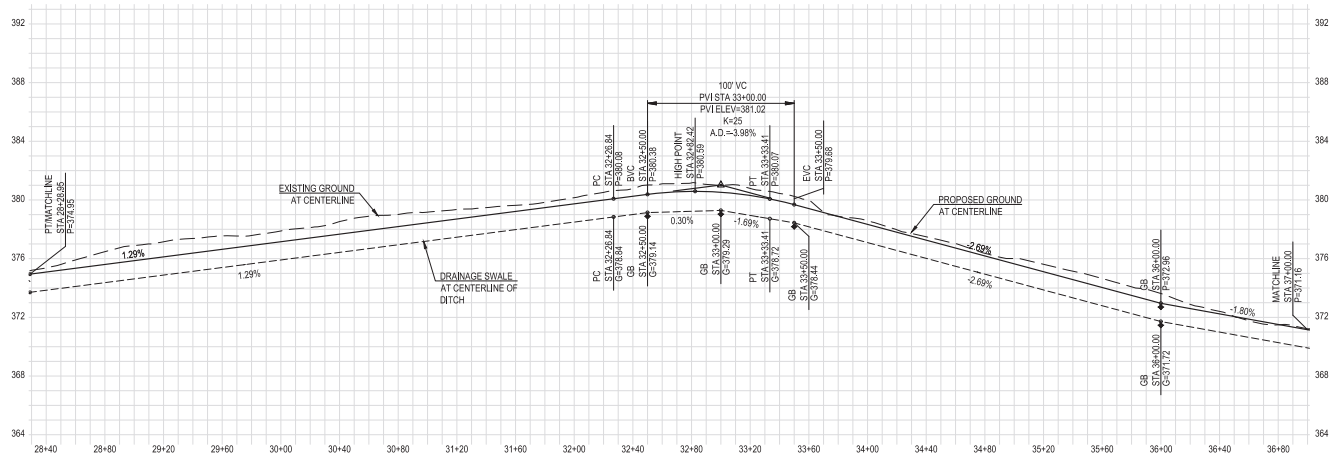
(CHECKED BY: FMK DESIGNED BY: DAC DRAFTED BY: DAC)



CENTERLINE CURVE TABLE					
CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD
C4	30°31'49"	200.00'	106.57'	54.58	105.31

FIRE ACCESS ROAD



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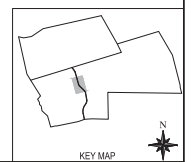

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IMPROVEMENT PLANS FOR YDWN FIRE ACCESS ROAD

PAVING & DRAINAGE PLAN

SCALE		SHEET
HORIZONTAL	1" = 40'	6
VERTICAL	1" = 4'	OF
DATE	1/29/2019	15
JOB NUMBER	184801.04	
WORK ORDER NO:		

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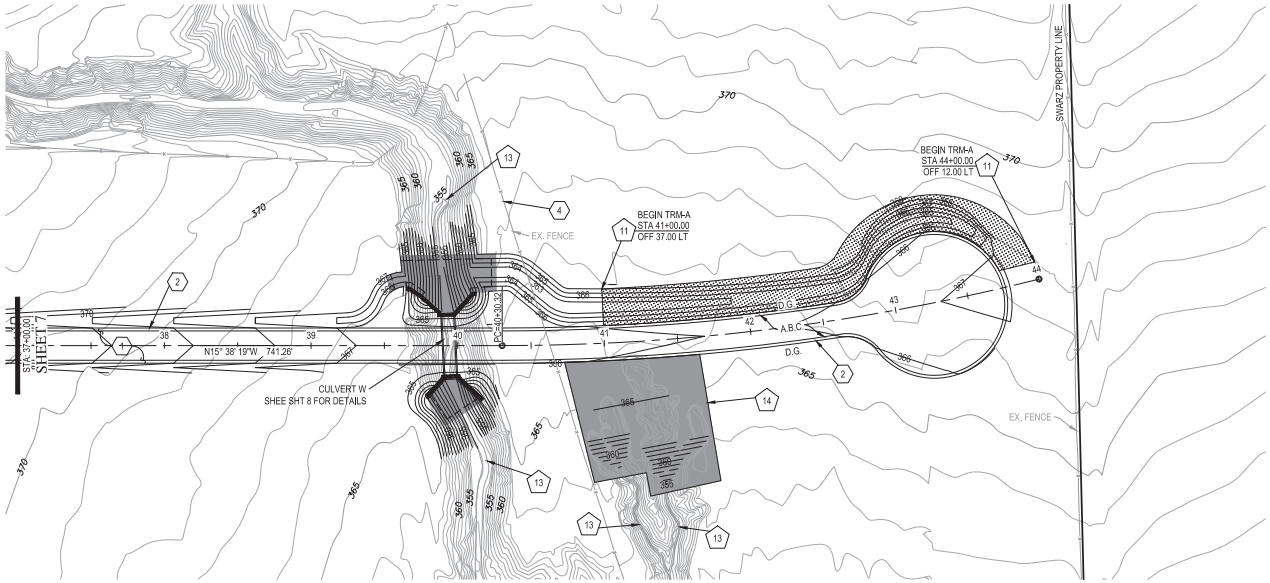
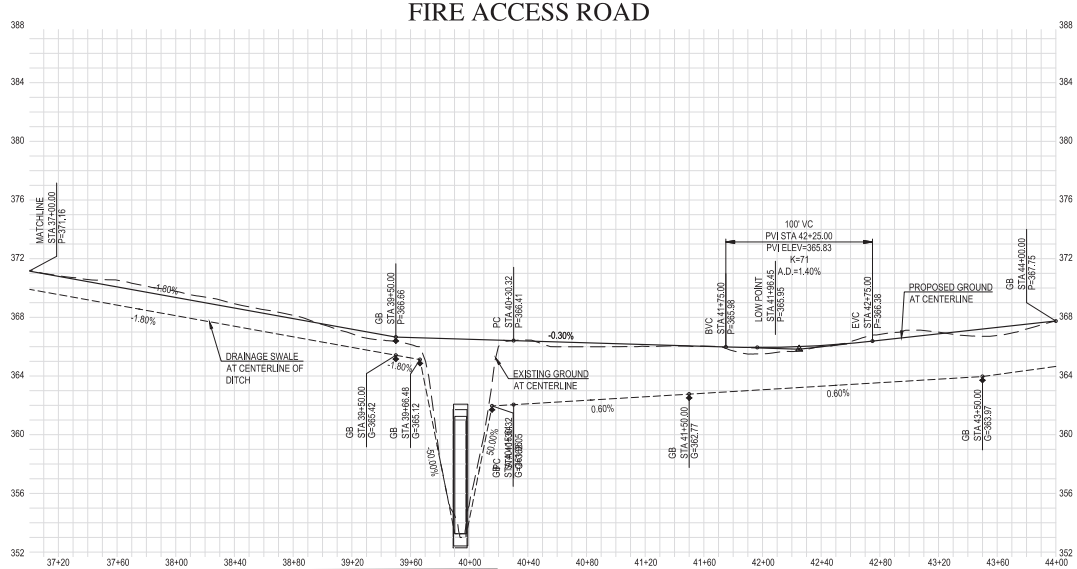
(CHECKED BY: FMK DESIGNED BY: DAC DRAFTED BY: DAC)



CENTERLINE CURVE TABLE					
CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD
C5	66°53'24"	200.00'	233.49'	132.10	220.45
C6	22°27'59"	200,00'	78,42'	39,72	77,92

FIRE ACCESS ROAD



PAVING NOTES

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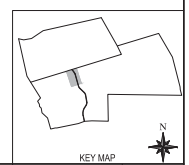
4. REMOVE AND REPLACE EXISTING FENCE AT OWNERS DIRECTION.

STORM DRAIN NOTES

11. INSTALL MACCAFERRI MACMAT 20.4 TURF REINFORCEMENT MAT, SEE SHEET 9 FOR TECHNICAL DATA SHEET.
13. ACOE JURISDICTIONAL FEATURE. CONTRACTOR TO PROTECT AS REQUIRED PER PERMIT.
14. CONTRACTOR TO CLEAR, MOISTURE CONDITION AND FILL AREA WITH KEYWAY, BENCHES, LIFTS, ETC. TO A MINIMUM 90% OF THE ASTM D1557 MAXIMUM DRY DENSITY PER GEOTECHNICAL RECOMMENDATIONS.



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WWW.WOODPATEL.COM

IMPROVEMENT PLANS FOR YDWN FIRE ACCESS ROAD

PAVING & DRAINAGE PLAN

SCALE	
HORIZONTAL	1" = 40'
VERTICAL	1" = 4'
DATE	1/29/2019
JOB NUMBER	184801.04
WORK ORDER NO:	

SHEET 7 OF 15

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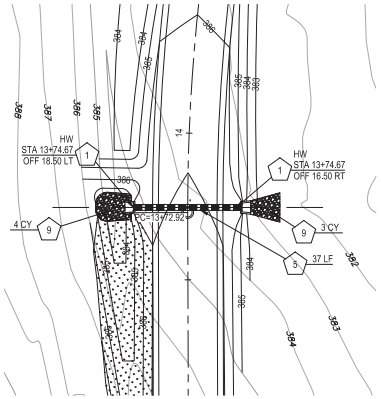
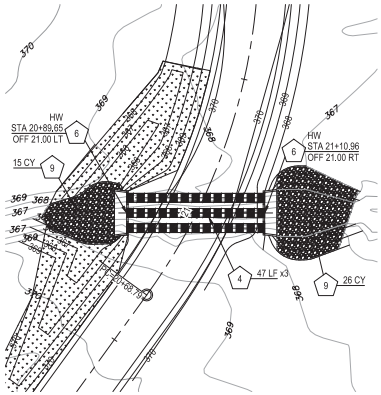
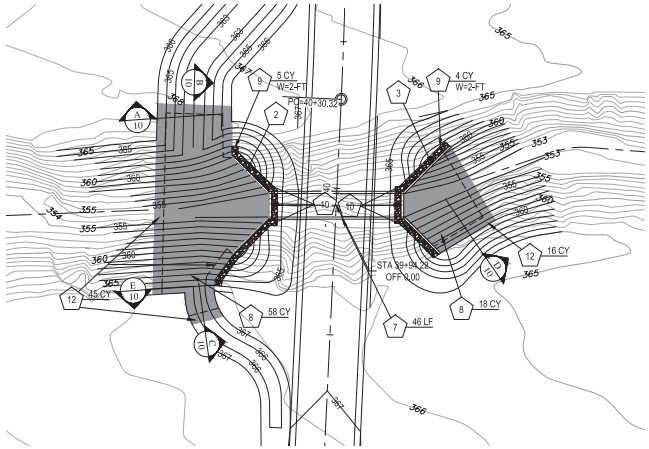
(CHECKED BY: FMK DESIGNED BY: DAC DRAFTED BY: DAC)



