TRINITY COUNTY PLANNING COMMISSION

Regular Meeting
May 28, 2026 At 6:00 PM
Trinity County Library Conference Room
351 Main Street, Weaverville, CA

Chair Commissioner Dist. 4 Duncan McIntosh
Vice-Chair Comm'r Dist. 2 Amelia Fleitz
Commissioner Dist 1 Carol Fall
Commissioner Dist 3 Rory Barrett
Commissioner Dist 5 Dan Harper

AGENDA

Zoom Information

The Trinity County Planning Commission is inviting you to attend this meeting via Zoom.
Topic: Trinity County Planning Commission Meeting
Time: Month Day, 2025, at 6:00 PM Pacific Time (US and Canada)

Zoom Meeting

Link:https://zoom.us/j/5950072851?pwd=RHp6TDhNajNJMVJHZFJlRmhacmJjUT09
Meeting ID: **595 007 2851**

- Passcode: 267684
- One tap mobile
- +1 669 900 9128,,7338092685# US (San Jose)
- +1 346 248 7799,,7338092685# US (Houston)

TO ADDRESS THE COMMISSION: Members of the public may directly address the Planning Commission on any agenda item on the regular calendar during the Commission's consideration of that item. In addition, the Planning Commission provides members of the public with a Public Comment period, where the public may address the Commission on any matter not listed on the agenda that is within the subject matter jurisdiction of the Planning Commission. Pursuant to the Brown Act (Govt. Code Sect. 54950, et seq. Commission action or discussion cannot be taken on non-agenda matters, but the Commission may briefly respond to statements or questions and, if deemed necessary, refer the subject matter to the appropriate department for follow-up and/or to schedule the matter on a subsequent Commission agenda.

PRESENTATION OF DOCUMENTS: All items presented to the Planning Commission during a public hearing, including but not limited to letters, e-mails, petitions, photos, maps, or other kinds of information, shall become a permanent part of the record and must be submitted to the clerk of the Commission. It is advised that the presenter creates copies in advance for their own records. If you have documents to present to the members of the Planning Commission to review, please provide a minimum of 10 copies.

CALL TO ORDER

PUBLIC COMMENT

During the Public Comment period, members of the public may address the Planning Commission on any matter not listed on the agenda that is within the subject matter jurisdiction of the Planning Commission.

REGULAR CALENDAR

A. Community Development - Planning - Approval of Minutes

B. Community Development - Planning - P-25-11 Rulofson, F. Minor Subdivision

C. Community Development - Planning - P-26-04 Yordanov K. Post Subdivision Modification for P-17-36

REPORTS/ANNOUNCEMENTS

A. Planning Commissioners

B. Director of Community Development

ADJOURN

ALL INTERESTED PARTIES are encouraged and invited to submit written comments regarding a proposed action or be present at the public hearing to be heard regarding the action to being considered. To ensure consideration by the Planning Commission, all written material concerning the proposed project should be submitted to the **Trinity County Planning Department, 530 Main St., PO Box 2819, Weaverville, CA 96093. 530-623-1351, or by email to info.planning@trinitycounty.org**, as soon as possible, and no later than three days prior to the hearing. All items presented to the Planning Commission before or during the public hearing become part of the permanent record. Persons wishing to submit comments or appear before the Planning Commission are encouraged to first contact the staff planner listed for the project.

Copies of the applications, environmental documents, all reference documents, and staff reports associated with each project are available for review at the Trinity County Planning Department, 530 Main St., Weaverville, CA. Staff reports will also be available on the Internet at:https://trinitycoca.portal.civicclerk.com/

Please note that any challenge of the nature of the proposed action in court may be limited to addressing only those issues raised at the public hearing described in this

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notice, or in written correspondence delivered to the Planning Commission at, or prior to, the public hearing.

Staff Report

Department: Community Development - Planning
Contact: Drew Plebani
Date: May 28, 2026
Item Title: Approval of Minutes

Project Description:
Approval of Minutes

Summary:
Approval of minutes for the April 23, 2026, Planning Commission meeting.

Staff Report:

Departmental Recommendations:
Approve as presented

TRINITY COUNTY PLANNING COMMISSION

Regular Meeting
April 23, 2026 at 6:00p.m.
Trinity County Library Conference Room
351 Main Street, Weaverville, CA

Chair: Comnr. Dist. 4 Duncan McIntosh
Vice-Chair: Comnr. Dist. 2 Amelia Fleitz
Commissioner Dist. 1 Carol Fall
Commissioner Dist. 3 Rory Barrett
Commissioner Dist. 5 Dan Harper

MINUTES- PLANNING COMMISSION

***NOTE:** The public was invited to attend the public hearing via Zoom Link.

Commissioners present: Barrett, Fall, McIntosh, Harper, (Absent- Fleitz)

Staff Present: TCCDD Director, Drew Plebani; Code Compliance Lead, Interim Cannabis Director, Daniel Marvel; Asst. Planner-Cannabis, Nick Martinez; Recording Secretary, Jorge Martinez

CALL TO ORDER:

Chair McIntosh called the meeting to order at 6:00 p.m.

PUBLIC COMMENT: During the Public Comment period members of the public may address the Planning Commission on any matter not listed on the agenda that is within the subject matter jurisdiction of the Planning Commission.

Public comments were heard from Lisa Wright (Lewiston), Tom Bollanco (Douglas City), Rhoda Caine (Trinity Center),

REGULAR CALENDAR:

Item A. Minutes: Approve meeting minutes from 4/23/2026

Minutes from April 23, 2026, 6PM meeting were unanimously approved as presented.

Item B: Community Development- Cannabis – CCL-775 Application Review and Determination

Public Comment were heard from the following: Chris William (Weaverville), Vidette (Lewiston),Cathy Jason (Eagle Creek), Holly (Coffee Creek), Mathew Jefferson (Coffee Creek), Michelle Taylor (Coffee Creek), Lisa Wright (Lewiston). *ZOOM:* Nate, Rhoda Caine (Trinity Center), Adrian Keys, Catherine Sidman (Lewiston).

By motion made by Commissioner Harper and seconded by Commissioner Barrett, and following a roll call vote of 3-1 (Ayes: Commissioners Harper, Barrett, and McIntosh; No: Commissioner Fall; Commissioner Fleitz absent).

The Planning Commission finds that the subject property, commonly known as Eagle Creek Ranch, consists of contiguous parcels under common ownership that function as a single operational unit. The Trinity County Cannabis Ordinance expressly provides that such parcels shall be treated as a single parcel for purposes of cultivation.

The Commission further finds that this interpretation is consistent with the original intent of the ordinance and has been previously confirmed and applied by County Planning staff during the processing of this application.

The Commission finds that the project qualifies as an existing operation based on documented Water Board enrollment in July 2017, satisfying the ordinance requirement for participation in the regulatory framework prior to November 30, 2017. This establishes eligibility for the exemption under Trinity County Code Section 17.43.050(A)(7).

The Commission finds that the proposed relocation of cultivation activities does not constitute a new or expanded use, but rather a reconfiguration within a single, continuous operational site. The project does not increase canopy, intensity, or overall disturbance beyond what has been previously evaluated.

The Commission further finds that this approval is consistent with the Board of Supervisors' direction, as it does not extend eligibility to new or unrelated parcels, but instead recognizes a qualifying existing operation within a contiguous property that has been treated as a single site.

The Commission finds that the Appendix C environmental review adequately evaluates site-specific impacts and that all impacts fall within the scope of the Trinity County Cannabis Programmatic Environmental Impact Report. No new significant environmental impacts have been identified.

The Commission finds that the applicant has acted in good faith reliance on prior County direction over several years, including written confirmation of ordinance interpretation and direction to proceed with application processing and compliance measures.

The Commission finds that any outstanding regulatory requirements, including updated Water Board enrollment for the specific cultivation area, are appropriately addressed as conditions of approval and shall be satisfied prior to operation.

The Commission further finds that approval of this project is limited to the specific facts of this case involving a contiguous, previously enrolled operation and does not establish precedent for expansion onto separate or non-contiguous parcels.

Based on these findings, the Planning Commission determines that the project is consistent with the Trinity County Cannabis Ordinance and CEQA, and can achieve full compliance through conditions of approval. Therefore, the Planning Commission moves to approve CCL-775.

Item C: Community Development-Cannabis- CP-25-02 KaVis Farm, LLC-Distribution Facility

Public Comment: Adrain Keys, Lisa Wright (Lewiston), Marshall Shrader (Hayfork), *ZOOM:* Dana (Hayfork), Rhoda Caine (Trinity Center),

By motion made by Commissioner Harper and seconded by Commissioner Barrett and following a roll call vote of 4-0 (Ayes: Commissioners Harper, Barrett, Fall, and McIntosh; Commissioner Fleitz absent). The Planning Commission moves for the project, to approve the conditional use permit based on the findings stated in the staff report and subject to the condition of approval found in resolution PC-2026-03. With An amendment that the application meets CEQA determination that the project found to be withing the scope of trinity county cannabis program and final EIR .

Item D: Community Development-Cannabis-CP25-03 Trinity Roots, LLC-Use permit sought for cultivation, nursery,nonvolatile manufacturing and distribution.

Public Comment: Matt Jefferson (Coffee Creek), Tom Bollanco (Douglas City), *ZOOM:* Rhoda (Coffee Creek), Jon, Adrian Keys, Dana Houser (Hayfork).

By motion made by Commissioner Harper and seconded by Commissioner McIntosh, and following a roll call vote of 3-1 (Ayes: Commissioners Harper, Barrett, and McIntosh; No: Commissioner Fall; Commissioner Fleitz absent), the Planning Commission moved to adopt the CEQA determination finding the project to be within the scope of the Trinity County Commercial Cannabis Program and Final Environmental Impact Report, and to adopt Resolution PC-2026-04, Amendment B, with Sections 26, 27, 29, and 30 stricken. The Planning Commission further moved to approve the Conditional Use Permit based on the findings contained in the staff report and subject to the conditions of approval set forth in Resolution PC-2026-04, with nursery canopy excluded from the total canopy calculation and with the project limited as proposed.

PLANNING COMMISSIONERS REPORT:

PLANNING DIRECTOR'S REPORT: Director Plebani provided the following updates:

- Announced the release of the Public Review Draft Zoning Code.

- Informed the Commission that the Board will be conducting a series of study sessions regarding the zoning code updates, scheduled from May 19, 2:00 p.m. to 9:00 p.m. and May 20, 9:00 a.m. to 5:00 p.m.
- Advised the public and Commissioners of several scam emails currently circulating that appear to impersonate County communications.
- Clarified that official County emails will only originate from County ".org" email addresses.
- Reminded the public that the County only accepts online payments through its authorized payment processor, ACI.

ADJOURNMENT:

The Planning Commission adjourned at 9:27 pm.

Submitted by: Jorge Martinez, Recording Secretary

Drew Plebani, , TCCDD Director
Secretary of the Planning Commission

Staff Report

Department:	Community Development - Planning
Contact:	Drew Plebani
Date:	May 28, 2026
Item Title:	P-25-11 Rulofson, F. Minor Subdivision

Project Description:
P-25-11 Rulofson, F. Minor Subdivision

Summary:

The parcel is 0.93 acres with two existing residences and connected utilities. The new property line is proposed to be established between the two residences and would thus create two parcels (Parcel 1: 0.55 acres and Parcel 2: 0.37 acres; Attachment B – Tentative Parcel Map) from the one. Surrounding parcels are all Single Family Residential – High Density. The creation of four or fewer parcels requires a Tentative Map process (discretionary process) and after approval with/without Conditions then a Parcel Map process (ministerial process) is required.

Staff Report:

The application was submitted on August 19, 2025. Over the course of review of the application, Planning Division staff verified application materials for consistency with all requirements and referred the project to responsible departments and agencies for comments and conditions and evaluated the project for compliance with the California Environmental Quality Act (CEQA).

A thorough, in-depth file review was performed of the application submitted and all necessary documentation was provided from the applicant, either in the first submittal or through subsequent submittals. As of the date of this staff report, Division staff verified that all the above requirements have been met or will be met as conditions of approval for this Minor Subdivision.

Please see attached complete staff report.

Departmental Recommendations:

STAFF RECOMMENDATION:

Staff recommends that the Planning Commission:

1. Recommend approval of the project, and
2. the project to be considered categorically exempt from the California Environmental Quality Act (CEQA), pursuant to Section 15061 (b)(3); and

ALTERNATIVES:

1. Recommend other conditions.
2. Continue the item to a later date. Specify if staff and applicants are to bring additional information.
3. Deny the project, including findings.

TRINITY COUNTY PLANNING COMMISSION

STAFF REPORT

PROJECT TITLE: Rulofson Minor Subdivision

APPLICANT(S): Franz and Julia Rulofson

PROPERTY OWNER: Franz and Julia Rulofson

REPORT BY: Angel Chappell, Assistant Planner and Drew Plebani, Planning Division Director

LOCATION: 290 Mill Street, Weaverville (APN 002-110-009-000) (Attachment A)

ZONING DISTRICT: Single Family Residential- High Density

OVERLAY DISTRICT: N/A

GENERAL PLAN DESIGNATION: Single Family Residential – High Density

PROJECT DESCRIPTION:

The parcel is 0.93 acres with two existing residences and connected utilities. The new property line is proposed to be established between the two residences and would thus create two parcels (Parcel 1: 0.55 acres and Parcel 2: 0.37 acres; Attachment B – Tentative Parcel Map) from the one. Surrounding parcels are all Single Family Residential – High Density. The creation of four or fewer parcels requires a Tentative Map process (discretionary process) and after approval with/without Conditions then a Parcel Map process (ministerial process) is required.

PROJECT EVALUATION/DISCUSSION:

The application was submitted on August 19, 2025. Over the course of review of the application, Planning Division staff verified application materials for consistency with all requirements and referred the project to responsible departments and agencies for comments and conditions and evaluated the project for compliance with the California Environmental Quality Act (CEQA).

A thorough, in-depth file review was performed of the application submitted and all necessary documentation was provided from the applicant, either in the first submittal or

through subsequent submittals. As of the date of this staff report, Division staff verified that all the above requirements have been met or will be met as conditions of approval for this Minor Subdivision.

Relevant Ordinances, State Statues, and Supporting Documents:

Relevant Documents and County Code Section	Development or Application Standard
Trinity County Land Use Element - 1988	https://www.trinitycounty.org/DocumentCenter/View/784/Land-Use-Element-1988-PDF
2024-2029 Housing Element Certified August 27, 2025	https://www.trinitycounty.org/DocumentCenter/View/3227/Housing-Element-7th-Cycle-2024-2029---Certified-August-27-2025-PDF?bidId=
17.16 – Single Family Residential – High Density	https://library.municode.com/ca/trinity_county/codes/code_of_ordinances?nodeId=TIT17ZO_CH17.16SIMIDIR-
16.12 – Tentative Map	https://library.municode.com/ca/trinity_county/codes/code_of_ordinances?nodeId=TIT16SU_CH16.12TEMA
16.49 – Subdivision Design Standards	https://library.municode.com/ca/trinity_county/codes/code_of_ordinances?nodeId=TIT16SU_CH16.49SUDEST
California Government Code 66474	https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV&sectionNum=66474.

Agency Referrals

Project referral packets were sent to the following agencies for a two-week comment period to elicit any concerns, questions or conditions from responsible agencies and local departments.

Local/State Authority, Department or Agency	Comments	Response
County Transportation Department	"Per County Code section 12.04.010, an encroachment permit from the Trinity County Department of Transportation is required for the driveway encroachments for Parcel 1 and Parcel 2 where each enters onto the County maintained Mill Street, (County Road No. WVA03). The encroachment onto Mill Street shall conform to the current County Department of Transportation standards for a private driveway."	Added to recommended conditions of approval.
Trinity PUD	There are 2 services currently at 290 Mill Street. We do serve both, they each have a service panel and meter.	Served by electric utilities
Weaverville Fire Department	"No comment" received	
CalFire	"No comment" received	
Environmental Health	"No comment" received	

Minor Subdivision Consistency with the Trinity County Zoning Code

Zoning Code Standards	Parcel 1 (P1)	P1 Consistent?	Parcel 2 (P2)	P2 Consistent?
Minimum Parcel Size of 6,000 Square Feet	0.55 acres = 23,958 sq. ft	Yes	0.37 acres = 16,117.2 sq. ft	Yes
Minimum lot width: 60 ft	79.70 ft	Yes	60 ft	Yes
Interior Minimum Side Yard from new line for Dwellings: 5 feet	7.47 ft and 7.33 ft	Yes	7.47 ft and 7.33 ft	Yes
Existing South Property Line of Parcel 2 – See Detail B on Tentative Parcel Map			Garage goes over existing property line by 0.12 inches and small section of fence is on neighbor's property	No, but the property line, garage, and fence already exist and it is not proposed to change with this Subdivision.
Thirty-five percent Lot coverage	7%	Yes	17%	Yes

Minor Subdivision Consistency with the Trinity County Subdivision Code

TC Subdivision Code Section	Response	Consistent?	Reviewed by
16.12.020 – Application Requirements and Acceptance of applications	1/28/2026 – Deemed Sufficient to proceed to next steps.	Yes	County Surveyor and Assistant Planner
16.12.080 – Subdivision review committee meeting	4/15/2026 – Tentative Parcel Maps are required to go to the Subdivision Review Committee.	Yes	Pending
16.12.140 – Hearing requirements	Must be published to newspaper 10 days prior to meeting and all persons owning property within 300 feet of proposed subdivision is to be notified of the hearing.	N/A	Completed by Planning Division Administrative Staff
16.12.150 – Conditions for Approval	Subsections A-F is applicable, and project complies as is and with Encroachment Permit condition. Subsection G – L are not applicable to this project.	Yes	Assistant Planner

16.48 – Subdivision Improvements. Applicable subsections: a) 16.48.121 - Public sewage disposal b) 16.48.123 - Public water supply c) 16.48.125 - Solid waste disposal d) 16.48.126 - Road improvement e) 16.48.127 – Fire protection improvements	Applicable existing standards: a) Connected to Weaverville Sanitary District b) Connected to Weaverville Community Servies District c) County Solid Waste Transfer Station d) Mill Street - Trinity County Owned e) Weaverville Fire District and CalFire had no comments on existing structures and access	Yes	Assistant Planner

Project Consistency with the Trinity County General Plan (1988), and Housing Element (certified and adopted August 27, 2025)

Trinity County General Plan (GP) from 1988 does not have density standards for Single Family Residential High Density General Plan Designation (GPD). In the 1988 GP, there is a description for Community Residential GPD (Figure 1: Land Use Element 1988, PDF pg. 10) which has the dwelling density of 1-12 dwellings per acre. In the Land Use Matrix (Figure 2: Land Use Element 1988, PDF pg. 21), it does not reference the Community Residential GPD but does reference Single Family Residential High Density and Medium Density GPDs. In the subdivision, there are parcels with lots as small as 0.14 acres which is consistent with the minimum parcel size for the zone. This infers a dwelling density of 7.26 dwellings per acre, the proposed parcel split (aka. minor subdivision) stays consistent with this density. The Certified Housing Element (August 27, 2025) supports this analysis on page 101 of the pdf (Figure 3).

Community Residential

This designation is intended to offer various locations within the general sphere of the major communities in Trinity County where residential development is both desirable and is to be encouraged. Schools and medical facilities are acceptable in this designation as are parks and other intensive outdoor recreation facilities (golf course, ballfields, etc). The residential development that would take place here would be higher density than rural and is intended to be more efficient for the supplying of community services. These services may include roads, lighting, water, sewer and the like. Density range is from one dwelling unit per acre to twelve dwelling units per acre.

Figure 1 Community Residential 1-12 Dwellings per acre

GENERAL PLAN DESIGNATIONS AND ALLOWABLE ZONING DISTRICTS

Res 95-89

ALLOWABLE ZONES / GENERAL PLAN DESIGNATIONS	Resource	Agriculture	Open Space/ Conservation	Rural Residential	Community Expansion	Community Development	Single Family Residential (Med.)	Single Family Residential (High)	Multifamily Residential	Commercial	Industrial	Public Facilities	Village	MINIMUM PARCEL SIZE
Mining	X	X	X		X	X								10 acres
TPZ	X	X	X											160 acres unless parcel created prior to 1985
Ag. Preserve	X	X	X											40 acres
Agriculture	X	X	X		X	X							X	10 acres
Ag. Forest	X	X	X		X	X							X	10 acres*
Open Space	X	X	X									X	X	
Conservation			X											10 acres
RR-10**				X		X							X	10 acres
RR-5**				X		X							X	5 acres
RR-21/2**				X		X							X	2 1/2 acres
RR-1**				X		X	X	X					X	1 acre
Unclassified				X		X							X	5 acres
R-1A***						X	X	X	X				X	1/2 acre
R1**						X		X					X	6,000 sq. ft.
R2 Duplex						X			X				X	6,000 sq. ft.
R3 Multiple Family						X			X				X	10,000 sq. ft.
Residential Office					X	X	X	X	X				X	7,000 sq. ft.
Mobile Home and Special Occupancy Parks				X	X	X			X	X			X	3 acres
C-1 Retail Commercial					X					X			X	10,000 sq. ft.
C-2 General Commercial						X				X				10,000 sq. ft.
HC Highway Commercial						X				X			X	10,000 sq. ft.
C-3 Heavy Commercial						X				X	X	X	X	1/2 acre
Industrial											X		X	1/2 acre
Specific Unti Development	X	X	X	X	X	X	X	X	X	X	X	X	X	20 acres
Public Facilities	X					X				X		X	X	2,000 sq. ft.
Flood Hazard			X											N/A
Min. Parcel Size	20 AC.	10 AC.	N/A	1 AAc.	10 Ac.	5M Sq.	10M Sq.	6M Sq.	10M Sq.	10M Sq.	1/2 Ac.	2M Sq.	5M Sq.	

* Depends on Site Class (Min. Parcel size of Site III or better; 40 acres)
** Or More restrictive (i.e., less dense)
*** May be less restrictive (i.e. more dense) Dependent on Projects

OVERLAY ZONING DISTRICTS:
The above chart does not include Overlay Zones. Overlay Zones are considered to be compatible with all General Plan Designations since they must be utilized in conjunction with an underlying zone. (19)

Figure 2 Land Use Element 1988, amended 1989 to include Land Use Matrix

TABLE 8.65 EXISTING DEVELOPMENT STANDARDS BY ZONING DISTRICT

	A[1]	AP[1]	MH[2]	R-O	RR	R-1	R-2	R-3
Maximum Density	2 units/ acre	1 unit/ 100 acres	9.68 units/acre	1 unit/parcel	2.18 units/acre	7.26 units/acre	14.52 units/acre	21.78 units/acre
Minimum Side Setbacks	20 feet	20 feet	6 feet	Interior: 5 ft. Exterior: 10 ft.	6 feet	5 feet	6 feet	10 feet
Minimum Front Setback	20 feet	20 feet	20 feet	20 feet	20 feet	20 feet	20 feet	20 feet
Minimum Rear Setback	20 feet	20 feet	15 feet	20 feet	20 feet	20 feet	20 feet	15 feet
Minimum Lot Width	100 feet	-		60 feet	-	60 feet	60 feet	75 feet
Maximum Allowable Lot Coverage	100%	100%	100%	35%	35%	35%	40%	40%
Minimum Lot Size	0.5 acre	100 acres	3 acres[3]	7,000 sq.ft.	20,000 sq.ft.	6,000 sq.ft.	6,000 sq.ft.	16,000 sq.ft.[4]
Parking per Unit	1	1	2	1	1	1	1	2
Height Maximum	40 feet	40 feet	25 feet	25 feet	40 feet	40 feet	40 feet	25 feet

Source: Trinity County zoning code, 2024.

[1] Farm labor housing and a single-family housing unit is allowed in an agricultural operating area in Agriculture zones. Single-family dwellings and temporary labor camps, less than one year in duration, as accessory to harvesting or planting are allowed in Agricultural Preserve Zones.

[2] Mobile Home zoning provides suitable sites for the placement of mobile homes as permanent residences both in mobile home parks and on individual lots. It also may be applied as an overlay zone.

[3] The minimum lot area per mobile home shall be four thousand five hundred square feet. Minimum lot areas for recreational vehicles or trailers shall be as specified in the use permit.

[4] The minimum lot area per dwelling unit shall be two thousand square feet.

Table 8.66 summarizes how housing types are allowed in each zone that allows residential development in the county.

Figure 3 Certified Housing Element August 27, 2025 PDF pg. 101, Table depicting parcel standards for associated zones.

Minor Subdivision Consistency with the Subdivision Map Act

California Government Code 66474: **A legislative body of a city or county shall deny approval of a tentative map, or a parcel map for which a tentative map was not required, if it makes any of the following findings:**	**Rationale:**
(a) That the proposed map is not consistent with applicable general and specific plans as specified in Section 65451.	Consistent with General Plan and 2025 certified Housing Element. See section "Project Consistency with the Trinity County General Plan, and Housing Element (certified and adopted August 27, 2025)" of this Staff report.
(b) That the design or improvement of the proposed subdivision is not consistent with applicable general and specific plans.	It is consistent with General Plan and specific plans as seen in previous row.
(c) That the site is not physically suitable for the type of development.	No new development proposed, it is all existing development and is suitable.
(d) That the site is not physically suitable for the proposed density of development.	Tentative Map meets minimum parcel size requirements for Single Family- High Density Zone subdivision standards. See section "Minor Subdivision Consistency with the Trinity County Zoning Code" for more details.
(e) That the design of the subdivision or the proposed improvements are likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat.	Surrounding area is existing development. Drainage Plan (Attachment C) states "Both drainage paths [(Drainage Area 1 and 2 in report)] ultimately discharge to Weaver Creek, then to the Trinity River, followed by the Klamath River, and eventually into the Pacific Ocean" and "…the proposed development will not adversely or negatively impact the existing

	drainage facilities (on or off site). The added stormwater from the planned development will not exceed the capacity of the existing or proposed storm water drainage systems." No impacts to fish or wildlife or their habitat. Environmental Questionnaire see Attachment D.
(f) That the design of the subdivision or type of improvements is likely to cause serious public health problems.	Existing development, no impacts on public health concerns.
(g) That the design of the subdivision or the type of improvements will conflict with easements, acquired by the public at large, for access through or use of, property within the proposed subdivision. In this connection, the governing body may approve a map if it finds that alternate easements, for access or for use, will be provided, and that these will be substantially equivalent to ones previously acquired by the public. This subsection shall apply only to easements of record or to easements established by judgment of a court of competent jurisdiction and no authority is hereby granted to a legislative body to determine that the public at large has acquired easements for access through or use of property within the proposed subdivision."	No known easements of record affect this parcel.

Project Consistency with the California Environmental Quality Act (CEQA)

The project has been found to be Categorically Exempt from CEQA under 15061(b)(3) Common Sense Exemption. The project site is fully developed, and no new development is proposed.

STAFF RECOMMENDATION:

Staff recommends that the Subdivision Review Committee recommends to the Planning Commission:

1. Recommend approval of the project, and
2. the project to be considered categorically exempt from the California Environmental Quality Act (CEQA), pursuant to Section 15061 (b)(3); and

ALTERNATIVES:

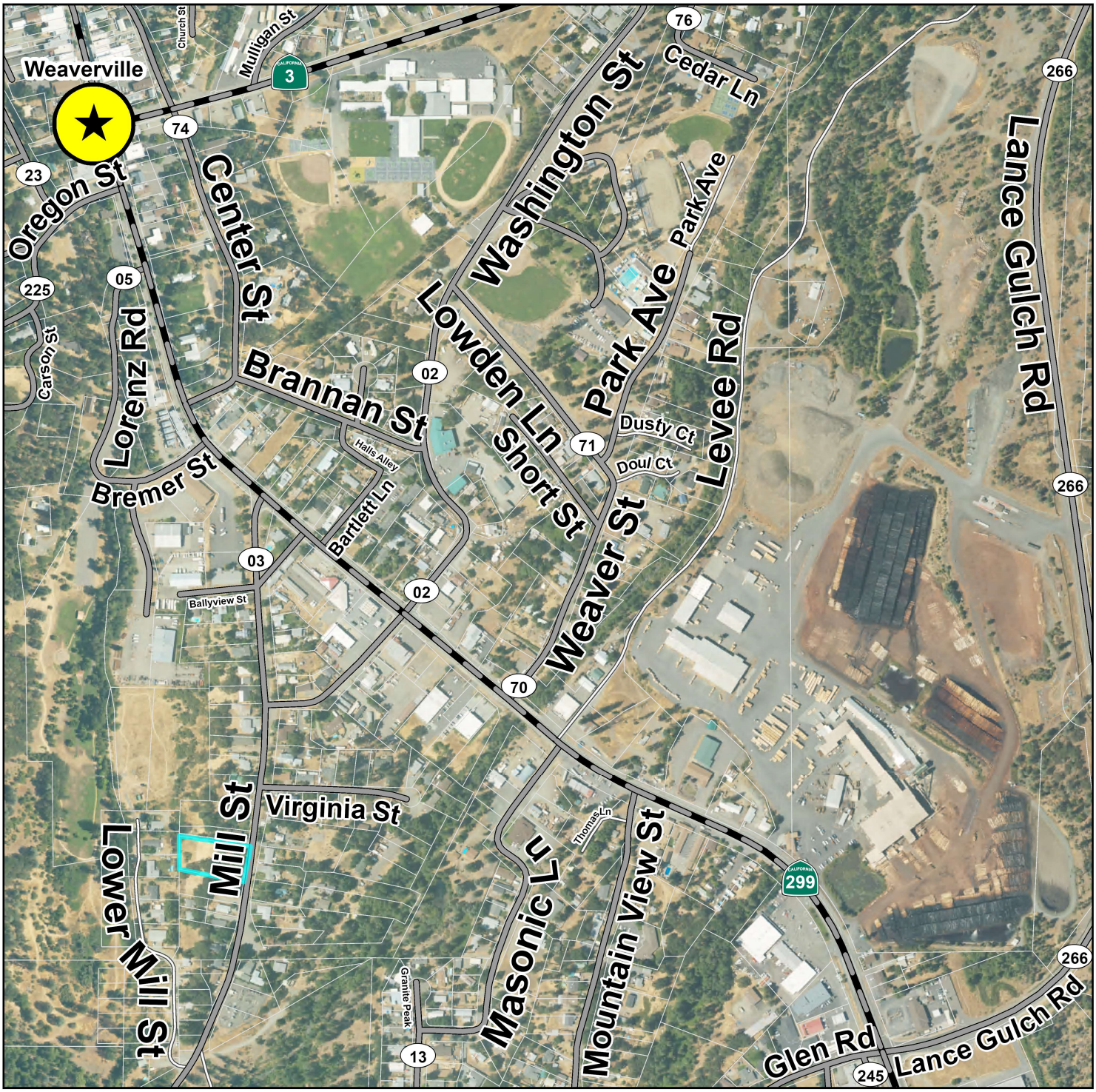
Alternatively, should the committee disagree with the project as proposed, there are the following possible actions:

1. Recommend other conditions.
2. Continue the item to a later date. Specify if staff and applicants are to bring additional information.
3. Deny the project, including findings.

ATTACHMENTS:

A. Project Location
B. Tentative Parcel Map
C. Drainage Report
D. Environmental Questionnaire

Location Map for APN 002-110-00-000



0 0.07 0.15 0.3 Miles

Legend

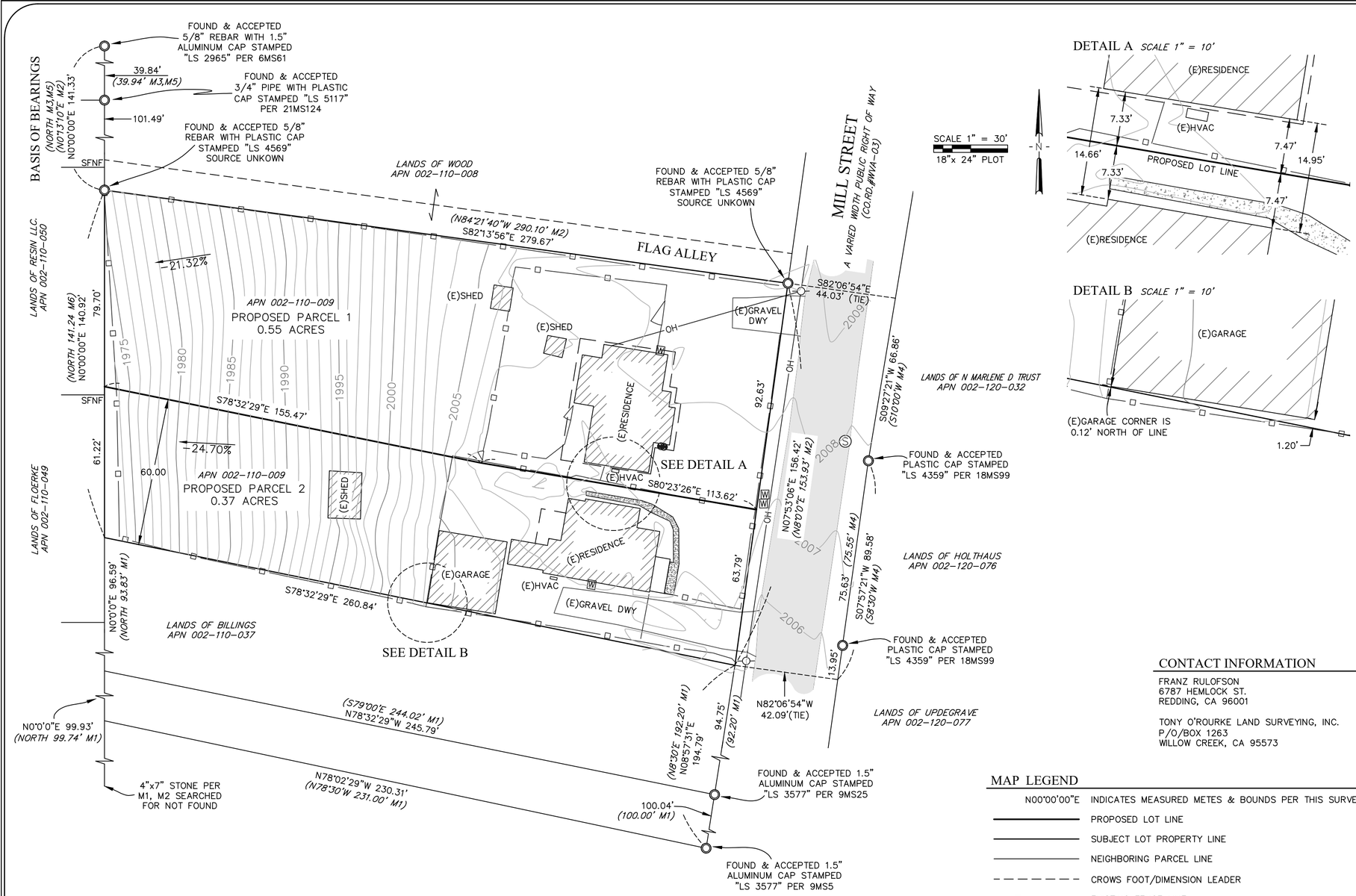
Roads

Highway

Paved

Native

Report Created By: ALC, 4/6/2026
Source: TCRCD

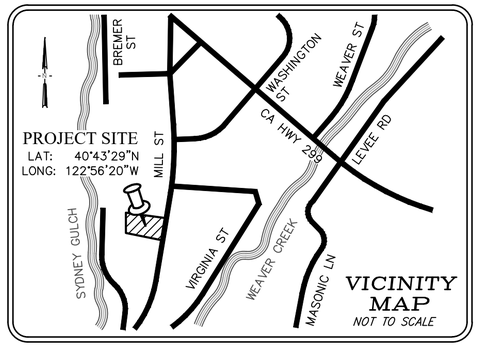


SCALE 1" = 30'
18"x 24" PLOT

N

DETAIL A *SCALE 1" = 10'*

DETAIL B *SCALE 1" = 10'*



PARCEL DATA

PARENT PARCEL	
ADDRESS	290 MILL ST., WEAVERVILLE
APN	002-110-009
AREA	0.92 ACRES
ZONE	R1
WATER	WEAVERVILLE COMMUNITY SERVICES DISTRICT
SEWER	WEAVERVILLE SANITARY DISTRICT
POWER	TRINITY PUBLIC UTILITY DISTRICT
FIRE	WEAVERVILLE FIRE PROTECTION DISTRICT
SCHOOL	TRINITY ALPS UNIFIED SCHOOL DISTRICT
FEMA	NONE
CURRENT USE	SINGLE FAMILY AND ADU
MIN. LOT SIZE	6000 SF – 0.14 AC
MIN. WIDTH	60 FT
MAX COVERAGE	35%
MIN. FRONT YARD	20 FT
MIN. SIDE YARD	5 FT
MIN. REAR YARD	20 FT

PROPOSED PARCEL 1	
AREA	0.55 ACRES
ZONE	R1
WATER	WEAVERVILLE COMMUNITY SERVICES DISTRICT
SEWER	WEAVERVILLE SANITARY DISTRICT
POWER	TRINITY PUBLIC UTILITY DISTRICT
FIRE	WEAVERVILLE FIRE PROTECTION DISTRICT
SCHOOL	TRINITY ALPS UNIFIED SCHOOL DISTRICT
FEMA	NONE
PROPOSED USE	SINGLE FAMILY HOME
WIDTH	>=60 FT
COVERAGE	7%
FRONT YARD	92.6± FT
SIDE YARD	7.3± FT
REAR YARD	79.7± FT

PROPOSED PARCEL 2	
AREA	0.37 ACRES
ZONE	R1
WATER	WEAVERVILLE COMMUNITY SERVICES DISTRICT
SEWER	WEAVERVILLE SANITARY DISTRICT
POWER	TRINITY PUBLIC UTILITY DISTRICT
FIRE	WEAVERVILLE FIRE PROTECTION DISTRICT
SCHOOL	TRINITY ALPS UNIFIED SCHOOL DISTRICT
FEMA	NONE
PROPOSED USE	SINGLE FAMILY HOME
WIDTH	>=60 FT
COVERAGE	17%
FRONT YARD	63.8± FT
SIDE YARD	7.3± FT
REAR YARD	61.2± FT

CONTACT INFORMATION

FRANZ RULOFSON
6787 HEMLOCK ST.
REDDING, CA 96001

TONY O'ROURKE LAND SURVEYING, INC.
P/O/BOX 1263
WILLOW CREEK, CA 95573

MAP LEGEND

N00°00'00"E	INDICATES MEASURED METES & BOUNDS PER THIS SURVEY
	PROPOSED LOT LINE
	SUBJECT LOT PROPERTY LINE
	NEIGHBORING PARCEL LINE
	CROWS FOOT/DIMENSION LEADER
□	EXISTING FENCE LINE
OH	EXISTING OVERHEAD UTILITY LINE
	EXISTING ASPHALT PAVING
	EXISTING GRAVEL DRIVEWAY
	EXISTING BUILDING
	EXISTING CONCRETE WALKWAY
74	EXISTING CONTOUR AT 1' INTERVALS
	EXISTING SURVEY MONUMENT AS NOTED
	EXISTING UTILITY POLE
W	EXISTING WATER METER
	EXISTING WATER VALVE
S	EXISTING SANITARY SEWER MANHOLE
HVAC	HEATING AND AIR CONDENSER
SFNF	SEARCHED FOR CORNER, NOTHING FOUND

SURVEY NOTES

1. THE PURPOSE OF THIS TENTATIVE MAP IS TO SUBDIVIDE VIA PARCEL MAP, THAT PARCEL KNOWN AS APN 002-110-009, AS DESCRIBED IN DEED DOCUMENT NO. 202101257 (BEING LOT 3 BLOCK 6 OF THE WEAVERVILLE TOWNSITE), OFFICIAL RECORDS OF TRINITY COUNTY, INTO 2 RESULTING PARCELS AS SHOWN HEREON.
2. BASIS OF BEARINGS FOR THE SURVEY HEREIN ARE A BASED UPON THE WEST LINE OF LOTS 3, 4 AND 5 OF BLOCK 6 OF THE TOWNSITE OF WEAVERVILLE AS SHOWN ON THE OFFICIAL PLAT THEREOF AND EVIDENCED BY FOUND AND ACCEPTED MONUMENTS. SAID BEARING IS "NORTH" AS SHOWN PER 6MS61 AND 21MS124.
3. GROUND DISTANCES ARE SHOWN HEREON, U.S. SURVEY FEET AND DECIMALS THEREOF.
5. ELEVATION DATA SHOWN HEREON IS NAVD88(GEOID18), BASED UPON POST PROCESSED STATIC GPS OBSERVATIONS.
6. TONY O'ROURKE SURVEYING, INC., CLAIMS NO LIABILITY FOR THE EXISTENCE OF SUBSURFACE FEATURES, IF ANY EXIST. EVIDENCE SHOWN HERON OF UNDERGROUND UTILITIES IS BASED SOLELY UPON A SURFACE INSPECTION OF THE SITE ON 5/16/25.
7. THIS TENTATIVE MAP IS BASED UPON THAT TITLE COMMITMENT BY OLD REPUBLIC NATIONAL TITLE INSURANCE THROUGH TRINITY COUNTY TITLE COMPANY. GUARANTEE NUMBER CTG-08005373 FILE NUMBER 65679. EFFECTIVE DATE OF JUNE 02, 2025.

EASEMENTS OF RECORD

NO KNOWN EASEMENTS OF RECORD AFFECT THIS PARCEL

FEMA

FLOOD ZONE X – AREAS OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

MAP NUMBER – 06105C1027E REV. 1/20/2010

RECORD DATA

M1 – BOOK 9 MAPS & SURVEYS, PAGE 5
M2 – BOOK 5 MAPS & SURVEYS, PAGE 161
M3 – BOOK 21 MAPS & SURVEYS, PAGE 124
M4 – BOOK 18 MAPS & SURVEYS, PAGE 99
M5 – BOOK 6 MAPS & SURVEYS, PAGE 61
M6 – WEAVERVILLE TOWNSITE

D1 – DOCUMENT# 202101257, OFFICIAL RECORDS

LICENSED LAND SURVEYOR
NATHANIEL R. GRAVETTE
PLS 9928
STATE OF CALIFORNIA

TENTATIVE PARCEL MAP
(MINOR SUBDIVISION)

FOR
FRANZ RULOFSON P-25-11

LOCATED IN SECTION 7
T 33 N, R 9 W, M.D.B.M.
LOT 3 BLOCK 6 WEAVERVILLE TOWNSITE
UNINCORPORATED AREA OF WEAVERVILLE
TRINITY COUNTY, CALIFORNIA

TONY O'ROURKE LAND SURVEYING
P.O.BOX 1263 WILLOW CREEK, CA
BUSINESS/CELL: 1-707-499-2299
TONYOROURKELANDSURVEYING.GODADDYSITES.COM

MAY 2025 SHEET 1 OF 1

DRAINAGE REPORT

P-25-11

Tentative Map

APN: 002-110-009

290 Mill Street

Weaverville CA 96093

Prepared For

Franz Rulofson

6787 Hemlock Street

Redding CA 96001

July 28, 2025

Job 1887

Phone: (530) 629-3000 **Email**: tvce@tvce.biz
67 Walnut Way, Willow Creek, CA 95573

HYDRAULIC AND DRAINAGE REPORT

For:
Tentative Map Subdivision
290 Mill Street
Weaverville, CA 96093
APN: 002-110-009-000

Report Provided For:
Franz Rulofson
6787 Hemlock Street
Redding CA 96001

Report Provided By:

Trinity Valley Consulting Engineers, Inc.
67 Walnut Way, PO Box 1567
Willow Creek, California 95573
(530) 623-3000 Fax: (530) 629-3011

July 2025
Eric Keyes, P.E.
Project No: 1887

Table of Contents:

Attachments:

Introduction:

Trinity Valley Consulting Engineers, Inc. (TVCE) was retained by Franz Rulofson (Owner) to prepare a hydraulic and drainage report for the property located at 290 Mill Street, Weaverville, Trinity County, California. A site visit was conducted on July 30, 2025, to observe existing conditions. This report summarizes our findings and provides recommendations regarding stormwater management.

Purpose:

This study was prepared at the request of the Trinity County Community Development Department as part of the planning process for a proposed subdivision. The purpose of the report is to evaluate site drainage, delineate the 100-year storm event, and appropriately size any required drainage structures.

Site Conditions:

The project site is approximately 0.92 acres in size with a west-facing aspect. The parcel currently contains two single-family residences and a detached shop. Utilities are connected from the frontage road, Mill Street, which is a County-maintained Road.

The property is divided into two primary drainage areas:

Drainage Area 1: Collects runoff from the front yard and directs it toward Mill Street.

Drainage Area 2: Collects runoff from the backyard and conveys it westward toward a Class 4 drainage feature located on adjacent parcels.

Both drainage paths ultimately discharge to Weaver Creek, then to the Trinity River, followed by the Klamath River, and eventually into the Pacific Ocean.

The Western Regional Climate Center reports an average annual rainfall of 37.5 inches for this area. The 100-year storm event produces a rainfall intensity of 2.92 inches per hour, based on data from NOAA's Precipitation Frequency Data Server (PFDS). (See Attachment 3.)

Proposed Development:

The project proposes to subdivide the property into two parcels. Each resulting parcel would be eligible for future development, such as construction of Accessory Dwelling Units (ADUs). Per the Trinity County Zoning Ordinance for R1 High-Density Residential zoning, maximum lot coverage is limited to 35%.

Based on zoning allowances, the estimated increase in impervious surface area is approximately 6,970 square feet. This represents the maximum coverage scenario and was used for all runoff calculations.

Drainage Area 1 is fully developed; therefore, no change in stormwater discharge is anticipated. All new impervious surfaces are expected to impact Drainage Area 2. Runoff from this area will be directed as sheet flow to an existing watercourse near Lower Mill Street. No formal canalization exists. Site observations indicate that surface runoff is limited due to substantial gravel deposits and high infiltration potential.

Evaluation:

Calculations were performed for the entire site in order to determine the amount of increase in runoff from the property after the development of the property is complete (see attached calculations, Attachment 3).

For these calculations the following constraints and assumptions were utilized:

Pre-development constraints:
Design Storm Event (year): 100
Design Storm Duration (hr): 1

Post Development constraints:
Design Storm Event (year): 100
Design Storm Duration (hr): 1

Runoff coefficient:
The runoff coefficients were determined to be 0.31 pre-development and 0.43 post-development. These numbers were calculated based on the existing conditions, surrounding soil types, vegetation characteristics, area of roadway surfaces, and assumed area of roof cover at total buildout. Proposed impervious areas were calculated by utilizing surrounding developments. Allowances were made for rooftops, driveways, patios, sidewalks, and any other hardscapes.

The methodology used to calculate Q (flow rate) is the Rational Method with 1.04 adjustment factor (see Attachment 4 –Flow Rate Discharge Calculations). Based on this method, the 100-year storm produces a 0.86 cubic feet per second flow pre-construction and 1.20 cubic feet per second flow post-construction. The result is a net increase of 0.34 cubic feet per second.

Design Measures:

Primary design measures for treating and handling stormwater should include and are not limited to: self-retaining areas, rain barrels, landscaping, tree planting, natural buffers, preservation of existing vegetation, and reduction to impervious surfaces. In addition to these basic design measures, there are two other major design measures that a project can consider: bioretention, and subsurface infiltration. These design measures are described in detail below.

Self-Retaining Areas:
These are landscaped zones that are designed to retain and infiltrate rainfall onsite. They use features such as berms, depressions, and amended soils to slow runoff and encourage infiltration, effectively mimicking natural hydrology.

Tree Planting:
Trees intercept rainfall, reduce runoff volumes, and provide shade, which mitigates the urban heat island effect. Their root systems enhance soil structure and promote infiltration. Trees also help remove pollutants.

Natural Buffers:
This design measure should be considered along streams or wetlands to restrict development and protect aquatic ecosystems. By preserving natural vegetation, these buffers manage stormwater, mitigate flooding, and provide habitat continuity.

Porous Asphalt, Pervious Concrete, Permeable Pavers (PPPP):
These surfaces allow water to infiltrate through their material, reducing runoff and promoting groundwater recharge. Common materials include porous asphalt, pervious concrete, and interlocking pavers. These systems reduce peak flows and filter pollutants at the source.

Vegetated Swales:
These shallow, sloped channels lined with vegetation filter stormwater through infiltration and soil microbial activity. They reduce pollutants like metals and suspended solids, though nutrient removal can vary. Swales also provide conveyance for stormwater during higher flows and help manage runoff volumes.

Bioretention:
Bioretention uses vegetation and soil, or engineered media, to promote stormwater treatment through filtration and storage. Bioretention utilizes bermed or excavated areas to create a basin to capture runoff. They can be adjacent to impervious areas within parking lot landscaping, along roadsides, and in open spaces to allow stormwater runoff to flow into the retention area either as sheet flow or as an end of pipe system that receives concentrated flows (e.g., from a culvert system or rock lined ditch). Bioretention is used for treating stormwater runoff from project pavement areas (e.g., roadways, parking lots, maintenance facilities, etc.) that contain pollutants of concern. Infiltration (in facilities without a liner), filtration (in facilities with a liner), sedimentation, adsorption to soil particles, biochemical processes, and plant uptake are the primary means for pollutant removal and treatment.

During a storm, runoff enters the Bioretention causing the water level in the basin to rise. During the rainfall, and for some time after it ends, the runoff infiltrates into the soil or engineered media through the invert area which is sized based upon the water treatment volume, the permeability of the soil below the invert, and the time period selected for infiltration. It is preferred that events greater than the design storm event be bypassed around the facility to preserve infiltration capacity and to prevent erosion or scour. Flows greater than the design storm event can be passed through the facility, typically over a spillway through the confining berm or through an overflow riser, when necessary.

Subsurface Stormwater Infiltration:
Subsurface stormwater infiltration is a stormwater management technique that involves collecting rainwater then allowing it to percolate into the ground rather than runoff into surface waters. Like bioretention, this option can improve water quality by filtering contaminates from stormwater as it passes through the soil.

By reducing surface runoff and potential flooding, subsurface infiltration can contribute to the creation of aesthetically pleasing landscapes and recreational spaces. This can enhance the overall quality of life for residents in a development.

Lastly, subsurface infiltration helps mimic natural hydrological processes by allowing water to gradually percolate into the ground. This preserves the natural flow patterns and reduces the disruption caused by conventional stormwater management practices.

Conclusion:

Based upon the review of the site plan, preliminary drainage plan, and runoff calculations, stormwater flow from the proposed development is measurable, but not substantial. As such the proposed development will not adversely or negatively impact the existing drainage facilities (on or off site). The added stormwater from the planned development will not exceed the capacity of the existing or proposed storm water drainage systems.

References:

Western Regional Climate Center (WRCC), Weaverville Station 049490
https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca9490

Northwest Alliance for Computational Science & Engineering (NACSE), Oregon State University
http://www.prism.oregonstate.edu/explorer/

On X Map Software
https://webmap.onxmaps.com/map.html

Google Earth
earth.google.com

USDA –Web Soil Survey
https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

NOAA Precipitation Frequency Data Server
https://hdsc.nws.noaa.gov/hdsc/pfds/

Federal Emergency Management Agency (FEMA)
https://msc.fema.gov/portal/home

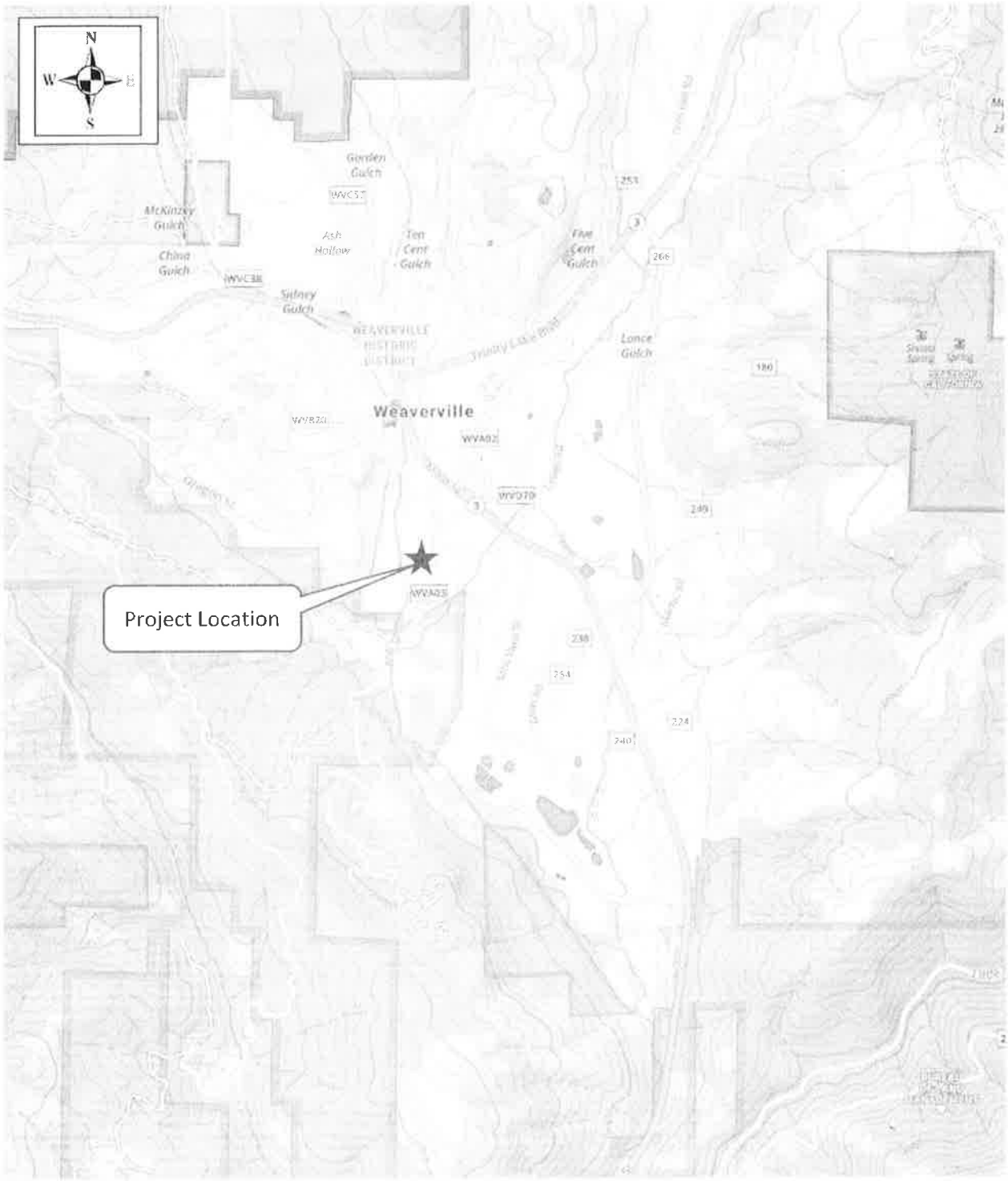
Handbook for Forest, Ranch, and Rural Road, Pacific Watershed Associates, 2014
https://www.pacificwatershed.com › roadshandbook

Culvert Design Developed by Annette Humpal, P.E., Hydraulic Engineer, NRCS, April 30, 2012
https://www.nrcs.usda.gov › nrcseprd1380637

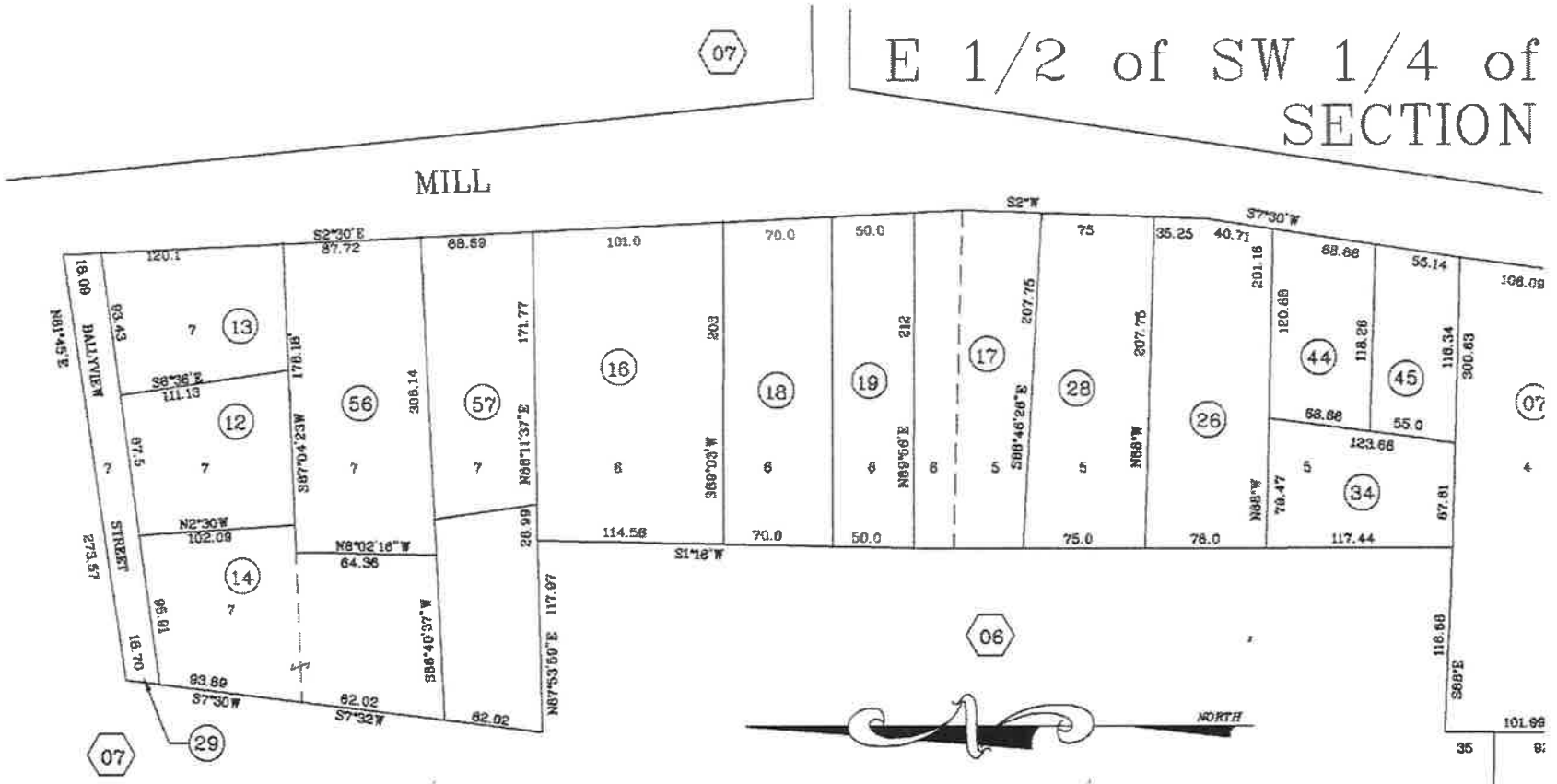
Attachment 1:

Location Maps

LOCATION MAP



TVCE	**Location Map** **APN: 002-110-009**	**Project: 1887** **Franz Rulofson** **290 Mill Street** **Weaverville, CA 96093**



TRINITY COUNTY
ASSESSOR'S OFFICE
BOOK TWO—PAGE ELEVEN
1949,1989

002-110-009-000

July 28, 2025

1:1,128

0 0.01 0.01 0.02 mi

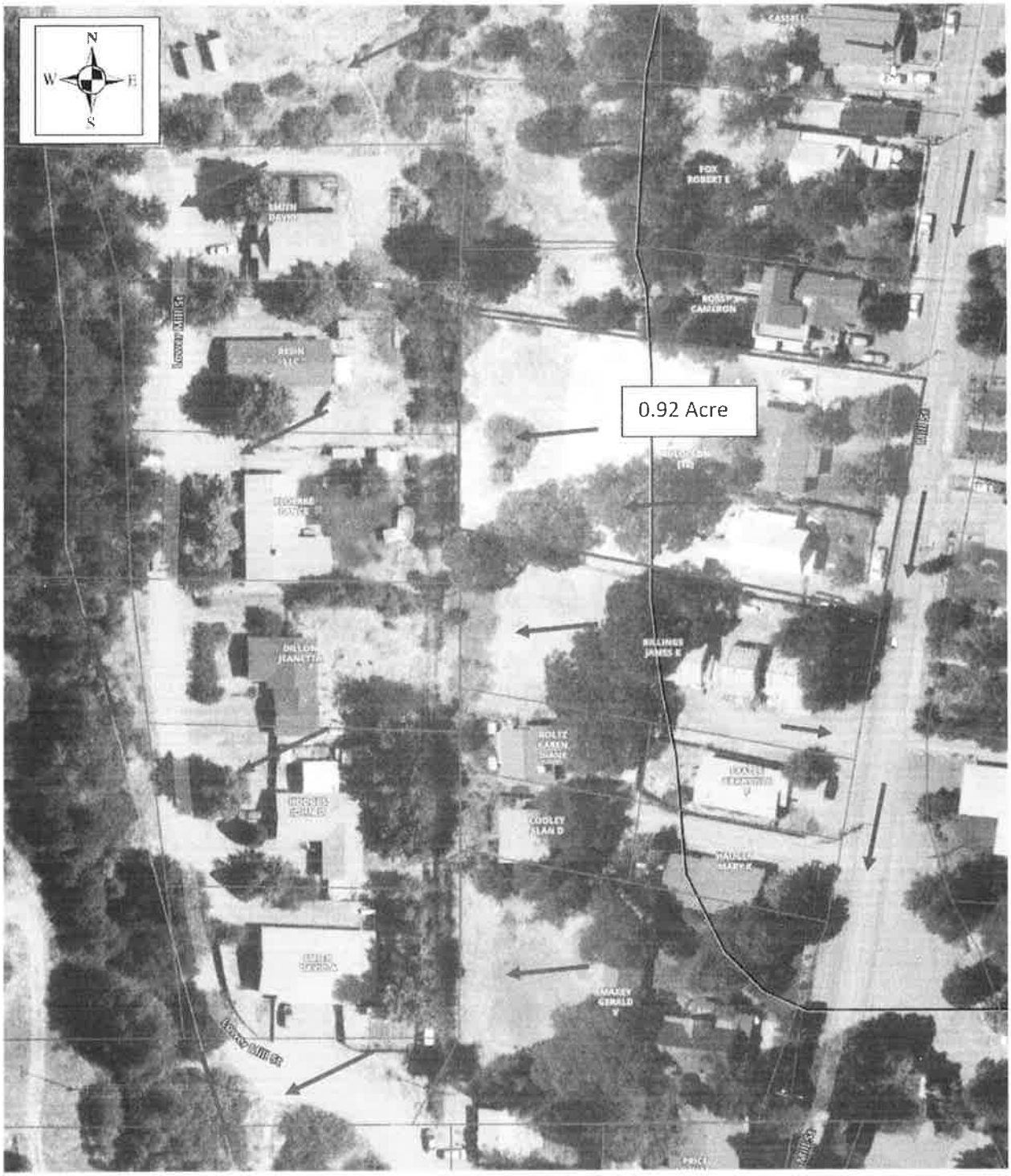
0 0.01 0.02 0.04 km

Maxar, Microsoft

Attachment 2:

Drainage Area Map(s)

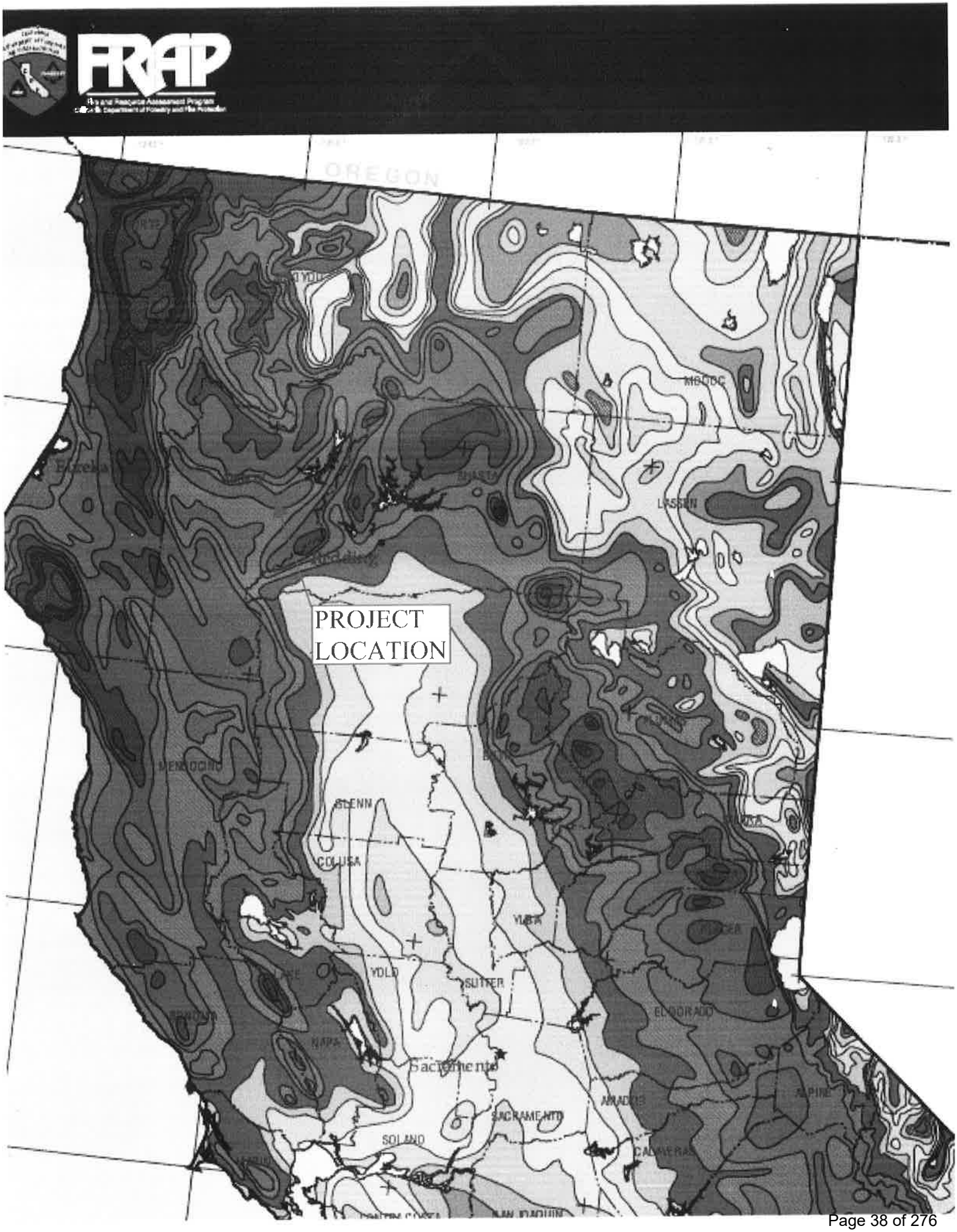
DRAINAGE MAP



TVCE	**Drainage Map** **APN: 002-110-009**	**Project: 1887** **Franz Rulofson** **290 Mill Street** **Weaverville, CA 96093**

Attachment 3:

IDF Charts


FRAP
OREGON
MODOC
LASSEN
PROJECT
LOCATION
MENDOCINO
GLENN
COLUSA
YOLO
SUTTER
NAPA
Sacramento
SACRAMENTO
SOLANO
ALPINE
CALAVERAS

NOAA Atlas 14, Volume 6, Version 2
Location name: Weaverville, California, USA*
Latitude: 40.7246°, Longitude: -122.9388°
Elevation: 2007 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.20 (1.07-1.36)	1.45 (1.30-1.64)	1.86 (1.66-2.11)	2.23 (1.97-2.57)	2.86 (2.40-3.43)	3.41 (2.78-4.22)	4.07 (3.22-5.21)	4.86 (3.70-6.44)	6.11 (4.40-8.58)	7.27 (5.00-10.7)
10-min	0.858 (0.768-0.972)	1.04 (0.930-1.18)	1.33 (1.18-1.51)	1.60 (1.41-1.84)	2.05 (1.72-2.46)	2.45 (2.00-3.02)	2.92 (2.30-3.73)	3.48 (2.65-4.62)	4.38 (3.15-6.15)	5.21 (3.58-7.66)
15-min	0.692 (0.620-0.784)	0.840 (0.752-0.952)	1.07 (0.956-1.22)	1.29 (1.14-1.48)	1.65 (1.38-1.98)	1.97 (1.61-2.44)	2.35 (1.86-3.01)	2.80 (2.13-3.73)	3.53 (2.54-4.96)	4.20 (2.89-6.17)
30-min	0.472 (0.422-0.532)	0.572 (0.512-0.646)	0.730 (0.648-0.828)	0.878 (0.774-1.01)	1.12 (0.940-1.35)	1.34 (1.09-1.66)	1.60 (1.26-2.05)	1.91 (1.45-2.53)	2.40 (1.73-3.37)	2.86 (1.96-4.20)
60-min	0.332 (0.297-0.375)	0.404 (0.361-0.457)	0.514 (0.458-0.584)	0.620 (0.546-0.712)	0.790 (0.664-0.951)	0.946 (0.772-1.17)	1.13 (0.891-1.44)	1.34 (1.02-1.79)	1.69 (1.22-2.38)	2.02 (1.38-2.96)
2-hr	0.263 (0.235-0.297)	0.308 (0.276-0.349)	0.377 (0.336-0.428)	0.441 (0.388-0.507)	0.542 (0.455-0.652)	0.632 (0.516-0.782)	0.735 (0.581-0.941)	0.856 (0.651-1.14)	1.05 (0.752-1.47)	1.22 (0.836-1.79)
3-hr	0.229 (0.205-0.259)	0.265 (0.237-0.300)	0.320 (0.284-0.363)	0.369 (0.324-0.423)	0.445 (0.373-0.535)	0.511 (0.417-0.632)	0.585 (0.462-0.749)	0.670 (0.510-0.891)	0.801 (0.577-1.13)	0.917 (0.630-1.35)
6-hr	0.184 (0.164-0.208)	0.211 (0.189-0.239)	0.250 (0.223-0.284)	0.285 (0.250-0.327)	0.335 (0.281-0.403)	0.377 (0.307-0.466)	0.422 (0.333-0.540)	0.472 (0.359-0.627)	0.545 (0.392-0.766)	0.607 (0.417-0.892)
12-hr	0.143 (0.127-0.161)	0.169 (0.151-0.191)	0.203 (0.181-0.231)	0.231 (0.204-0.266)	0.270 (0.227-0.325)	0.300 (0.245-0.372)	0.331 (0.262-0.424)	0.363 (0.276-0.483)	0.407 (0.293-0.572)	0.442 (0.304-0.649)
24-hr	0.107 (0.097-0.121)	0.132 (0.119-0.149)	0.163 (0.147-0.185)	0.188 (0.168-0.214)	0.219 (0.190-0.258)	0.243 (0.206-0.291)	0.266 (0.220-0.327)	0.288 (0.233-0.364)	0.318 (0.246-0.418)	0.340 (0.255-0.462)
2-day	0.072 (0.065-0.081)	0.089 (0.080-0.100)	0.109 (0.099-0.124)	0.126 (0.112-0.143)	0.146 (0.127-0.172)	0.161 (0.137-0.193)	0.175 (0.145-0.216)	0.189 (0.153-0.239)	0.207 (0.161-0.273)	0.220 (0.165-0.300)
3-day	0.057 (0.051-0.064)	0.070 (0.063-0.079)	0.086 (0.078-0.098)	0.099 (0.089-0.113)	0.115 (0.100-0.135)	0.126 (0.107-0.152)	0.137 (0.114-0.169)	0.148 (0.120-0.187)	0.162 (0.125-0.213)	0.172 (0.129-0.234)
4-day	0.048 (0.043-0.054)	0.059 (0.054-0.067)	0.073 (0.066-0.083)	0.084 (0.075-0.095)	0.097 (0.084-0.114)	0.107 (0.091-0.128)	0.116 (0.096-0.143)	0.125 (0.101-0.158)	0.136 (0.105-0.179)	0.144 (0.108-0.196)
7-day	0.035 (0.032-0.039)	0.043 (0.039-0.049)	0.053 (0.048-0.060)	0.061 (0.055-0.070)	0.071 (0.061-0.083)	0.078 (0.066-0.094)	0.084 (0.070-0.104)	0.091 (0.073-0.115)	0.099 (0.077-0.130)	0.105 (0.079-0.143)
10-day	0.028 (0.025-0.032)	0.035 (0.031-0.039)	0.043 (0.039-0.049)	0.049 (0.044-0.056)	0.057 (0.049-0.067)	0.062 (0.053-0.075)	0.068 (0.056-0.083)	0.073 (0.059-0.092)	0.079 (0.061-0.105)	0.084 (0.063-0.114)
20-day	0.018 (0.017-0.021)	0.023 (0.021-0.026)	0.029 (0.026-0.032)	0.033 (0.029-0.037)	0.038 (0.033-0.045)	0.042 (0.035-0.050)	0.045 (0.037-0.055)	0.048 (0.039-0.061)	0.052 (0.040-0.069)	0.055 (0.041-0.075)
30-day	0.015 (0.013-0.017)	0.019 (0.017-0.021)	0.023 (0.021-0.026)	0.027 (0.024-0.030)	0.031 (0.027-0.036)	0.034 (0.029-0.041)	0.036 (0.030-0.045)	0.039 (0.031-0.049)	0.042 (0.032-0.055)	0.044 (0.033-0.060)
45-day	0.012 (0.011-0.014)	0.016 (0.014-0.018)	0.020 (0.018-0.022)	0.022 (0.020-0.026)	0.026 (0.022-0.031)	0.028 (0.024-0.034)	0.030 (0.025-0.037)	0.032 (0.026-0.041)	0.035 (0.027-0.046)	0.036 (0.027-0.049)
60-day	0.011 (0.010-0.012)	0.014 (0.013-0.016)	0.017 (0.016-0.020)	0.020 (0.018-0.023)	0.023 (0.020-0.027)	0.025 (0.021-0.030)	0.026 (0.022-0.032)	0.028 (0.022-0.035)	0.030 (0.023-0.039)	0.031 (0.023-0.043)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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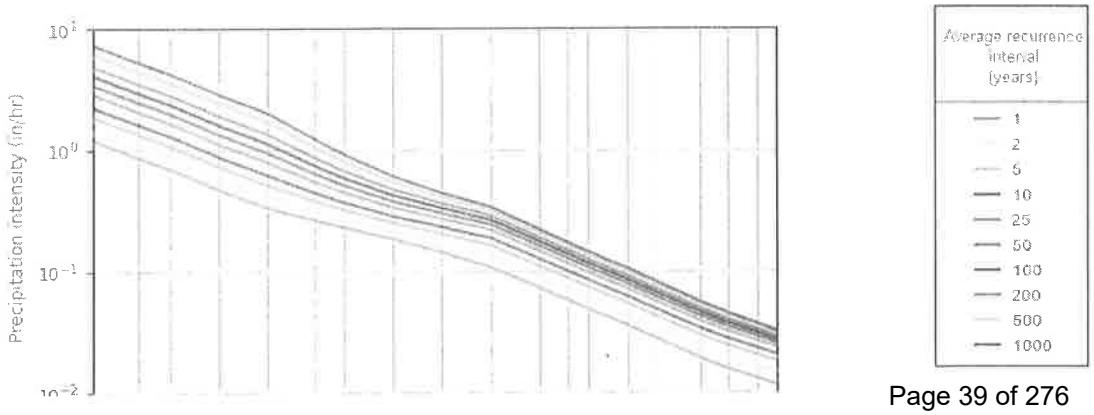
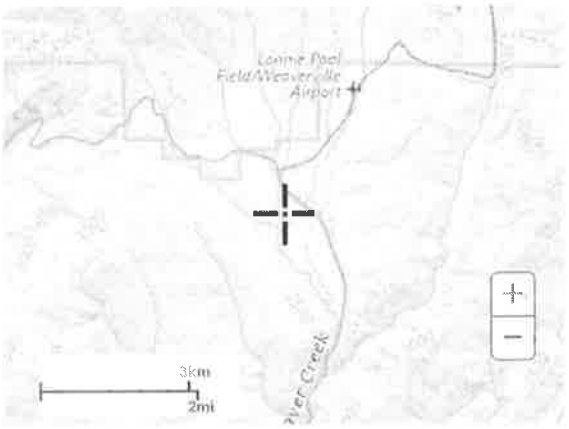
PF graphical

PDS-based intensity-duration-frequency (IDF) curves
Latitude: 40.7246°, Longitude: -122.9388°





Large scale terrain

Large scale map

Large scale aerial

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Attachment 4:

Flow Rate Discharge calculations

Project:	Proposed Site Improvements	**Project No:**	1887
Date:	7/28/2025	**APN:**	002-110-009
Client:	Franz Rulofson	**By:**	E. Keyes
Address:	290 Mill Steet	**Check By:**	J. McKnight
	Weaverville, CA 96093	**Sheet:**	1 of 3

HYDRAULIC CALCULATIONS - SUMMARY

Summary

Drainage Area #1

Q_{100}	1.20 cfs	Post Development	See Page 2
Q_2	0.86 cfs	Pre Development	See Page 3
Difference	0.34 cfs	increase	

Conversions
60 min/hour
24 hours/day
7.48 gal/cf

Total	**1232 cf**	**Total volume increase for**
Total	**9216 gallons**	**100 year Storm Event**

Project:	Proposed Site Improvements	**Project No:**	1887
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	Weaverville, CA 96093	**Sheet:**	2 of 3

HYDRAULIC CALCULATIONS - PRE-DEVELOPMENT

Determination of Runoff Coefficients, C

Area Number	Total Area (acres)	$Area_{ground}$	$Area_{impervious}$	C_{ground}	$C_{impervious}$	$C_{adjusted}$
1	0.92	0.78	0.14	0.20	0.90	0.31

100-Year Runoff Flow Rates

Area Number	L	H	S	T_c	C	i_{100}	Q_2
1	0.055	32	0.11	0.167	0.31	2.92	0.86

A = area of runoff in acres
C = Runoff Coefficient per Caltans Computation Sheet for Determining Runoff Coefficients
L = Overland Travel Distance in miles
S = Slope in ft/ft
T_c = Time of Concentration in Minutes (California Culvert Method)

T_c = $((11.9L^3)/H)^{0.385}$
(0.167 hours minimum)

i_{100} = rainfall intensity for a 100-year storm event (in/hour)
Q = Water flow rate in cubic feet per second

Q_2 = $1.04*Ci_{100}A$ Reational Method with 1.04 adjustment factor

Project:	Proposed Site Improvements	**Project No:**	1887
Date:	7/28/2025	**APN:**	002-110-009
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	Weaverville, CA 96093	**Sheet:**	3 of 3

HYDRAULIC CALCULATIONS - POST-DEVELOPMENT

Determination of Runoff Coefficients, C

Area Number	Total Area (acres)	$Area_{ground}$	$Area_{impervious}$	C_{ground}	$C_{impervious}$	$C_{adjusted}$
1	0.92	0.62	0.30	0.2	0.90	0.43

100-Year Runoff Flow Rates

Area Number	L	H	S	T_c	C	i_{100}	Q
1	0.055	12	0.04	0.167	0.43	2.92	1.20

Flow Difference (cfs) : 0.34

C = Runoff Coefficient
L = Overland Travel Distance in miles
S = Slope in ft/ft
T_c = Time of Concentration in Minutes (California Culvert Method)

$T_c = ((11.9L^3)/H)^{0.385}$
(0.167 hours minimum)

i_{100} = rainfall intensity for a 100-year storm event (in/hour)
Q = Water flow rate in cubic feet per second

$Q_{100} = 1.04*Ci_{100}A$ Reational Method with 1.04 adjustment factor

Figure 819.2A

Runoff Coefficients for Undeveloped Areas
Watershed Types

	Extreme	High	Normal	Low
Relief	**.28 -.35** Steep, rugged terrain with average slopes above 30%	**.20 -.28** Hilly, with average slopes of 10 to 30%	**.14 -.20** Rolling, with average slopes of 5 to 10%	**.08 -.14** Relatively flat land, with average slopes of 0 to 5%
Soil Infiltration	**.12 -.16** No effective soil cover, either rock or thin soil mantle of negligible infiltration capacity	**.08 -.12** Slow to take up water, clay or shallow loam soils of low infiltration capacity, imperfectly or poorly drained	**.06 -.08** Normal; well drained light or medium textured soils, sandy loams, silt and silt loams	**.04 -.06** High; deep sand or other soil that takes up water readily, very light well drained soils
Vegetal Cover	**.12 -.16** No effective plant cover, bare or very sparse cover	**.08 -.12** Poor to fair; clean cultivation crops, or poor natural cover, less than 20% of drainage area over good cover	**.06 -.08** Fair to good; about 50% of area in good grassland or woodland, not more than 50% of area in cultivated crops	**.04 -.06** Good to excellent; about 90% of drainage area in good grassland, woodland or equivalent cover.
Surface Storage	**.10 -.12** Negligible surface depression few and shallow; drainageways steep and small, no marshes	**.08 -.10** Low; well defined system of small drainageways; no ponds or marshes	**.06 -.08** Normal; considerable surface depression storage; lakes and pond marshes	**.04 -.06** High; surface storage, high; drainage system not sharply defined; large flood plain storage or large number of ponds or marshes.