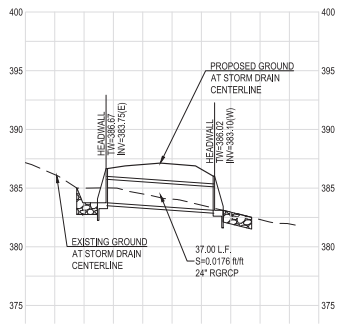
STORM DRAIN Z



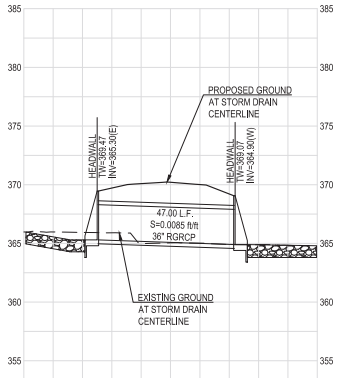
STORM DRAIN X1



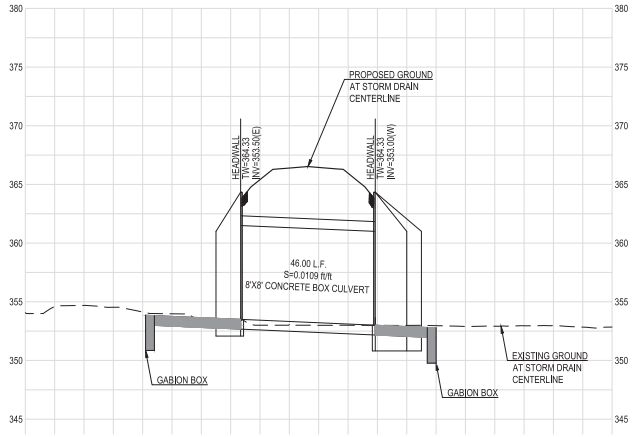
STORM DRAIN W



PROFILE Z



PROFILE X1



PROFILE W

NOTE:

TEMPORARY CONSTRUCTION VEHICLE LOADING: FOR REINFORCED CONCRETE PIPE, SHALL FOLLOW YOLO COUNTY STANDARDS AND PIPE MANUFACTURER RECOMMENDATIONS.

STORM DRAIN NOTES

1. INSTALL HEADWALL PER C.O.S. DETAIL S-280 PER SHEET 10.
2. CONSTRUCT BOX CULVERT INLET WINGWALL PER CALTRANS STANDARD DETAIL D84, TYPE A, ANGLE OF FLARE = 45°, L = 17', DESIGN H = 11' (MAX)
3. CONSTRUCT BOX CULVERT OUTLET WINGWALL PER CALTRANS STANDARD DETAIL D84, TYPE A, ANGLE OF FLARE = 45°, L = 17' (SOUTH WING), L = 22' (NORTH WING), DESIGN H = 12' (MAX)
4. INSTALL 36" R.G.R.C.P., CLASS V. PIPE BEDDING AND BACKFILL PER C.O.Y. DETAIL 9-1.
5. INSTALL 24" R.G.R.C.P., CLASS V. PIPE BEDDING AND BACKFILL PER C.O.Y. DETAIL 9-1
6. INSTALL HEADWALL PER C.,O,S, DETAIL S-280, MODIFIED FOR MULTIPLE PIPES. PIPES TO BE CENTERED 5'2" APART PER SHEET 10.
7. INSTALL 8'X8' PRECAST REINFORCED CONCRETE BOX CULVERT WITH CAST IN PLACE WALLS PER ELEVATIONS ON PLAN AND CALTRANS STANDARD DETAIL D83A.
8. INSTALL 1' THICK RENO MATRESS PER SPECIFICATIONS ON SHEET 9. INSTALL MACTEX N 46.1 GEOTEXTILE UNDER RENO MATRESS, SEE SHEET 9 FOR TECHNICAL DATA SHEET. INSTALL GABION PER SPECIFICATIONS ON SHEET 9.
9. INSTALL LOOSE ROCK RIP RAP TYPE I PER GRADATION TABLE & DETAIL SHEET 10. WRAPPED IN MACCAFERRI MACTEX® N 60.1 FILTER FABRIC OR APPROVED EQUAL.
10. INSTALL SAFETY RAIL PER STANDARD DETAIL "A" ON SHEET 10
12. INSTALL 3' x 3' GABION PER SPECIFICATIONS ON SHEET 9. INSTALL MACTEX N 46.1 GEOTEXTILE UNDER GABIONS, SEE SHEET 9 FOR TECHNICAL DATA SHEET.

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MISSION: CLIENT SERVICE ®
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IMPROVEMENT PLANS FOR YDWN FIRE ACCESS ROAD

PAVING & DRAINAGE PLAN

SCALE	
HORIZONTAL	1" = 20'
VERTICAL	1" = 4'
DATE	1/29/2019
JOB NUMBER	184801.04
WORK ORDER NO:	

SHEET 8 OF 15

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(CHECKED BY: FMK DESIGNED BY: DAC DRAFTED BY: DAC)

MACCAFERRI

PRODUCT STANDARD SPECIFICATIONS
Rev: 01, Issue Date 04.01.2012

RENO MATTRESS
GALVANIZED

RENO MATTRESS – Galvanized

1.0 Description
This work shall consist of furnishing, assembling, and filling woven wire mesh Reno mattresses with rock as specified in the contract by the dimensions, lines and grades shown on the plans, or as determined by the engineer. These specifications are in accordance with ASTM A975 and include Reno mattresses as manufactured by Maccaferri Inc. or equivalent.

2.0 Materials

2.1 Woven Mesh Reno Mattresses

2.1.1 Wire (Zinc Coated)
All tests on the wire mesh must be performed prior to manufacturing the mesh.
- Tensile strength: both the wire used for the manufacture of gabions and the lacing wire, shall have a maximum tensile strength of 70,300 psi (510 MPa), in accordance with ASTM A641/A641M.
- Elongation: the test must be carried out on a sample at least 12 in. (30 cm) long. Elongation shall not be less than 10%, in accordance with ASTM A370.
- Zinc coating: minimum quantities of zinc according to ASTM A641/A641M Class III soft temper coating.
- Adhesion of zinc coating: the adhesion of the zinc coating to the wire shall be such that, when the wire is wrapped six turns around a mandrel having four times the diameter of the wire, it does not flake or crack when rubbing it with the bare fingers, in accordance with ASTM A641/A641M.

2.1.2 Galvanized (zinc coated) woven wire mesh Reno mattresses (6 x 8 mesh type):
- Mesh Wire, Diameter – 0.087 in. (2.20 mm)
- Selvedge Wire, Diameter – 0.120 in. (3.00 mm)
- Mesh Opening: Nominal Dimension D 6.0 in. as per Fig.1

2.1.3 Galvanized (zinc coated) lacing wire:
Lacing wire: Diameter – 0.087 in. (2.20 mm)

2.1.4 Steel Mesh Properties
Mesh Tensile Strength shall have a minimum strength of 2200 lb/ft (32.8 kN/m) when tested in accordance with ASTM A975 section 10.1.1
Punch Test Resistance shall have a minimum resistance of 4000 lb (17.8 kN) when tested in accordance with ASTM A975 section 10.1.4
Connection to selvedges shall have a minimum resistance of 700 lb/ft (10.2 kN/m) when tested in accordance with ASTM A975.

2.1.5 Spacer Fasteners (Overlapping Fasteners):
Overlapping fasteners may be used in lieu of, or to complement, lacing wire for basket assembly and installation.
- High tensile fasteners shall have a nominal spacing of 4 in. (100 mm) not to exceed 8 in (100 mm) for all assembly and installation. This is based on a 700 lb/ft (10.2 kN/m) pull apart resistance for galvanized mesh with this spacing (ASTM A975 section 10.1.2).
- Fasteners used for assembly and installation of the units on the field shall be tested for compliance with the ASTM A975 section 10.1.2.2 Pull-Apart Resistance. Producer or supplier of the wire mesh shall provide certification no later than 15 days prior of starting construction.
- When tested in accordance with section 10.1.2.1, the average maximum resistance of the fastener from the test sheet not be lower than 80% of the resistance provided in the certification.
- Galvanized Fasteners: Diameter = 0.120 in. (3.05 mm), according to ASTM A975/A975M, Type 932 (Class).
- Tensile strength: 230,000 to 273,000 psi (1586-1882 MPa) in accordance with ASTM A764 Table 2.
- Proper installation of rings: A properly formed Spirals fastener shall have a minimal overlap of one (1) in. after closure (Fig. 2).

Tolerances
Wire: Zinc coating, in accordance with ASTM A641/A641M, Class III soft temper coating.
- Reno mattress sizes: ± 5 % on the length, width, and 10% on the height.
- Mesh opening: Tolerances on the hexagonal, double-twisted wire mesh opening shall not exceed ± 10% on the nominal dimension D values (see Fig.1).