Table 819.2B

Runoff Coefficients for Developed Areas

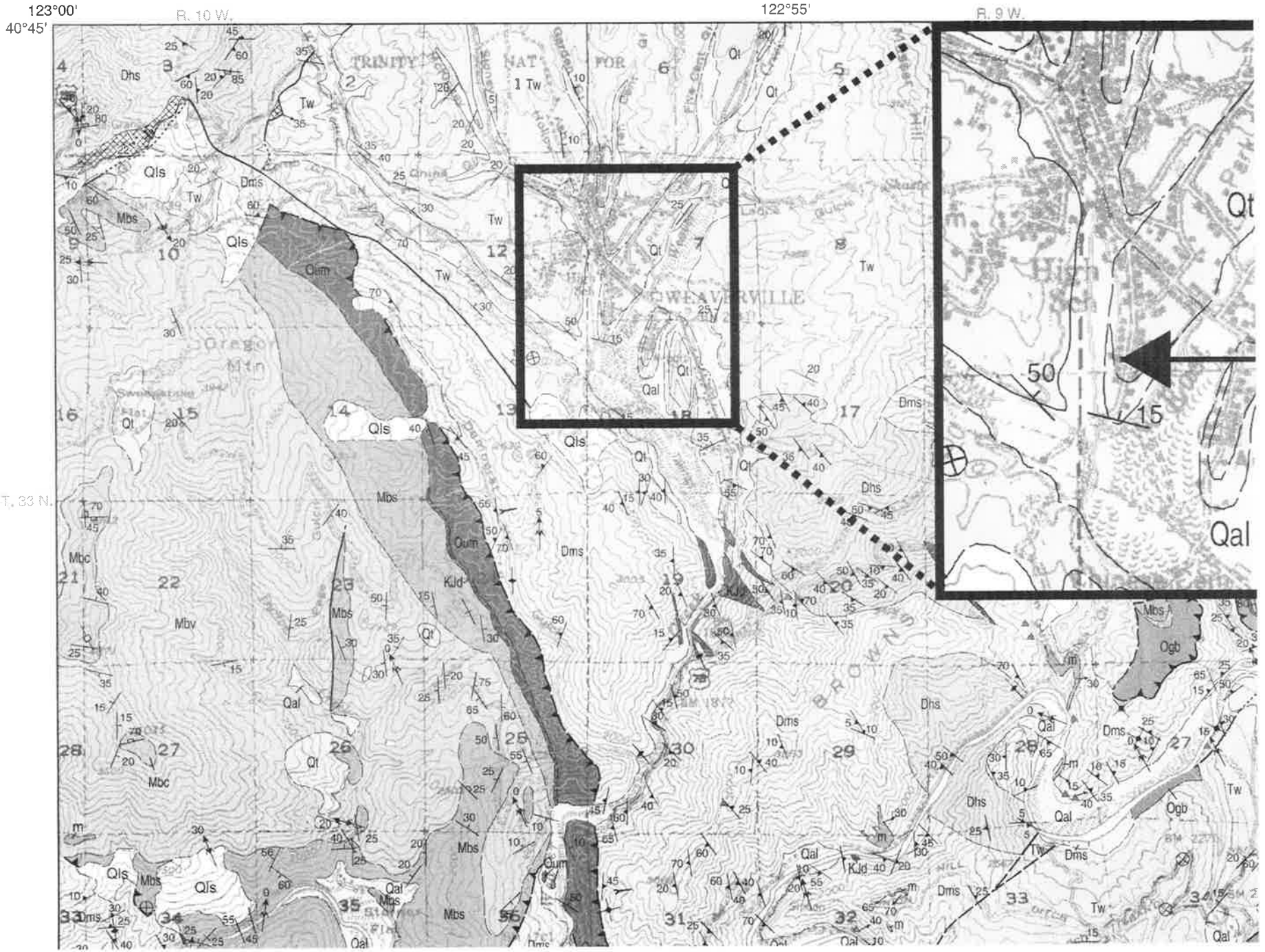
Type of Drainage Area	Runoff Coefficient
Business:	
Downtown areas	0.70 - 0.95
Neighborhood areas	0.50 - 0.70
Residential:	
Single-family areas	0.30 - 0.50
Multi-units, detached	0.40 - 0.60
Multi-units, attached	0.60 - 0.75
Suburban	0.25 - 0.40
Apartment dwelling areas	0.50 - 0.70
Industrial:	
Light areas	0.50 - 0.80
Heavy areas	0.60 - 0.90
Parks, cemeteries:	0.10 - 0.25
Playgrounds:	0.20 - 0.40
Railroad yard areas:	0.20 - 0.40
Unimproved areas:	0.10 - 0.30
Lawns:	
Sandy soil, flat, 2%	0.05 - 0.10
Sandy soil, average, 2-7%	0.10 - 0.15
Sandy soil, steep, 7%	0.15 - 0.20
Heavy soil, flat, 2%	0.13 - 0.17
Heavy soil, average, 2-7%	0.18 - 0.25
Heavy soil, steep, 7%	0.25 - 0.35
Streets:	
Asphaltic	0.70 - 0.95
Concrete	0.80 - 0.95
Brick	0.70 - 0.85
Drives and walks	0.75 - 0.85
Roofs:	0.75 - 0.95

Attachment 5:

Soil Survey

USGS
science for a changing world

U.S. Department of the Interior
U.S. Geological Survey



Application Number P-25-11

TRINITY COUNTY PLANNING DEPARTMENT
530 Main St. ♦ PO Box 2819
Weaverville, CA 96093
Phone (530) 623.1351 ♦ fax (530) 623.1353

ENVIRONMENTAL QUESTIONNAIRE and CHECKLIST

This questionnaire is part of an Initial Study that will assist in determining the potential environmental impacts of your proposed project. Additional information may be required to complete an Initial Study.

PLEASE PRINT OR TYPE
(Use additional paper if necessary)

Proposed Project: Tentative map for minor subdivision (lot split)

Location: 290 Mill St. Weaverville

Access Road: Mill Street - frontage

Assessor's Parcel Number: 002-110-009 Project Acreage: 0.92

Parcel Owner Information

Parcel Owner(s): Franz & Julia Rulofson

Mailing Address: 6787 Hemlock Street Redding CA 96001

Email: frulofson@gmail.com Phone: 707 599-7322

Applicant /Agent Information

Applicant/Agent: _____ Email: _____ Phone: _____

Mailing Address: _____

Applicant/Agent please continue to the Environmental Checklist

THIS SECTION FOR OFFICE USE ONLY

Project No:	Received by:	Date:
Proposed Project:		
General Plan Designation:	Zoning:	
Planning Commission date (anticipated):	Board of Supervisors date (anticipated):	

Environmental Checklist

Please describe the existing conditions of the project location (extent of structures and type of use):

290 A & B mill street have existing homes and will not change.

AESTHETICS

1. Is your project located in or near :

Historic District	Yes	(No)
State Scenic Highway	Yes	(No)
Scenic, Wild or Recreational River	Yes	(No)

2. Type of exterior lighting proposed: NO change to existing

3. Will the project obstruct scenic views from existing residential areas, public lands, public bodies of water or roads? Yes (No)

   Explain: All we plan to do is split the property between the two existing homes

AGRIGULTURAL & TIMBER RESOURCES

1. Is your project currently in a, Williamson Act Contract, Timberland Preserve Contract, Prime Farm Land, Unique Farm Land or Farm Land of Statewide importance? Yes (No)

   Explain:

2. Will your project convert agricultural land to a non-agricultural use? Yes (No)

3. Will your project convert timberland to a non-timberland use? Yes (No)

AIR QUALITY

1. Would any noticeable amounts of air pollution, such as smoke, dust or odors be produced by this project? Yes (No) If yes, explain:

2. Is your project subject to a North Coast Unified Air Quality Management permit? Yes (No)

3. Will project development require clearing and disposal of vegetation? Yes (No)

4. Will your project involve the operation of industrial equipment? (rock crushers, smoke stacks, milling equipment, etc.) Yes (No)

   If yes, explain: _____

BIOLOGICAL RESOURCES

1. What is the predominant vegetative cover on the site? (trees, brush, grass, etc.) Estimate % of each:

   90% annual grassland, 5% oaks 5% landscaping

2. How many trees of 6 inch diameter or larger will be removed when this project is implemented:

   zero

3. Has a Timber Harvest Plan been filed in conjunction with the project? Yes (No)
   (If yes, indicate plan number)

4. Are there any known candidate, sensitive, or special status species located on or near the project site? Yes (No) (Local, State or Federal) _____

5. Will the project affect any wetland, riparian habitat or other sensitive natural community through removal, filling, hydrological interruption or other means? Yes (No)

   Please explain: _____

6. Is your project located within a Deer Winter Range area? Yes (No)

7. Has a biological assessment been performed on the property? Yes (No)
   If yes please attach a copy.

CULTURAL RESOURCES

1. Are there any known:
   - Archeological Sites — Yes (No)
   - Indian Sites — Yes (No)
   - Historical Sites — Yes (No)
   - Burial Sites — Yes (No)

   If yes, please indicate on the site map.

GEOLOGY AND SOILS

1. Slope of property: 40 0 to 10% 60 10 to 15% _____ 15 to 30% _____ Over 30%
   (Please indicate amount of property in each category)

2. Are there any soil settlement, rock falls or landslides on or adjacent to the property? Yes (No)
   If yes, please indicate on site map.

3. Describe changes in grade or contours resulting from project development: None

4. Please estimate the amount of soil disturbance that will occur during the project. 2.10
   (Building site, grading, road development, etc.)

5. Is there any existing sewage disposal system? (Yes) No

   If Septic:

   Tank Size: _____ Leach Field Length: _____ Permit or Installation date: _____

   What does the system consist of: _____

   What structures if any are currently connected: _____

   If house, how many bedrooms? _____

   Original System Owner: _____

   If Sewer:

   System Name: Woodville Sanitary District

5. If a new septic system is proposed, please indicate the following:

   Tank Size: _____ Leach Field Length: _____ If house, number of rooms: _____

HYDOLOGY AND WATER SUPPLY

1. Are there any streams, lakes, ponds, wetlands, vernal pools, wet meadows, or perennially wet areas located on or near the project site?
   Yes (No) *If yes, please indicate on the site map.* Water body name? _____

2. What is the distance from the proposed sewage disposal area to the nearest body of water, river, stream, or drainage: N/A

3. Is the project located within the floodplain of any stream or river? Yes (No)
   Please indicate any portion of the project that is located within the floodplain on the site map.

4. Will the project result in the direct or indirect discharge of silt or any other particles in noticeable amounts into any lakes, rivers or streams? Yes (No)

   If yes, in what way? _____

5. Will the project result in the physical alteration of a natural body of water or drainage way?
   Yes (No) If yes, in what way? _____

6. What is the proposed water source : Already in.

   Spring Deep Well Stream/River (Community System)

   Name of Stream/River or Community Water System: Weaverville Community Services District

HAZARDS OR HAZARDOUS MATERIAL

1. Will the project involve the application, use or disposal of potentially hazardous materials, including pesticides, herbicides, other toxic substances or radioactive material? Yes (No)

   If yes, please explain: _____

2. Is the project located on a site which is included on a list of hazardous material sites? Yes (No)

3. Is the project located within 2 miles of an existing airport? Yes (No)

4. Is the project located within 2 miles of a school? Yes (No)

5. Could the project create new or aggravate existing health problems (including, but not limited to flies, mosquitoes, rodents and other disease vectors)? Yes (No)

   If yes, please explain: _____

MINERAL RESOURCES

1. Will the proposed project result in the removal of a natural resource for commercial purposes (including rock, sand, gravel, trees, minerals or top soil)? Yes (No)

   If yes, please explain: _____

COMMERCIAL, INDUSTRIAL, INSTITUTIONAL ONLY
(Including land divisions for such uses)

1. Type of use: _____
2. Hours of Operation: _____
3. Total Number of Anticipated Employees: _____
4. Number of Employees per Shift: _____
5. Gross Square Footage: _____
6. Proposed Construction Starting Date: _____
7. Number of Parking Spaces provided: _____

NOISE

1. What types of noise would be created by the establishment of this land use, both during and after construction? none

POPULATION AND HOUSING

Residential

1. Total lots to be created: 2 Total Dwelling Units to be created: 2 (existing)
2. What school district will the project be located in? Woodinville Elementary School
3. Please indicate: - no change to existing

Two units already exist

Approximate unit/house size? 1200 Sq. Ft.

Approximate sale price or rent? 1300

Type of household size expected? 2-3 people

UTILITIES

1. What communication system supports the project area? Verizon
   (Verizon, Pac Bell, etc.)
2. Is the project area be served by Cable? Yes (No) System: _____

3. Is there power available at the project site? Yes (No)

   If so, what company? TUD

4. Will the project require the extension of existing utility lines or systems? Yes (No)

   If yes, please identify system and give distance: _____

FIRE PROTECTION

1. In what fire district is the project located? Weaverville Fire Protection District

2. How far is the nearest emergency source of water for fire protection and what is it? (pond, hydrant, etc.)

   hydrant on property

3. What is the distance to the nearest fire station?

   Seasonal: _____ Year Round: ≈ 2 miles

4. Will the project create any dead-end roads greater than 600 feet in length? Yes (No)
   (If yes, please indicate on site plan.)

5. What is the proposed grade and width of access roads? N/A

TRANSPORTATION

1. Will the project use existing roads? (Yes) No

   If yes, please indicate the primary access road: Mill Street

   Please list all roads that may be affected by your project: Mill street

2. If your project encroaches onto a state highway, please indicate highway, post mile, and nearest cross street: N/A

3. If the project encroaches onto a public road, do you have an encroachment permit? Yes (No)
   If yes, please attach a copy.

4. Please indicate amount and type of traffic, which will be created by the project: residential

5. If commercial or industrial, please indicate expected vehicle size N/A axles.

6. Please indicate daily trip generation rate: 1-2

7. Will the project increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)? Yes (No)
If yes, please explain: _____

GROWTH INDUCING IMPACTS

1. Will the project result in the introduction of activities not currently found within the community? Yes (No)

If yes, please explain: _____

2. Could the project serve to encourage development of presently undeveloped areas, or increases in development intensity of already developed areas (examples include the introduction of new or expanded public utilities, new industry, commercial facilities or recreation activities?

Yes (No) If yes, explain: _____

PROPOSED PROJECT SCHEDULING

1. Please indicate proposed project schedule (proposed construction start date, etc.) No construction

2. If the project is subject to any grant deadlines please indicate:
Grant Source: N/A
Contact Person: _____
Grant Deadline(s): _____

3. If the project has federal grant funding, which agency will be responsible for N.E.P.A. processes?

N/A

Contact Person: _____

only want to split the lot in two so that each existing home is on its own lot.

RESOLUTION NO. PC-2026-05

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF TRINITY APPROVING TENTATIVE PARCEL MAP APPLICATION

(Rulofson, Tentative Parcel Map (P-25-11))

WHEREAS, the Trinity County Planning Department has considered a request for the approval of a two-parcel Tentative Parcel Map, filed by Rulofson, in accordance with Title 16 (Subdivision) and Title 17 (Zoning) of the Trinity County Code of Ordinances; and

WHEREAS, all governmental and utility agencies affected by the development of the proposed project have been notified and given the opportunity to respond; and

WHEREAS, approved Tentative Parcel Maps must be recorded within two years of issuance; and

WHEREAS, the Planning Commission has determined that the proposed project will not have a significant effect on the environment; and

WHEREAS, the Planning Commission held a public hearing and considered this matter at the regular meeting held on May 28, 2026.

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission of the County of Trinity:

1. Makes the following environmental findings:

    a. Finds the requested Tentative Parcel Map application to be exempt from the requirements of the California Environmental Quality Act under exemption 15061(b)(3) (Common Sense Exemption) on the basis that all development is existing and it can be seen with certainty that there is no possibility that the proposed Tentative Parcel Map would have a significant effect on the environment.

2. Makes the Following Map Findings:

    a. The Tentative Parcel Map, as conditioned, is in substantial conformance with the Trinity County General Plan, Title 16 (Subdivision) of the Trinity County Code of Ordinances and the Subdivision Map Act.

    b. In accordance with Section 16.12.150 (Conditions of Approval), of Title 16 (Subdivision) of the Trinity County Code of Ordinances and Government Code Section 66474, the Tentative Parcel Map is complete and complies with the applicable subdivision improvement standards.

3. Approves Tentative Parcel Map P-25-11.

DULY PASSED AND ADOPTED this Thursday, May 28, 2026 by the Planning Commission of the County of Trinity by the following vote:

AYES:
NAYS:
ABSENT:
ABSTAIN:
RECUSE:

_____
DUNCAN MCINTOSH, CHAIR
Planning Commission
County of Trinity
State of California

ATTEST:

By: _____
DREW PLEBANI
Secretary of the Planning Commission
County of Trinity, State of California

Staff Report

Department: Community Development - Planning
Contact: Drew Plebani
Date: May 28, 2026
Item Title: P-26-04 Yordanov K. Post Subdivision Modification

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Project Description:
P-26-04 Yordanov K. Post Subdivision Modification for P-17-36

Summary:
The applicant is requesting a post-subdivision modification of P-17-16, a tentative parcel map to create four parcels and a remainder. The request is to modify two conditions that were approved via Board of Supervisor Resolution 2018-042 (See Attachment A). This request is filed pursuant to Trinity County Subdivision Ordinance Chapter 16.50 – Subdivision Modifications. Proposed sections to be modified:

1. The applicant is requesting removal of Condition of Approval Item B2 under the Miscellaneous conditions. The request states that requiring a geotechnical report for the entirety of the approximately 160-acre property would constitute an excessive and undue burden. The applicant contends that geotechnical investigations are more appropriately conducted at the time of building permit issuance and should be limited to specific development areas proposed for construction, rather than applied comprehensively to the entire parcel at the subdivision stage. Geotechnical reports may best be applied at the parcel map phase and required for all parcels involved, this is determined based on the circumstances associated with the parcels.
2. The applicant is requesting modification or removal of Condition of Approval Item D2 under the Roads conditions. Specifically, the request seeks to eliminate the requirements for dedication to the United States Forest Service (USFS) and abandonment of the existing easement. According to the applicant, the project engineer has made multiple attempts to coordinate with the USFS regarding these actions. However, no progress has been achieved due to lack of response from the agency, reportedly associated with current federal staffing limitations.

As an alternative means of satisfying the intent of Condition D2, the applicant proposes dedication of a public easement over the existing alignment of Kerlin Creek Road to the County of Trinity in perpetuity, with the understanding that the County may formally reject the offer of dedication at this time. Additionally, it has been proposed and discussed with the Department of Transportation that the existing easement dedicated to the USFS for Kerlin Creek Road remain in place as currently configured, as doing so would not create a detriment to the public, governmental agencies, or adjacent/private property owners.

PROJECT BACKGROUND:

In July 2018, the Trinity County Board of Supervisors approved P-17-36. This approved the project's Mitigated Negative Declaration, the Tentative Parcel Map, and amended the Trinity

County Zoning Ordinance (Ordinance No. 315) to change the zoning district of the parcel from Unclassified to Rural Residential with a 20-acre minimum. The conditions for the Tentative Parcel Map are provided in Attachment A with an expiration date of July 17th, 2020.

In December 2021, the applicant submitted a request for a subdivision modification (P-21-41). The road width requirement for the proposed road extending from Kerlin Creek Road at the southern end of the property. The road crosses over a non-jurisdictional dam which creates a challenge to widening the road over this 108-feet stretch without needing to undergo substantial regrading activities and reconstruction of the existing dam. The proposal was to reduce the requirement to only be a 16-foot wide road for 108-feet over the dam and to include turnouts on both sides.

In August 2022, the applicant applied for a Map extension (P-22-18) which was initially denied by the Planning Director at the time due to the map expiring in 2020. AB1561 granted an 18-month extension to maps that were set to expire during Covid-19. The applicants applied for the map extension 25 months past the expiration date, which is 7 months in excess of the AB1561 allotted extension. The Planning Director's decision was appealed and Planning Commission approved the map extension to July 17th, 2024.

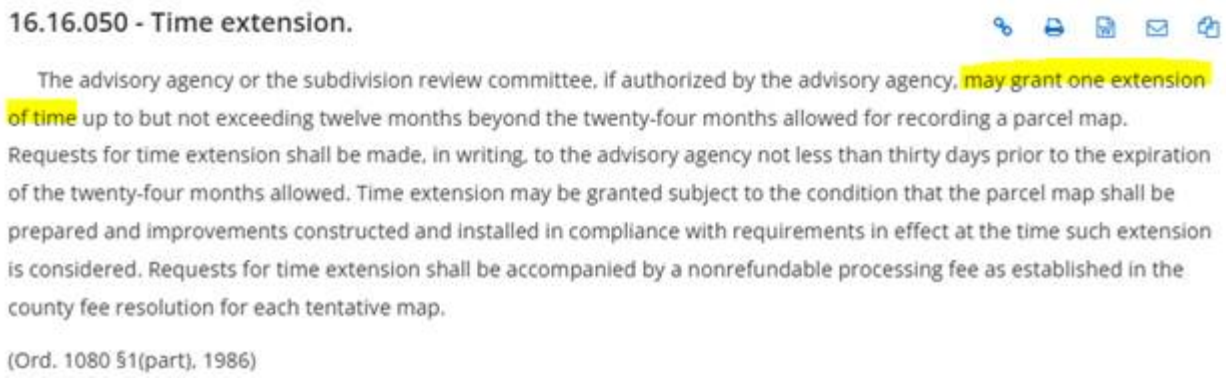
In June 2024, the applicant applied for a Road name project (RN-2024-001, resolved condition D13) and a map extension (P-24-10) and is set to expire July 17th, 2026. No further map extensions can be applied for per California Government Code 66463.5 (c) (Figure 1) where a 6-year cap is established and Trinity County Code 16.16.050 (Figure 2) where the County is to give only one extension of time. The road name project resolved condition D13.

66463.5. (a) When a tentative map is required, an approved or conditionally approved tentative map shall expire 24 months after its approval or conditional approval, or after any additional period of time as may be prescribed by local ordinance, not to exceed an additional 12 months.

(b) The expiration of the approved or conditionally approved tentative map shall terminate all proceedings, and no parcel map of all or any portion of the real property included within the tentative map shall be filed without first processing a new tentative map. Once a timely filing is made, subsequent actions of the local agency, including, but not limited to, processing, approving, and recording, may lawfully occur after the date of expiration of the tentative map. Delivery to the county surveyor or city engineer shall be deemed a timely filing for purposes of this section.

(c) Upon application of the subdivider filed prior to the expiration of the approved or conditionally approved tentative map, the time at which the map expires may be extended by the legislative body or by an advisory agency authorized to approve or conditionally approve tentative maps for a period or periods not exceeding a total of six years. Prior to the expiration of an approved or conditionally approved tentative map, upon the application by the subdivider to extend that map, the map shall automatically be extended for 60 days or until the application for the extension is approved, conditionally approved, or denied, whichever occurs first. If the advisory agency denies a subdivider's application for an extension, the subdivider may appeal to the legislative body within 15 days after the advisory agency has denied the extension.

Figure 1 California Government Code 66463.5 (c)



16.16.050 - Time extension.

The advisory agency or the subdivision review committee, if authorized by the advisory agency, may grant one extension of time up to but not exceeding twelve months beyond the twenty-four months allowed for recording a parcel map. Requests for time extension shall be made, in writing, to the advisory agency not less than thirty days prior to the expiration of the twenty-four months allowed. Time extension may be granted subject to the condition that the parcel map shall be prepared and improvements constructed and installed in compliance with requirements in effect at the time such extension is considered. Requests for time extension shall be accompanied by a nonrefundable processing fee as established in the county fee resolution for each tentative map.

(Ord. 1080 §1(part), 1986)

Figure 2 Time extension for Parcel Maps

SITE INFORMATION:

The project parcel is 297.100 acres. There are two ponds fed by an unnamed stream that enters the South Fork Trinity River. There is one pond close to the northern border of the project parcel. Kerlin Creek cuts through the northwestern edge of the property. Access to the property is provided by Kerlin Creek Road (which is a publicly maintained US Forest Service Road) and by Lower South Fork Road, County Road #311.

Staff Report:

PROJECT EVALUATION/DISCUSSION:

Please see Attachment A for full list of Conditions to P-17-36.

Table 2 Conditions not met as of 5/12/2026

Condition #	Condition Category	Status	Comments/Next Steps
General A.1	Notice of Environmental Constraints (NOEC)	Pending	To be recorded with Parcel Map; contents are dependent on outcome of P-26-04
Miscellaneous B.1	Easement	Applicant Surveyor revisions	Is affected by outcome of P-26-04

Miscellaneous B.2		Geotech Report	Pending	One submitted for Roads, but condition states that it is needed for the entire parcel and is to be depicted on recorded map. P-26-04, proposes to move this condition under NOEC and Geotech require prior to development.
Utilities C.1		Utility-Easement	Pending	Planning Division needs documentation for file.
Roads D.2		Road Standards-	Pending	Applicant Requesting modification to this section.
Roads D.4 – D.20		Road Standards-	Need verification from DOT and Applicant Surveyor	
	D4-D7		Pending As-Built	Need further documentation provided
	D8		Seems resolved on Parcel Map	But offsite legal access is not resolved.
	D10		Will be confirmed on Final Map	No further action at this time
	D11		DOT discussed with Applicant but not confirmed yet	Need further documentation
	D14		Not verified	Schedule site visit

	D17		No completed	Need As-built plans
	D18		Deposit on file	Cannot confirm complete until all other aspects are accomplished
	D19		Not submitted yet	
	D20		N/A at this time	
D.21		Erosion Control	Applicant Surveyor/Agent	Need copy of Storm Water Pollution Prevention Plan

Project Consistency with the Trinity County Subdivision Ordinance

Before granting any modification, the advisory agency shall make all the following findings:

Before granting any modification the advisory agency shall make all the following findings per TCC 16.50.020

1. That the property to be divided is of such size or shape, or is affected by such topographic conditions, or that there are such special circumstances or conditions affecting the

property that it is impossible, impractical or undesirable in the particular case to conform to the strict application of this title;
Finding: Based on the location and topography, a study encompassing the entire property is impractical, and equivalent standards would meet the intention of the Subdivision Map Act, ensuring that future owners are aware of potential for unstable ground, which is prevalent in this area of the County.

2. **That cost to the subdivider of strict or literal compliance with the regulation is not the sole reason for granting the modification;**Finding: While cost is a reason cited in some communications in regards to the geotechnical report condition, it is not the only justification to granting the modification of conditions. There also considerations regarding best practices to capture compliance with conditions and consider environmental constraints on the parcel.
3. **That the modification will not be detrimental to the public health, safety or welfare or be injurious to other properties in the vicinity;**Finding: Planning staff worked with the Department of Transportation to modify specified conditions for equivalent standards that would reach the same goals for public health, safety or welfare and not be injurious to other properties in the vicinity for now and anticipated future impacts.
4. **That granting the modification is in accordance with the intent and purposes of this title and is consistent with the general plan and with all other applicable specific plans of the county. In granting a modification, the advisory agency or other duly authorized body shall impose such conditions as are necessary to protect the public health, safety or welfare, and assure compliance with the general plan, with all applicable Specific Plans, and with the intent and purposes of this title.**

Finding: Based on comments submitted during agency review of the application, planning staff have not found that the granting of the proposed modification would cause harm to public health, safety or welfare. The project is also not found to be inconsistent with the general plan or any specific plans.

Project Consistency with the California Environmental Quality Act (CEQA)

Based on the information provided to staff for review and consideration, the proposed request for modification will not post any significant additional new environmental impacts which have not been previously evaluated in the adopted Mitigated Negative Declaration. However, should mitigation measures be modified, the responsible agency should also provide a statement that the mitigation as revised achieves the same intended mitigation as the original.

Based on review and evaluation of the project, staff recommends that the proposed project be considered categorically exempt from the California Environmental Quality Act pursuant to Section 15301, Existing Facilities, otherwise known as a Class 1 exemption. This exemption applies to projects which involve the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.

Departmental Recommendations:

STAFF RECOMMENDATION:

Staff recommends that the Planning Commission move to:

1. Find the project to be categorically exempt from the California Environmental Quality Act (CEQA), pursuant to Section 15301; and

2. Planning Commission approve proposed Resolution for 2026 Post Modification (See Attachment B).

ATTACHMENTS:

A. Board of Supervisor Resolution 2018-042
B. Planning Commission Resolution for 2026 Post Modification
C. Background supporting documents

TRINITY COUNTY PLANNING COMMISSION

STAFF REPORT

PROJECT TITLE: Post-Subdivision Modification Request of Tentative Parcel Map P-17-36

APPLICANT: Kris Yordanov

PROPERTY OWNER: Zhulieta Shushkova 2023 Revocable Living Trust and Kris Yordanov

REPORT BY: Angel Chappell, Assistant Planner

LOCATION: 420 Blake Mountain Trl., Hyampom (APN 011-210-035)

ZONING DISTRICT: Rural Residential with a 20-acre minimum

GENERAL PLAN DESIGNATION: Rural Residential

PROJECT DESCRIPTION:

The applicant is requesting a post-subdivision modification of P-17-16, a tentative parcel map to create four parcels and a remainder. The request is to modify two conditions that were approved via Board of Supervisor Resolution 2018-042 (See Attachment A). This request is filed pursuant to Trinity County Subdivision Ordinance Chapter 16.50 – Subdivision Modifications. Proposed sections to be modified:

1. The applicant is requesting removal of Condition of Approval Item B2 under the Miscellaneous conditions. The request states that requiring a geotechnical report for the entirety of the approximately 160-acre property would constitute an excessive and undue burden. The applicant contends that geotechnical investigations are more appropriately conducted at the time of building permit issuance and should be limited to specific development areas proposed for construction, rather than applied comprehensively to the entire parcel at the subdivision stage. Some geotechnical reports may best be applied at the parcel map phase and required for all parcels involved, this is determined based on the circumstances associated with the parcels.

2. The applicant is requesting modification or removal of Condition of Approval Item D2 under the Roads conditions. Specifically, the request seeks to eliminate the requirements for dedication to the United States Forest Service (USFS) and abandonment of the existing easement. According to the applicant, the project

engineer has made multiple attempts to coordinate with the USFS regarding these actions; however, no progress has been achieved due to lack of response from the agency, reportedly associated with current federal staffing limitations.

As an alternative means of satisfying the intent of Condition D2, the applicant proposes dedication of a public easement over the existing alignment of Kerlin Creek Road to the County of Trinity in perpetuity, with the understanding that the County may formally reject the offer of dedication at this time. Additionally, it has been proposed and discussed with the Department of Transportation that the existing easement dedicated to the USFS for Kerlin Creek Road remain in place as currently configured, as doing so would not create a detriment to the public, governmental agencies, or adjacent/private property owners.

Table 1 Surrounding Land Uses to Project Site

Location	Land Use	Zoning District	General Plan Designation
North	Single Family Residential/Forest Service	Unclassified	Resource
South	Timber Preserve	Timber Production Zone	Resource
East	Residential Mobile/Manufactured Homes/Vacant/Forest Service	Rural Residential/Unclassified	Resource/Rural Residential
West	Forest Service	Unclassified	Resource

PROJECT BACKGROUND:

In July 2018, the Trinity County Board of Supervisors approved P-17-36. This approved the project's Mitigated Negative Declaration, the Tentative Parcel Map, and amended the Trinity County Zoning Ordinance (Ordinance No. 315) to change the zoning district of the parcel from Unclassified to Rural Residential with a 20-acre minimum. The conditions for the Tentative Parcel Map are provided in Attachment A with an expiration date of July 17th, 2020.

In December 2021, the applicant submitted a request for a subdivision modification (P-21-41). The road width requirement for the proposed road extending from Kerlin Creek Road at the southern end of the property. The road crosses over a non-jurisdictional dam which creates a challenge to widening the road over this 108-feet stretch without needing to undergo substantial regrading activities and reconstruction of the existing dam. The proposal was to reduce the requirement to only be a 16-foot wide road for 108-feet over the dam and to include turnouts on both sides.

In August 2022, the applicant applied for a Map extension (P-22-18) which was initially denied by the Planning Director at the time due to the map expiring in 2020. AB1561 granted an 18-month extension to maps that were set to expire during Covid-19. The applicants applied for the map extension 25 months past the expiration date, which is 7 months in excess of the AB1561 allotted extension. The Planning Director's decision was appealed and Planning Commission approved the map extension to July 17th, 2024.

In June 2024, the applicant applied for a Road name project (RN-2024-001, resolved condition D13) and a map extension (P-24-10) and is set to expire July 17th, 2026. No further map extensions can be applied for per California Government Code 66463.5 (c) (Figure 1) where a 6-year cap is established and Trinity County Code 16.16.050 (Figure 2) where the County is to give only one extension of time..

66463.5. (a) When a tentative map is required, an approved or conditionally approved tentative map shall expire 24 months after its approval or conditional approval, or after any additional period of time as may be prescribed by local ordinance, not to exceed an additional 12 months.

(b) The expiration of the approved or conditionally approved tentative map shall terminate all proceedings, and no parcel map of all or any portion of the real property included within the tentative map shall be filed without first processing a new tentative map. Once a timely filing is made, subsequent actions of the local agency, including, but not limited to, processing, approving, and recording, may lawfully occur after the date of expiration of the tentative map. Delivery to the county surveyor or city engineer shall be deemed a timely filing for purposes of this section.

(c) Upon application of the subdivider filed prior to the expiration of the approved or conditionally approved tentative map, the time at which the map expires may be extended by the legislative body or by an advisory agency authorized to approve or conditionally approve tentative maps for a period or periods not exceeding a total of six years. Prior to the expiration of an approved or conditionally approved tentative map, upon the application by the subdivider to extend that map, the map shall automatically be extended for 60 days or until the application for the extension is approved, conditionally approved, or denied, whichever occurs first. If the advisory agency denies a subdivider's application for an extension, the subdivider may appeal to the legislative body within 15 days after the advisory agency has denied the extension.

Figure 1 California Government Code 66463.5 (c)

16.16.050 - Time extension.

The advisory agency or the subdivision review committee, if authorized by the advisory agency, may grant one extension of time up to but not exceeding twelve months beyond the twenty-four months allowed for recording a parcel map. Requests for time extension shall be made, in writing, to the advisory agency not less than thirty days prior to the expiration of the twenty-four months allowed. Time extension may be granted subject to the condition that the parcel map shall be prepared and improvements constructed and installed in compliance with requirements in effect at the time such extension is considered. Requests for time extension shall be accompanied by a nonrefundable processing fee as established in the county fee resolution for each tentative map.

(Ord. 1080 §1(part), 1986)

Figure 2 Time extension for Parcel Maps

SITE INFORMATION:

The project parcel is 297.100 acres. There are two ponds fed by an unnamed stream that enters the South Fork Trinity River. There is one pond close to the northern border of the project parcel. Kerlin Creek cuts through the northwestern edge of the property. Access to the property is provided by Kerlin Creek Road (which is a publicly maintained US Forest Service Road) and by Lower South Fork Road, County Road #311.

PROJECT EVALUATION/DISCUSSION:

Please see Attachment A for full list of Conditions to P-17-36.

Table 2

Table 2 Conditions not met as of 5/12/2026

Condition #	Condition Category	Status	Comments/Next Steps
General A.1	Notice of Environmental Constraints (NOEC)	Pending	To be recorded with Parcel Map; contents are dependent on outcome of P-26-04
Miscellaneous B.1	Easement	Applicant Surveyor revisions	Is affected by outcome of P-26-04
Miscellaneous B.2	Geotech Report	Pending	Geotech report was submitted to provide road design recommendations for the construction of roads, but no report was submitted to evaluate the property for rockfall areas and unstable soil conditions. Condition requires this type of study for the entire parcel and unstable areas are to be depicted on recorded map. P-26-04, proposes to move this condition to a preconstruction requirement on the NOEC and limit the study to building pads prior to development. This would

				shift responsibility to determine safe building areas from the developer to buyer.
Utilities C.1		Utility-Easement	Pending	Planning Division needs documentation for file.
Roads D.2		Road Standards-	Pending	Applicant Requesting modification to this section.
Roads D.4 – D.20		Road Standards-	Need verification from DOT and Applicant Surveyor	
	D4-D7		Pending As-Built	Need further documentation provided
	D8		Seems resolved on Parcel Map	But offsite legal access is not resolved.
	D10		Will be confirmed on Final Map	No further action at this time
	D11		DOT discussed with Applicant but not confirmed yet	Need further documentation
	D14		Not verified	Schedule site visit
	D17		No completed	Need As-built plans
	D18		Deposit on file	Cannot confirm complete until all other aspects are accomplished
	D19		Not submitted yet	
	D20		N/A at this time	
D.21		Erosion Control	Applicant Surveyor/Agent	Need copy of NOI for Storm Water Pollution Prevention Plan

Project Consistency with the Trinity County Subdivision Ordinance

Before granting any modification, the advisory agency shall make all the following findings:

1. **That the property to be divided is of such size or shape, or is affected by such topographic conditions, or that there are such special circumstances or conditions affecting the property that it is impossible, impractical or undesirable in the particular case to conform to the strict application of this title;**

   Finding: Based on the location and topography, a study encompassing the entire property is impractical, and equivalent standards would meet the intention of the Subdivision Map Act, ensuring that future owners are aware of potential for unstable ground, which is prevalent in this area of the County.

2. **That cost to the subdivider of strict or literal compliance with the regulation is not the sole reason for granting the modification;**

   Finding: While cost is a reason cited in some communications in regards to the geotechnical report condition, it is not the only justification to granting the modification of conditions. There also considerations regarding best practices to capture compliance with conditions and consider environmental constraints on the parcel.

3. **That the modification will not be detrimental to the public health, safety or welfare or be injurious to other properties in the vicinity;**

   Finding: Planning staff worked with the Department of Transportation to modify specified conditions for equivalent standards that would reach the same goals for public health, safety or welfare and not be injurious to other properties in the vicinity for now and anticipated future impacts.

4. **That granting the modification is in accordance with the intent and purposes of this title and is consistent with the general plan and with all other applicable specific plans of the county. In granting a modification, the advisory agency or other duly authorized body shall impose such conditions as are necessary to protect the public health, safety or welfare, and assure compliance with the general plan, with all applicable Specific Plans, and with the intent and purposes of this title.**

   Finding: Based on comments submitted during agency review of the application, planning staff have not found that the granting of the proposed modification would cause harm to public health, safety or welfare. The project is also not found to be inconsistent with the general plan or any specific plans.

Project Consistency with the California Environmental Quality Act (CEQA)

Based on the information provided to staff for review and consideration, the proposed request for modification will not post any significant additional new environmental impacts which have not been previously evaluated in the adopted Mitigated Negative Declaration. However, should mitigation measures be modified, the responsible agency should also provide a statement that the mitigation as revised achieves the same intended mitigation as the original.

Staff finds the proposed project to be categorically exempt from the California Environmental Quality Act pursuant to Section 15301, Existing Facilities. Otherwise known as a Class 1 exemption, this exemption applies to projects which involve the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.

STAFF RECOMMENDATION:

Staff recommends that the Planning Commission move to:

1. Find the project to be categorically exempt from the California Environmental Quality Act (CEQA), pursuant to Section 15301; and

2. Planning Commission approve proposed Resolution for 2026 Post Modification

ATTACHMENTS:

A. Board of Supervisor Resolution 2018-042
B. Background supporting documents

RESOLUTION NO. 2018-042

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF TRINITY APPROVING REZONE AND TENTATIVE MAP (M. Aratlakova, P-17-36)

WHEREAS, the Planning Commission, on April 12, 2018, held a public hearing on the request for approval of a rezone and tentative parcel map for property located between Lower South Fork Road and Kerlin Creek Road on the west side of Hyampom (Applicant: M. Aratlakova, APN: 011-210-35); and

WHEREAS, the Planning Commission deliberated and concluded that they would recommend approval of the project; and

WHEREAS, the Board of Supervisors conducted a public hearing on July 17, 2018, considered the Planning Commission's recommendation and deliberated the case, and has exercised its own independent judgment; and

WHEREAS, all governmental and utility agencies affected by the development of the proposed project have been notified and given the opportunity to respond; and

WHEREAS, the Board of Supervisors has determined that the proposed project will not have a significant effect on the environment, and has provided notice to the public of the preparation of a Mitigated Negative Declaration; and

WHEREAS, the Board of Supervisors has considered the effects that approval of the proposed project, including the change to the zoning and the subdivision which they have concluded would have a beneficial effect on addressing the housing needs of Trinity County and has balanced these needs against the public service needs of residents, and available fiscal and environmental resources.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of the County of Trinity:

A. Approves the project Mitigated Negative Declaration, finding that on the basis of the whole record before the Board, including the initial study and comments received, that there is no substantial evidence that the project will have a significant effect on the environment and that a mitigation negative declaration reflects the Board's independent judgment and analysis; and

B. Introduces, waives the reading of and enacts an ordinance amending Trinity County Zoning Ordinance (Ordinance No. 315) pertaining to the change of zoning for the subject parcel(s); and

C. Approves the Tentative Parcel Map (M. Aratlakova; File # P-16-14), based on the following findings and subject to the conditions of approval set forth in Exhibit A,

attached hereto:

1. None of the conditions described in Government Code Section 66474, subsections (a) through (g) inclusive, exist with respect to the proposed subdivision; and

2. The findings of Government Code Section 66474.02 are met as follows:

    a) The design and location of each lot in the subdivision, and the subdivision as a whole, are consistent with applicable regulations adopted by the State Board of Forestry and Fire Protection pursuant to Sections 4290 and 4291 of the Public Resources Code, because conditions have been applied to the subdivision to meet these standards and County's Fire Safe Ordinance and Building Code standards require construction to meet these regulations; and

    b) Structural fire protection and suppression services will be available for the subdivision through the Hyampom Community Services District, which provides fire suppression services to the area; and

    c) To the extent practicable, ingress and egress for the subdivision meets the regulations regarding road standards for fire equipment access adopted pursuant to Section 4290 of the Public Resources Code and applicable County ordinances, because the road improvement conditions of map approval have been imposed to address this issue.

3. The proposed subdivision, together with the provisions for its design and improvement, is consistent with the County General Plan, and Section 16.12.150 of the Subdivision Ordinance, and Fire Safe Ordinance 1162.

4. The discharge of waste from the proposed subdivision will not result in violation of the applicable waste discharge requirements prescribed by the California Regional Water Quality Control Board.

5. The design of the proposed subdivision provides, to the extent feasible, for future passive or natural heating and cooling opportunities.

DULY PASSED AND ADOPTED this 17th day of July, 2018 by the Board of Supervisors of the County of Trinity by motion, second (Fenley/Morris), and the following vote:

AYES:	Supervisors Morris, Fenley, Mines and Groves
NOES:	None
ABSENT:	Supervisor Chadwick
ABSTAIN:	None
RECUSE:	None

KEITH GROVES, CHAIRMAN
Board of Supervisors
County of Trinity
State of California

ATTEST:

RICHARD KUHNS, Psy.D.
Clerk of the Board of Supervisors

By: _____
Deputy

EXHIBIT "A"

TENTATIVE MAP

CONDITIONS OF APPROVAL

(M. Aratlakova, P-16-14)

The following conditions of tentative map approval shall be satisfied prior to the filing of the parcel map, unless a different time for compliance is specifically noted:

A. General:

1. A Notice of Environmental Constraint shall be recorded concurrent with the Parcel Map that shall provide for the following provisions:

   a. The Subdivider shall show on the parcel map a 100-foot setback from ponds, springs, watercourses and wetlands. A note shall be placed on the Parcel Map that states that no development shall be allowed within this buffer area as delineated on the parcel map.

   b. If surface water is proposed for agricultural purposes a water study shall be completed to determine measures to assure downstream beneficial uses are met.

   c. Kerlin Creek shall not be used as a source of domestic water supply for any new parcel.

   d. In the event that previously unidentified cultural or paleontological resources are encountered during development of the parcel, there shall be no further excavation or disturbance of that area. The owner/developer shall avoid the materials and their contents. The Trinity County Planning Director shall be notified immediately, and an archaeologist shall be consulted to determine if the find is significant and make recommendations for appropriate mitigation. Work shall not continue in the area until mitigations have been implemented and written authorization to resume work has been provided by the Planning Director.

   e. In the event that previously unidentified evidence of human burial or human remains are discovered, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains. The Trinity County Coroner must be informed and consulted, per state law. If the Coroner determines the remains to be Native American, he/she will contact the Native American Heritage Commission who will contact the most likely descendent who will be given an opportunity to make recommendations for means of treatment of the human remains and any associated grave goods. Work shall not continue in the area until the human remains have been dealt with according to the recommendations of

the County Coroner, Native American Heritage Commission and/or the most likely descendent.

B. Miscellaneous:

1. All easements within the development shall be dedicated on the Parcel Map or by separate instrument.
2. Provide a geotechnical report verifying that there are no landslides, rock fall areas, or soil settlement issues on the property. If certain areas are determined to be susceptible to slope instability, these areas must be delineated and labeled on the map.
3. Parcel 4 shall not be configured as a flag lot (condition completed with revised tentative map).
4. Parcel 1 shall not have the irregular extension into Parcel 2 as depicted on the tentative map. Parcel 1 and Parcel 2 shall be reconfigured to have roughly square shapes.

C. Utilities:

1. All utilities outside of roadways on subject properties shall be a minimum of ten-foot width easements centered on the utility that serves the subject and adjoining parcels.

D. Roads:

1. A minimum 60-foot wide public road and utility easement must be offered for dedication, lying 30 feet each side of the existing centerline along Lower South Fork Road, Co. Rd. No. 311, where said dedication lies within the subject property. The existing easement dedicated for Lower South Fork Road appears to be incorrectly stated. If it is determined that the easement is incorrect, then abandonment of easement shall be noted on the Parcel Map.
2. The existing road easement for Kerlin Creek appears to be incorrectly located within the subject property. The easement shall be corrected on the map, and abandonment of the old easement shall be noted on the Parcel Map. As this is a public Forest Service road maintained by the US Forest Service, coordination with and acceptance of the new easement by the Forest Service shall be required prior to approval of the Parcel Map.
3. The proposed encroachment onto Lower South Fork Road, Co. Rd. No. 311, shall conform to Department of Transportation standards for a private road. An encroachment permit must be obtained for the existing encroachment of the access road onto Lower South Fork Road, Co. Rd. No. 311.
4. The proposed access road from Lower South Fork Road to the intersection of Parcels, 3, 4 and the remainder shall be constructed to the Trinity County "Roadway Category No. 1" standard. A 20 mile per hour or higher design standard speed shall be used. Roadway design shall also meet the local road design guidelines of the AASHTO *A Policy on Geometric Design of Highways and Streets,* including the supplementary AASHTO *Geometric Design Guidelines for Very Low-Volume Local Roads,* and shall meet the requirements of the Fire Safe Ordinance. This shall include, but is not limited to:

a. A minimum roadbed width of 20' with additional curve widening as prescribed by the Fire Safe Ordinance, and
b. A maximum gradient of 10%, which may be increased to 12% for short distances, subject to the approval of the Department of Transportation; and
c. A minimum centerline curve radius of 75'; and
d. The crown or cross slope shall be a minimum of 3% for aggregate surfaces or 2% for paved surfaces.

5. The proposed driveways, labeled as key note number 9 on the tentative map, running along the boundary line between said parcels, shall be constructed as a shared driveway. These shared driveways shall meet the requirements of the Fire Safe Ordinance for a driveway, including a minimum width of 10'. Driveways exceeding one hundred fifty feet in length, but less than eight hundred feet in length, shall provide a turnout near the midpoint of the driveway. Where the driveway exceeds eight hundred feet, turnouts shall be provided no more than four hundred feet apart.
6. A turnaround shall be constructed at the end of the proposed roadway, at the intersection of parcels 3, 4 and the remainder. Turnarounds shall be constructed to meet the requirements of the Trinity County Subdivision Ordinance and shall be within dedicated road easements. Driveways are allowed to utilize the turnaround as permitted by the Fire District.
7. A turnaround shall be provided at all building sites on driveways over three hundred feet in length,and shall be within fifty feet of the building.
8. A minimum 40-foot-wide public road and utility easement must be offered for dedication for all access roads. Easement width shall be 20 feet each side of centerline, where said dedication lies within the subject property. Road easements are not to be accepted for public use at this time, but an irrevocable offer of dedication for public use is required.
9. Additional on-site slope easements shall be dedicated in all areas where elements of the road design do not fit within the road easement. The slope easements shall include any area within 5 feet of the design elements. The slope easement may be described on the map as "a slope maintenance easement 5 feet beyond toe of fill or top of cut."
10. A minimum 40-foot-wide public road and utility easement must be offered for dedication for the unimproved road running northerly from the southern boundary of Parcel 1, to the boundary between Parcel 3 and the remainder, and then terminating at the turnaround shown at the intersection of Parcels 3, 4 and the remainder. Easement width shall be 20 feet each side of centerline, where said dedication lies within the subject property. This Road easement is for future use, and is not to be accepted for public use at this time, but an irrevocable offer of dedication for public use is required.
11. The structure on Parcel 4 is not provided with a fire safe driveway with legal access. A driveway with legal access meeting the requirements of the Trinity County Fire Safe Ordinance must be provided to the structure on Parcel 4. Developer has indicated that they will remove the structure on Parcel 4. If structures on Parcel 4 are removed, no driveway will be required.
12. A hydrology study showing the ability to convey 100-year storm flows in all culverts and ditches shall be approved by the Director of Transportation. All culverts shall be 18" diameter or larger unless an alternative size is approved by the Director of Transportation. Ditches shall be designed and constructed to prevent 100-year flows from encroaching more than 2 feet into the travel way.

13. Road names shall be submitted to the Planning Department for approval in accordance with Title 12, Chapter 12.17 of Trinity County code of ordinances.
14. Road name signs shall be installed at all intersections.
15. All improvements required for this development and as described in these conditions of approval shall be shown on construction drawings (the final improvement plans) to be submitted to the Trinity County Department of Transportation for review and approval. Approval of the construction drawings is required prior to Parcel Map Acceptance.
16. Prior to construction of improvements, the construction drawings shall be stamped by an engineer and approved by the county Engineer.
17. Inspection of the improvements will be performed by Trinity County Department of Transportation staff or a County-selected inspection firm. The developer will coordinate inspections with the Department of Transportation prior to start of construction.
18. The developer will be responsible for all actual costs on an hourly basis associated with the subdivision improvements, including review of construction improvement plans, developing Development Agreements, performing improvement inspections, and all other related costs.
19. The applicant and/or subsequent grantees shall create to the satisfaction of Trinity County Counsel and the Trinity County Department of Transportation an organization or association for the maintenance of the roads within the subdivision or show evidence of the existence of such an agreement or organization.
20. It is understood that the improvements will be completed prior to recording of map. Should the developer wish to do otherwise, a Subdivision Improvement Agreement shall be required.

Erosion Control

21. The improvement plans shall include a grading plan and erosion and sediment control plan, which incorporates standard erosion control practices and best management practices, subject to the approval of the County Engineer for disturbed areas. The plan shall be prepared by a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer (QSD) and shall be included in an agreement with the construction contractor. The following measures shall be included:
    a. Any mass grading shall be restricted to dry weather periods between April 1 and October 31.
    b. If other grading activity is to be undertaken in wet-weather months, permanent erosion and sediment controls shall be in place by October 15, and construction shall be limited to areas as approved by the County Engineer. A winterization plan shall be submitted by September 15 and implemented by October 15.
    c. In the event construction activity including clearing, grading, disturbances to the ground such as stockpiling, or excavation result in soil disturbances of at least one acre of total land area, the applicant shall obtain and provide a Notice of Intent (NOI) from the Regional Water Quality Control Board.
    d. Should a NOI be required, a SWPPP shall be provided prior to issuing a construction permit. The SWPPP shall have provisions to provide at minimum monthly monitoring reports to the County Department of Transportation during wet weather and for 1 year after completion of construction.

e. Projects less than one acre are exempt from obtaining an NOI unless construction activity is expected to create soil disturbances that could cause significant water quality impairment.
f. The internet site for information and application on the NOI can be found at http://waterboards.ca.gov/waterissues/programs/stormwater/construction.shtml.
g. Sedimentation basins, traps, or similar BMP controls shall be installed prior to the start of grading.
h. Mulching, hydro seeding, or other suitable revegetation measures shall be implemented. Planting shall also occur on areas of cut and fill to reduce erosion and stabilize exposed areas of later construction phases. All disturbed areas with a slope greater than 5% shall receive erosion control.
i. Excavated materials shall not be deposited or stored where the materials could be washed away by storm water runoff.

E. Fish and Wildlife:

1. Pursuant to Fish and Game Code 1602 the subdivider or his authorized agent shall obtain a "Lake and Streambed Alteration Agreement" for any surface water sources (spring or stream diversion) or wells that are hydrologically connected to surface water sources.

NOTE: Approval of this tentative map will expire on _____. Any request for a time extension must be received by the Trinity County Planning Department 30 days prior to this expiration date.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
NORTHERN REGION
601 LOCUST STREET
REDDING, CA 96001

STREAMBED ALTERATION AGREEMENT
NOTIFICATION NO. 1600-2019-0555-R1
Domestic Water Supply Diversion

KIRILKA TSVETKOVA
DIVERSION ON KERLIN CREEK
TRINITY COUNTY APN 011-210-35-00

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and Kirilka Tsvetkova (Permittee).

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified CDFW on February 10, 2020, that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, CDFW has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement.

PROJECT LOCATION

The project is located on Kerlin Creek in the County of Trinity, State of California. The point of diversion (POD) is located at Section 21, Township 03N, Range 06E, Hyampom U.S. Geological Survey (USGS) quadrangle, Mount Diablo Meridian, Trinity County Assessor's Parcel Number 011-210-35-00, 420 Blake Mountain Trail, Hyampom.

PROJECT DESCRIPTION

The Project is limited to the continued maintenance and operation of a surface water diversion on Kerlin Creek for the purpose of domestic use.

The diversion consists of a 2" poly plastic pipe placed within a pool in Kerlin Creek. The intake is securely covered with a mosquito mesh screen to prevent any debris or aquatic life from entering the system. No pump is used at the point of diversion. The

water delivery line continues east inset in a shallow legacy ditch for approximately 3,300 ft before circulating through six 2,500-gallon water tanks. The delivery line enters the system at the top of the water tanks and exits at the bottom. Valves associated with the tanks are not closed and the water continuously flows (i.e. is not held in the tanks).

The outlet pipes from the six tanks condense into one 1" poly plastic line prior to leaving the site. The 1" line continues for approximately 1,500', delivering water to the residence. This diversion remains in place year-round and all work associated with this diversion would consist of basic maintenance/repair with hand tools as needed. The annual cumulative diversion rate is approximately 1.33 acre-feet per year, and the maximum instantaneous rate of diversion is approximately ten gallons per minute (GPM). At no time is this diversion used for irrigation of commercial cannabis.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include:

- Aquatic Habitat
- Riparian Vegetation

The adverse effects the project could have on the fish or wildlife resources identified above include:

Aquatic Habitat

- Change in stream flow including dewatering, flow depth, width and velocity
- Cumulative effect when other diversions on the same watercourse are considered
- Loss, fragmentation, or decline of instream habitat
- Direct loss of resources for aquatic organisms
- Entrapment in isolated pools due to loss of water surface elevation

Riparian Vegetation

- Loss or decline of riparian habitat
- Disruption to nesting birds and other wildlife

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittee shall meet each administrative requirement described below.

1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification

materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to CDFW personnel, or personnel from another state, federal, or local agency upon request.

1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.

1.3 Third Party Use of Drafting Site. Permittee shall not grant permission to other entities and persons to use water drafting sites or water drafted under this Agreement for purposes other than Permittee Covered Activities.

1.4 Notification of Conflicting Provisions. Permittee shall notify CDFW if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, CDFW shall contact Permittee to resolve any conflict.

1.5 Inspections. CDFW personnel or its agents may inspect the Project site at any time to verify compliance with this Agreement. As a result of field inspection, CDFW may require that additional measures be applied to specific activities to protect sensitive biological resources. Such measures may be amended into this Agreement with the agreement of both parties, or if an exception to authorized activities is identified, Permittee may be asked to submit separate written notification to CDFW Northern Region.

1.6 Applicable Permits. Land development or alteration may be subject to additional federal, state and local laws, regulations, and permitting requirements, including but not limited to the following:

- The Clean Water Act (CWA) as implemented through permits, enforcement orders, and self-implementing requirements. When needed per the requirements of the CWA, the Permittee shall obtain a CWA section 404 (33 U.S.C. § 1344) permit from the United States Army Corps of Engineers (Army Corps) and a CWA section 401 (33 U.S.C. § 1341) water quality certification from the State Water Board or the Regional Water Board with jurisdiction.

- The California Water Code as implemented through applicable water quality control plans (often referred to as Basin Plans), waste discharge requirements (WDRs) or waivers of WDRs, enforcement orders, and self- implementing requirements issued by the State Water Resources Control Board (State Water Board) or Regional Water Quality Control Boards (Regional Water Boards).

- All applicable state, city, county, or local regulations, ordinances, or license requirements including, but not limited to those for grading, construction, and building.
- All applicable requirements of the California Department of Forestry and Fire Protection (CAL FIRE), including the Board of Forestry.
- All applicable requirements for access and use of any diversion located on Federal land, including Special Use authorization from the United States Forest Service.

1.7 Cannabis Cultivation Policy. It is the responsibility of Permittee to comply with all State Water Resources Control Board Cannabis Cultivation Policy (Policy) requirements, as necessary. This Agreement, and the Projects permitted herein, shall not be construed as approval, endorsement, or measure of compliance with the Policy. If the State Water Resources Control Board, or associated Regional Water Quality Control Board, should find that any Project described in this Agreement does not meet the requirements of the Policy, the Permittee may be responsible for modification of a Project described within in this Agreement in order to comply with the Policy. If the nature of the revised Project is substantially modified from work described in the Project description, amendment to this Agreement may be necessary. If the Policy requires the Permittee to undertake additional projects not described in this Agreement that may also be subject to the notification requirements of FGC section 1602, Permittee shall submit separate written notification pursuant to FGC section 1602.

1.8 Water Rights. This agreement does not constitute a valid water right. All water diversion facilities that the Permittee owns, operates, or controls shall be operated and maintained in accordance with current law and applicable water rights. Water rights are administered by the State Water Resources Control Board as described here: https://www.waterboards.ca.gov/waterrights/water_issues/programs/registrations/.

1.9 Prohibition on Take of Listed Species. This agreement does not authorize for the take, or incidental take of any State or Federal listed threatened or endangered listed species. State Listed or Fully Protected Species include any native plant species listed as rare under the Native Plant Protection Act (FGC § 1900 et seq.; Cal. Code Regs., tit. 14, § 670.2); any species that is listed or is a candidate for listing under the California Endangered Species Act (FGC § 2080 et seq.; Cal. Code Regs., tit. 14, §§ 670.2, 670.5); or any fully protected species (FGC §§ 3511, 4700, 5050, 5515). The Permittee is required, as prescribed in these laws, to consult with the appropriate agency prior to commencement of the project.

1.10 Take of Nesting Birds. FGC section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by FGC or any regulation made pursuant thereto. FGC section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or

Strigiformes (birds-of-prey) to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by FGC or any regulation adopted pursuant thereto. FGC Section 3513 makes it unlawful to take or possess any migratory nongame bird or part thereof except as provided by the rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918 (MBTA; 16 U.S.C. § 703 et seq.) before January 1, 2017, and subsequent rules and regulations adopted pursuant to the MBTA that are consistent with the FGC. The issuance of this Agreement does not in any way exempt or excuse compliance with these statutes.

1.11 Notification Materials. Permittee's Notification (Notification of Lake or Streambed Alteration, together with all maps, plans, photographs, drawings, and all other supporting documents submitted with Notification to describe the activity) is hereby incorporated by reference into this Agreement. Permittee shall conduct project activities within the work areas, and using the protective measures, described in the Notification and supporting documents, unless such project activities, work areas or protective measures are modified by the provisions of this Agreement, in which case the activities shall be conducted as described in this Agreement.

1.12 Modification to Terms and Conditions. CDFW may modify the terms and conditions of this Agreement if monitoring results indicate that activities could violate instream flow requirements, water quality objectives, or impair the habitat value of a waterbody or its tributaries.

2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

Water Diversion and Storage

2.1 Maximum Diversion Rate. Water diverted at the point of diversion (POD), shall not exceed an instantaneous diversion rate greater than ten (10) GPM.

2.2 Bypass Flow. Permittee shall bypass a minimum of 90 percent of the surface flow past the POD, as estimated based on visually observing surface water.

2.3 Diversion Design Criteria. Water diversion devices and structures including mechanical (i.e., devices using suction or pressure to move water from the POD to a place of water storage or use, including such devices on water trucks) and non-mechanical (e.g., cistern or spring box) devices and structures; approaches to water diversion structures; pipes; screens; and associated materials (e.g., pipes and mats) meet the following design criteria:

1. Designed to allow for inspection and maintenance (e.g., cleaning the intake screen) without disturbing the streambed.

2. The diversion shall not be constructed of materials deleterious to fish or wildlife, including but not limited to: particle board, plastic sheeting, bentonite, pressure treated lumber, creosote, or asphalt.

3. Screened intake(s) consisting of round openings evenly distributed on the screen area not exceeding 3/32-inch diameter; square openings not exceeding 3/32-inch, measured diagonally; or slotted openings not exceeding 0.069 inch in width, securely attached to the water intake line or supporting structure and constructed of corrosion-resistant material such as stainless steel that is not deleterious to aquatic life.

4. Does not prevent, impede, or tend to prevent or impede the passing of amphibians, reptiles, or other non-finfish up and downstream.

2.4 Diversion Monitoring. Permittee shall install and maintain a measuring device for the stream diversion located as close to the POD as possible. The measuring device shall be at a minimum equivalent to the requirements for direct diversions greater than 10 acre-feet per year in California Code of Regulations, Title 23, Division 3, Chapter 2.7 and Chapter 2.8.

2.5 Diversion Records. Permittee shall maintain daily diversion records for water diverted for commercial cannabis cultivation. Permittee shall maintain separate records that document the amount used for commercial cannabis cultivation separated out from water used for other irrigation purposes and other beneficial uses. Permittee shall maintain daily diversion records at the cultivation site and make the records available by request by authorized representatives from CDFW. Daily diversion records shall be retained for a minimum of five years.

2.6 Water Storage. Water storage facilities shall meet the following criteria:

1. Shall be located off-stream and outside the active 100-year floodplain.

2. Shall not be used to store or mix chemicals.

3. Shall be fully enclosed to prevent wildlife entry.

2.7 Storage Tank Location. Water storage facilities shall be located outside of the stream channel and riparian areas in a location where water cannot re-enter the channel in the event of a catastrophic failure.

2.8 Water Storage Control. Permittee shall cease all water diversion at the POD when water storage facilities are filled to capacity. Water shall not leak, overflow, or overtop storage facilities at any time.

2.9 Pumps and Power Supply. All petroleum-powered equipment shall be properly maintained and monitored to ensure absence of leaks and that spills do not occur.

Petroleum-powered equipment shall not be placed within the stream channel or within 150 feet from the top of bank. Equipment shall be situated over drip pans supplying secondary containment of at least 150 percent holding capacity and shall be sheltered from weather to prevent rainwater overflow from drip pans.

2.10 Change of Conditions and Need to Cease Operations. If conditions arise, or change, in such a manner as to be considered deleterious to the stream or wildlife, operations shall cease until corrective measures approved by CDFW are taken. This includes new information becoming available that indicates that the bypass flows and diversion rates provided in this agreement are not providing adequate protection to keep aquatic life downstream in good condition or to avoid “take” or “incidental take” of federal or State listed species.

2.11 Rainwater Catchment. Permittee is encouraged to continue use of appropriate rainwater catchment systems to collect from impermeable surfaces (e.g., roof tops, etc.) during the wet season and store storm water in tanks, bladders, or off-stream engineered reservoirs to reduce the need for surface water or groundwater diversions.

Infrastructure Maintenance

2.12 Authorization Limited to Intake Installation or Maintenance. This Agreement does not authorize the construction of any temporary or permanent dam, structure, flow restriction, or the placement or excavation of any material into the active channel other than a screened intake.

2.13 Diversion Maintenance. Permittee shall inspect, maintain, and clean screens and bypass structures as necessary to ensure proper operation for the protection non-finfish and wildlife.

2.14 No Heavy Equipment in Stream. No heavy equipment shall operate in the portion of the stream bed where flowing water is present or anticipated during the term of this Agreement.

2.15 No Additional Streambed Alteration or Sediment Removal. There shall be no streambed or gravel bar grading or sediment removal from the POD or other locations in the stream.

Vegetation Avoidance and Minimization

2.16 Vegetation Management. Permittee shall limit vegetation management (e.g. trimming, pruning, or limbing) and removal for the purpose of diversion access to the use of hand tools, and shall not include treatment with herbicides. No native trees within the riparian zone with a trunk diameter at breast height (DBH) in excess of four (4) inches shall not be removed or damaged without prior consultation and concurrence of a CDFW representative.

2.17 Maintain Riparian Vegetation. Permittee shall maintain existing, naturally occurring, riparian vegetative cover (e.g., trees, shrubs, and grasses) in aquatic habitat areas to the maximum extent possible to maintain riparian areas for streambank stabilization, erosion control, stream shading and temperature control, sediment and chemical filtration, aquatic life support, wildlife support, and to minimize waste discharge.

Wildlife Protection and Avoidance

2.18 Compliance with FGC Section 5901. All water diversion facilities shall be designed, constructed, and maintained so they do not prevent, impede, or tend to prevent or impede the passing of fish upstream or downstream, as required by FGC Section 5901. This includes, but is not limited to, maintaining or providing a supply of water at an appropriate depth and velocity to facilitate upstream and downstream migration of juvenile and adult salmonids.

2.19 Location of Intake. Intakes shall be at least six inches above the bottom of the channel and away from submerged vegetation.

2.20 Intake Screen Use. The intake screen shall be kept in good repair and shall be used whenever water is being diverted.

2.21 Habitat Elements. Permittee shall take measures to minimize disturbance to aquatic and riparian habitat elements such as pools and structures including large wood or vegetation that overhangs the channel.

2.22 Leave Wildlife Unharmed. If any wildlife is encountered during the Authorized Activity, Permittee shall not disturb the wildlife and shall allow wildlife to leave the work site unharmed.

2.23 Prohibition on Use of Monofilament Netting. Permittee shall only use geotextiles, fiber rolls, and other erosion control measures made of loose-weave mesh (e.g., jute, coconut (coir) fiber, or from other products without welded weaves). To minimize the risk of ensnaring and strangling wildlife, Permittee shall not use synthetic (e.g., plastic or nylon) monofilament netting materials for erosion control. This prohibition includes photo- or bio-degradable plastic netting.

Erosion Control and Pollution

2.24 Silt Laden Runoff. At no time shall silt-laden runoff be allowed to enter the stream or directed to where it may enter the stream. Erosion control and soil stabilization measures shall be used wherever silt-laden water has the potential to leave the work site and enter waters of the state.

2.25 Stockpiled Materials. Permittee shall not stockpile or store any building materials and/or construction materials where they may be washed or percolate into a

stream, lake, or other waters of the state, or where they may adversely affect stream habitat or aquatic or riparian vegetation.

2.26 Debris and Trash. Permittee shall only dispose of debris and trash at an authorized landfill or other disposal site in compliance with state and local laws, ordinances, and regulations. Permittee shall not allow litter, plastic, or similar debris to enter the riparian setback or waters of the state pursuant to FGC Section 5652.

Hazardous Materials and Spills

2.27 Hazardous Substances. Permittee shall ensure that debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement and concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to any life stage of fish and wildlife or their habitat (includes food sources) does not enter the riparian setback or waters of the state, pursuant to FGC Section 5650. Permittee shall immediately remove any of these materials placed within, or where they may enter, a stream or lake or other waters of the state.

2.28 Staging and Storage. Permittee shall not stage or store any equipment, materials, fuels, lubricants, solvents, and hazardous or toxic materials where they may enter a stream or lake, or where they have potential to enter a stream, lake, or other waters of the state (e.g. through storm water runoff or percolation). Equipment shall be positioned over drip pans. Stationary heavy equipment shall have suitable containment to handle a catastrophic spill/leak.

2.29 Vehicles and Equipment. Permittee shall only refuel vehicles or equipment outside of riparian setbacks. Permittee shall inspect all equipment using oil, hydraulic fluid, or petroleum products for leaks prior to use and shall monitor equipment for leakage. Stationary equipment (e.g., motors, pumps, generators, etc.) and vehicles not in use shall be located outside of riparian setbacks. Spill and containment equipment (e.g., oil spill booms, sorbent pads, etc.) shall be stored onsite at all locations where equipment is used or staged.

2.30 Toxic Materials. Permittee shall store any hazardous or toxic materials that could be deleterious to aquatic life in accordance with all applicable federal, state, and local laws and ordinances and prevent these materials from contaminating the soil or entering a stream or lake.

2.31 Cleanup and Containment. In the case of a spill, Permittee shall immediately notify the California Office of Emergency Services State Warning Center at 1-800-852-7550 and immediately initiate clean-up activities. The North Coast Regional Water Quality Control Board and Redding CDFW offices shall be notified of clean-up procedures.

3. Reporting Measures

Permittee shall meet each reporting requirement described below.

3.1 Water Diversion Use Reports. Permittee shall submit to CDFW via email a copy of each report the Permittee is required to submit to the State Water Resources Control Board. The reports shall be submitted to CDFW on the same date Permittee submits the report to the State Board.

CONTACT INFORMATION

Any communication that Permittee or CDFW submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S. mail, fax, or email, or to such other address as Permittee or CDFW specifies by written notice to the other.

To Permittee:

Kirilka Tsvetkova
1704 Sable Lane
Mt. Prospect, IL 60056
(707) 515-5438
Kiratsv4@gmail.com

To CDFW:

Department of Fish and Wildlife
Region 1
601 Locust Street
Redding, CA 96001
Attn: Lake and Streambed Alteration Program – Matt Mitchell
Notification #1600-2019-0555-R1
(530) 225-2103
matthew.mitchell@wildlife.ca.gov

LIABILITY

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute CDFW's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

SUSPENSION AND REVOCATION

CDFW may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.
Before CDFW suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused CDFW to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes CDFW from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects CDFW's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 *et seq*. (threatened and endangered species), section 3503 (bird nests and eggs), section 3503.5 (birds of prey), section 5650 (water pollution), section 5652 (refuse disposal into water), section 5901 (fish passage), section 5937 (sufficient water for fish), and section 5948 (obstruction of stream).
Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

CDFW may amend the Agreement at any time during its term if CDFW determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and Permittee. To request an amendment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter CDFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

EXTENSIONS

In accordance with FGC section 1605, subdivision (b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to CDFW a completed CDFW "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). CDFW shall process the extension request in accordance with FGC section 1605, subdivisions (b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (Fish & G. Code § 1605, subd. (f)).

EFFECTIVE DATE

The Agreement becomes effective on the date of CDFW's signature, which shall be: 1) after Permittee's signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at https://www.wildlife.ca.gov/Conservation/CEQA/Fees.

TERM

This Agreement shall expire December 31, 2025, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605, subdivision (a)(2) requires.

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

AUTHORIZATION

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify CDFW in accordance with FGC section 1602.

CONCURRENCE

The undersigned accepts and agrees to comply with all provisions contained herein.

FOR KIRILKA TSVETKOVA

Kirilka Tsvetkova (Permittee)

1-7-2021

Date

FOR DEPARTMENT OF FISH AND WILDLIFE

DocuSigned by:
Adam McKannay
BE359DC694B14AE...

1/11/2021

Adam McKannay

Date

Interior Cannabis and Conservation Planning Supervisor

Prepared by: Matt Mitchell
Environmental Scientist

Date Originally Sent: January 4, 2021

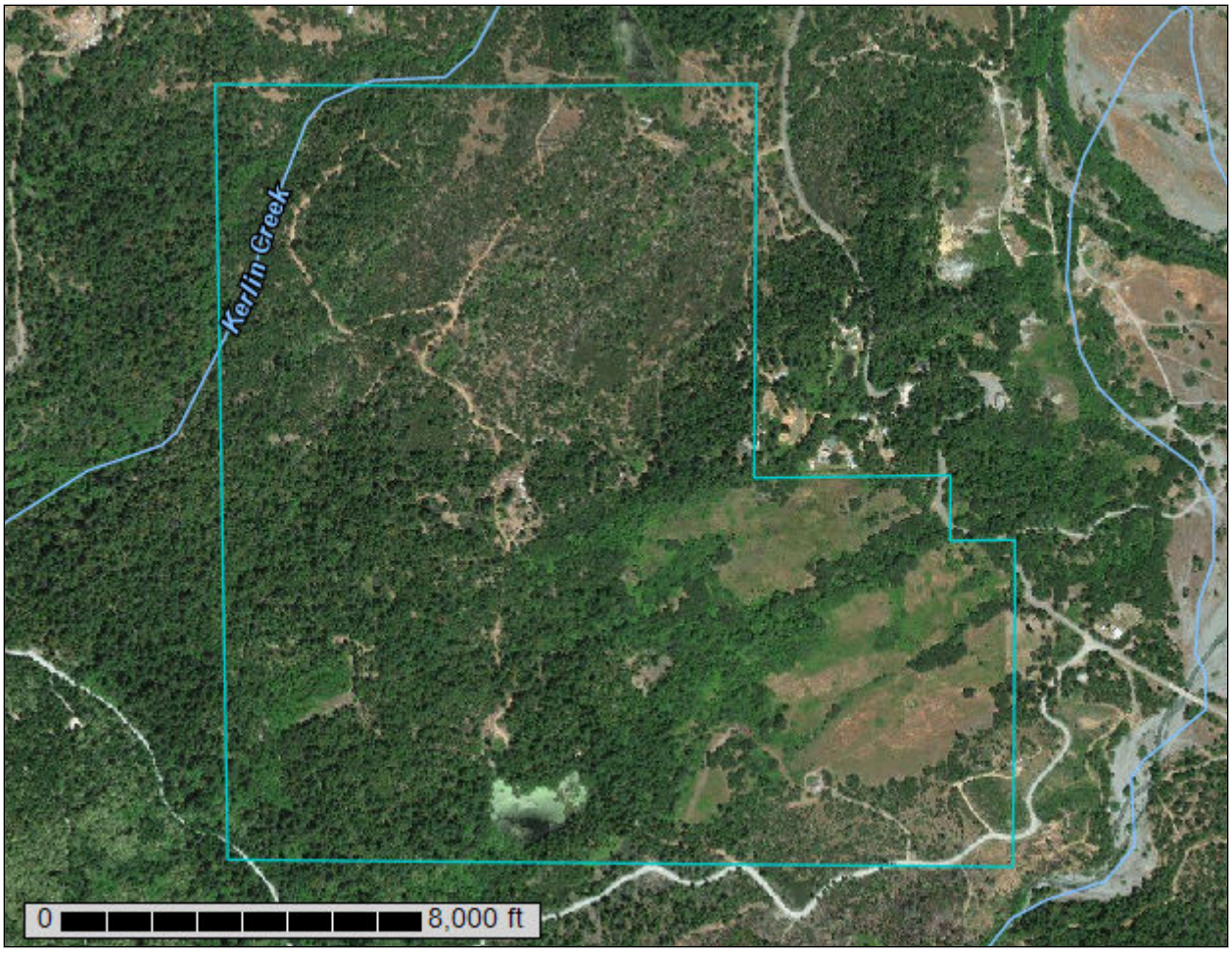
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Shasta-Trinity National Forest Area, Parts of Humboldt, Siskiyou, Shasta, Tehama, and Trinity Counties, California



Preface

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

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

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

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

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

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

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

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

Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

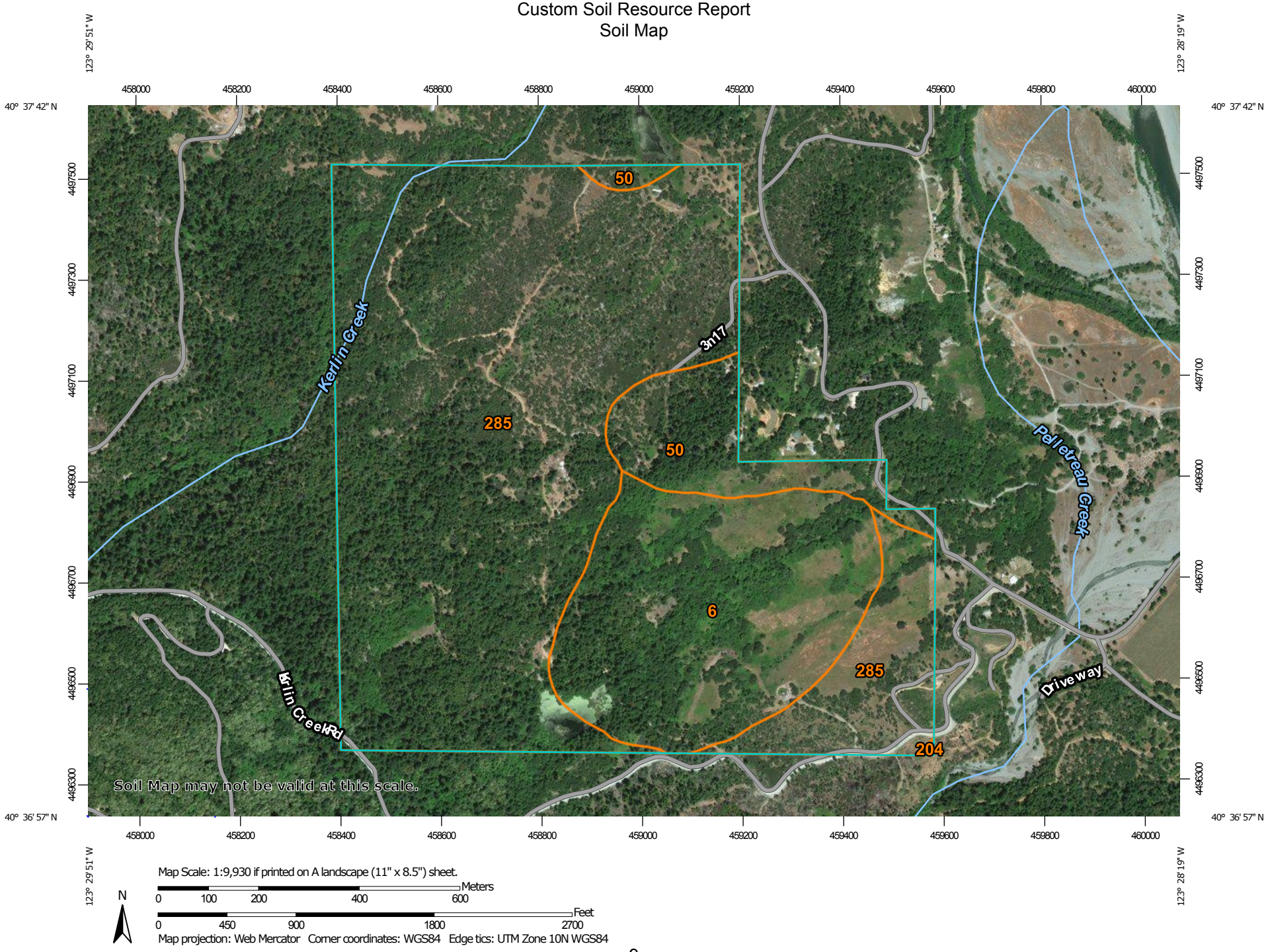
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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

Soil Map

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

Custom Soil Resource Report
Soil Map



MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Shasta-Trinity National Forest Area, Parts of Humboldt, Siskiyou, Shasta, Tehama, and Trinity Counties, California
Survey Area Data: Version 7, Sep 13, 2017

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

Date(s) aerial images were photographed: Aug 10, 2014—Mar 13, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND	MAP INFORMATION
	imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
6	Aquolls-Xerolls complex, 0 to 20 percent slopes	65.8	23.1%
50	Dunsmuir family, 15 to 40 percent slopes.	22.0	7.7%
204	Neuns family, 60 to 80 percent slopes.	0.1	0.0%
285	Secca-Forbes families association, 20 to 40 percent slopes.	197.3	69.2%
Totals for Area of Interest		**285.3**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

Shasta-Trinity National Forest Area, Parts of Humboldt, Siskiyou, Shasta, Tehama, and Trinity Counties, California

6—Aquolls-Xerolls complex, 0 to 20 percent slopes

Map Unit Setting

National map unit symbol: hsps
Elevation: 3,500 to 6,000 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 100 to 120 days
Farmland classification: Not prime farmland

Map Unit Composition

Aquolls and similar soils: 60 percent
Xerolls and similar soils: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Aquolls

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 26 inches: silt loam
H3 - 26 to 37 inches: loam
H4 - 37 to 41 inches: unweathered bedrock

Properties and qualities

Slope: 0 to 20 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: D
Hydric soil rating: Yes

Description of Xerolls

Setting

Landform: Basin floors

Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 9 inches: loam
H2 - 9 to 27 inches: loam
H3 - 27 to 31 inches: unweathered bedrock

Properties and qualities

Slope: 0 to 20 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Hydric soil rating: No

50—Dunsmuir family, 15 to 40 percent slopes.