Fig 1

Mesh Type	Nominal Dimension D
6 x 8	2.50 in. (64 mm)

Fig 2

Close / Open

0.79 in. (19 mm)

Normal overlap of 4 mesh openings

12.50 in. (32 cm)

2.2 Standard Unit Size

Table of sizes for Reno mattresses

Length (ft (m))	Width (ft (m))	Height (ft (m))	# of cells
6 (1.8)	6 (1.8)	0.5 (0.5)	3
13 (3.9)	6 (1.8)	0.5 (0.5)	4
9 (2.7)	6 (1.8)	0.5 (0.5)	3
10 (3.0)	6 (1.8)	0.5 (0.5)	4
13 (3.9)	6 (1.8)	0.5 (0.5)	4

2.3 Fabrication
Reno mattresses shall be manufactured with all components mechanically connected at the production facility with the exception of the mattress lid, which is produced separately from the base. The ends and diaphragm(s) shall be formed in conjunction with the base. The lid shall be a separate piece made of the same type mesh as the basket. All perimeter edges of the mesh forming the basket and top, or lid, shall be selvedged with wire having a larger diameter. The Reno mattress is uniformly partitioned into internal cells. The diaphragms shall be secured in position to the base on the lid by additional tying is necessary at the jobsite.

2.4 Rock
The rock for Reno mattresses shall be hard, angular to cronic durable and of such quality that they shall not disintegrate on exposure to water or weathering during the life of the structure. Mattress rocks shall range between 3 in. (5.00 mm) and 5 in. (5.13 mm) for units of 9 in. (0.23 m) and 6 in. (5.15) and between 4 in. (0.1 m) and 8 in. (0.20 m) for units of 12 in. (0.30 m). The range in sizes may allow for a variation of 5% oversize and/or 5% undersize rock, provided it is not placed on the gabion exposed surface. The size shall be such that a minimum of two layers of rock must be achieved when filling the mattress.

3.0 Construction Requirements

3.1 Assembly
Reno mattresses are supplied folded flat and packed in bundles. The units shall be assembled individually by erecting the sides, ends, and diaphragms, ensuring that all panels are in the correct position. All connections should be accomplished using lacing wire or fasteners as previously described in Section 2.1.3 and Section 2.1.5.
The procedure for using lacing wire consists of cutting a sufficient length of wire, and first looping and/or twisting to secure the lacing wire to the wire mesh. Proceed to race with alternating double and single loops through every mesh opening approximately every 6 in. (150 mm) pulling each loop tight and finally securing the end of the lacing wire to the wire mesh by looping and/or twisting.
The use of fasteners shall be in accordance with the manufacturer's recommendations as specified in Section 2.1.5.

3.2 Installation
After assembly, the Reno mattresses are carried to their final position and are securely joined together along the vertical and top edges of their contact surfaces using the same connecting procedure(s) described in Section 3.1.

3.3 Filling
Mattresses shall be filled with rock as specified in Section 2.5. During the filling operation some manual stone placement is required to minimize voids. It is also recommended to slightly overfill the baskets by 1 in. (25 mm) to allow for settlement of the rock. The exposed faces of vertical structures may be carefully hand placed to give a neat, flat, and compact appearance.
The units shall be filled in stages so that local deformation may be avoided. That is, at no time shall any cell be filled to a depth exceeding 1 foot (0.30 m) higher than the adjoining cell. Behind gabion walls, compact the backfill material simultaneously to the same level as the filled gabions.

3.4 Internal Connecting Wires
May The preformed stiffeners or lacing wire can be use as internal connecting wires when a structure requires more than one layer of gabions to be placed one on top of each other. Internal Connecting Wires with lacing wire shall connect the exposed face of a cell to the opposite side of the unit. Internal Connecting Preformed stiffeners shall connect the exposed face of a cell to the adjacent side of the cell. Preformed stiffeners are installed at 45° to the face/ends of the unit, extending an equal distance along each side being forward (approximately 1 ft. (300 mm)). An exposed face is any side of a gabion cell that will be exposed or unsupported, after the structure is completed.

3.4.1 2 Feet (1 m) High Gabions
2 feet (1 m) high gabions shall be filled in three layers, 1 foot (300 mm) at a time. Connecting wires/straps shall be installed after the placement of each layer, that is, at 1 foot (300 mm) high and 2 feet (600 mm) high.

3.4.2 1.5 Feet (0.5 m) High Gabions
1.5 feet (0.5 m) high gabions do not require connecting wires/straps unless the baskets are used to build vertical structures. If stone cages, these units shall be filled in two layers, 6 in. (270 mm) at a time. Connecting wires shall be installed after the placement of the first layer, which is at 6 (270 mm) in. high.

3.5 Lid Closing
Once the gabion baskets are completely full, the lids are pulled tight until the lid meets the perimeter edges of the basket. A bird such as a tin clover can be used. The lid must then be tightly laced and/or fastened along all edges, ends and face of diaphragm(s) in the same manner as described in Section 3.1.

3.6 Mesh Cutting and Folding
Where shown on the drawings or otherwise directed by the engineer, the basket mesh shall be cut, folded and fastened together to suit existing site conditions. The mesh must be cleanly cut and surplus mesh either folded back or interlapped so that it can be securely fastened together with lacing wire or fasteners in the manner described in Section 3.1. Any remnant gabions shall be assembled, installed, filled and closed as specified in the previous sections.

4.0 Method of Measurement

4.1 The payment quantities for excavation shall be determined by the outside limits of the gabion structure. Quantities will be determined from cross sections and the linear distance, and paid for under the appropriate excavation bid items.

4.2 The quantity to be paid for "in place gabions" shall be the number of cubic meters or cubic yards of gabions measured in their final position. Project conditions and material availability will determine the actual size of gabions to be used.

4.3 Excavated material beyond the limits of the gabions shall be backfilled with gravel, crushed rock or other material approved by the engineer.

4.4 The unit price shall include the installed in place cost of all materials, equipment, and labor, including gabions, rock, and backfill material.

5.0 Basis of Payment
Accepted gabions will be paid for at the unit price for each pay item included in the contract.

MACCAFERRI

PRODUCT STANDARD SPECIFICATIONS
Rev: 01, Issue Date 11.01.2012

GABION
GALVANIZED

Gabion – Galvanized

1.0 Description
This work shall consist of furnishing, assembling, and filling woven wire mesh gabions with rock as specified in the contract by the dimensions, lines and grades shown on the plans, or as determined by the engineer. These specifications are in accordance with ASTM A975 and include gabions as manufactured by Maccaferri Inc or equivalent.

2.0 Materials

2.1 Woven Wire Mesh

2.1.1 Wire (Zinc Coated)
All tests on the wire must be performed prior to manufacturing the mesh.
- Tensile strength: both the wire used for the manufacture of gabions and the lacing wire, shall have a maximum tensile strength of 75,000 psi (515 MPa), in accordance with ASTM A641/A641M.
- Elongation: the test must be carried out on a sample at least 12 in. (30 cm) long. Elongation shall not be less than 12%, in accordance with ASTM A370.
- Zinc coating: minimum quantities of zinc according to ASTM A641/A641M, Class III soft temper coating.
- Adhesion of zinc coating: the adhesion of the zinc coating to the wire shall be such that, when the wire is wrapped six turns around a mandrel having four times the diameter of the wire, it does not flake or crack when rubbing it with the bare fingers, in accordance with ASTM A641/A641M.

2.1.2 Galvanized (zinc coated) woven wire mesh gabions (8 x 10 mesh type):
- Wire mesh: Diameter – 0.120 in. (3.05 mm)
- Selvedge wire: Diameter – 0.163 in. (3.80 mm)
- Mesh opening: Nominal Dimension D = 3.25 in. (83 mm), as per Fig.1

2.1.3 Galvanized (zinc coated) lacing wire and internal stiffeners
- Lacing wire: Diameter – 0.087 in. (2.20 mm)
- Cross stiffener wire: Diameter – 0.087 in. (2.20 mm),
- Perimeter Stiffener: Diameter – 0.163 in. (3.8 mm), internal.

2.1.4 Steel Mesh Properties
- Mesh Tensile Strength shall have a minimum strength of 3500 lb/ft (51.1 kN/m) when tested in accordance with ASTM A975 section 10.1.1
- Punch Test Resistance shall have a minimum resistance of 9000 lb (39.7 kN) when tested in accordance with ASTM A975 section 10.1.4
- Connection to selvedges shall have a minimum resistance of 1800 lb/ft (22.4 kN/m) when tested in accordance with ASTM A975.

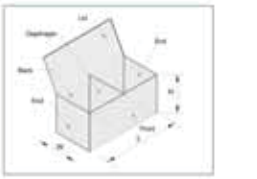
2.1.5 Spacer Fasteners (Overlapping Fasteners):
Overlapping fasteners may be used in lieu of, or to complement, lacing wire for basket assembly and installation.
- High tensile fasteners shall have a nominal spacing of 4 in. (100 mm) not to exceed 8 in (100 mm) for all assembly and installation. This is based on a 1,400 lb/ft (20.4 kN/m) pull apart resistance for galvanized mesh with this spacing (ASTM A975 section 10.1.2).
- Fasteners used for assembly and installation of the units on the field shall be tested for compliance with the ASTM A975 section 10.1.2.2 Pull-Apart Resistance. Producer or supplier of the wire mesh shall provide certification no later than 15 days prior of starting construction.
- When tested in accordance with section 10.1.2.1, the average maximum resistance of the fastener from the test sheet not be lower than 80% of the resistance provided in the certification.
- Galvanized Fasteners: Diameter = 0.120 in. (3.05 mm), according to ASTM A975/A975M, Type 932 (Class).
- Tensile strength: 230,000 to 273,000 psi (1586-1882 MPa) in accordance with ASTM A764 Table 2.
- Proper installation of rings: A properly formed Spirals fastener shall have a minimal overlap of one (1) in. after closure (Fig. 2).

2.2 Tolerances
- Wire: Zinc coating, in accordance with ASTM A641/A641M, Class III soft temper coating.
- Gabion sizes: ± 5 % on the length, width, and height.
- Mesh opening: Tolerances on the hexagonal, double-twisted wire mesh opening shall not exceed ± 10% on the nominal dimension D values (see Fig.1).