Map Unit Setting

National map unit symbol: hsr6
Elevation: 1,500 to 5,500 feet
Mean annual precipitation: 40 to 70 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 130 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Dunsmuir family and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dunsmuir Family

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: Convex

Parent material: Residuum weathered from serpentinite

Typical profile

H1 - 0 to 7 inches: gravelly sandy clay loam
H2 - 7 to 44 inches: gravelly clay loam
H3 - 44 to 53 inches: very cobbly clay
H4 - 53 to 57 inches: weathered bedrock

Properties and qualities

Slope: 15 to 40 percent
Depth to restrictive feature: 53 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Ishi pishi family, deep

Percent of map unit: 10 percent
Hydric soil rating: No

Holland family, deep

Percent of map unit: 10 percent
Hydric soil rating: No

Holland family

Percent of map unit: 5 percent
Hydric soil rating: No

204—Neuns family, 60 to 80 percent slopes.

Map Unit Setting

National map unit symbol: hsx5
Elevation: 1,500 to 6,000 feet
Mean annual precipitation: 40 to 70 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 130 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Neuns family and similar soils: 75 percent

Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Neuns Family

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from igneous, metamorphic and sedimentary rock

Typical profile

H1 - 0 to 11 inches: very gravelly sandy loam
H2 - 11 to 23 inches: very gravelly sandy loam
H3 - 23 to 33 inches: unweathered bedrock

Properties and qualities

Slope: 60 to 80 percent
Depth to restrictive feature: 23 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Typic xerorthents

Percent of map unit: 10 percent
Hydric soil rating: No

Rock outcrop, metamorphic

Percent of map unit: 5 percent
Hydric soil rating: No

Deadwood family

Percent of map unit: 5 percent
Hydric soil rating: No

Hugo family, moderately deep

Percent of map unit: 5 percent
Hydric soil rating: No

285—Secca-Forbes families association, 20 to 40 percent slopes.

Map Unit Setting

National map unit symbol: hszs
Elevation: 2,000 to 3,200 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 54 to 57 degrees F
Frost-free period: 130 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Secca family and similar soils: 60 percent
Forbes family and similar soils: 30 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Secca Family

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 4 inches: silt loam
H2 - 4 to 28 inches: gravelly clay
H3 - 28 to 41 inches: gravelly clay loam
H4 - 41 to 45 inches: weathered bedrock

Properties and qualities

Slope: 20 to 40 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Forbes Family

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Non-marine alluvium

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 67 inches: gravelly sandy clay

Properties and qualities

Slope: 20 to 40 percent
Depth to restrictive feature: About 8 inches to abrupt textural change
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Soulajule family

Percent of map unit: 5 percent
Hydric soil rating: No

Hugo family, moderately deep

Percent of map unit: 5 percent
Hydric soil rating: No

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GRADING & EROSION CONTROL PLAN

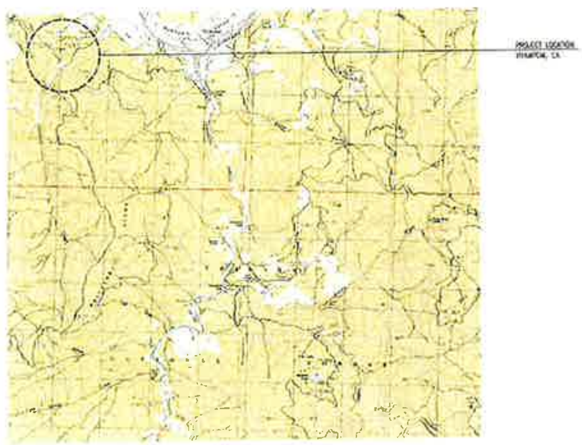
FOR
KRASIMIR YORDANOV
420 BLAKE MOUNTAIN TRAIL
HYAMPOM, CA 96046

LEGEND

PROPOSED		EXISTING
	CABLE TV OVERHEAD	
	POWER OVERHEAD	
	TELEPHONE OVERHEAD	
	TELEPHONE UG	
	POWER (UNDERGROUND) UG	
	GAS LINE	
	ANCHOR/GUY WIRE	
	SEWER MANHOLE	
	SEWER LINE	
	FLUSHING BRANCH/CLEANOUT	
	SEWER SERVICE	
	STORM DRAIN MANHOLE	
	STORM DRAIN PIPE	
	STORM DRAIN INLET	
	WATER LINE	
	WATER VALVE	
	REDUCER	
	BLOW OFF ASSEMBLY	
	AIR RELIEF VALVE	
	FIRE HYDRANT ASSEMBLY	
	R.P. BACKFLOW PREVENTER	
	DRIVE WAY	
	SIDEWALK RAMP	
	BARRICADE	
	SURVEY MONUMENT	
	CENTERLINE	
	RIGHT OF WAY LINE	
	PROPERTY LINE	
	EASEMENT LINE	
	EDGE OF PAVEMENT	
	RIDGE LINE	
	FENCE LINE	
	CONTOUR LINE	
	SIDEWALK	
	STREET LIGHT	
	STREET NAME SIGN	
	SIGN	

ABBREVIATIONS

AC	=	ASPHALTIC CONCRETE
AB	=	AGGREGATE BASE
A.D.	=	ALGEBRAIC DIFFERENCE
BC, PC	=	BEGIN CURVE
CO	=	CLEAN OUT
CL	=	CENTER LINE
CMP	=	CORRUGATED METAL PIPE
CPCT.	=	COMPACT
Δ	=	DELTA
DET	=	DETAIL
DRN	=	DRAIN
(E)	=	EXISTING
EC	=	END CURVE
EG	=	EXISTING GROUND
EP	=	EDGE OF PAVEMENT
FF	=	FINISH FLOOR
FG	=	FINISH GRADE
FH	=	FIRE HYDRANT
FL	=	FLOW LINE
GA	=	GUY ANCHOR
GV	=	GATE VALVE
HC	=	HANDICAPPED
HDPE	=	HIGH DENSITY POLYETHYLENE PIPE
INV	=	INVERT
(INT-X)	=	INTERSECTION
K	=	SIGHT DISTANCE
LAT	=	LATERAL
LD.	=	LOCAL DEPRESSION
LF.	=	LINEAR FEET
LF.	=	SEWER LEACH FIELD
LT.	=	LEFT
MAS.	=	MASONRY
MI	=	MILES
MSE	=	MECHANICALLY STABILIZED EARTH
(N)	=	NEW
NTS	=	NOT TO SCALE
O.C.	=	ON CENTER
PG&E	=	PACIFIC GAS & ELECTRIC
(P)	=	PROPOSED
PP	=	POWER POLE
PRC	=	POINT OF REVERSE CURVE
PT	=	POINT
PVI	=	POINT OF VERTICAL INTERSECTION
PVT	=	PRIVATE
RT	=	RIGHT
RTN	=	RETURN
SB	=	SET BACK
SDMH	=	STORM DRAIN MAN HOLE
SHT	=	SHEET
SD	=	STORM DRAIN
STA	=	STATION
STD.	=	STANDARD
TC	=	TOP OF CURB
TBC	=	TOP BACK OF CURB
TFC	=	TOP FACE OF CURB
TOB	=	TOP OF BANK
TEL	=	TELEPHONE
TP	=	TOP OF PAVEMENT
TVCE	=	TRINITY VALLEY CONSULTING ENGINEERS
TW	=	TOP OF WALL
(TYP)	=	TYPICAL
UG	=	UNDERGROUND
W	=	WATER
WV	=	WATER VALVE

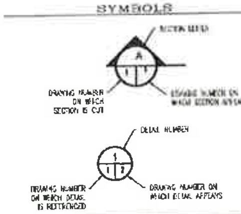


LOCATION MAP
NTS

VICINITY MAP
NTS

AREA MAP
NTS

SYMBOLS



SHEET INDEX

DRAWING #	TITLE	REVISION	DATE
T01	TITLE SHEET	0	10/23/2021
C00	NOTES	0	10/23/2021
C01	PLOT PLAN	0	10/23/2021
C02	OVERALL GRADING & DRAINAGE PLAN	0	10/23/2021
C03.1	EXISTING GRADING & DRAINAGE PLAN SITE 1	0	10/23/2021
C03.2	PROPOSED GRADING & DRAINAGE PLAN SITE 1	0	10/23/2021
C03.3	EXISTING GRADING & DRAINAGE PLAN SITE 2	0	10/23/2021
C03.4	PROPOSED GRADING & DRAINAGE PLAN SITE 2	0	10/23/2021
C03.5	EXISTING GRADING & DRAINAGE PLAN SITE 3	0	10/23/2021
C03.6	PROPOSED GRADING & DRAINAGE PLAN SITE 3	0	10/23/2021
C04.1	GRADING DETAILS	0	10/23/2021
C04.2	GRADING DETAILS	0	10/23/2021
C05.1	EROSION CONTROL PLAN SITE 1	0	10/23/2021
C05.2	EROSION CONTROL PLAN SITE 2	0	10/23/2021
C05.3	EROSION CONTROL PLAN SITE 3	0	10/23/2021
C07.1	EROSION CONTROL DETAILS	0	10/23/2021
C07.2	EROSION CONTROL DETAILS	0	10/23/2021

ENGINEERING NOTES

ALL REQUIREMENTS FROM THE SOILS REPORT HAVE BEEN INCORPORATED INTO THESE PLANS

THE ENGINEER OF RECORD SHALL INSPECT ALL SITE GRADING

ENGINEERING NOTES

FIELD SURVEY FOR TOPOGRAPHIC PURPOSES WAS PERFORMED BY TVCE ON 09/01/2021. NO LIABILITY IS ASSUMED BY TVCE FOR THE EXISTENCE OF SUBSURFACE FEATURES, IF ANY EXIST.

VERTICAL IS NAVD88

HORIZONTAL DATUM IS CSPZ1 NAD83(2011) EPOCH 2010.00

A BOUNDARY SURVEY WAS NOT CONDUCTED BY TVCE. NO LIABILITY IS ASSUMED BY TVCE FOR FOR TITLE DEFECTS OR ENCUMBRANCES, IF ANY EXIST.

BASIS OF BEARINGS ARE GRID

CONTRACTOR ALERT!

CONTRACTOR MUST CONTACT USA DIG AT 800-227-2600 AT LEAST 72 HOURS BEFORE ANY EARTHWORK OR ACTIVITIES THAT MAY IMPACT EXISTING UNDERGROUND UTILITIES.

EXISTING UTILITY ALIGNMENTS BOTH HORIZONTALLY AND VERTICALLY MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES.

TVCE

87 WALNUT WAY
PO BOX 1517
WILLOW CREEK, CA 95573
P(530)629-3000

REGISTERED PROFESSIONAL ENGINEER
C 90533
STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	DRN BY	DES BY	CHK BY	APP BY

KRASIMIR YORDANOV
APN 011-210-35

TITLE SHEET

420 BLAKE MOUNTAIN TRAIL, HYAMPOM, CA 96046
TRINITY COUNTY, CALIFORNIA

DATE OF ISSUE: OCTOBER 2021
SCALE: AS SHOWN
PROJECT NO: 1513
DRAWING NO: T01

TRINITY VALLEY CONSULTING ENGINEERS, INC.

NOTES

FOR
KRASIMIR YORDANOV
420 BLAKE MOUNTAIN TRAIL
HYAMPOM, CA 96046

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN IN THESE DRAWINGS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE CONTRACT SPECIFICATIONS.
2. THE CONTRACTOR SHALL PROVIDE ALL UTILITIES AS NECESSARY TO SUCCESSFULLY COMPLETE ALL CONSTRUCTION ACTIVITIES.
3. ALL EXISTING AND PROPOSED DIMENSIONS DEPICTED HERON SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO STARTING WORK.
4. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER ON ALL CONSTRUCTION ACTIVITIES.
5. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITIES, WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE ENGINEER'S SATISFACTION AT THE CONTRACTOR'S SOLE EXPENSE WITHOUT ADDITIONAL COMPENSATION.
6. THE CONTRACTOR SHALL POSSESS THE CLASS, OR CLASSES, OF LICENSE AS SPECIFIED IN THE NOTICE TO CONTRACTORS.
7. THE CONTRACTOR IS TO EXPOSE THE ENDS OF EXISTING BURIED UTILITIES FOR SURVEYORS TO VERIFY LOCATION AND ELEVATION PRIOR TO PLACEMENT OF NEW UTILITIES. ALL COSTS OF SUCH EXCAVATION AND BACKFILL SHALL BE INCLUDED IN THE PRICE PAID FOR VARIOUS ITEMS OF WORK.
8. ALL APPLICABLE FEES TO BE PAID AND PERMITS REQUIRED SHALL BE OBTAINED BY THE CONTRACTOR BEFORE COMMENCEMENT OF CONSTRUCTION.
9. THE TYPES, LOCATIONS, SIZES, AND DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE IMPROVEMENT PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS, AND DEPTHS OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES. HOWEVER, TVCE CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES NOR FOR THE EXISTENCE OF OTHER BURIED OBJECTS OR UTILITIES WHICH MAY BE ENCOUNTERED BUT WHICH ARE NOT DEPICTED ON THESE DRAWINGS.
10. THE CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF 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 THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.
11. THE CONTRACTOR OR ANY SUBCONTRACTOR FOR THIS CONTRACT SHALL NOTIFY MEMBERS OF U.S.A. TWO WORKING DAYS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK BY CALLING THE TOLL FREE NUMBER 1-800-227-2600.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND OTHER SURVEY MARKERS DURING CONSTRUCTION. ALL SUCH MONUMENTS OR MARKERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
13. UNDOCUMENTED PIPING EXPOSED DURING CONSTRUCTION SHALL BE LOCATED AND MARKED BY THE CONTRACTOR FOR INCLUSION IN AS-BUILT DRAWINGS.
14. ALL NEW BURIED PIPING SHALL HAVE A MINIMUM OF 3 FEET OF COVER UNLESS OTHERWISE SPECIFIED.

CULTURALLY SENSITIVE AREAS:

1. AREAS WITHIN THE PROJECT PERIMETER THAT ARE CULTURALLY SENSITIVE SHALL BE PROTECTED AGAINST DAMAGE FROM CONSTRUCTION ACTIVITIES. AT NO TIME SHALL SUCH CULTURALLY SENSITIVE AREAS BE ENTERED, PARKED UPON, STOCK PILED UPON, OR HAVE ANY OTHER ACTIVITY ASSOCIATED WITH THE CONSTRUCTION OF THIS PROJECT IN ANY WAY INFRINGE UPON, DETERIORATE, DESTROY, OR RENDER TO A STATE OR CONDITION UNACCEPTABLE ANY CULTURALLY SENSITIVE AREA. THE CONTRACTOR AGREES TO PROTECT ALL SUCH AREAS DURING ANY AND ALL ACTIVITIES ASSOCIATED WITH THE CONSTRUCTION OF THIS PROJECT.

QUANTITIES:

1. QUANTITIES AND LENGTHS OF ITEMS PROVIDED WITHIN THIS PLAN SET ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL QUANTITIES OF COMPONENTS REQUIRED FOR THE SUCCESSFUL AND SATISFACTORY COMPLETION OF THE PROJECT.

TRAFFIC CONTROL NOTES:

1. WHENEVER THE WORK AREA IS ADJACENT TO A TRAFFIC LANE AND THERE IS A CUT, DITCH OR TRENCH MORE THAN TWO INCHES DEEP, THE CONTRACTOR SHALL MAINTAIN CONTINUOUS BARRICADES SPACED AT APPROXIMATELY 20-FOOT INTERVALS FOR THE FIRST 100 FEET FROM THE BEGINNING OF THE CUT, DITCH OR TRENCH, AND AT APPROXIMATELY 50-FOOT INTERVALS THEREAFTER. IF THE CUT, DITCH OR TRENCH IS MORE THAN TEN FEET FROM A TRAFFIC LANE, THE BARRICADED SPACING MAY BE GREATER BUT SHALL NOT EXCEED 200 FEET.
2. UNLESS SPECIFICALLY SET FORTH AS SPECIAL PROVISIONS, ALL MARKED LANES OF TRAFFIC SHALL BE UNOBSTRUCTED IN EACH DIRECTION DURING THE PEAK TRAFFIC HOURS OF 7:00 TO 8:30AM AND 3:30 TO 6:00 PM.
3. SAFE VEHICULAR AND PEDESTRIAN ACCESS SHALL BE PROVIDED AT ALL TIMES DURING CONSTRUCTION.
4. TRACK MOUNTED VEHICLES SHALL NOT BE OPERATED ON PAVED ROADS.

AGGREGATE BASE ROCK NOTES:

1. AGGREGATE BASE SHALL BE CALTRANS CLASS II.
2. AGGREGATE BASE SHALL BE INSTALLED PER SECTION 26 OF THE CALTRANS STANDARD SPECIFICATIONS.
3. AGGREGATE BASE SHALL BE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION PER CAL 316.

ASPHALT CONCRETE NOTES:

1. ASPHALT CONCRETE SHALL BE ½" MAXIMUM RADIUS HOT MIX TYPE A.
2. ASPHALT CONCRETE SHALL BE INSTALLED IN STRICT ACCORDANCE WITH SECTION 39 OF THE CALTRANS STANDARD SPECIFICATIONS.
3. ASPHALT CONCRETE SHALL BE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION AS VERIFIED PER CAL 216.
4. EXISTING AC SURFACES SHALL BE CUT TO A NEAT STRAIGHT LINE PARALLEL WITH THE CENTERLINE AND THE EXPOSED EDGE SHALL BE TACKED WITH EMULSION PRIOR TO PAVING. THE EXPOSED BASE MATERIAL SHALL BE GRADED, RE-COMPACTED, AND RESEALED PRIOR TO PAVING.

ELECTRIC GENERAL NOTES:

1. ALL ELECTRIC FACILITIES AND WORK TO BE IN STRICT COMPLIANCE WITH APPLICABLE LAWS AND MUST MEET PACIFIC GAS AND ELECTRIC (PG&E) REQUIREMENTS PER CURRENT GREEN BOOK.
2. REFER TO PG&E SITE PLAN FOR ADDITIONAL DETAILS NOT EXPRESSED ON THIS SHEET.
3. CONTRACTOR TO COORDINATE WITH PG&E FOR ALL REQUIRED TESTING/INSPECTION AND FOR PG&E INSTALLED FACILITIES.
4. OWNER HAS THE RESPONSIBILITY OF PAYING ALL FEES TO PG&E DIRECT FOR THEIR SERVICES/FACILITIES UNDER THE ORIGINAL APPLICATION FOR THIS PROJECT. ADDITIONAL COSTS RESULTING DIRECTLY FROM THE CONTRACTOR'S ACTIVITIES AND NOT EXPRESSLY COVERED UNDER THE ORIGINAL APPLICATION WILL BE THE SOLE EXPENSE OF THE CONTRACTOR.
5. POWER/ELECTRICAL FACILITIES DEPICTED ON THESE PLAN SETS ARE FOR GENERAL LOCATION PURPOSES. ACTUAL HARDWARE, ALIGNMENTS, PLACEMENT, AND DESIGN TO BE PROVIDED BY PACIFIC GAS & ELECTRIC (PG&E). CONTRACTOR TO COORDINATE WITH PG&E FOR DESIGN AND INSTALLATION OF REQUIRED COMMUNICATION FACILITIES.

COMMUNICATIONS GENERAL NOTES:

1. ALL COMMUNICATIONS FACILITIES AND WORK TO BE IN STRICT COMPLIANCE WITH APPLICABLE LAWS AND MUST MEET ALL FRONTIER REQUIREMENTS AS APPLICABLE UNDER CPUC.
2. CONTRACTOR TO COORDINATE WITH FRONTIER FOR ALL REQUIRED TESTING/INSPECTION AND FOR FRONTIER INSTALLED FACILITIES.
3. OWNER HAS THE RESPONSIBILITY OF PAYING ALL FEES TO FRONTIER DIRECT FOR THEIR SERVICES/FACILITIES UNDER THE ORIGINAL APPLICATION FOR THIS PROJECT. ADDITIONAL COSTS RESULTING DIRECTLY FROM THE CONTRACTOR'S ACTIVITIES AND NOT EXPRESSLY COVERED UNDER THE ORIGINAL APPLICATION WILL BE THE SOLE EXPENSE OF THE CONTRACTOR.
4. TELEPHONE/COMMUNICATION FACILITIES DEPICTED ON THESE PLAN SETS ARE FOR GENERAL LOCATION PURPOSES. ACTUAL HARDWARE, ALIGNMENTS, PLACEMENT, AND DESIGN TO BE PROVIDED BY FRONTIER. CONTRACTOR TO COORDINATE WITH FRONTIER FOR DESIGN AND INSTALLATION OF REQUIRED COMMUNICATION FACILITIES.

DUST CONTROL NOTES:

1. THE CONTRACTOR SHALL IMPLEMENT ONE OR BOTH OF THE FOLLOWING MEASURES FOR DUST CONTROL ON THIS SITE:

1.1 SPRAYING OF WATER SO AS NOT TO GENERATE ADDITIONAL RUNOFF. NO DUST PALLIATIVE MATERIALS OTHER THAN WATER WILL BE USED ON THIS PROJECT. IF NON-POTABLE WATER IS TO BE USED, IT MUST BE CONVEYED IN TANKS OR PIPES CLEARLY LABELED AS "NON-POTABLE WATER – DO NOT DRINK".

1.2 COVERS FOR EXPOSED AREAS.

EQUIPMENT & MATERIALS STORAGE NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL MATERIALS AND EQUIPMENT STORED ONSITE SHALL HAVE ADEQUATE COVERINGS AND CONTAINMENT TO PREVENT LEAKAGE AND SPILLS.
2. ALL MATERIALS AND EQUIPMENT SHALL BE STORED IN DESIGNATED AND APPROVED AREAS. THE AREA SHALL BE BERMED WITH EARTH DIKES THAT THE CONTRACTOR SHALL INSPECT AND MAINTAIN WEEKLY.
3. ALL FLAMMABLE, REACTIVE, AND/OR IGNITABLE LIQUIDS MUST COMPLY WITH LOCAL FIRE CODES.
4. DURING THE RAINY SEASON (OCTOBER THROUGH APRIL) THE CONTRACTOR SHALL ENSURE THAT MATERIALS ARE COVERED.
5. NO CHEMICALS, DRUMS, OR BAGGED MATERIALS SHALL BE STORED DIRECTLY ON THE GROUND; ITEMS SHALL BE PLACED ON PALLETS AND/OR IN SECONDARY CONTAINMENT.
6. IF DRUMS MUST BE KEPT UNCOVERED, THE CONTRACTOR SHALL STORE THEM AT A SLIGHT ANGLE TO REDUCE PONDING OF RAINWATER AND REDUCE CORROSION.
7. WHEN DANGEROUS MATERIALS AND/OR LIQUID CHEMICALS ARE UNLOADED ONSITE, THE CONTRACTOR SHALL HAVE EMPLOYEES TRAINED IN EMERGENCY SPILL CLEANUP PROCEDURES PRESENT.

VEHICLE MAINTENANCE NOTES:

1. EQUIPMENT AND VEHICLES TRAVELING ONSITE SHALL BE INSPECTED REGULARLY FOR LEAKS AND BE REPAIRED IMMEDIATELY. DO NOT ALLOW LEAKING VEHICLES ONSITE. KEEP VEHICLES AND EQUIPMENT CLEAN (DO NOT ALLOW EXCESSIVE BUILDUP OF OIL AND GREASE).
2. USE OFFSITE REPAIR SHOPS WHENEVER POSSIBLE; IF ONSITE REPAIRS ARE NECESSARY, USE A DESIGNATED AREA SURROUNDED BY EARTH BERMS. THE CONTRACTOR SHALL INSPECT THIS AREA WEEKLY AND AFTER EACH RAINSTORM EVENT TO ENSURE THAT THE EARTH BERMS ARE IN PLACE AND FUNCTIONING PROPERLY; ANY NON-FUNCTIONING BERMS SHALL BE REPAIRED IMMEDIATELY.
3. USE DRY CLEAN-UP METHODS FOR SPILLS AS MUCH AS POSSIBLE; USE ABSORBENT MATERIALS FOR SMALL SPILLS AND DISPOSE OF PROPERLY. USE A SECONDARY CONTAINMENT DURING FLUID CHANGES AND REPAIRS TO CATCH SPILLS.
4. SEGREGATE AND RECYCLE WASTES (INCLUDING BUT NOT LIMITED TO: USED OIL AND OIL FILTERS, BATTERIES, ETC.). KEEP HAZARDOUS WASTES SEPARATE FROM NON-HAZARDOUS WASTES; AFTER REPAIRS, ETC., PROMPTLY TRANSFER USED FLUIDS AND WASTES TO THEIR PROPER CONTAINMENT AREAS AND CONTAINERS.

SUMMARY OF QUANTITIES:

ITEM	DESCRIPTION	PLAN QUANTITY TOTAL	UNIT
001	TEMPORARY FACILITIES	1	LS
002	PRE GRADING ACTIVITY (CUT)	9,282.0	CY
003	PRE GRADING ACTIVITY (FILL)	9,282.0	CY
004	PRE GRADE DISTURBED AREA	[illegible]	AC
005	PROPOSED GRADING ACTIVITY (CUT)	[illegible]	CY
006	PROPOSED GRADING ACTIVITY (FILL)	8,458.2	CY
007	PROPOSED DISTURBED AREA	3.09	AC
008	TREES TO BE REMOVED	[illegible]	EA
009			
010			
011			
012			
013			
014			
015			
016			
017			
018			
019			
020			
021			
022			
023			
024			
025			

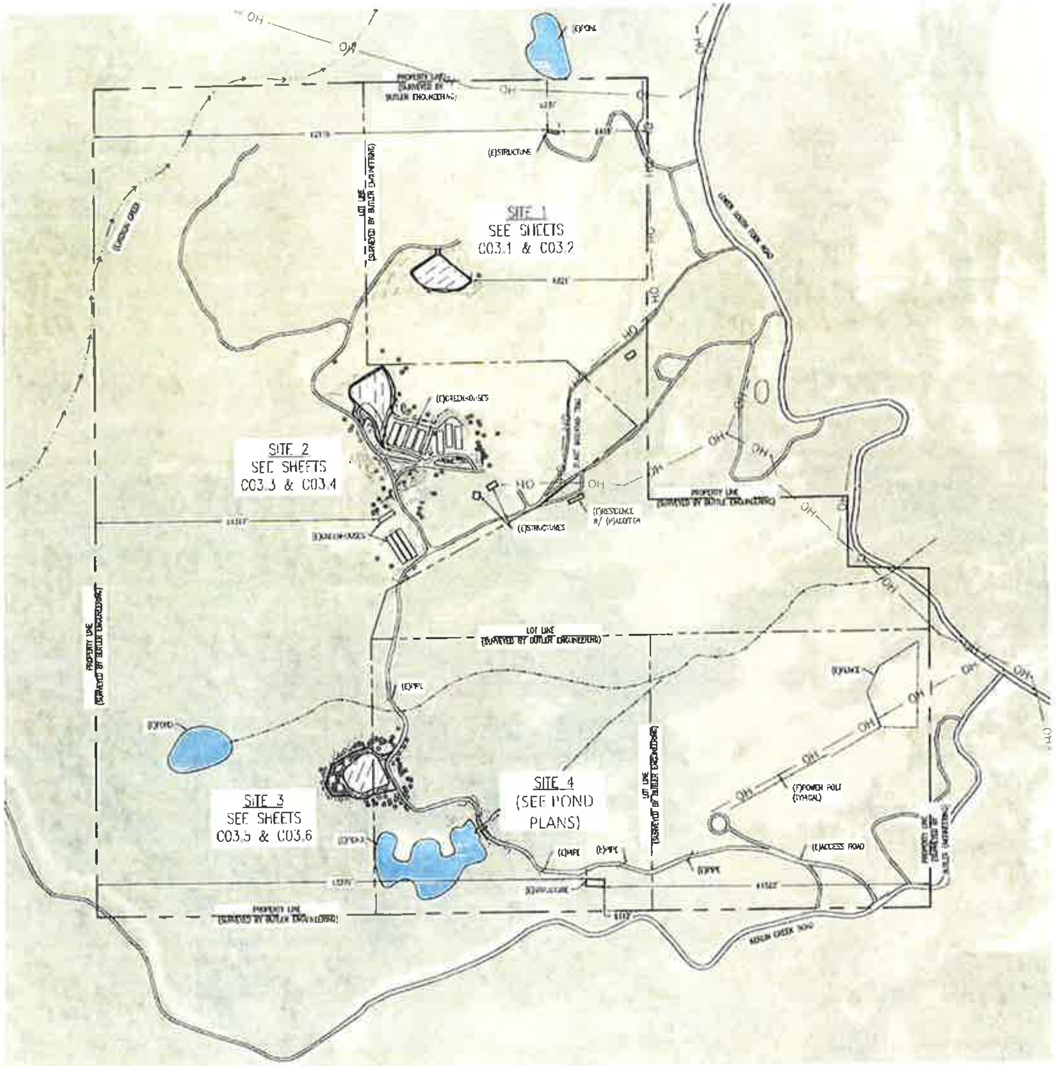
TVCE
[illegible] WALNUT WAY
PO BOX 1597
WILLOW CREEK, CA 95573
P:(530)629-3030
F:(530)629-3031

REGISTERED PROFESSIONAL ENGINEER
C 90533
CIVIL
STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

KRASIMIR YORDANOV
APN: 011-310-35
NOTES
420 BLAKE MOUNTAIN TRAIL, HYAMPOM, CA 96046
TRINITY COUNTY, CALIFORNIA

DATE OF ISSUE: OCTOBER 2021
SCALE: AS SHOWN
PROJECT NO: 1515
DRAWING NO: C00



PLOT PLAN VIEW
1"=250'

0 250 500
SCALE IN FEET

PLOT PLAN

FOR
KRASIMIR YORDANOV
420 BLAKE MOUNTAIN TRAIL
HYAMPOM, CA 96046

AREA MAP
NTS

VICINITY MAP
NTS

SURVEY NOTES

A FIELD SURVEY FOR TOPOGRAPHIC PURPOSES WAS CONDUCTED BY TRINITY VALLEY CONSULTING ENGINEERS (TVCE). A BOUNDARY SURVEY WAS NOT CONDUCTED BY TVCE. ALL PROPERTY LINES DEPICTED ON THESE PLANS REFLECT APPROXIMATE LOCATIONS BASED ON COUNTY RECORDS.

WASTE HANDLING NOTES

REFUSE SHALL BE STORED ON A CONCRETE SLAB AND UNDER ROOF COVER OR IN A PORTABLE/LOCKABLE DUMPSTER. REFUSE MUST BE HAULED TO AN APPROVED WASTE FACILITY WEEKLY.

COMPOST SHALL BE STORED AND COMPOSTED ON SITE. CANNABIS WASTE CANNOT EXCEED 50% OF THE GENERATED ORGANIC MATERIAL.

PROPERTY NOTES

WATER: ON SITE
WASTEWATER: ON-SITE
POWER: PUD
PHONE: FRONTIER
CREEKS/STREAMS: KERLIN CREEK
TREES TO BE REMOVED: PREVIOUS 3 ACRE CONVERSION
GRADING: SEE GRADING PLAN

CONTRACTOR ALERT

CONTRACTOR MUST CONTACT USA DIG AT 800-227-2600 AT LEAST 72 HOURS BEFORE ANY EARTHWORK OR ACTIVITIES THAT MAY AFFECT EXISTING UNDERGROUND UTILITIES.

EXISTING UTILITY ALIGNMENTS [illegible] MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES.

SRA REQUIREMENTS

PROVIDE ADEQUATE WATER STORAGE AND DESIGN AS OUTLINED BY SRA ORDINANCE AND CALFIRE REQUIREMENTS.

PROVIDE ADEQUATE TURN AROUND AND PULLOUTS AS OUTLINED BY SRA ORDINANCE REQUIREMENTS AND CALFIRE REQUIREMENTS.

TVCE

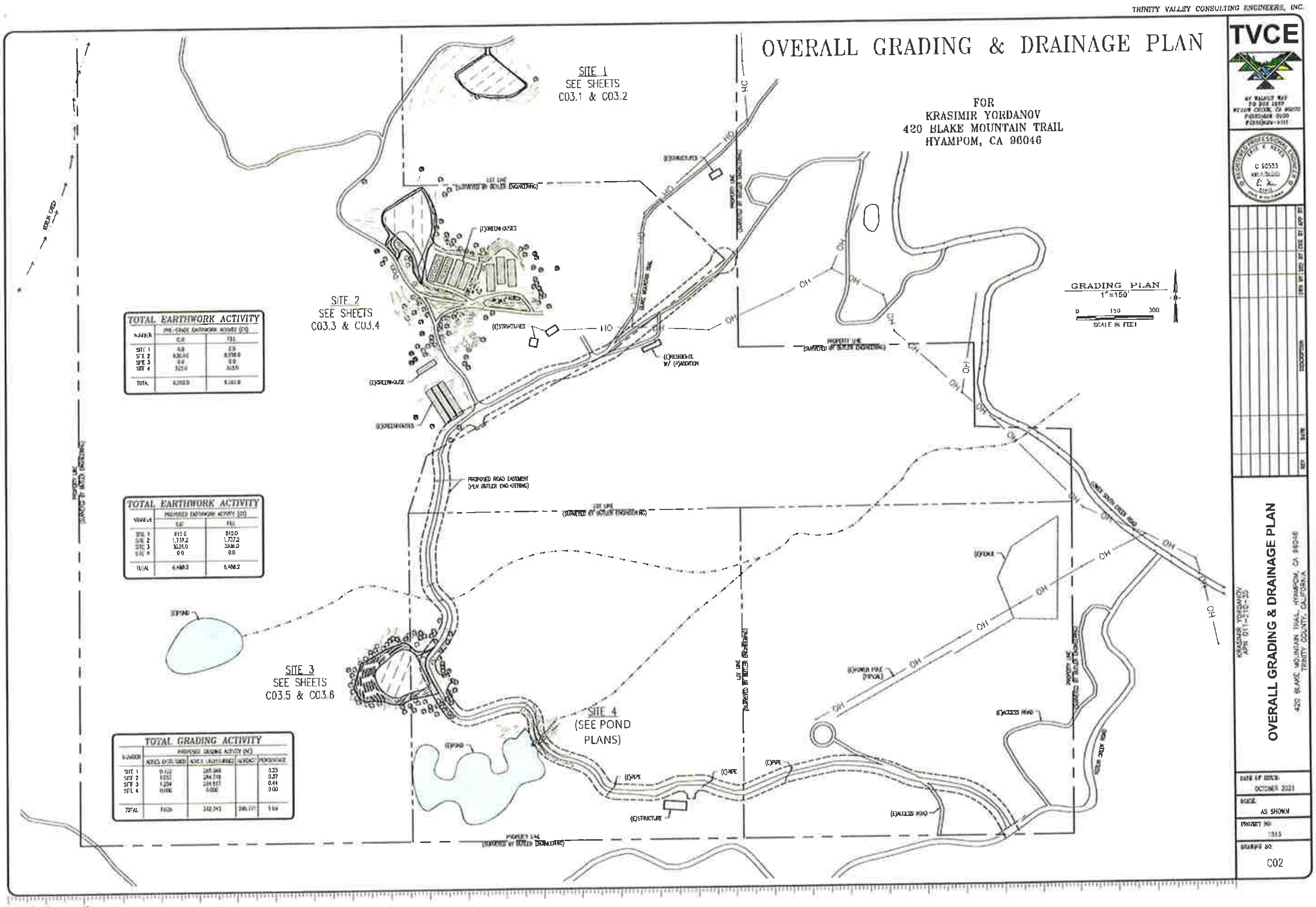
C 60533

KRASIMIR YORDANOV
APN 011-210-35

PLOT PLAN

420 BLAKE MOUNTAIN TRAIL, HYAMPOM, CA 96046
TRINITY COUNTY, CALIFORNIA

DATE OF ISSUE: OCTOBER 2021
SCALE: AS SHOWN
PROJECT NO. 1513
DRAWING NO. C01



TOTAL EARTHWORK ACTIVITY

NUMBER	PRE-GRADE EARTHWORK ACTIVITY (CY)	
	CUT	FILL
SITE 1	[illegible]	[illegible]
SITE 2	[illegible]	[illegible]
SITE 3	[illegible]	[illegible]
SITE 4	[illegible]	[illegible]
TOTAL	[illegible]	[illegible]

TOTAL EARTHWORK ACTIVITY

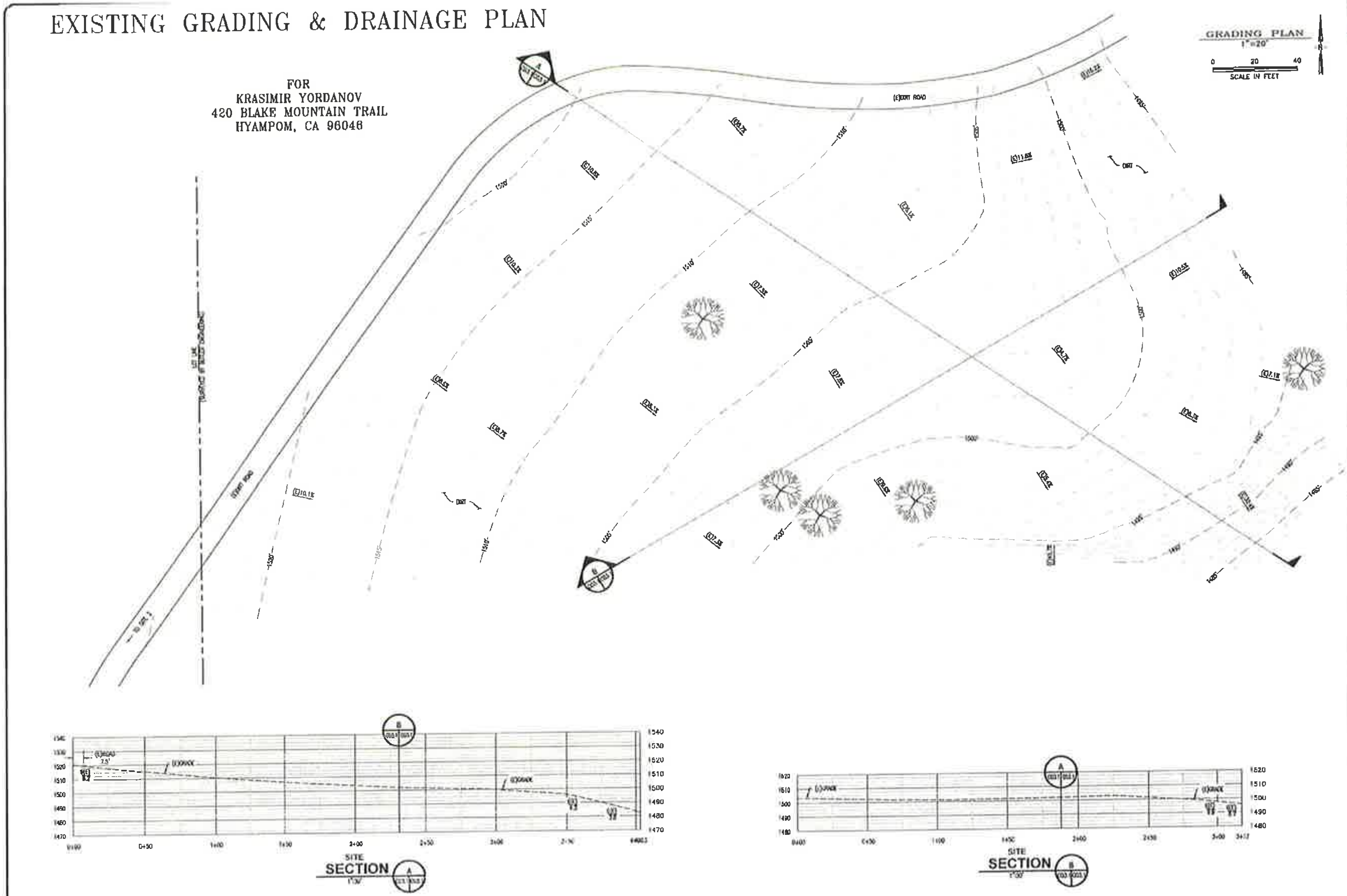
NUMBER	PROPOSED EARTHWORK ACTIVITY (CY)	
	CUT	FILL
SITE 1	815.0	815.0
SITE 2	1,737.2	1,737.2
SITE 3	5636.0	5936.0
SITE 4	0.0	0.0
TOTAL	6,488.2	6,488.2

TOTAL GRADING ACTIVITY

NUMBER	PROPOSED GRADING ACTIVITY (AC)			
	[illegible]	[illegible]	ACREAGE	PERCENTAGE
SITE 1	[illegible]	[illegible]		0.25
SITE 2	[illegible]	[illegible]		0.57
SITE 3	1.234	[illegible]		0.44
SITE 4	[illegible]	[illegible]		0.00
TOTAL	[illegible]	[illegible]	[illegible]	[illegible]

EXISTING GRADING & DRAINAGE PLAN

FOR
KRASIMIR YORDANOV
420 BLAKE MOUNTAIN TRAIL
HYAMPOM, CA 96046



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KRASIMIR YORDANOV
APN 011-210-35

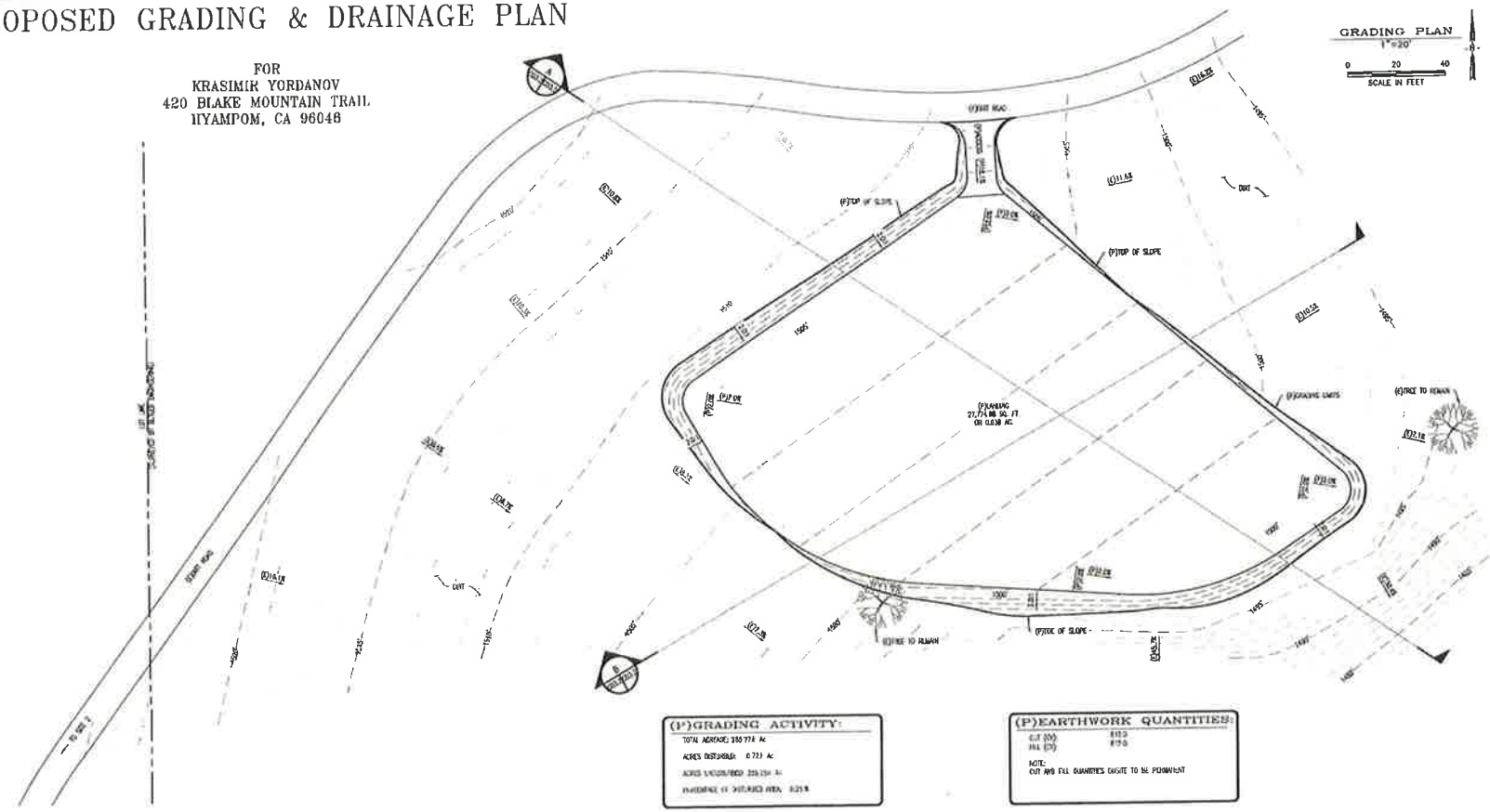
EXISTING GRADING & DRAINAGE PLAN SITE 1

420 BLAKE MOUNTAIN TRAIL, HYAMPOM, CA 96046
TRINITY COUNTY, CALIFORNIA

DATE OF ISSUE: OCTOBER 2021
SCALE: AS SHOWN
PROJECT NO: 1513
DRAWING NO: C03.1

PROPOSED GRADING & DRAINAGE PLAN

FOR
KRASIMIR YORDANOV
420 BLAKE MOUNTAIN TRAIL
HYAMPOM, CA 96046



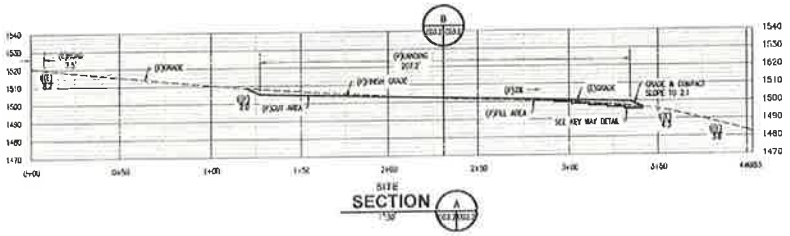
(P)GRADING ACTIVITY:

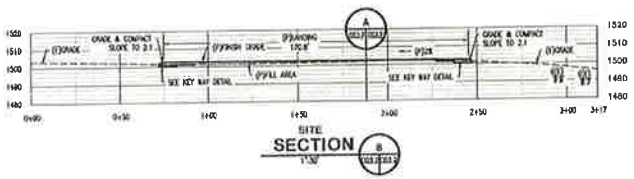
TOTAL AGREAGE: 350.772 Ac
ACRES DISTURBED: 0.723 Ac
ACRES UNDISTURBED: 350.134 Ac
PERCENTAGE OF DISTURBED AREA: 0.21%

(P)EARTHWORK QUANTITIES:

CUT (CY)	810
FILL (CY)	870

NOTE:
CUT AND FILL QUANTITIES ONSITE TO BE PERMANENT





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WILLOW CREEK, CA 95573
P:(530)629-3000
F:(530)629-3011

KRASIMIR YORDANOV
APN 011-210-35

PROPOSED GRADING & DRAINAGE PLAN SITE 1

420 BLAKE MOUNTAIN TRAIL, HYAMPOM, CA 96046
TRINITY COUNTY, CALIFORNIA

DATE OF ISSUE: OCTOBER 2021
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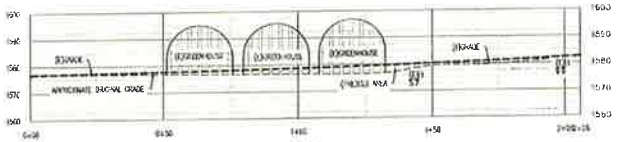
PROJECT NO: 1513
DRAWING NO: C03.2

EXISTING GRADING & DRAINAGE PLAN

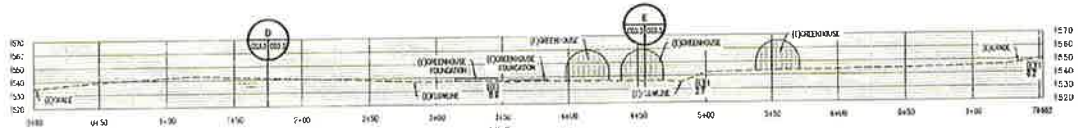
FOR
KRASIMIR YORDANOV
420 BLAKE MOUNTAIN TRAIL
HYAMPOM, CA 96046



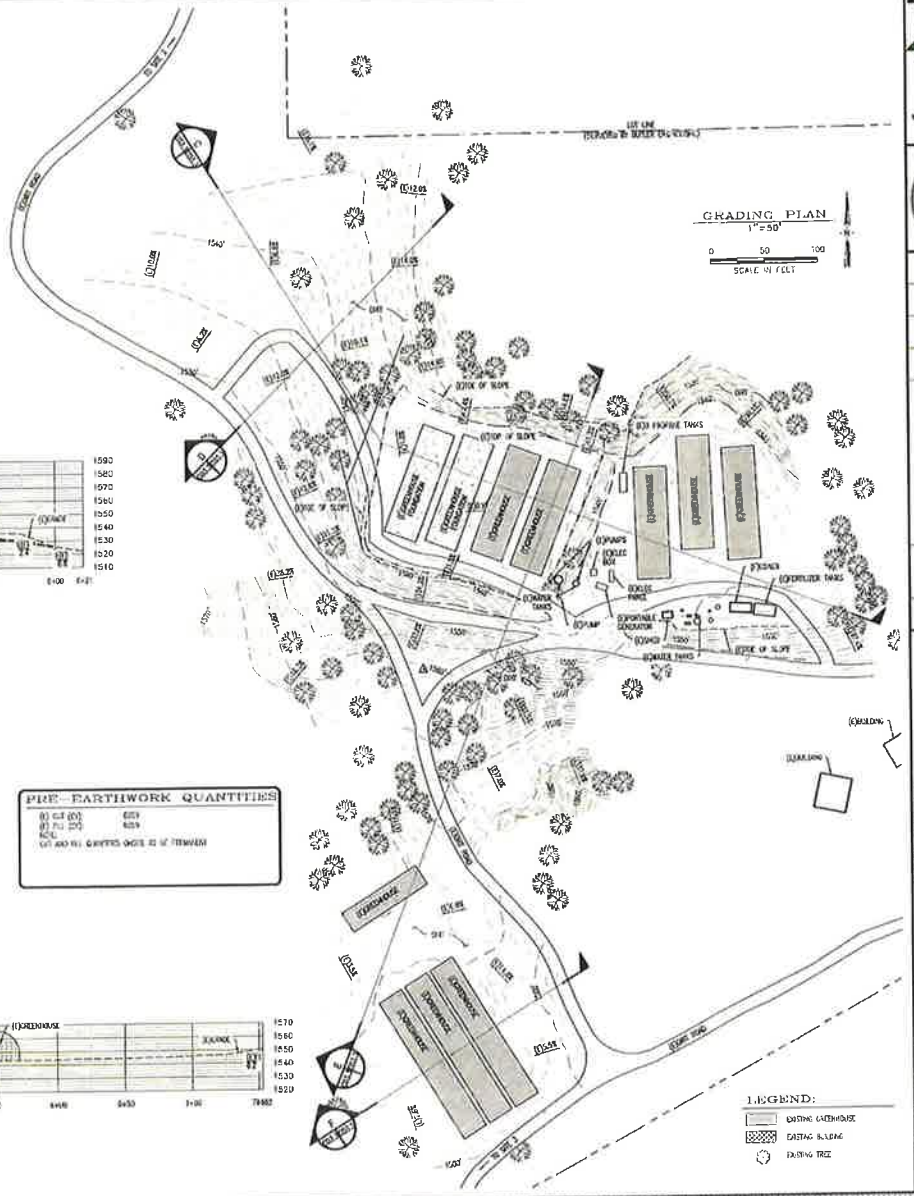
SITE SECTION F

SITE SECTION E

SITE SECTION D



SITE SECTION C



PRE-EARTHWORK QUANTITIES

TVCE

EXISTING GRADING & DRAINAGE PLAN SITE 2

420 BLAKE MOUNTAIN TRAIL, HYAMPOM, CA 96046
TRINITY COUNTY, CALIFORNIA

DATE OF ISSUE: OCTOBER 2021
SCALE: AS SHOWN
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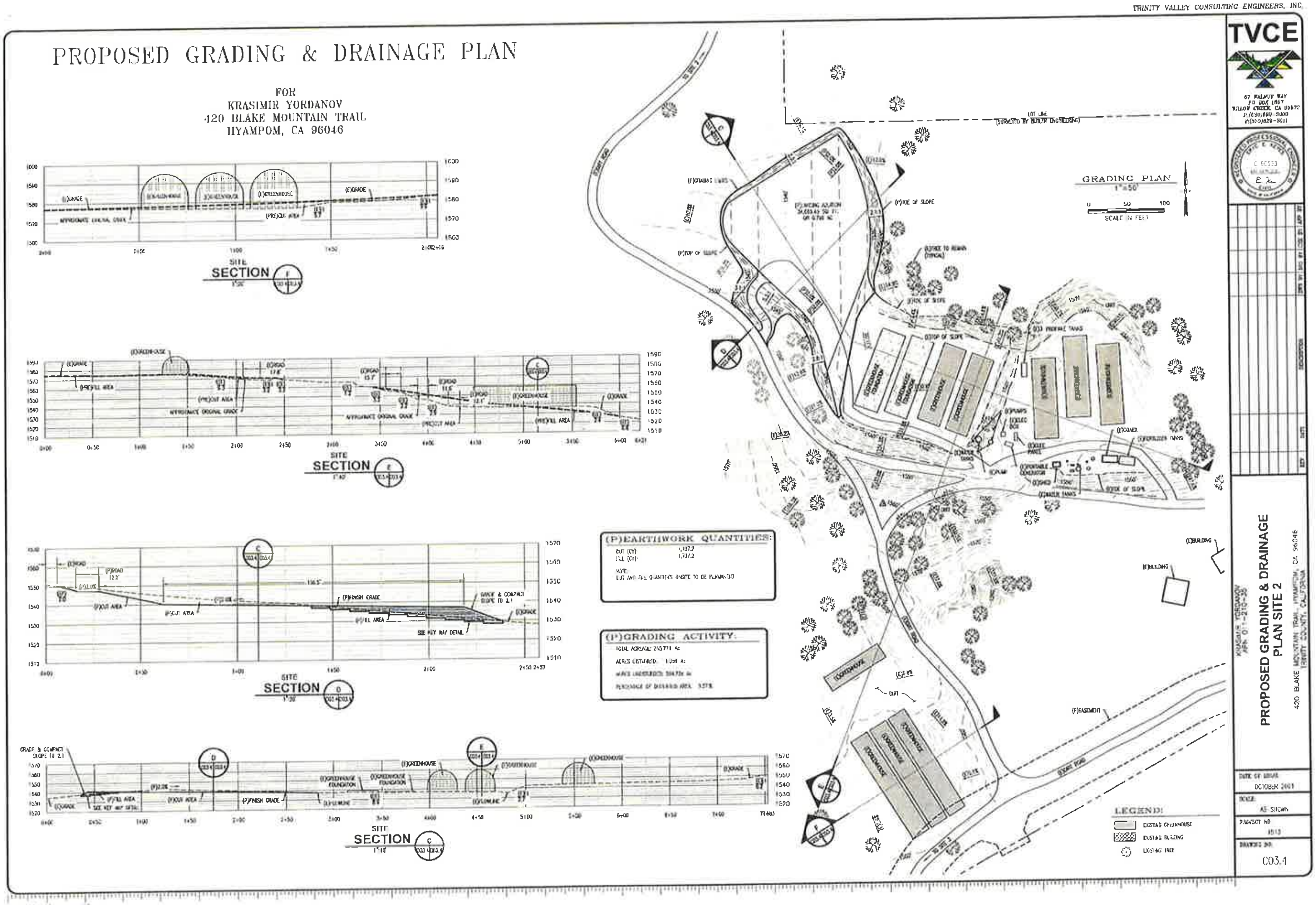
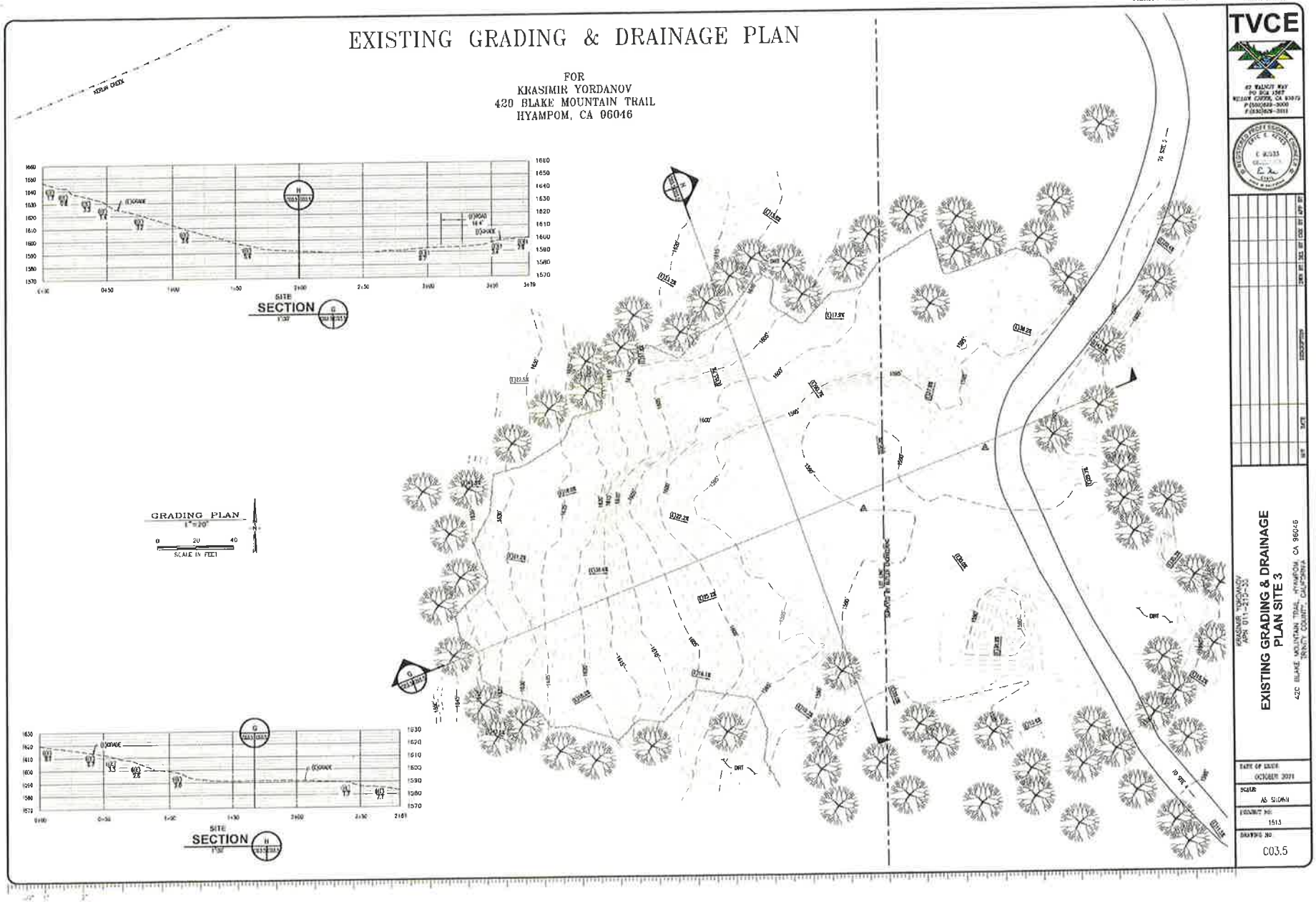
DRAWING NO: C03.3


TRINITY VALLEY CONSULTING ENGINEERS, INC.
PROPOSED GRADING & DRAINAGE PLAN
FOR
KRASIMIR YORDANOV
420 BLAKE MOUNTAIN TRAIL
HYAMPOM, CA 96046
SITE SECTION F
SITE SECTION E
SITE SECTION D
SITE SECTION C
GRADING PLAN
1"=50'
SCALE IN FEET
(P)EARTHWORK QUANTITIES:
CUT (CY): 1,737.2
FILL (CY): 1,737.2
NOTE:
(P)GRADING ACTIVITY:
LEGEND:
EXISTING GREENHOUSE
EXISTING BUILDING
EXISTING TREE
TVCE
67 WALNUT WAY
PO BOX 1667
WILLOW CREEK, CA 95573
PROPOSED GRADING & DRAINAGE PLAN SITE 2
420 BLAKE MOUNTAIN TRAIL, HYAMPOM, CA 96046
TRINITY COUNTY, CALIFORNIA
DATE OF ISSUE: OCTOBER 2021
SCALE: AS SHOWN
PROJECT NO
DRAWING NO. C03.1

EXISTING GRADING & DRAINAGE PLAN

FOR
KRASIMIR YORDANOV
420 BLAKE MOUNTAIN TRAIL
HYAMPOM, CA 96046



TVCE

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EXISTING GRADING & DRAINAGE PLAN SITE 3

KRASIMIR YORDANOV
APN 011-210-33
420 BLAKE MOUNTAIN TRAIL, HYAMPOM, CA 96046
TRINITY COUNTY, CALIFORNIA

DATE OF ISSUE: OCTOBER 2021
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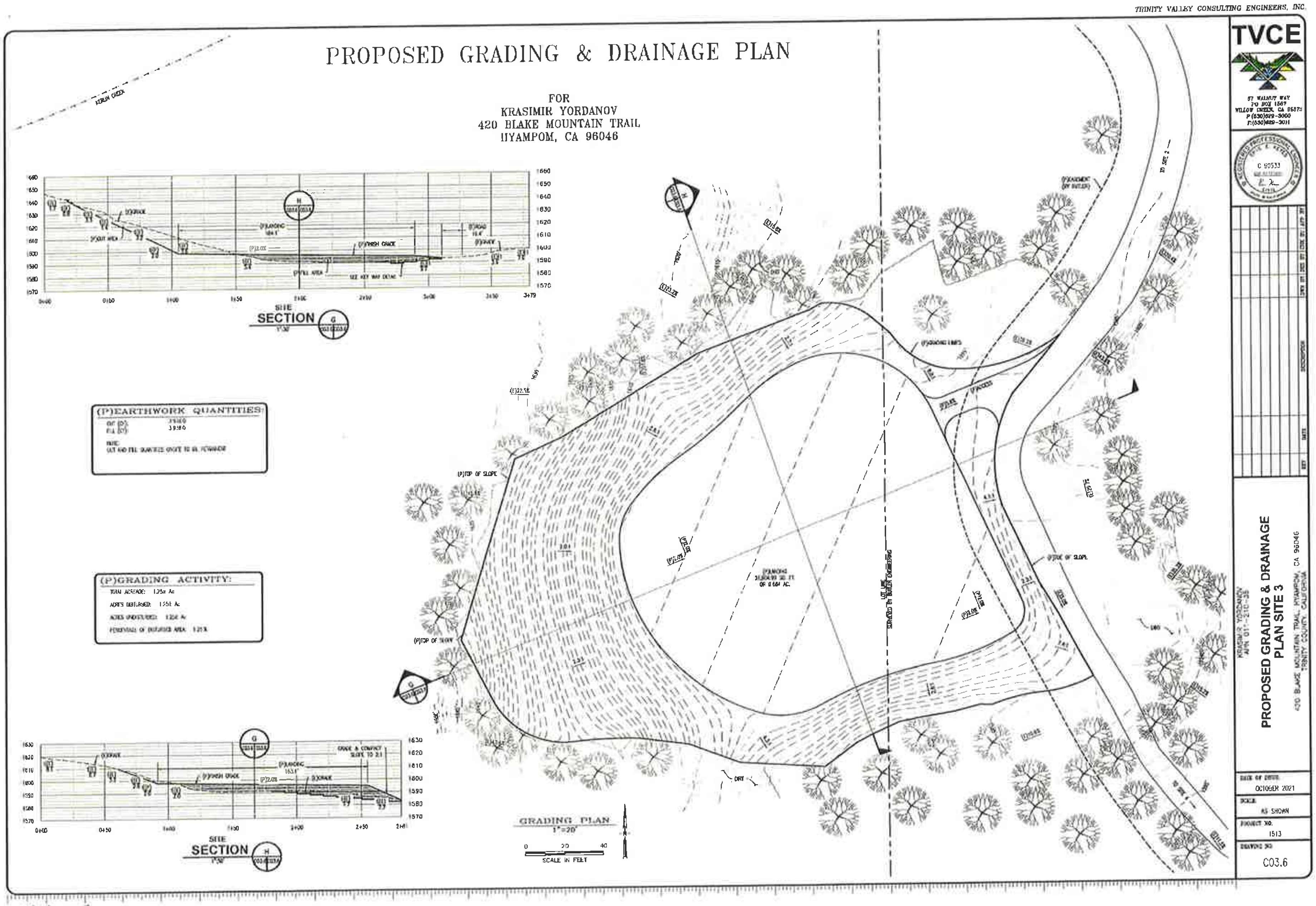
DRAWING NO: C03.5


TRINITY VALLEY CONSULTING ENGINEERS, INC.
PROPOSED GRADING & DRAINAGE PLAN
FOR
KRASIMIR YORDANOV
420 BLAKE MOUNTAIN TRAIL
HYAMPOM, CA 96046
SITE SECTION G
1"=30'
(P)EARTHWORK QUANTITIES
39580
(P)GRADING ACTIVITY:
SITE SECTION H
GRADING PLAN
1"=20'
SCALE IN FEET
TVCE
57 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
P:(530)629-3000
F:(530)629-3011
C 90533
KRASIMIR YORDANOV
APN 011-210-35
PROPOSED GRADING & DRAINAGE PLAN SITE 3
420 BLAKE MOUNTAIN TRAIL, HYAMPOM, CA 96046
TRINITY COUNTY, CALIFORNIA
DATE OF ISSUE: OCTOBER 2021
SCALE: AS SHOWN
PROJECT NO. 1513
DRAWING NO. C03.6

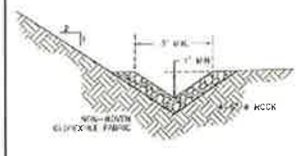
GRADING NOTES:

1. ALL EARTHWORK, INCLUDING BUT NOT LIMITED TO, SITE CLEARING, GRUBBING, STRIPPING, AND GRADING WILL BE CONDUCTED DURING DRY WEATHER CONDITIONS. (TYPICALLY APRIL 15 TO OCTOBER 15)
2. ANY UNDOCUMENTED FILL SOILS, FINE GRAINED RESIDUAL SOILS, AND ANY OTHER DEBRIS ENCOUNTERED AT OR BELOW THE EXISTING GROUND SURFACE SHALL BE REMOVED AT THE LOCATIONS RECEIVING ANY POTENTIAL FILLS.
3. THE SITE SHOULD BE GRADED TO PROVIDE ADEQUATE DRAINAGE SUCH THAT NO WATER IS ALLOWED TO POND ANYWHERE ON THE SITE OR MIGRATE BENEATH FUTURE DEVELOPMENTS.
4. ALL FILL MATERIAL SHALL BE PLACED IN HORIZONTAL LIFTS NOT TO EXCEED EIGHT INCHES (8") IN DEPTH AND SHALL BE COMPACTED MECHANICALLY.
5. ALL FILL MATERIAL SHALL BE FREE OF ORGANICS, ROCKS LARGER THAN 3"Ø, WOODY DEBRIS, ROOTS, AND INORGANIC MATERIAL.
6. ALL FILL MATERIAL SHALL HAVE A UNIFORM MOISTURE CONTENT AT OR NEAR OPTIMUM MOISTURE CONTENT AS DETERMINED BY TESTING AND APPROVED BY THE ENGINEER.
7. NON-STRUCTURAL FILL SHALL BE COMPACTED MECHANICALLY TO A FIRM UNYIELDING SURFACE AS APPROVED BY THE ENGINEER.
8. COMPACTION TESTING WILL BE DETERMINED AT THE ENGINEER'S DISCRETION.
9. IT IS RECOMMENDED THAT ANY MATERIAL PROPOSED FOR STRUCTURAL FILL MATERIAL TO SUPPORT ANY FOUNDATIONS OR STRUCTURAL BUILDING ELEMENT AND ASSOCIATED UTILITIES BE COMPACTED AS OUTLINED IN THE SOILS REPORT.
10. ALL FILL SLOPES SHALL BE TO A SMOOTH AND EVEN GRADE, SHALL BE SURFACE TRACKWALKED, AND FINAL GRADES NOT TO EXCEED 2:1 (h:v), WITHOUT ENGINEER APPROVAL.
11. SUFFICIENT TESTING AND INSPECTION SHOULD BE PERFORMED TO MONITOR THE SUITABILITY OF FILL MATERIALS AND ASSURE COMPLIANCE WITH THE RECOMMENDED COMPACTION STANDARDS.

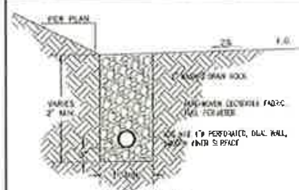
CLEARING, GRUBBING, & DEMOLITION NOTES:

1. TREES SCHEDULED TO BE REMOVED SHALL BE REMOVED COMPLETELY INCLUDING STUMPS, ROOTS, BRANCHES, WOODY DEBRIS, BARK, AND FLESH. TREES SHALL BE REMOVED FROM THE SITE AND DEPOSITED IN LOCATIONS DESIGNATED BY THE OWNER.
2. VEGETATION AND WOODY DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE LAWS AND REGULATIONS.
3. ALL GENERATED AND ACCUMULATED CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE LAWS AND REGULATIONS.
4. ALL AREAS WITH GENERATED VOIDS FROM DEMOLITION ACTIVITIES SHALL BE BACKFILLED WITH NATIVE SOIL TO FINISH GRADE IN 1' MAXIMUM VERTICAL LIFTS SUFFICIENTLY COMPACTED TO ELIMINATE SUBSIDENCE.
5. DUST CONTROL SHALL BE MAINTAINED DURING DEMOLITION PRACTICES.
6. TRACKING OF MATERIAL FROM THE SITE ONTO EXISTING ROADWAYS WILL NOT BE TOLERATED. TEMPORARY CONSTRUCTION SITE ENTRANCES SHOULD BE BUILT AT POINTS OF INTERSECTION TO EXISTING ROADWAYS AND PRACTICES SHOULD BE IMPLEMENTED TO REMOVE CONSTRUCTION MATTER FROM VEHICLES AND EQUIPMENT PRIOR TO LEAVING THE CONSTRUCTION SITE.
7. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED FOR THE SITE AS SOON AS PRACTICAL AND SHALL BE IN PLACE PRIOR TO EXECUTION OF MAJOR DEMOLITION OPERATIONS.

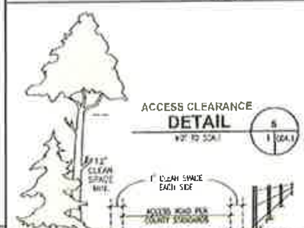
FILL PLACEMENT LOCATION	COMPACTION RECOMMENDATIONS (ASTM D 1557-MODIFIED PROCTOR)	MOISTURE CONTENT (PERCENT OPTIMUM)
STRUCTURAL FILL SUPPORTING FOOTING	90%	-1 TO +3 PERCENT
STRUCTURAL FILL SUPPORTING SLABS-ON-GRADE	90%	-1 TO +3 PERCENT
STRUCTURAL FILL PLACED WITHIN 3 FEET BEYOND THE PERIMETER OF THE BUILDING PAD	90%	-1 TO +3 PERCENT
UTILITY TRENCHES WITHIN BUILDING AND ANY PAVEMENT AREAS	95%	-1 TO +3 PERCENT
UTILITY TRENCHES BENEATH LANDSCAPE AND GRASS AREAS	90%	-1 TO +3 PERCENT



ROCK-LINED DITCH DETAIL 7 / C04.1
NOT TO SCALE



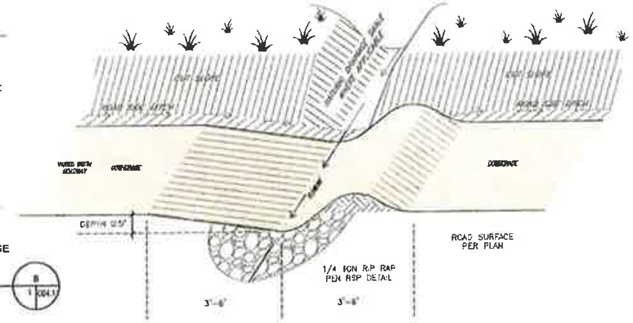
FRENCH DRAIN DETAIL 6 / C04.1
NOT TO SCALE



ACCESS CLEARANCE DETAIL 5 / C04.1
NOT TO SCALE

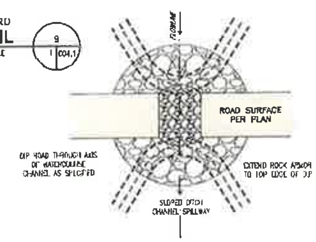
CONSTRUCTION NOTES:

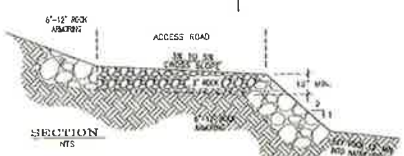
1. LOCATE DRAINAGE STRUCTURE WHERE THEY CAN TAKE ADVANTAGE OF NATURAL DRAINAGE FEATURES AND MINIMIZE EROSION.
2. ALL DRAINAGE FEATURES SHALL BEGIN AT THE INTERSECTION OF THE ROADBED AND CUT SLOPE AND RUN ACROSS THE ENTIRE WIDTH OF THE ROADBED.
3. THE CROSS SLOPE OF DRAINAGE FEATURES SHALL BE A MINIMUM 3%-5% GRADE.
4. DRAINAGE FEATURES SHALL BE SURFACED WITH 4" OF 1-1/2" ROAD BASE.
5. ALL DRAINAGE FEATURES SHALL HAVE FREE FLOWING OUTLETS.
6. PROVIDE 1/4 TON RIP RAP ARMORING AT OUTLETS.



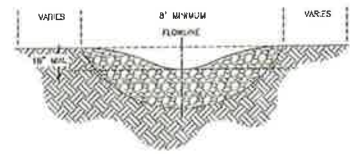
CROSS DRAINAGE STRUCTURE DETAIL 8 / C04.1
NOT TO SCALE

ROCK FORD DETAIL 9 / C04.1
NOT TO SCALE





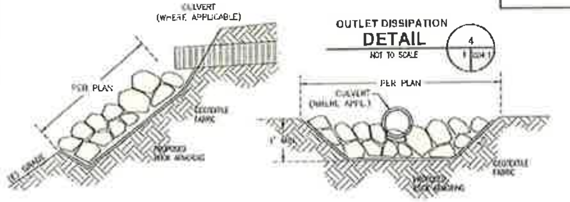
SECTION
NTS



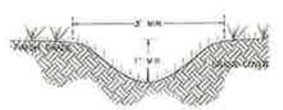
PROFILE
NTS

ROCKED FORD NOTES:

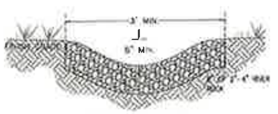
1. ROCKED FORDS ARE DRAINAGE STRUCTURES DESIGNED TO CARRY WATER ACROSS ROADS.
2. THE ROAD SHALL DIP INTO AND OUT OF THE ROCKED FORD TO MINIMIZE DIVERSION POTENTIAL.
3. THE CROSSING SHALL BE CONSTRUCTED WITH CLEAN, NATIVE ROCK THAT IS LARGE ENOUGH TO REMAIN IN PLACE DURING 100 YEAR PEAK FLOWS. ROCK SIZE SHALL VARY RELATIVE TO THE SIZE OF THE WATERCOURSE, HOWEVER, CROSSINGS SHALL USE A MINIMUM 3" ROCK SIZE.
4. THE CROSSING'S INLET AND OUTLET SHALL BE ARMORED TO RESIST DOWNCUTTING AND EROSION.
5. THE ENTIRE WIDTH OF THE CROSSING'S APPROACHES SHALL BE ROCK ARMORED TO A MINIMUM OF 5' FROM THE WATERCOURSE TRANSITION LINE AT EITHER SIDE OF THE CROSSING.
6. INSTALL A ROCK FORD KEYWAY AT THE BASE OF THE CROSSING TO A DEPTH NO LESS THAN 2 FEET.



OUTLET DISSIPATION DETAIL 4 / C04.1
NOT TO SCALE

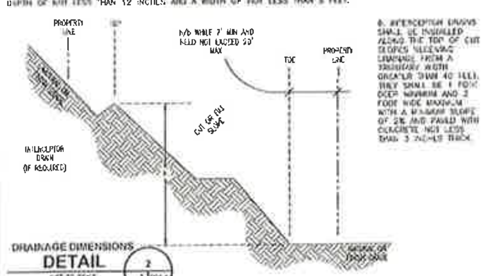


DRAINAGE SWALE DETAIL 3a / C04.1
NOT TO SCALE



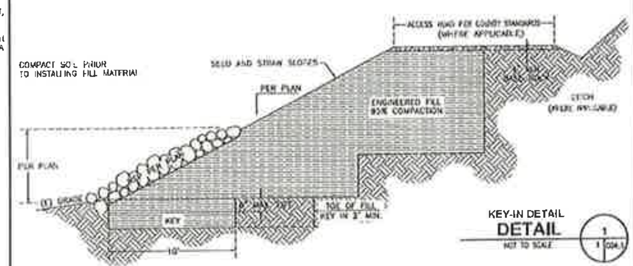
DRAINAGE SWALE DETAIL 3b / C04.1
NOT TO SCALE

1. CUT AND FILL SLOPES SHALL BE SET BACK FROM THE PROPERTY LINES AS SHOWN HEREIN.
2. THE SETBACK AT THE TOP OF A CUT SLOPE SHALL NOT BE LESS THAN THAT SHOWN OR THAN IS REQUIRED TO ACCOMMODATE ANY REQUIRED INTERCEPTOR DRAINS, WHICHEVER IS GREATER.
3. TERRACES NOT LESS THAN 8 FEET IN WIDTH SHALL BE ESTABLISHED AT NOT MORE THAN 30 FOOT VERTICAL INTERVALS ON ALL CUT AND FILL SLOPES TO CONTROL SURFACE DRAINAGE AND DEBRIS. SUITABLE ACCESS SHALL BE PROVIDED TO ALLOW FOR CLEANING AND MAINTENANCE.
4. WHERE MORE THAN TWO TERRACES ARE REQUIRED, ONE TERRACE, LOCATED AT APPROXIMATELY MID-HEIGHT, SHALL BE NOT LESS THAN 12 FEET IN WIDTH.
5. SWALES SHALL BE PROVIDED ON TERRACES WITH A MINIMUM SLOPE OF 5% AND SHALL BE PAVED WITH CONCRETE NOT LESS THAN 3 INCHES IN THICKNESS, OR ENGINEER APPROVED SUBSTITUTE. THEY SHALL HAVE A DEPTH OF NOT LESS THAN 12 INCHES AND A WIDTH OF NOT LESS THAN 5 FEET.
6. INTERCEPTOR DRAINS SHALL BE INSTALLED ALONG THE TOP OF CUT SLOPES RECEIVING DRAINAGE FROM A TRIBUTARY WIDTH GREATER THAN 40 FEET. THEY SHALL BE 1 FOOT DEEP MINIMUM AND 3 FOOT WIDE MAXIMUM WITH A MINIMUM SLOPE OF 2% AND PAVED WITH CONCRETE NOT LESS THAN 3 INCHES THICK.



DRAINAGE DIMENSIONS DETAIL 2 / C04.1
NOT TO SCALE

WHERE EXISTING GRADE IS AT A SLOPE STEEPER THAN 5:1 (h:v) AND A DEPTH OF THE FILL EXCEEDS 5 FEET, BENCHING SHALL BE PROVIDED. A KEY SHALL BE PROVIDED THAT IS NOT LESS THAN 10 FEET IN WIDTH AND 2 FEET IN DEPTH.