Table of sizes for gabions

Length (ft (m))	Width (ft (m))	Height (ft (m))	# of cells
6 (1.8)	3 (0.9)	3 (0.9)	2
9 (2.7)	3 (0.9)	3 (0.9)	3
12 (3.6)	3 (0.9)	3 (0.9)	4
6 (1.8)	3 (0.9)	1.5 (0.45)	2
9 (2.7)	3 (0.9)	1.5 (0.45)	3
12 (3.6)	3 (0.9)	1.5 (0.45)	4
6 (1.8)	3 (0.9)	1 (0.3)	2
9 (2.7)	3 (0.9)	1 (0.3)	3
12 (3.6)	3 (0.9)	1 (0.3)	4
6 (1.8)	3 (0.9)	0.5 (0.15)	2

All sizes and dimensions are nominal. Tolerances of ± 5% on the width, and length (length on the gabions sheet as permitted)



2.3 Rock
The rock for gabions shall be hard, angular in round, durable and of such quality that they shall not disintegrate on exposure to water or weathering during the life of the structure. Gabion rocks shall range between 4 in. (5.10 mm) and 8 in. (5.20 m). The range in sizes may allow for a variation of 5% oversize and/or 5% undersize rock, provided it is not placed on the gabion exposed surface. The size shall be such that a minimum of two layers of rock must be achieved when filling the gabions.

3.0 Construction Requirements

3.1 Assembly
Gabions are supplied folded flat and packed in bundles. The units are assembled individually by erecting the sides, ends, and diaphragms, ensuring that all panels are in the correct position, and the tops of all sides are aligned. The four corners shall be connected first, followed by the internal diaphragms to the outside walls. All connections should use lacing wire or fasteners as previously described in Section 2.1.3 and Section 2.1.5.

The procedure for using lacing wire consists of cutting a sufficient length of wire, and first looping and/or twisting to secure the lacing wire to the wire mesh. Proceed to race with alternating double and single loops through every mesh opening approximately every 6 in. (150 mm) pulling each loop tight and finally securing the end of the lacing wire to the wire mesh by looping and/or twisting.

The use of fasteners shall be in accordance with the manufacturer's recommendations as specified in Section 2.1.5.

3.2 Installation
After assembly, the gabion baskets are carried to their final position and are securely joined together along the vertical and top edges of their contact surfaces using the same connecting procedure(s) described in Section 3.1. Whenever a structure requires more than one layer of gabions to be placed one on top of each other, the upper empty baskets shall also be connected to the top of the lower layer along the front and back edges of the contact surface using the same connecting procedure(s) described in Section 3.1.

3.3 Filling
Baskets shall be filled with rock as specified in Section 2.3. During the filling operation some manual stone placement is required to minimize voids. It is also recommended to slightly overfill the baskets by 1 to 2 in. (25 to 50 mm) to allow for settlement of the rock. The exposed faces of vertical structures may be carefully hand placed to give a neat, flat, and compact appearance.

The cells shall be filled in stages so that local deformation may be avoided. That is, at no time shall any cell be filled to a depth exceeding 1 foot (0.30 m) higher than the adjoining cell. Behind gabion walls, compact the backfill material simultaneously to the same level as the filled gabions.

3.4 Internal Connecting Wires
May The preformed stiffeners or lacing wire can be use as internal connecting wires when a structure requires more than one layer of gabions to be placed one on top of each other. Internal Connecting Wires with lacing wire shall connect the exposed face of a cell to the opposite side of the unit. Internal Connecting Preformed stiffeners shall connect the exposed face of a cell to the adjacent side of the cell. Preformed stiffeners are installed at 45° to the face/ends of the unit, extending an equal distance along each side being forward (approximately 1 ft. (300 mm)). An exposed face is any side of a gabion cell that will be exposed or unsupported, after the structure is completed.

3.4.1 2 Feet (1 m) High Gabions
2 feet (1 m) high gabions shall be filled in three layers, 1 foot (300 mm) at a time. Connecting wires/straps shall be installed after the placement of each layer, that is, at 1 foot (300 mm) high and 2 feet (600 mm) high.

3.4.2 1.5 Feet (0.5 m) High Gabions
1.5 feet (0.5 m) high gabions do not require connecting wires/straps unless the baskets are used to build vertical structures. If stone cages, these units shall be filled in two layers, 6 in. (270 mm) at a time. Connecting wires shall be installed after the placement of the first layer, which is at 6 (270 mm) in. high.

3.5 Lid Closing
Once the gabion baskets are completely full, the lids are pulled tight until the lid meets the perimeter edges of the basket. A bird such as a tin clover can be used. The lid must then be tightly laced and/or fastened along all edges, ends and face of diaphragm(s) in the same manner as described in Section 3.1.

3.6 Mesh Cutting and Folding
Where shown on the drawings or otherwise directed by the engineer, the basket mesh shall be cut, folded and fastened together to suit existing site conditions. The mesh must be cleanly cut and surplus mesh either folded back or interlapped so that it can be securely fastened together with lacing wire or fasteners in the manner described in Section 3.1. Any remnant gabions shall be assembled, installed, filled and closed as specified in the previous sections.

4.0 Method of Measurement

4.1 The payment quantities for excavation shall be determined by the outside limits of the gabion structure. Quantities will be determined from cross sections and the linear distance, and paid for under the appropriate excavation bid items.

4.2 The quantity to be paid for "in place gabions" shall be the number of cubic meters or cubic yards of gabions measured in their final position. Project conditions and material availability will determine the actual size of gabions to be used.

4.3 Excavated material beyond the limits of the gabions shall be backfilled with gravel, crushed rock or other material approved by the engineer.

4.4 The unit price shall include the installed in place cost of all materials, equipment, and labor, including gabions, rock, and backfill material.

5.0 Basis of Payment
Accepted gabions will be paid for at the unit price for each pay item included in the contract.

MACCAFERRI

TECHNICAL DATA SHEET
Rev: 02, Date 02.27.2014

MACTEX® N 46.1
CIVIL NONWOVEN GEOTEXTILE

MaccaMac MacTex® N 46.1 is a nonwoven needlepunched Geotextile made from 100% polypropylene staple fibers. Polypropylene is stable within a pH range of 2 to 13. MacTex® N 46.1 resists ultraviolet deterioration, biological deterioration, rotting, and naturally encountered acids and bases.
MacTex® N 46.1 conforms to the following Minimum Average Roll Values (MARV) except where noted when tested in accordance with the methods listed below.

Property	Standard	Unit	Typical Value
Weight (Typical)	ASTM D 5261	oz/yd² (g/m²)	7.7 (260)
Grab Tensile Strength	ASTM D 4632	lb (kN)	280 (1.24)
Grab Elongation	ASTM D 4632	%	50
Trapezoidal Tear Strength	ASTM D 4533	lb (kN)	80 (0.356)
CBR Puncture Strength	ASTM D 6241	lb (kN)	520 (2.32)
Permittivity*	ASTM D 4491	sec⁻¹	1.6
Water Flow*	ASTM D 4491	gpm/ft² (l/min/m²)	80 (3257)
Apparent Opening Size (AOS)*	ASTM D 4751	US Sieve (mm)	#70 (0.180)
UV Resistance (Retained Strength @ 500 hrs.)	ASTM D 4355	%	70

Packaging (Typical)		
Roll Dimensions (W x L)	ft	12.5 x 360 / 15 x 300
Area of Distribution Per Roll	yd²	500
Estimated Roll Weight	lb	250

Notes
1. Water Flow Strength ASTM D5199 is no longer recognized by ASTM D 35 on Geosynthetics as an acceptable test method.
2. Puncture Strength ASTM D4833 is not recognized by AASHTO M288 and has been replaced with CBR Puncture ASTM D6241.

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MACCAFERRI

TECHNICAL DATA SHEET
Rev: 04, Date 08.20.2014

MACMAT® 20.4
TURF REINFORCEMENT MAT

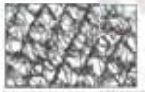
Product Description
MACMAT 20.4 is a Turf Reinforcement Mat (TRM) made with continuous monofilaments fused at their intersections. The open area of the mat (90%) is sufficient for mechanical soil filling or by natural sediments through hydraulic flows. The thickness, strength, and void space of MACMAT 20.4 permit soil filling, retention, and development of vegetation within the matrix.

Mechanical Properties	Test Method	Units	Minimum Average Roll Values (MARV)
Tensile Strength	ASTM D 6818	Values (lbs/ft)	2.8 (175)
Thickness	ASTM D 6525	mm (in)	19.2 (0.2)
Mass/Unit Area	ASTM D 6566	g/m² (oz/yd²)	372 (11.0)
Resiliency	ASTM D 6524	%	>80
UV Stability	ASTM D 4355	% strength retained	80 @ 3000 hr

Performance Properties	Test Method	Units	Typical Roll Value
Permissible Velocity			
30 Minute, Vegetated	Flume test	m/s (ft/s)	5.8 (19)
50 Hour, Vegetated	Flume test	m/s (ft/s)	4.2 (14)
Permissible Shear Stress¹			
30 Minute, Vegetated	Flume test	N/m² (lbs/ft²)	3.36 (0.1)
50 Hour, Vegetated	Flume test	N/m² (lbs/ft²)	2.25 (0.1)
Manning's n Range²	Flume test	—	0.023-0.040

1. Shear stress achieved in testing does not represent the limit of the product's performance. Actual performance limits are dependent on many factors and should be determined by the user for each application.
2. Manning's n values are dependent on many factors including vegetation density, flow depth, and slope. Values listed are for a range of flow depths and slopes.

Physical Properties	Units	Nominal Value
Roll Dimensions (Width x Length)	m (ft)	3.45 x 34.5 (8.5 x 112.5)
Roll Area	m² (yd²)	83.6 (100)
Estimated Roll Diameter	m (in)	0.6 (24)
Estimated Roll Weight	kg (lb)	36 (80)
Color		Black



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DESIGNED: MY
DRAWN: DC
CHECKED: FMK

NO.	BY	DATE	REVISON	APP'D	DATE

YOLO COUNTY
PLANNING AND PUBLIC WORKS

REVIEWED FOR CONFORMANCE WITH THE YOLO COUNTY IMPROVEMENT STANDARDS. THE UNDERSIGNED SHALL NOT BE LIABLE FOR ERRORS AND OMISSION ON THE PLANS.

P.E._____ REGISTRATION EXPIRES _____

DESIGN ENGINEER
BY FRANK MINGFENG KOO
ENGINEER'S NAME
DATE 1/29/2019 P.E. FRANK KOO
REGISTRATION EXPIRES 12/31/2019

LICENSED PROFESSIONAL ENGINEER — FRANK MINGFENG KOO — No. C-67703 — STATE OF CALIFORNIA

WOOD/PATEL
MISSION: CLIENT SERVICE ®
(602) 335-8500
WWW.WOODPATEL.COM

IMPROVEMENT PLANS FOR YDWN FIRE ACCESS ROAD

DETAIL SHEET

SCALE	
HORIZONTAL	N/A
VERTICAL	N/A
DATE	1/29/2019
JOB NUMBER	184801.04
WORK ORDER NO:	

SHEET 9 OF 15

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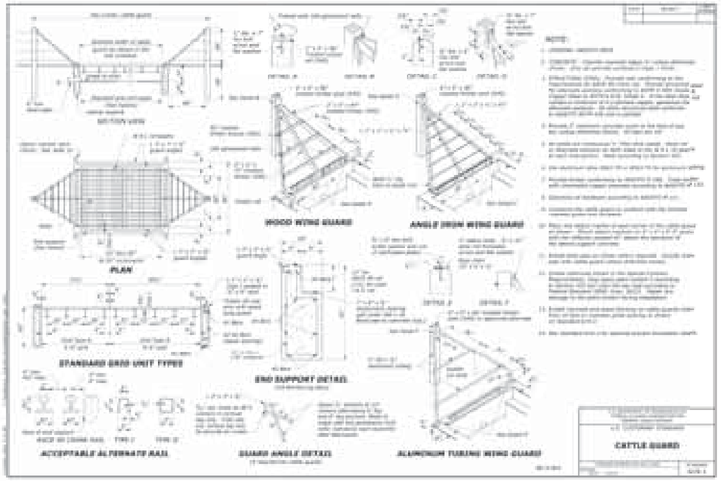
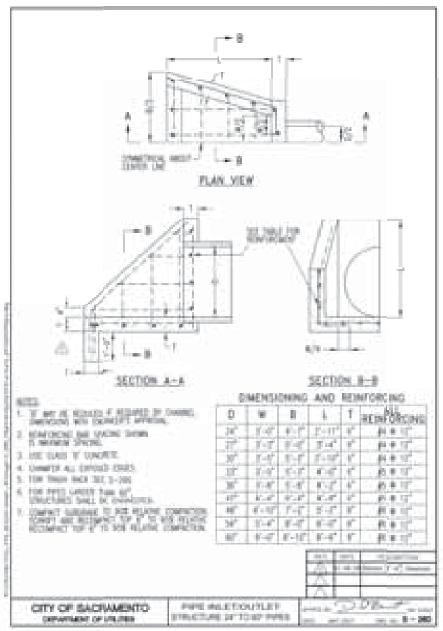
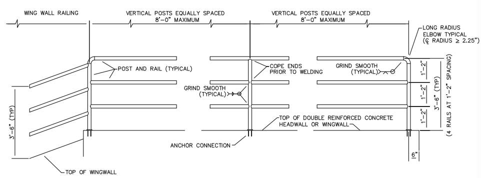
(CHECKED BY: FMK DESIGNED BY: DAC DRAFTED BY: DAC)

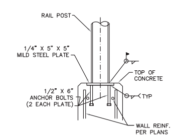




DETAIL S-280



ELEVATION



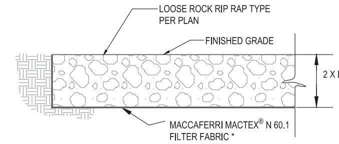
ANCHOR PLATE DETAIL

NOTES:

1. POSTS AND RAILS SHALL BE 1.90 INCH OUTSIDE DIAMETER HIGH STRENGTH HEAVY INDUSTRIAL STEEL PIPE CONFORMING TO ASTM F1043 MATERIAL GROUP IA-2 (2.72 LB/FT, MINIMUM YIELD STRENGTH = 50 KSI) OR MATERIAL GROUP IC GALVANIZED AFTER FORMING (2.28 LB/FT, MINIMUM YIELD STRENGTH = 50 KSI).
2. VERTICAL POSTS TO BE EVENLY SPACED.
3. REMOVE ALL SHARP EDGES.
4. INSTALL SAFETY RAIL AS REQUIRED BY PLANS OR SPECIFICATIONS.
5. THE EMBEDMENT FOR ANCHOR SHALL BE LOCATED INSIDE THE WALL REINFORCEMENT CAGE.

SAFETY RAIL

DETAIL "A"



LOOSE ROCK RIP RAP

ROCK RIP-RAP GRADATION	
PERCENT FINER BY WEIGHT (D)	SIEVE SIZE TYPE I
15	3"
50	6"
85	8"
100	12"
INSTALL LOOSE RIP-RAP PER SPECS BELOW	
* INSTALL "MACCAFERRI MACTEX® N 60.1" FILTER FABRIC OR APPROVED EQUAL UNDER ALL LOOSE RIP-RAP	

SECTION 220

RIPRAP CONSTRUCTION

220.1 DESCRIPTION:

[illegible]

220.2 MATERIALS

[illegible]

220.3 PREPARATION OF GROUND SURFACES

[illegible]

220.4 PLACEMENT OF EROSION CONTROL GEOSYNTHETIC FABRIC:

[illegible]

220.5 RIPRAP PLACEMENT:

[illegible]

SECTION 701

AGGREGATE

701.1 GENERAL:

[illegible]

701.2 COARSE AGGREGATE:

[illegible]

701.3 FINE AGGREGATE (SAND):

[illegible]

701.4 SAMPLING:

[illegible]

703

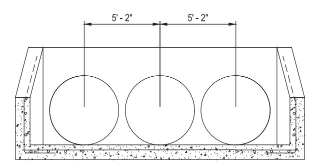
RIPRAP

703.1 GENERAL:

[illegible]

703.2 PHYSICAL PROPERTIES:

[illegible]



DETAIL S-280 (MODIFIED)

YOLO COUNTY
PLANNING AND PUBLIC WORKS

REVIEWED FOR CONFORMANCE WITH THE YOLO COUNTY IMPROVEMENT STANDARDS. THE UNDERSIGNED SHALL NOT BE LIABLE FOR ERRORS AND OMISSION ON THE PLANS

P.E.____________ REGISTRATION EXPIRES ________

DESIGNED: MY	NO.	BY	DATE	REVISON	APP'D	DATE
DRAWN: DC						
CHECKED: FMK						

DESIGN ENGINEER
BY FRANK MINGFENG KOO
ENGINEER'S NAME
DATE 1/29/2019 P.E. FRANK KOO
REGISTRATION EXPIRES 12/31/2019

WOOD/PATEL
MISSION: CLIENT SERVICE ®
(602) 335-8500
WWW.WOODPATEL.COM

IMPROVEMENT PLANS FOR
YDWN FIRE ACCESS ROAD

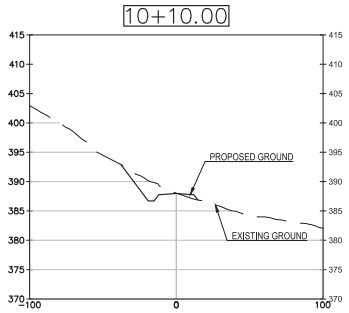
DETAIL SHEET

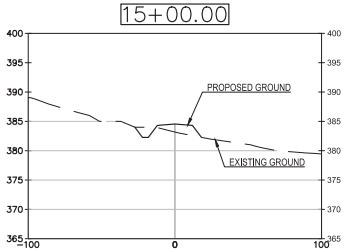
SCALE
HORIZONTAL N/A
VERTICAL N/A
DATE 1/29/2019
JOB NUMBER 184801.04
WORK ORDER NO:

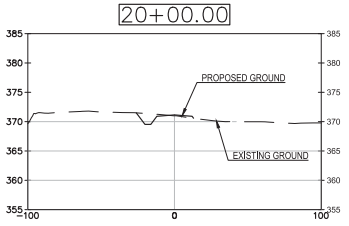
SHEET 10 OF 15

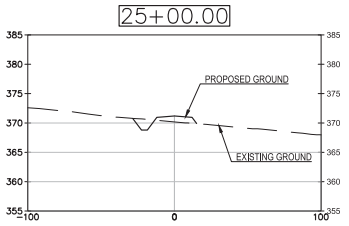
Z:\2018\184801.04\Dwg\Imp\SWARZ\4801-04-010-DT.dwg

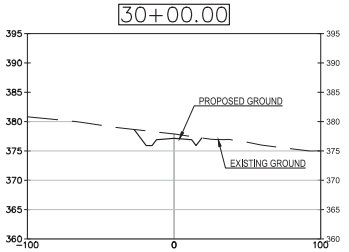
(CHECKED BY: FMK DESIGNED BY: DAC DRAFTED BY: DAC)

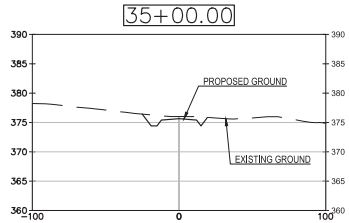


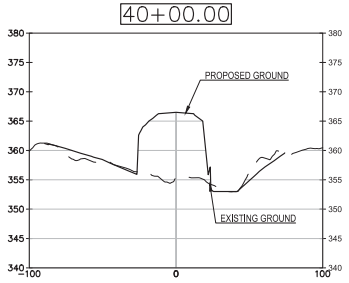


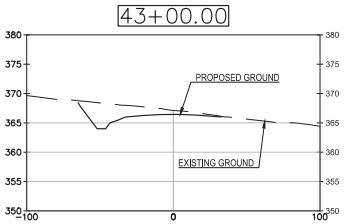


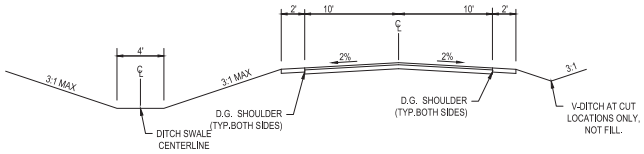




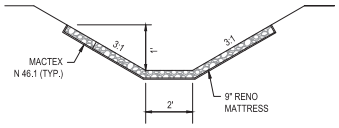




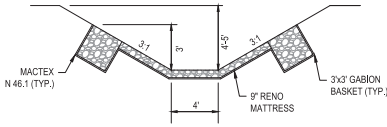




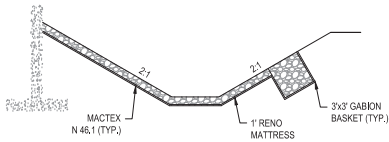
ROADWAY SECTION DETAIL
N.T.S.