KEY-IN DETAIL 1 / C04.1
NOT TO SCALE

TVCE

KRASIMIR YORDANOV
APN 011-210-35

GRADING DETAILS

420 BLAKE MOUNTAIN TRAIL, HYAMPOM, CA 96046
TRINITY COUNTY, CALIFORNIA

DATE OF ISSUE	OCTOBER 2021
SCALE	AS SHOWN
PROJECT NO.	1513
DRAWING NO.	C04.1

CULVERT NOTES:

1. CULVERT TYPE: CULVERTS SHOULD BE RIDGED CORRUGATED METAL PIPE (CMP) OR RIGID CORRUGATED PLASTIC PIPE (CPP) WITH A SMOOTH INTERIOR MAY BE USED IF APPROVED PRIOR TO INSTALLATION.
2. CULVERT SIZE: CULVERT DIAMETER SHOULD BE DETERMINED BY A HYDRAULIC REPORT PER TRINITY COUNTY ROAD STANDARDS. THE CULVERT SHALL BE A MINIMUM OF EIGHTEEN (18") INCH DIAMETER. THE LENGTH OF THE PIPE SHOULD BE A MINIMUM OF 20' AND CAN BE EXTENDED WITH ADDITIONAL LENGTHS AS NEEDED TO EFFECTIVELY CONVEY WATER UNDER THE ROAD PRISM.
3. GRADE: INSTALL THE CULVERT TO MATCH THE GRADE TO THE FLOW LINE OF THE ABUTTING DITCHES OR STREAM. SETTING THE CULVERT AT THE WRONG GRADE, OR WITH ONE END TOO HIGH OR TOO LOW CAN CAUSE FLOODING, SCOURING AND EROSION.
4. ALIGNMENT: PLACE THE CULVERT IN THE SAME ALIGNMENT AS THE STREAM EVEN IF THIS MEANS THE CULVERT IS NOT PERPENDICULAR TO THE ROADBED.
5. END TREATMENT: THE INLET OF THE PIPE SHOULD BE PLACED AT OR BELOW THE DITCH FLOW LINE (NOT ABOVE) WITH ROCK ARMORING OR END SECTION AS SHOWN ON THE PLAN OR AS DIRECTED. THE OUTLET SHOULD BE EXTENDED BEYOND THE ROAD FILL PRISM. IF THIS IS NOT POSSIBLE THEN A CULVERT DOWN-SECTION SHOULD BE INSTALLED AND SECURED TO THE SLOPE TO EXTEND THE CULVERT TO BEYOND THE ROAD FILL PRISM. THE OUTLET SHOULD BE INSTALLED WITH ROCK ARMORING AS MEANS OF ENERGY DISSIPATION.
6. TRENCHING: TRENCHING SHOULD BE DONE AS NEAT AS POSSIBLE TO CREATE A CONSISTENTLY SMOOTH AND EVEN SURFACE TO INSTALL THE CULVERT. THE TRENCH SHOULD BE SUFFICIENTLY DEEP TO ALLOW FOR EIGHTEEN (18") INCHES OF COVER OVER THE TOP OF THE CULVERT.
7. BEDDING: COMPACT THE SUBGRADE PRIOR TO INSTALLING THE CULVERT.
8. COMPACTION: THE CAPACITY OF A CULVERT TO CARRY LOADS DEPENDS ON PROPER BACKFILLING, ESPECIALLY IN THE AREA UNDER THE HAUNCHES (LOWER THIRD). THE SOIL SURROUNDING THE CULVERT PROVIDES CRITICAL SUPPORT AND STRUCTURE. FOR MAXIMUM STRENGTH, AND TO PREVENT WASH OUTS AND SETTLING, THE BACKFILL MUST BE PROPERLY PLACED AND CAREFULLY COMPACTED. DRY TRENCH CONDITIONS MAKE THE PROCESS MORE EFFICIENT. WHEN BACKFILLING USE NO MORE THAN 8" LIFTS. BACKFILL MATERIAL SHOULD BE FREE OF ROCKS LARGER THAN 3" IN DIAMETER. THE MATERIAL MUST BE DUMPED CAREFULLY AND EVENLY ALONG BOTH SIDES OF THE PIPE. AVOID DUMPING LARGE QUANTITIES AT ONCE AGAINST OR ON TOP OF THE PIPE. INSTALLING TAMPED FILL BENEATH THE HAUNCHES OF ANY SHAPE OR TYPE OF PIPE HELPS IT WITHSTAND THE SOIL AND TRAFFIC LOADS.

GRADING NOTES:

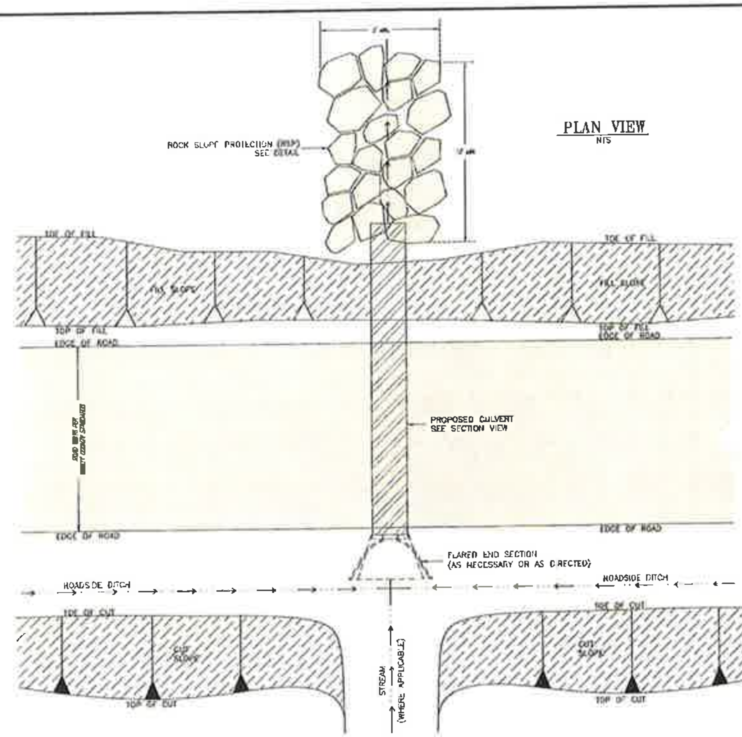
1. ALL EARTHWORK, INCLUDING BUT NOT LIMITED TO, SITE CLEARING, GRUBBING, STRIPPING, AND GRADING WILL BE CONDUCTED DURING DRY WEATHER CONDITIONS. (TYPICALLY APRIL 15 TO OCTOBER 15)
2. ANY UNDOCUMENTED FILL SOILS, FINE-GRAINED RESIDUAL SOILS, AND ANY OTHER DEBRIS ENCOUNTERED AT OR BELOW THE EXISTING GROUND SURFACE SHALL BE REMOVED AT THE LOCATIONS RECEIVING ANY POTENTIAL FILLS.
3. THE SITE SHOULD BE GRADED TO PROVIDE ADEQUATE DRAINAGE SUCH THAT NO WATER IS ALLOWED TO POND ANYWHERE ON THE SITE OR MIGRATE BENEATH FUTURE DEVELOPMENTS.
4. ALL FILL MATERIAL SHALL BE PLACED IN HORIZONTAL LIFTS NOT TO EXCEED EIGHT INCHES (8") IN DEPTH AND SHALL BE COMPACTED MECHANICALLY.
5. ALL FILL MATERIAL SHALL BE FREE OF ORGANICS, ROCKS LARGER THAN 3"ø, WOODY DEBRIS, ROOTS, AND INORGANIC MATERIAL.
6. ALL FILL MATERIAL SHALL HAVE A UNIFORM MOISTURE CONTENT AT OR NEAR OPTIMUM MOISTURE CONTENT AS DETERMINED BY TESTING AND APPROVED BY THE ENGINEER.
7. NON-STRUCTURAL FILL SHALL BE COMPACTED MECHANICALLY TO A FIRM UNYIELDING SURFACE AS APPROVED BY THE ENGINEER.
8. COMPACTION TESTING WILL BE DETERMINED AT THE ENGINEER'S DISCRETION.
9. IT IS RECOMMENDED THAT ANY MATERIAL PROPOSED FOR STRUCTURAL FILL MATERIAL TO SUPPORT ANY FOUNDATIONS OR STRUCTURAL BUILDING ELEMENT AND ASSOCIATED UTILITIES BE COMPACTED AS OUTLINED IN THE SOILS REPORT.
10. ALL FILL SLOPES SHALL BE TO A SMOOTH AND EVEN GRADE, SHALL BE SURFACE TRACKWALKED, AND FINAL GRADES NOT TO EXCEED 1.5:1 (h:v).
11. SUFFICIENT TESTING AND INSPECTION SHOULD BE PERFORMED TO MONITOR THE SUITABILITY OF FILL MATERIALS AND ASSURE COMPLIANCE WITH THE RECOMMENDED COMPACTION STANDARDS.

CLEARING, GRUBBING, & DEMOLITION NOTES:

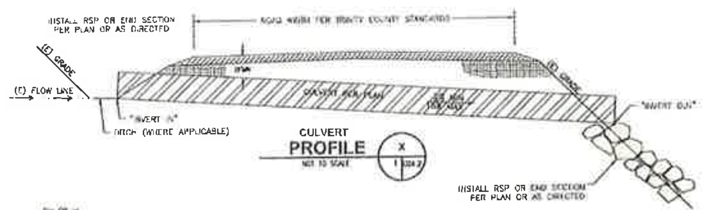
1. TREES SCHEDULED TO BE REMOVED SHALL BE REMOVED COMPLETELY INCLUDING STUMPS, ROOTS, BRANCHES, WOODY DEBRIS, BARK, AND PLEASE TREES SHALL BE REMOVED FROM THE SITE AND DEPOSITED IN LOCATIONS DESIGNATED BY THE OWNER.
2. VEGETATION AND WOODY DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE LAWS AND REGULATIONS.
3. ALL GENERATED AND ACCUMULATED CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE LAWS AND REGULATIONS.
4. ALL AREAS WITH GENERATED VOIDS FROM DEMOLITION ACTIVITIES SHALL BE BACKFILLED WITH NATIVE SOIL TO FINISH GRADE IN 1' MAXIMUM VERTICAL LIFTS SUFFICIENTLY COMPACTED TO ELIMINATE SUBSIDENCE.
5. DUST CONTROL SHALL BE MAINTAINED DURING DEMOLITION PRACTICES.
6. TRACKING OF MATERIAL FROM THE SITE ONTO EXISTING ROADWAYS WILL NOT BE TOLERATED. TEMPORARY CONSTRUCTION SITE ENTRANCES SHOULD BE BUILT AT POINTS OF INTERSECTION TO EXISTING ROADWAYS AND PRACTICES SHOULD BE IMPLEMENTED TO REMOVE CONSTRUCTION MATTER FROM VEHICLES AND EQUIPMENT PRIOR TO LEAVING THE CONSTRUCTION SITE.
7. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED FOR THE SITE AS SOON AS PRACTICAL AND SHALL BE IN PLACE PRIOR TO EXECUTION OF MAJOR DEMOLITION OPERATIONS.

PERMIT NOTES:

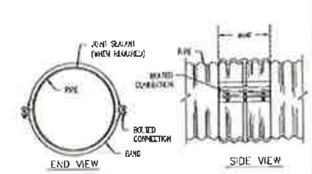
1. THE APPLICANT SHALL CONTACT THE RESPECTIVE AGENCIES FOR SPECIFIC PERMIT REQUIREMENTS OR MITIGATION MEASURES SUCH AS REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) 401 CERTIFICATION, U.S. ARMY CORPS OF ENGINEERS 404 PERMIT AND APPROVAL BY CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE SERVICE 1600 PERMIT.
2. SPECIFIC REQUIREMENTS COULD INCLUDE IN-WATER WORK WINDOWS, VEGETATION SPECIES, SEED MIXES, STABILIZATION MEASURES, WATER QUALITY MONITORING PROTOCOLS, AND SPECIFIC REPORTING REQUIREMENTS.
3. IF NUMERICAL-BASED WATER QUALITY STANDARDS ARE MENTIONED IN ANY OF THESE OR OTHER RELATED PERMITS, TESTING ANY SAMPLING MAY BE REQUIRED.
4. PROPER PLANNING, DESIGN, AND CONSTRUCTION TECHNIQUES CAN MINIMIZE IMPACTS NORMALLY ASSOCIATED WITH IN-STREAM CONSTRUCTION ACTIVITIES. POOR PLANNING CAN ADVERSELY AFFECT SOIL, FISH, AND WILDLIFE RESOURCES, LAND USES, OR LAND USERS.



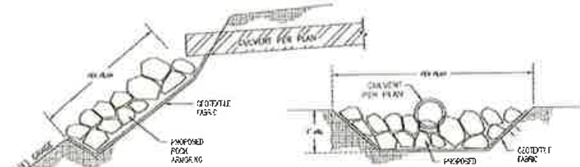
PLAN VIEW
NTS



CULVERT PROFILE X 1 C04.2
NOT TO SCALE



ANNULAR BAND DETAIL 3 1 C04.2
NOT TO SCALE



OUTLET DISSIPATION DETAIL 1 1 C04.2
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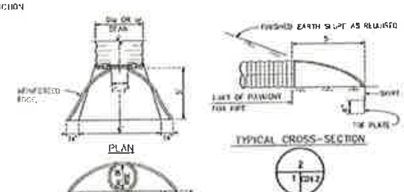
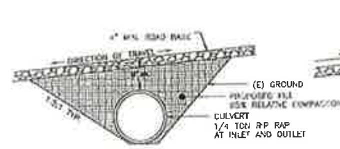
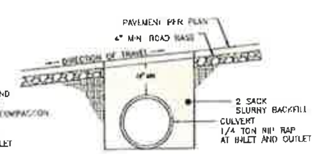


CULVERT END SECTION 2 1 C04.2



CULVERT SECTION A-1 1 C04.2
NOT TO SCALE



CULVERT SECTION A-2 1 C04.2
NOT TO SCALE

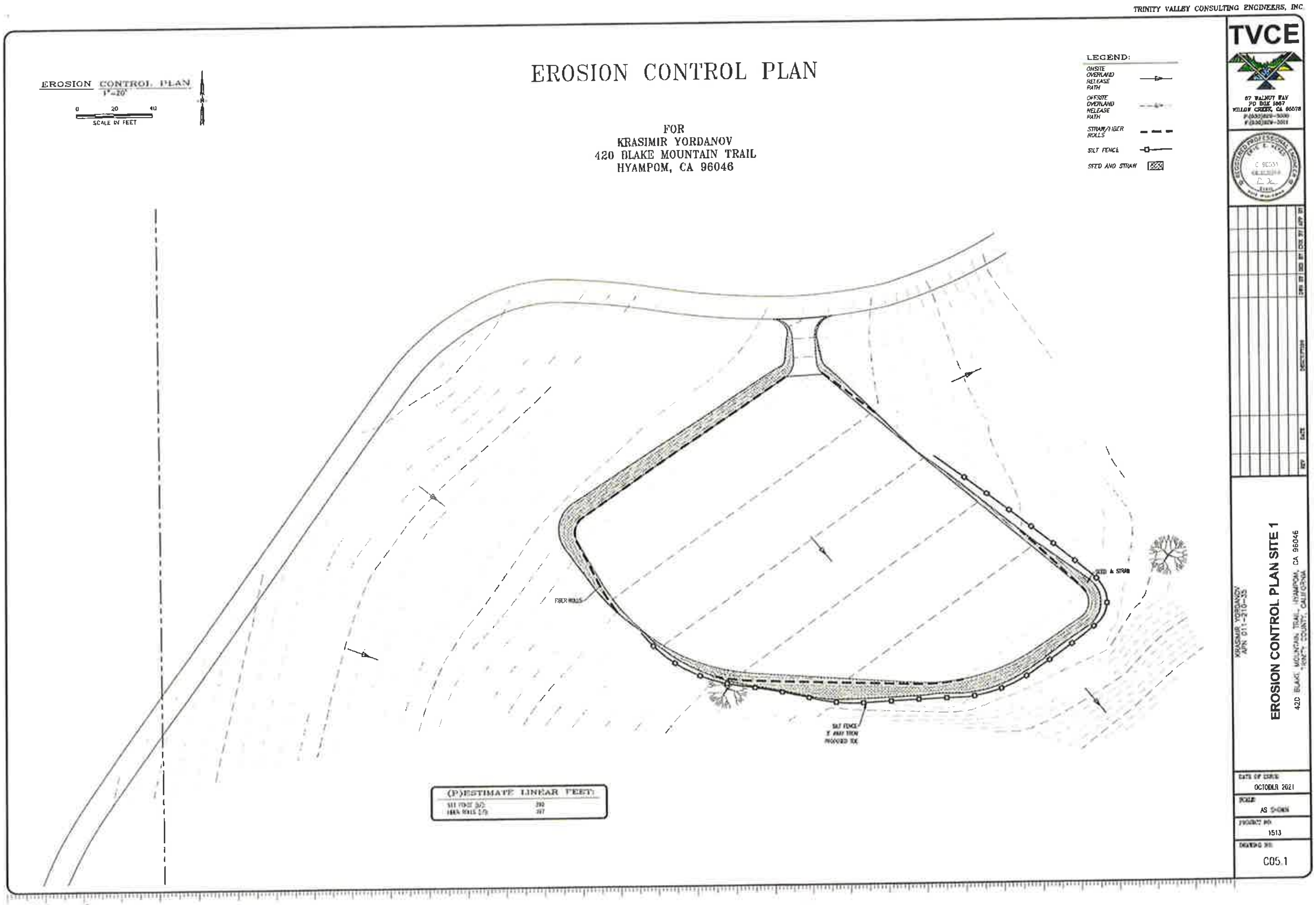
TVCE

67 WALNUT WAY
PO BOX 1687
WILLOW CREEK, CA 95573

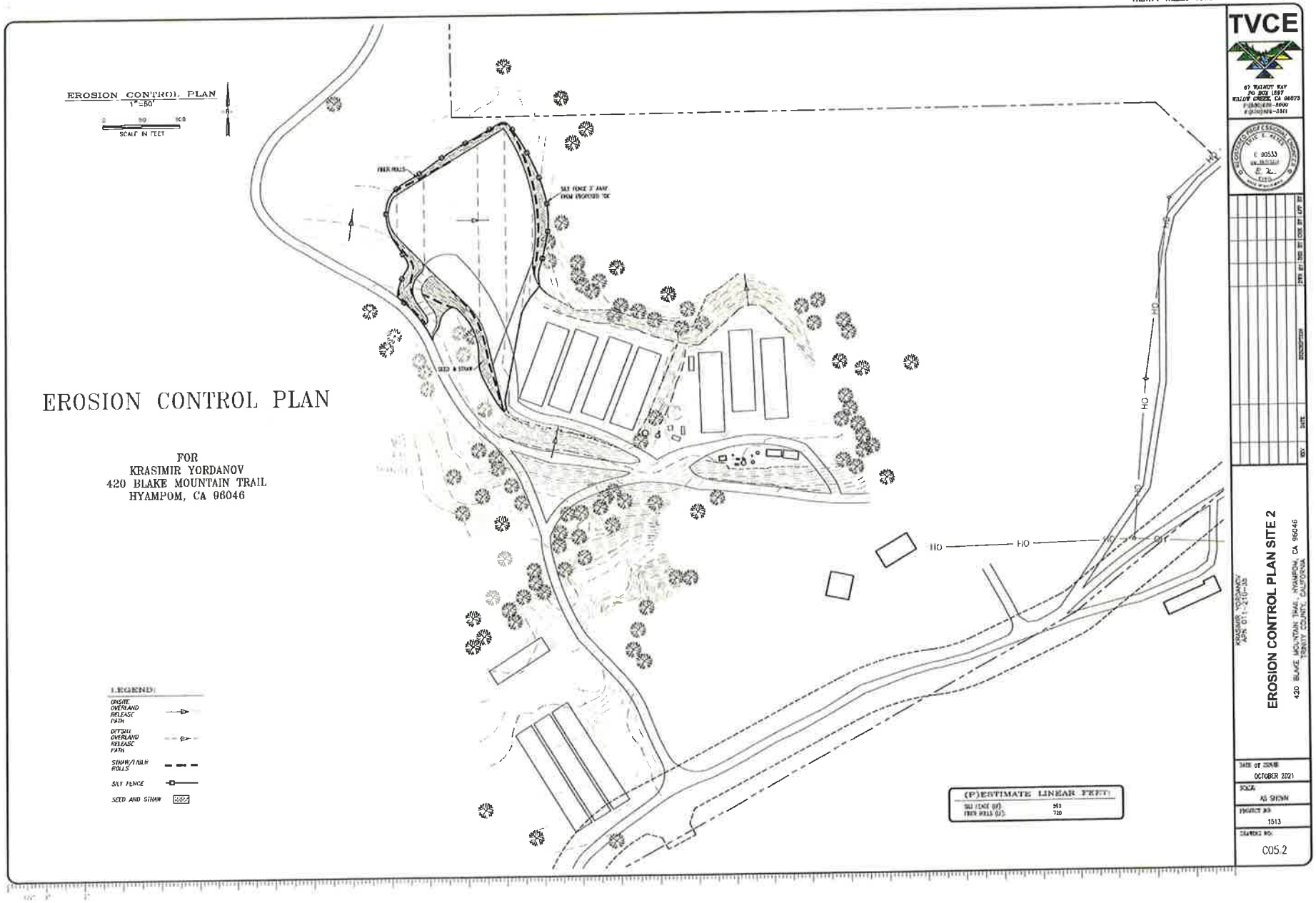
GRADING DETAILS

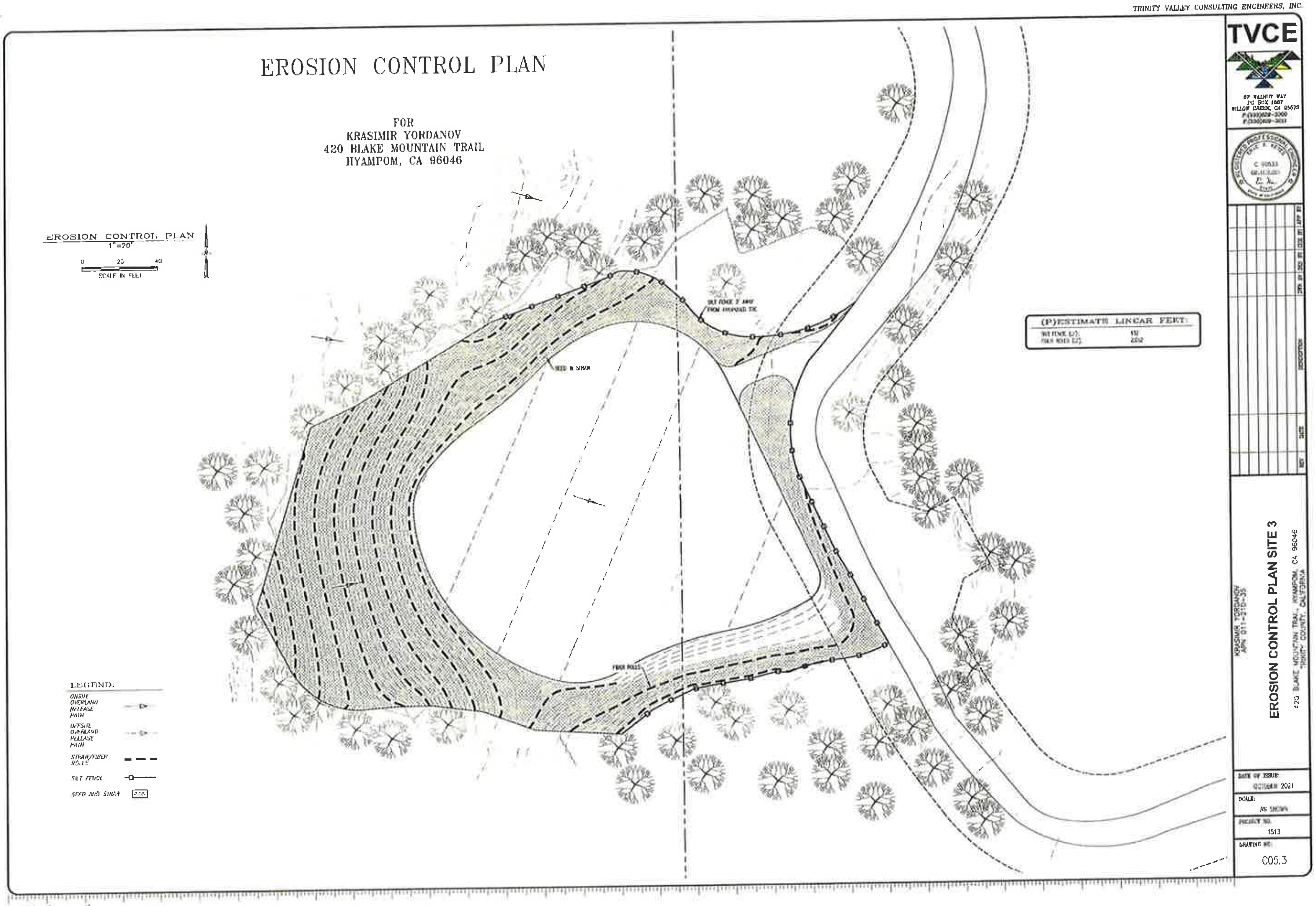
420 BLAKE MOUNTAIN TRAIL, HYAMPOM, CA 96046
TRINITY COUNTY, CALIFORNIA

DATE OF ISSUE	OCTOBER 2021
SCALE	AS SHOWN
PROJECT NO.	1513
DRAWING NO.	C04.2


TRINITY VALLEY CONSULTING ENGINEERS, INC
EROSION CONTROL PLAN
EROSION CONTROL PLAN
1"=20'
0 20 40
SCALE IN FEET
FOR
KRASIMIR YORDANOV
420 BLAKE MOUNTAIN TRAIL
HYAMPOM, CA 96046
LEGEND:
ONSITE OVERLAND RELEASE PATH
OFFSITE OVERLAND RELEASE PATH
STRAW/FIBER ROLLS
SILT FENCE
SEED AND STRAW
TVCE
67 WALNUT WAY
PO BOX 1067
WILLOW CREEK, CA 95573
SEED & STRAW
FIBER ROLLS
(P)ESTIMATE LINEAR FEET:
EROSION CONTROL PLAN SITE 1
KRASIMIR YORDANOV
APN 011-210-35
420 BLAKE MOUNTAIN TRAIL, HYAMPOM, CA 96046
TRINITY COUNTY, CALIFORNIA
DATE OF ISSUE
OCTOBER 2021
SCALE
AS SHOWN
PROJECT NO
1513
DRAWING NO
C05.1

TRINITY VALLEY CONSULTING ENGINEERS, INC.




TRINITY VALLEY CONSULTING ENGINEERS, INC.
EROSION CONTROL PLAN
FOR
KRASIMIR YORDANOV
420 BLAKE MOUNTAIN TRAIL
HYAMPOM, CA 96046
EROSION CONTROL PLAN
1"=20'
SCALE IN FEET
LEGEND:
ONSITE OVERLAND RELEASE PATH
OFFSITE OVERLAND RELEASE PATH
STRAW/FIBER ROLLS
SILT FENCE
SEED AND STRAW
SEED & STRAW
FIBER ROLLS
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WILLOW CREEK, CA 95573
KRASIMIR YORDANOV
APN 011-210-35
EROSION CONTROL PLAN SITE 3
420 BLAKE MOUNTAIN TRAIL, HYAMPOM, CA 96046
TRINITY COUNTY, CALIFORNIA
DATE OF ISSUE:
OCTOBER 2021
SCALE:
AS SHOWN
PROJECT NO.
1513
DRAWING NO:
C05.3

STRAW MULCH NOTES:

1. STRAW SHALL BE DERIVED FROM WHEAT, RICE, OR BARLEY WHERE REQUIRED BY THE PLANS, SPECIFICATIONS, PERMITS, OR ENVIRONMENTAL DOCUMENTS, NATIVE GRASS STRAW SHALL BE USED.
2. A BACKHOE IS THE PREFERRED METHOD FOR ANCHORING STRAW MULCH TO THE SOIL ON SLOPES.
3. CRIMPING, PUNCH MULCH-TYPE ROLLERS, OR TRACK WALKING MAY ALSO BE USED TO INCORPORATE STRAW MULCH INTO THE SOIL ON SLOPES. TRACK WALKING SHALL ONLY BE USED WHERE OTHER METHODS ARE IMPRACTICAL.
4. AVOID PLACING STRAW ONTO ROADS, SIDEWALKS, DRAINAGE CHANNELS, SOUND WALLS, EXISTING VEGETATION, ETC.
5. STRAW MULCH WITH TACKIFIER SHALL NOT BE APPLIED DURING OR IMMEDIATELY BEFORE RAINFALL.
6. APPLY STRAW AT A MINIMUM RATE OF 4,000 LB/ACRE EITHER BY MACHINE OR BY HAND DISTRIBUTION.
7. ROUGHEN EMBANKMENTS AND THE AREA BEFORE PLACING THE STRAW MULCH BY ROLLING WITH A CRIMPING OR PUNCHING TYPE ROLLER OR BY TRACK WALKING.
8. EVENLY DISTRIBUTE STRAW MULCH ON THE SOIL SURFACE.
9. ON SMALL AREAS, A SPADE OR SHOVEL CAN BE USED TO PUNCH IN STRAW MULCH.
10. ON SLOPES WITH SOILS THAT ARE STABLE ENOUGH AND OF SUFFICIENT GRADIENT TO SAFELY SUPPORT CONSTRUCTION EQUIPMENT WITHOUT CONTRIBUTING TO COMPACTION AND INSTABILITY PROBLEMS, STRAW CAN BE "PUNCHED" INTO THE GROUND USING A KNIFE BLADE ROLLER OR A STRAIGHT BLADED COULTER, KNOWN COMMERCIALLY AS A "CRIMPER".
11. ON SMALL AREAS AND/OR STEEP SLOPES, STRAW CAN ALSO BE HELD IN PLACE USING JUTE. THE NETTING SHALL BE HELD IN PLACE USING 11 GAUGE WIRE STAPLES, GEOTEXTILE PINS OR WOODEN STAKES AS DESCRIBED IN EC-7, GEOTEXTILES AND MATS.
12. TACKIFIER ACTS TO GLUE THE STRAW FIBERS TOGETHER AND TO THE SOIL SURFACE. THE TACKIFIER SHALL BE SELECTED BASED ON LONGEVITY AND ABILITY TO HOLD THE FIBERS IN PLACE. A TACKIFIER IS TYPICALLY APPLIED AT A RATE OF 125 LB/ACRE. IN WINDY CONDITIONS, THE RATES ARE TYPICALLY 190LB/ACRE.

EROSION AND SEDIMENT CONTROL NOTES:

1. EROSION CONTROL BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE INSTALLED AND MAINTAINED DURING THE WET SEASON (OCTOBER 1 THROUGH APRIL 30). SEDIMENT CONTROL BMP'S SHALL BE INSTALLED AND MAINTAINED ALL YEAR.
2. ALL DRAINAGE INLETS IMMEDIATELY DOWNSTREAM OF THE WORK AREA AND WITHIN THE WORK AREA SHALL BE PROTECTED WITH SEDIMENT CONTROL BMPS UNTIL WORK IS COMPLETED.
3. ALL STABILIZED CONSTRUCTION ACCESS LOCATIONS SHALL BE CONSTRUCTED PER STANDARD DRAWING TC-1 WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES PAVED AREAS. THE STABILIZED ACCESS SHALL BE MAINTAINED ON A YEAR-ROUND BASIS UNTIL THE COMPLETION OF CONSTRUCTION.
4. ALL AREAS DISTURBED DURING CONSTRUCTION, BY GRADING, TRENCHING, OR OTHER ACTIVITIES, SHALL BE PROTECTED FROM EROSION DURING THE WET SEASON (OCTOBER 1 THROUGH APRIL 30). HYDROSEED, IF UTILIZED, MUST BE PLACED BY SEPTEMBER 15. HYDROSEED PLACED DURING THE WET SEASON SHALL USE A SECONDARY EROSION PROTECTION METHOD.
5. SENSITIVE AREAS AND AREAS WHERE EXISTING VEGETATION IS BEING PRESERVED SHALL BE PROTECTED WITH CONSTRUCTION FENCING. SEDIMENT CONTROL BMP'S SHALL BE INSTALLED WHERE ACTIVE CONSTRUCTION AREAS DRAIN INTO SENSITIVE OR PRESERVED VEGETATION AREAS.
6. SEDIMENT CONTROL BMP'S SHALL BE PLACED ALONG THE PROJECT PERIMETER WHERE DRAINAGE LEAVES THE PROJECT. SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED YEAR-ROUND UNTIL THE CONSTRUCTION IS COMPLETE OR THE DRAINAGE PATTERN HAS BEEN CHANGED AND NO LONGER LEAVES THE SITE.
7. ALL SLOPES GREATER THAN 1:1 SHALL RECEIVE SEED AND STRAW OR OTHER EROSION CONTROL.
8. ALL FENCING AND EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT ALL ON-SITE CONSTRUCTION ACTIVITIES.
9. ALL BMPS SHALL BE INSTALLED AND FUNCTIONING PRIOR TO ANY ANTICIPATED STORM EVENT.

GENERAL WATER POLLUTION CONTROL NOTES:

1. THE INFORMATION ON THESE DRAWINGS ARE ACCURATE FOR WATER POLLUTION CONTROL PURPOSES ONLY.
2. THE INFORMATION ON THIS PLAN IS INTENDED TO BE USED AS A GUIDE FOR THE CONTRACTOR AND SUBCONTRACTORS TO INSTALL WATER POLLUTION CONTROL DEVICES AT GENERAL LOCATIONS THROUGHOUT THE SITE. THESE DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE NARRATIVE SECTION OF THE WATER POLLUTION CONTROL PLAN.
3. FIELD CONDITIONS MAY NECESSITATE MODIFICATION TO THESE DRAWINGS.
4. PERMANENT EROSION CONTROL AND REVEGETATION WILL BE INSTALLED AS AREAS ARE DETERMINED TO BE SUBSTANTIALLY COMPLETE AND PER THE SPECIFICATIONS.
5. AS BMPS WILL BE FIELD-VERIFIED AND APPROVED FOR INSTALLATION BY THE QSP. ALL BMPS WILL BE INSTALLED ACCORDING TO THE STANDARD PLANS AND SPECIFICATIONS UNLESS APPROVED BY THE QSP AND AMENDED INTO THE WPCP.

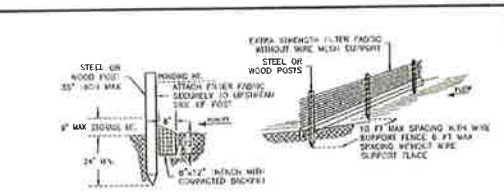
BMP MAINTENANCE NOTES:

1. ALL OF THE IMPLEMENTED BMPS SHALL BE INSPECTED AND CORRECTED AS NEEDED PRIOR TO, DURING, AND IMMEDIATELY FOLLOWING ANY STORM EVENT, OR WHENEVER PRACTICAL.

BMP INSTALLATION SCHEDULE

EROSION AND SEDIMENT CONTROL MEASURES

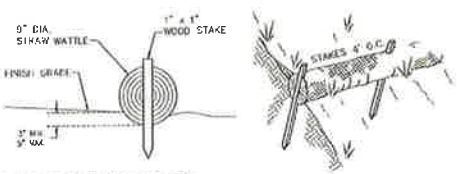
PHASE OF CONSTRUCTION	WET SEASON: HYDROSEEDING / MULCHING	WET SEASON: PRESERVATION OF EXISTING VEGETATION	WET SEASON: STRAW / FIBER ROLLS	WET AND DRY SEASON: STORM DRAIN INLET PROTECTION	WET AND DRY SEASON: BMP MAINTENANCE PLAN	WET AND DRY SEASON: STABILIZED CONSTRUCTION ENTRANCE	WET AND DRY SEASON: CONTRACTOR / SUBCONTRACTOR STAGING	WET AND DRY SEASON: MATERIAL & WASTE DISPOSAL LOCATION	WET AND DRY SEASON: DUST CONTROL	WET AND DRY SEASON: DEWATERING OPERATIONS	WET AND DRY SEASON: CONCRETE WASHOUT
PRE-GRADING	●	●	●			●	●	●	●		●
CUT AND FILL ACTIVITIES				●	●					●	
UNDERGROUND WORK											
STORM DRAIN IMPROVEMENTS											
UTILITY IMPROVEMENTS				●							
COMPLETION OF PAVING											
POST-GRADING	●	●									



SILT FENCE NOTES:

1. THE CONTRACTOR SHALL INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT.
2. CONTRACTOR SHALL REMOVE SEDIMENT AS NECESSARY. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND IN AN AREA THAT CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

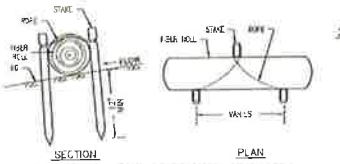
SILT FENCE DETAILS
NTS



STRAW WATTLE NOTES:

1. STRAW WATTLES SHALL BE INSTALLED WITH 18 OR 24 INCH WOOD STAKES AT FOUR FEET ON CENTER. THE ENDS OF ADJACENT STRAW WATTLES SHALL BE ABUTTED TO EACH OTHER SNUGLY OR OVERLAPPED BY SIX INCHES.
2. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"-5" DEEP. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND THE ROLL.

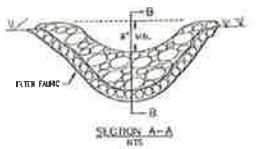
STRAW WATTLE INSTALLATION DETAIL
NTS



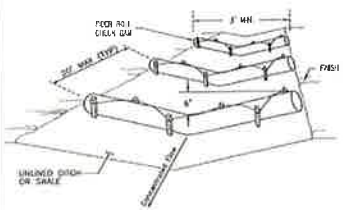
STAKING AND LASHING DETAIL
NTS

NOTE:
1. SPILLWAY DEPTH "d" SHALL BE MAINTAINED TO PREVENT FLANKING OF CONCENTRATED FLOW AROUND THE ENDS OF EACH CHECK DAM.

SECTION
TEMPORARY CHECK DAM (TYPE 2)
NTS



SECTION A-A
NTS



TEMPORARY CHECK DAM (TYPE 1)
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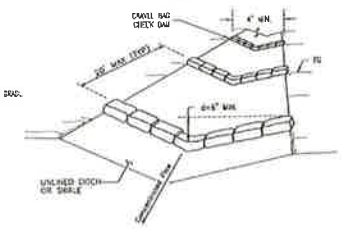

TEMPORARY CHECK DAM (TYPE 2)
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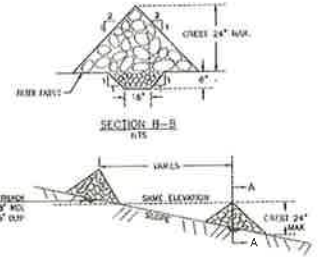

TEMPORARY CHECK DAM (TYPE 3)
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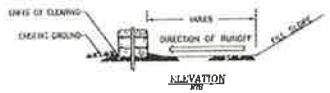
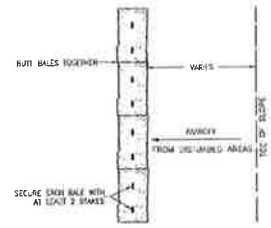
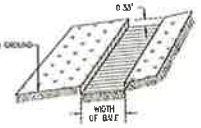


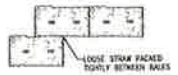
ELEVATION
NTS



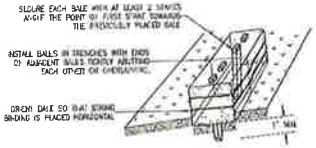
PLAN VIEW
NTS



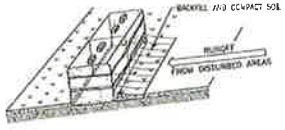
STEP 1:
EXCAVATE TRENCH



STEP 3:
TIGHTLY PACK STRAW BETWEEN BALES



STEP 2:
INSTALL BALES



STEP 4:
BACKFILL SOIL AGAINST BALES

STRAW BALE BARRIER INSTALLATION DETAIL
NTS

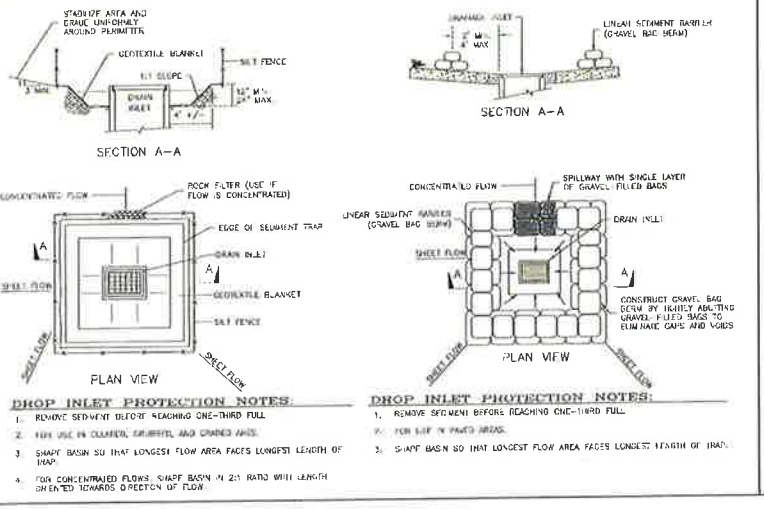
TVCE
TRINITY VALLEY CONSULTING ENGINEERS, INC.
67 WALNUT WAY
PO BOX 1237
WEAVERVILLE, CA 96093
P.(530)629-3000
F.(530)629-3001

KOUENAR YORDANOV
APN 011-210-35

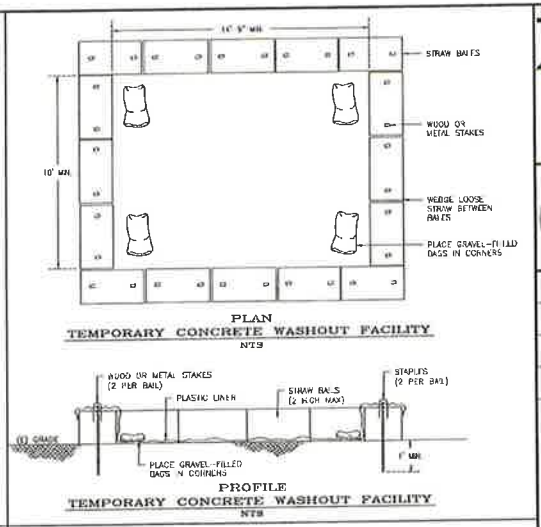
EROSION CONTROL DETAIL

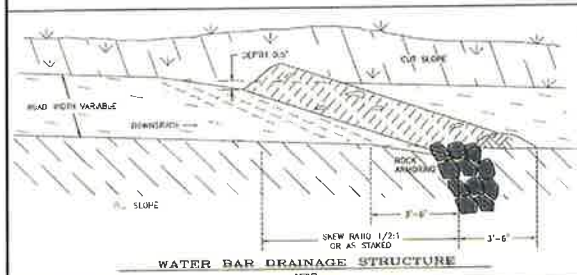
420 BLAKE MOUNTAIN TRAIL, HYAMPOM, CA 96046
TRINITY COUNTY, CALIFORNIA

DATE OF ISSUE: OCTOBER 2021
SCALE: AS SHOWN
PROJECT NO: 1513
DRAWING NO: C06.1



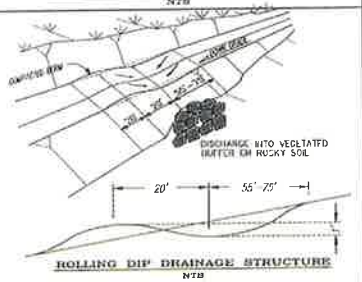
TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3A)
NTS



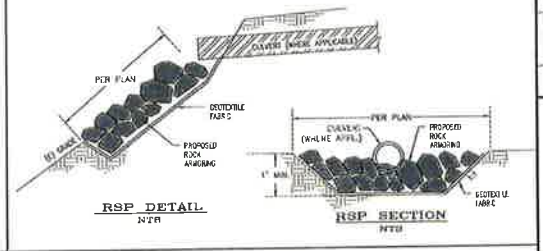


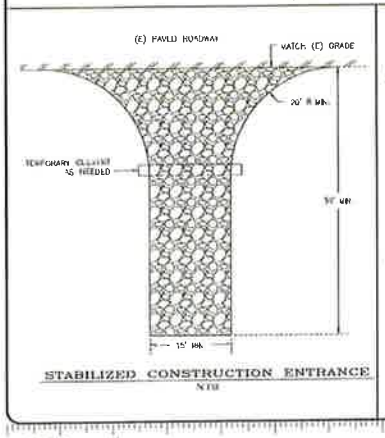
WATER BAR DRAINAGE STRUCTURE
NTS

CONSTRUCTION NOTES:
1. LOCATE DRAINAGE STRUCTURE WHERE THEY CAN TAKE ADVANTAGE OF NATURAL DRAINAGE FEATURES AND MINIMIZE EROSION.
2. ALL DRAINAGE FEATURES SHALL BEGIN AT THE INTERSECTION OF THE REMAINED AND CUT SLOPE AND RUN ACROSS THE ENTIRE WIDTH OF THE ROADBED.
3. THE CROSS SLOPE OF DRAINAGE FEATURES SHALL BE A MINIMUM 3R-5% GRADE.
4. DRAINAGE FEATURES SHALL BE SURFACED WITH 4" OF 1-1/2" ROAD BASE.
5. ALL DRAINAGE FEATURES SHALL HAVE FREE FLOWING OUTLETS.
6. PROVIDE 1/4 TON R-P RAP ARMORING AT OUTLETS.

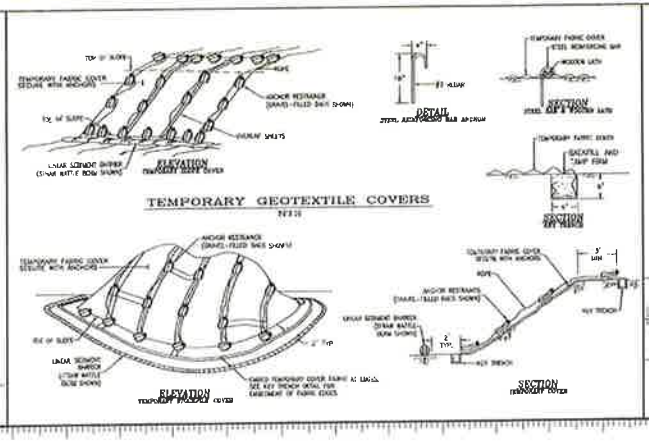


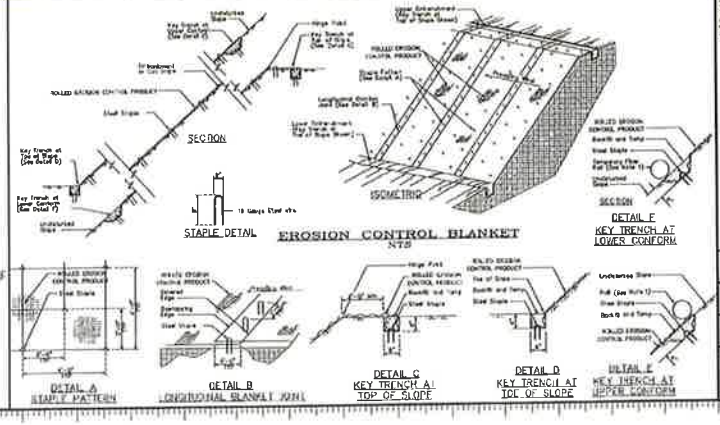
ROLLING DIP DRAINAGE STRUCTURE
NTS





STABILIZED CONSTRUCTION ENTRANCE
NTS





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KONSMIR RESIDENCE
APN 011-210-35
420 BLACK MOUNTAIN TRAIL, HYAMPOM, CA 96046
TRINITY COUNTY, CALIFORNIA

EROSION CONTROL DETAILS

DATE OF ISSUE: OCTOBER 2021
SCALE: AS SHOWN
PROJECT NO: 1515
DRAWING NO: C06.2

HYDRAULIC AND DRAINAGE REPORT

For:
420 Blake Mountain Trail
Hyampom, CA
APN: 011-210-35

Report Provided For:
Milka Aratlakova
and Kris Yordanov
709 Greenwood Road
Glenview, IL 60025

Report Provided By:

Trinity Valley Consulting Engineers, Inc.
67 Walnut Way, PO Box 1567
Willow Creek, California 95573
(530) 623-3000 Fax: (530) 629-3011

December 2023
Eric Keyes, P.E.
Project No: 1513

Table of Contents:

Attachments:

Introduction:

Trinity Valley Consulting Engineers, Inc. (TVCE) was secured by Milka Aratlakov and Kris Yordanov (Owner) to perform a hydraulic and drainage report. The following is an outline of our findings and hydraulic recommendations.

Purpose:

The purpose of this report is to perform a drainage study at the project site listed below. The resulting study will be used to delineate the 100-year storm event and size cross road drainage structures appropriately.

Site Conditions:

The overall proposed project site is located at 420 Blake Mountain Trail in the greater Hyampom community, Trinity County, California (see Attachment 1 - Location Map). The parcel is approximately 297 acres in size and has an east aspect. The parcel currently has a residence, road improvements, commercial cannabis cultivation, water storage and associated utilities. The land primarily consists of mixed deciduous and evergreen trees with open prairie land scattered across the parcel. Below is a list of stream crossings in question:

Stream Crossing 1: The existing drainage crossing is located at 40.61719, -123.47880 (latitude, longitude) and is described as follows: the highest drainage point of this watershed is approximately 1555 feet in elevation. From there the drainage slopes down approximately 0.16 miles to the project area (SC-1). The elevation on the project area is approximately 1445 feet above mean sea level. The overall drainage watershed area above the project area is approximately 2.0 acres (see Attachment 2 – Drainage Area Map). The drainage area mainly captures runoff from Kerlin Creek in a roadside drainage ditch. The ditch enters the culvert from the west and continues downslope along Kerlin Creek Road. The water continues down the drainage watershed where it enters the South Fork of the Trinity River, then the Trinity River, then the Klamath River, and finally to the Pacific Ocean.

Stream Crossing 2: The existing drainage crossing is located at 40.61761, -123.48293 (latitude, longitude) and is described as follows: the highest drainage point of this watershed is approximately 1855 feet in elevation. From there the drainage slopes down approximately 0.2 miles to the project area (SC-2). The elevation on the project area is approximately 1555 feet above mean sea level. The overall drainage watershed area above the project area is approximately 4.9 acres (see Attachment 2 – Drainage Area Map). The unnamed class III tributary enters the property on the south boundary and continues downslope where it passes under the private access road on the property thru an existing developed crossing. The water continues down the drainage watershed where it enters the South Fork of the Trinity River, then the Trinity River, then the Klamath River, and finally to the Pacific Ocean.

Stream Crossing 3: The existing drainage crossing is located at 40.61756, -123.48446 (latitude, longitude) and is described as follows: the highest drainage point of this

watershed is approximately 1855 feet in elevation. From there the drainage slopes down approximately 0.2 miles to the project area (SC-3). The elevation on the project area is approximately 1565 feet above mean sea level. The overall drainage watershed area above the project area is approximately 4.5 acres (see Attachment 2 – Drainage Area Map). The unnamed class III tributary enters the property on the south boundary and continues downslope where it passes under the private access road on the property thru an existing developed crossing. The water continues down the drainage watershed where it enters the South Fork of the Trinity River, then the Trinity River, then the Klamath River, and finally to the Pacific Ocean.

Stream Crossing 4: The existing drainage crossing is located at 40.61816, -123.48548 (latitude, longitude) and is described as follows: the highest drainage point of this watershed is approximately 2,820 feet in elevation. From there the drainage slopes down approximately 1.20 miles to the project area (SC-1). The elevation on the project area is approximately 1,600 feet above mean sea level. The overall drainage watershed area above the project area is approximately 130.0 acres (see Attachment 2 – Drainage Area Map). The unnamed class III tributary enters the property on the southwest boundary and continues downslope where it enters a 2.6-acre reservoir then passes under the private access road on the property thru an existing developed crossing. The water continues down the drainage watershed where it enters the South Fork of the Trinity River, then the Trinity River, then the Klamath River, and finally to the Pacific Ocean.

Stream Crossing 5: The proposed drainage crossing is located at 40.61851, -123.48674 (latitude, longitude) and is described as follows: the highest drainage point of this watershed is approximately 1635 feet in elevation. From there the drainage slopes down approximately 0.04 miles to the project area (SC-5). The elevation on the project area is approximately 1520 feet above mean sea level. The overall drainage watershed area above the project area is approximately 1.0 acres (see Attachment 2 – Drainage Area Map). The drainage area mainly consists of a depressed area and roadside ditch. The water then continues downslope where it enters a 2.6-acre reservoir that drains thru crossing #4. The water continues down the drainage watershed where it enters the South Fork of the Trinity River, then the Trinity River, then the Klamath River, and finally to the Pacific Ocean.

Stream Crossing 6: The existing drainage crossing is located at 40.61969, -123.48699 (latitude, longitude) and is described as follows: the highest drainage point of this watershed is approximately 1920 feet in elevation. From there the drainage slopes down approximately 0.33 miles to the project area (SC-6). The elevation on the project area is approximately 1600 feet above mean sea level. The overall drainage watershed area above the project area is approximately 9.0 acres (see Attachment 2 – Drainage Area Map). The unnamed class III tributary enters the property on the west boundary and continues downslope where it passes under the private access road on the property thru an existing developed crossing. The water continues down the drainage watershed where it enters the South Fork of the Trinity River, then the Trinity River, then the Klamath River, and finally to the Pacific Ocean.

The average annual rainfall for this area is 37.5 inches a year per the Western Regional Climate Center. The rainfall intensity is 2.66 inches per hour using the PFDS Precipitation Frequency Data Server obtain from the NOAA website for the 100-year storm (see Attachment 3).

Evaluation:

Below is an evaluation of the different drainage features:

Stream Crossing 1: The methodology used to calculate Q (flow rate) is the Rational Method (see Attachment 4 –Flow Rate Discharge Calculations). Based on this method, the 100-year storm produces a 2 cubic feet per second flow at the project site. The runoff coefficient was determined to be 0.30 for this project site based on table A-1 of the Handbook for Forest, Ranch, and Rural Roads, 2014 addition. These numbers were calculated based on the existing conditions, surrounding soil types, vegetation characteristics, area of roadway surfaces, and assumed area of roof cover at total buildout. (See attachment 5 for soil map). Based on the flow model it is suggested that a 48" diameter culvert be the minimum size used at this location.

Stream Crossing 2: The methodology used to calculate Q (flow rate) is the Rational Method (see Attachment 4 –Flow Rate Discharge Calculations). Based on this method, the 100-year storm produces a 4 cubic feet per second flow at the project site. The runoff coefficient was determined to be 0.30 for this project site based on table A-1 of the Handbook for Forest, Ranch, and Rural Roads, 2014 addition. These numbers were calculated based on the existing conditions, surrounding soil types, vegetation characteristics, area of roadway surfaces, and assumed area of roof cover at total buildout. (See attachment 5 for soil map). Based on the flow model it is suggested that a 48" diameter culvert be the minimum size used at this location.

Stream Crossing 3: The methodology used to calculate Q (flow rate) is the Rational Method (see Attachment 4 –Flow Rate Discharge Calculations). Based on this method, the 100-year storm produces a 4 cubic feet per second flow at the project site. The runoff coefficient was determined to be 0.30 for this project site based on table A-1 of the Handbook for Forest, Ranch, and Rural Roads, 2014 addition. These numbers were calculated based on the existing conditions, surrounding soil types, vegetation characteristics, area of roadway surfaces, and assumed area of roof cover at total buildout. (See attachment 5 for soil map). Based on the flow model it is suggested that a 48" diameter culvert be the minimum size used at this location.

Stream Crossing 4: The methodology used to calculate Q (flow rate) is the Magnitude and Frequency Method (see Attachment 4 –Flow Rate Discharge Calculations). Based on this method, the 100-year storm produces a 92 cubic feet per second flow at the project site. The runoff coefficient was determined to be 0.30 for this project site based on table A-1 of the Handbook for Forest, Ranch, and Rural Roads, 2014 addition. These numbers were calculated based on the existing conditions, surrounding soil types, vegetation characteristics, area of roadway surfaces, and assumed area of roof cover at total

buildout. (See attachment 5 for soil map). Based on the flow model it is suggested that a 48" diameter culvert be the minimum size used at this location.

Stream Crossing 5: The methodology used to calculate Q (flow rate) is the Rational Method (see Attachment 4 –Flow Rate Discharge Calculations). Based on this method, the 100-year storm produces a 1 cubic feet per second flow at the project site. The runoff coefficient was determined to be 0.30 for this project site based on table A-1 of the Handbook for Forest, Ranch, and Rural Roads, 2014 addition. These numbers were calculated based on the existing conditions, surrounding soil types, vegetation characteristics, area of roadway surfaces, and assumed area of roof cover at total buildout. (See attachment 5 for soil map). Based on the flow model it is suggested that a 48" diameter culvert be the minimum size used at this location.

Stream Crossing 6: The methodology used to calculate Q (flow rate) is the Rational Method (see Attachment 4 –Flow Rate Discharge Calculations). Based on this method, the 100-year storm produces a 8 cubic feet per second flow at the project site. The runoff coefficient was determined to be 0.30 for this project site based on table A-1 of the Handbook for Forest, Ranch, and Rural Roads, 2014 addition. These numbers were calculated based on the existing conditions, surrounding soil types, vegetation characteristics, area of roadway surfaces, and assumed area of roof cover at total buildout. (See attachment 5 for soil map). Based on the flow model it is suggested that a 48" diameter culvert be the minimum size used at this location.

The table below is a summary of existing and recommended culvert sizes:

Crossing ID	Existing Culvert Size	Recommended Culvert Size
SC-1	18"	18"
SC-2	18"	18"
SC-3	18"	18"
SC-4	18"	48"
SC-5	None	18"
SC-6	18"	18"

Table 1: Summary of existing and recommended culvert size at each crossing

Rock Armoring:

Streambank Rock Slope Protection (commonly called riprap) consists of rock courses placed upon the embankment or the natural slope along a stream. Rock, as a slope protection material, has a number of desirable features which have led to its widespread application. It is usually the most economical type of revetment where stones of sufficient size and quality are available, it also has the following advantages:

It is flexible and is not impaired nor weakened by slight movement of the embankment resulting from settlement or other minor adjustments.

- Local damage or loss is easily repaired by the addition of similar sized rock where required.
- Construction is not complicated and special equipment or construction practices are not usually necessary. (Note that Method A placement of very large rock may require large cranes or equipment with special lifting capabilities).
- Appearance is natural, and usually acceptable in recreational and scenic areas.
- If exposed to fresh water, vegetation may be induced to grow through the rocks adding structural value to the embankment material and restoring natural roughness.
- Additional thickness (i.e., mounded toe design) can be provided at the toe to offset possible scour when it is not feasible to found it upon bedrock or below anticipated scour.
- It is salvageable, may be stockpiled and reused if necessary.

The construction contractor shall use one of two different methods for placement for rock slope protection. Method A requires considerable care, judgment, and precision and is consequently more expensive than Method B. Method A should be specified primarily where large rock is required, but also for relatively steeper slopes. Construction methods can be found in Section 72 of the Caltrans Standard Specifications.

The rock foundation excavation must afford a stable base on bedrock and extend below the anticipated scour. The contractor shall take care in excavating a solid and firm base before placing rock protection.

Riprap stone should be square and blocky and should not be thin and platy, nor long and needle-like. The contractor shall source suitable stone material for proper rock armoring. Riprap class is defined by the following tables. Tables 1 and 2 provide recommended gradations for eleven standard classes of riprap based on median particle size d50. Riprap class is defined by the following two tables from the Caltrans Highway Design Manual, July 1, 2021.

RSP Class by Median Particle Size[3]

Nominal RSP Class by Median Particle Size[3]		d_{15}		d_{50}		d_{100}	Placement
Class [1], [2]	Size (in)	Min	Max	Min	Max	Max	Method
I	6	3.7	5.2	5.7	6.9	12.0	B
II	9	5.5	7.8	8.5	10.5	18.0	B
III	12	7.3	10.5	11.5	14.0	24.0	B
IV	15	9.2	13.0	14.5	17.5	30.0	B
V	18	11.0	15.5	17.0	20.5	36.0	B
VI	21	13.0	18.5	20.0	24.0	42.0	A or B
VII	24	14.5	21.0	23.0	27.5	48.0	A or B
VIII	30	18.5	26.0	28.5	34.5	48.0	A or B
IX	36	22.0	31.5	34.0	41.5	52.8	A
X	42	25.5	36.5	40.0	48.5	60.5	A
XI	46	28.0	39.4	43.7	53.1	66.6	A

NOTES:

[1]Rock grading and quality requirements per Standard Specifications.

[2]RSP-fabric Type of geotextile and quality requirements per Section 96 Rock Slope Protection Fabric of the Standard Specifications. For RSP Classes I thru VIII, use Class 8 RSP-fabric which has lower weight per unit area and it also has lower toughness (tensile x elongation, both at break) than Class 10 RSP-fabric. For RSP Classes IX thru XI, use Class 10 RSP-fabric.

[3]Intermediate, or B dimension (i.e., width) where A dimension is length, and C dimension is thickness.

Table 1: Rock Slope Protection Class by Median Particle Size. Caltrans Highway Design Manual, July 1 2020.

RSP Class by Median Particle Weight[3]

Nominal RSP Class by Median Particle Weight		W_{15}		W_{50}		W_{100}	Placement
Class [1], [2]	Weight	Min	Max	Min	Max	Max	Method
I	20 lb	4	11	15	27	140	B
II	60 lb	14	39	50	94	470	B
III	150 lb	32	94	120	220	1,100	B
IV	300 lb	63	180	250	440	2,200	B
V	1/4 ton	110	300	400	700	3,800	B
VI	3/8 ton	180	520	650	1,100	6,000	A or B
VII	1/2 ton	250	750	1000	1,700	9,000	A or B
VIII	1 ton	520	1,450	1,900	3,300	9,000	A or B
IX	2 ton	870	2,500	3,200	5,800	12,000	A
X	3 ton	1,350	4,000	5,200	9,300	18,000	A
XI	4 ton	1,800	5,000	6,800	12,200	24,000	A

NOTES:

*(1)*Rock grading and quality requirements per Standard Specifications.

*(2)*RSP-fabric Type of geotextile and quality requirements per Section 96 Rock Slope Protection Fabric of the Standard Specifications. For RSP Classes I thru VIII, use Class 8 RSP-fabric which has lower weight per unit area and it also has lower toughness (tensile x elongation, both at break) than Class 10 RSP-fabric. For RSP Classes IX thru XI, use Class 10 RSP-fabric.

*(3)*Values shown are based on Table 873.3A dimensions and an assumed specific gravity of 2.65. Weight will vary based on density of rock available for the project.

Table 2: Rock Slope Protection Class by Median Particle Weight. Caltrans Highway Design Manual, July 1 2020.

Rock size, where governed by stream velocity, may be estimated from the following formula, which can be used with uniform or gradually varying flow. Coefficients are included to account for the desired safety factor for design, specific gravity of the riprap stone, bank slope, and bendway character.

$$d_{30} = y(S_f C_S C_V C_T)\left[\frac{V_{des}}{\sqrt{K_1(S_g - 1)gy}}\right]^{2.5}$$

Where:

d_{30} =Particle size for which 30% is finer by weight, ft;

y = Local depth of flow, ft;

S_f = Safety factor (typically = 1.1);

C_S =Stability coefficient (for blanket thickness 1.5d_{50} or d_{100}, whichever is greater) = 0.30 for angular rock;

C_V =Velocity distribution coefficient;

=1.0 for straight channels or the inside of bends;

=1.283 – 0.2 log (R_c/W) for the outside of bends (1.0 for R_c/W > 26);

=1.25 downstream from concrete channels;

=1.25 at the end of dikes;

C_T =Blanket thickness coefficient = 1.0;

S_g =Specific gravity of stone (2.5 minimum);

g =Acceleration due to gravity, 32.2 ft/s^2;

V_{des} =Characteristic velocity for design, defined as the depth-averaged velocity at a point 20% upslope from the toe of the revetment, ft/s;

For natural channels,

V_{des}=V_{avg} (1.74 – 0.52 log (R_c/W))

V_{des}=V_{avg} for R_c/W > 26

For trapezoidal channels,

V_{des}=V_{avg} (1.71 – 0.78 log (R_c/W))

V_{des}=V_{avg} for R_c/W > 8

Where:

R_c = Centerline radius of curvature of channel bend, ft;

W = Width of water surface at upstream end of channel bend, ft;

V_{avg} = Channel cross-sectional average velocity, ft/s;

K_1 = Side slope correction factor;

$$K_1 = \sqrt{1 - \left[\frac{\sin(\theta - 14°)}{\sin 32°}\right]^{1.6}}$$

Where:

θ =is the bank angle in degrees.

Based on the above formulas and calculation outlined in section 870 of the Caltrans Highway Design Manual it has been determined this project requires the following Riprap armoring (See attachment 5 for riprap calculations):

Crossing ID	RSP Class	RSP Depth
SC-1	As needed	As needed
SC-2	As needed	As needed
SC-3	As needed	As needed
SC-4	Class V	30"
SC-5	As needed	As needed
SC-6	Class III	24"

Table 2: Summary of RSP sizing at each crossing location

Dewatering:

Dewatering is not expected for this project if work is performed during the drought stricken dry season. If dewatering is necessary, the owner shall submit a dewatering plan to governing agencies for approval prior to construction.

Construction Sequence:

Once the in-situ soil is dry enough to properly support equipment weight, equipment will then access the construction area. The following points shall be observed during equipment access and prior to construction:

- Designate and limit points of entrance/exit to the construction site (preferably utilizing the existing established access road).
- Limit speed of vehicles to control dust
- Properly grade each construction entrance/exit to prevent runoff leaving construction site
- Require all employees, subcontractors, and suppliers to utilized established access points
- Identify vegetation, preserve were possible, and minimize removal.

Construction will begin with the excavation (via backhoe or excavator) removal of the existing culvert. Soil will be excavated and property stockpiled for later use. Dispose of the old culvert in accordance with applicable state and local regulations. The new culvert bed shall be aligned with the existing stream and shall be a smooth transition (vertically and horizontally) from the upstream and downstream natural creek channel. The culvert shall be installed per the construction plans attached. Once installed and appropriately backfilled, install energy dissipating rock at the outlet of the culvert per the attached installation plan.

Once all of the heavy equipment operation has been carried out, the placement of erosion control methods is next. These shall be carried out in reference to the attached Best Management Practices (BMPs). All remaining exposed soils and fill material will be required to have native grass seed and Jute installed as a biodegradable erosion control blanket. This will mitigate

erosion and assist the development of vegetation at these locations. The goal is to facilitate vegetation growth and the development of a natural erosion control. The Jute blanket shall be installed per manufacturer's specifications. Cal Trans BMP's for Erosion Control Methods installation.

Demobilization:

The final step of the construction process is the demobilization of any and all equipment from the site. Any remaining equipment tracks shall be filled with soil and seeded, and all trash shall be removed from the site. Any and all equipment access roads shall be lined on the downgrade side with fiber rolls or straw wattles to mitigate sediment runoff.

Equipment:

Equipment anticipated for this project is as follows:

- One small to mid-size excavator or backhoe
- One dump truck or truck with dump trailer
- A water truck for dust control and compaction is recommended
- Laborers with hand tools for detail placement.

Quantities of Materials:

The following list of materials has been estimated for this project:

Stream Crossing - 4

- One (1) 48"x30' minimum culvert
- Twenty-five (25) tons of Class V energy dissipating rock
- Fiber rolls or straw wattle will also be utilized as needed - approximately 100 feet
- Jute or erosion blanket will utilize approximately 400 square feet
- Native grass seed as sufficient to establish vegetation on soils

Stream Crossing - 5

- One (1) 18"x30' minimum culvert
- Five (5) tons of energy dissipating rock (or as needed)
- Fiber rolls or straw wattle will also be utilized as needed - approximately 50 feet
- Jute or erosion blanket will utilize approximately 200 square feet
- Native grass seed as sufficient to establish vegetation on soils

Stream Crossing - 6

- Ten (10) tons of Class III energy dissipating rock
- Native grass seed as sufficient to establish vegetation on soils

Conclusion:

Due to available culvert sizes and County Road standards, it is recommended that the existing and proposed culverts comply with the approved construction plans. These culverts shall be installed to align both horizontally and vertically with the natural stream channel. It is also recommended that the culverts be maintained and cleared of debris as necessary to maintain free flowing inlets and outlets. The outlet should be rock armored in an effort to lessen erosion potential. The culvert shall be the minimum length needed and extended as necessary to effectively cross the road prism.

References:

Western Regional Climate Center (WRCC), Weaverville Station 049490
https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca9490

Northwest Alliance for Computational Science & Engineering (NACSE), Oregon State University
http://www.prism.oregonstate.edu/explorer/

On X Map Software
https://webmap.onxmaps.com/map.html

Google Earth
earth.google.com

USDA –Web Soil Survey
https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

NOAA Precipitation Frequency Data Server
https://hdsc.nws.noaa.gov/hdsc/pfds/

Federal Emergency Management Agency (FEMA)
https://msc.fema.gov/portal/home

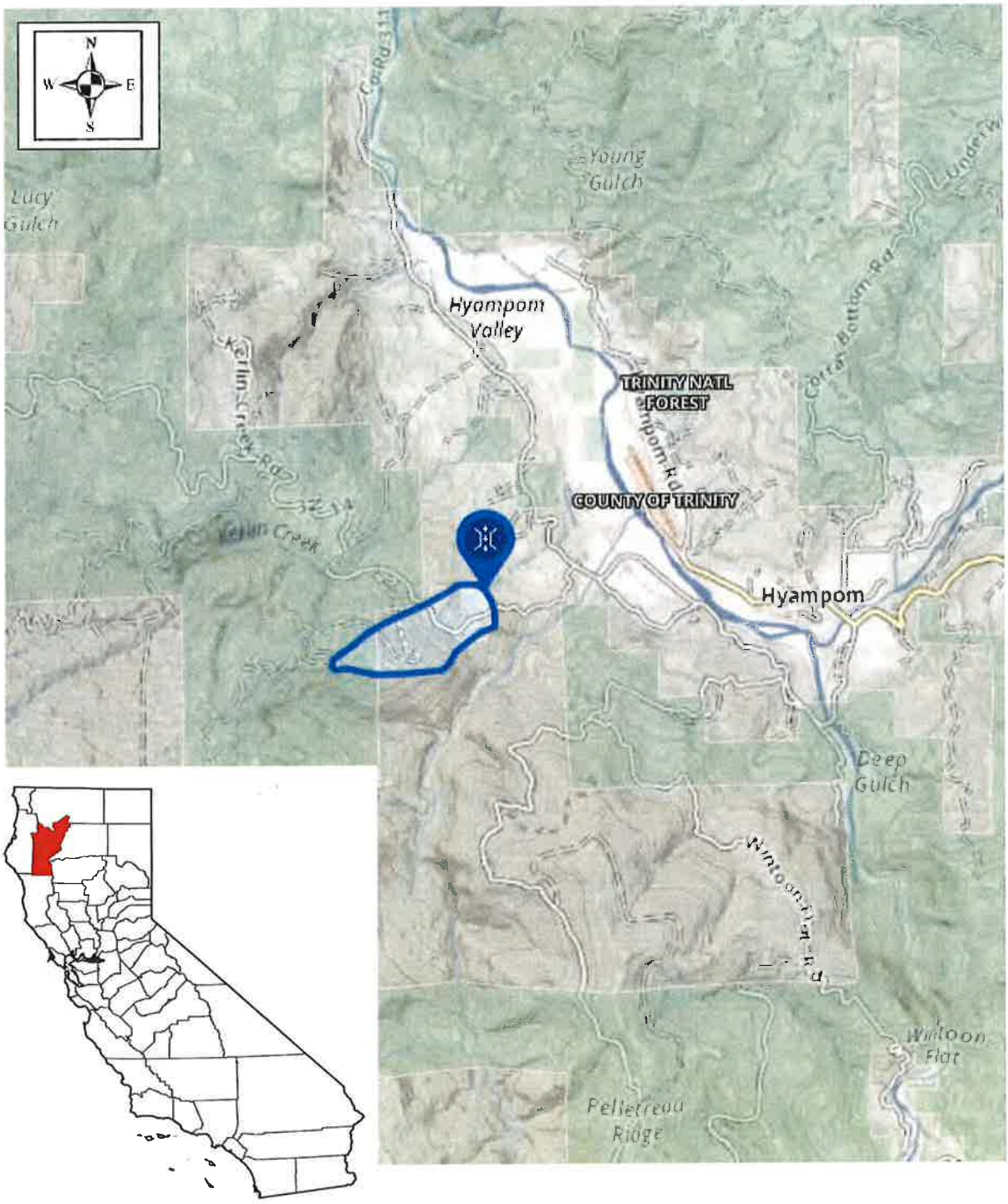
Handbook for Forest, Ranch, and Rural Road, Pacific Watershed Associates, 2014
https://www.pacificwatershed.com › roadshandbook

Culvert Design Developed by Annette Humpal, P.E., Hydraulic Engineer, NRCS, April 30, 2012
https://www.nrcs.usda.gov › nrcseprd1380637

Attachment 1:

Location Maps

Location Map



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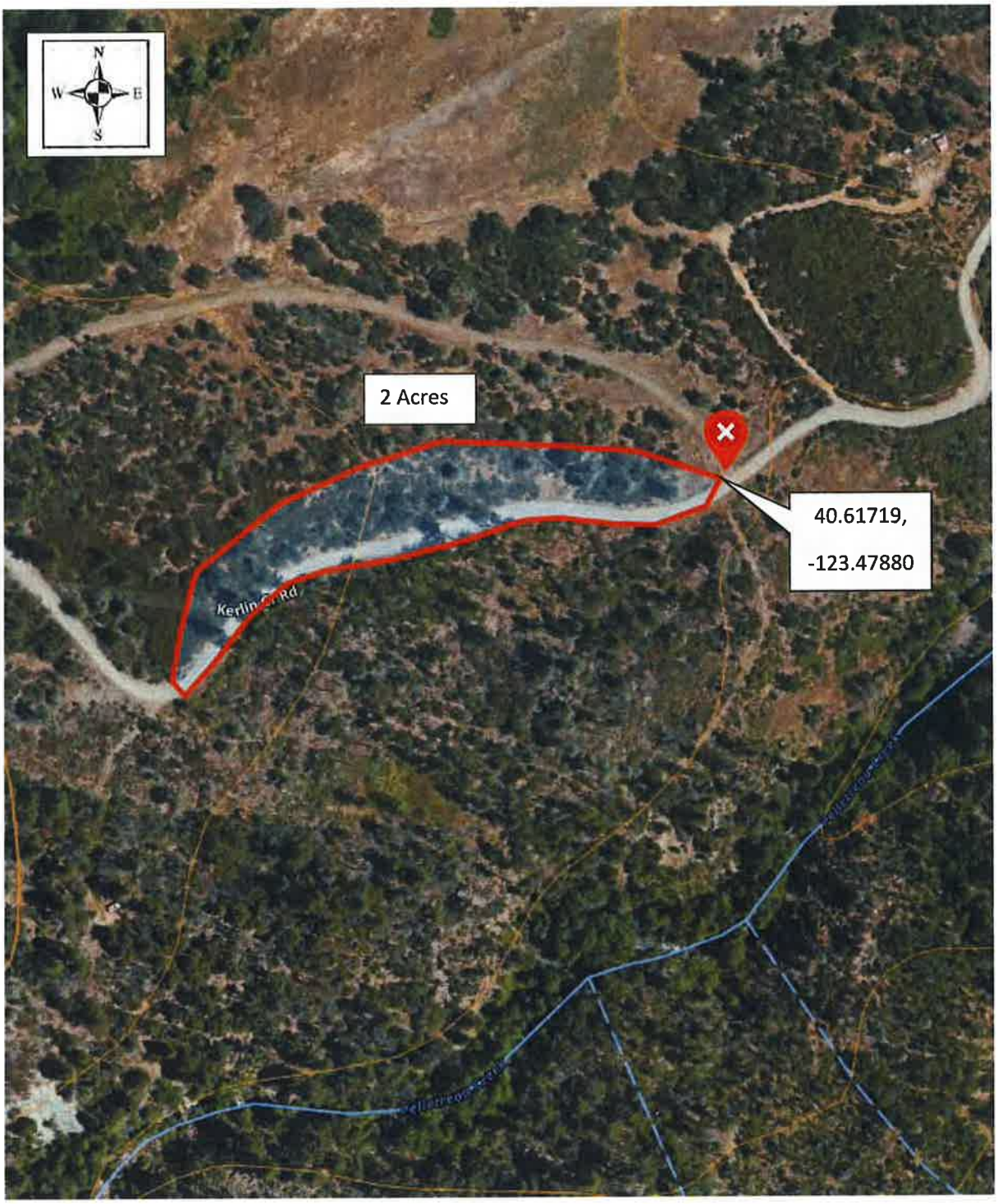
Attachment 2:

Drainage Area Map(s)

Drainage Map - Culvert #1



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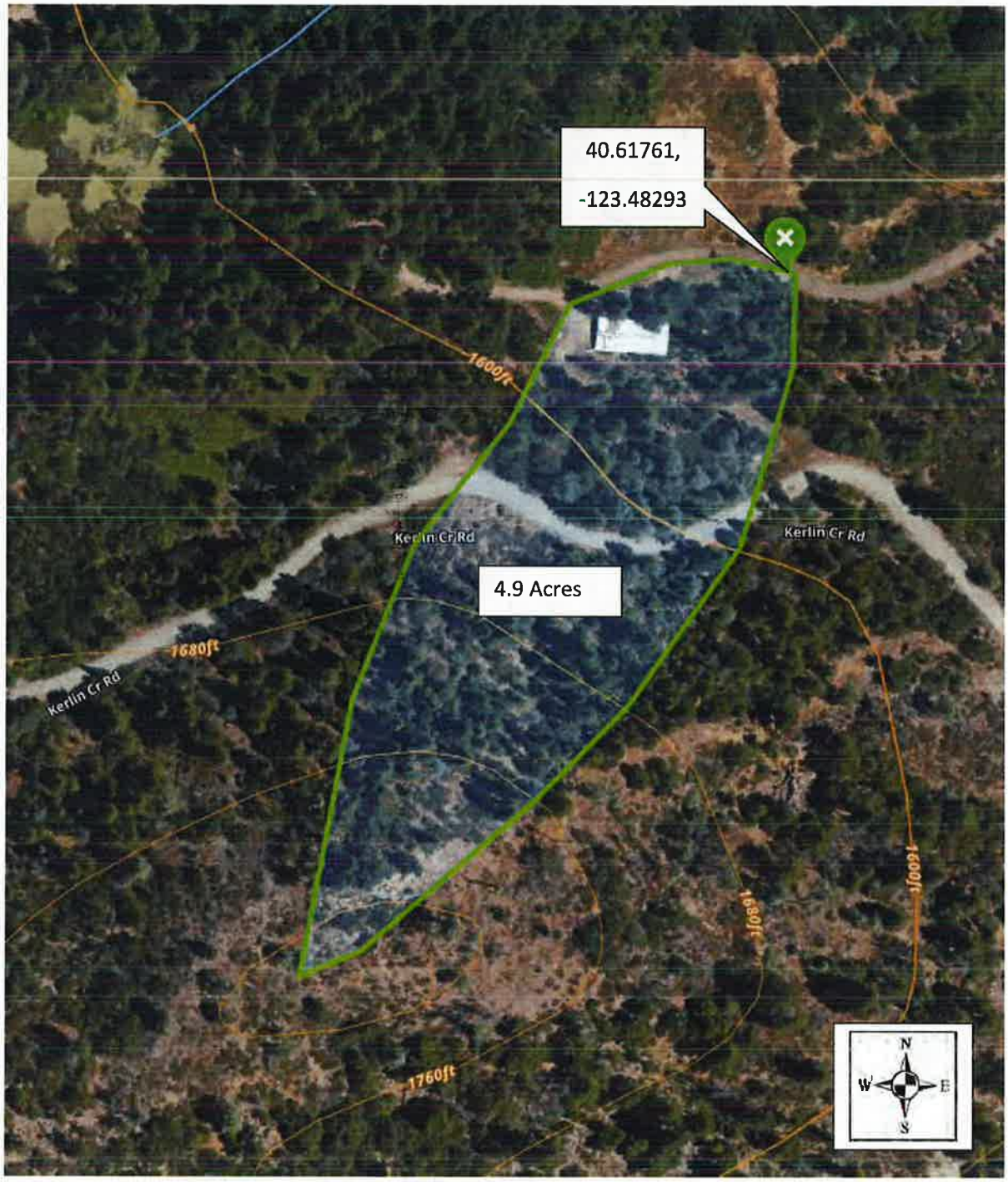
Drainage Map - Culvert #2



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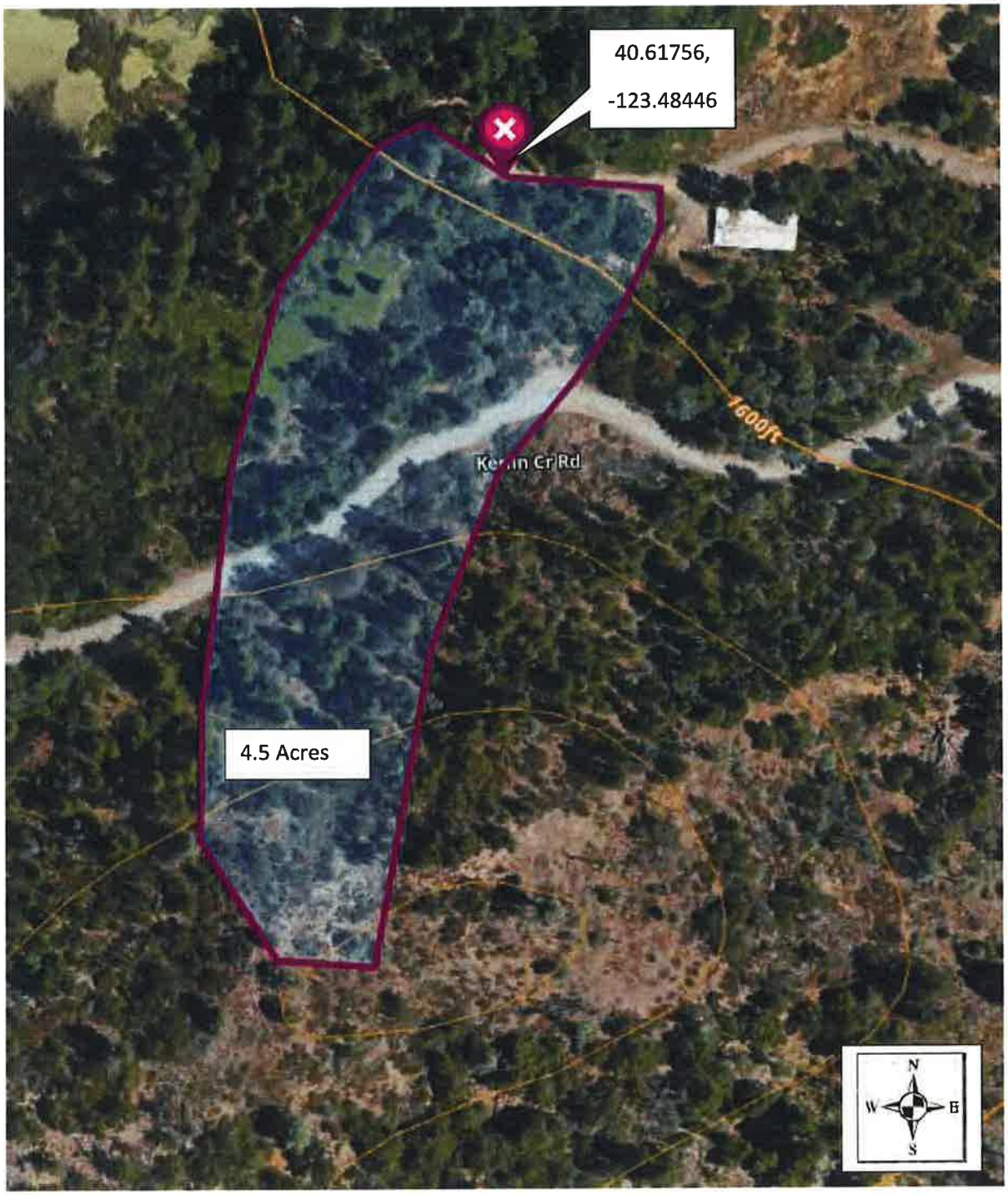
Drainage Map - Culvert #3



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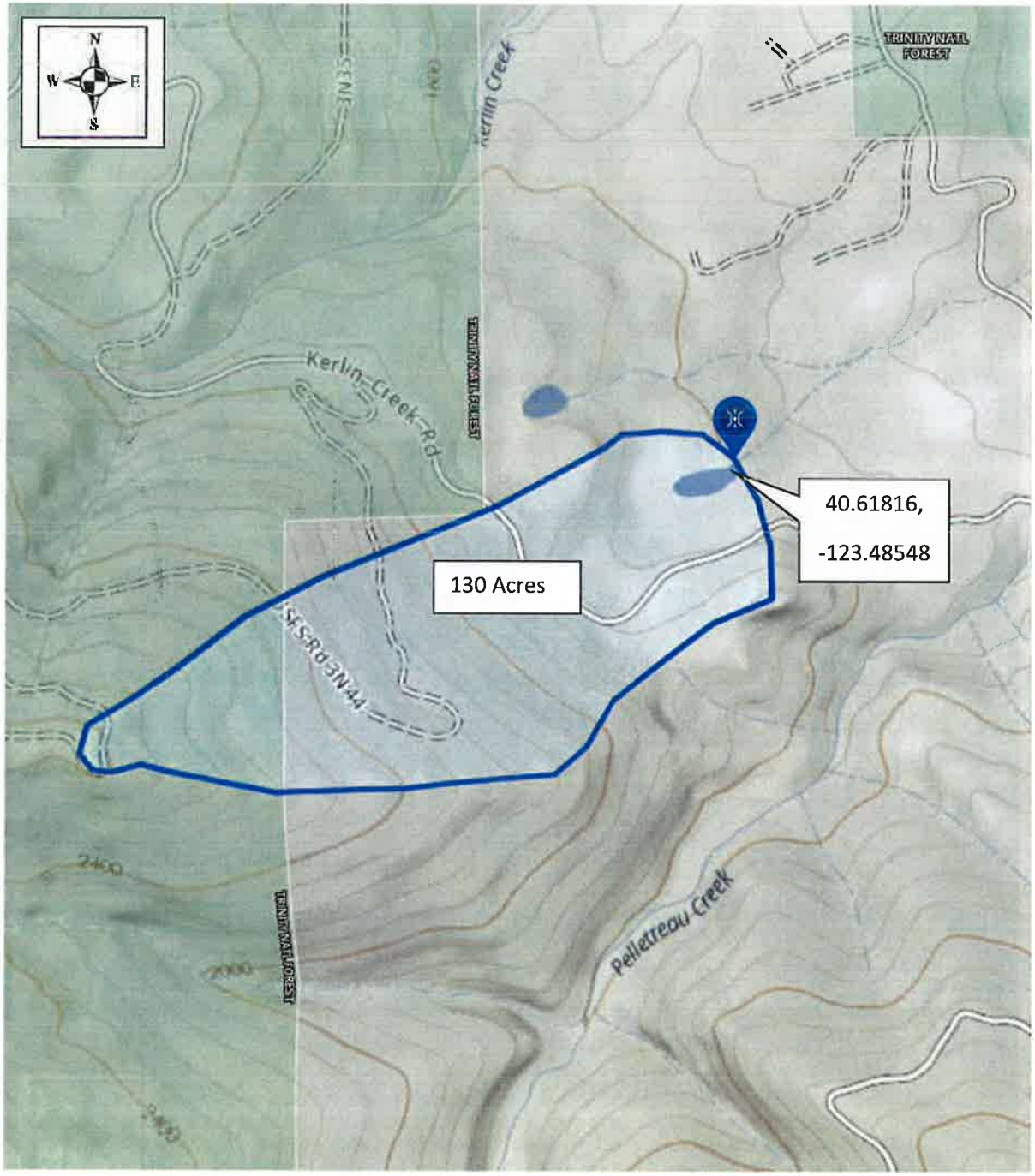
Drainage Map - Culvert #4



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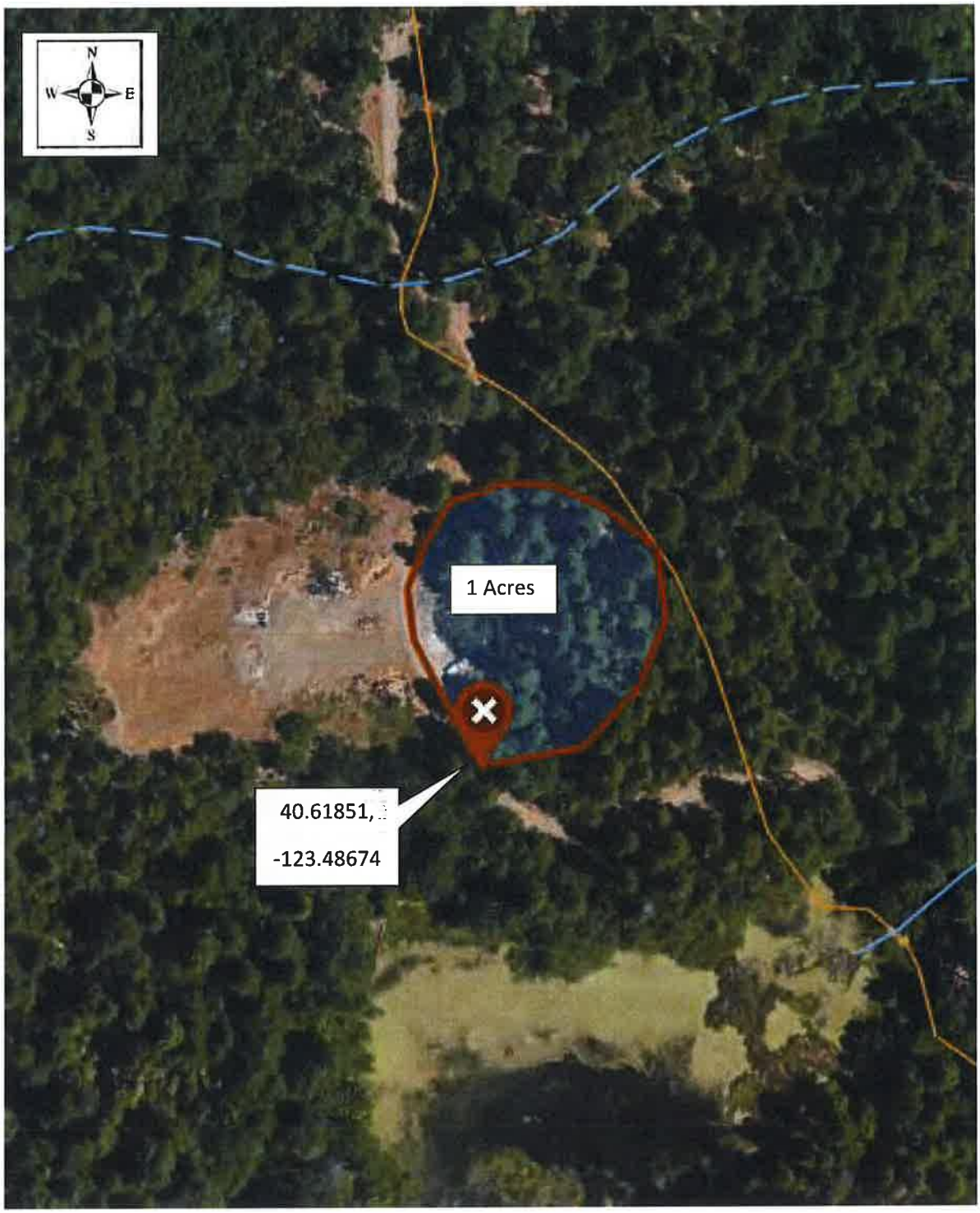
Drainage Map - Culvert #5



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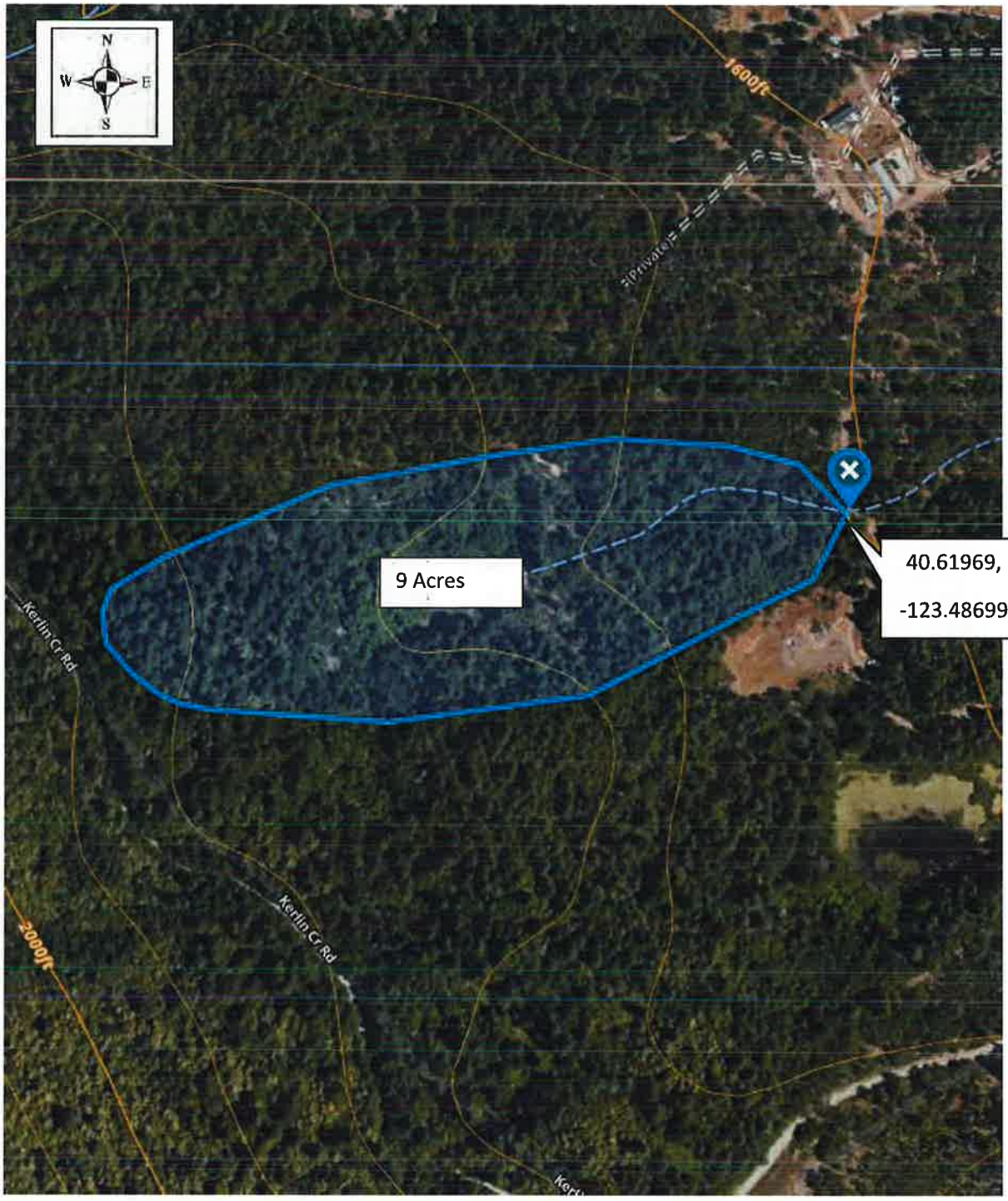
Drainage Map - Culvert #6



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Attachment 3:

IDF Charts

NOAA Atlas 14, Volume 6, Version 2
Location name: Hyampom, California, USA*
Latitude: 40.6238°, Longitude: -123.4827°
Elevation: 1496.7 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.38 (1.21-1.58)	1.75 (1.55-2.02)	2.26 (1.98-2.60)	2.66 (2.32-3.11)	3.24 (2.70-3.91)	3.67 (3.00-4.55)	4.13 (3.29-5.26)	4.61 (3.55-6.05)	5.27 (3.88-7.24)	5.78 (4.09-8.24)
10-min	0.990 (0.870-1.14)	1.26 (1.10-1.45)	1.61 (1.42-1.87)	1.91 (1.66-2.23)	2.32 (1.94-2.80)	2.63 (2.15-3.26)	2.96 (2.35-3.77)	3.31 (2.54-4.33)	3.77 (2.77-5.18)	4.15 (2.93-5.91)
15-min	0.800 (0.704-0.916)	1.02 (0.892-1.17)	1.30 (1.14-1.50)	1.54 (1.34-1.80)	1.87 (1.56-2.26)	2.12 (1.74-2.63)	2.39 (1.90-3.04)	2.66 (2.05-3.49)	3.04 (2.24-4.18)	3.34 (2.36-4.77)
30-min	0.546 (0.480-0.626)	0.694 (0.608-0.796)	0.890 (0.780-1.03)	1.05 (0.914-1.22)	1.28 (1.07-1.54)	1.45 (1.18-1.79)	1.63 (1.29-2.07)	1.82 (1.40-2.38)	2.08 (1.53-2.85)	2.28 (1.61-3.25)
60-min	0.383 (0.337-0.440)	0.487 (0.428-0.560)	0.625 (0.548-0.721)	0.740 (0.642-0.861)	0.897 (0.750-1.08)	1.02 (0.832-1.26)	1.15 (0.910-1.46)	1.28 (0.984-1.68)	1.46 (1.07-2.00)	1.60 (1.13-2.29)
2-hr	0.300 (0.264-0.345)	0.372 (0.328-0.428)	0.468 (0.410-0.540)	0.547 (0.475-0.637)	0.656 (0.548-0.792)	0.741 (0.605-0.916)	0.828 (0.658-1.05)	0.919 (0.708-1.21)	1.04 (0.768-1.43)	1.14 (0.809-1.63)
3-hr	0.268 (0.236-0.308)	0.329 (0.289-0.379)	0.411 (0.360-0.474)	0.477 (0.414-0.555)	0.569 (0.476-0.687)	0.640 (0.522-0.792)	0.713 (0.566-0.906)	0.789 (0.607-1.03)	0.892 (0.656-1.23)	0.974 (0.689-1.39)
6-hr	0.219 (0.193-0.252)	0.269 (0.236-0.309)	0.333 (0.292-0.384)	0.385 (0.335-0.449)	0.456 (0.382-0.552)	0.511 (0.417-0.632)	0.566 (0.450-0.720)	0.623 (0.480-0.817)	0.700 (0.515-0.962)	0.760 (0.538-1.08)
12-hr	0.166 (0.146-0.190)	0.211 (0.186-0.243)	0.270 (0.236-0.311)	0.316 (0.274-0.367)	0.377 (0.315-0.455)	0.422 (0.345-0.522)	0.467 (0.371-0.594)	0.513 (0.395-0.673)	0.573 (0.421-0.787)	0.618 (0.437-0.882)
24-hr	0.124 (0.111-0.141)	0.165 (0.148-0.188)	0.216 (0.193-0.247)	0.256 (0.227-0.295)	0.308 (0.265-0.364)	0.345 (0.293-0.416)	0.382 (0.317-0.469)	0.418 (0.339-0.526)	0.465 (0.365-0.606)	0.500 (0.380-0.670)
2-day	0.086 (0.077-0.098)	0.112 (0.100-0.128)	0.145 (0.129-0.166)	0.170 (0.151-0.196)	0.203 (0.175-0.240)	0.226 (0.192-0.272)	0.250 (0.207-0.307)	0.272 (0.221-0.342)	0.302 (0.236-0.393)	0.323 (0.246-0.434)
3-day	0.068 (0.061-0.077)	0.087 (0.078-0.099)	0.111 (0.099-0.127)	0.130 (0.115-0.149)	0.154 (0.133-0.182)	0.171 (0.145-0.206)	0.188 (0.156-0.231)	0.205 (0.166-0.258)	0.226 (0.177-0.295)	0.242 (0.184-0.325)
4-day	0.059 (0.052-0.067)	0.075 (0.067-0.085)	0.095 (0.085-0.109)	0.111 (0.098-0.127)	0.131 (0.113-0.154)	0.145 (0.123-0.175)	0.159 (0.132-0.196)	0.173 (0.141-0.218)	0.191 (0.150-0.249)	0.204 (0.155-0.274)
7-day	0.042 (0.037-0.048)	0.054 (0.048-0.061)	0.068 (0.061-0.078)	0.079 (0.070-0.091)	0.093 (0.080-0.110)	0.103 (0.087-0.124)	0.113 (0.094-0.138)	0.122 (0.099-0.153)	0.134 (0.105-0.174)	0.142 (0.108-0.191)
10-day	0.034 (0.030-0.039)	0.044 (0.039-0.050)	0.055 (0.049-0.063)	0.064 (0.057-0.074)	0.076 (0.065-0.089)	0.083 (0.071-0.100)	0.091 (0.076-0.112)	0.098 (0.080-0.124)	0.108 (0.084-0.140)	0.114 (0.087-0.153)
20-day	0.022 (0.020-0.025)	0.028 (0.025-0.032)	0.036 (0.032-0.041)	0.042 (0.037-0.048)	0.049 (0.042-0.058)	0.054 (0.045-0.064)	0.058 (0.048-0.071)	0.063 (0.051-0.079)	0.068 (0.053-0.089)	0.072 (0.055-0.097)
30-day	0.018 (0.016-0.021)	0.023 (0.021-0.027)	0.029 (0.026-0.034)	0.034 (0.030-0.039)	0.039 (0.034-0.047)	0.043 (0.037-0.052)	0.047 (0.039-0.058)	0.050 (0.041-0.063)	0.055 (0.043-0.071)	0.058 (0.044-0.077)
45-day	0.016 (0.014-0.018)	0.020 (0.018-0.023)	0.025 (0.022-0.028)	0.028 (0.025-0.033)	0.033 (0.028-0.039)	0.036 (0.030-0.043)	0.039 (0.032-0.047)	0.041 (0.034-0.052)	0.045 (0.035-0.058)	0.047 (0.036-0.063)
60-day	0.014 (0.013-0.016)	0.018 (0.016-0.020)	0.022 (0.019-0.025)	0.025 (0.022-0.028)	0.028 (0.024-0.033)	0.031 (0.026-0.037)	0.033 (0.027-0.041)	0.035 (0.029-0.044)	0.038 (0.030-0.050)	0.040 (0.030-0.054)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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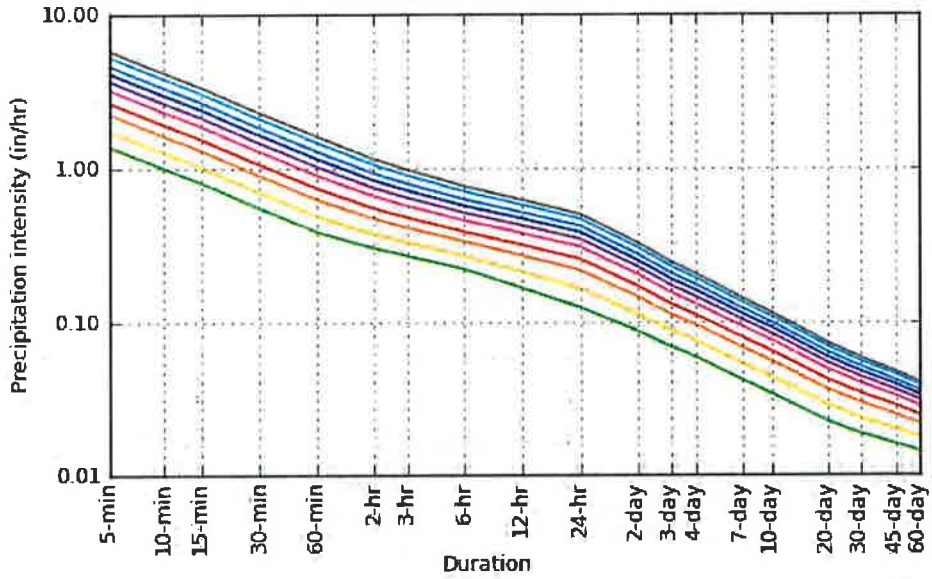
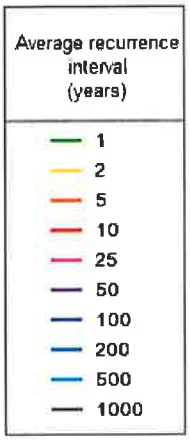
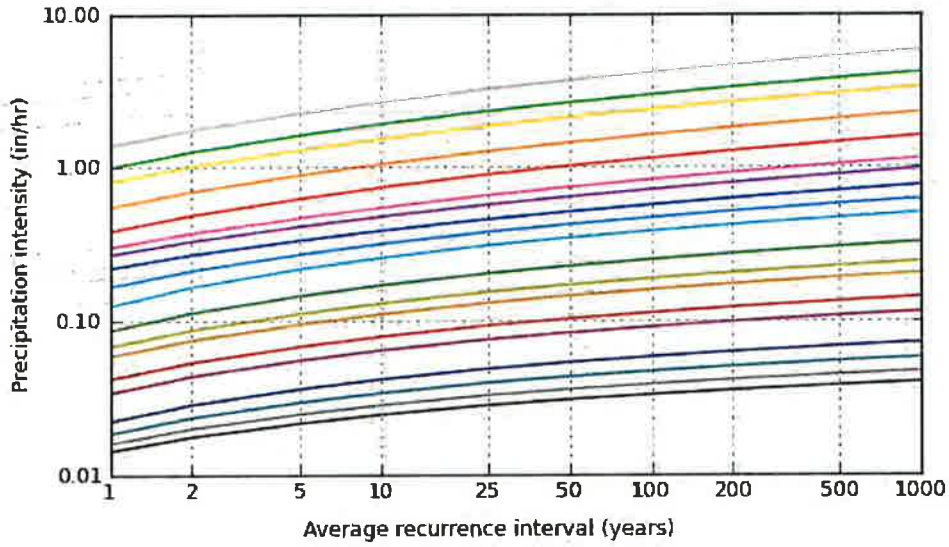
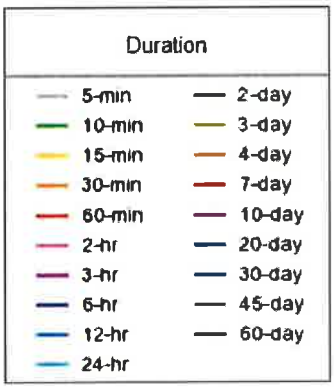
PF graphical

PDS-based intensity-duration-frequency (IDF) curves
Latitude: 40.6238°, Longitude: -123.4827°









NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Wed Sep 22 16:19:00 2021

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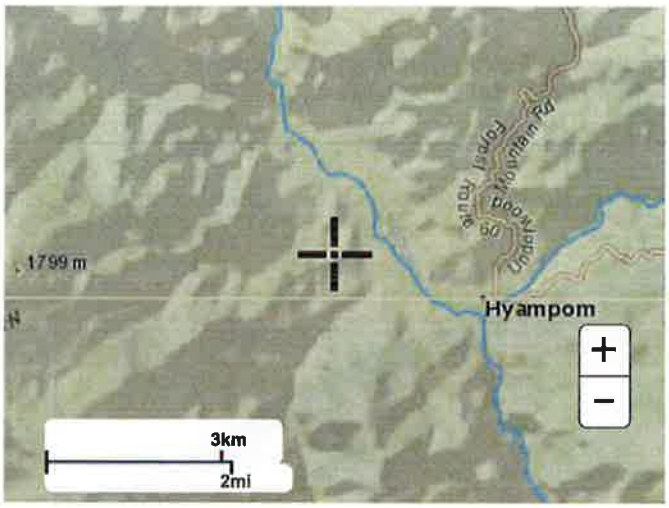
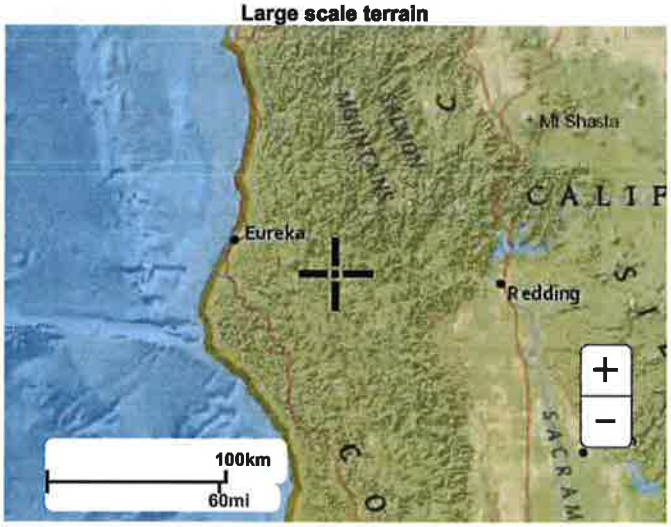
Maps & aerials

Small scale terrain

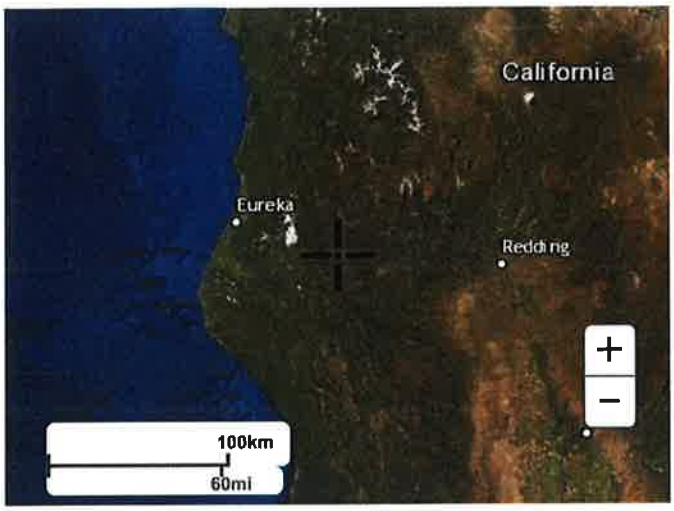


Large scale terrain



Large scale map

Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Attachment 4:

Flow Rate Discharge calculations

Determination of 100-Year Flood Flow

Location: APN: 011-210-35

(Enter data in fields with red-colored headings. Other data fields will be calculated automatically.)

Magnitude and Frequency Method for 100-year flood flow (A > 100 acres)

No.	Crossing	Area (acres) A	Basin maximum elevation (ft)*	Crossing elevation (ft)*	Area (mi^2) A	Avg. Annual Precipitation (in/yr) P	Index (mean basin elevation)	100-yr flood flow Q_{100} (cfs) North Coast[1] (NC)	Sierra[2] (S)	North-east[3] (NE)	Central Coast[4] (CC)
1	SC-1	2	1555	1445	0.003	37.5	1500	2	2	3	3
2	SC-2	4.9	1855	1555	0.008	37.5	1705	5	4	6	7
3	SC-3	4.5	1855	1565	0.007	37.5	1710	5	4	5	6
4	SC-4	130	2820	1600	0.203	37.5	2210	92	67	63	106
5	SC-5	1	1635	1620	0.002	37.5	1627.5	1	1	2	2
6	SC-6	9	1920	1600	0.014	37.5	1760	9.1	6.9	9.0	11.2
7											
8											
9											
10											

*To estimate discharges for bridges, use elevations along watercourse at 85 percent and 10 percent of water-course length from crossing to drainage divide, respectively, instead of using maximum and crossing elevations.

See below for M&F equations

Rational Method for 100-year flood flow (A < 200 acres)

No.	Crossing	$T_c = 60((11.9 \times L^3)/H)^{0.385}$ Channel length (to top of basin) (mi) L	Elevation difference (ft) H	Concentration time (min) Tc	$Q_{100} = CIA$ Runoff coefficient C	100-year Return-Period Precipitation (in/hr) I*	Area (acres) A	100-yr flood flow (cfs) Q100
1	SC-1	0.16	110	10.0	0.3	2.96	2	2
2	SC-2	0.20	300	10.0	0.3	2.96	4.9	4
3	SC-3	0.20	290	10.0	0.3	2.96	4.5	4
4	SC-4	1.20	1220	12.5	0.3	2.68	130	105
5	SC-5	0.04	15	10.0	0.3	2.96	1	1
6	SC-6	0.33	320	10.0	0.3	2.96	9	8
7								
8								
9								
10								

*Use 100-yr precipitation of duration similar to Tc or for 10 min, whichever is larger; convert to in/hr for input as "I"

Magnitude & Frequency Q_{100} equations

NC (1) $Q_{100} = 48.5(A)^{0.866}(P)^{0.556}$

S (2) $Q_{100} = 20.6(A)^{0.874}(P)^{1.24}(H)^{-0.250}$

NE (3) $Q_{100} = 0.713(A)^{0.729}(P)^{1.56}$

CC (4) $Q_{100} = 11.0(A)^{0.84}(P)^{0.994}$

TABLE A-1. Values for Rational Method runoff coefficient (C) values

Soils	Land use or type	C value
Sandy and gravelly soils	Cultivated	0.20
	Pasture	0.15
	Woodland	0.10
Loams and similar soils without impeded horizons	Cultivated	0.40
	Pasture	0.35
	Woodland	0.30
Heavy clay soil or those with a shallow impeding horizon; shallow over bedrock	Cultivated	0.50
	Pasture	0.45
	Woodland	0.40

Table A-1: Handbook for Forest, Ranch, and Rural Roads; Pacific Watershed Associates; January 2014

Attachment 5:

Rock Armoring Calculations

Project:	Blake Mt. Trail	Project No.:	1513
Date:	9/20/2021	APN:	011-210-35
Client:	Yordanov	By:	E. Keyes
Address:	420 Blake Mt. Trail	Checked By:	TVCE
	Hyampom, CA	Sheet:	1of2

Given Information - Culvert 4

$$d_{30} = y(S_f C_S C_V C_T)\left[\frac{V_{des}}{\sqrt{K_1(S_g - 1)gy}}\right]^{2.5}$$

Formula 1.0 from Caltrans Highway Design Manual, July 1 2020

$$K_1 = \sqrt{1 - \left[\frac{\sin(\theta - 14°)}{\sin 32°}\right]^{1.6}}$$

Formula 1.1 from Caltrans Highway Design Manual, July 1 2020

y	=	4	ft
S_f	=	1.1	unitless
C_s	=	0.3	unitless
Cv	=	1	unitless
C_T	=	1	unitless
V_{des}	=	10	ft/s
K_1	=	0.51	unitless (See Formula 1.1)
θ	=	40	degrees
S_g	=	2.6	unitless
g	=	32.2	ft/s^2

Calculate d_{30} Rock Size

d_{30}	=	1.2	ft
d_{50}	=	$1.2d_{30}$	
d_{50}	=	1.5 ft	18 inches

Therefore Use Class V riprap from Caltrans Table 873.3A

Calculate Blanket Thickness

$1.5d_{50}$	=	2.2 ft	27 inches
d_{100}	=	36 inches	

36 > 27 inches

Therefore Use 30" Blanket Thickness

TVCE Trinity Valley Consulting Engineers Inc	Project:	Blake Mt. Trail	Project No.:	1513
	Date:	9/20/2021	APN:	011-210-35
	Client:	Yordanov	By:	E. Keyes
	Address:	420 Blake Mt. Trail	Checked By:	TVCE
		Hyampom, CA	Sheet:	2of2

Given Information - Culvert 6

$$d_{30} = y(S_f C_S C_V C_T)\left[\frac{V_{des}}{\sqrt{K_1(S_g - 1)gy}}\right]^{2.5}$$

Formula 1.0 from Caltrans Highway Design Manual, July 1 2020

$$K_1 = \sqrt{1 - \left[\frac{\sin(\theta - 14°)}{\sin 32°}\right]^{1.6}}$$

Formula 1.1 from Caltrans Highway Design Manual, July 1 2020

y	=	2 ft
S_f	=	1.1 unitless
C_s	=	0.3 unitless
Cv	=	1 unitless
C_T	=	1 unitless
V_{des}	=	8 ft/s
K_1	=	0.51 unitless (See Formula 1.1)
θ	=	40 degrees
S_g	=	2.6 unitless
g	=	32.2 ft/s^2

Calculate d_{30} Rock Size

d_{30}	=	0.8 ft	
d_{50}	=	$1.2d_{30}$	
d_{50}	=	1.0 ft	12 inches

Therefore Use Class III riprap from Caltrans Table 873.3A

Calculate Blanket Thickness

$1.5d_{50}$	=	1.5 ft	18 inches
d_{100}	=	24 inches	
		24 >	18 inches

Therefore Use 24" Blanket Thickness

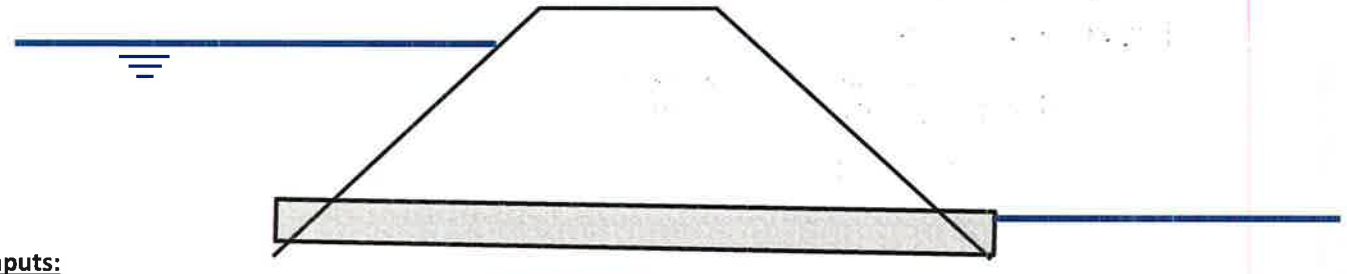
Attachment 6:

Culvert Sizing Calculations

Culvert Analysis Spreadsheet

Ver 5/2012

Client:	Yordanov	County:	Trinity	Date:	24-Aug
Design By:	E. Keyes	Checked By:	TVCE	Date:	
Comments:	420 Blake Mountain Trial				



Inputs:

Headwater (Upstream Water Surface) Elevation:	1605.00	Feet
Culvert Inlet Invert Elevation:	1600.00	Feet
Culvert Diameter:	48.00	Inches
Length of Culvert:	30.00	Feet
Culvert Outlet Invert Elevation:	1596.00	Feet
Tailwater (Downstream) Elevation:	1596.00	Feet

Select Culvert Material:	CMP
Select Culvert Inlet Type:	Projecting - Thin Edge

Outputs:

CAPACITY =	**93.5 cfs**	**INLET CONTROLS (Between Submerged and Unsubmerged Average Q Used)**
Manning's n value:	0.024	CMP
Entrance Coefficient, Ke:	0.9	Projecting - Thin Edge

Calculations:

Headwater (HW)
HW Depth = 5.00 feet 60 inches Ta lwater (TW) Depth = 0.00 feet
Diameter, D 4.00 feet 48 inches
Culvert Slope, S 0.133 ft/ft
Area = 12.56637 ft² Wetted Perimeter = 12.57 Hydraulic Radius = 1.000
K = 0.034
M = 1.50
c = 0.035
Y 0.540
Friction Loss El = 0.017
0.55 = 0.066666667 For non mitered inlets USE 0.066666667
0.75 = 0.093333333 For mitered inlets (use -ve value)

Unsubmerged Equation Form (1): Reference: FHWA "Hydraulic Design of Highway Culverts", Table 8, p. 192, Revised 2005. **Note: This equation applies for Q/(AD^0.5)>= "2.5**

$Q = AD^{0.5} * [1/K * (HW/D - H_c/D + 0.55)]^{1/M}$

$AD^{0.5}$ = 25.133
1/K = 29.41
HW/D = 1.25
0.55 (from above) 0.066666667

Hc depends on Q
Assumed Q = 92.745648 cfs Initial Q = 12.56637 Q^2/g = 267.1352 $A = D^2/8 [2\cos^{-1}(1-(2d/D)) - \sin(2\cos^{-1}(1-(2d/D)))]$ = 9.826825221
dc = 2.819 Initial dc = 1.029081354 From Chow Approx dc eqn $T = D\sin(\cos^{-1}(2d-D)/D)]$ = 3.552291397
θ = 125.3 degrees 0.99 * Diameter = 3.96 A^3/T = 267.1351959 Need $Q^2/g = A^3/T$ Error = 1.54894E-06
Area at d_c = 9.826825221 ft² 0.1 * Diameter = 0.4
$V_c = Q/A_c$ = 9.438 ft/sec
$H_c = d_c + V^2/2g$ = 4.303 ft
H_c/D = 1.076 ft/ft
Calculated Q_{calc} = 92.745645 cfs Note: Solution by Trial and Error Using "Data, Analysis, Solver" in Macro Error = 0.0001 Check for Convergence: 7.5948E-06 Percent Converged within 0.1%

Check of Q/(AD^0.5) 3.6902 12962 Q/(AD^0.5) too high. Equation not Valid!!!

Submerged Inlet control Equation: Reference: FHWA "Hydraulic Design of Highway Culverts", Table 8, p. 192, Revised 2005. **Note: This equation only applies for Q/(AD^0.5)>="4.0**

$Q_{inlet\ control}$ = 94.18779441 Hw/D = 1.25

Q/AD^0.5 is less than 4, Equation Does not Apply!

$AD^{0.5}$ = 25.13274123
$Q/(AD^{0.5})$ = 3.747613265
Submerged Inlet Control Equation does not Apply

Ave Q = 93.4667197 Ave of Submerged and Unsubmerged Qs for Q/(AD^0.5) between 3.5 and 4

Check For Orifice Control
$Q_{orifice}$ = 104.8008187 Orifice Equation: $0.6A(2gH)^{0.5}$ Head on Orifice: 8

Check for Outlet Control: Note that this applies only for full culvert barrel flow conditions
$Q_{outlet\ control}$ = 195.2392451 For Outlet control with tailwater above ((0.6 x Diameter) + (culvert outlet invert elevation)) Head = 9.00
$Q_{outlet\ control}$ = 167.1929008 For Outlet control with tailwater assumed to be at ((0.6 x Diameter) + (culvert outlet invert elevation)) Head = 6.6

Final "Full Flow" Outlet Control Value:
$Q_{full\ flow\ outlet\ control}$ = 167.1929008 Minimum (Non Zero) of Inlet and Outlet Control Q's: 92.745645 46.37282249

Check for Part Full Outlet Control (May Apply if the TW depth is < culvert diameter AND the HW depth is >= 0.75*culvert diameter - p 38 of Reference) **Reference:** FHWA "Hydraulic Design of Highway Culverts", pages 36 - 38, procedure for partly full outlet control conditions (as shown in Figures III-7-D and E), Revised 2005
Part Full Outlet Control Equations DO Apply
Assumed Q1 = 148.52150
For Assumed Q, Sn = 0.0362321 ft/ft P. 36 of Reference Q^2/g = 685.05076 $A = D^2/8 [2\cos^{-1}(1-(2d/D)) - \sin(2\cos^{-1}(1-(2d/D)))]$ = 11.87273386 Wetted Perimeter = 9.938238241 Reference for Part Full Circular Section Equations: Texas DOT Online
dc = 3.583633948 feet Initial dc 3.94830796 $T = D\sin(\cos^{-1}(2d-D)/D)]$ = 2.443003766 Hydraulic Radius = 1.194644553
(dc + D)/2 3.791816974 feet 0.99 * Diameter = 3.96 A^3/T = 685.0507168 Need $Q^2/g = A^3/T$ Error = 4.65208E-05
HGL Elev @ outlet = 1599.70 Feet 0.1 * Diameter = 0.4
HW Elev = 1605.000008 feet HW Error = 7.89414E-06

Final "Part Full" Outlet Control Q (If Applicable): 148.5214953 cfs Note: Solution by Trial and Error Using "Data, Analysis, Solver" in Macro

Open Channel Flow Approximation:
Initial Q = 202.9825834 Q calculated for minimum V (either slope = culvert slope, or slope = W.S. Slope) Velocity Head for Assumed Velocity: 9.372282013 For New V1: $V^2/2g$ = 5.025910958
TW Critical Depth 4.795507671 ft Slope Used = 0.133333333 Entrance Losses = 17.80733582 U/S Depth 1: 0.00 Entrance Losses = 9.54923082 U/S Depth 3 0.00
TW Depth = 4.79 ft (Max of Actual & Crit Depth TW) Velocity Used = 24.57 Approx. US WS Elev (in culvert just DS of Inlet) = (TW Elev + (Slope * Length)) = 1604.785508 ft Ave US Depth = 2.39 ft Approx. US WS Elev (in culvert just DS of Inlet) = 1601.920001 ft US Depth = 0.96 ft
Ave Depth = 3.5 ft (Ave TW and HW Depth) Check HW = 1622.58 New Average Depth = $(HW_{depth} + TW_{depth})/2$ = 9.989130753 ft Ave of Approx HW Elevs: 1613.2564 New Ave Depth 2 = 3.440000975 Ave of Approx HW Elevations: 1606.8257
A= 8.262152164 Initial HW Error (ft) = 17.5928435 New A = 11.88612349 sq ft New Ranges: Max Slope: 0.1333333 ft/ft New A2 = 8.02888454 New Range: Max Slope: 0.0666667
P = 7.293906328 0.133 culvert slope (ft/ft) New P = 9.956351051 ft Min Slope: 0.0000001 ft/ft New P2 = 7.170443958 Min Slope: 0.0000001
R = 1.132747227 0.3 HW to TW slope (ft/ft) New R = 1.193823758 ft Use Ave for New Slope: 0.0666667 ft/ft New R2 = 1.119719307 Use Ave for New Slope: 0.0333334
V = 24.56776265 for slope = culvert slope Starting Slope Range: Max Slope 0.6 ft/ft New V = 23.44281521 ft/s New V2 = 17.2384523 New V2 = 13.589436
V = 36.85154398 for HW to TW slope Min Slope: 0.0000001 ft/ft New Q = 902.4164425 cfs New Q2 = 196.4056432
Average Slope: 0.30000005 ft/ft TW Critical Depth: 6.141272257 TW Critical Depth2: 3.782190565 TW Critic
New TW Depth: 5.32 New TW Depth2: 5.78 New T
Final Open Channel Flow Approximation (After Iterations): NOT APPLICABLE! cfs Error in HW Elev After Iterations: NOT APPLICABLE! ft Check HW = 1621.727336 ft Check HW = 1611.331423 C

INLET CONTROLS (Between Submerged and Unsubmerged Average Q Used)
Capacity = 93.4667197

ERROR! Headwater Elevation is LESS THAN Tailwater Elevation!
Headwater Elevation (EQUALS Tailwater Elevation = NO FLOW!
Open Channel Flow Approximation (Q is APPROXIMATE)
INLET CONTROLS (Unsubmerged Equation)
INLET CONTROLS (Submerged Equation)
OUTLET CONTROLS - Full Flow
INLET CONTROLS (Between Submerged and Unsubmerged Average Q Used)
OUTLET CONTROLS - "Part Full" Equations Used
Culvert Outlet Invert Elev MUST Be Less than or Equal to the Invert Elev

93.4667197
INLET CONTROLS (Between Submerged and Unsubmerged Average Q Used)

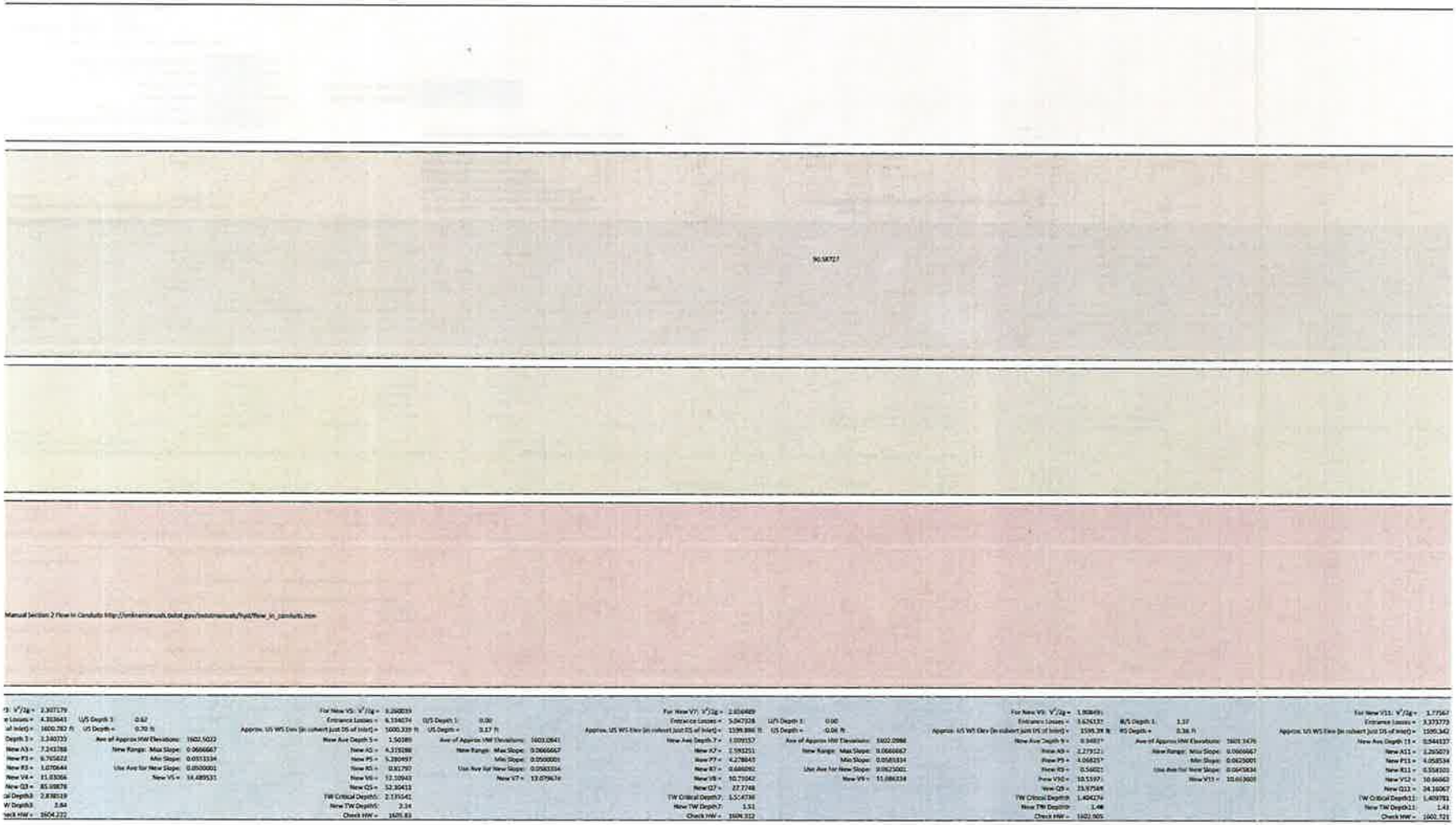
Calculations Completed For the Following Conditions:

Headwater (Upstream Water Surface) Elevation:	1605.00	Feet
Culvert Inlet Invert Elevation:	1600.00	Feet
Culvert Diameter:	48.00	Inches
Length of Culvert:	30.00	Feet
Culvert Outlet Invert Elevation:	1596.00	Feet
Tailwater (Downstream) Elevation:	1596.00	Feet

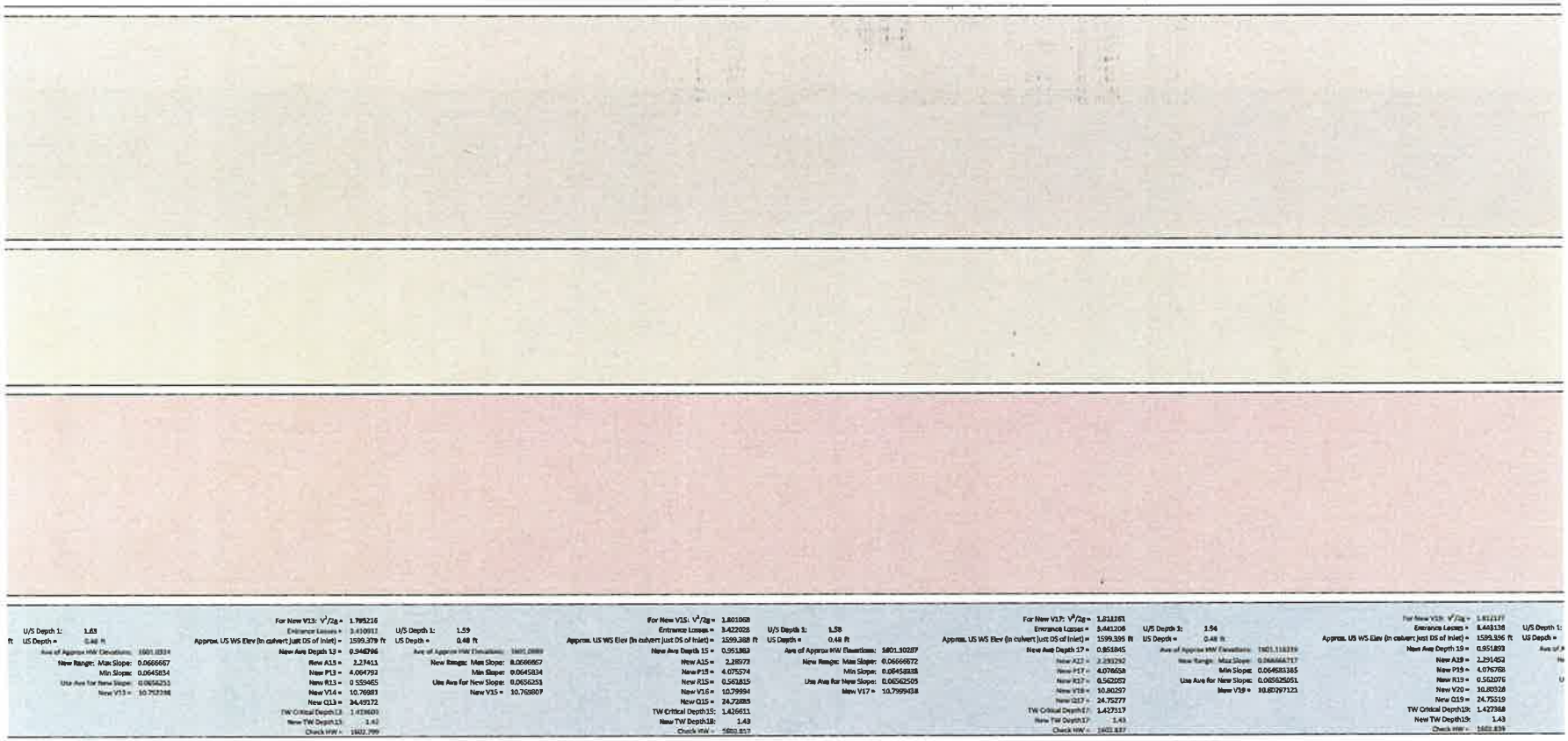
Select Culvert Material: CMP
Select Culvert Inlet Type: Projecting - Thin Edge

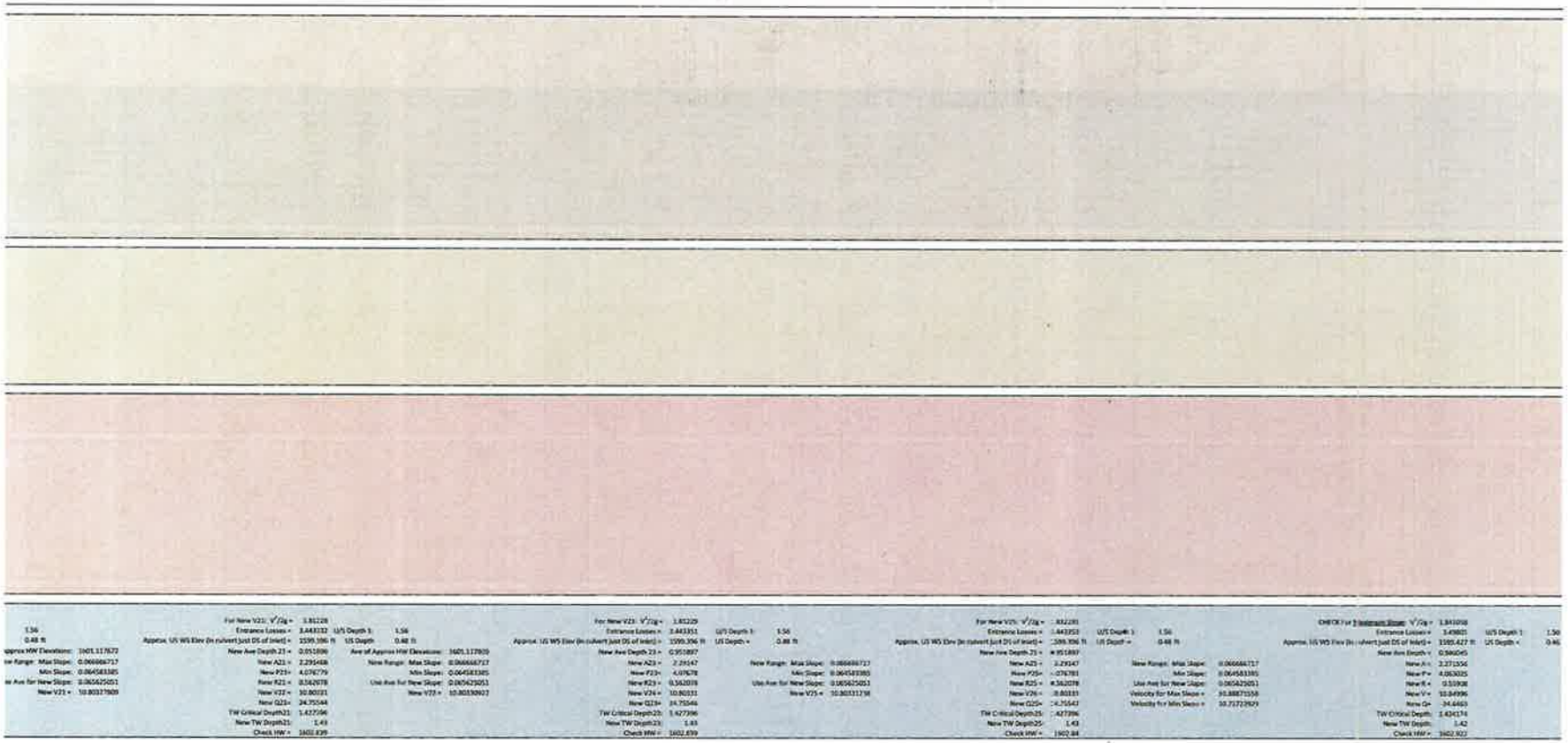
Conditions Unchanged from Those used for Calculations? TRUE

Developed by: Annette A. Humpal, P.E.
Hydraulic Engineer
NRCS - Appleton Area Office
April 30, 2012



3: $V^2/2g$ =	2.307179			For New V5: $V^2/2g$ =	0.290859			For New V7: $V^2/2g$ =	2.016489			For New V9: $V^2/2g$ =	1.958491			For New V11: $V^2/2g$ =	1.77567		
e Losses =	4.302641	U/S Depth 1:	0.67	Entrance Losses =	6.334074	D/S Depth 1:	0.00	Entrance Losses =	5.947328	U/S Depth 1:	0.00	Entrance Losses =	5.676137	B/S Depth 1:	1.37	Entrance Losses =	5.373772		
al Inlet) =	1600.782 ft	US Depth =	0.70 ft	Approx. US WS Elev (in culvert just DS of Inlet) =	1600.339 ft	US Depth =	0.17 ft	Approx. US WS Elev (in culvert just DS of Inlet) =	1599.886 ft	DS Depth =	0.06 ft	Approx. US WS Elev (in culvert just DS of Inlet) =	1595.39 ft	WS Depth =	0.36 ft	Approx. US WS Elev (in culvert just DS of Inlet) =	1595.342		
Depth 3 =	1.340725	Ave of Approx HW Elevations:	1602.5022	New Ave Depth 5 =	1.56389	Ave of Approx HW Elevations:	1603.0841	New Ave Depth 7 =	1.099157	Ave of Approx HW Elevations:	1602.0986	New Ave Depth 9 =	0.9487*	Ave of Approx HW Elevations:	1601.3476	New Ave Depth 11 =	0.944127		
New A3 =	7.243788	New Range:	Max Slope: 0.0666667	New A5 =	4.319288	New Range:	Max Slope: 0.0666667	New A7 =	2.593251	New Range:	Max Slope: 0.0666667	New A9 =	2.27912:	New Range:	Max Slope: 0.0666667	New A11 =	2.265079		
New P3 =	6.765622		Min Slope: 0.0333334	New P5 =	5.280497		Min Slope: 0.0500001	New P7 =	4.278845		Min Slope: 0.0583334	New P9 =	4.06825*		Min Slope: 0.0625001	New P11 =	4.058534		
New R3 =	1.070644	Use Ave for New Slope:	0.0500001	New R5 =	0.821797	Use Ave for New Slope:	0.0583334	New R7 =	0.660392	Use Ave for New Slope:	0.0625001	New R9 =	0.56021:	Use Ave for New Slope:	0.0645834	New R11 =	0.554103		
New V4 =	11.03066	New V5 =	14.489533	New V6 =	12.50943	New V7 =	13.07963*	New V8 =	10.73562	New V9 =	11.086334	New V10 =	10.53397:	New V11 =	10.663602	New V12 =	10.66662		
New Q3 =	85.69878			New Q5 =	52.30413			New Q7 =	27.7748			New Q9 =	23.97549			New Q11 =	24.16067		
al Depth3	2.830519			TW Critical Depth5:	2.135541			TW Critical Depth7:	1.514736			TW Critical Depth9:	1.404274			TW Critical Depth11:	1.409781		
W Depth3	2.84			New TW Depth5:	2.14			New TW Depth7:	1.51			New TW Depth9:	1.48			New TW Depth11:	1.43		
heck HW =	1604.222			Check HW =	1605.83			Check HW =	1604.312			Check HW =	1602.905			Check HW =	1602.721		





ft

CHECK For Minimum Slope: $V^2/2g$ =	1.783925		
Entrance Losses =	8.388697	U/S Depth 1:	1.41
Approx. US WS Elev (Just DS of Inlet) =	1599.365 ft	US De	0.48 ft
New Ave Depth =	0.957748		
New A =	2.311428	New Range: Max Slope:	0.070000053
New P=	4.090507	Min Slope:	0.064983385
New R =	0.565071	Use Ave for New Slope:	0.067291719
New V =	10.75523	Velocity for Ave Slope =	10.97842622
New Q=	24.85991		
TW Critical Depth:	1.430475		
New TW Depth:	1.43		
Check HW =	1602.757		

For New V28: $V^2/2g$ =	1.871519		
Entrance Losses =	8.555887	U/S Depth 1:	1.44
Approx. US WS Elev (In culvert Just DS of Inlet) =	1599.446 ft	US Depth =	0.45 ft
New Ave Depth 26 =	0.936264		
New A26 =	2.238383	New Range: Max Slope:	0.070000053
New P26=	4.039965	Min Slope:	0.065937582
New R26 =	0.554065	Use Ave for New Slope:	0.067968802
New V27 =	10.8359	New V28 =	10.88967086
New Q26=	24.25332		
TW Critical Depth26:	1.412535		
New TW Depth26:	1.41		
Check HW =	1602.987		

For New V28: $V^2/2g$ =	1.841381		
Entrance Losses =	8.498624	U/S Depth 1:	1.50
Approx. US WS Elev (In culvert Just DS of Inlet) =	1599.452 ft	US Depth =	0.48 ft
New Ave Depth 28 =	0.944511		
New A28 =	2.266342	New Range: Max Slope:	0.07
New P28=	4.059413	Min Slope:	0.066951
New R28 =	0.558289	Use Ave for New Slope:	0.068477
New V29 =	10.94512	New V30 =	10.98554
New Q28=	24.8054		
TW Critical Depth28:	1.428869		
New TW Depth28:	1.43		
Check HW =	1602.967		

For New V30: $V^2/2g$ =	1.87408		
Entrance Losses =	8.560753	U/S Depth 1:	1.44
Approx. US WS Elev (In culvert Just DS of Inlet) =	1599.483 ft	US Depth =	0.46 ft
New Ave Depth 30 =	0.945088		
New A30 =	2.268133	New Range: Max Slope:	0.07
New P30=	4.060654	Min Slope:	0.067715
New R30 =	0.558563	Use Ave for New Slope:	0.068857
New V31 =	10.98948	New V31 =	11.01
New Q30=	24.9258		
TW Critical Depth30:	1.432409		
New TW Depth30:	1.43		
Check HW =	1603.047		

Approx. US WS


For New V32: V²/2g = 1.885721
Entrance Losses = 1.582589
Elev (in culvert just DS of inlet) = 1599.498 ft
New Ave Depth 32 = 0.945021
New A32 = 1.258073
New P32= 4.060613
New R32 = 0.309554
New V33 = 11.01988
New Q32= 24.9939
TW Critical Depth32: 1.434418
New TW Depth32: 1.43
Check HW = 1602.083
U/S Depth 1: 1.42
US Depth = 0.45 ft
New Range: Max Slope: 0.07
Min Slope: 0.068857
Use Ave for New Slope: 0.069429
New V34 = 11.0655
For New V34: V²/2g = 1.901325
Entrance Losses = 1.612533
Approx. US WS Elev (in culvert just DS of inlet) = 1599.517 ft
New Ave Depth 34 = 0.9434
New A34 = 1.262568
New P34= 4.056297
New R34 = 0.311721
New V35 = 11.05457
New Q34= 25.01159
TW Critical Depth34: 1.434938
New TW Depth34: 1.43
Check HW = 1603.13
U/S Depth 1: 1.39
US Depth = 0.45 ft
New Range: Max Slope: 0.070000053
Min Slope: 0.069428763
Use Ave for New Slope: 0.069714408
New V36 = 11.07722386
Error = 1.8897 ft
For New V36: V²/2g = 1.901359
Entrance Losses = 1.620181
Approx. US WS Elev (in culvert just DS of inlet) = 1599.526 ft
New Ave Depth 36 = 0.944016
New A36 = 1.264662
New P36= 4.056249
New R36 = 0.558035
New V37 = 11.08542
New Q36= 25.09567
TW Critical Depth36: 1.437408
New TW Depth36: 1.44
Check HW = 1603.149
U/S Depth 1: 1.38
US Depth = 0.45 ft
New Range: Max Slope: 0.070000053
Min Slope: 0.069714408
Use Ave for New Slope: 0.069857723
New V38 = 11.09579739
Error = 1.8510 ft
For New V38: V²/2g = 1.910706
Entrance Losses = 1.630342
Approx. US WS Elev (in culvert just DS of inlet) = 1599.533 ft
New Ave Depth 38 = 0.9444
New A38 = 2.260965
New P38= 4.056152
New R38 = 0.558236
New V39 = 11.09538
New Q38= 25.14271
TW Critical Depth38: 1.43829
New TW Depth38: 1.44
Check HW = 1603.165
U/S Depth 1: 1.37
US Depth = 0.45 ft
New Range: Max Slope: 0.07
Min Slope: 0.068857
Use Ave for New Slope: 0.069929
New V40= 11.10705
Error = 1.8352 ft

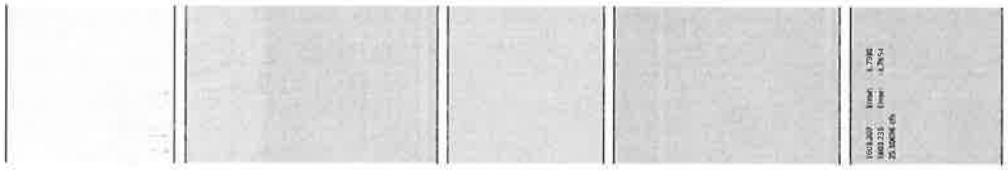
For New V40: $V^2/2g$ =	1.913559		
Entrance Losses =	3.635762	U/S Depth 1:	1.36
vert just DS of inlet) =	1599.537 ft	US Depth =	0.45 ft
New Ave Depth 40 =	0.944594		
New A40 =	2.266626	New Range: Max Slope:	0.07
New P40=	4.05961	Min Slope:	0.069929
New R40 =	0.558336	Use Ave for New Slope:	0.069964
New V41 =	11.10237	New V42 =	11.1052
New Q40=	25.16493		
TW Critical Depth40:	1.43944	Error =	1.8269 ft
New TW Depth40:	1.44		
Check HW =	1603.173		

For New V42: $V^2/2g$ =	1.914998		
Entrance Losses =	3.638496	Depth 1:	1.36
Approx. US WS Elev (in culvert just DS of inlet) =	1599.538 ft	US De	0.45 ft
New Ave Depth 42 =	0.944691		
New A42 =	2.266955	New Range: Max Slope:	0.07
New P42=	4.059838	Min Slope:	0.069964
New R42 =	0.558388	Use Ave for New Slope:	0.069982
New V43 =	11.10586	New V44 =	11.10728
New Q42=	25.17649		
TW Critical Depth42:	1.43976	Error =	1.8228 ft
New TW Depth42:	1.44		
Check HW =	1603.177		

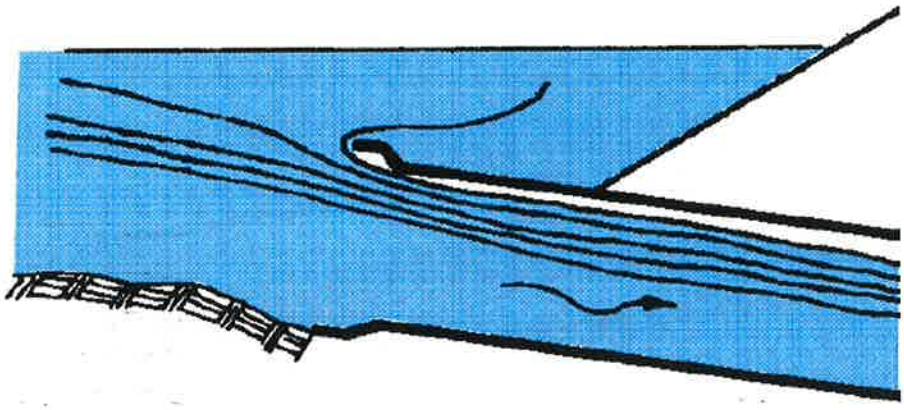
For New V43: $V^2/2g$ =	1.915709		
Entrance Losses =	3.639847	/S Depth 1:	1.36
Approx. US WS Elev (in culvert just DS of inlet) =	1599.538 ft	US De	0.45 ft
New Ave Depth 43 =	0.94474		
New A43 =	2.26712	New Range: Max Slope:	0.0707
New P43=	4.059953	Min Slope:	0.070664
New R43 =	0.55841	Use Ave for New Slope:	0.070682
New V44 =	11.10761	New V45 =	11.16301
New Q43=	25.18228		
TW Critical Depth43:	1.43995	Error =	1.8207 ft
New TW Depth43:	1.44		
Check HW =	1603.179		

For New V43: $V^2/2g$ =	1.934980		
Entrance Losses =	3.676464	/S Depth 1:	1.32
Approx. US WS Elev (in culvert just DS of inlet) =	1599.56 ft	US De	0.44 ft
New Ave Depth 43 =	0.940962		
New A43 =	2.254291	New Range: Max Slope:	0.0707
New P43=	4.051051	Min Slope:	0.070682
New R48 =	0.556471	Use Ave for New Slope:	0.070691
New V44 =	11.13714	New V45 =	11.19788
New Q43=	25.10636		
TW Critical Depth43:	1.437723	Error =	1.7634 ft
New TW Depth43:	1.44		
Check HW =	1603.235		

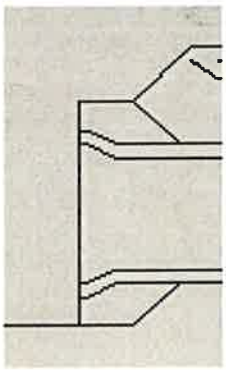
Average of Last Two HW Elevs:
Elevation with Minimum Error:
Final Q:

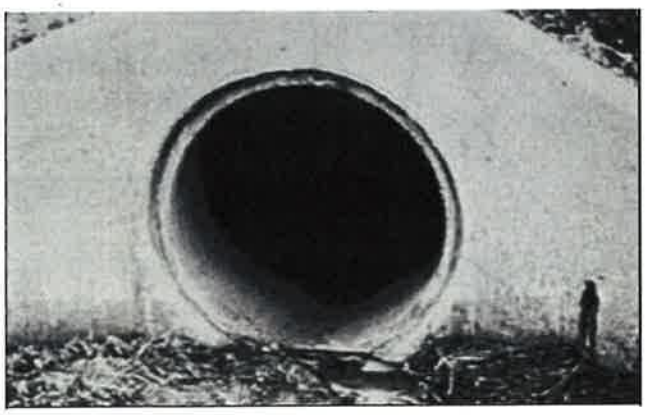


Culvert Entrance Conditions:

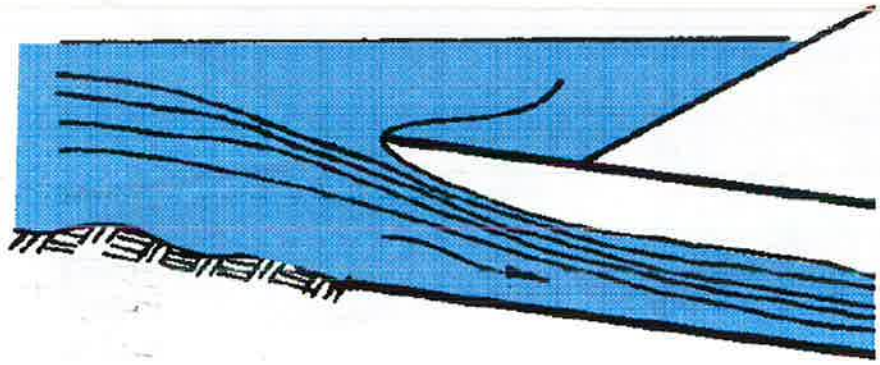


Projecting Groove Edge (Applies only to Concrete Culverts with the socket end projecting from the fill)

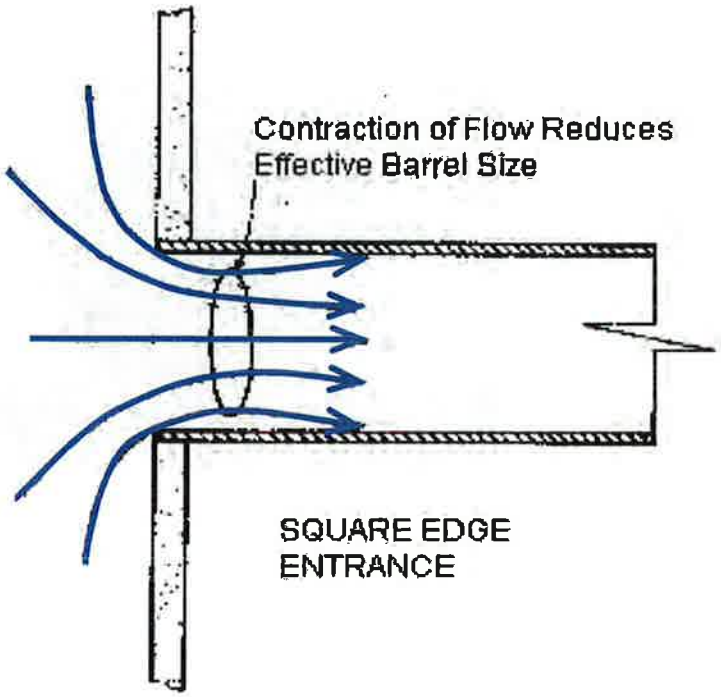




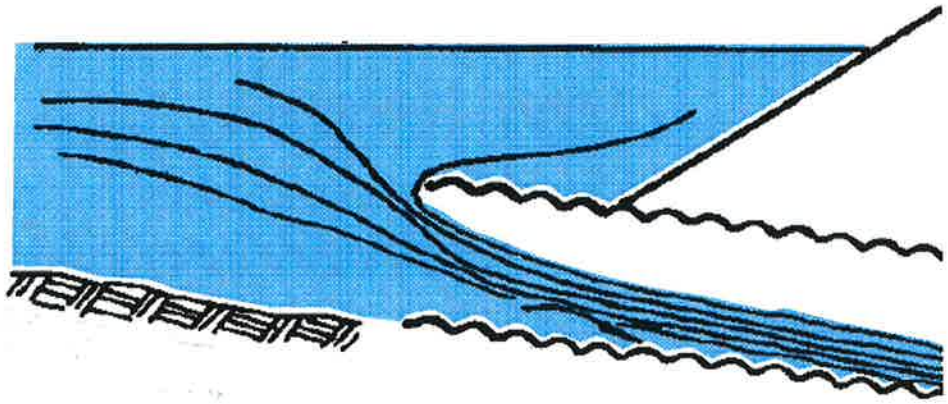
Headwall – Groove Edge (applies to Concrete pipe with the socket end in combination with a concrete headwall)



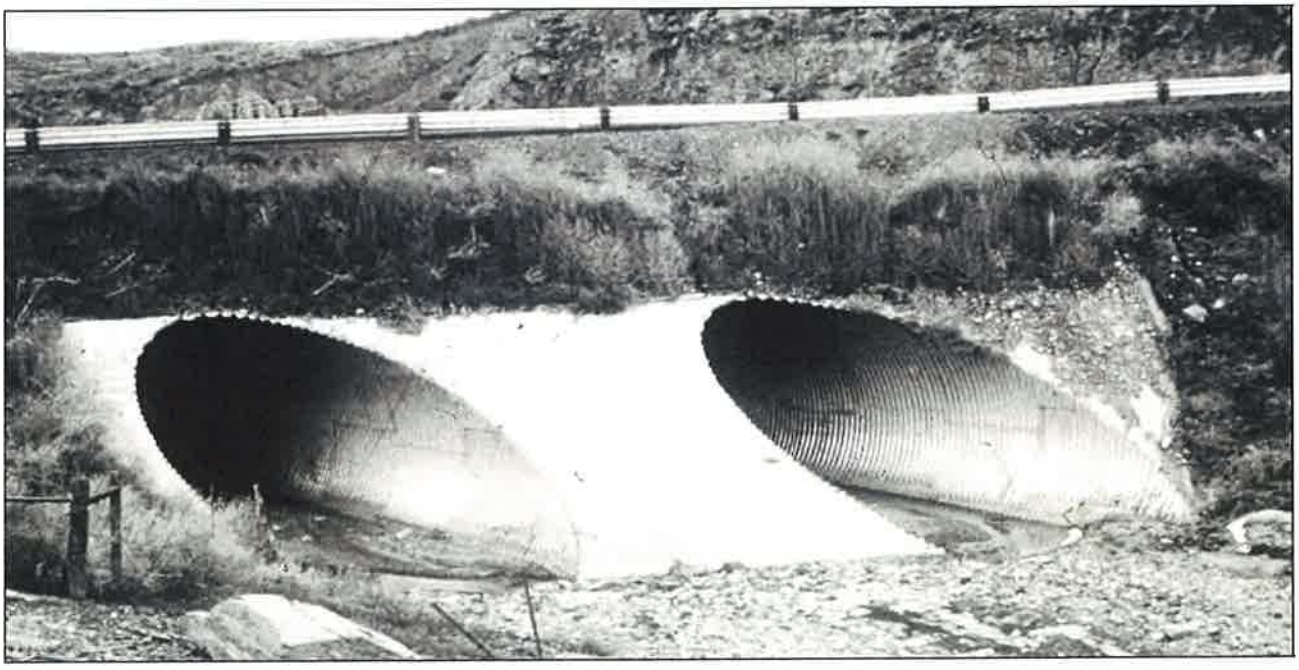
Projecting Square Edge (Applies to Concrete Culverts for non-socket end of the pipe projecting from the fill)



Headwall – Square Edge (applies to Concrete, CMP, PVC plastic, Smooth HDPE, or Corrugated PE culverts with a concrete headwall and a square edge entrance)



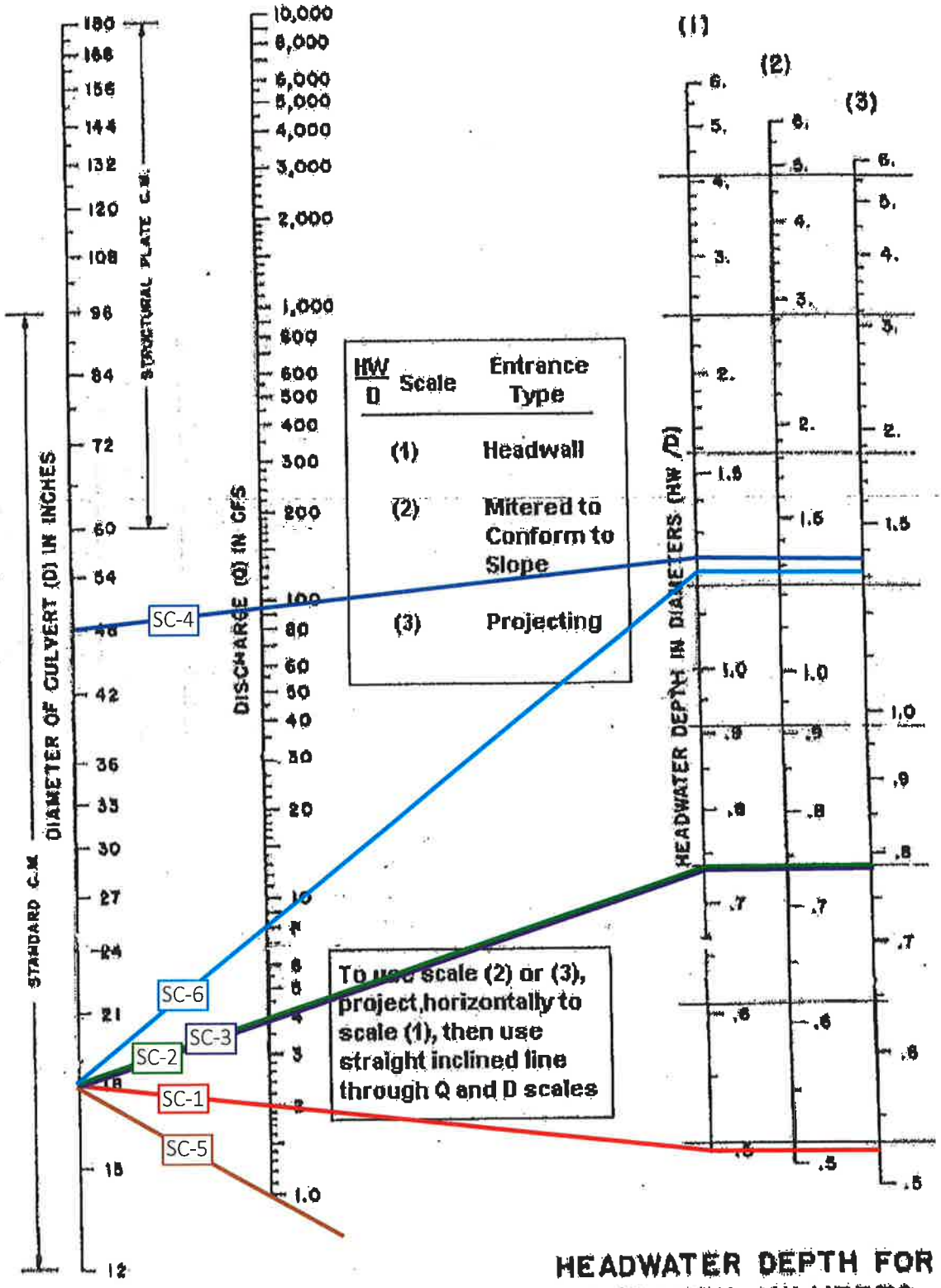
Projecting Thin Edge (Applies to Corrugated Metal Pipe (CMP), Smooth HDPE or Corrugated PE culverts projecting from the fill)



Miter/Square/2:1 Slope (applies to CMP, PVC plastic, Smooth HDPE or Corrugated PE culverts that are mitered to conform to the slope)

Attachment 7:

Culvert Nomograph



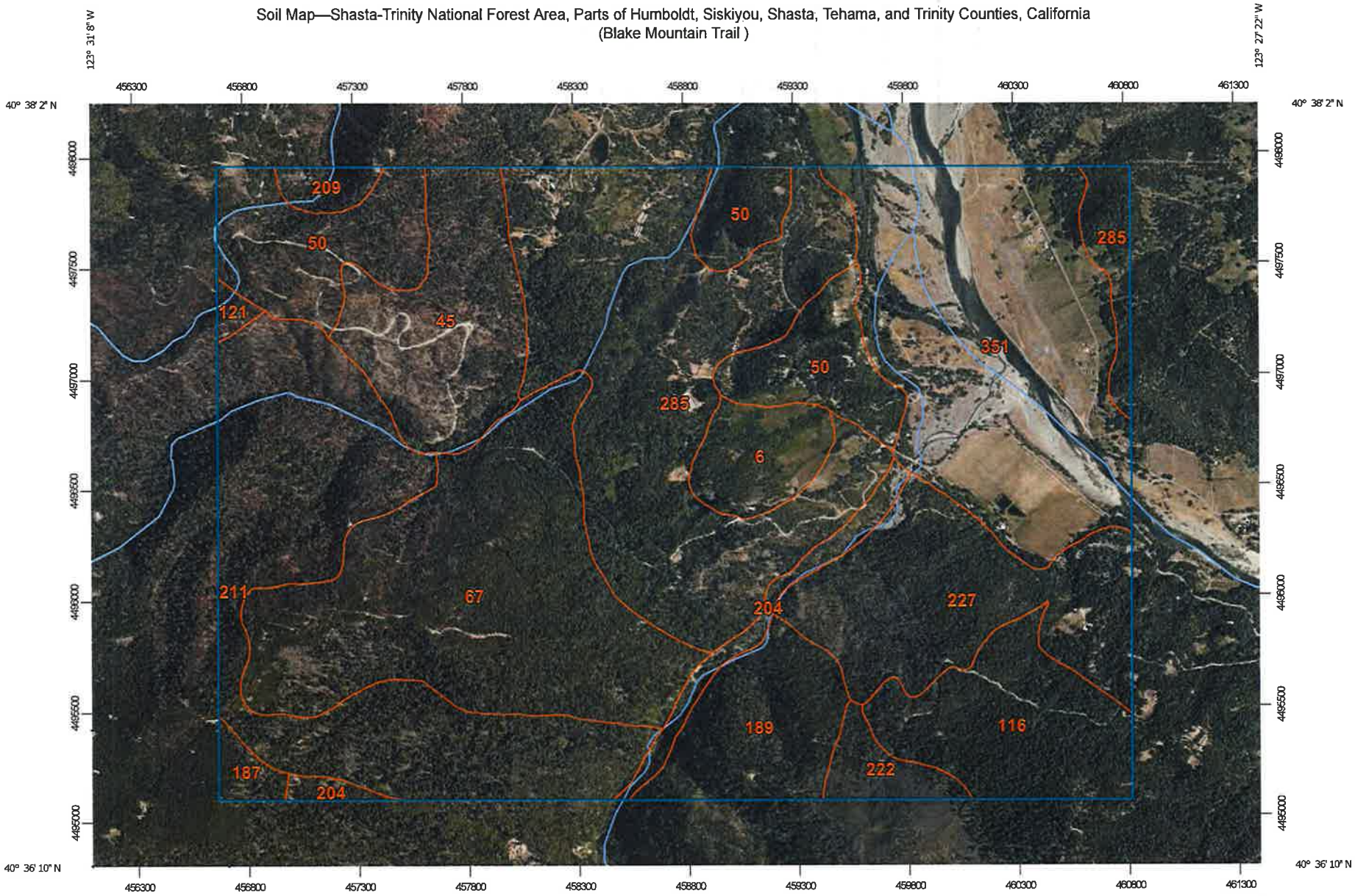
HEADWATER DEPTH FOR C. M. PIPE CULVERTS WITH INLET CONTROL

BUREAU OF PUBLIC ROADS JAN 1963

Attachment 8:

Web Soil Survey

Soil Map—Shasta-Trinity National Forest Area, Parts of Humboldt, Siskiyou, Shasta, Tehama, and Trinity Counties, California
(Blake Mountain Trail)



Map Scale: 1:24,300 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 350 700 1400 2100

Feet
0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

USDA **Natural Resources Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

Soil Survey Area: Shasta-Trinity National Forest Area, Parts of Humboldt, Siskiyou, Shasta, Tehama, and Trinity Counties, California
Survey Area Data: Version 10, Jun 1, 2020

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

Date(s) aerial images were photographed: May 8, 2019—Jun 21, 2019

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres In AOI	Percent of AOI
6	Aquolls-Xerolls complex, 0 to 20 percent slopes	65.9	2.2%
45	Dubakella-Beaughton families complex, 30 to 70 percent slopes.	179.7	6.1%
50	Dunsmuir family, 15 to 40 percent slopes.	240.0	8.1%
67	Forbes family, 40 to 60 percent slopes.	430.4	14.6%
116	Holland family, deep, 20 to 40 percent slopes.	161.1	5.5%
121	Holland, deep-Hugo families complex, 20 to 40 percent slopes.	7.9	0.3%
187	Marpa-Neuns families complex, 40 to 60 percent slopes.	17.7	0.6%
189	Marpa family, deep, 40 to 60 percent slopes.	123.7	4.2%
204	Neuns family, 60 to 80 percent slopes.	49.7	1.7%
209	Neuns-Goulding families association, 60 to 80 percent slopes.	20.1	0.7%
211	Neuns-Holland families complex, 40 to 60 percent slopes.	402.4	13.7%
222	Neuns family-Neuns family, deep complex, 60 to 80 percent slopes.	35.3	1.2%
227	Neuns, deep-Hugo families complex, 20 to 40 percent slopes.	230.8	7.8%
285	Secca-Forbes families association, 20 to 40 percent slopes.	548.9	18.6%
351	Xerofluvents-Riverwash association, 0 to 20 percent slopes.	433.5	14.7%
Totals for Area of Interest		**2,947.3**	**100.0%**

Attachment 9:

Culvert Installation Plan

BUILDING CODE COMPLIANCE

BUILDING SHALL COMPLY WITH 2022 CALIFORNIA BUILDING CODE (CBC), 2022 CALIFORNIA PLUMBING CODE (CPC), 2022 CALIFORNIA MECHANICAL CODE (CMC), 2022 CALIFORNIA ELECTRICAL CODE (CEC), 2022 CALIFORNIA ENERGY EFFICIENCY STANDARDS CODE, 2022 CALIFORNIA FIRE CODE (CFC), 2022 GREEN BUILDING STANDARDS CODES, AND ALL APPLICABLE CODES.