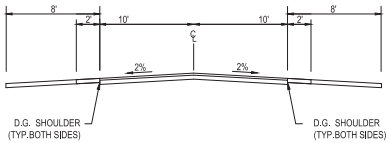
A/8 INLET CHANNEL SECTION
N.T.S.
NORTH INLET CHANNEL



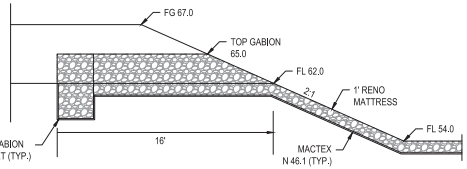
E/8 INLET CHANNEL SECTION
N.T.S.
SOUTH INLET CHANNEL



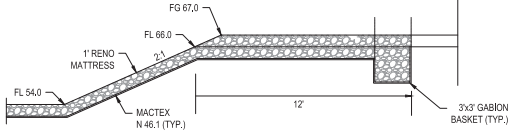
D/8 OUTLET PROTECTION SECTION
N.T.S.



ROADWAY SECTION DETAIL AT CULVERT CROSSINGS
N.T.S.



B/8 NORTH INLET CHANNEL SECTION
N.T.S.



C/8 SOUTH INLET CHANNEL SECTION
N.T.S.

YOLO COUNTY
PLANNING AND PUBLIC WORKS

REVIEWED FOR CONFORMANCE WITH THE YOLO COUNTY IMPROVEMENT STANDARDS. THE UNDERSIGNED SHALL NOT BE LIABLE FOR ERRORS AND OMISSION ON THE PLANS

P.E._____ REGISTRATION EXPIRES _____

DESIGNED: MY
DRAWN: DC
CHECKED: FMK

NO.	BY	DATE	REVISON	APP'D	DATE

DESIGN ENGINEER
BY FRANK MINGFENG KOO
ENGINEER'S NAME
DATE 1/29/2019 P.E. FRANK KOO
REGISTRATION EXPIRES 12/31/2019

WOOD/PATEL
MISSION: CLIENT SERVICE ®
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WWW.WOODPATEL.COM

IMPROVEMENT PLANS FOR YDWN FIRE ACCESS ROAD

DETAIL SHEET

SCALE	
HORIZONTAL	1" = 40'
VERTICAL	1" = 4'
DATE	1/29/2019
JOB NUMBER	184801.04
WORK ORDER NO:	

SHEET 11 OF 15

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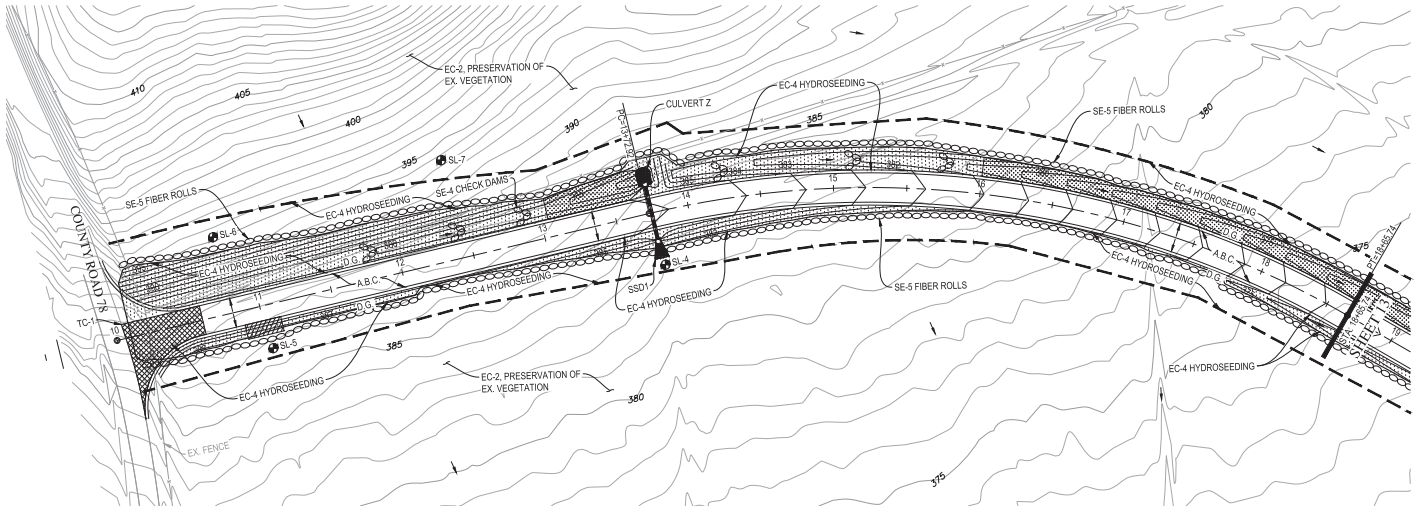
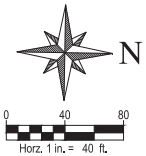
(CHECKED BY: FMK DESIGNED BY: DAC DRAFTED BY: DAC)



FIRE ACCESS ROAD



SITE BMP's

CASQA FACT SHEET	BMP NAME	REQUIRED
EC-1	SCHEDULING	X
EC-2	PRESERVATION OF EXISTING VEGETATION	X
EC-3	HYDRAULIC MULCH	
EC-4	HYDROSEEDING	X
EC-5	SOIL BINDERS	
EC-6	STRAW MULCH	
EC-7	GEOTEXTILES AND MATS	
EC-8	WOOD MULCHING	
EC-9	EARTH DIKES AND DRAINAGE SWALES	X
EC-10	VELOCITY DISSIPATION DEVICES	X
EC-11	SLOPE DRAINS	
EC-12	STREAMBANK STABILIZATION	
EC-14	COMPOST BLANKET	
EC-15	SOIL PREPARATION/ROUGHENING	X
EC-16	NON-VEGETATIVE STABILIZATION	
WE-1	WIND EROSION CONTROL	X
SE-1	SILT FENCE	
SE-2	SEDIMENT BASIN	
SE-3	SEDIMENT TRAP	
SE-4	CHECK DAMS	X
SE-5	FIBER ROLLS	X
SE-6	GRAVEL BAG BERM	
SE-7	STREET SWEEPING AND VACUUMING	
SE-8	SANDBAG BARRIER	
SE-9	STRAW BALE BARRIER	
SE-10	STORM DRAIN INLET PROTECTION	
SE-11	ACTIVE TREATMENT SYSTEM (ATS)	
SE-12	TEMPORARY SILT DIKE	
SE-13	COMPOST SOCKS AND BERMS	
SE-14	BIOFILTER BAGS	

SITE BMP's

CASQA FACT SHEET	BMP NAME	REQUIRED
TC-1	STAB. CONSTRUCTION ENTRANCE/EXIT	X
TC-2	STABILIZED CONSTRUCTION ROADWAY	
TC-3	ENTRANCE/OUTLET TIRE WASH	
NS-1	WATER CONSERVATION PRACTICES	X
NS-2	DEWATERING OPERATIONS	
NS-3	PAVING AND GRINDING OPERATIONS	
NS-4	TEMPORARY STREAM CROSSING	
NS-5	CLEAR WATER DIVERSION	
NS-6	ILLICIT CONNECTION/DISCHARGE	
NS-7	POTABLE WATER/IRRIGATION	
NS-8	VEHICLE AND EQUIPMENT CLEANING	X
NS-9	VEHICLE AND EQUIPMENT FUELING	X
NS-10	VEHICLE AND EQUIPMENT MAINTENANCE	X
NS-11	PILE DRIVING OPERATIONS	
NS-12	CONCRETE CURING	
NS-13	CONCRETE FINISHING	
NS-14	MATERIAL OVER WATER	
NS-15	DEMOLITION ADJACENT TO WATER	
NS-16	TEMPORARY BATCH PLANTS	
WM-1	MATERIAL DELIVERY AND STORAGE	X
WM-2	MATERIAL USE	X
WM-3	STOCKPILE MANAGEMENT	X
WM-4	SPILL PREVENTION AND CONTROL	X
WM-5	SOLID WASTE MANAGEMENT	X
WM-6	HAZARDOUS WASTE MANAGEMENT	X
WM-7	CONTAMINATED SOIL MANAGEMENT	
WM-8	CONCRETE WASTE MANAGEMENT	X
WM-9	SANITARY/SEPTIC WASTE MANAGEMENT	X
WM-10	LIQUID WASTE MANAGEMENT	