CONTRACTOR ALERT!

EXCEPT IN AN EMERGENCY, AN EXCAVATOR PLANNING TO CONDUCT AN EXCAVATION SHALL NOTIFY USA DIG AT 800-227-2600, OF THE EXCAVATOR'S INTENT TO EXCAVATE AT LEAST 2 WORKING DAYS, AND NOT MORE THAN 14 CALENDAR DAYS, BEFORE BEGINNING THAT EXCAVATION. THE DATE OF THE NOTIFICATION SHALL NOT COUNT AS PART OF THE 2 WORKING DAY NOTICE.

SEE CALIFORNIA STATUTE GOVERNMENT CODE, TITLE 1, DIV 5 CHAPTER 3.1 §§ 4215-4216.24 FOR MORE DETAILS REGARDING THE PROTECTION OF UNDERGROUND INFRASTRUCTURE ACT.

EXISTING UTILITY ALIGNMENTS BOTH HORIZONTALLY AND VERTICALLY MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES.

ABBREVIATIONS

AC	= ASPHALTIC CONCRETE
AB	= AGGREGATE BASE
A.D.	= ALGEBRAIC DIFFERENCE
BC, PC	= BEGIN CURVE
CO	= CLEAN OUT
CL	= CENTER LINE
CMP	= CORRUGATED METAL PIPE
CPCT.	= COMPACT
D	= DELTA
DET	= DETAIL
DRN	= DRAIN
<A>	= EXISTING
EC	= END CURVE
EG	= EXISTING GROUND
EP	= EDGE OF PAVEMENT
FF	= FINISH FLOOR
FG	= FINISH GRADE
FH	= FIRE HYDRANT
FL	= FLOW LINE
GA	= GUY ANCHOR
GV	= GATE VALVE
HC	= HANDICAPPED
HDPE	= HIGH DENSITY POLYETHYLENE PIPE
INV	= INVERT
(INT=X)	= INTERSECTION
K	= SIGHT DISTANCE
LAT	= LATERAL
LD.	= LOCAL DEPRESSION
LF.	= LINEAR FEET
LF.	= SEWER LEACH FIELD
LT.	= LEFT
MAS.	= MASONRY
MI	= MILES
MSE	= MECHANICALLY STABILIZED EARTH
(N)	= NEW
NTS	= NOT TO SCALE
O.C.	= ON CENTER
PG&E	= PACIFIC GAS & ELECTRIC
(P)	= PROPOSED
PP	= POWER POLE
PRC	= POINT OF REVERSE CURVE
PT	= POINT
PVI	= POINT OF VERTICAL INTERSECTION
PVT	= PRIVATE
RT	= RIGHT
RTN	= RETURN
SB	= SET BACK
SDMH	= STORM DRAIN MAN HOLE
SHT	= SHEET
SD	= STORM DRAIN
STA	= STATION
STD.	= STANDARD
TC	= TOP OF CURB
TBC	= TOP BACK OF CURB
TFC	= TOP FACE OF CURB
TOB	= TOP OF BANK
TEL	= TELEPHONE
TP	= TOP OF PAVEMENT
TVCE	= TRINITY VALLEY CONSULTING ENGINEERS
TW	= TOP OF WALL
(TYP)	= TYPICAL
UG	= UNDERGROUND
W	= WATER
WV	= WATER VALVE

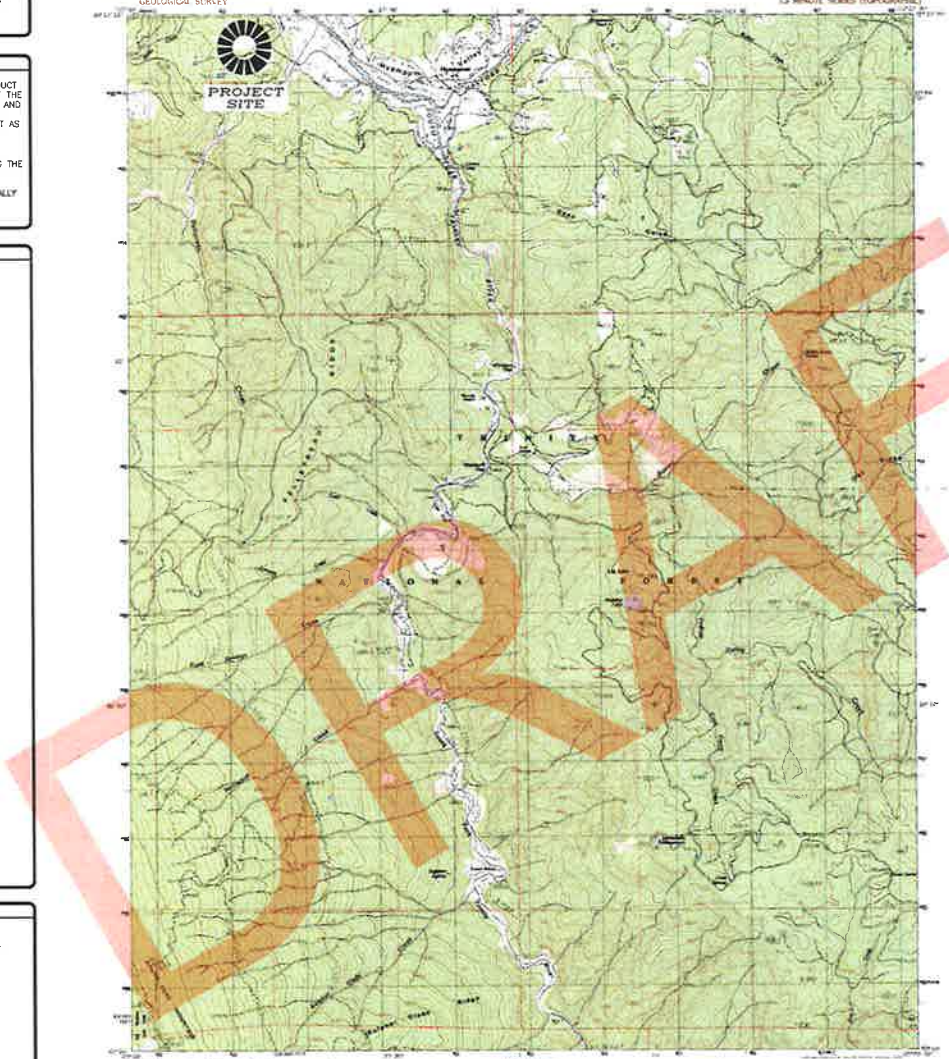
LEGEND

- SURVEY CONTROL POINT
- WATER VALVE
- ELECTRIC BOX/PANEL
- UTILITY POLE
- GATE
- TREE
- UNDERGROUND STORM DRAIN
- FLOWLINE
- CATCH LINE
- CENTERLINE
- EASEMENT

UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

HYAMPOM QUADRANGLE CALIFORNIA-TRINITY CO. 7.5 MINUTE SERIES (TOPOGRAPHIC)

PROJECT SITE



PLAN VIEW
SCALE: NTS

AREA MAP
NTS

VICINITY MAP
NTS

SYMBOLS

SHEET INDEX

DRAWING #	TITLE	REVISION	DATE
T01.0	TITLE SHEET	0	10/01/2023
C01.0	NOTES	0	10/01/2023
C02.0	EXISTING CONDITIONS	0	10/01/2023
C03.0	GRADING PLAN STA	0	10/01/2023
C03.1	GRADING PLAN STA	0	10/01/2023
C03.2	GRADING PLAN STA	0	10/01/2023
C03.3	GRADING PLAN STA	0	10/01/2023
C03.4	GRADING DETAILS	0	10/01/2023
C04.0	TEMPORARY EROSION CONTROL PLAN	0	10/01/2023
C04.1	TEMPORARY EROSION CONTROL DETAILS 1	0	10/01/2023
C05.0	CENTERLINE DIMS	0	10/01/2023
C06.0	EXISTING DAM CONDITIONS	0	10/01/2023
C06.1	DAM SITE PLAN	0	10/01/2023
C06.2	CULVERT DETAILS	0	10/01/2023
C06.3	DAM EROSION CONTROL PLAN	0	10/01/2023

TVCE

67 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
P:(530)629-3000
F:(530)629-3011

NEW	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

ARALANOVA PROPERTY
420 BURNT RANCH TRAIL
HYAMPOM, CA 95
APN 011-210-035

TITLE SHEET

TRINITY, CALIFORNIA

DATE OF ISSUE: AUGUST 2023

SCALE: AS SHOWN

PROJECT NO: 1513

DRAWING NO: T01.0

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN IN THESE DRAWINGS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE CONTRACT SPECIFICATIONS.
2. THE CONTRACTOR SHALL PROVIDE ALL UTILITIES AS NECESSARY TO SUCCESSFULLY COMPLETE ALL CONSTRUCTION ACTIVITIES
3. ALL EXISTING AND PROPOSED DIMENSIONS DEPICTED HEREIN SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO STARTING WORK.
4. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER ON ALL CONSTRUCTION ACTIVITIES.
5. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITIES, WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE ENGINEER'S SATISFACTION AT THE CONTRACTOR'S SOLE EXPENSE WITHOUT ADDITIONAL COMPENSATION.
6. THE CONTRACTOR SHALL POSSESS THE CLASS, OR CLASSES, OF LICENSE AS SPECIFIED IN THE NOTICE TO CONTRACTORS.
7. THE CONTRACTOR IS TO EXPOSE THE ENDS OF EXISTING BURIED UTILITIES FOR SURVEYORS TO VERIFY LOCATION AND ELEVATION PRIOR TO PLACEMENT OF NEW UTILITIES. ALL COSTS OF SUCH EXCAVATION AND BACKFILL SHALL BE INCLUDED IN THE PRICE PAID FOR VARIOUS ITEMS OF WORK.
8. ALL APPLICABLE FEES TO BE PAID AND PERMITS REQUIRED SHALL BE OBTAINED BY THE CONTRACTOR BEFORE COMMENCEMENT OF CONSTRUCTION.
9. THE TYPES, LOCATIONS, SIZES, AND DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE IMPROVEMENT PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS, AND DEPTHS OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES, HOWEVER, TVCE CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES NOR FOR THE EXISTENCE OF OTHER BURIED OBJECTS OR UTILITIES WHICH MAY BE ENCOUNTERED BUT WHICH ARE NOT DEPICTED ON THESE DRAWINGS.
10. THE CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF 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 THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.
11. THE CONTRACTOR OR ANY SUBCONTRACTOR FOR THIS CONTRACT SHALL NOTIFY MEMBERS OF U.S.A. TWO WORKING DAYS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK BY CALLING THE TOLL FREE NUMBER 1-800-227-2600.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND OTHER SURVEY MARKERS DURING CONSTRUCTION. ALL SUCH MONUMENTS OR MARKERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
13. UNDOCUMENTED PIPING EXPOSED DURING CONSTRUCTION SHALL BE LOCATED AND MARKED BY THE CONTRACTOR FOR INCLUSION IN AS-BUILT DRAWINGS.
14. ALL NEW BURIED PIPING SHALL HAVE A MINIMUM OF 3 FEET OF COVER UNLESS OTHERWISE SPECIFIED.

CULTURALLY SENSITIVE AREAS:

1. AREAS WITHIN THE PROJECT PERIMETER THAT ARE CULTURALLY SENSITIVE SHALL BE PROTECTED AGAINST DAMAGE FROM CONSTRUCTION ACTIVITIES. AT NO TIME SHALL SUCH CULTURALLY SENSITIVE AREAS BE ENTERED, PARKED UPON, STOCK PILED UPON, OR HAVE ANY OTHER ACTIVITY ASSOCIATED WITH THE CONSTRUCTION OF THIS PROJECT IN ANY WAY INFRINGE UPON, DETERIORATE, DESTROY, OR RENDER TO A STATE OR CONDITION UNACCEPTABLE ANY CULTURALLY SENSITIVE AREA. THE CONTRACTOR AGREES TO PROTECT ALL SUCH AREAS DURING ANY AND ALL ACTIVITIES ASSOCIATED WITH THE CONSTRUCTION OF THIS PROJECT.
2. IN THE EVENT THAT OVER THE COURSE OF EXCAVATIONS AND CONSTRUCTION THAT A CULTURALLY SENSITIVE AREA MAY OF BEEN ENCOUNTERED OR DISTURBED, INCLUDING NATIVE AMERICAN ARTIFACTS AND/OR REMAINS, ALL WORK IN THE SENSITIVE AREA SHALL BE STOPPED IMMEDIATELY AND THE CONTRACTOR IS TO CONTACT THE CALIFORNIA NATIVE AMERICAN HERITAGE COMMISSION AT:

   CALIFORNIA NATIVE AMERICAN HERITAGE COMMISSION
   1550 HARBOR BLVD, SUITE 100
   WEST SACRAMENTO, CA 95691
   (916) 373-3710 - FAX: (916) 373-5471
   NAHC@NAHC.CA.GOV

3. FOR MORE DETAILS CONSULT:
   -CALIFORNIA PUBLIC RESOURCE CODE, DIVISION 5, CAHPTER 1.7
   -CALIFORNIA CODES AND REGULATIONS, TITLE 14, DIVISION 6, CHAPTER 3, ARTICLE 5

QUANTITIES:

1. QUANTITIES AND LENGTHS OF ITEMS PROVIDED WITHIN THIS PLAN SET ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL QUANTITIES OF COMPONENTS REQUIRED FOR THE SUCCESSFUL AND SATISFACTORY COMPLETION OF THE PROJECT.

TRAFFIC CONTROL NOTES:

1. WHENEVER THE WORK AREA IS ADJACENT TO A TRAFFIC LANE AND THERE IS A CUT, DITCH OR TRENCH MORE THAN TWO INCHES DEEP, THE CONTRACTOR SHALL MAINTAIN CONTINUOUS BARRICADES SPACED AT APPROXIMATELY 20-FOOT INTERVALS FOR THE FIRST 100 FEET FROM THE BEGINNING OF THE CUT, DITCH OR TRENCH, AND AT APPROXIMATELY 50-FOOT INTERVALS THEREAFTER. IF THE CUT, DITCH OR TRENCH IS MORE THAN TEN FEET FROM A TRAFFIC LANE, THE BARRICADED SPACING MAY BE GREATER BUT SHALL NOT EXCEED 200 FEET.
2. UNLESS SPECIFICALLY SET FORTH AS SPECIAL PROVISIONS, ALL MARKED LANES OF TRAFFIC SHALL BE UNOBSTRUCTED IN EACH DIRECTION DURING THE PEAK TRAFFIC HOURS OF 7:00 TO 8:30AM AND 3:30 TO 6:00 PM.
3. SAFE VEHICULAR AND PEDESTRIAN ACCESS SHALL BE PROVIDED AT ALL TIMES DURING CONSTRUCTION.
4. TRACK MOUNTED VEHICLES SHALL NOT BE OPERATED ON PAVED ROADS.

AGGREGATE BASE ROCK NOTES:

1. AGGREGATE BASE SHALL BE CALTRANS CLASS II.
2. AGGREGATE BASE SHALL BE INSTALLED PER SECTION 26 OF THE CALTRANS STANDARD SPECIFICATIONS.
3. AGGREGATE BASE SHALL BE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION PER CT 231.

ASPHALT CONCRETE NOTES:

1. ASPHALT CONCRETE SHALL BE ½" MAXIMUM RADIUS HOT MIX TYPE A. CONTRACTOR TO SUBMIT MIX DESIGN FOR APPROVAL.
2. ASPHALT CONCRETE SHALL BE INSTALLED IN STRICT ACCORDANCE WITH SECTION 39 OF THE CALTRANS STANDARD SPECIFICATIONS.
3. ASPHALT CONCRETE SHALL BE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION AS VERIFIED PER CAL 216.
4. EXISTING AC SURFACES SHALL BE CUT TO A NEAT STRAIGHT LINE PARALLEL WITH THE CENTERLINE AND THE EXPOSED EDGE SHALL BE TACKED WITH EMULSION PRIOR TO PAVING. THE EXPOSED BASE MATERIAL SHALL BE GRADED, RE-COMPACTED, AND RESEALED PRIOR TO PAVING.

ELECTRIC GENERAL NOTES:

1. ALL ELECTRIC FACILITIES AND WORK TO BE IN STRICT COMPLIANCE WITH APPLICABLE LAWS AND MUST MEET PACIFIC GAS AND ELECTRIC (PG&E) REQUIREMENTS PER CURRENT GREEN BOOK.
2. REFER TO PG&E SITE PLAN FOR ADDITIONAL DETAILS NOT EXPRESSED ON THIS SHEET.
3. CONTRACTOR TO COORDINATE WITH PG&E FOR ALL REQUIRED TESTING/INSPECTION AND FOR PG&E INSTALLED FACILITIES.
4. OWNER HAS THE RESPONSIBILITY OF PAYING ALL FEES TO PG&E DIRECT FOR THEIR SERVICES/FACILITIES UNDER THE ORIGINAL APPLICATION FOR THIS PROJECT. ADDITIONAL COSTS RESULTING DIRECTLY FROM THE CONTRACTOR'S ACTIVITIES AND NOT EXPRESSLY COVERED UNDER THE ORIGINAL APPLICATION WILL BE THE SOLE EXPENSE OF THE CONTRACTOR.
5. POWER/ELECTRICAL FACILITIES DEPICTED ON THESE PLAN SETS ARE FOR GENERAL LOCATION PURPOSES, ACTUAL HARDWARE, ALIGNMENTS, PLACEMENT, AND DESIGN TO BE PROVIDED BY PACIFIC GAS & ELECTRIC (PG&E). CONTRACTOR TO COORDINATE WITH PG&E FOR DESIGN AND INSTALLATION OF REQUIRED COMMUNICATION FACILITIES.

COMMUNICATIONS GENERAL NOTES:

1. ALL COMMUNICATIONS FACILITIES AND WORK TO BE IN STRICT COMPLIANCE WITH APPLICABLE LAWS AND MUST MEET ALL FRONTIER REQUIREMENTS AS APPLICABLE UNDER CPUC.
2. CONTRACTOR TO COORDINATE WITH FRONTIER FOR ALL REQUIRED TESTING/INSPECTION AND FOR FRONTIER INSTALLED FACILITIES.
3. OWNER HAS THE RESPONSIBILITY OF PAYING ALL FEES TO FRONTIER DIRECT FOR THEIR SERVICES/FACILITIES UNDER THE ORIGINAL APPLICATION FOR THIS PROJECT. ADDITIONAL COSTS RESULTING DIRECTLY FROM THE CONTRACTOR'S ACTIVITIES AND NOT EXPRESSLY COVERED UNDER THE ORIGINAL APPLICATION WILL BE THE SOLE EXPENSE OF THE CONTRACTOR.
4. TELEPHONE/COMMUNICATION FACILITIES DEPICTED ON THESE PLAN SETS ARE FOR GENERAL LOCATION PURPOSES, ACTUAL HARDWARE, ALIGNMENTS, PLACEMENT, AND DESIGN TO BE PROVIDED BY FRONTIER. CONTRACTOR TO COORDINATE WITH FRONTIER FOR DESIGN AND INSTALLATION OF REQUIRED COMMUNICATION FACILITIES.

DUST CONTROL NOTES:

1. THE CONTRACTOR SHALL IMPLEMENT ONE OR BOTH OF THE FOLLOWING MEASURES FOR DUST CONTROL ON THIS SITE:

1.1 SPRAYING OF WATER SO AS NOT TO GENERATE ADDITIONAL RUNOFF. NO DUST PALLIATIVE MATERIALS OTHER THAN WATER WILL BE USED ON THIS PROJECT. IF NON-POTABLE WATER IS TO BE USED, IT MUST BE CONVEYED IN TANKS OR PIPES CLEARLY LABELED AS "NON-POTABLE WATER – DO NOT DRINK".

1.2 COVERS FOR EXPOSED AREAS.

EQUIPMENT & MATERIALS STORAGE NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL MATERIALS AND EQUIPMENT STORED ONSITE SHALL HAVE ADEQUATE COVERINGS AND CONTAINMENT TO PREVENT LEAKAGE AND SPILLS.
2. ALL MATERIALS AND EQUIPMENT SHALL BE STORED IN DESIGNATED AND APPROVED AREAS. THE AREA SHALL BE BERMED WITH EARTH DIKES THAT THE CONTRACTOR SHALL INSPECT AND MAINTAIN WEEKLY.
3. ALL FLAMMABLE, REACTIVE, AND/OR IGNITABLE LIQUIDS MUST COMPLY WITH LOCAL FIRE CODES.
4. DURING THE RAINY SEASON (OCTOBER THROUGH APRIL) THE CONTRACTOR SHALL ENSURE THAT MATERIALS ARE COVERED.
5. NO CHEMICALS, DRUMS, OR BAGGED MATERIALS SHALL BE STORED DIRECTLY ON THE GROUND; ITEMS SHALL BE PLACED ON PALLETS AND/OR IN SECONDARY CONTAINMENT.
6. IF DRUMS MUST BE KEPT UNCOVERED, THE CONTRACTOR SHALL STORE THEM AT A SLIGHT ANGLE TO REDUCE PONDING OF RAINWATER AND REDUCE CORROSION.
7. WHEN DANGEROUS MATERIALS AND/OR LIQUID CHEMICALS ARE UNLOADED ONSITE, THE CONTRACTOR SHALL HAVE EMPLOYEES TRAINED IN EMERGENCY SPILL CLEANUP PROCEDURES PRESENT.

VEHICLE MAINTENANCE NOTES:

1. EQUIPMENT AND VEHICLES TRAVELING ONSITE SHALL BE INSPECTED REGULARLY FOR LEAKS AND BE REPAIRED IMMEDIATELY; DO NOT ALLOW LEAKING VEHICLES ONSITE. KEEP VEHICLES AND EQUIPMENT CLEAN (DO NOT ALLOW EXCESSIVE BUILDUP OF OIL AND GREASE).
2. USE OFFSITE REPAIR SHOPS WHENEVER POSSIBLE; IF ONSITE REPAIRS ARE NECESSARY, USE A DESIGNATED AREA SURROUNDED BY EARTH BERMS. THE CONTRACTOR SHALL INSPECT THIS AREA WEEKLY AND AFTER EACH RAINSTORM EVENT TO ENSURE THAT THE EARTH BERMS ARE IN PLACE AND FUNCTIONING PROPERLY; ANY NON-FUNCTIONING BERMS SHALL BE REPAIRED IMMEDIATELY.
3. USE DRY CLEAN-UP METHODS FOR SPILLS AS MUCH AS POSSIBLE; USE ABSORBENT MATERIALS FOR SMALL SPILLS AND DISPOSE OF PROPERLY. USE A SECONDARY CONTAINMENT DURING FLUID CHANGES AND REPAIRS TO CATCH SPILLS.
4. SEGREGATE AND RECYCLE WASTES (INCLUDING BUT NOT LIMITED TO: USED OIL AND OIL FILTERS, BATTERIES, ETC.). KEEP HAZARDOUS WASTES SEPARATE FROM NON-HAZARDOUS WASTES; AFTER REPAIRS, ETC., PROMPTLY TRANSFER USED FLUIDS AND WASTES TO THEIR PROPER CONTAINMENT AREAS AND CONTAINERS.

CONCRETE NOTES:

1. THE MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS SHALL BE 2500 PSI AND SHALL BE A MINIMUM OF A FIVE SACK MIX WITH NO MORE THAN SEVEN GALLONS OF WATER PER CUBIC YARD.
2. ALL CONCRETE SHALL BE REGULAR WEIGHT HARD ROCK TYPE (150# /CF). MAXIMUM AGGREGATE SIZE FOR SLABS ON GRADE TO BE ¾" AND 1½" FOR FOUNDATIONS. AGGREGATE SHALL CONFORM TO ASTM C-33. CEMENT SHALL CONFORM TO C-150 (TYPE II), UNLESS ALKALINE SOILS. WATER-REDUCING ADMIXTURES, RETARDING ADMIXTURES, ACCELERATING ADMIXTURES, WATER-REDUCING AND RETARDING ADMIXTURES, AND WATER-REDUCING AND ACCELERATING ADMIXTURES SHALL CONFORM TO "SPECIFICATION FOR CHEMICAL ADMIXTURES FOR CONCRETE" (ASTM C 494).
3. SLABS, BEAMS, WALLS AND OTHER CONCRETE SHALL BE KEPT CONTINUOUSLY WET FOR 48 HOURS AFTER PLACEMENT AND SHALL BE KEPT DAMP FOR 7 DAYS AFTER PLACEMENT. SLABS SHALL HAVE CURE /SEALER APPLIED IMMEDIATELY AFTER FINISHING IF OTHER FINISHES ARE NOT AFFECTED. SUPERIMPOSED LOADS SHALL NOT BE APPLIED TO ELEVATED STRUCTURAL MEMBERS OR WALLS PRIOR TO 7 DAYS MINIMUM AFTER CONCRETE HAS REACHED DESIGN STRENGTH. RESHORING SHALL REMAIN IN PLACE 28 DAYS MINIMUM. AT NO TIME DURING A RESHORING PROCESS SHALL THE CONCRETE MEMBER BE UNSUPPORTED.
4. CONCRETE SHALL NOT FREE FALL MORE THAN SIX FEET.
5. KEYED CONSTRUCTION JOINTS SHALL BE USED IN ALL CASES. ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED AND ALL LAITANCE SHALL BE REMOVED. ALL VERTICAL JOINTS SHALL BE THOROUGHLY WETTED AND SLUSHED WITH A COAT OF NEAT CEMENT IMMEDIATELY BEFORE PLACING NEW CONCRETE.
6. PROVIDE CONTROL JOINTS PER PLAN AND /OR EVERY 20 FEET ON CENTER. FILL WITH APPROVED CAULKING.
7. PROVIDE ¾" CHAMFER AT EXPOSED EDGES OF CONCRETE BEAMS AND COLUMNS U.N.O.
8. ANCHOR BOLT SIZES SHALL BE PER THE BUILDING PLANS WITH 7" EMBEDMENT AND (1) 3X3 WASHER 3/16" THICK. ANCHOR BOLTS SHALL BE LOCATED 4' O.C. AND 12" MAX. FROM EDGE WITH A MIN. (2) PER SILL PLATE 12" MAX. FROM EDGE.

SUMMARY OF QUANTITIES:

ITEM	DESCRIPTION	PLAN QUANTITY TOTAL	UNIT
001	TEMPORARY FACILITIES	1	LS
002	ANTICIPATED GROSS EARTH CUT VALUES	8100	CY
003	ANTICIPATED GROSS EARTH FILL VALUES	2600	CY
004	EARTH WORK DELTA VALUE – CUT	5500	CY
005	18" CMP (30LF & 25LF)	2	EA
006	45" CMP (40LF)	1	EA
007			
008			
009			
010			
011			
012			
013			
014			
015			
016			
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018			
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020			
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023			
024			
025			

TVCE

87 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
P:(530)629-3000
F:(530)629-3011

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

ARATLAKOVA PROPERTY
420 BLAKE MOUNTAIN TRAIL
HYAMPOM, CA
APN 011-210-035

NOTES

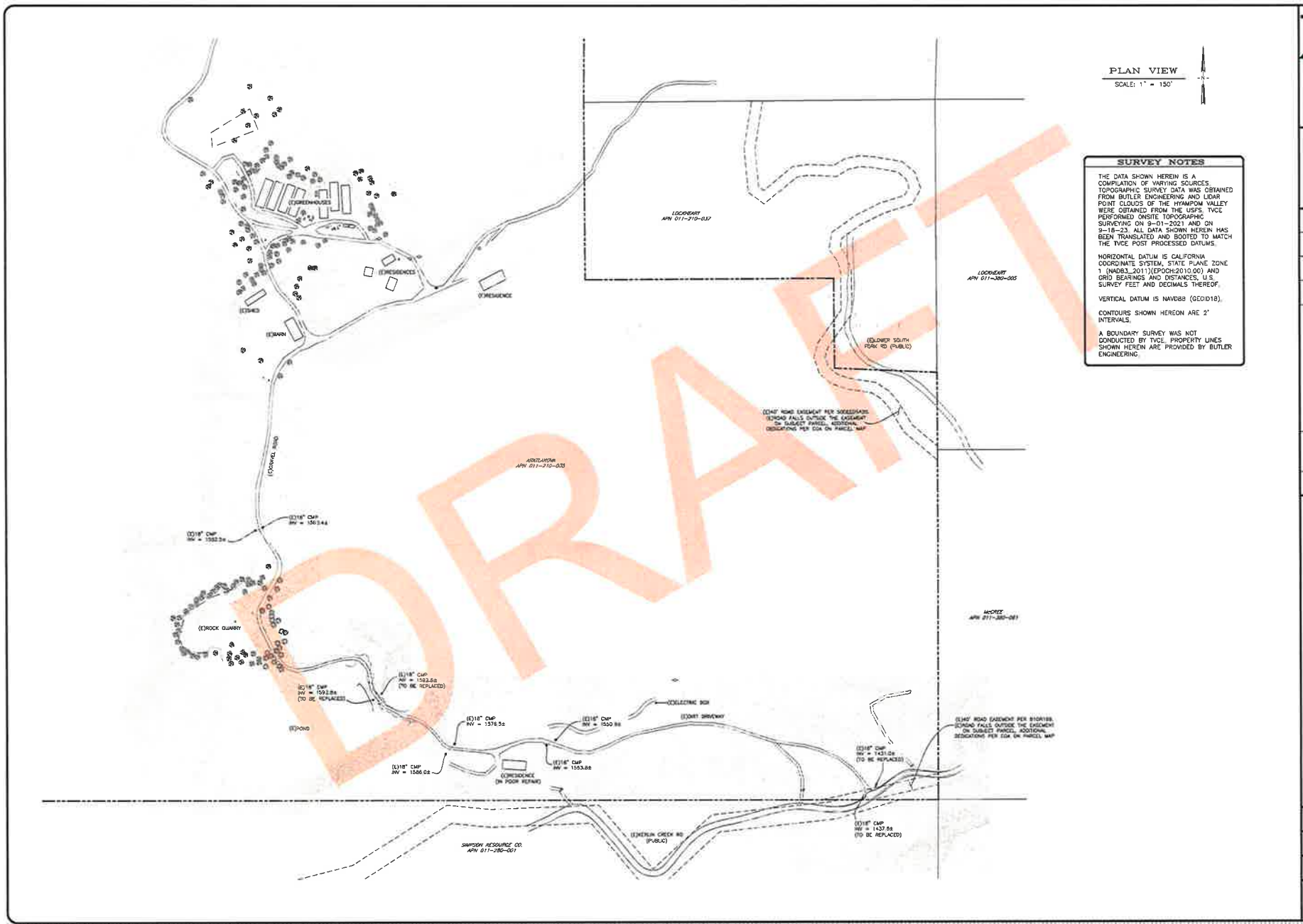
TRINITY, CALIFORNIA

DATE OF ISSUE: AUGUST 2023

SCALE: AS SHOWN

PROJECT NO: 1513.02

DRAWING NO: C01.0



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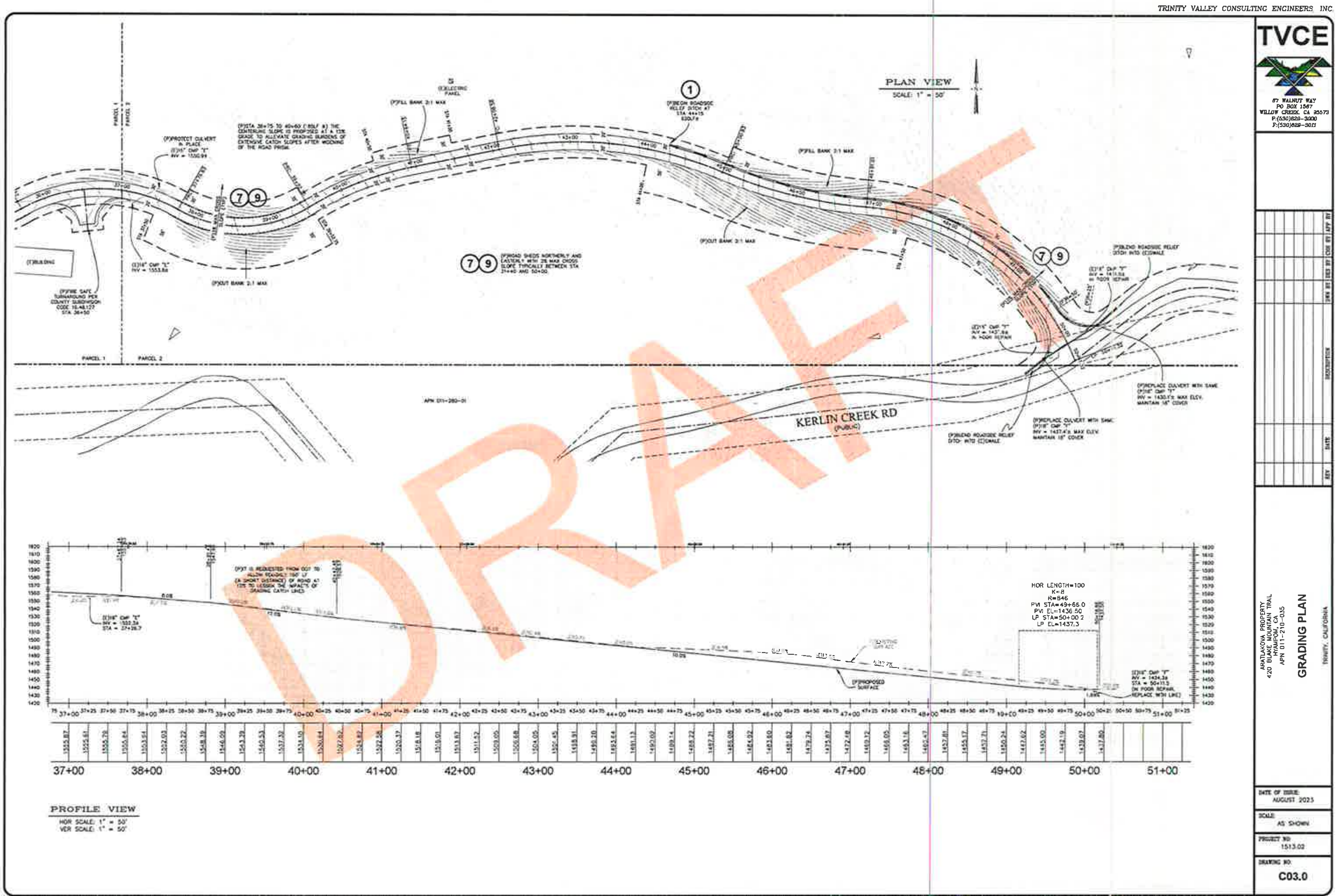
REV	DATE	DESCRIPTION	DWN BY	CHK BY	APP BY

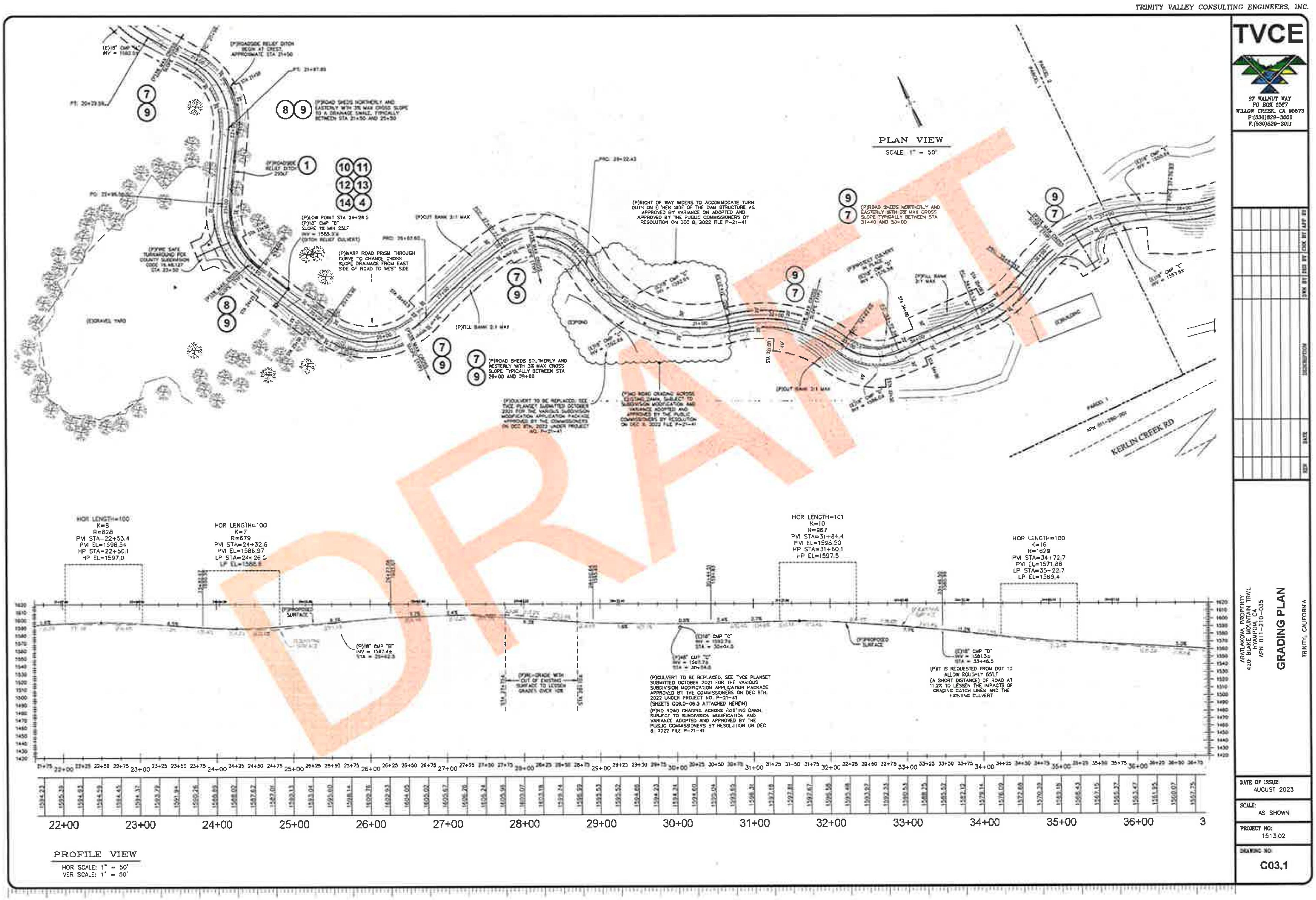
ARNTLAVOIN PROPERTY
420 BLAKE MOUNTAIN TRAIL
HYAMPOM, CA
APN 011-210-035

EXISTING CONDITIONS

TRINITY, CALIFORNIA

DATE OF ISSUE: AUGUST 2023
SCALE: 1" = 150'
PROJECT NO: 1513.02
DRAWING NO: C02.0


TRINITY VALLEY CONSULTING ENGINEERS, INC.
TVCE
87 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
P:(530)629-3000
F:(530)629-3011
REV
DATE
DESCRIPTION
DWN BY
DES BY
CHK BY
APP BY
ARATLAKOVA PROPERTY
420 BLAKE MOUNTAIN TRAIL
HYAMPOM, CA
APN 011-210-035
GRADING PLAN
TRINITY, CALIFORNIA
DATE OF ISSUE: AUGUST 2023
SCALE: AS SHOWN
PROJECT NO: 1513.02
DRAWING NO: C03.0
PLAN VIEW
SCALE: 1" = 50'
KERLIN CREEK RD
(PUBLIC)
APN 011-280-01
PARCEL 1
PARCEL 2
(E)BUILDING
(P)FIRE SAFE TURNAROUND PER COUNTY SUBDIVISION CODE 16.48.127 STA 36+50
(P)PROTECT CULVERT IN PLACE
(E)15" CMP "Z" INV = 1550.94
(E)18" CMP "L" INV = 1553.84
(P)CUT BANK 2:1 MAX
(P)FILL BANK 2:1 MAX
(E)ELECTRIC PANEL
(P)STA 38+75 TO 40+60 (185LF ±) THE CENTERLINE SLOPE IS PROPOSED AT A 13% GRADE TO ALLEVIATE GRADING BURDENS OF EXTENSIVE CATCH SLOPES AFTER WIDENING OF THE ROAD PRISM.
(P)ROAD SHEDS NORTHERLY AND EASTERLY WITH 2% MAX CROSS SLOPE TYPICALLY BETWEEN STA 31+40 AND 50+00
(P)BEGIN ROADSIDE RELIEF DITCH AT STA 44+15 630LF±
(P)BLEND ROADSIDE RELIEF DITCH INTO (E)SWALE
(P)REPLACE CULVERT WITH SAME (P)18" CMP "Y" INV = 1437.4'± MAX ELEV. MAINTAIN 18" COVER
(P)REPLACE CULVERT WITH SAME (P)18" CMP "Y" INV = 1430.1'± MAX ELEV. MAINTAIN 18" COVER
PROFILE VIEW
HOR SCALE: 1" = 50'
VER SCALE: 1" = 50'
(P)XT IS REQUESTED FROM DOT TO ALLOW ROUGHLY 190' LF (A SHORT DISTANCE) OF ROAD AT 13% TO LESSEN THE IMPACTS OF GRADING CATCH LINES.
(E)18" CMP "L" INV = 1553.34 STA = 37+26.7
HOR LENGTH=100
K=8
R=846
PVI STA=49+66.0
PVI EL=1436.50
LP STA=50+00.2
LP EL=1437.3
(P)PROPOSED SURFACE
(E)18" CMP "Y" INV = 1434.34 STA = 50+11.3 ON POOR REPAIR, REPLACE WITH LIKE
37+00
38+00
39+00
40+00
41+00
42+00
43+00
44+00
45+00
46+00
47+00
48+00
49+00
50+00
51+00
DRAFT



TRINITY VALLEY CONSULTING ENGINEERS, INC.
PLAN VIEW
SCALE 1" = 50'
PROFILE VIEW
HOR SCALE: 1" = 50'
VER SCALE: 1" = 50'
KERLIN CREEK RD
(E)GRAVEL YARD
(E)POND
DRAFT
HOR LENGTH=100
K=8
R=828
PVI STA=22+53.4
PVI EL=1598.54
HP STA=22+50.1
HP EL=1597.0
HOR LENGTH=100
K=7
R=679
PVI STA=24+32.6
PVI EL=1586.97
LP STA=24+26.5
LP EL=1588.8
HOR LENGTH=101
K=10
R=967
PVI STA=31+84.4
PVI EL=1598.50
HP STA=31+60.1
HP EL=1597.5
HOR LENGTH=100
K=16
R=1629
PVI STA=34+72.7
PVI EL=1571.88
LP STA=35+22.7
LP EL=1569.4
(P)RIGHT OF WAY WIDENS TO ACCOMMODATE TURN OUTS ON EITHER SIDE OF THE DAM STRUCTURE AS APPROVED BY VARIANCE ON ADOPTED AND APPROVED BY THE PUBLIC COMMISSIONERS BY RESOLUTION ON DEC 8, 2022 FILE P-21-41
(P)CULVERT TO BE REPLACED, SEE TVCE PLANSET SUBMITTED OCTOBER 2021 FOR THE VARIOUS SUBDIVISION MODIFICATION APPLICATION PACKAGE APPROVED BY THE COMMISSIONERS ON DEC 8TH, 2022 UNDER PROJECT NO. P-21-41 (SHEETS C06.0-06.3 ATTACHED HEREIN)
(P)NO ROAD GRADING ACROSS EXISTING DAM, SUBJECT TO SUBDIVISION MODIFICATION AND VARIANCE ADOPTED AND APPROVED BY THE PUBLIC COMMISSIONERS BY RESOLUTION ON DEC 8, 2022 FILE P-21-41
(P)IT IS REQUESTED FROM DOT TO ALLOW ROUGHLY 65'LF (A SHORT DISTANCE) OF ROAD AT 11.2% TO LESSEN THE IMPACTS OF GRADING CATCH LINES AND THE EXISTING CULVERT
(P)RE-GRADE WITH CUT OF EXISTING SURFACE TO LESSEN GRADES OVER 10%
(P)ROAD SHEDS SOUTHERLY AND WESTERLY WITH 3% MAX CROSS SLOPE TYPICALLY BETWEEN STA 26+00 AND 29+00
(P)ROAD SHEDS NORTHERLY AND EASTERLY WITH 3% MAX CROSS SLOPE TYPICALLY BETWEEN STA 31+40 AND 30+00
(P)ROAD SHEDS NORTHERLY AND EASTERLY WITH 3% MAX CROSS SLOPE TO A DRAINAGE SWALE, TYPICALLY BETWEEN STA 21+50 AND 25+50
(P)WARP ROAD PRISM THROUGH CURVE TO CHANGE CROSS SLOPE DRAINAGE FROM EAST SIDE OF ROAD TO WEST SIDE
(P)LOW POINT STA 24+26.5
(P)18" CMP "B"
(P)FIRE SAFE TURNAROUND PER COUNTY SUBDIVISION CODE 16.48.127 STA 23+50
(P)ROADSIDE RELIEF DITCH BEGIN AT CREST, APPROXIMATE STA 21+50
(P)CUT BANK 2:1 MAX
(P)FILL BANK 2:1 MAX
(P)PROPOSED SURFACE
TVCE
97 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
P:(530)629-3000
F:(530)629-3011
REV
DATE
DESCRIPTION
DWN BY
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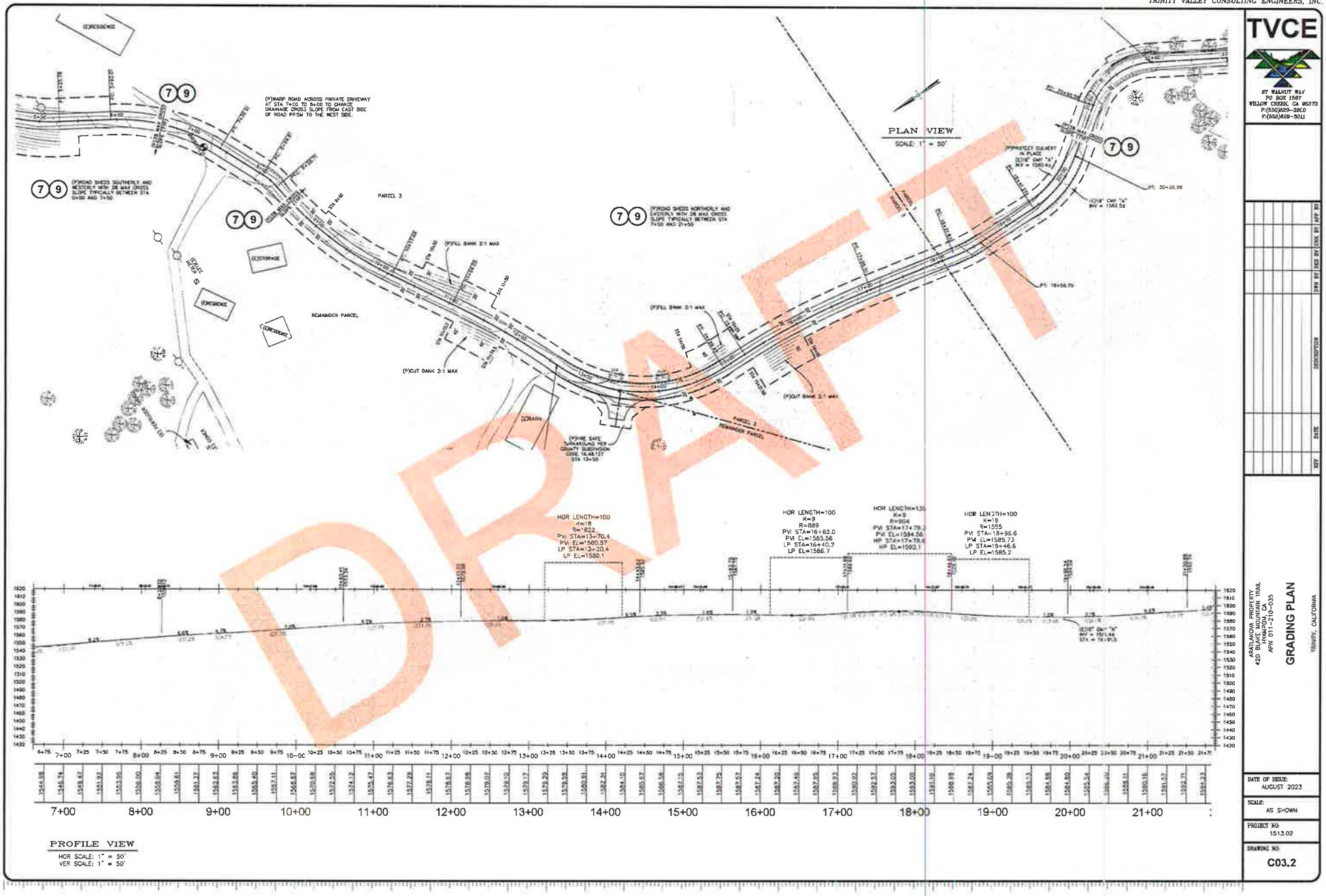
ARATLAKOVA PROPERTY
420 BLAKE MOUNTAIN TRAIL
HYAMPOM, CA
APN 011-210-035
GRADING PLAN
TRINITY, CALIFORNIA
DATE OF ISSUE: AUGUST 2023
SCALE: AS SHOWN
PROJECT NO: 1513.02
DRAWING NO: C03.1



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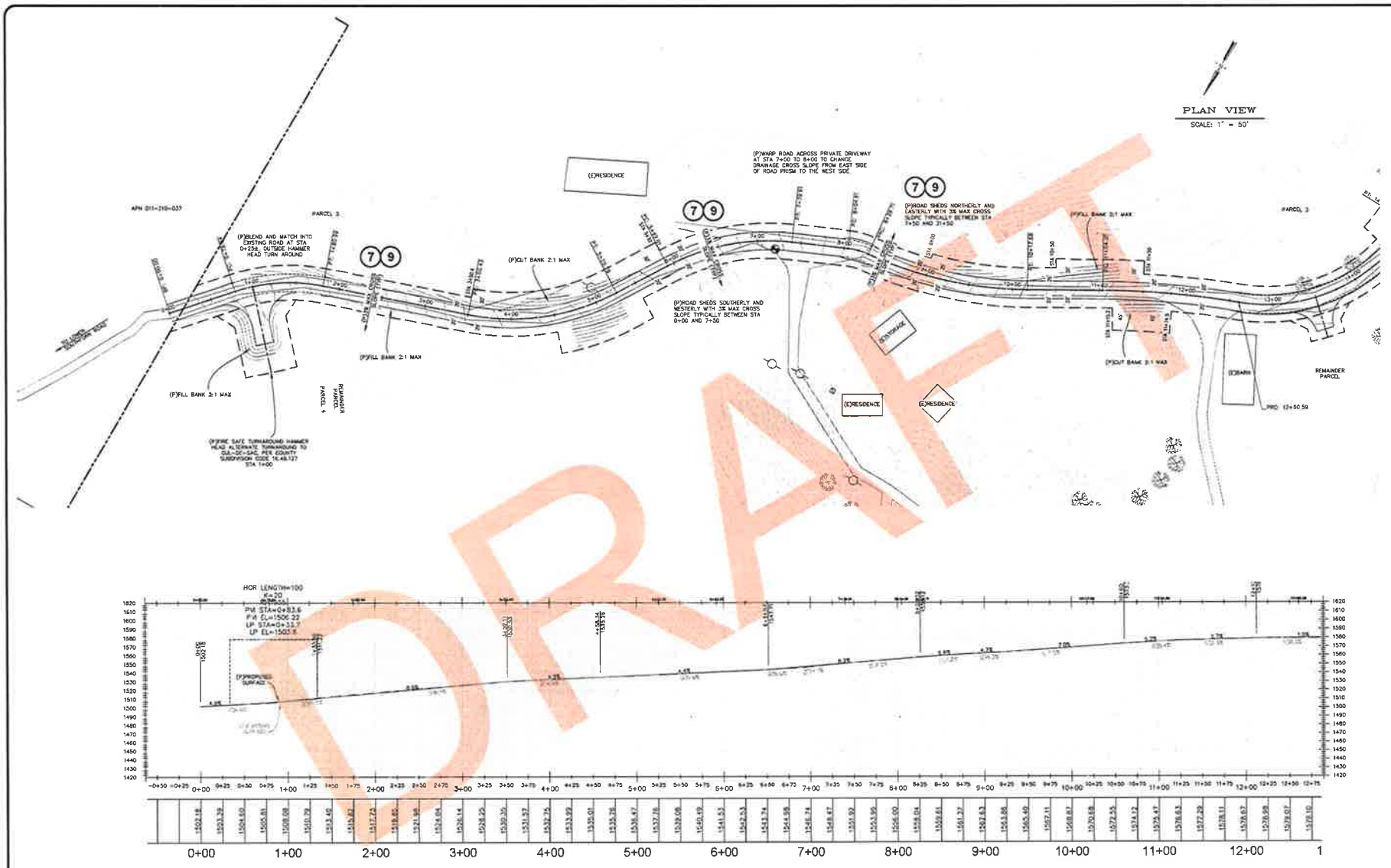
KEY	DATE	DESCRIPTION	DRN BY	DES BY	CHK BY	APP BY

ARATLAKOVA PROPERTY
420 BLAKE MOUNTAIN TRAIL
APN 011-210-035

GRADING PLAN

TRINITY, CALIFORNIA

DATE OF ISSUE: AUGUST 2023
SCALE: AS SHOWN
PROJECT NO: 1513.02
DRAWING NO: C03.2



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ASATLAKOVA PROPERTY
420 BLACK MOUNTAIN TRAIL
TRINITY, CA
APN 011-210-035

GRADING PLAN

TRINITY, CALIFORNIA

DATE OF ISSUE: AUGUST 2023
SCALE: AS SHOWN
PROJECT NO: 1513.02
DRAWING NO: C03.3

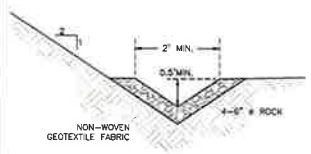
GRADING NOTES:

1. ALL EARTHWORK, INCLUDING BUT NOT LIMITED TO, SITE CLEARING, GRUBBING, STRIPPING, AND GRADING WILL BE CONDUCTED DURING DRY WEATHER CONDITIONS. (TYPICALLY APRIL 15 TO OCTOBER 15)
2. ANY UNDOCUMENTED FILL SOILS, FINE-GRAINED RESIDUAL SOILS, AND ANY OTHER DEBRIS ENCOUNTERED AT OR BELOW THE EXISTING GROUND SURFACE SHALL BE REMOVED AT THE LOCATIONS RECEIVING ANY POTENTIAL FILLS.
3. THE SITE SHOULD BE GRADED TO PROVIDE ADEQUATE DRAINAGE SUCH THAT NO WATER IS ALLOWED TO POND ANYWHERE ON THE SITE OR MIGRATE BENEATH FUTURE DEVELOPMENTS.
4. ALL FILL MATERIAL SHALL BE PLACED IN HORIZONTAL LIFTS NOT TO EXCEED EIGHT INCHES (8") IN DEPTH AND SHALL BE COMPACTED MECHANICALLY.
5. ALL FILL MATERIAL SHALL BE FREE OF ORGANICS, ROCKS LARGER THAN 3"ø, WOODY DEBRIS, ROOTS, AND INORGANIC MATERIAL.
6. ALL FILL MATERIAL SHALL HAVE A UNIFORM MOISTURE CONTENT AT OR NEAR OPTIMUM MOISTURE CONTENT AS DETERMINED BY TESTING AND APPROVED BY THE ENGINEER.
7. NON-STRUCTURAL FILL SHALL BE COMPACTED MECHANICALLY TO A FIRM UNYIELDING SURFACE AS APPROVED BY THE ENGINEER.
8. COMPACTION TESTING WILL BE DETERMINED AT THE ENGINEER'S DISCRETION.
9. IT IS RECOMMENDED THAT ANY MATERIAL PROPOSED FOR STRUCTURAL FILL MATERIAL TO SUPPORT ANY FOUNDATIONS OR STRUCTURAL BUILDING ELEMENT AND ASSOCIATED UTILITIES BE COMPACTED AS OUTLINED IN THE SOILS REPORT.
10. ALL FILL SLOPES SHALL BE TO A SMOOTH AND EVEN GRADE, SHALL BE SURFACE TRACKWALKED, AND FINAL GRADES NOT TO EXCEED 2:1 (h:v), WITHOUT ENGINEER APPROVAL.
11. SUFFICIENT TESTING AND INSPECTION SHOULD BE PERFORMED TO MONITOR THE SUITABILITY OF FILL MATERIALS AND ASSURE COMPLIANCE WITH THE RECOMMENDED COMPACTION STANDARDS.

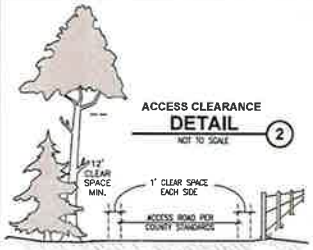
CLEARING, GRUBBING, & DEMOLITION NOTES:

1. TREES SCHEDULED TO BE REMOVED SHALL BE REMOVED COMPLETELY INCLUDING STUMPS, ROOTS, BRANCHES, WOODY DEBRIS, BARK, AND FLESH. TREES SHALL BE REMOVED FROM THE SITE AND DEPOSITED IN LOCATIONS DESIGNATED BY THE OWNER.
2. VEGETATION AND WOODY DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE LAWS AND REGULATIONS.
3. ALL GENERATED AND ACCUMULATED CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE LAWS AND REGULATIONS.
4. ALL AREAS WITH GENERATED VOIDS FROM DEMOLITION ACTIVITIES SHALL BE BACKFILLED WITH NATIVE SOIL TO FINISH GRADE IN 1' MAXIMUM VERTICAL LIFTS SUFFICIENTLY COMPACTED TO ELIMINATE SUBSIDENCE.
5. DUST CONTROL SHALL BE MAINTAINED DURING DEMOLITION PRACTICES.
6. TRACKING OF MATERIAL FROM THE SITE ONTO EXISTING ROADWAYS WILL NOT BE TOLERATED. TEMPORARY CONSTRUCTION SITE ENTRANCES SHOULD BE BUILT AT POINTS OF INTERSECTION TO EXISTING ROADWAYS AND PRACTICES SHOULD BE IMPLEMENTED TO REMOVE CONSTRUCTION MATTER FROM VEHICLES AND EQUIPMENT PRIOR TO LEAVING THE CONSTRUCTION SITE.
7. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED FOR THE SITE AS SOON AS PRACTICAL AND SHALL BE IN PLACE PRIOR TO EXECUTION OF MAJOR DEMOLITION OPERATIONS.

FILL PLACEMENT LOCATION	COMPACTION RECOMMENDATIONS (ASTM D 1557-MODIFIED PROCTOR)	MOISTURE CONTENT (PERCENT OPTIMUM)
STRUCTURAL FILL SUPPORTING FOOTING	90%	-1 TO +3 PERCENT
STRUCTURAL FILL SUPPORTING SLABS-ON-GRADE	90%	-1 TO +3 PERCENT
STRUCTURAL FILL PLACED WITHIN 3 FEET BEYOND THE PERIMETER OF THE BUILDING PAD	90%	-1 TO +3 PERCENT
UTILITY TRENCHES WITHIN BUILDING AND ANY PAVEMENT AREAS	95%	-1 TO +3 PERCENT
UTILITY TRENCHES BENEATH LANDSCAPE AND GRASS AREAS	90%	-1 TO +3 PERCENT



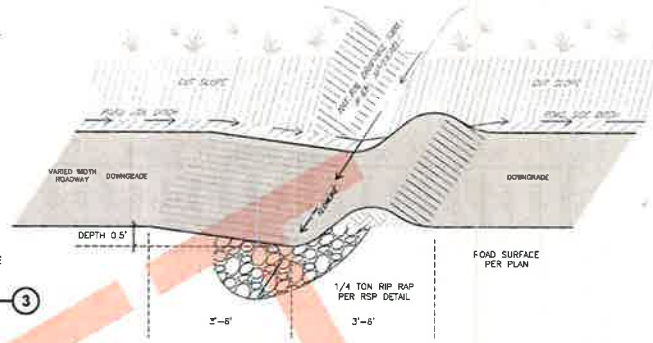
ROCK-LINED DITCH DETAIL (1) NOT TO SCALE



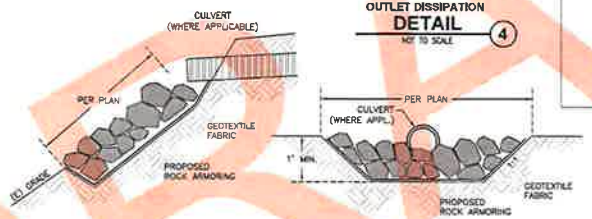
ACCESS CLEARANCE DETAIL (2) NOT TO SCALE

CONSTRUCTION NOTES:

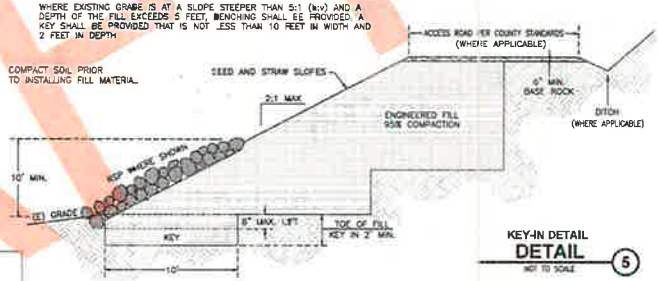
1. LOCATE DRAINAGE STRUCTURE WHERE THEY CAN TAKE ADVANTAGE OF NATURAL DRAINAGE FEATURES AND MINIMIZE EROSION.
2. ALL DRAINAGE FEATURES SHALL BEGIN AT THE INTERSECTION OF THE ROADBED AND CUT SLOPE AND RUN ACROSS THE ENTIRE WIDTH OF THE ROADBED.
3. THE CROSS SLOPE OF DRAINAGE FEATURES SHALL BE A MINIMUM 3%-5% GRADE.
4. DRAINAGE FEATURES SHALL BE SURFACED WITH 4" OF 1-1/2" ROAD BASE.
5. ALL DRAINAGE FEATURES SHALL HAVE FREE FLOWING OUTLETS
6. PROVIDE 1/4 TON RIP RAP ARMORING AT OUTLETS.



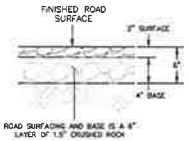
CROSS DRAINAGE STRUCTURE DETAIL (3) NOT TO SCALE



OUTLET DISSIPATION DETAIL (4) NOT TO SCALE



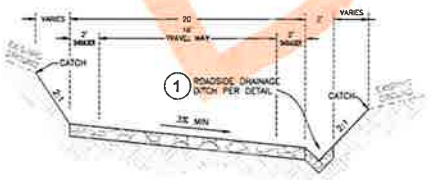
KEY-IN DETAIL (5) NOT TO SCALE



SURFACING DETAIL (9) NOT TO SCALE

NOTES:
ROAD PRISM DESIGN STANDARDS REFLECT TRINITY COUNTY SUBDIVISION IMPROVEMENT DESIGN STANDARDS FOR A ROADWAY CATEGORY NO. 1 - PRIVATE ROAD WITH A 20MPH MAX SPEED.

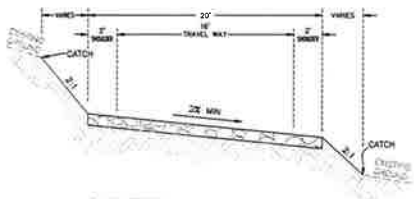
(SEE TRINITY COUNTY CODE, TITLE 16, SUBDIVISIONS CHAPTER 16.48, SUBDIVISION IMPROVEMENTS FOR MORE PARTICULARS)



ROAD STD 'B' DETAIL (8) NOT TO SCALE

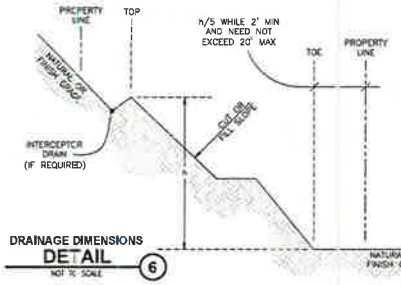
NOTES:
ROAD PRISM DESIGN STANDARDS REFLECT TRINITY COUNTY SUBDIVISION IMPROVEMENT DESIGN STANDARDS FOR A ROADWAY CATEGORY NO. 1 - PRIVATE ROAD WITH A 20MPH MAX SPEED.

(SEE TRINITY COUNTY CODE, TITLE 16, SUBDIVISIONS CHAPTER 16.48, SUBDIVISION IMPROVEMENTS FOR MORE PARTICULARS)



ROAD STD 'A' DETAIL (7) NOT TO SCALE

1. CUT AND FILL SLOPES SHALL BE SET BACK FROM THE PROPERTY LINES AS SHOWN HEREIN.
2. THE SETBACK AT THE TOP OF A CUT SLOPE SHALL NOT BE LESS THAN THAT SHOWN OR THAN IS REQUIRED TO ACCOMMODATE ANY REQUIRED INTERCEPTOR DRAINS, WHICHEVER IS GREATER.
3. TERRACES NOT LESS THAN 6 FEET IN WIDTH SHALL BE ESTABLISHED AT NOT MORE THAN 30-FOOT VERTICAL INTERVALS ON ALL CUT AND FILL SLOPES TO CONTROL SURFACE DRAINAGE AND DEBRIS. SUITABLE ACCESS SHALL BE PROVIDED TO ALLOW FOR CLEANING AND MAINTENANCE.
4. WHERE MORE THAN TWO TERRACES ARE REQUIRED, ONE TERRACE, LOCATED AT APPROXIMATELY MID-HEIGHT, SHALL BE NOT LESS THAN 12 FEET IN WIDTH.
5. SWALES SHALL BE PROVIDED ON TERRACES WITH A MINIMUM SLOPE OF 5% AND SHALL BE PAVED WITH CONCRETE NOT LESS THAN 3 INCHES IN THICKNESS, OR ENGINEER APPROVED SUBSTITUTE. THEY SHALL HAVE A DEPTH OF NOT LESS THAN 12 INCHES AND A WIDTH OF NOT LESS THAN 5 FEET.



6. INTERCEPTOR DRAINS SHALL BE INSTALLED ALONG THE TOP OF CUT SLOPES RECEIVING DRAINAGE FROM A TRIBUTARY WIDTH GREATER THAN 40 FEET. THEY SHALL BE 1 FOOT DEEP MINIMUM AND 3 FOOT WIDE MAXIMUM WITH A MINIMUM SLOPE OF 2% AND PAVED WITH CONCRETE NOT LESS THAN 3 INCHES THICK.

DRAINAGE DIMENSIONS DETAIL (6) NOT TO SCALE

TVCE
57 WALNUT WAY
PO BOX 1569
WILLOW CREEK, CA 95573
P:(530)629-3000
F:(530)629-3001

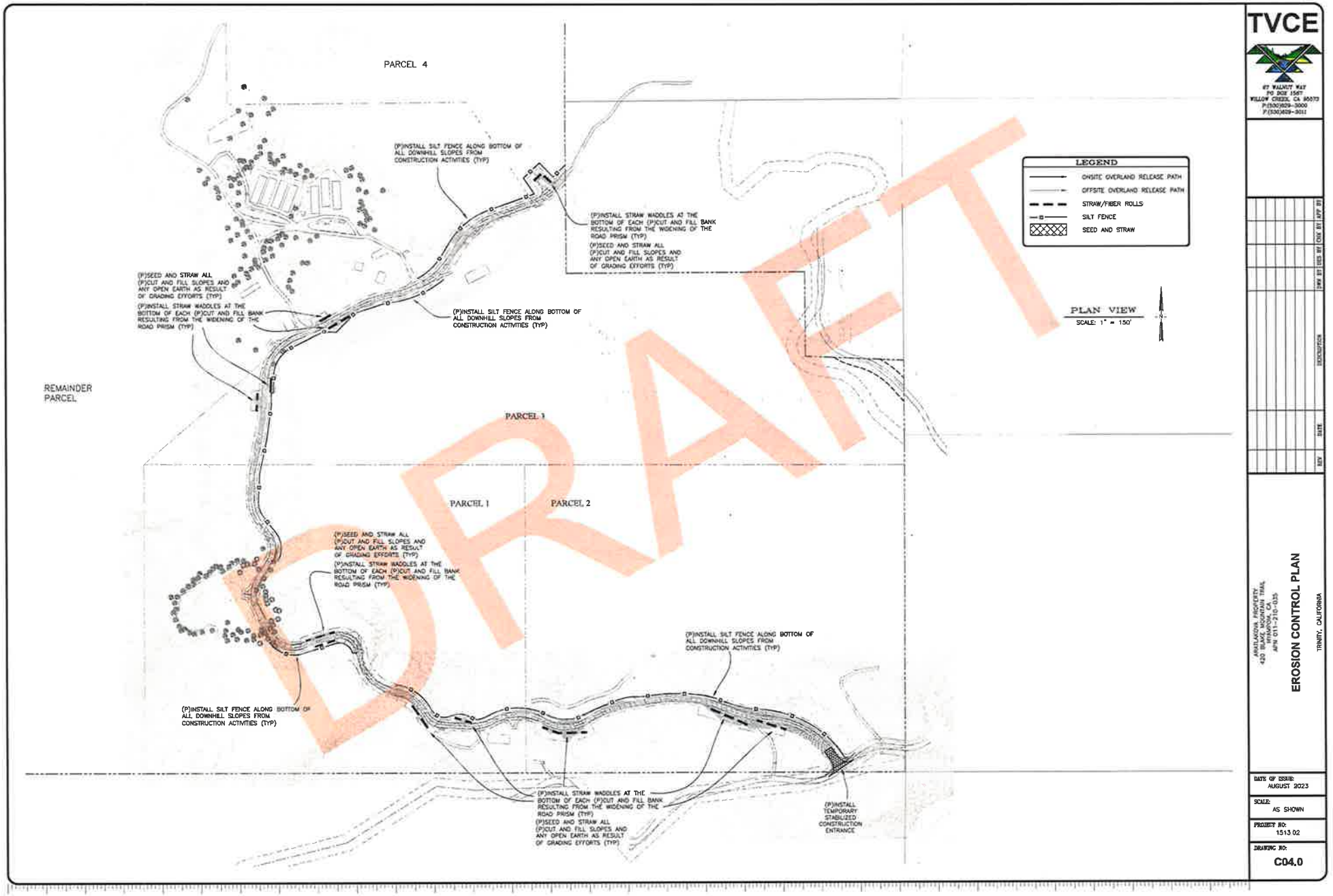
REV	DATE	DESCRIPTION	DRW BY	DES BY	CHK BY	APP BY

CLIENT
ADDRESS 1
TOWN, STATE ZIP
APN

GRADING DETAILS 1

COUNTY, CALIFORNIA

DATE OF ISSUE: MONTH YEAR
SCALE: AS SHOWN
PROJECT NO: 1513
DRAWING NO: C03.4



TVCE
67 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
P:(530)629-3000
F:(530)629-3011

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

ARATAKORA PROPERTY
420 BURNT RANCH TRAIL
HYAMPOM, CA
APN 011-210-035

EROSION CONTROL PLAN

TRINITY, CALIFORNIA

DATE OF ISSUE: AUGUST 2023
SCALE: AS SHOWN
PROJECT NO: 1513.02
DRAWING NO: C04.0

STRAW MULCH NOTES:

1. STRAW SHALL BE DERIVED FROM WHEAT, RICE, OR BARLEY, WHERE REQUIRED BY THE PLANS, SPECIFICATIONS, PERMITS, OR ENVIRONMENTAL DOCUMENTS. NATIVE GRASS STRAW SHALL BE USED.
2. A TACKIFIER IS THE PREFERRED METHOD FOR ANCHORING STRAW MULCH TO THE SOIL ON SLOPES.
3. CRIMPING, PUNCH ROLLER-TYPE ROLLERS, OR TRACK WALKING MAY ALSO BE USED TO INCORPORATE STRAW MULCH INTO THE SOIL ON SLOPES. TRACK WALKING SHALL ONLY BE USED WHERE OTHER METHODS ARE IMPRACTICAL.
4. AVOID PLACING STRAW ONTO ROADS, SIDEWALKS, DRAINAGE CHANNELS, SOUND WALLS, EXISTING VEGETATION, ETC.
5. STRAW MULCH WITH TACKIFIER SHALL NOT BE APPLIED DURING OR IMMEDIATELY BEFORE RAINFALL.
6. APPLY STRAW AT A MINIMUM RATE OF 4,000 LB/ACRE, EITHER BY MACHINE OR BY HAND DISTRIBUTION.
7. ROUGHEN EMBANKMENTS AND FILL RILLS BEFORE PLACING THE STRAW MULCH BY ROLLING WITH A CRIMPING OR PUNCHING TYPE ROLLER OR BY TRACK WALKING.
8. EVENLY DISTRIBUTE STRAW MULCH ON THE SOIL SURFACE.
9. ON SMALL AREAS, A SPADE OR SHOVEL CAN BE USED TO PUNCH IN STRAW MULCH.
10. ON SLOPES WITH SOILS THAT ARE STABLE ENOUGH AND OF SUFFICIENT GRADIENT TO SAFELY SUPPORT CONSTRUCTION EQUIPMENT WITHOUT CONTRIBUTING TO COMPACTION AND INSTABILITY PROBLEMS, STRAW CAN BE "PUNCHED" INTO THE GROUND USING A KNIFE BLADE ROLLER OR A STRAIGHT BLADED COULTER, KNOWN COMMERCIALLY AS A "CRIMPER".
11. ON SMALL AREAS AND/OR STEEP SLOPES, STRAW CAN ALSO BE HELD IN PLACE USING JUTE. THE NETTING SHALL BE HELD IN PLACE USING 11 GAUGE WIRE STAPLES, GEOTEXTILE PINS OR WOODEN STAKES AS DESCRIBED IN EC-7, GEOTEXTILES AND MATS.
12. TACKIFIER ACTS TO GLUE THE STRAW FIBERS TOGETHER AND TO THE SOIL SURFACE. THE TACKIFIER SHALL BE SELECTED BASED ON LONGEVITY AND ABILITY TO HOLD THE FIBERS IN PLACE. A TACKIFIER IS TYPICALLY APPLIED AT A RATE OF 125 LB/ACRE. IN WINDY CONDITIONS, THE RATES ARE TYPICALLY 180LB/ACRE.