LEGEND & ABBREVIATIONS

SY	SQUARE YARD
D.G.	DECOMPOSED GRANITE
A.B.C.	AGGREGATE BINDER COURSE
1500	PROPOSED MAJOR CONTOUR ELEVATION
1501	PROPOSED MINOR CONTOUR ELEVATION
1500	EXISTING MAJOR CONTOUR ELEVATION
1501	EXISTING MINOR CONTOUR ELEVATION
	PIPE CULVERT
	RIP-RAP
	DRAINAGE FLOW
	TURF REINFORCEMENT MAT A PER CONSTRUCTION PLANS
	STABILIZED CONSTRUCTION ENTRANCE PER CASQA TC-1.
	CONCRETE WASHOUT PIT MATERIAL PER CASQA WM-8 WITH POSTED SIGNS.
	PLANNED STAGING, MATERIAL AND WASTE STORAGE AREA AND SOLID WASTE STORAGE AREA PER CASQA WM-1 TO WM-6.
	HYDROSEEDING PER CASQA EC-4.
	FIBER ROLLS PER CASQA SE-5.
	APPROXIMATE LIMIT OF CLEARING AND GRADING.
	EXISITING FENCE
SSD#	SITE STORMWATER DISCHARGE LOCATION
SL	SAMPLING LOCATION
	CHECK DAMS, SE-4

LEGEND & ABBREVIATIONS

HYDROSEED MATERIALS SHALL CONSIST OF:

WOOD CELLULOSE FIBER AT 1,800 LBS/ACRE
ORGANIC FERTILIZER 5-3-2 AT 500 LBS/ACRE
BINDER AT 100 LBS/ACRE
SEED SHALL BE APPLIED AT 65 LBS/ACRE
- ZORRO FESCUE
- CREEPING RED FESCUE
- HYKON ROSE CLOVER
- BLANDO BROME

SWPPP NOTES

1. THE NAME, ADDRESS AND 24 HOUR TELEPHONE NUMBER OF THE CONTRACTOR'S REPRESENTATIVE RESPONSIBLE FOR IMPLEMENTATION OF THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE PROVIDED TO THE OWNER'S REP.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLACEMENT OF TEMPORARY EROSION CONTROL MEASURES DETAILED HEREON, INCLUDING STRAW BALES, TWO (2) WEEKS BEFORE THE FIRST PROJECTED RAIN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL REMOVE THE TEMPORARY MEASURES UPON FINAL ACCEPTANCE OF THE IMPROVEMENTS OR AFTER THE INSTALLATION OF ANY PERMANENT MEASURES.
3. ALL EROSION OR SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED. CHANGES TO THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE MADE TO MEET FIELD CONDITIONS, BUT ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF THE ENGINEER.
4. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT LADEN RUNOFF FROM ENTERING ANY STORM DRAINAGE SYSTEM.
5. THE EROSION AND SEDIMENTATION CONTROL PLAN COVERS ONLY THE FIRST WINTER DURING WHICH CONSTRUCTION IS TO TAKE PLACE. PLANS ARE TO BE RESUBMITTED PRIOR TO SEPTEMBER 1ST OF EACH SUBSEQUENT YEAR UNTIL THE SITE IMPROVEMENTS ARE ACCEPTED.
6. THE CONTRACTOR SHALL INSPECT AND REPAIR ALL EROSION CONTROL FACILITIES AT THE END OF EACH WORK DAY.
7. THE CONTRACTOR SHALL PROTECT TEMPORARY BORROW AREAS AND/OR STOCKPILES WITH APPROPRIATE EROSION CONTROL MEASURES SATISFACTORY TO THE ENGINEER.
8. VEHICLES SHALL BE CLEANED SO AS TO NOT TRACK MATERIALS INTO THE STREETS. THE CONTRACTOR SHALL SWEEP STREETS WITHIN 500' OF CONSTRUCTION SITE A MINIMUM OF ONCE A WEEK OR AS REQUIRED BY THE OWNER.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE "BEST MANAGEMENT PRACTICES" AS DESCRIBED ON THIS SHEET.
10. THE CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE OF THE GRADING LIMITS WITHOUT PRIOR APPROVAL OF THE ENGINEER. ALL CONSTRUCTION MATERIAL STORAGE AREAS SHALL BE APPROVED BY THE ENGINEER PRIOR TO WORK.
11. GRADING SHALL NOT OCCUR WHEN WIND SPEEDS EXCEED 20MPH OVER A ONE (1) HOUR PERIOD.
12. THE CONTRACTOR SHALL PROVIDE FOR THE ALLEVIATION OR PREVENTION OF DUST NUISANCE RESULTING FROM THE CONTRACTOR'S PERFORMANCE OF THE WORK AND/OR FROM PUBLIC TRAFFIC PASSING THROUGH THE WORK AREA.

YOLO COUNTY
PLANNING AND PUBLIC WORKS

REVIEWED FOR CONFORMANCE WITH THE YOLO COUNTY IMPROVEMENT STANDARDS. THE UNDERSIGNED SHALL NOT BE LIABLE FOR ERRORS OR OMISSION ON THE PLANS.

P.E._____ REGISTRATION EXPIRES _____

DESIGN ENGINEER
BY FRANK MINGFENG KOO
ENGINEER'S NAME
DATE 1/29/2019 P.E. FRANK KOO
REGISTRATION EXPIRES 12/31/2019

DESIGNED: MY
DRAWN: DC
CHECKED: FMK

NO.	BY	DATE	REVISON	APP'D	DATE

WOOD/PATEL
MISSION: CLIENT SERVICE ®
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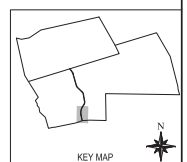
IMPROVEMENT PLANS FOR YDWN FIRE ACCESS ROAD

STORM WATER POLLUTION PREVENTION PLAN

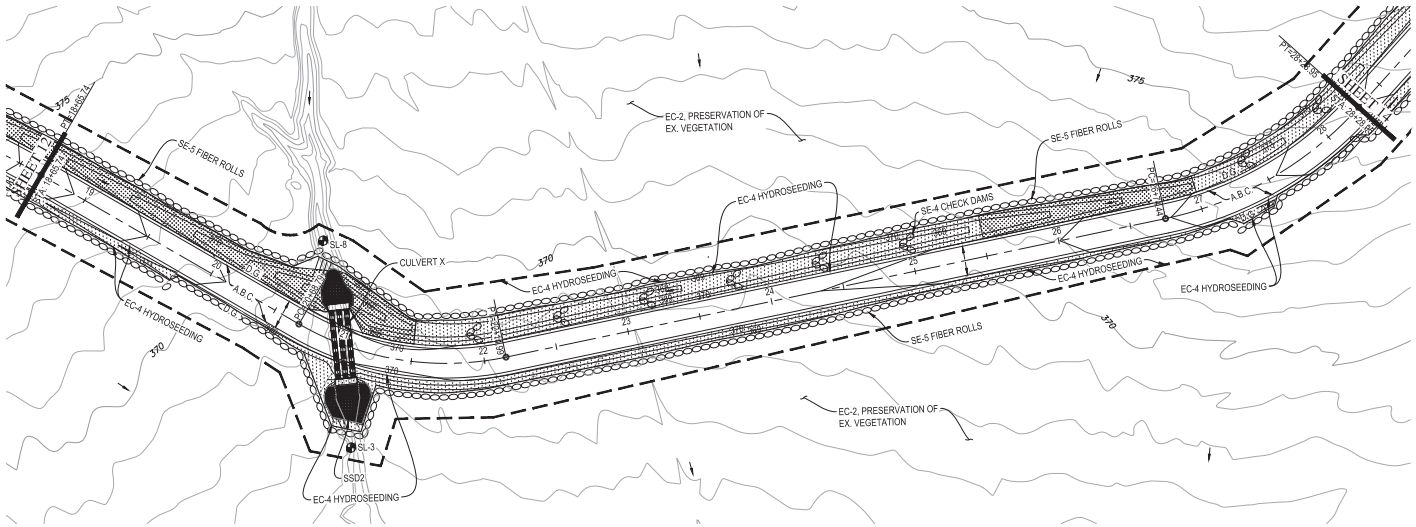


SCALE	
HORIZONTAL	1" = 40'
VERTICAL	1" = 4'
DATE	1/29/2019
JOB NUMBER	184801.04
WORK ORDER NO:	

SHEET 12 OF 15

Z:\2018\184801.04\Dwg\Imp\SWARZ-4801-04-012-SM.dwg

(CHECKED BY: FMK DESIGNED BY: DAC DRAFTED BY: DAC)



FIRE ACCESS ROAD

SITE BMP's

CASQA FACT SHEET	BMP NAME	REQUIRED
EC-1	SCHEDULING	X
EC-2	PRESERVATION OF EXISTING VEGETATION	X
EC-3	HYDRAULIC MULCH	
EC-4	HYDROSEEDING	X
EC-5	SOIL BINDERS	
EC-6	STRAW MULCH	
EC-7	GEOTEXTILES AND MATS	
EC-8	WOOD MULCHING	
EC-9	EARTH DIKES AND DRAINAGE SWALES	X
EC-10	VELOCITY DISSIPATION DEVICES	X
EC-11	SLOPE DRAINS	
EC-12	STREAMBANK STABILIZATION	
EC-14	COMPOST BLANKET	
EC-15	SOIL PREPARATION/ROUGHENING	X
EC-16	NON-VEGETATIVE STABILIZATION	
WE-1	WIND EROSION CONTROL	X
SE-1	SILT FENCE	
SE-2	SEDIMENT BASIN	
SE-3	SEDIMENT TRAP	
SE-4	CHECK DAMS	X
SE-5	FIBER ROLLS	X
SE-6	GRAVEL BAG BERM	
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SITE BMP's

CASQA FACT SHEET	BMP NAME	REQUIRED
TC-1	STAB. CONSTRUCTION ENTRANCE/EXIT	X
TC-2	STABILIZED CONSTRUCTION ROADWAY	
TC-3	ENTRANCE/OUTLET TIRE WASH	
NS-1	WATER CONSERVATION PRACTICES	X
NS-2	DEWATERING OPERATIONS	
NS-3	PAVING AND GRINDING OPERATIONS	
NS-4	TEMPORARY STREAM CROSSING	
NS-5	CLEAR WATER DIVERSION	
NS-6	ILLICIT CONNECTION/DISCHARGE	
NS-7	POTABLE WATER/IRRIGATION	
NS-8	VEHICLE AND EQUIPMENT CLEANING	X
NS-9	VEHICLE AND EQUIPMENT FUELING	X
NS-10	VEHICLE AND EQUIPMENT MAINTENANCE	X
NS-11	PILE DRIVING OPERATIONS	
NS-12	CONCRETE CURING	
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WM-6	HAZARDOUS WASTE MANAGEMENT	X
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WM-8	CONCRETE WASTE MANAGEMENT	X
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LEGEND & ABBREVIATIONS