EROSION AND SEDIMENT CONTROL NOTES:

1. EROSION CONTROL BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE INSTALLED AND MAINTAINED DURING THE WET SEASON (OCTOBER 1 THROUGH APRIL 30). SEDIMENT CONTROL BMP'S SHALL BE INSTALLED AND MAINTAINED ALL YEAR.
2. ALL DRAINAGE INLETS IMMEDIATELY DOWNSTREAM OF THE WORK AREA AND WITHIN THE WORK AREA SHALL BE PROTECTED WITH SEDIMENT CONTROL AND INLET FILTER BAGS, YEAR ROUND.
3. ALL STABILIZED CONSTRUCTION ACCESS LOCATIONS SHALL BE CONSTRUCTED PER STANDARD DRAWING TC-1 WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES PAVED AREAS. THE STABILIZED ACCESS SHALL BE MAINTAINED ON A YEAR-ROUND BASIS UNTIL THE COMPLETION OF CONSTRUCTION.
4. ALL AREAS DISTURBED DURING CONSTRUCTION, BY GRADING, TRENCHING, OR OTHER ACTIVITIES, SHALL BE PROTECTED FROM EROSION DURING THE WET SEASON (OCTOBER 1 THROUGH APRIL 30). HYDROSEED, IF UTILIZED, MUST BE PLACED BY SEPTEMBER 15. HYDROSEED PLACED DURING THE WET SEASON SHALL USE A SECONDARY EROSION PROTECTION METHOD.
5. SENSITIVE AREAS AND AREAS WHERE EXISTING VEGETATION IS BEING PRESERVED SHALL BE PROTECTED WITH CONSTRUCTION FENCING. SEDIMENT CONTROL BMP'S SHALL BE INSTALLED WHERE ACTIVE CONSTRUCTION AREAS DRAIN INTO SENSITIVE OR PRESERVED VEGETATION AREAS.
6. SEDIMENT CONTROL BMP'S SHALL BE PLACED ALONG THE PROJECT PERIMETER WHERE DRAINAGE LEAVES THE PROJECT. SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED YEAR-ROUND UNTIL THE CONSTRUCTION IS COMPLETE OR THE DRAINAGE PATTERN HAS BEEN CHANGED AND NO LONGER LEAVES THE SITE.
7. ALL SLOPES GREATER THAN 1:1 SHALL RECEIVE SEED AND STRAW OR OTHER EROSION CONTROL.
8. ALL FENCING AND EROSION CONTROL METHODS SHALL BE MAINTAINED THROUGHOUT ALL ON-SITE CONSTRUCTION ACTIVITIES.
9. ALL BMPS SHALL BE INSTALLED AND FUNCTIONING PRIOR TO ANY ANTICIPATED STORM EVENT.

GENERAL WATER POLLUTION CONTROL NOTES:

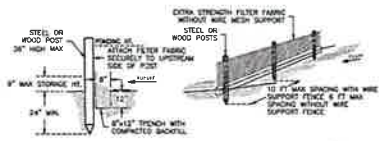
1. THE INFORMATION ON THESE DRAWINGS ARE ACCURATE FOR WATER POLLUTION CONTROL PURPOSES ONLY.
2. THE INFORMATION ON THIS PLAN IS INTENDED TO BE USED AS A GUIDELINE FOR THE CONTRACTOR AND SUBCONTRACTORS TO INSTALL WATER POLLUTION CONTROL DEVICES AT GENERAL LOCATION THROUGHOUT THE SITE. THESE DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE NARRATIVE SECTION OF THE WATER POLLUTION CONTROL PLAN.
3. FIELD CONDITIONS MAY NECESSITATE MODIFICATION TO THESE DRAWINGS.
4. PERMANENT EROSION CONTROL AND REVEGETATION WILL BE INSTALLED AS AREAS ARE DETERMINED TO BE SUBSTANTIALLY COMPLETE AND PER THE SPECIFICATIONS.
5. All BMPs WILL BE FIELD-VERIFIED AND APPROVED FOR INSTALLATION BY THE RE. ALL BMPs WILL BE INSTALLED ACCORDING TO THE STANDARD PLANS AND SPECIFICATIONS UNLESS APPROVED BY THE RE AND AMENDED INTO THE WPCP.

BMP MAINTENANCE NOTES:

1. ALL OF THE IMPLEMENTED BMPS SHALL BE INSPECTED AND CORRECTED AS NEEDED PRIOR TO, DURING, AND DIRECTLY FOLLOWING ANY STORM EVENT, OR WHENEVER PRACTICAL.

BMP INSTALLATION SCHEDULE

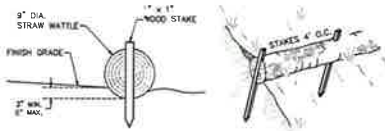
PHASE OF CONSTRUCTION	EROSION AND SEDIMENT CONTROL MEASURES: (WET SEASON) HYDROSEEDING/ MULCHING	(WET SEASON) PRESERVATION OF EXISTING VEGETATION	(WET AND DRY SEASON) STRAW / FIBER ROLLS	STORM DRAIN INLET PROTECTION	TEMP. SEDIMENT TRAP	STABILIZED CONSTRUCTION ENTRANCE	CONTRACTOR EQUIPMENT CONTROLS	MATERIAL & WASTE DISPOSAL LOCATION	DUST CONTROL	DEWATERING OPERATIONS	CONCRETE WASHOUT
PRE-GRADING		●	●			●	●	●	●		●
CUT AND FILL ACTIVITIES				●	●				●	●	
UNDERGROUND WORK										●	
STORM DRAIN IMPROVEMENTS									●		
OFFSITE IMPROVEMENTS				●							
COMPLETION OF PAVING											
POST-GRADING	●	●									



SILT FENCE NOTES:

1. THE CONTRACTOR SHALL INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT.
2. CONTRACTOR SHALL REMOVE SEDIMENT AS NECESSARY. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND IN AN AREA THAT CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED OF SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

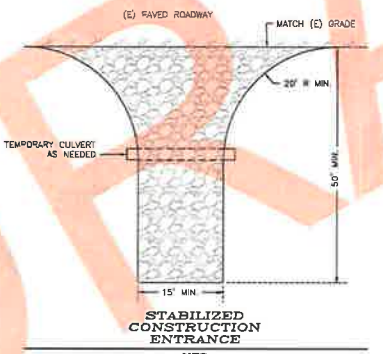
SILT FENCE DETAILS
NTS



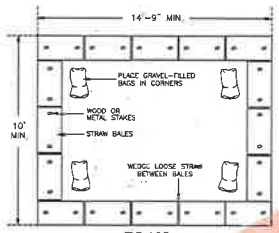
STRAW WATTLE NOTES:

1. STRAW WATTLES SHALL BE INSTALLED WITH 18 OR 24 INCH WOOD STAKES AT FOUR FEET ON CENTER. THE ENDS OF ADJACENT STRAW WATTLES SHALL BE ABUTTED TO EACH OTHER SNUGLY OR OVERLAPPED BY SIX INCHES.
2. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"-5" DEEP. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND THE ROLL.

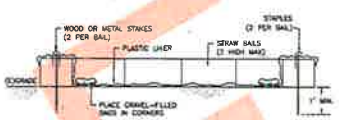
STRAW WATTLE INSTALLATION DETAIL
NTS



STABILIZED CONSTRUCTION ENTRANCE
NTS

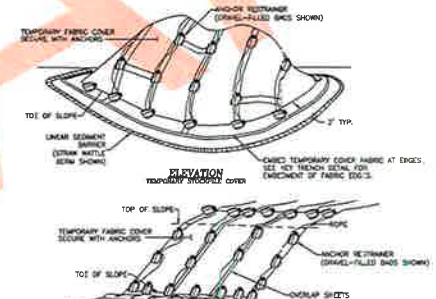


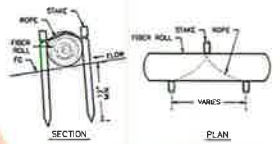
PLAN
TEMPORARY CONCRETE WASHOUT FACILITY
NTS



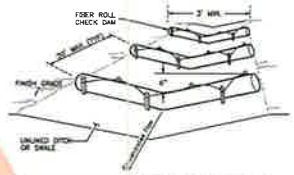
PROFILE
TEMPORARY CONCRETE WASHOUT FACILITY
NTS

TEMPORARY GEOTEXTILE COVERS
NTS





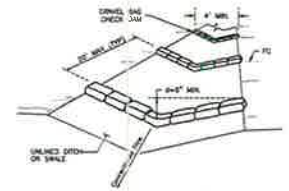
STAKING AND LASHING DETAIL
NTS



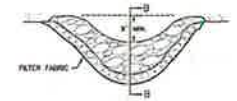
TEMPORARY CHECK DAM (TYPE 1)
NTS

NOTE:
1. SPILLWAY DEPTH "d" SHALL BE MAINTAINED TO PREVENT FLANKING OF CONCENTRATED FLOW AROUND THE ENDS OF EACH CHECK DAM.

SECTION
TEMPORARY CHECK DAM (TYPE 2)
NTS



TEMPORARY CHECK DAM (TYPE 2)
NTS



SECTION A-A
NTS

SECTION B-B
NTS

TEMPORARY CHECK DAM (TYPE 3)
NTS

TVCE
87 WALNUT WAY
P.O. BOX 1507
WILLOW CREEK, CA 95573
P:(530)629-3000
F:(530)629-3011

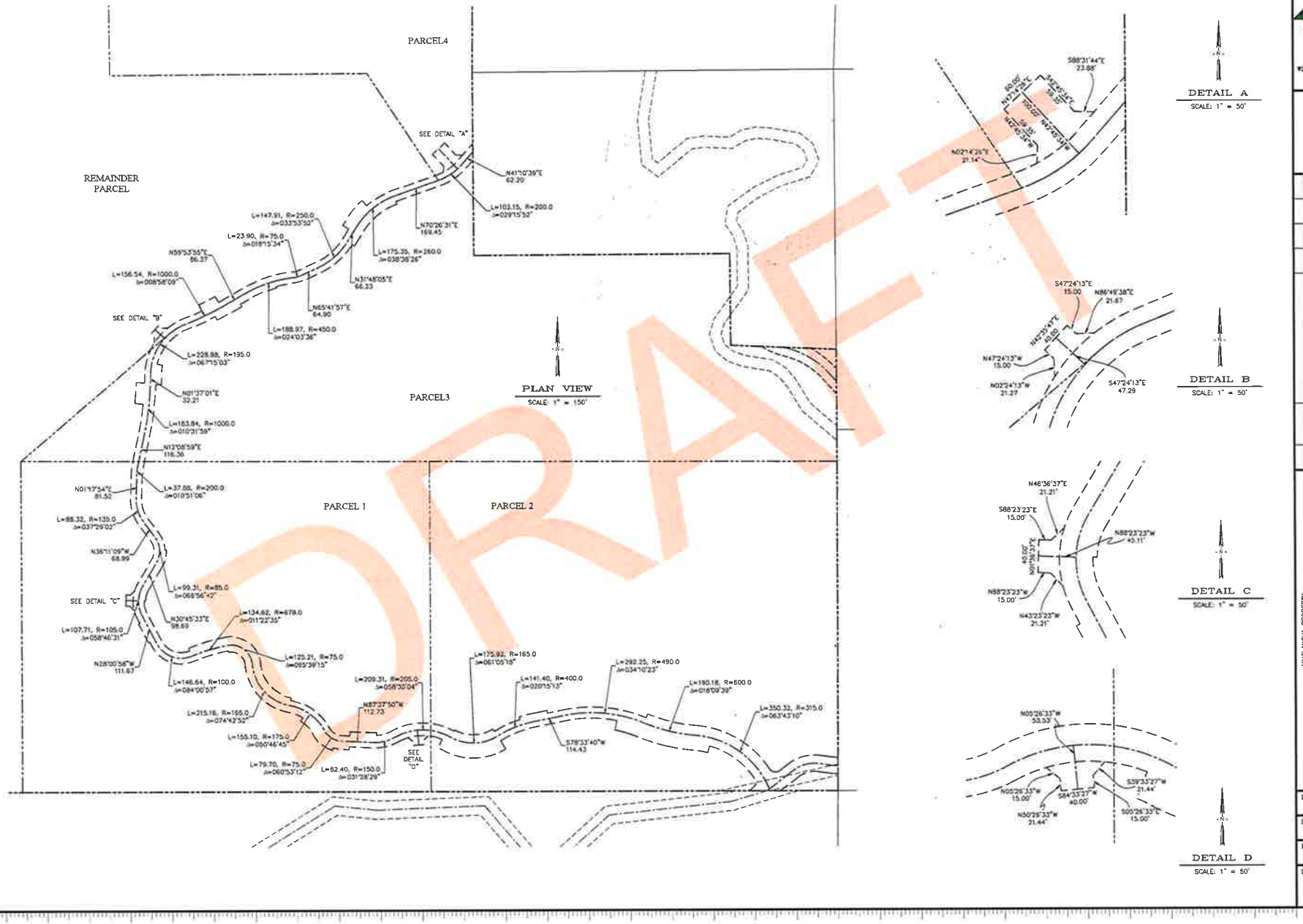
NO.	DESCRIPTION	DRWN BY	DES BY	CHK BY	APP BY	DATE

APATLAKVA PROPERTY
420 BLAKE MOUNTAIN TRAIL
APN 011-210-035

EROSION DETAILS

TRINITY, CALIFORNIA

DATE OF ISSUE: AUGUST 2023
SCALE: AS SHOWN
PROJECT NO: 1513.02
DRAWING NO: C04.1



TVCE

67 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
P:(530)629-3000
F:(530)629-3011

NO.	DATE	DESCRIPTION	DRN BY	CHK BY	APP BY

ARATLAKOVA PROPERTY
420 BLUE ROCK TRAIL
HYAMPOM, CA
APN 011-210-035

LINE & CURVE TABLE

TRINITY, CALIFORNIA

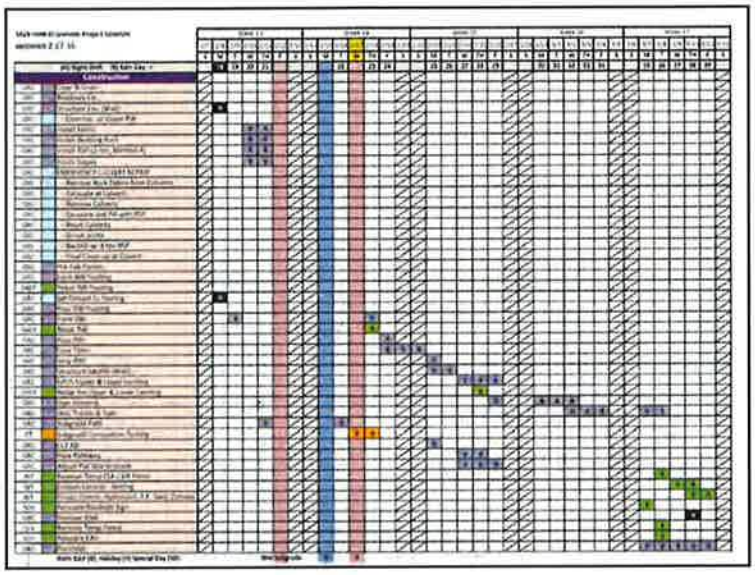
DATE OF ISSUE: AUGUST 2023
SCALE: AS SHOWN
PROJECT NO: 1513.02
DRAWING NO: C05.0

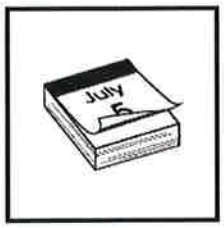
Attachment 10:

BMPs

Scheduling

SS-1





Standard Symbol

BMP Objectives

Soil Stabilization	✓
Sediment Control	✓
Tracking Control	✓
Wind Erosion Control	✓
Non-Stormwater Management	
Materials and Waste Management	

Definition and Purpose

This BMP involves developing, for every project, a schedule that includes sequencing of construction activities with the implementation of construction site BMPs such as temporary soil stabilization and temporary sediment control measures. The purpose is to reduce the amount and duration of soil exposed to erosion by wind, rain, runoff, and vehicle tracking, and to perform the construction activities and control practices in accordance with the planned schedule.

Appropriate Applications

Construction sequencing should be scheduled to minimize land disturbance during the wetter months for all projects. In addition, any construction windows required by regulatory permits, and any winter suspension work should be described in the schedule. Appropriate BMPs must be implemented year-round.

Limitations

Environmental constraints such as nesting season prohibitions reduce the full capabilities of this BMP.

Standards and Specifications

General Requirements

- Developing a schedule and planning the project operations to minimize erosion and the potential to discharge pollutants to stormwater are the very first steps in an effective stormwater program. The construction schedule must be incorporated into the SWPPP or WPCP. Refer to Section 8 and 13 of the Standard Specifications.

- The schedule should clearly show when work activities that could pollute stormwater with sediment or other contaminants would occur (e.g., grading, move-in, move-out, stockpiling, pile driving), and when soil stabilization, sediment control, and other BMPs associated with each phase of construction would be implemented.
- The schedule should include details on the implementation and deployment of:
  - Temporary and permanent soil stabilization BMPs
  - Temporary sediment control BMPs
  - Tracking control BMPs
  - Wind erosion control BMPs
  - Non-stormwater BMPs and
  - Waste management and materials pollution control BMPs
- The schedule should also include dates for significant long-term operations or activities that may have planned non-stormwater discharges such as dewatering, sawcutting, grinding, drilling, boring, crushing, blasting, painting, hydro-demolition, mortar mixing, bridge cleaning, etc.
- The construction schedule should reflect requirements for in-water work and other construction activity with potential to disturb water and biological resources contained in regulatory agency permits and approvals (RWQCB 401 WQC, USACE 404 permit, DFG 1602 permit, etc.).

Recommendations

- Schedule work to minimize soil disturbing activities during predicted rain events. Consider rescheduling activities for dry periods to minimize maintenance requirements.
- Develop the sequencing and timetable for the start and completion of each item such as site clearing and grubbing, grading, excavation, paving, pouring foundations, installing utilities, etc., to minimize the active construction area.
- Schedule major grading operations during dryer months when practical.
- Stabilize inactive areas within 15 days from the cessation of soil-disturbing activities or one day prior to the onset of precipitation, whichever occurs first. Must consider manufacturers recommendation for the selected soil stabilization BMP to ensure they meet the minimum dry time required. See Appendix B of this Manual for additional guidance.
- Monitor the weather forecast for storm events, which are storms that produce or are forecasted to produce at least 0.1 inch of precipitation within a 24-hour period. When rainfall is predicted, adjust the construction schedule to allow the implementation of soil stabilization, sediment controls, and, if applicable, sediment treatment controls on all disturbed areas prior to the onset of rain.

- Ensure ample supply of BMP materials are on site in order to quickly mobilize and implement required BMPs, particularly ahead of rain events when materials may be in short supply or back order.
- Be prepared year-round to deploy soil stabilization and sediment control practices. Erosion may be caused during dry seasons by unseasonal rainfall, wind, and vehicle tracking. Keep the site stabilized year-round, and retain and maintain sediment trapping devices in operational condition.
- Sequence trenching activities so that most open portions are closed before new trenching begins. Trenched material should be stored on the upstream side of the trenches.
- Incorporate staged seeding and re-vegetation of graded slopes as work progresses.
- Consider the early planting and establishment of permanent vegetation in the schedule to maximize plant establishment success and minimize irrigation and continuous maintenance needs.
- Apply permanent erosion control to areas deemed substantially complete during the project's defined seeding window.

Maintenance and Inspection

- Verify that work is progressing in accordance with the schedule. If progress deviates, take corrective actions.
- Keep the schedule up to date and ensure it is consistent with the contractor's three-week look ahead, or other routine schedule submitted to the RE under the contract.
- Amend the schedule when changes are warranted or when directed by the RE.

SWPPP or WPCP

- A Water Pollution Control Schedule (WPCS) must include construction operations and BMP implementation for the entire duration of the project. The WPCS is to be included as an attachment and discussed in section 500.7 of the SWPPP or Section 30.5 of the WPCP.

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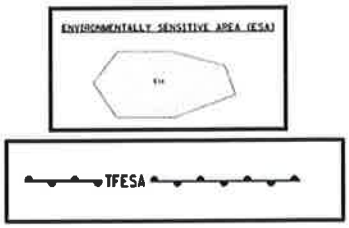
Preservation of Existing Vegetation

SS-2



Standard Symbol

BMP Objectives	
Soil Stabilization	☑
Sediment Control	☐
Tracking Control	☐
Wind Erosion Control	☐
Non-Stormwater Management	☐
Materials and Waste Management	☐

Definition and Purpose

Preservation of existing vegetation is the identification and protection of desirable vegetation that provides erosion and sediment control benefits.

Appropriate Applications

- Preserve existing vegetation at areas on a site where no construction activity is planned or will occur at a later date. This BMP is very applicable for multi-year or multiple location projects, where existing vegetation can be preserved until the area becomes active.
- On a year-round basis, temporary fencing shall be provided prior to the commencement of clearing and grubbing operations or other soil-disturbing activities in areas.
- Clearing and grubbing operations should be staged to preserve existing vegetation.
- Areas where natural vegetation exists and is designated for preservation. Such areas often include steep slopes, watercourse, and building sites in wooded areas.
- Areas where local, state, and federal government require preservation, such as vernal pools, wetlands, marshes, certain oak trees, etc.
- Clearly marking and leaving a buffer area around these unique areas during construction will help to preserve these areas as well as take advantage of natural erosion prevention and sediment trapping.
- During clearing and grubbing do not injure standing trees, plants, and improvements shown in the plans to be protected.
- For any trenching or tunneling. Trenching shall be as far away from tree trunks as possible, usually outside of the tree drip line or canopy. Curve trenches around trees to avoid large roots or root concentrations. If roots are encountered, consider tunneling under them.

- When trenching and/or tunneling near or under trees to be retained, tunnels shall be at least 8 in below the ground surface, and not below the tree center to minimize impact on the roots. Tree roots shall not be left exposed to air; they shall be covered with soil as soon as possible, protected, and kept moistened with wet burlap or peat moss until the tunnel and/or trench can be completed.

Limitations

- Protection of existing vegetation requires planning, and may limit the area available for construction activities.
- For sites with diverse topography, it is often difficult and expensive to save existing trees while grading the site satisfactory for the construction project.

Standards and Specifications

General Requirements

- Specifications for preservation of existing vegetation can be found in Standard Specifications Section 5-1.36A.
- Section 14 "Environmental Stewardship" of the Standard Specifications specifies the requirements related to environmental compliance and resource management, including requirements related to Environmentally Sensitive Areas (ESAs).
- Refer to Section 16-2.03 of the Standard Specifications for "High-Visibility Fences" used to delineate ESAs.
- Refer to 16-2.04 of the Standard Specifications for "Temporary Construction Mats" used to protect wetlands and other areas.

Schedule

- Preservation of existing vegetation must be provided prior to the commencement of clearing and grubbing operations or other soil-disturbing activities in areas identified on the plans to be preserved, including areas designated as ESAs.
- Preservation of existing vegetation should conform to scheduling requirements set forth in the special provisions.

Design and Layout

- Mark areas to be preserved with temporary fencing (Type ESA). The temporary fencing must be made of high visibility fabric secured with 6 foot (minimum) posts. Refer to Section 16-2.03B of the Standard Specifications for more information on temporary high-visibility fence materials.
- Fence posts can be either wood or steel, at the Contractor's discretion, as appropriate for the intended purpose. The post spacing must be 8 feet center-to-center (maximum) and embedded at least 16 inches into the ground to completely support the fence in an upright position.
- See Standard Plan T65 for "Temporary Fence (Type ESA)."

Installation

- Construction materials, equipment storage, and parking areas should be located where they will not cause damage to vegetation designated for preservation. This could include: keeping equipment away from trees to prevent trunk and root damage, considering the impact of grade changes to existing vegetation

and the root zone, and minimizing disturbed areas by avoiding stands of trees and shrubs and following existing contours to reduce cutting and filling for temporary roads.

- Maintain existing irrigation systems.
- Employees and subcontractors must be instructed to honor protective devices. No heavy equipment, vehicular traffic, or storage piles of any construction materials is permitted within the drip line of any tree to be retained. Removed trees should not be felled, pushed, or pulled into any retained trees. Fires should not be permitted within 100 ft of the drip line of any retained trees. Any fires must be of limited size, and must be kept under continual surveillance. No toxic or construction materials (including paint, acid, nails, gypsum board, chemicals, fuels, and lubricants) should be stored within 50 feet of the drip line of any retained trees, nor disposed of in any way which would injure vegetation.
- After all other work is complete, fences and barriers must be removed last. This is because protected trees may be destroyed by carelessness during the final cleanup and landscaping.

Maintenance and Inspection

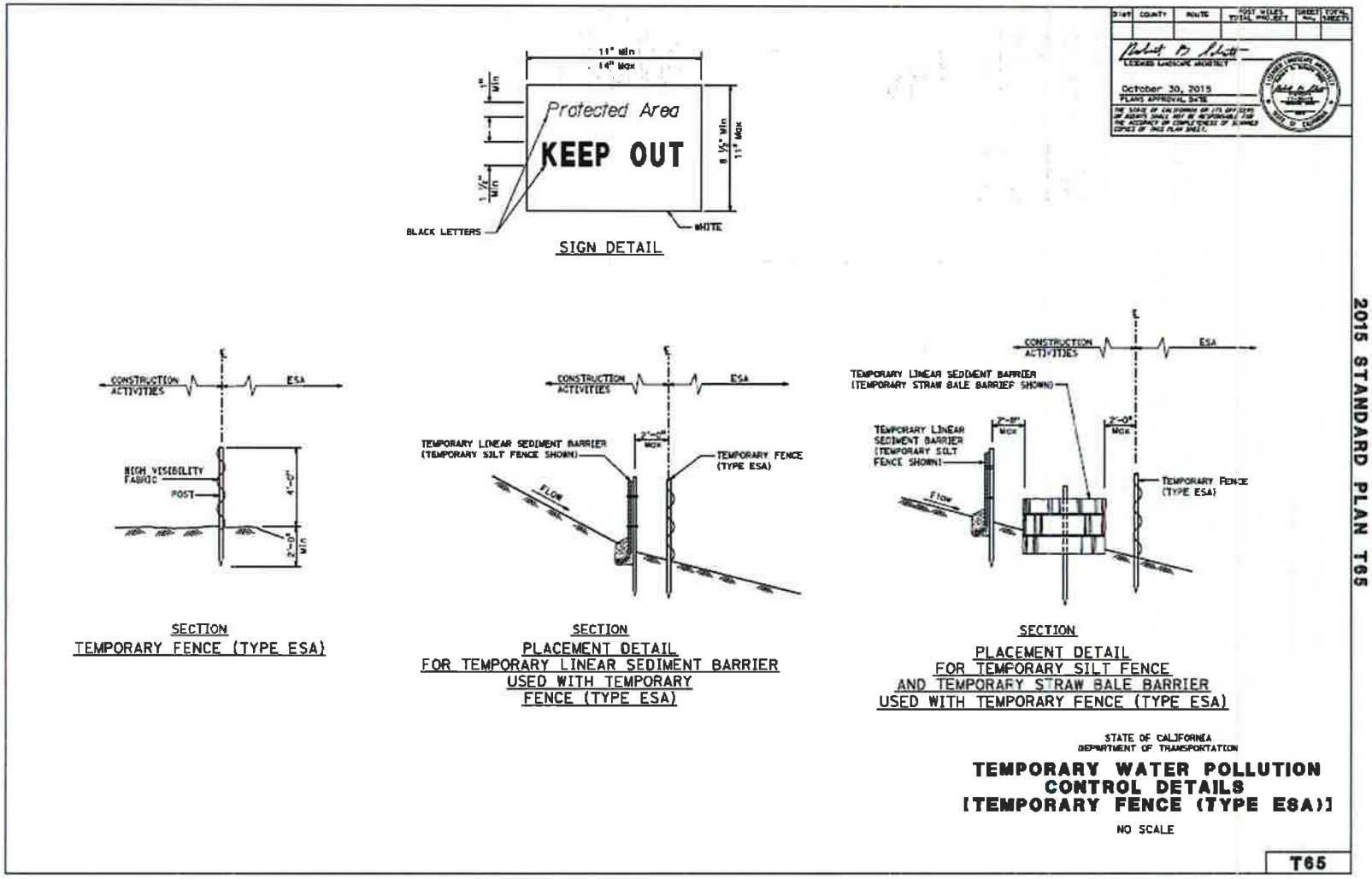
- During the entire construction phase, the limits of disturbance must remain clearly marked to avoid damage to the existing vegetation during site cleanup and stabilization. Irrigation or maintenance of existing vegetation must conform to the requirements in the landscaping plan. If damage to protected trees still occurs, maintenance guidelines described below must be followed:
  - Serious tree injuries must be attended to by an arborist.
  - During construction, the District Environmental Branch must be contacted to ensure that ESAs are protected and any environmental regulations are followed.
  - Existing Vegetated Areas to be Preserved must be clearly demarcated in the WPCDs.

SWPPP or WPCP

- Preservation of Existing Vegetation must be discussed in Section 500.3 of the SWPPP or Section 30.2 of the WPCP.

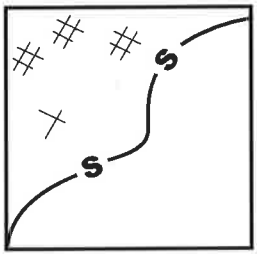
Preservation of Existing Vegetation

SS-2



Straw Mulch

SS-6



Standard Symbol

BMP Objectives	
Soil Stabilization	✓
Sediment Control	
Tracking Control	
Wind Erosion Control	✓
Non-Stormwater Management	
Materials and Waste Management	

Definition and Purpose

Straw mulch consists of placing a uniform layer of straw and incorporating it into the soil with a studded roller, or anchoring it with a tackifier or Rolled Erosion Control Product (RECP). This is one of the temporary soil stabilization alternatives to consider.

Appropriate Applications

- Straw mulch is typically used for soil stabilization as a temporary surface cover on disturbed areas until soils can be prepared for revegetation and permanent vegetation is established.
- Also typically used in combination with temporary and/or permanent seeding strategies to enhance plant establishment.

Limitations

- Availability of erosion control contractors and straw may be limited prior to the rain events due to high demand.
- There is a potential for introduction of weed-seed and unwanted plant material.
- Straw mulch applied by hand is more time intensive and potentially costly.
- May have to be removed prior to permanent seeding or soil stabilization.
- "Punching" of straw does not work in sandy soils, must use a tackifier.

Standards and Specifications

General Requirements

- Straw and tackifier must conform to Standard Specifications Sections 21-2.02H, 21.2-03G and 21-2.02E.
- Submit a certificate of compliance for straw before application. If weed-free straw is used, the certificate of compliance must include the certificate of quarantine compliance.
- Straw must be derived from wheat, rice, or barley.
- A tackifier is the preferred method for anchoring straw mulch to the soil on slopes.
- Selected tackifier must be environmentally benign (non-toxic to plants and animal life) and does not pose a threat to water quality.
- Crimping, "punch" roller-type rollers, or track-walking may also be used to incorporate straw mulch into the soil on slopes. Track walking shall only be used where other methods are impractical.
- Avoid placing straw onto the traveled way, sidewalks, lined drainage channels, sound walls, and existing vegetation.
- Straw mulch with tackifier should not be applied during or immediately before a rain event.

Application Procedures

- Apply loose straw at the rate indicated either by machine or by hand distribution.
- The straw mulch must be evenly distributed on the soil surface.
- Straw may be anchored in place by incorporating it into soil or using a tackifier. Additionally, in small areas and/or steep slopes, straw mulch can also be held in place using Rolled Erosion Control Product. Refer to BMP SS-7, "Temporary Cover and Rolled Erosion Control Products."
- If a tackifier will be used to anchor the straw mulch in lieu of incorporation, roughen embankment or fill areas by rolling with a crimping or punching-type roller. Track walking should only be used where rolling is impractical.
- A tackifier acts to glue the straw fibers together and to the soil surface. Factors influencing tackifier selection include longevity and ability to hold the fibers in place.
- Apply tackifier according to the manufacturer's instructed rate for the slope, soil, and wind conditions.
- If incorporation of straw mulch into soil is the selected method for anchoring, then do as follows:
  - A spade or shovel can be used to incorporate straw into soil in small areas.
  - On slopes with soils that are stable enough and of sufficient gradient to safely support construction equipment without contributing to

compaction and instability problems, straw can be "punched" into the ground using a knife-blade roller or a straight bladed coulter, known commercially as a "crimper" under Section 21-2.03J of the Standard Specifications.

Maintenance and Inspections

- Straw needs to last long enough to achieve erosion control objectives.
- Maintain an unbroken, temporary mulched ground cover while DSAs are inactive. Repair any damaged ground cover and re-mulch exposed areas.
- Reapplication of straw mulch and tackifier may be required by the RE to maintain effective soil stabilization over disturbed areas and slopes.
- After any rainfall event, the Contractor is responsible for maintaining all slopes to prevent erosion.

SWPPP or WPCP

- Straw Mulch must be discussed in Section 500.3.2 of the SWPPP or Section 30.2 of the WPCP.

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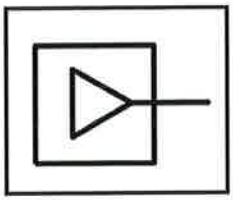
Outlet Protection/Velocity Dissipation Devices

SS-10



Standard Symbol

BMP Objectives	
Soil Stabilization	
Sediment Control	
Tracking Control	
Wind Erosion Control	
Non-Stormwater Management	
Materials and Waste Management	

Definition and Purpose

These devices are placed at pipe outlets to prevent scour and reduce the velocity and/or energy of stormwater flows.

Appropriate Applications

- These devices may be used at the following locations:
  - Outlets of pipes, drains, culverts, slope drains, diversion ditches, swales, conduits or channels.
  - Outlets located at the bottom of mild to steep slopes.
  - Discharge outlets that carry continuous flows of water.
  - Outlets subject to short, intense flows of water, such as flash floods.
  - Points where lined conveyances discharge to unlined conveyances.

Limitations

- Loose rock may have stones washed away during high flows.
- Grouted rock slope protection may break up in areas of freeze and thaw.
- If there is not adequate drainage, and water builds up behind grouted rock slope protection, it may cause the grouted rock slope protection to break up due to the resulting hydrostatic pressure.
- Outlet protection may negatively impact the channel habitat.

Outlet Protection/Velocity Dissipation Devices

SS-10

Standards and Specifications

- There are many types of energy dissipaters; a flared end section and rock slope protection is shown in the figure on the previous page. Please note that this is only one example and the RE may approve other types of devices proposed by the contractor.
- Flared end sections must comply with Standard Specification 70-5.02.
- Rock slope protection must comply with Standard Specification Section 72.
- Install rock slope protection, grouted rock slope protection, or concrete apron at selected outlet. Rock slope protection aprons are best suited for temporary use during construction.
- Carefully place rock slope protection to avoid damaging the filter fabric.
- For proper operation of apron:
  - Align apron with receiving stream and keep straight throughout its length. If a curve is needed to fit site conditions, consider placing it in upper section of apron.
  - If size of apron rock slope protection is large, consider protecting underlying filter fabric with a gravel blanket.
- Outlets on slopes steeper than 10% should have additional protection.

Maintenance and Inspection

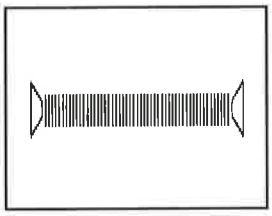
- At a minimum, perform inspections weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Minimize areas of standing water by removing sediment blockages and filling scour depressions. If persistent, it might be necessary to have licensed professional re-evaluate size and type of device implemented.
- Inspect apron for displacement of the rock slope protection and/or damage to the underlying fabric. Repair fabric and replace rock slope protection that has washed away.
- Inspect for scour beneath the rock slope protection and around the outlet. Repair damage to slopes or underlying filter fabric immediately.
- Temporary devices should be completely removed as soon as the surrounding drainage area has been stabilized, or at the completion of construction.

SWPPP or WPCP

- Outlet Protection/Velocity Dissipation Devices must be discussed in Section 500.3.2 of SWPPP or Section 30.2 of the WPCP.

Slope Drains

SS-11



Standard Symbol

BMP Objectives

Soil Stabilization	
Sediment Control	
Tracking Control	
Wind Erosion Control	
Non-Stormwater Management	
Materials and Waste Management	

Definition and Purpose

A slope drain is a pipe used to intercept and direct surface runoff or groundwater into a stabilized watercourse, trapping device or stabilized area. Slope drains are used with lined ditches to intercept and direct surface flow away from slope areas to protect cut or fill slopes.

Appropriate Applications

- Slope drains may be used on construction sites where slopes may be eroded by surface runoff.
- Drainage for top of slope dikes or swales.
- Drainage for top of cut and fill slopes where water can accumulate.
- Emergency spillway for a sediment basin.

Limitations

- Severe erosion may result when slope drains fail by overtopping, piping, or pipe separation.
- Sediment accumulation, scour depressions, and/or persistent non-stormwater discharges in energy dissipaters associated with slope drain outlets can result in suitable areas for vector production.

Standards and Specifications

- Maximum slope generally limited to 2:1 (H:V), as energy dissipation below steeper slopes is difficult.
- Direct surface runoff to slope drains with interceptor dikes. See BMP SS-8, "Earth Dikes/Drainage Swales, and Lined Ditches."
- Slope drains can be placed on or buried underneath the slope surface.
- Recommended materials are plastic or corrugated metal, or comparable pipe.
- When installing slope drains:
  - Install slope drains perpendicular to slope contours.

- Compact soil around and under entrance, outlet, and along length of pipe.
- Securely anchor and stabilize pipe and appurtenances into soil.
- Check to ensure that pipe connections are water tight.
- Protect area around inlet with filter cloth. Protect outlet with rock slope protection or other energy dissipation device. For high energy discharges, reinforce rock slope protection with concrete or use reinforced concrete device.
- Protect inlet and outlet of slope drains; use standard flared end section at entrance and exit for pipe slope drains 12 in and larger.

Maintenance and Inspection

- Inspect before, daily during and after each rain event, and weekly during the duration of the construction project. Inspect outlet for erosion and downstream scour.
- If eroded, repair damage and install additional energy dissipation measures. If downstream scour is occurring, it may be necessary to reduce flows being discharged into the channel.
- Inspect slope drainage for accumulations of debris and sediment.
- Remove built-up sediment from entrances, outlets, and within drains as required.
- Make sure stormwater is not ponding onto inappropriate areas (e.g., active traffic lanes, material storage areas, etc.).

SWPPP or WPCP

- Slope Drains must be discussed in Section 500.3.2 of SWPPP or Section 30.2 of the WPCP.

Streambank Stabilization

SS-12

Standard Symbol

BMP Objectives

Soil Stabilization	✔
Sediment Control	✔
Tracking Control	
Wind Erosion Control	
Non-Stormwater Management	
Materials and Waste Management	

Definition and Purpose

Drainage systems including the stream channel, streambank, and associated riparian areas, are dynamic and sensitive ecosystems that respond to changes in land use activity. Streambank and channel disturbance resulting from construction activities can increase the stream's sediment load, which can cause channel erosion or sedimentation and have adverse affects on the biotic system. BMPs can reduce the discharge of sediment and other pollutants and minimize the impact of construction activities on watercourses. Streams included on the 303(d) list by the State Water Resources Control Board (SWRCB) may require careful evaluation to prevent any increases in sedimentation, siltation and/or turbidity to the stream.

Appropriate Applications

These procedures typically apply to all construction projects that disturb or occur within stream channels and their associated riparian areas. Streambank stabilization typically consists of a combination of several BMPs to prevent destabilization and enhance stability of eroding streambanks.

Limitations

Specific permit requirements or mitigation measures such as Regional Water Quality Control Board (RWQCB) 401 Certification, U.S. Army Corps of Engineers 404 permit and approval by California Department of Fish and Wildlife Service may be included in contract documents. Specific requirements could include in-water work windows, vegetation species, seed mixes, stabilization measures, water quality monitoring protocols and specific reporting requirements. If numerical-based water quality standards are mentioned in any of these and other related permits, testing and sampling may be required. Streams included on the 303(d) list by the SWRCB because of sediment, silt, or turbidity impairment are required to conduct sampling to verify that there is no net increase in sediment load due to construction activities.

Standards and Specifications

PLANNING

- Proper planning, design, and construction techniques can minimize impacts normally associated with in-stream construction activities. Poor planning can adversely affect soil, fish, and wildlife resources, land uses, or land users.

Planning should take into account: scheduling, avoidance of in-stream construction; minimizing disturbance area and construction time period; using pre-disturbed areas; selecting crossing location; selecting equipment and proper stabilization techniques once the activity is completed.

Scheduling (SS-1)

- Construction activities should be scheduled according to the relative sensitivity of the environmental concerns and in accordance with SS-1, "Scheduling." Scheduling considerations will be different when working near perennial streams vs. ephemeral streams, and are as follows:
  - Construction work near perennial streams should optimally be performed during the dry season (see below).
  - When working in or near ephemeral, intermittent, or perennial streams, construction should be performed during the dry season and in accordance with regulatory agency permits and approvals. By their very nature, ephemeral and intermittent streams are usually dry in the summer, and therefore, in-stream construction activities will not cause significant water quality problems. For perennial streams, clear water diversion (see NS-5 for "Clear Water Diversion"), dewatering (see NS-2 for "Dewatering Operations"), and water quality monitoring may be required.
  - When closing the site at the end of the job, wash any fines that were formed in-situ back into the channel the bed material, to decrease pollution from the first rainstorm ("first flush") of the season. When working near stream channels, erosion and sediment controls (see silt fences, straw bale barriers, etc.) should be implemented on the banks to keep sediment out of the stream channel.
  - Regulatory permits might require or allow for the stockpiling of native bed material to be backfilled during stabilization.

Minimize Disturbance

- Minimize disturbance through: selection of the narrowest crossing location; limiting the number of equipment trips across a stream during construction; and, minimizing the number and size of work areas (equipment staging areas and spoil storage areas). Provide stabilized access to the stream when in-stream work is required. Field reconnaissance should be conducted during the planning stage to identify work areas.
- Comply with regulatory permit requirements, if none are applicable, then place work areas (stage area, active construction) at least 50 ft from the stream channel. Perform each of the following activities at least 100 feet from a drainage course if it is performed within the floodplain, or at least 50 feet outside the floodplain: stockpiling materials, storing pile-driving equipment and liquid waste containers, washing vehicles and equipment, fueling and maintaining vehicles and equipment.
- Locate access and staging areas in paved or pre-disturbed areas when possible. If not possible, select access and staging areas that minimizes disturbance to aquatic species, riparian vegetation, and habitat.

- Avoid steep and unstable banks, highly erodible or saturated soils, or highly fractured rock, wherever possible.
- Select equipment that reduces the amount of pressure exerted on the ground surface, and therefore, reduces erosion potential and/or use overhead or aerial access for transporting equipment across drainage channels. Use equipment that exerts ground pressures of less than 5 or 6 pounds per square inch (PSI), where possible. Low ground pressure equipment includes: wide or high flotation tires (34 to 72 inch wide); dual tires; bogie axle systems; tracked machines; lightweight equipment; and central tire inflation systems.

STREAMBANK STABILIZATION

Preservation of Existing Vegetation (SS-2)

- Preserve existing vegetation in accordance with SS-2, "Preservation of Existing Vegetation." In a streambank environment preservation of existing vegetation provides the following benefits:

  Water Quality Protection

  Vegetated buffers on slopes trap sediment and promote groundwater recharge. The buffer width needed to maintain water quality ranges from 15 to 100 feet. On gradual slopes, most of the filtering occurs within the first 30 feet of the buffer. Steeper slopes require a greater width of vegetative buffer to provide water quality benefits.

  Streambank Stabilization

  The root system of riparian vegetation stabilizes streambanks by increasing tensile strength in the soil. The presence of vegetation modifies the moisture condition of slopes (infiltration, evapotranspiraton, interception) and increases bank stability.

  Riparian Habitat

  Buffers of diverse riparian vegetation provide food, shelter, and shade for riparian and aquatic organisms. Minimizing impacts to fisheries habitat is a major concern when working near streams and rivers. Riparian vegetation provides shade, shelter, organic matter (leaf detritus and large woody debris), and other nutrients that are necessary for fish and other aquatic organisms. Buffer widths for habitat concerns are typically wider than those recommended for water quality concerns (100 to 1,500 feet).

  When working near watercourses, it is important to understand the work site's placement in the watershed. Riparian vegetation in the headwater streams has a greater impact on overall water quality than vegetation in downstream reaches. Preserving existing vegetation in upstream areas is necessary to maintain water quality, minimize bank failure, and maximize riparian habitat downstream of the work site.

- Local county and municipal ordinances regarding width, extent and type of vegetative buffer required may exceed the specifications provided here; these ordinances should be investigated prior to construction.

- As a general rule, the width of a buffer strip between a road and the stream is recommended to be 50 feet plus four times the percent slope of the land, measured between the road and the top of stream bank.

Hydraulic Mulch (SS-3), Hydroseeding (SS-4), and Soil Binders (SS-5)

- Apply hydraulic mulch, hydroseed, or soil binders on disturbed streambanks above the mean high water level to provide temporary soil stabilization.
- Do not place hydraulic mulch, tackifiers, fertilizers, or soil binders below the mean high water level, as these materials could wash into the channel and impact water quality or possibly cause eutrophication.

Straw Mulch (SS-6)

- Apply straw mulch to disturbed streambanks in accordance with SS-6, "Straw Mulch."
- Do not place straw mulch or tackifiers below the mean high water level, as this material could wash into the channel and impact water quality.

Temporary Cover and Rolled Erosion Control Products (SS-7)

- Install geosynthetics, rolled erosion control product, and plastic as described in SS-7, "Temporary Cover and Rolled Erosion Control Products" to stabilize disturbed channels and streambanks.
- Not all applications of SS-7 should be installed in a channel, for example, certain geotextile netting may snag fish gills and are not appropriate in fish-bearing streams. Geotextile fabrics that are not biodegradable are not appropriate for in-stream use. Additionally, geotextile fabric or blankets placed in channels must be adequate to sustain anticipated hydraulic forces.

Earth Dikes/Drainage Swales, and Lined Ditches (SS-9)

- Convey, intercept, or divert runoff from disturbed streambanks using SS-9, "Earth Dikes/Drainage Swales, and Lined Ditches."
- Do not place earth dikes in watercourses, as these structures are only suited for intercepting sheet flow, and should not be used to intercept concentrated flow.

Outlet Protection/Velocity Dissipation Devices (SS-10)

- Place outlet protection or velocity dissipation devices at outlets of pipes, drains, culverts, slope drains, diversion ditches, swales, conduits or channels in accordance with SS-10.

Slope Drains (SS-11)

- Use slope drains to intercept and direct surface runoff or groundwater into a stabilized watercourse, trapping device or stabilized area in accordance with SS-11, "Slope Drains." The use of slope drains minimizes potential streambank erosion from overland flows.

STREAMBANK SEDIMENT CONTROL

Silt Fences (SC-1)

- Install silt fences in accordance with SC-1, "Silt Fence" to control sediment. Silt fences should only be installed where sediment-laden water can pond, thus allowing the sediment to settle out.

Fiber Rolls (SC-5)

- Install fiber rolls in accordance with SC-5, "Fiber Rolls" along slope contour above the high water level to intercept runoff, reduce flow velocity, release the runoff as sheet flow and provide removal of sediment from the runoff. In a stream environment, fiber rolls should be used in conjunction with other sediment control methods such as SC-1, "Silt Fence" or SC-9, "Straw Bale Barrier." Install silt fence, straw bale barrier, or other erosion control methods along the toe of slope above the high water level. Typical fiber roll installation is illustrated at the end of this Section.

Gravel Bag Berm (SC-6)

- A gravel bag berm or barrier can be utilized to intercept and slow the flow of sediment-laden sheet flow runoff in accordance with SC-6, "Gravel Bag Berm." In a stream environment gravel bag barriers can allow sediment to settle from runoff before water leaves the construction site and can be used to isolate the work area from the stream. Gravel bag barriers are not recommended as a perimeter sediment control practice around streams.

Straw Bale Barrier (SC-9)

- Install straw bale barriers in accordance with SC-9, "Straw Bale Barrier" to control sediment. Straw bale barriers should only be installed where sediment-laden water can pond, thus allowing the sediment to settle out. Install a silt fence in accordance with SC-1, "Silt Fence" on the down-slope side of the straw bale barrier closest to stream channel to provide added sediment control.

Compost Sock (SC-08)

- Compost socks are a mesh sock containing compost that act as three dimensional, biodegradable structures that intercept and filter sheet flow. Compost socks can filter runoff, retain sediment, and reduce sheet flow velocities. Compost may be pre-seeded to assist in the establishment of vegetation. Compost socks may be used as either a temporary or permanent sediment control measure.

Inspection and Maintenance

- Inspect BMPs daily during construction.
- Maintain and repair BMPs.
- Remove accumulated sediment as necessary.

SWPPP or WPCP

- Streambank Stabilization must be discussed in Section 500.3.2 of the SWPPP or Section 30.2 of the WPCP.

Standards and Specifications

General Requirements

- Remove obstructions, rocks, clods, and debris greater than 1 inch in diameter from the ground before installing temporary check dams.
- If check dams are used in combination with Rolled Erosion Control Product (RECP) or blanket, install the RECP or blanket first.
- Place a temporary check dam perpendicular to the centerline of the ditch or drainage line.
- Install the check dam with enough spillway depth to prevent flanking of a concentrated flow around its ends.
- Type 1 or Type 2 check dams are appropriate for unlined ditches. Type 2 check dams are appropriate if the ditch is concrete lined.

Fiber Roll (Type 1) Check Dam

Refer to SC-5 "Fiber Rolls."

- Secure the fiber rolls with rope and notched wood stakes.
- Drive the stakes into the soil until the notch is even with the top of the fiber roll.
- Lace rope between the stakes and over the fiber roll. Knot the rope at each stake.
- Tighten by driving the stakes further into the soil and forcing the fiber roll against the surface of the ditch or drainage line.

Gravel-filled Bag (Type 2) Check Dam

Bag Material: Bags are a geosynthetic material, either polypropylene, polyethylene or polyamide woven fabric, minimum unit weight 4 ounces per yd^2, mullen burst strength exceeding 300 psi in conformance with the requirements in ASTM designation D3786, and ultraviolet stability exceeding 70% in conformance with the requirements in ASTM designation D4355.

Bag Size: Each gravel-filled bag shave a length of 24 in to 32 in, width of 16 in to 20 in, and thickness of 3 in. Alternative bag sizes must be submitted to the RE for approval prior to deployment.

Gravel: Fill material is between 3/8 and 3/4 inch in diameter, and must be clean and free from clay balls, organic matter, and other deleterious materials. The opening of gravel-filled bags should be secured such that gravel does not escape. Gravel-filled bags are between 30 and 50 lb in weight. Fill material is subject to approval by the RE.

- Place a Type 2 temporary check dam as a single layer of gravel-filled bags, placed end-to-end to eliminate gaps.
- If you need to increase the height of the dam, add more layers of gravel-filled bags. Stack the bags in the upper row to overlap the joints in the lower row. Stabilize the rows by adding more rows of bags in the lower layers.

- Tightly abut bags and stack gravel bags using a pyramid approach. Gravel bags should not be stacked any higher than 3 ft.
- Upper rows of gravel bags should overlap joints in lower rows.

Other Considerations

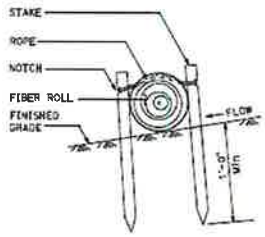
- Check dams should be placed at a distance and height to allow small pools to form behind them. Install the first check dam approximately 15 ft from the outfall device and at regular intervals based on slope gradient and soil type.
- For multiple check dam installation, backwater from downstream check dam should reach the toe of the upstream dam.
- High flows (typically a 2-year storm or larger) should safely flow over the check dam without an increase in upstream flooding or damage to the check dam.
- Where grass is used to line ditches, check dams should be removed when grass has matured sufficiently to protect the ditch or swale from erosion.
- Check dam materials should consist of biodegradable materials whenever feasible.
- Rock check dams might be more applicable if concentrated flows might be a potential.

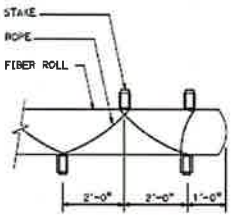
Maintenance and Inspection

- Check dams must be inspected at a minimum weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Replace missing rock, bags, fiber rolls, etc. that have degraded or become damaged.
- Remove sediment when depth reaches one-third of the check dam height.
- Remove accumulated sediment prior to permanent seeding or soil stabilization.
- Remove check dam and accumulated sediment when check dams are no longer needed or when directed by the RE.
- Removed sediment can be incorporated in the project at locations designated by the RE or disposed of outside the highway right-of-way in conformance with the Standard Specifications.

SWPPP or WPCP

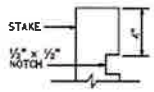
- Temporary Check Dams must be discussed in Section 500.3.3 of the SWPPP or Section 30.2.2 of the WPCP.





SECTION PLAN

STAKING AND LASHING DETAIL



ELEVATION

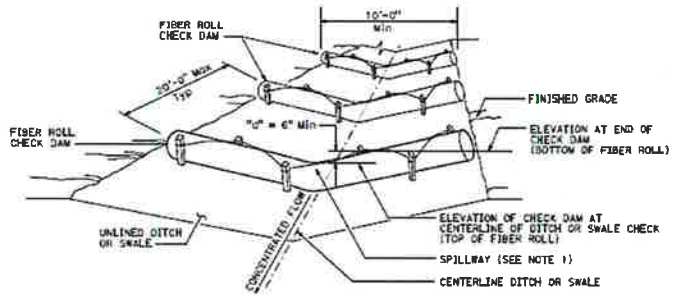
STAKE NOTCH DETAIL

SECTION

TEMPORARY CHECK DAM (TYPE 2)

NOTE:

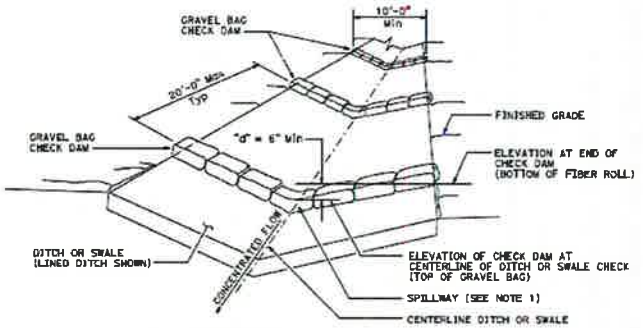
1. Spillway depth "d" shall be maintained to prevent flanking of concentrated flow around the ends of each check dam.



PERSPECTIVE

TEMPORARY CHECK DAM (TYPE 1)

(Total of 3 check dams shown)



PERSPECTIVE

TEMPORARY CHECK DAM (TYPE 2)

(Total of 3 check dams shown)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY CHECK DAM)

NO SCALE

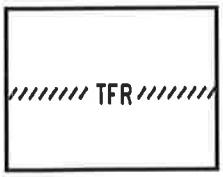
T57

2015 STANDARD PLAN T57

265

Fiber Rolls

SC-5



Standard Symbol

BMP Objectives	
Soil Stabilization	☑
Sediment Control	☑
Tracking Control	☐
Wind Erosion Control	☐
Non-Stormwater Management	☐
Materials and Waste Management	☐

Definition and Purpose

A fiber roll consists of wood excelsior, rice or wheat straw, or coconut fibers that is rolled or bound into a tight tubular roll and placed on the toe and face of slopes to intercept runoff, reduce its flow velocity, release the runoff as sheet flow and provide removal of sediment from the runoff. Fiber rolls may also be used for drainage inlet protection and as check dams under certain situations.

Appropriate Applications

- This BMP may be implemented on a project-by-project basis with other BMPs when determined necessary and feasible by the RE.
- Fiber rolls may be applied as both temporary and permanent sediment controls.
- Along the toe, top, face, and at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.
- Below the toe of exposed and erodible slopes.
- Fiber rolls may be used as check dams in unlined ditches or as temporary drainage inlet protection Down-slope of exposed soil areas.
- Around temporary stockpiles.
- Along the perimeter of a project.

Limitations

- Runoff and erosion may occur if fiber roll is not adequately trenched in.
- Fiber rolls at the toe of slopes greater than 5:1 (H:V) may require the use of a large sediment barrier as specified in Standard Specifications Section 13-10.03D Temporary Large Sediment Barrier or installations achieving the same protection (i.e., stacked smaller diameter fiber rolls, etc.).
- Difficult to move once saturated.

- Fiber rolls could be transported by high flows if not properly staked and trenched in.
- Fiber rolls have limited sediment capture zone.
- Do not use fiber rolls on slopes subject to creep, slumping, or landslide.
- Plastic netting should not be used when regulatory permits prohibit their use or if there is a potential for plastic netting to endanger wildlife.
- Plastic netting is only allowed where fiber rolls will be for short duration and will be removed.

Standards and Specifications

Materials

- Fiber rolls must be premanufactured and filled with weed-free rice or wheat straw, wood excelsior, or coconut fiber. Fiber roll must be covered with biodegradable jute, sisal, or coir fiber netting secured tightly at each end.
- Fiber rolls must have a minimum functional longevity of 1 year.
- Fiber rolls must be:
  - 8 to 10 inches in diameter and at least 1.1 lb/ft
  - 10 to 12 inches in diameter and at least 3 lb/ft
- Large sediment barriers are a subset of fiber rolls. Large sediment barriers must be:
  - 18 to 22 inches in diameter
  - At least 8 ft in length
  - At least 6.5 lb/ft
- Fiber rolls used within the jurisdiction of the Lahontan RWQCB must be made entirely of biodegradable materials if the project is near an ESA area, they are intended to be left in place after construction is completed or there are regulatory permits prohibiting the use of non-photo/biodegradable fiber rolls.
- Submit a Certificate of Compliance for fiber rolls.
- Rope to fasten fiber rolls must be 1/4 inch in diameter and biodegradable, such as sisal or manila.
- Wood stakes must be untreated fir, redwood, cedar, or pine and cut from sound timber. The ends must be pointed for driving into the ground. Notched stakes must be at least 1 by 2 by 24 inches in size. Stakes without notches must be at least 1 by 1 by 24 inches.

Typical Fiber Roll Installation

- Before installing fiber roll, remove obstructions from the ground, including rocks, clods, and debris greater than 1 inch in diameter.
- For any 20-foot section of fiber roll, prevent the fiber roll from varying more than 5 percent from level.
- Use the following spacing unless otherwise noted on the project plans or special provisions:
  - 10 feet apart for slopes steeper than 2:1 (H:V)
  - 15 feet apart for slopes from 2:1 to 4:1 (H:V)
  - 20 feet apart for slopes from 4:1 to 10:1 (H:V)
  - 50 feet apart for slopes flatter than 10:1 (H:V)
- For Type 1 installations:
  - Place in a furrow that is from 2 to 4 inches deep.
  - Fasten with wood stakes every 4 feet along the length of the fiber roll.
  - Fasten the ends of the fiber roll by placing a stake 6 inches from the end of the roll.
  - Drive the stakes into the soil so the top of the stake is less than 2 inches above the top of the fiber roll.
- For Type 2 installations:
  - Fasten with notched wood stakes and rope.
  - Drive stakes into the soil until the notch is even with the top of the fiber roll.
  - Lace the rope between stakes and over the fiber roll. Knot the rope at each stake.
  - Tighten the fiber roll to the surface of the slope by driving the stakes further into the soil.
- If more than one fiber roll is placed in a row, the rolls should be overlapped; not abutted. Stagger overlapping joints in adjacent rows by 5 to 10 feet.

Typical Large Sediment Barrier Installation

- Place a single row of fiber rolls end-to-end, approximately parallel with the slope contour. For any 20-foot section of fiber roll, do not allow the fiber roll to vary by more than 5 percent from level.
- Place the fiber rolls in a furrow that is from 6 to 8 inches deep.
- Secure the fiber rolls with wood stakes 4 feet apart.
- Place a stake 18 inches from each end of each fiber roll.

- Drive the stakes into the soil such that the top of the stakes are less than 2 inches above the top of the fiber rolls.
- Angle the last 6 feet upslope at the downhill end of the run.

Removal

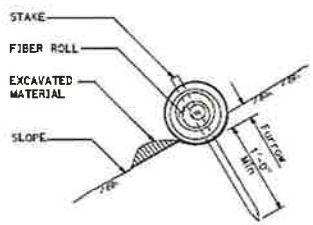
- For permanent installations, do not remove fiber rolls. Fiber rolls will degrade over time, while underlying soils are stabilized by other BMPs.
- For temporary installations, remove fiber rolls, collect and dispose of sediment accumulation, and fill and compact holes, trenches, depressions or any other ground disturbance to blend with adjacent ground.

Maintenance and TInspection

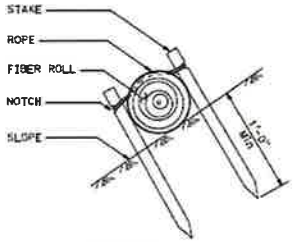
- Remove sediment from behind the fiber roll if sediment is 1/3 of fiber roll height above ground.
- Repair or adjust the fiber roll if rills or other evidence of concentrated runoff occur beneath the fiber roll.
- Repair or replace the fiber roll if they become split, torn, or unraveled.
- Add stakes if the fiber roll slumps or sags.
- Replace broken or split wood stakes.
- Remove sediment deposits, trash, and debris from fiber roll as needed. If removed sediment is deposited within project limits, it must be stabilized and not exposed to erosion by wind or water.
- Perform maintenance as needed or as required by the RE or CGP or LTCGP requirements.
- Inspect fiber rolls before and following rainfall events and a least daily during prolonged rainfall. Perform maintenance as needed or as required by the RE.
- Maintain fiber rolls to provide an adequate sediment holding capacity and runoff velocity reduction.
- Fiber roll placement must be shown on the WPCDs

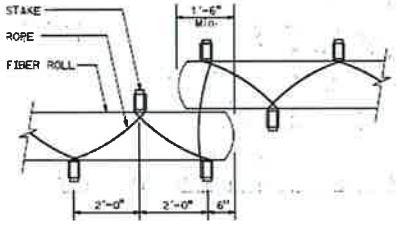
SWPPP or WPCP

- Fiber rolls must be discussed in Section 500.3 of the SWPPP or Section 30.2 of the WPCP.

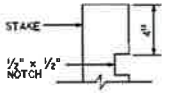


TEMPORARY FIBER ROLL (TYPE 1)





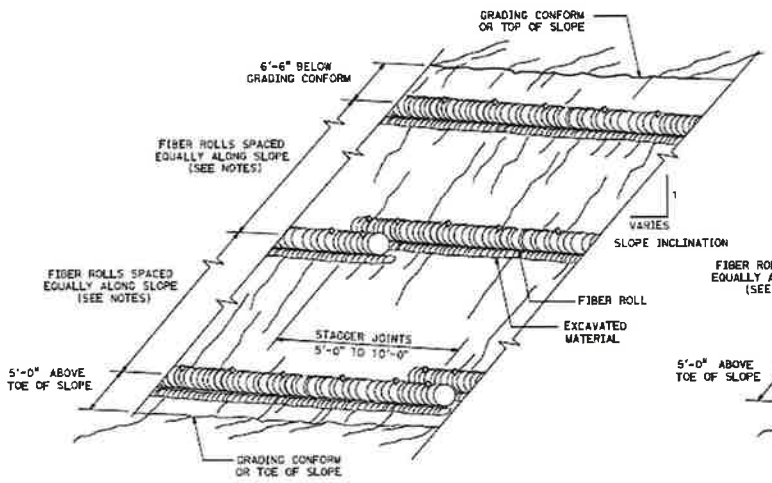
TEMPORARY FIBER ROLL (TYPE 2)



STAKE NOTCH DETAIL

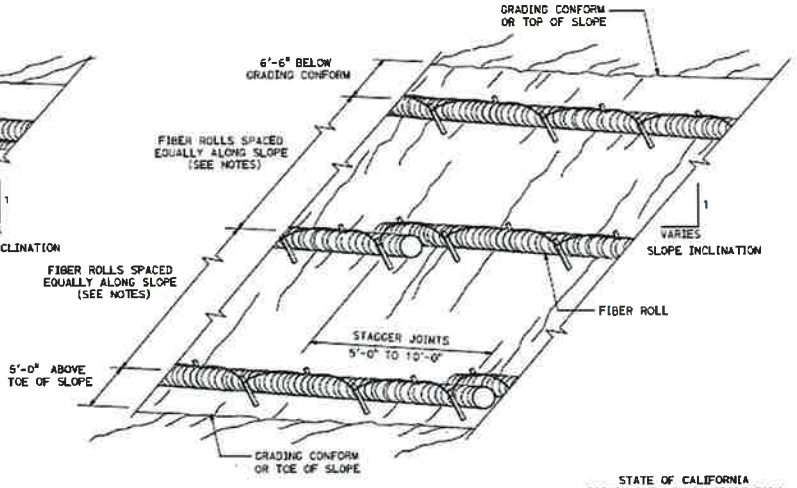
NOTES:

1. Temporary fiber roll spacing varies depending upon slope inclination.
2. Installations shown in the perspectives are for slope inclination of 1:1 and steeper.



PERSPECTIVE

TEMPORARY FIBER ROLL (TYPE 1)



PERSPECTIVE

TEMPORARY FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FIBER ROLL)

NO SCALE

T56

2015 STANDARD PLAN T56

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

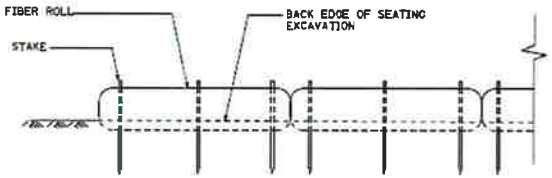
Robert B. Schmitt
LICENSED LANDSCAPE ARCHITECT

October 30, 2015
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

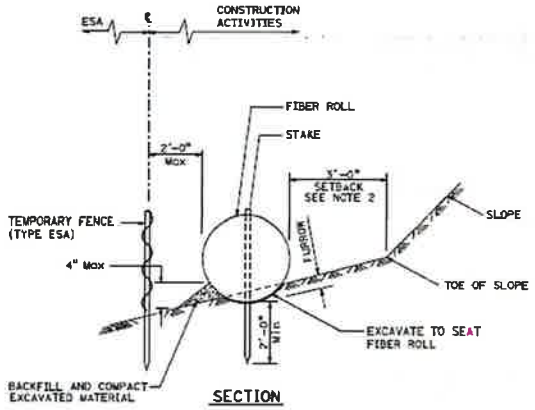
NOTES:

1. Temporary fence (Type ESA) shown for reference purposes only.
2. Setback dimension may vary according to field conditions or as designated on plans



FRONT ELEVATION

TEMPORARY LARGE SEDIMENT BARRIER



SECTION

PLACEMENT DETAIL
FOR TEMPORARY FENCE (TYPE ESA)
USED WITH TEMPORARY LARGE SEDIMENT BARRIER
(See Note 1)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY LARGE SEDIMENT BARRIER)

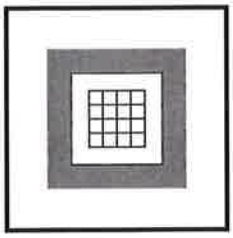
NO SCALE

T66

2015 STANDARD PLAN T66

Temporary Drainage Inlet Protection

SC-10



Standard Symbol

BMP Objectives

Soil Stabilization	
Sediment Control	✓
Tracking Control	
Wind Erosion Control	
Non-Stormwater Management	
Materials and Waste Management	

Definition and Purpose

Temporary drainage inlet protection consists of devices used at storm drain inlets that detain and/or filter sediment-laden runoff prior to discharge into storm drainage systems. This is achieved by allowing sediment to settle and/or filtering sediment upstream of a linear sediment barrier.

Appropriate Applications

- Where ponding will not encroach into highway traffic.
- Where sediment laden surface runoff may enter an inlet.
- Where disturbed drainage areas have not yet been permanently stabilized.
- Where the drainage area is 1 ac or less.
- Used year-round.

Limitations

- Requires an adequate area for water to pond without encroaching upon traveled way and should not present an obstacle to oncoming traffic.
- May require other methods of temporary protection to prevent sediment-laden stormwater and non-stormwater discharges from entering the storm drain system.
- Sediment removal may be difficult in high flow conditions or if runoff is heavily sediment laden. If high flow conditions are expected, use other on-site sediment trapping techniques, such as SC-4 "Check Dams," in conjunction with temporary drainage inlet protection.
- Frequent maintenance is required.
- Silt fence inlet protection is appropriate in open areas that are subject to sheet flow and for flows not exceeding 0.5 cfs.

- Gravel bag barriers for inlet protection are applicable when sheet flows or concentrated flows exceed 0.5 cfs, and it is necessary to allow for overtopping to prevent flooding.
- Fiber rolls and foam barriers are not appropriate for locations where they cannot be properly anchored to the surface.
- Excavated drop inlet sediment traps are appropriate where relatively heavy flows are expected and overflow capability is needed.
- For drainage areas larger than 1 ac, runoff should be routed to a sediment trapping device designed for larger flows. See BMPs SC-2, "Sediment/Desilting Basin," and SC-3 "Sediment Trap/Curb Cutback."

Standards and Specifications

General Requirements

- Refer to Standard Specifications Section 13-6.03C for "Temporary Drainage Inlet Protection" and 13-6.03F for "Rigid Plastic Barriers."
- Identify existing and/or planned storm drain inlets that have the potential to receive sediment-laden surface runoff. Determine if storm drain inlet protection is needed, and which method or combination of methods to use. Update inlet protection as site conditions change.
- Use a linear sediment barrier to redirect runoff and control ponding in order to prevent ponding from encroaching on the traveled way or overtopping the curb or dike.
- Prior to installation, clear the area around each inlet of obstructions, including rocks, clods, and debris greater than 1-in. in diameter.
- Install linear sediment barriers upstream of the inlet and parallel with the curb, dike, or flow line to keep sediment from entering the inlet.
- Remove accumulated sediment according to Maintenance and Inspection recommendations. Accumulated sediment may be disposed of outside the highway right-of-way in conformance with the Standard Specifications Section 14-10.

Type 1 - Silt Fence

- This method should be used for drain inlets requiring protection in areas where finished grade is established and erosion control seeding has been applied or is pending. The silt fence (Type 1) protection is illustrated on Page 6. Do not place filter fabric underneath the inlet grate since the collected sediment may fall into the drain inlet when the fabric is removed or replaced.
- Type 2 - Excavated Drop Inlet Sediment Trap
- This method may be used for drainage inlets requiring protection in areas that have been cleared and grubbed, and where exposed soil areas are subject to grading. The excavated drop inlet sediment trap (Type 2) is illustrated on Page 7. Similar to constructing a temporary silt fence; see BMP SC-1, "Silt Fence." Size the excavated trap to provide a minimum storage capacity calculated at the rate of 67 yd3/ac of drainage area.

Type 3A – Gravel Bag Berm for Combined Inlets

- This method may be used for drain inlets surrounded by AC or paved surfaces. The gravel bag berm for combined inlets (Type 3A) is illustrated on Pages 8-9. Flow from a severe storm must not overtop the curb. In areas of high clay and silts, use filter fabric and gravel as additional filter media. Construct gravel bags in accordance with BMP SC-6, "Gravel Bag Berm." Gravel bags are used due to their high permeability.

Type 3B – Gravel Bag Berm for Grate Inlets

- This method may be used for drainage inlets surrounded by AC or paved surfaces. The gravel bag berm for grate inlets (Type 3B) is illustrated on Page 10. In areas of high clay and silts, use filter fabric and gravel as additional filter media. Place gravel bags in accordance with BMP SC-6, "Gravel Bag Berm." Gravel bags are used due to their high permeability.

Type 4A – Flexible Sediment Barrier for Grate Inlets

- This method may be used for drainage inlets requiring protection in areas that have been cleared and grubbed, and where exposed soil areas subject to grading. Flexible Sediment Barrier for Grate Inlets (Type 4A) is placed around the inlet and keyed and anchored to the surface. Flexible Sediment Barriers are intended for use as inlet protection where the area around the inlet is unpaved and the foam barrier or fiber roll can be secured to the surface. Place fiber rolls over the erosion control blanket. RE or appropriate licensed professional approval is required.

Type 4B – Flexible Sediment Barrier for Combined Inlets

- This method may be used for drainage inlets requiring protection in areas that have been cleared and grubbed, and where exposed soil areas subject to grading. Flexible Sediment Barrier for Combined Inlets (Type 4B) is placed in rows upstream of the inlet and along the curb or dike. The barriers are keyed and anchored to the surface. Flexible Sediment Barriers are intended for use as inlet protection where the area around the inlet is unpaved and the foam barrier or fiber roll can be secured to the surface. Place the barrier to provide a tight joint with the curb or dike. Cut the cover fabric or jacket to ensure a tight fit. RE and Construction Storm Coordinator approval is required.

Type 5 – Sediment Filter Bag

- This method may be used in areas with vehicle and equipment traffic that could damage aboveground inlet protection devices. The Sediment Filter Bags are installed as follows: (1) Remove the drainage inlet grate, (2) Place the sediment filter bag in the opening, and (3) Replace the grate to secure the sediment filter bag in place.

Type 6A – Catch Basin with Grate

- Catch Basin with Grate (Type 6A) is shown on page 16. Cover grate inlet with rigid plastic barrier and secure on each end with gravel-filled bags. If using a rigid sediment barrier and the grated inlet does not have a curb opening, placed the barrier using a gasket to prevent runoff from flowing under the barrier. Secure the barrier to the pavement with nails and adhesive, gavel-filled bags, or a combination of both.

Type 6B – Curb Inlet without Grate

- Curb Inlet without Grate (Type 6B) is shown on page 16. Place the flexible sediment barrier across the curb inlet opening and secure with gravel-filled bags.

Maintenance and Inspection

General Requirements

- Inspect all drainage inlet protection devices before and after every rainfall event and weekly year round. During extended rainfall events, inspect inlet protection devices at least once every 24 hours.
- Inspect the storm drain inlet after severe storms to check for bypassed material.
- Remove all drainage inlet protection devices within thirty days after the site is stabilized, or when the inlet protection is no longer needed.
  - Bring the disturbed area to final grade and smooth and compact it. Appropriately stabilize all bare areas around the inlet.
  - Clean and re-grade area around the inlet and clean the inside of the storm drain inlet as it must be free of sediment and debris at the time of final inspection.

Type 1 - Filter Fabric Fence

- Make sure the stakes are securely driven in the ground and are structurally sound (i.e., not bent, cracked, or splintered, and are reasonably perpendicular to the ground). Replace damaged stakes.
- Replace or clean the fabric when the fabric becomes clogged with sediment. Make sure the fabric does not have any holes or tears. Repair or replace fabric as needed or as directed by the RE.
- At a minimum, remove the sediment behind the fabric fence when accumulation reaches one-third the height of the fence or barrier height.

Type 2 – Excavated Drop Inlet Sediment Trap

- Remove sediment from basin when the volume of the basin has been reduced by one-half.

Type 3A - Gravel Bag Berm for Combined Inlets

- Inspect bags for holes, gashes, and snags.
- Check gravel bags for proper arrangement and displacement. Remove the sediment behind the barrier when it reaches one-third the height of the barrier.

Type 3B - Gravel Bag Berm for Grate Inlets

- Inspect bags for holes, gashes, and snags.
- Check gravel bags for proper arrangement and displacement. Remove the sediment behind the barrier when it reaches one-third the height of the barrier.

Type 4A Flexible Sediment Barrier for Grate Inlets

- Check flexible sediment barrier for proper arrangement and displacement. Remove the sediment behind the barrier when it reaches one-third the height of the barrier.

Type 4B Flexible Sediment Barrier for Combined Inlets

- Check flexible sediment barrier for proper arrangement and displacement. Remove the sediment behind the barrier when it reaches one-third the height of the barrier.

Type 5 Sediment Filter Bag

- Change sediment filter bag carefully ensuring not to spill captured sediment into the drainage inlet.

Type 6A Catch Basin with Grate

- Check barrier and gravel-filled bags for proper arrangement and displacement. Routinely remove accumulated sediment

Type 6B Curb Inlet without Grate

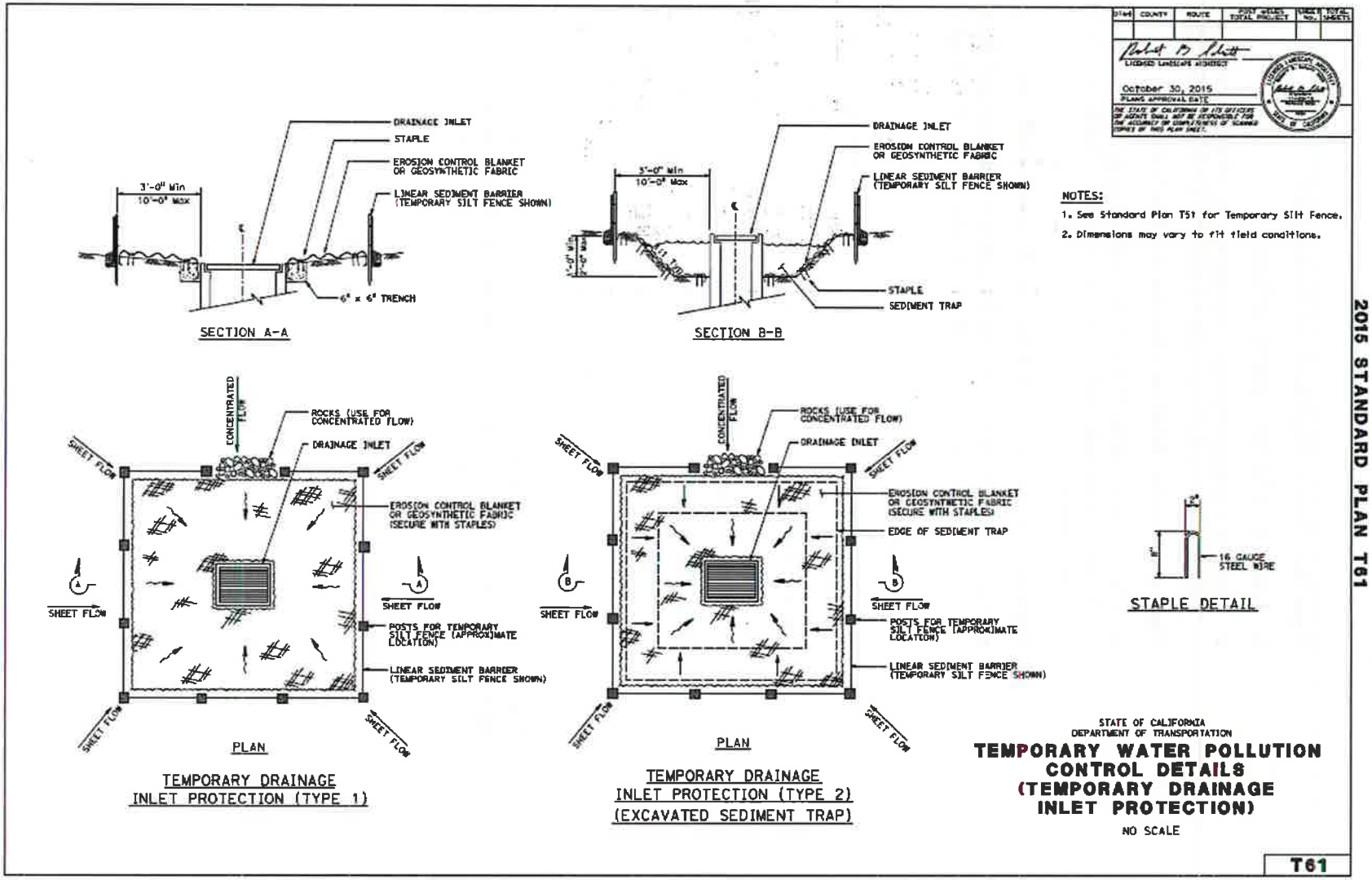
- Check barrier and gravel-filled bags for proper arrangement and displacement.
- Remove the sediment behind the barrier when it reaches one-third the height of the barrier.