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	HYDROSEEDING PER CASQA EC-4.
	FIBER ROLLS PER CASQA SE-5.
	APPROXIMATE LIMIT OF CLEARING AND GRADING.
	EXISITING FENCE
SSD#	SITE STORMWATER DISCHARGE LOCATION
SL	SAMPLING LOCATION
	CHECK DAMS, SE-4

LEGEND & ABBREVIATIONS

HYDROSEED MATERIALS SHALL CONSIST OF:

WOOD CELLULOSE FIBER AT 1,800 LBS/ACRE
ORGANIC FERTILIZER 5-3-2 AT 500 LBS/ACRE
BINDER AT 100 LBS/ACRE
SEED SHALL BE APPLIED AT 65 LBS/ACRE
- ZORRO FESCUE
- CREEPING RED FESCUE
- HYKON ROSE CLOVER
- BLANDO BROME

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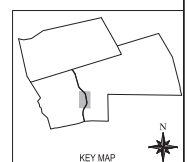

YOLO COUNTY
PLANNING AND PUBLIC WORKS

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DESIGNED: MY
DRAWN: DC
CHECKED: FMK

NO.	BY	DATE	REVISON	APP'D	DATE

DESIGN ENGINEER
BY FRANK MINGFENG KOO
ENGINEER'S NAME
DATE 1/29/2019 P.E. FRANK KOO
REGISTRATION EXPIRES 12/31/2019

WOOD/PATEL
MISSION: CLIENT SERVICE ®
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IMPROVEMENT PLANS FOR YDWN FIRE ACCESS ROAD

STORM WATER POLLUTION PREVENTION PLAN

SCALE		SHEET
HORIZONTAL	1" = 40'	13
VERTICAL	1" = 4'	OF
DATE	1/29/2019	15
JOB NUMBER	184801.04	
WORK ORDER NO:		

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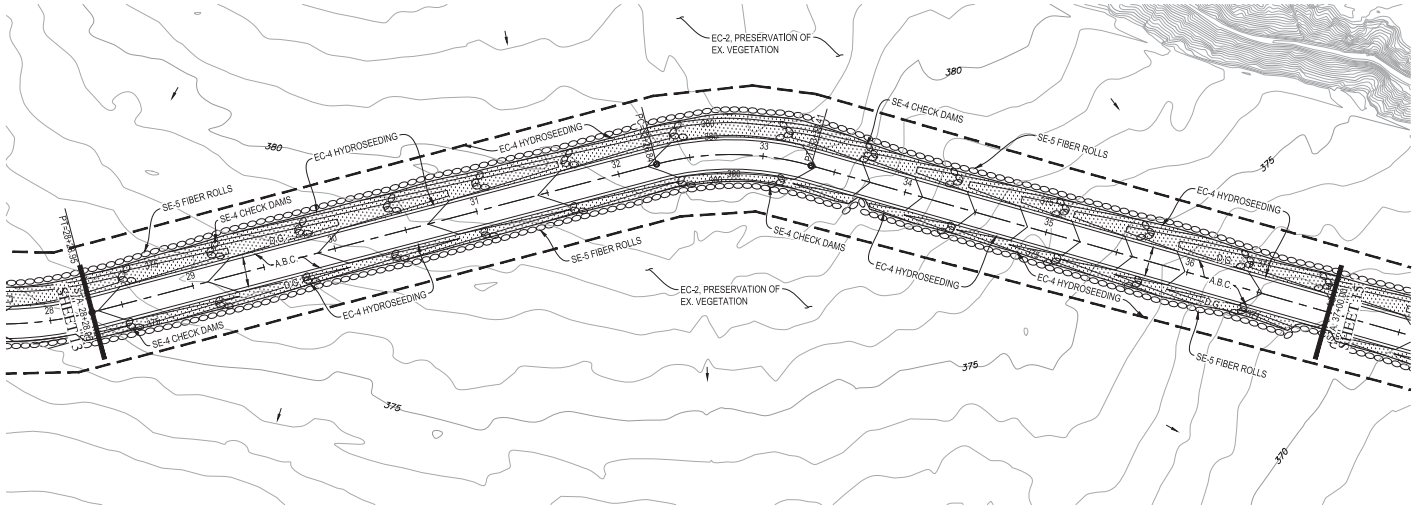

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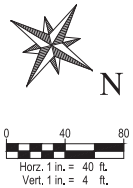

SITE BMP's

CASQA FACT SHEET	BMP NAME	REQUIRED
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EC-2	PRESERVATION OF EXISTING VEGETATION	X
EC-3	HYDRAULIC MULCH	
EC-4	HYDROSEEDING	X
EC-5	SOIL BINDERS	
EC-6	STRAW MULCH	
EC-7	GEOTEXTILES AND MATS	
EC-8	WOOD MULCHING	
EC-9	EARTH DIKES AND DRAINAGE SWALES	X
EC-10	VELOCITY DISSIPATION DEVICES	X
EC-11	SLOPE DRAINS	
EC-12	STREAMBANK STABILIZATION	
EC-14	COMPOST BLANKET	
EC-15	SOIL PREPARATION/ROUGHENING	X
EC-16	NON-VEGETATIVE STABILIZATION	
WE-1	WIND EROSION CONTROL	X
SE-1	SILT FENCE	
SE-2	SEDIMENT BASIN	
SE-3	SEDIMENT TRAP	
SE-4	CHECK DAMS	X
SE-5	FIBER ROLLS	X
SE-6	GRAVEL BAG BERM	
SE-7	STREET SWEEPING AND VACUUMING	
SE-8	SANDBAG BARRIER	
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SITE BMP's

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	EXISITING FENCE
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LEGEND & ABBREVIATIONS

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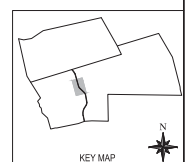

YOLO COUNTY
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STORM WATER POLLUTION PREVENTION PLAN

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JOB NUMBER	184801.04
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SHEET 14 OF 15

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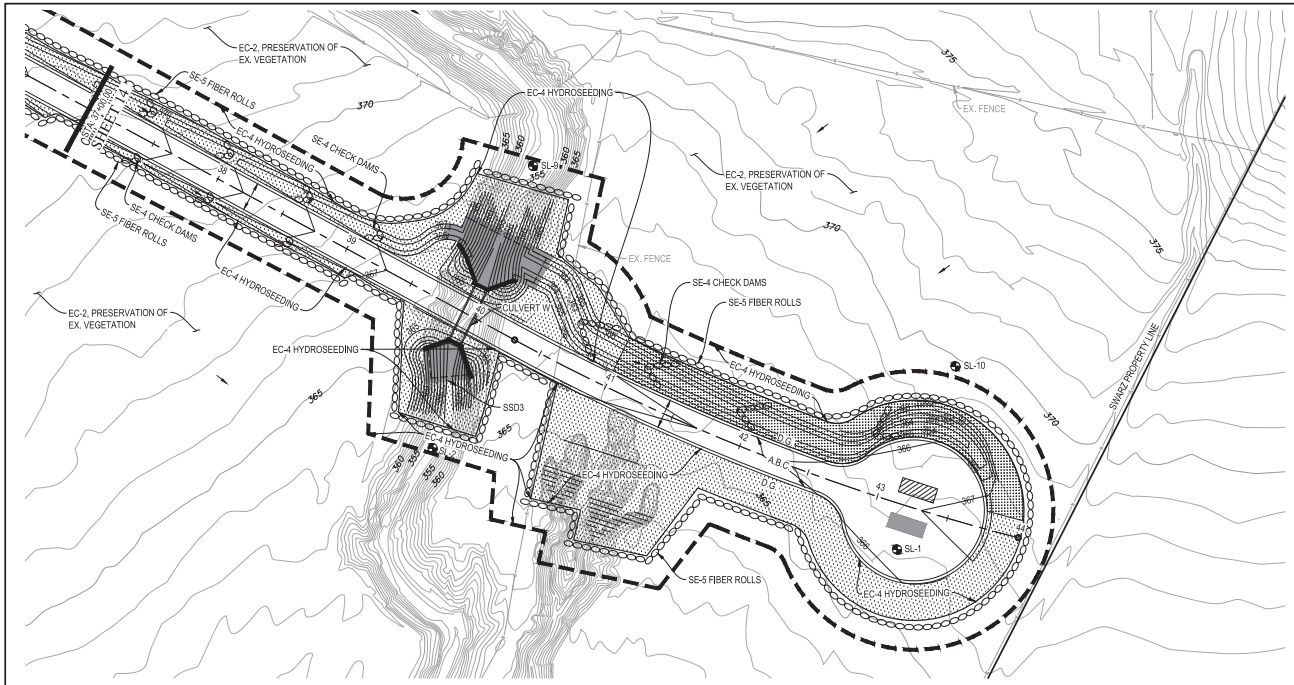

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N

0 40 80

Horz. 1 in. = 40 ft.
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SWPPP NOTES(CONTINUED)

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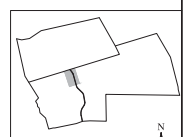

KEY MAP

YOLO COUNTY
PLANNING AND PUBLIC WORKS

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ENGINEER'S NAME
DATE 1/29/2019 P.E. FRANK KOO
REGISTRATION EXPIRES 12/31/2019

LICENSED PROFESSIONAL ENGINEER FRANK MINGFENG KOO NO. C-47709 CIVIL STATE OF CALIFORNIA

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ATTACHMENT 2

TREATMENT PROTOCOL FOR HUMAN REMAINS AND CULTURAL ITEMS

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.

(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.