SWPPP or WPCP

- Temporary Drainage Inlet Protection must be discussed in Section 500.3.2 of SWPPP and/or Section 30.2.2 of the WPCP. Temporary Drainage Inlet Protection placement type must be shown on the WPCDs and reflect site temporary conditions.

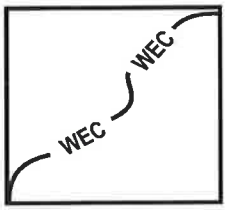
Temporary Drainage Inlet Protection

SC-10



Wind Erosion Control

WE-1



Standard Symbol

BMP Objectives

Soil Stabilization	☑
Sediment Control	☑
Tracking Control	☐
Wind Erosion Control	☑
Non-Stormwater Management	☐
Materials and Waste Management	☐

Definition and Purpose

- Wind erosion control consists of applying water or other dust palliatives as necessary to prevent or alleviate erosion by the forces of wind. Dust control must be applied in accordance with Caltrans standard practices. Covering of small stockpiles or areas is an alternative to applying water or other dust palliatives; see SS-7 for "Temporary Cover and Rolled Erosion Control Products"
- Must comply with local agencies such as Air Quality Management District's requiring dust control plans or dust control permits as well as any Air Clean Act requirements.

Appropriate Applications

This practice is generally implemented on all exposed soils subject to wind erosion.

Limitations

- Effectiveness depends on soil, temperature, humidity and wind velocity.
- Chemically treated subgrades could cause soil to become water repellant, preventing infiltration or the long-term re-vegetation of the site.

Standards and Specifications

Standard Specification Section 10-5 contains general requirements for "Dust Control."

- Effective dust control is accomplished by applying dust palliatives, temporary Soil Stabilization BMPs, Tracking Controls and managing stockpiles.
- "Dust Palliatives" are covered under Section 18 of the Standard Specifications. Acceptable dust palliatives include water, dust control binders, and dust suppressants. Dust control binders must comply with specifications for tackifier. Dust suppressants include petroleum-based organic product, nonpetroleum-based organic product, hygroscopic product, and synthetic polymer emulsion.

- If a dust suppressant or tackifier is used, submit a Dust Treatment Plan. Submit a certificate of compliance for dust suppressants, tackifiers, and fibers.
- Identify and stabilize key access points with the use of Tracking Control BMPs.
- Minimize the impact of dust by anticipating the direction of prevailing winds.
- Temporary soil stabilization BMPs, such as SS-3 "Hydraulic Mulch", SS-4 "Hydroseed, SS-5 "Soil Binders, also provide wind erosion control benefits.
- Ensure proper implementation of BMPs WM-3, "Stockpile Management," and SC-7, "Street Sweeping," as these BMPs provide wind erosion control benefits.
- Ensure that water is applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles to ensure even distribution.
- All distribution equipment should be equipped with a positive means of shutoff.
- Chemical dust suppression products could have environmental water quality impacts. Depending on the product and the time of application, water quality sampling for non-visible pollutants should be assessed when a storm even is forecasted.
- For chemical or petroleum based organics stabilization, there are many products available. These products should not create any adverse effects on stormwater, plant life, groundwater and should meet all applicable regulatory requirements including inspection, documentation, monitoring and reporting requirements.
- Unless water is applied by means of pipelines, at least one mobile unit should be available at all times to apply water or dust palliative to the project.
- If reclaimed water is used, the sources and discharge must meet California Department of Health Services water reclamation criteria and the RWQCB requirements. Non-potable water must not be conveyed in tanks or drain pipes that will be used to convey potable water and there must be no connection between potable and non-potable supplies. Non-potable tanks, pipes and other conveyances must be marked "NON-POTABLE WATER - DO NOT DRINK."
- Appendix B of this Manual includes additional information on selecting temporary soil stabilization products that could be used for Wind Erosion Control.

Maintenance and Inspection

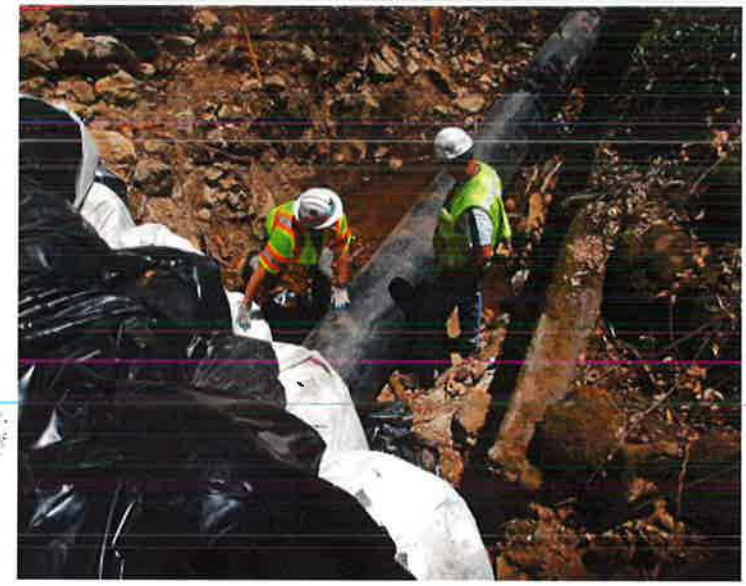
- Check areas where wind erosion controls have been implemented daily for erosion and visible dust.
- Most water-based dust control measures require frequent application. Obtain vendor or independent information on longevity of chemical dust suppression.

SWPPP or WPCP

- Wind Erosion Control must be discussed in Section 500.3.5 of the SWPPP or Section 30.2.4 of the WPCP.

Clear Water Diversion

NS-5



Standard Symbol

BMP Objectives	
Soil Stabilization	
Sediment Control	
Tracking Control	
Wind Erosion Control	
Non-Stormwater Management	V
Materials and Waste Management	

Definition and Purpose

Clear water diversion consists of a system of structures and measures that intercept surface water runoff upstream of a project site, transport it around the work area, and discharge it downstream with minimal water quality degradation from either the project construction operations or the construction of the diversion. Clear water diversions are used to reduce sediment pollution from construction work occurring in or adjacent to water.

Isolation techniques are clear water diversion methods that isolate near shore work from a waterbody. Structures commonly used as part of this system include diversion ditches, berms, dikes, slope drains, rock, gravel bags, wood, sheet piles, aqua barriers, cofferdams, filter fabric or turbidity curtains, drainage and interceptor swales, pipes, or flumes.

Appropriate Applications

- A clear water diversion is typically implemented where appropriate permits have been secured and work must be performed in a live stream or water body. Work in jurisdictional waters typically require the following, at a minimum, Clean Water Act Section 404, Clean Water Act Section 401 (RWQCB Water Quality Certification), and Fish and Game Code Section 1600 permits.
- Clear water diversions are appropriate for isolating construction activities occurring within or near a water body such as streambank stabilization, or culvert, bridge, pier or abutment installation. They may also be used in combination with other methods, such as clear water bypasses and/or pumps.
- Implement SS-12 "Streambank Stabilization" to minimize impacts to streambanks.

- Where working areas encroach on live streams, barriers adequate to prevent the flow of muddy water into streams should be constructed and maintained between working areas and streams. During construction of the barriers, muddying of streams should be held to a minimum.
- Channel diversions are appropriate for small stream where there is adequate right of way to create a temporary channel around a construction work area, and geosynthetics or rock can be used to handle the shear stresses associated with the expected flows.
- Berms are appropriate for small perennial, intermittent, or ephemeral streams with temporary culverts or pipe diversions. Berms may also be used to shift flows to one side or the other within a channel.
- Gravel bag berms (SC-6 "Gravel Bag Berms") are appropriate for smaller streams where the hydraulic forces and water pressure can be adequately addressed with the weight of gravel-filled bags and plastic sheeting. This method results in a cofferdam-like isolation from the receiving water.
- Cofferdams are appropriate for small streams and lakes to confine flows to one side, create a dry work area, or to berm entire small streams. Typically, this terminology is used in association with structures at Caltrans, though some inflatable cofferdams may be used for smaller applications.
- Pumped diversions are suitable for short-term projects in intermittent and low flow streams. Excavation of a temporary bypass channel, or passing the flow through a pipe (called a "flume") is appropriate for the diversion of streams less than 20 ft wide, with flow rates less than 100 cfs.
- Piped diversions are appropriate for short-term projects with little base flow.
- Water quality monitoring must typically be performed before and during in-water work, including the installation, operation, and removal of clear water diversions. Follow the requirements outlined in the Standard Specification or special provisions.

Limitations

- Diversion/encroachment activities will usually disturb the waterway during installation and removal of diversion structures.
- Specific permit requirements or mitigation measures, such as those required by the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, Federal Emergency Management Agency (FEMA), Regional Water Quality Control Board (RWQCB), etc. may be included in contract documents because of clear water diversion/encroachment activities.
- Diversion/encroachment activities may constrict the waterway, obstruct flood flows and cause flooding or washouts. Diversion structures should not be installed without identifying potential impacts to the stream channel.

- Diversion or isolation activities should not completely dam streamflow.
- The designer should consider the size, depth of water, and risks for temporary stream diversion. Use this BMP and specification for small streams and low risk projects.
- Coffer dams and more elaborate systems should be designed by engineering services staff with the appropriate structural background or by the contractor. The design decision and design parameters should be coordinated by the PDT, so that all permitting and highway design requirements are met.
- Dewatering and removal may require additional sediment control or water treatment (See NS-2, "Dewatering Operations").
- Heavy equipment driven in wet portions of a water body to accomplish work should be completely clean of petroleum residue, and water levels should be below the gearboxes of the equipment in use, or lubricants and fuels are sealed such that inundation by water should not result in leaks.
- Mechanical equipment operated in the water shall not be submerged to a point above any axle of said mechanical equipment.
- Excavation equipment buckets may reach out into the water to remove or place fill materials. Only the bucket of the crane/ excavator/backhoe may operate in a water body. The main body of the crane/excavator/backhoe shall not enter the water body, except as necessary to cross the stream to access the work site.
- Stationary equipment such as motors and pumps, located within or adjacent to a water body, shall be positioned over drip pans.
- Equipment shall not be parked below the high-water mark unless allowed by a regulatory agency permit or approval.
- Drip pans shall be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than one hour.
- Where possible, avoid or minimize diversion/encroachment impacts by scheduling construction during periods of low flow or when the stream is dry. See also the project special provisions for scheduling requirements.
- Scheduling shall also consider seasonal releases of water from dams, fish migration and spawning seasons, and water demands due to crop irrigation.
- Materials and equipment should be moved from diversion work area prior to forecasted rain events to prevent non-storm water discharges.

Standards and Specifications

General Requirements

- Most small stream diversions can be designed by the district and coordinated with the HQ OHSD. In many cases the diversion can be located on the plan sheet referencing the non-standard specification for Temporary Creek Diversion.
- Many projects will have multiple culverts, so it may be appropriate to develop a table of the lump sum costs for each system, this should be provided to the RE to help review the Temporary Creek Diversion System Plan, to help them determine if all needed items are included.
- The types of diversion for small to medium sized streams may include:
  - Pumped systems
  - Temporary culverts
  - Inflatable coffer dams (Consult HQ OHSD for specification)
- For larger (large rivers, lakes, bays, and ocean areas) temporary creek diversions that have a higher risk to worker safety and a more extensive design is required to address the forces for the depth and flow of the water, the district's structures representative should be consulted for the design (e.g., larger rivers where coffer dams are required). The engineer must consult and follow the Caltrans Engineering Services Shoring Guidance and consult with Construction as the owner of the specification.
  - Diversion can be constructed from timber, soil, or steel. But in most cases are designed and constructed with steel sheet piles. Refer to 19-3.03C Cofferdams (sheet piles).
  - Guidance: *Caltrans Shoring Guide* (Engineering Services)

    Dewatering: *Field Guide to Construction Site Dewatering*, NS-2 "Dewatering Operations," and Section 13-4.03G of the Standard Specifications for use with coffer dams or other large in-water work.
  - May need to treat or control seepage water prior to discharge, consult appropriate requirements for treatment design needs.
- When any artificial obstruction is being constructed, maintained, or placed in operation, sufficient water shall, at all times, be allowed to pass downstream to maintain aquatic life downstream.
- Disturbance or removal of vegetation shall not exceed the minimum necessary to complete operations.

- Disturbed vegetation shall be replaced with the appropriate soil stabilization measures and in accordance with the project's special provisions.
- Riparian vegetation, when removed pursuant to the provisions of the work, shall be cut off no lower than ground level to promote rapid re-growth. Access roads and work areas built over riparian vegetation shall be covered by a sufficient layer of clean river run rock to prevent damage to the underlying soil and root structure. The rock shall be removed upon completion of project activities.
- Construct diversion structures with materials free of potential pollutants such as soil, silt, sand, clay, grease, or oil.
- Clear water diversions incorporating clean washed gravel may be appropriate for use in salmon spawning streams.
- Coordination with a variety of functional units at the Department may be required to implement this BMP.

Design Considerations

- Does the construction of the temporary diversion system cause more environmental damage to the riparian, wetland, or 100-year floodplain area, than to construct the project without the diversion BMP? This is a consideration for all projects, but is usually appropriate for short term construction projects for temporary or ephemeral streams, where scheduling of the project when the stream is dry, may be more effective than the construction of a large diversion system in a sensitive environmental area, where construction equipment could disturb fragile vegetation, roots, sensitive species, soil structure, and root systems.
- Stream hydrology considerations include: Stream channel geometry, tributary watershed area, stream bed material, and predicted flow rates during construction. Follow methods in HDM Section 810 for the appropriate methods and rates for sizing the temporary diversion system.
- Sizing the temporary diversion. In the past many temporary diversion system guidance documents required mandatory minimum return storms for sizing the systems, for example the 2-year, 5-year, or 10-year, 24-hour return period. This can result in temporary diversion system as large as the drainage system they are replacing and result in large impacts to the stream riparian zone, with large disturbed soil areas. Overly conservative approaches for the hydrology sizing to protect the environment can inadvertently cause other impacts to the environment for its construction. Each project should be sized for the appropriate risks and should be based on regulatory restrictions.
- In coordination with District Hydraulics, consider the consequences for diversion exceedance including; public and work safety, environment, legal, regulatory permit requirements, costs, space, and schedule.

Hydrology Sizing Methods

- The sizing of clear water diversion systems varies by the time of year, local hydrology, and duration of the diversion. If there is a prescriptive storm size in a permit document, then design to the required event size. A 2-year, 24-hour storm event has been used by many as a default event, but more recent studies have shown that this may oversize the system and cause more disturbance in the sensitive stream zone than is necessary.

- Diversion structures must be adequately designed to accommodate fluctuations in water depth or flow volume due to tides, storms, flash floods, etc. Careful analysis of the local hydrology history and risk analysis is required to minimize the diversion impacts.

Temporary Diversions/Encroachments

- Construct diversion channels in accordance with SS-9, "Earth Dikes/Drainage Swales, and Ditches."

- In high flow velocity areas, stabilize slopes of embankments and diversion ditches using an appropriate liner, in accordance with SS-12 "Streambank Stabilization," and SS-7, "Plastic Covers & Rolled Erosion Control Products," or use rock slope protection, as described in Standard Specifications Section 72-2, "Rock Slope Protection."

- Where appropriate, use natural streambed materials such as large cobbles and boulders for temporary embankment/slope protection, or other temporary soil stabilization methods.

- Provide for velocity dissipation at transitions in the diversion, such as the point where the stream is diverted to the channel and the point where the diverted stream is returned to its natural channel. See also SS-10, "Outlet Protection/Velocity Dissipation Devices."

Temporary Dry Construction Areas

- When dewatering behind temporary structures to create a temporary dry construction area, such as cofferdams, pass pumped water through a sediment settling device, such as a portable tank, settling basin, or Active Treatment System if necessary, before returning water to the water body; see NS-2, "Dewatering Operations" and Standard Specification 13-8 "Temporary Active Treatment System."

- If the presence of polluted water or sediment is identified in the contract, the contractor shall implement dewatering pollution controls as required by the contract documents. If the quality of water or sediment to be removed while dewatering is not identified as polluted in the contract documents, but is later determined by observation or testing to be polluted, the contractor shall notify the RE and comply with Standard Specifications Section 4-1.06 "Differing Site Conditions."

- Any substance used to assemble or maintain diversion structures, such as form oil, shall be non-toxic and non-hazardous.
- Any material used to minimize seepage underneath diversion structures, such as grout, shall be non-toxic, non-hazardous, and as close to a neutral pH as possible.

Instream Construction Sediment Control

There are three different options currently available for reducing turbidity while working in a stream or river. The stream can be:

- Isolated from the area in which work is occurring by means of a water barrier.
- The stream can be diverted around the work site through a pipe or temporary channel.
- One can employ construction practices that minimize sediment suspension.
- The highest hazard for sedimentation from instream construction generally occurs when the sediment control structure is being installed and when it is being removed. Generally, the best time to install the stream isolation or diversion structure is when the stream flow is low. Conversely, the optimum time to remove in-stream diversion or isolation structures may be during the rising limb of a storm hydrograph. A probable "worst time" to release high TSS into a stream system with diminishing aquatic habitat might be when the stream flow is very low; summer low flow, for example. During these times, the flow may be low while the biological activity in the stream is very high. On the other hand, the addition of short-term spike in TSS or sediment during a big storm discharge might have a relatively low impact on the aquatic habitat or turbidity because the stream is already turbid, and the stream energy is capable of transporting both suspended solids, and large quantities of bedload through the system.

Techniques to Minimize Total Suspended Solids (TSS)

- Padding - Padding laid in the stream below the work site may trap some solids that are deposited in the stream during construction. After work is done, the padding is removed from the stream, and placed on the bank to assist in revegetation.
- Clean, washed gravel - Using clean, washed gravel decreases solid suspension, as there are fewer small particles deposited in the stream.

- Excavation using a large bucket - Each time a bucket of soil is placed in the stream a portion is suspended. Approximately the same amount is suspended whether a small amount of soil is placed in the stream, or a large amount. Therefore, using a large excavator bucket instead of a small one, will reduce the total amount of soil that washes downstream.
- Use of dozer for backfilling - Using a dozer for backfilling instead of a backhoe follows the same principles – the fewer times soil is deposited in the stream, the less soil will be suspended.
- Partial dewatering with a pump - Partially dewatering a stream with a pump reduces the amount of water, and thus the amount of water that can suspend sediment.

Washing Fines

- Partial Washing fines is an "in-channel" sediment control method, which uses water, either from a water truck or hydrant, to wash any stream fines that were brought to the surface of the channel bed during restoration, back into the interstitial spaces of the gravel and cobbles. This technique is useful in both intermittent or ephemeral stream channels with gravelly to cobbely substrate and may be useful in perennial streams just prior to removing isolation structures.
- The purpose of this technique is to reduce or eliminate the discharge of sediment from the channel bottom during the first seasonal flows, or "first flush." Sediment should not be allowed into stream channels; however, occasionally in-channel restoration work will involve moving or otherwise disturbing fines (sand and silt-sized particles) that are already in the stream, usually below bank-full discharge elevation. Subsequent re-watering (resumption of flows) of the channel can result in a plume of turbidity and sedimentation.
- This technique washes the fines back into the channel bed. Bedload materials, including gravel cobbles, boulders and those fines, are naturally mobilized during higher storm flows. This technique is intended to delay the discharge until the fines would naturally be mobilized.
- This technique should be used when construction work is required in channels. It is especially useful in intermittent or ephemeral streams in which work is performed "in the dry," and which subsequently become re-watered.

Prior to using this technique consider the following:

- The stream must have sufficient gravel and cobble substrate composition.
- The use of this technique requires consideration of time of year and timing of expected stream flows.
- The optimum time for the use of this technique is in the fall, prior to winter flows.

- Consultation with, and approval from the Department of Fish and Wildlife and the Regional Water Quality Control Board may be required.

The following items should be considered when preparing project plans and specifications when this technique is used:

- Apply sufficient water to wash fines, but not cause further erosion or runoff.
- Apply water slowly and evenly to prevent runoff and erosion.
- Consult with Department of Fish and Wildlife and the Regional Water Quality Control Board for specific water quality requirements of applied water (e.g., chlorine).

Isolation Techniques

Isolation techniques are methods that isolate near shore work from a waterbody. Techniques include sheet pile enclosures, inflatable cofferdams like Aqua Dam, berms or gravel bag berms (see SC-6, "Gravel Bag Berm") with impermeable membrane or plastic sheeting, gravel bags, cofferdams, and K-rail.

Filter Fabric Isolation Technique

A filter fabric isolation structure is a temporary structure built into a waterway to enclose a construction area and reduce sediment pollution from construction work in or adjacent to water. This structure is composed of filter fabric, gravel-filled bags, and steel t-posts.

- Filter fabric may be used for construction activities such as streambank stabilization, or culvert, bridge, pier or abutment installation. It may also be used in combination with other methods, such as clean water bypasses and/or pumps.
- This method involves placement of gravel bags or continuous berms to "key-in" the fabric, and subsequently staking the fabric in place.
- If spawning gravel (gravel between 1 and 4 inches) is used, all other components of the isolation can be removed from the stream, and the gravel can be spread out and left as salmon spawning habitat if permitted in the project's 404 permit. Whether spawning gravel or other types of gravel are used, only clean washed gravel should be used as infill for the gravel bags or continuous berm.
- This is a method that should be used in relatively calm water, and can be used in smaller streams.
- Prior to using this technique consider the following:
  - Do not use if the installation, maintenance and removal of the structures will disturb sensitive aquatic species of concern.

- Not appropriate for projects where dewatering is necessary.
- Not appropriate to completely dam streamflow.

- The following items should be considered when preparing project plans and specifications when this technique is used:
  - For the filter fabric isolation method, a non-woven or heavy-duty fabric (refer to Standard Specifications Section 96-1.02B) is recommended over standard silt fence. Using rolled geotextiles allows non-standard widths to be used.
  - Anchor filter fabric with gravel-filled bags filled with clean, washed gravel. Do not use sand. If a bag should split open, the gravel can be left in the stream if permitted under the project's 404 permit, where it can provide aquatic habitat benefits.
  - Another anchor alternative is a continuous berm, made with the Continuous Berm Machine. This is a gravel-filled bag that can be made in very long segments. The length of the berms is usually limited to 20 ft for ease of handling.
  - Place the fabric on the bottom of the stream, and place either a bag of clean, washed gravel or a continuous berm over the bottom of the fabric, such that a bag-width of fabric lies on the stream bottom. The bag should be placed on what will be the outside of the isolation area.
  - Pull the fabric up, and place a metal t-post immediately behind the fabric, on the inside of the isolation area; attach the fabric to the post with three diagonal nylon ties.
  - Continue placing fabric as described above until the entire work area has been isolated, staking the fabric at least every 6 ft.
  - During construction, inspect daily during the workweek.
  - Schedule additional inspections during storm events.
  - Immediately repair any gaps, holes or scour.
  - Remove sediment buildup.
  - Ensure pipe diversion is properly anchored to prevent shifting or leaking during use.
  - Remove BMP upon completion of construction activity. Recycle or re-use if applicable.

- Re-vegetate areas disturbed by BMP removal if needed.

Turbidity Curtain Isolation Technique

- A turbidity curtain is a fabric barrier used to isolate the near shore work area. The barriers are intended to confine the suspended sediment. The curtain is a floating barrier, and thus does not prevent water from entering the isolated area; rather, it prevents suspended sediment from getting out.
- Turbidity curtains should be used where sediment discharge to a stream is unavoidable. They are used when construction activities adjoin quiescent waters, such as lakes, ponds, lagoons, bays, and slow flowing rivers. The curtains are designed to deflect and contain sediment within a limited area and provide sufficient retention time so that the soil particles will fall out of suspension.
- Prior to using this technique consider the following:
  - Turbidity curtains should not be used in flowing water; they are best suited for use in quiescent ponds, lakes, lagoons, bays, and very slow-moving rivers.
  - Turbidity curtains should not be placed across the entire width of a channel.
  - Removing sediment that has been deflected and settled out by the curtain may create a discharge problem through the re-suspension of particles and by accidental dumping by the removal equipment.
  - Turbidity curtains may require a higher level of maintenance, adjustments, and relocation when deployed in comparison to structural isolation methods. However, turbidity curtains consist of flexible materials and may be repositioned and reconfigured as the limits of construction activity change.
- The following items should be considered when preparing project plans and specifications when this technique is used:
  - Turbidity curtains should be oriented parallel to the direction of flow wherever possible to avoid exerting excessive pressure on the fabric.
  - The curtain should extend the entire depth of the watercourse in calm-water situations.
  - In wave conditions, the curtain should extend to within 1 ft of the bottom of the watercourse, such that the curtain does not stir up sediment by hitting the bottom repeatedly. If it is desirable for the curtain to reach the bottom in an active-water situation, a pervious filter fabric may be used for the bottom 1 ft.

- The top of the curtain should consist of flexible flotation buoys, and the bottom shall be held down by a load line incorporated into the curtain fabric. The fabric shall be a brightly colored impervious mesh.

- The curtain shall be held in place by anchors placed at least every 100 ft, or as recommended by the manufacturer based on site-specific conditions, such as flow rate, wind speeds, currents, tidal influence, and wave action.

- First place the anchors, then tow the fabric out in a furled condition, and connect to the anchors. The anchors should be connected to the flotation devices, and not to the bottom of the curtain. Once in place, cut the furling lines, and allow the bottom of the curtain to sink. A second set of anchors may be required in tidally-influenced waters to secure the curtain against both the flood and ebb tides.

- Sediment that has been deflected and settled out by the curtain may be removed if so directed by the on-site inspector or the RE. Consideration must be given to the probable outcome of the removal procedure. It must be asked if it will create more of a sediment problem through re-suspension of the particles or by accidental dumping of material during removal. It is recommended that the soil particles trapped by the turbidity curtain only be removed if there has been a significant change in the original contours of the affected area in the watercourse.

- Particles should always be allowed to settle for a minimum of 6 to 12 hours prior to their removal or prior to removal of the turbidity curtain.

- The curtain should be inspected daily for holes or other problems, and any repairs needed should be made promptly.

- Allow sediment to settle for 6 to 12 hours prior to removal of sediment or curtain. This means that after removing sediment, wait an additional 6 to 12 hours before removing the curtain.

- To remove, install furling lines along the curtain, detach from anchors, and tow out of the water. Water quality monitoring is typically required before removing the turbidity curtain to verify that the entrained water, sediment, and other potential contaminants, such as sulfides, would not violate a water quality standard when released.

K-rail River Isolation

- This is temporary sediment control, or stream isolation method that uses K-rails to form the sediment deposition area, or to isolate the in-stream or near-bank construction area.

- Barriers are placed end-to-end in a pre-designed configuration and gravel-filled bags are used at the toe of the barrier and also at their abutting ends to seal and prevent movement of sediment beneath or through the barrier walls.

- The K-rail isolation can be used in streams with higher water velocities than many other isolation techniques.

Prior to using this technique consider the following:

  - The K-rail method does not allow for full dewatering.

- The following items should be considered when preparing project plans and specifications when this technique is used:

  - To create a floor for the K-rail, move large rocks and obstructions. Place washed gravel and gravel-filled bags to create a level surface for K-rail to sit.

  - Place the bottom two K-rails adjacent to each other, and parallel to the direction of flow; fill the center portion with gravel bags. Then place the third K-rail on top of the bottom two; there should be sufficient gravel bags between the bottom K-rails such that the top one is supported by the gravel. Place plastic sheeting around the K-rails, and secure at the bottom with gravel bags.

  - Further support can be added by pinning and cabling the K-rails together. Also, large riprap and boulders can be used to support either side of the K-rail, especially where there is strong current.

  - The barrier should be inspected at least once daily, and any damage, movement or other problems should be addressed immediately.

  - Sediment should be allowed to settle for at least 6 to 12 hours prior to removal of sediment, and for 6 to 12 hours prior to removal of the barrier.

Stream Diversions

Stream diversions consist of a system of structures and measures that intercept an existing stream upstream of the project and, transports it around the work area, and discharges it downstream. The selection of which stream diversion technique to use depends upon the type of work involved, physical characteristics of the site, and the volume of water flowing through the project.

- Pumped diversions are appropriate in areas where de-watering is necessary.

- Dam-type diversions may serve as temporary access to the site.

- Where work areas require isolation from flows.

Prior to using this technique consider the following:

  - Pumped diversions have limited flow capacity.

- Pumped diversion require frequent monitoring of pumps.
- Large flows during storm events can overtop dams.
- Flow diversion and re-direction with small dams involves in-stream disturbance and mobilization of sediment.

■ The following items should be considered when preparing project plans and specifications when this technique is used:

- Installation guidelines will vary based on existing site conditions and type of diversion used.
- Diversions shall be sized to convey design flood flows.
- Pump capacity must be sufficient for design flow; the upper limit is approximately 10 cfs (the capacity of two 8 inch pumps).
- Adequate energy dissipation must be provided at the outlet to minimize erosion.
- Dam materials used to create dams upstream and downstream of diversion should be erosion resistant; materials such as steel plate, sheetpile, sandbags, continuous berms, inflatable water bladders, etc. would be acceptable.
- When constructing a diversion channel, begin excavation of the channel at the proposed downstream end, and work upstream. Once the watercourse to be diverted is reached, and the excavated channel is stable, breach the upstream end, and allow water to flow down the new channel. Once flow has been established in the diversion channel, install the diversion weir in the main channel; this will force all water to be diverted from the main channel.
- Inspect diversion/encroachment structures before and after significant storms, and at least once per week while in service. Inspect daily during the construction.
- Pumped diversions require frequent monitoring of pumps.
- Inspect embankments and diversion channels before and after significant storms, and at least once per week while in service for damage to the linings, accumulating debris, sediment buildup, and adequacy of the slope protection. Remove debris and repair linings and slope protection as required. Repair holes, gaps, or scour.

- Upon completion of work, the diversion or isolation structure should be removed and flow should be re-directed through the new culvert or back into the original stream channel. Recycle or re-use if applicable.

SWPPP or WPCP

- Clear Water Diversion must be discussed in Section 500.4 of the SWPPP or Section 30.3 of the WPCP.

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TRINITY COUNTY PLANNING COMMISSION

STAFF REPORT

PROJECT TITLE: Appeal of the Director's Decision to Deny Map Time Extension P-22-18

APPLICANT: Krasimir Yordanov

REPORT BY: Skylar Fisher, Associate Planner

LOCATION: 420 Blake Mountain Trail, Hyampom (APN 011-210-035)

ZONING DISTRICT: Rural Residential 40-acre minimum

GENERAL PLAN DESIGNATION: Rural Residential

PROJECT DESCRIPTION:

The applicant is appealing the director's decision to deny an extension of time application (P-22-18) for tentative parcel map P-17-36.

Location	Land Use	Zoning District	General Plan Designation
North	Single Family Residential/Forest Service	Unclassified	Resource
South	Timber Preserve	Timber Production Zone	Resource
East	Residential Mobile/Manufactured Homes/Vacant/Forest Service	Rural Residential/Unclassified	Resource/Rural Residential
West	Forest Service	Unclassified	Resource

Table 1: Surrounding Land Uses to Project Site

PROJECT BACKGROUND:

P-17-36 is a tentative map creating four parcels and a remainder. The Board of Supervisors approved tentative map P-17-36 and a rezone of the property from Unclassified to Rural Residential with a 40-acre minimum in July 2018. Failure to record a parcel map within twenty-four months from the date of approval or conditional approval of a tentative map shall terminate all proceedings unless there is a timely filing of an extension.

In July 2021, correspondence went out to the applicant's surveyor from the Planning Department, citing concern that a modification may be required of the map and that, while the map was originally set to expire in July 17, 2020, AB 1561 extended the map to January 17, 2022. An application to extend tentative parcel map P-17-36 was not submitted prior to the January 17, 2022 date.

In December 2021, the applicant submitted a post-subdivision modification application (P-21-41). The applicant attended Planning Commission meetings on April 14, 2022 and July 14, 2022 to request an update on the status of the subdivision modification request.

While processing the subdivision modification application, it was determined that an extension of time was not submitted in time for the tentative map, causing it to be expired. An email was sent to the applicant's agents of the map expiration in June 2022.

In August 2022, the applicant submitted an extension of time request for the tentative map (P-22-18). As the map was already expired, the planning director denied the application for an extension of time.

PROJECT EVALUATION:

Project Consistency with the Subdivision Map Act

California Government Code Section 55463.5(b) states:

> "The expiration of the approved or conditionally approved tentative map shall terminate all proceedings, and no parcel map of all or any portion of the real property included within the tentative map shall be filed without first processing a new tentative map. Once a timely filing is made, subsequent actions of the local agency, including, but not limited to, processing, approving, and recording, may lawfully occur after the date of expiration of the tentative map. Delivery to the county surveyor or city engineer shall be deemed a timely filing for purposes of this section."

Project Consistency with the California Environmental Quality Act (CEQA)

Discussion and action on the request of an appeal qualifies as exempt from CEQA, based on Section 15061(b)(3) which states that a project is exempt if it is found that there is no possibility that the activity in question may have a significant effect on the environment.

STAFF RECOMMENDATION:

Staff recommends that the Planning Commission uphold the director's decision to deny the extension of time application

ALTERNATIVES

If the Planning Commission does not wish to deny the appeal, an alternative is continuing the item to the next Planning Commission hearing on November 10, 2022 to provide additional information.

ATTACHMENTS:

A. Extension Request Letter

B. Email Correspondence Regarding Map Expiration

C. Trinity County Board of Supervisors Resolution No. 2018-042 and Exhibit A – Conditions of Approval

D. Tentative Map P-17-36

E. P-22-20 Location Map

F. P-22-20 Zoning Districts Map

G. P-22-20 General Plan Designations Map

TRINITY VALLEY CONSULTING ENGINEERS, INC
Engineering – Surveying – Land Planning – Construction Management

8/22/2022

Trinity County Planning Department
Planning Director and respective Planning Commissioners
530 Main Street
Weaverville, CA 96093

RE: Extension Request
Client: Kris Yordanov
Owner: Shushkova Zhulieta
Application #P-17-21 & #P-17-36

Trinity County Reviewing Agency:

We are writing today to request a time extension for the above referenced project. There have been many setbacks since the application was first submitted. Delays range from planning staff shortages to a worldwide pandemic.

Recently, Associate Planner Skylar Fisher informed us that the project application had expired. All parties involved were unaware of the expiration until this time. The applicant, County staff, and State agencies continued working on this project for five months post expiration. You can understand how surprised we were to learn the project had expired without notice.

The intent of this letter is to formally request the project be extended an appropriate amount of time as we work toward a successful completion.

Feel free to contact us should you have any questions.

Respectfully,

TVCE Staff

Main Office
67 Walnut Way
Willow Creek CA 95573
(530) 629-3000

Weaverville Office
2200 Main Street
Weaverville CA 96093
(530) 623.4446

Skylar Fisher

From: Eric Keyes <eric@tvce.biz>
Sent: Thursday, June 30, 2022 3:37 PM
To: Skylar Fisher
Cc: Laurel Dummer; 'Peter Esho'; Kris Y.; Kevin Butler
Subject: Re: Application Number P-21-41

Good Afternoon Skylar,

Do to delays in the approval process, pandemic strains, and the lack of planning staff, this project has lingered for over 4 years at no fault of the applicant. Below is my understanding of the deadline as shown by emails from Lisa Lozier that have recently been brought to my attention (attached below). It appears the application was automatically extended until January 17, 2022. The modification request was submitted in December 2021. Based on this information, the subdivision modification request was submitted prior to expiration and we feel the County's acceptance of the application in affect constitutes an extension of the project. If this is not the case, then we would like to request a similar renewal in order to continue the planning department's review of the application. Having said this, TVCE remained unaware the project was up for renewal until the date of this email.

Let me know if you have any questions.

We look forward to working with you on the completion of a successful project.

----- Forwarded Message -----
From: Kris Y <yordanovkr@gmail.com>
To: eric keyes <eric@tvce.biz>
Sent: Thursday, June 30, 2022, 11:18:54 AM PDT
Subject: Fwd: FW: FW: Incomplete letter dated 07.09.2021 P-17-21 Aratlakova

----- Forwarded Message -----
From: Lisa Lozier <llozier@trinitycounty.org>
Sent: Monday, July 12, 2021 3:21 PM
To: 'kevin@butlergroup.us' <kevin@butlergroup.us>
Subject: Incomplete letter dated 07.09.2021 P-17-21 Aratlakova

Hello Kevin,

Sorry for the late reply. Our work load at the moment is just ridiculous. Please find attached an incomplete determination for final map regarding Tentative Parcel Map P-17-36. Based on my conversations with Andy Pence and Joan Carr, The Dam is the first item that needs to be discussed and resolved. I apologize for the disjointed incomplete determination. The bits and pieces are derived from several emails.

I will be out of the office until July 26, 2021. Let me know if you would like to arrange a meeting when I return to discuss the incomplete determination.

Best regards,

Lisa

July 9, 2021

Incomplete determination for Tentative Parcel Map P-17-36 – Aratlakova

Brief Synopsis:

The most critical issue is addressing the dam as discussed in the email provided by Andy Pence in November of 2019, and if a Post approval modification will be required to address any changes from the approved map to the final modification a Map Modification to address this issue.

The following questions and request for information was submitted to Planning Staff on June 25 & 26, 2021 to address the submittal provided to Trinity County Department of Public Works and Trinity County Planning Department on May 24, 2021.

From the County Surveyor (Joan Carr): Based on the completeness review submittal the following information will be required:

June 25, 2021

- Confirmation from Planning that the map has not expired. (Based on the criteria outlined in AB1561, TPM P-17-36 would qualify for an 18-month extension of time. The approval date was July 17, 2018 and original expiration date July 17, 2020. The 18-month Extension of Time provides a new expiration date of January 17, 2022. Additional extensions of time would be available under the SMA if necessary.)
- Copy of the approved tentative map
- An updated Title reports. The title report on file is dated 5/9/2017. If there are any revisions, I will need copies of the associated documents.
- Copies of the following documents referenced on the map (these are generally adjoiner deeds):
    - 2015-00544
    - 2011-01165
    - 2012-04519

- Before approval of this Parcel Map (PM) I will need a letter from the Planning Department that the map is substantially the same as the Tentative Parcel Map (TPM) and all Conditions of Approval have been satisfied.
- Before approval of this Parcel Map (PM) I will need a note from the TCDOT related to Improvement Plans, Road Maintenance Association and Subdivision Improvement Agreement. I will also need to verify easement locations with TCDOT.
- Please provide contact information for the Pre-82 civil engineer performing as the land surveyor on this project.

June 26, 2021

The Conditions of Approval (COA) were approved by the BOS in 7/17/2018 based on a TPM submittal that did not identify the dam (and therefor had COA placed on it based on insufficient information supplied by the applicant).

TCDOT sent the email below, on 11/20/2019, after a site visit recommending a post-subdivision modification be pursued to amend the COA based on the site visit.

I cannot sign the map until I know this issue has been resolved and the TPM and COA have been revised. I believe this to be a “health and safety” issue.

SMA 66450

(a) If a subdivision for which a parcel map is required lies within an unincorporated area, a certificate or statement by the county surveyor is required. If a subdivision lies within a city, a certificate or statement by the city engineer or city surveyor is required. The appropriate official shall sign, date, and, below or immediately adjacent to the signature, indicate his or her registration or license number and the stamp of his or her seal and state that:

(1) He or she examined the map.

(2) The subdivision as shown is substantially the same as it appeared on the tentative map, if required, and any approved alterations thereof.

(3) All provisions of this chapter and of any local ordinances applicable at the time of approval of the tentative map, if required, have been complied with.

(4) He or she is satisfied that the map is technically correct.

There were many boundary resolution questions on the TPM that I expect are still issues here on the PM and just to complicate it all further the original surveyor has died and a new surveyor (Pre-82 civil, licensed in 1970) has taken over the project.

Email referenced above sent by Andy Pence, Trinity County Department of Transportation, on November 20, 2019:

Hi Kevin,

I completed the site walkthrough with Chris and your surveyors yesterday. For the most part, it seems that a profile will be needed over most of the roadway, and additional survey will be needed at multiple locations for culverts, drainages, etc.

While we were out there, we ran across the pond. I have attached pictures of the pond. It appears that the road is acting as a dam structure for the pond. If you look at photo PB190365(PDF), you can see the small outlet pipe (which I belive is a 6” IP) at the base of the dam. Chris said that there used to be a valve on this pipe. I wish we had realized this earlier, but it is now clear that this is a manmade reservoir. This leads to a few items that need to be addressed:

1. The dam is probably not a "jurisdictional" dam, but this needs to be verified. Your surveyor (or other appropriate professional), needs to do a study of the pond/dam height and area to confirm that it is not a "jurisdictional" dam. Please see the following website:

https://water.ca.gov/Programs/All-Programs/Division-of-Safety-of-Dams/Jurisdictional-Sized-Dams

The following criteria tell us whether it is jurisdictional:

a. If dam is over 6 feet tall and impounds 50 acre-feet or more of water, then it is "jurisdictional."
b. If dam is over 25' tall (from lowest point of toe to spillway crest), and impounds 15 acre-feet of water, then it is "jurisdictional."

The dam is certainly over 6' tall, but probably doesn't hold 50 acre-feet by our estimates. The dam probably does not meet the 25' height requirement either, but we want to be sure. I am fairly certain the dam holds over 15 acre-feet of water.

2. The dam needs to be evaluated for stability. The conditions of approval require:

> A hydrology study showing the ability to convey 100 year storm flows in all culverts and ditches shall be approved by the Director of Transportation. All culverts shall be 18" diameter or larger unless an alternative size is approved by the Director of Transportation. Ditches shall be designed and constructed to prevent 100 year flows from encroaching more than 2 feet into the travel way.

We initially saw the drainage and pipe on the tentative map, and the requirement for a hydrology study was partially

Stability of hydraulic structures are to be required in such a hydrology study. Typically this would include inlet and outlet protection, embankment protection (at a culvert crossing), and ditch erosion protection. In this case, we see this dam as a hydraulic structure that needs to be evaluated for stability of the dam itself. Part of this should also include an appropriate overflow. The recently installed 18" overflow pipe has no outlet protection and could result in erosion and subsequent failure of the dam.

3. An application for post-subdivision modification needs to be submitted. The roadway across the dam is only about 16' wide (at best), which does not meet the width requirements of the Fire Safe Codes. For a number of reasons, we do not believe that widening the dam is desirable. Per County Code, a post-subdivision modification is required for a variance to the conditions of approval and/or the County Subdivision Ordinance requirements. The post-subdivision modification process requirements are in Chapter 16.50 of the Trinity County Subdivision ordinance. The county Planning department can be contacted for more details. Because

the width requirement is a part of the Fire Safe ordinance, Calfire should be contacted to provide written approval of such a change.

The conditions of approval state that plans must be approved prior to construction of improvements. However, in the case of the dam and it's overflow, erosion protection measures may be advisable prior to the onset of winter storms. I would recommend an accelerated investigation of the existing conditions. Any plans to protect the dam should be submitted to our office for approval prior to any construction activities.

Please feel free to call me if you would like to discuss these issues.

Thank you,

Andrew Pence

Sr. Engineer

Trinity County DOT

P (530) 623-1365 x3414

C (530) 739-9872

END.

Lisa Lozier, AICP

Deputy Director of Planning

County of Trinity

61 Airport Road | Po Box 2819

Weaverville CA 96093-2819

llozier@trinitycounty.org

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Trinity Valley Consulting Engineers, Inc.
Eric Keyes, PE
2200 Main Street, Weaverville, CA 96093
Ph:(530) 623-4446
www.tvce.biz

On Tuesday, June 14, 2022, 09:24:57 AM PDT, Skylar Fisher <sfisher@trinitycounty.org> wrote:

I apologize for the delay in response. After a review of the post-subdivision modification (P-21-41) application, planning staff have come to the conclusion that the tentative map (P-17-36) that the modification of conditions request is based on has expired. Given that the tentative map for this project was approved on July 17, 2018 and there have been no requests for extensions of time, the map has expired. The time initially given for a tentative map is 24-months from the date of approval or conditional approval of the tentative map.

At this time, if the map is expired, then the Planning Department cannot continue processing your request for modifications on the map's conditions. The Planning Department is willing to issue a refund for the fees associated with P-21-41 as the application for a post-subdivision modification was submitted after the tentative map had expired,. In addition, you may resubmit a new map and application to continue pursuing the subdivision of this property.

If there has been an extension of time filed associated with the existing map that the department is currently not aware of or another agreement to extend the time allotted to complete the map which would make it still active, please let me know.

Skylar Fisher

Associate Planner

Planning Department | Trinity County

RESOLUTION NO. 2018-042

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF TRINITY APPROVING REZONE AND TENTATIVE MAP (M. Aratlakova, P-17-36)

WHEREAS, the Planning Commission, on April 12, 2018, held a public hearing on the request for approval of a rezone and tentative parcel map for property located between Lower South Fork Road and Kerlin Creek Road on the west side of Hyampom (Applicant: M. Aratlakova, APN: 011-210-35); and

WHEREAS, the Planning Commission deliberated and concluded that they would recommend approval of the project; and

WHEREAS, the Board of Supervisors conducted a public hearing on July 17, 2018, considered the Planning Commission's recommendation and deliberated the case, and has exercised its own independent judgment; and

WHEREAS, all governmental and utility agencies affected by the development of the proposed project have been notified and given the opportunity to respond; and

WHEREAS, the Board of Supervisors has determined that the proposed project will not have a significant effect on the environment, and has provided notice to the public of the preparation of a Mitigated Negative Declaration; and

WHEREAS, the Board of Supervisors has considered the effects that approval of the proposed project, including the change to the zoning and the subdivision which they have concluded would have a beneficial effect on addressing the housing needs of Trinity County and has balanced these needs against the public service needs of residents, and available fiscal and environmental resources.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of the County of Trinity:

A. Approves the project Mitigated Negative Declaration, finding that on the basis of the whole record before the Board, including the initial study and comments received, that there is no substantial evidence that the project will have a significant effect on the environment and that a mitigation negative declaration reflects the Board's independent judgment and analysis; and

B. Introduces, waives the reading of and enacts an ordinance amending Trinity County Zoning Ordinance (Ordinance No. 315) pertaining to the change of zoning for the subject parcel(s); and

C. Approves the Tentative Parcel Map (M. Aratlakova; File # P-16-14), based on the following findings and subject to the conditions of approval set forth in Exhibit A,

attached hereto:

1. None of the conditions described in Government Code Section 66474, subsections (a) through (g) inclusive, exist with respect to the proposed subdivision; and

2. The findings of Government Code Section 66474.02 are met as follows:

    a) The design and location of each lot in the subdivision, and the subdivision as a whole, are consistent with applicable regulations adopted by the State Board of Forestry and Fire Protection pursuant to Sections 4290 and 4291 of the Public Resources Code, because conditions have been applied to the subdivision to meet these standards and County's Fire Safe Ordinance and Building Code standards require construction to meet these regulations; and

    b) Structural fire protection and suppression services will be available for the subdivision through the Hyampom Community Services District, which provides fire suppression services to the area; and

    c) To the extent practicable, ingress and egress for the subdivision meets the regulations regarding road standards for fire equipment access adopted pursuant to Section 4290 of the Public Resources Code and applicable County ordinances, because the road improvement conditions of map approval have been imposed to address this issue.

3. The proposed subdivision, together with the provisions for its design and improvement, is consistent with the County General Plan, and Section 16.12.150 of the Subdivision Ordinance, and Fire Safe Ordinance 1162.

4. The discharge of waste from the proposed subdivision will not result in violation of the applicable waste discharge requirements prescribed by the California Regional Water Quality Control Board.

5. The design of the proposed subdivision provides, to the extent feasible, for future passive or natural heating and cooling opportunities.

DULY PASSED AND ADOPTED this 17th day of July, 2018 by the Board of Supervisors of the County of Trinity by motion, second (Fenley/Morris), and the following vote:

AYES:	Supervisors Morris, Fenley, Mines and Groves
NOES:	None
ABSENT:	Supervisor Chadwick
ABSTAIN:	None
RECUSE:	None

KEITH GROVES, CHAIRMAN
Board of Supervisors
County of Trinity
State of California

ATTEST:

RICHARD KUHNS, Psy.D,
Clerk of the Board of Supervisors

By: _____
Deputy

EXHIBIT "A"

TENTATIVE MAP

CONDITIONS OF APPROVAL

(M. Aratlakova, P-16-14)

The following conditions of tentative map approval shall be satisfied prior to the filing of the parcel map, unless a different time for compliance is specifically noted:

A. General:

1. A Notice of Environmental Constraint shall be recorded concurrent with the Parcel Map that shall provide for the following provisions:

   a. The Subdivider shall show on the parcel map a 100-foot setback from ponds, springs, watercourses and wetlands. A note shall be placed on the Parcel Map that states that no development shall be allowed within this buffer area as delineated on the parcel map.

   b. If surface water is proposed for agricultural purposes a water study shall be completed to determine measures to assure downstream beneficial uses are met.

   c. Kerlin Creek shall not be used as a source of domestic water supply for any new parcel.

   d. In the event that previously unidentified cultural or paleontological resources are encountered during development of the parcel, there shall be no further excavation or disturbance of that area. The owner/developer shall avoid the materials and their contents. The Trinity County Planning Director shall be notified immediately, and an archaeologist shall be consulted to determine if the find is significant and make recommendations for appropriate mitigation. Work shall not continue in the area until mitigations have been implemented and written authorization to resume work has been provided by the Planning Director.

   e. In the event that previously unidentified evidence of human burial or human remains are discovered, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains. The Trinity County Coroner must be informed and consulted, per state law. If the Coroner determines the remains to be Native American, he/she will contact the Native American Heritage Commission who will contact the most likely descendent who will be given an opportunity to make recommendations for means of treatment of the human remains and any associated grave goods. Work shall not continue in the area until the human remains have been dealt with according to the recommendations of

the County Coroner, Native American Heritage Commission and/or the most likely descendent.

B. Miscellaneous:

1. All easements within the development shall be dedicated on the Parcel Map or by separate instrument.
2. Provide a geotechnical report verifying that there are no landslides, rock fall areas, or soil settlement issues on the property. If certain areas are determined to be susceptible to slope instability, these areas must be delineated and labeled on the map.
3. Parcel 4 shall not be configured as a flag lot (condition completed with revised tentative map).
4. Parcel 1 shall not have the irregular extension into Parcel 2 as depicted on the tentative map. Parcel 1 and Parcel 2 shall be reconfigured to have roughly square shapes.

C. Utilities:

1. All utilities outside of roadways on subject properties shall be a minimum of ten-foot width easements centered on the utility that serves the subject and adjoining parcels.

D. Roads:

1. A minimum 60-foot wide public road and utility easement must be offered for dedication, lying 30 feet each side of the existing centerline along Lower South Fork Road, Co. Rd. No. 311, where said dedication lies within the subject property. The existing easement dedicated for Lower South Fork Road appears to be incorrectly stated. If it is determined that the easement is incorrect, then abandonment of easement shall be noted on the Parcel Map.
2. The existing road easement for Kerlin Creek appears to be incorrectly located within the subject property. The easement shall be corrected on the map, and abandonment of the old easement shall be noted on the Parcel Map. As this is a public Forest Service road maintained by the US Forest Service, coordination with and acceptance of the new easement by the Forest Service shall be required prior to approval of the Parcel Map.
3. The proposed encroachment onto Lower South Fork Road, Co. Rd. No. 311, shall conform to Department of Transportation standards for a private road. An encroachment permit must be obtained for the existing encroachment of the access road onto Lower South Fork Road, Co. Rd. No. 311.
4. The proposed access road from Lower South Fork Road to the intersection of Parcels, 3, 4 and the remainder shall be constructed to the Trinity County "Roadway Category No. 1" standard. A 20 mile per hour or higher design standard speed shall be used. Roadway design shall also meet the local road design guidelines of the AASHTO *A Policy on Geometric Design of Highways and Streets,* including the supplementary AASHTO *Geometric Design Guidelines for Very Low-Volume Local Roads,* and shall meet the requirements of the Fire Safe Ordinance. This shall include, but is not limited to:

a. A minimum roadbed width of 20' with additional curve widening as prescribed by the Fire Safe Ordinance, and
b. A maximum gradient of 10%, which may be increased to 12% for short distances, subject to the approval of the Department of Transportation; and
c. A minimum centerline curve radius of 75'; and
d. The crown or cross slope shall be a minimum of 3% for aggregate surfaces or 2% for paved surfaces.

5. The proposed driveways, labeled as key note number 9 on the tentative map, running along the boundary line between said parcels, shall be constructed as a shared driveway. These shared driveways shall meet the requirements of the Fire Safe Ordinance for a driveway, including a minimum width of 10'. Driveways exceeding one hundred fifty feet in length, but less than eight hundred feet in length, shall provide a turnout near the midpoint of the driveway. Where the driveway exceeds eight hundred feet, turnouts shall be provided no more than four hundred feet apart.
6. A turnaround shall be constructed at the end of the proposed roadway, at the intersection of parcels 3, 4 and the remainder. Turnarounds shall be constructed to meet the requirements of the Trinity County Subdivision Ordinance and shall be within dedicated road easements. Driveways are allowed to utilize the turnaround as permitted by the Fire District.
7. A turnaround shall be provided at all building sites on driveways over three hundred feet in length,and shall be within fifty feet of the building.
8. A minimum 40-foot-wide public road and utility easement must be offered for dedication for all access roads. Easement width shall be 20 feet each side of centerline, where said dedication lies within the subject property. Road easements are not to be accepted for public use at this time, but an irrevocable offer of dedication for public use is required.
9. Additional on-site slope easements shall be dedicated in all areas where elements of the road design do not fit within the road easement. The slope easements shall include any area within 5 feet of the design elements. The slope easement may be described on the map as "a slope maintenance easement 5 feet beyond toe of fill or top of cut."
10. A minimum 40-foot-wide public road and utility easement must be offered for dedication for the unimproved road running northerly from the southern boundary of Parcel 1, to the boundary between Parcel 3 and the remainder, and then terminating at the turnaround shown at the intersection of Parcels 3, 4 and the remainder. Easement width shall be 20 feet each side of centerline, where said dedication lies within the subject property. This Road easement is for future use, and is not to be accepted for public use at this time, but an irrevocable offer of dedication for public use is required.
11. The structure on Parcel 4 is not provided with a fire safe driveway with legal access. A driveway with legal access meeting the requirements of the Trinity County Fire Safe Ordinance must be provided to the structure on Parcel 4. Developer has indicated that they will remove the structure on Parcel 4. If structures on Parcel 4 are removed, no driveway will be required.
12. A hydrology study showing the ability to convey 100-year storm flows in all culverts and ditches shall be approved by the Director of Transportation. All culverts shall be 18" diameter or larger unless an alternative size is approved by the Director of Transportation. Ditches shall be designed and constructed to prevent 100-year flows from encroaching more than 2 feet into the travel way.

13. Road names shall be submitted to the Planning Department for approval in accordance with Title 12, Chapter 12.17 of Trinity County code of ordinances.
14. Road name signs shall be installed at all intersections.
15. All improvements required for this development and as described in these conditions of approval shall be shown on construction drawings (the final improvement plans) to be submitted to the Trinity County Department of Transportation for review and approval. Approval of the construction drawings is required prior to Parcel Map Acceptance.
16. Prior to construction of improvements, the construction drawings shall be stamped by an engineer and approved by the county Engineer.
17. Inspection of the improvements will be performed by Trinity County Department of Transportation staff or a County-selected inspection firm. The developer will coordinate inspections with the Department of Transportation prior to start of construction.
18. The developer will be responsible for all actual costs on an hourly basis associated with the subdivision improvements, including review of construction improvement plans, developing Development Agreements, performing improvement inspections, and all other related costs.
19. The applicant and/or subsequent grantees shall create to the satisfaction of Trinity County Counsel and the Trinity County Department of Transportation an organization or association for the maintenance of the roads within the subdivision or show evidence of the existence of such an agreement or organization.
20. It is understood that the improvements will be completed prior to recording of map. Should the developer wish to do otherwise, a Subdivision Improvement Agreement shall be required.

Erosion Control

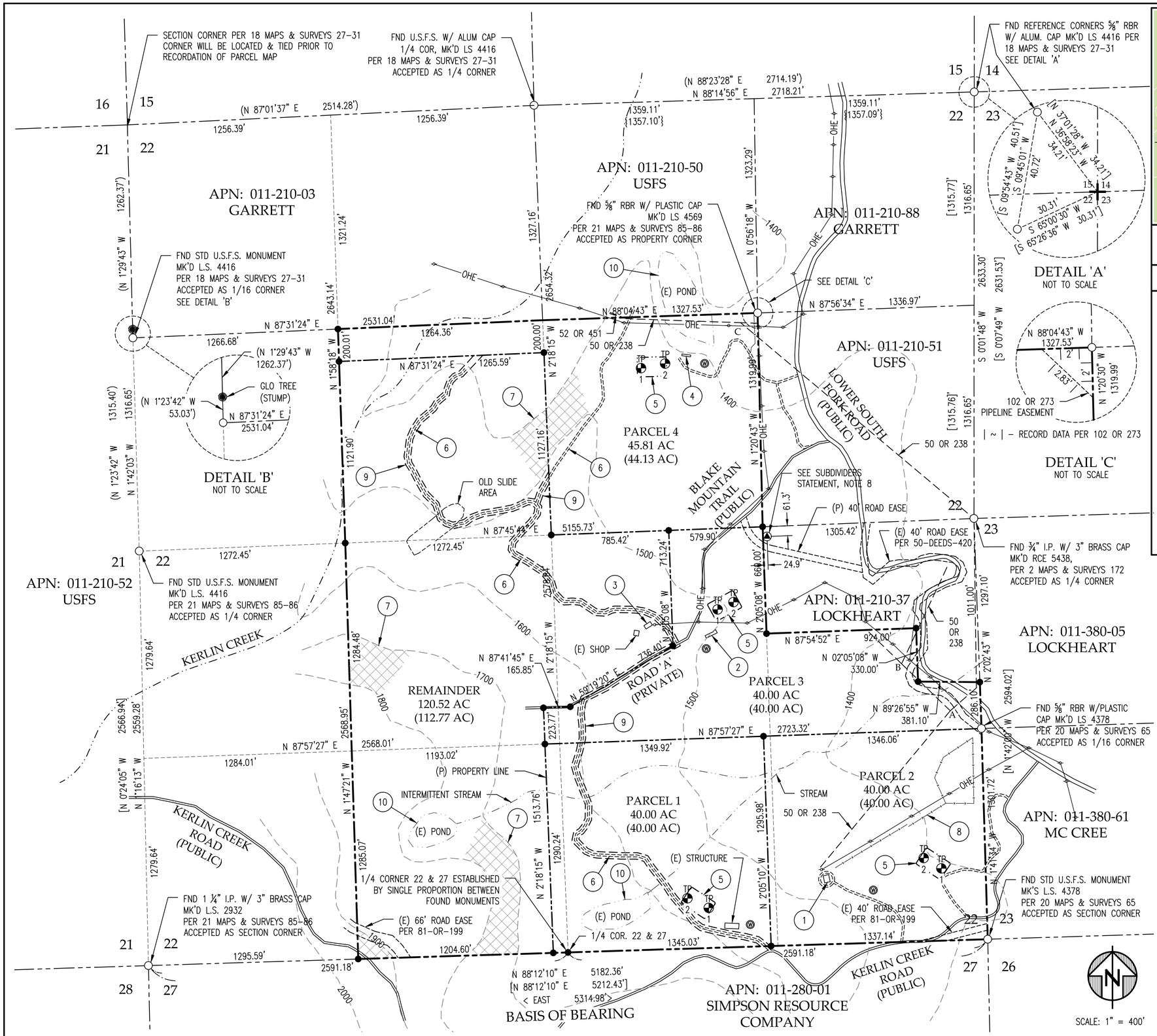
21. The improvement plans shall include a grading plan and erosion and sediment control plan, which incorporates standard erosion control practices and best management practices, subject to the approval of the County Engineer for disturbed areas. The plan shall be prepared by a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer (QSD) and shall be included in an agreement with the construction contractor. The following measures shall be included:
    a. Any mass grading shall be restricted to dry weather periods between April 1 and October 31.
    b. If other grading activity is to be undertaken in wet-weather months, permanent erosion and sediment controls shall be in place by October 15, and construction shall be limited to areas as approved by the County Engineer. A winterization plan shall be submitted by September 15 and implemented by October 15.
    c. In the event construction activity including clearing, grading, disturbances to the ground such as stockpiling, or excavation result in soil disturbances of at least one acre of total land area, the applicant shall obtain and provide a Notice of Intent (NOI) from the Regional Water Quality Control Board.
    d. Should a NOI be required, a SWPPP shall be provided prior to issuing a construction permit. The SWPPP shall have provisions to provide at minimum monthly monitoring reports to the County Department of Transportation during wet weather and for 1 year after completion of construction.

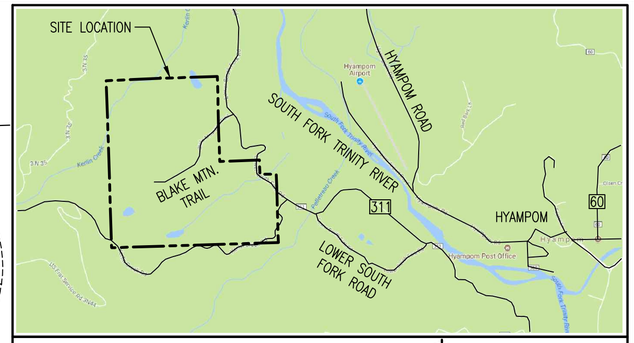
e. Projects less than one acre are exempt from obtaining an NOI unless construction activity is expected to create soil disturbances that could cause significant water quality impairment.
f. The internet site for information and application on the NOI can be found at http://waterboards.ca.gov/waterissues/programs/stormwater/construction.shtml.
g. Sedimentation basins, traps, or similar BMP controls shall be installed prior to the start of grading.
h. Mulching, hydro seeding, or other suitable revegetation measures shall be implemented. Planting shall also occur on areas of cut and fill to reduce erosion and stabilize exposed areas of later construction phases. All disturbed areas with a slope greater than 5% shall receive erosion control.
i. Excavated materials shall not be deposited or stored where the materials could be washed away by storm water runoff.

E. Fish and Wildlife:

1. Pursuant to Fish and Game Code 1602 the subdivider or his authorized agent shall obtain a "Lake and Streambed Alteration Agreement" for any surface water sources (spring or stream diversion) or wells that are hydrologically connected to surface water sources.

NOTE: Approval of this tentative map will expire on _____. Any request for a time extension must be received by the Trinity County Planning Department 30 days prior to this expiration date.





VICINITY MAP
NOT TO SCALE

KEY NOTES

1. (E) ABANDONED STRUCTURE, PERMITTED FOR 36'X24' HOUSE W/ 280 S.F. LIVING SPACE, (P) 400 AMP ELECTRIC SERVICE
2. (E) PERMITTED HOUSE W/ SEPTIC SYSTEM, 200 AMP ELECTRIC SERVICE
3. (E) PERMITTED HOUSE, 400 AMP ELECTRIC SERVICE
4. (E) PERMITTED STRUCTURE, 360 S.F. LIVING SPACE 400 AMP ELECTRIC SERVICE
5. (P) 0.5 ACRE LEACH FIELD
6. PRIVATE ROAD, TYP, TO BE IMPROVED TO ROADWAY CATEGORY NO. 2 – PRIVATE ROAD AND USED AS ACCESS TO NEW PARCELS
7. HATCH INDICATES AREAS OF > 30% SLOPES
8. (E) FENCE LINES
9. 40' RECIPROCAL INGRESS/EGRESS EASEMENT FOR THE USE OF PARCELS 1-4 & REMAINDER
10. POND DELINEATION REPRESENTS APPROXIMATE AVERAGE YEARLY HIGH WATER LIMITS

| ~ | – RECORD DATA PER 102 OR 273

LEGEND:

(~) – RECORD DATA PER 18 MAPS & SURVEYS 27-31
[~] – RECORD DATA PER 21 MAPS & SURVEYS 85-86
{~} – RECORD DATA PER 20 MAPS & SURVEYS 66-68
<~> – RECORD DATA PER BLM PLAT
TP 1 – TEST PITS FOR PERCOLATION TESTS PREFORMED BY J. HILL CONSULTING ON JUNE 6, 2017
Ⓦ – PROPOSED WELL LOCATION
○ – FOUND MONUMENT AS NOTED ON MAP
● – MONUMENT TO BE SET PRIOR TO RECORDATION OF THE FINAL MAP
(CALC) – CALCULATED DISTANCE FROM BEARING-BEARING INTERSECT

A.P.N. 011-210-35
TENTATIVE MAP

BEING A PORTION OF SECTION 22, T. 3 N., R. 6 E., H.B. & M. IN TRINITY COUNTY, CALIFORNIA.

FOR:

MILKA ARATLAKOVA
709 GREENWOOD ROAD
GLENVIEW, IL 60025

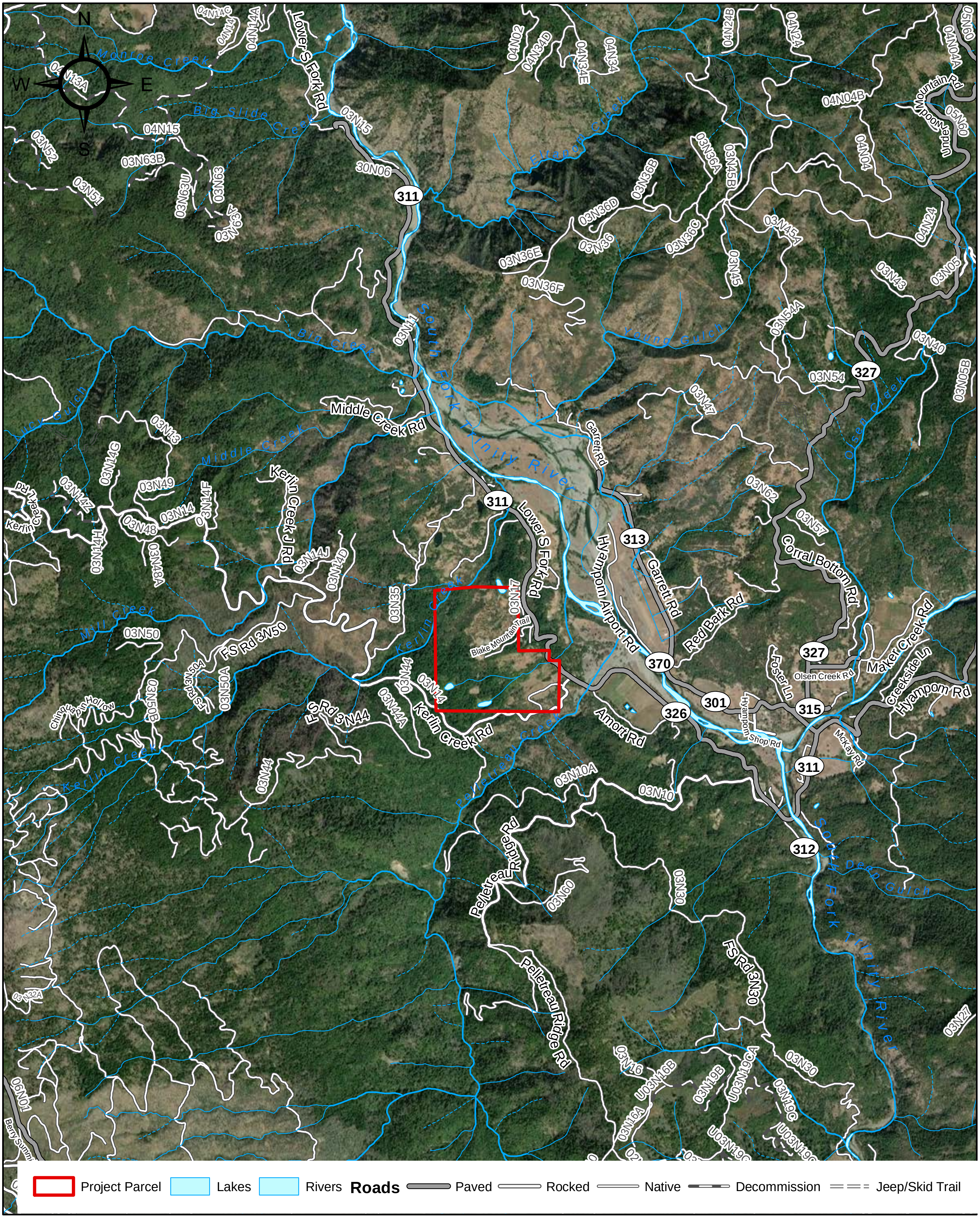
BY:

butler ENGINEERING GROUP
CIVIL ▪ STRUCTURAL ▪ SURVEYING
8837 AIRPORT RD. STE. A
REDDING, CALIFORNIA 96002
T. 530.222.5211 ▪ F. 530.226.3345
WWW.BUTLER-GROUP.ORG

DATE ISSUED	SCALE	SHEET	JOB NUMBER
10/19/17	1"=400'	1 0F 2	17.102

Attachment D

P-22-20 Location Map

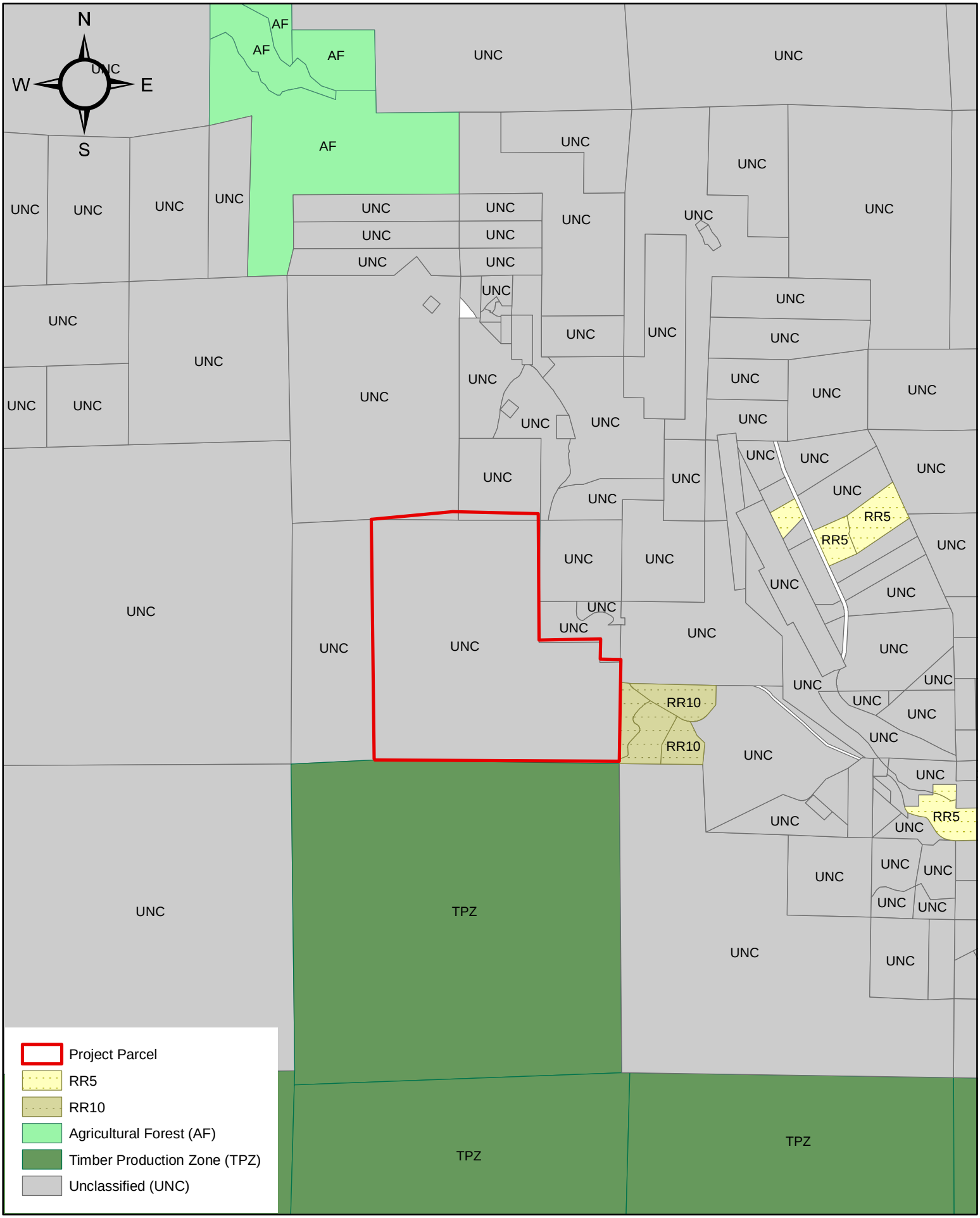


Attachment E

0 1,700 3,400 6,800 10,200 Feet

SF

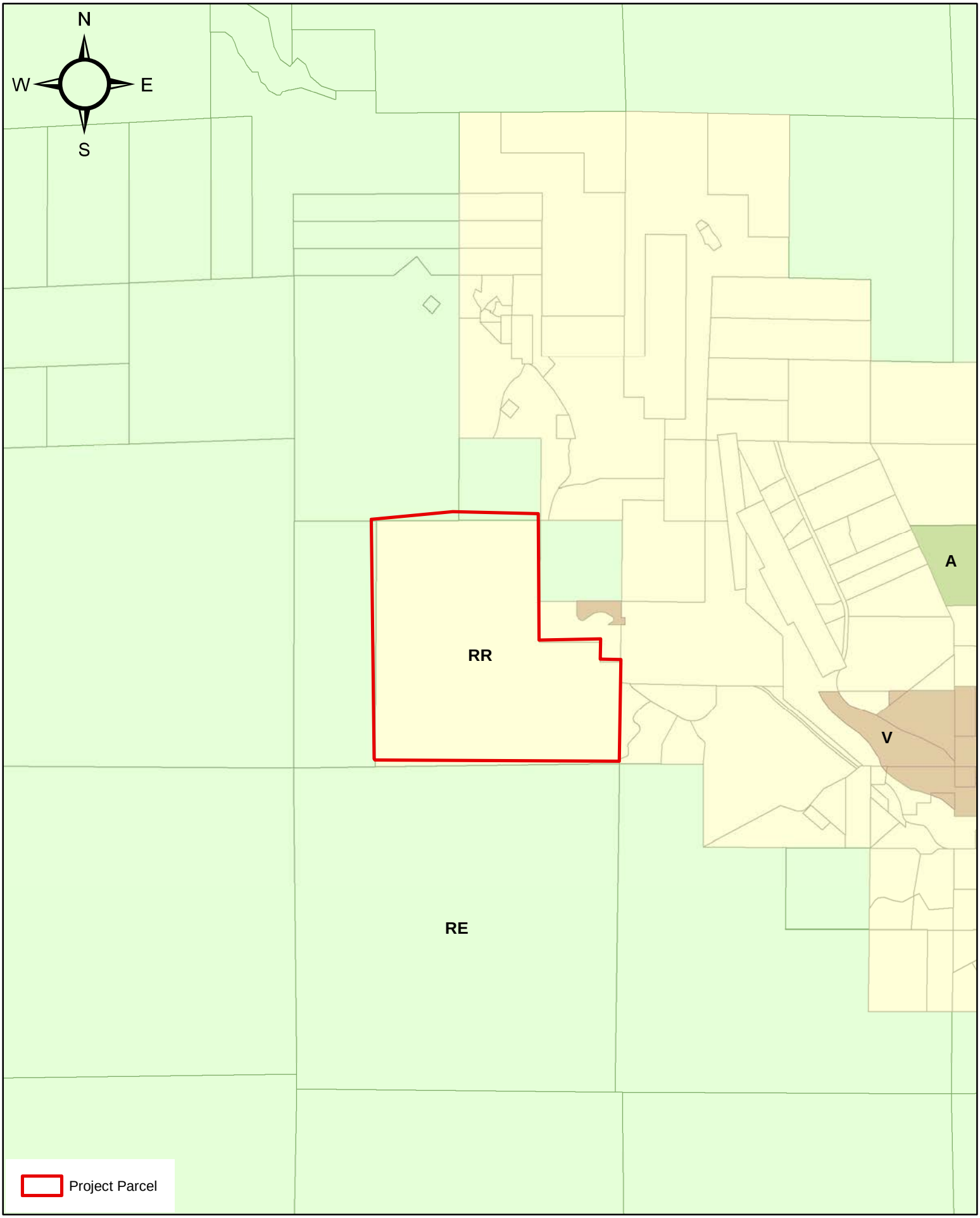
P-22-20 Zoning Districts Map



Attachment F

SF

P-22-20 General Plan Designations Map



Attachment G

SF

REVISED RESOLUTION NO. PC-2026-04

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF TRINITY APPROVING A POST-APPROVAL SUBDIVISION MODIFICATION REQUEST
(Kris Yordanov, Post Subdivision Modification (P-26-04))

WHEREAS, the Planning Commission of the County of Trinity has considered a request for Post Subdivision Modification (P-26-04) for a Board of Supervisor Approved Tentative Subdivision Map (P-17-36), Assessor Parcel Number 011-210-035 filed by property owner Kris Yordanov. The request for subdivision modification effects sections B2 Geotechnical Report and D2 Roads;

WHEREAS, said Subdivision Modification request was referred to the Department of Transportation for review and comments; and

WHEREAS, a duly noticed public hearing was held on May 18th with the Planning Commission; and

WHEREAS, the Planning Commission of the County of Trinity has considered public comments and a report from the Planning Department.

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission of the County of Trinity recommends to the Board of Supervisors that they:

1. Find the proposed request for a modification will not pose any significant additional new environmental impacts which have not previously been evaluated in the Mitigated Negative Declaration prepared for Tentative Parcel Map P-17-36 and adopted with Resolution 2018-042 as conditions of approval.

2. Makes the following findings with the recommended change for the Subdivision Modification request:

    a. That it is more appropriate for the Geotechnical report to be required prior to development for building pads, to be captured by Notice of Environmental Constrains.

    b. That the Cost to the subdivider of strict or literal compliance with the regulation is not the sole Reason for granting the modification. While the property owner has expressed that a significant investment has been made in order to complete the required improvements, they are not requesting that the modifications due to cost prohibitive conditions.

    c. That the modifications will not be detrimental to the public health, safety or welfare or be injurious to other properties in the vicinity.

    d. That recommendations provided by Department of Transportation for the post approval subdivision modifications would provide the same practical effect and as

recommended would promote public health, safety and convenience, and general welfare and meet the intent of Section D: Roads.

3. Approves the request for Post Approval Subdivision Modification P-26-04 per Exhibit A revised conditions.

DULY PASSED AND ADOPTED this 28th day of May 2026 by the Planning Commission of the County of Trinity by the following vote:

AYES:
NAYS:
ABSENT:
ABSTAIN:
RECUSE:

DUNCAN MCINTOSH, CHAIR
Planning Commission
County of Trinity
State of California

ATTEST:

By: _____
DREW PLEBANI
Secretary of the Planning Commission
County of Trinity, State of California