

# Notice of Exemption

## Appendix E

**To:** Office of Planning and Research  
P.O. Box 3044, Room 113  
Sacramento, CA 95812-3044

County Clerk

County of: Yuba

916 8th Street, Suite 107

Marysville, CA 95901

**From:** (Public Agency): Yuba County Water Agency  
1220 F Street  
Marysville, CA 95901

(Address)

Project Title: Hallwood Irrigation Company Seepage Loss Prevention Project

Project Applicant: Yuba County Water Agency

Project Location - Specific:

Unincorporated Yuba County, next to State Route 20, 39°11'43.13"N, 121°31'38.29"W

Project Location - City: Unincorporated Project Location - County: Yuba

Description of Nature, Purpose and Beneficiaries of Project:

Yuba County Water Agency proposes installation of a new liner (795 feet) to an existing concrete lined irrigation ditch along State Route 20 that is experiencing excessive water seepage. Barbed wire fencing along the area will be removed and replaced. A 12-inch by 12-inch deep anchor trench will also be constructed on the south side of the ditch.

Name of Public Agency Approving Project: Yuba County Water Agency

Name of Person or Agency Carrying Out Project: Yuba County Water Agency

Exempt Status: **(check one):**

- |   |  |
|---|--|
| <input type="checkbox"/> Ministerial (Sec. 21080(b)(1); 15268);                                 | Class 1 Section 15301; Class 2 Section |
| <input type="checkbox"/> Declared Emergency (Sec. 21080(b)(3); 15269(a));                       | 15302; Class 4 Section 15304,          |
| <input type="checkbox"/> Emergency Project (Sec. 21080(b)(4); 15269(b)(c));                     | Common Sense Exemption Section         |
| <input checked="" type="checkbox"/> Categorical Exemption. State type and section number: _____ | <u>15061</u>                           |
| <input type="checkbox"/> Statutory Exemptions. State code number: _____                         |  |

Reasons why project is exempt:

The project consists of maintenance and minor alteration of an existing irrigation ditch. The project would not result in any significant adverse environmental impact and is not barred by any exceptions identified in CEQA Guidelines Section 15300.2 Exceptions.

Lead Agency

Contact Person: Jacob Vander Meulen Area Code/Telephone/Extension: 530-443-7412

**If filed by applicant:**

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ■ Yes ■ No

Signature: Jacob Vander Meulen Date: 02-06-2024 Title: Environmental Manager

■ Signed by Lead Agency ■ Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.  
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: \_\_\_\_\_

**Notice of Exemption Attachment  
Supplemental Information and Consistency Findings  
for Class 1, 2, 4, and Common Sense Categorical Exemptions  
Hallwood Irrigation Company Seepage Loss Prevention Project**

## **PROJECT PURPOSE**

Yuba Water Agency (YMA) proposes to repair a 795-linear-foot portion of the Hallwood Irrigation Company owned irrigation canal (proposed project) along State Route 20 (SR-20), in unincorporated Yuba County. The purpose of the proposed project is to reduce the excessive water seepage from the facility and to improve water conveyance in the area.

## **LOCATION**

The proposed project is in unincorporated Yuba County adjacent to SR-20 (Postmile YUB 6.15), approximately 4.8 miles northeast of Marysville, as shown in **Figure 1: Regional Location** and **Figure 2: Project Vicinity**.

The project site is in a rural area and is surrounded by agricultural land, between Walnut Avenue and Meyer Lane, of the east side of SR-20. A residential unit is 90 feet from the southwestern boundary of the project site and an agricultural accessory structure (barn) is located 115 feet to the southeast of the northeast boundary of the project site. Two single-family residential units are also sited approximately 248 feet to the southeast of the northeastern boundary of the project site and 178 feet to the northeast of the northeastern boundary of the project site.

## **PROJECT DESCRIPTION**

A 795-linear-foot section of the irrigation canal has been experiencing water seepage due to eroded concrete lining conditions. The project therefore proposes to repair the canal by installing Geosynthetic Cementitious Composite Mat (GCCM) liner along 795 linear feet of the canal where degradation has occurred. Construction would commence and be completed during the irrigation canal's normal service outage between February 1 and March 31, 2024 (a two-month period) and include several activities. First, approximately 795 feet of existing barbed wire fencing on the south side of the irrigation canal (along a narrow strip of land) would be removed to provide access to the facility. The existing concrete surface would be prepared by mortaring cracks and voids to provide a smooth surface for installation of the GCCM. A 12-inch wide by 12-inch-deep trench would be excavated on the south end of the irrigation canal to help secure the GCCM lining while clamping bars and anchor screws would be used on the north side of the canal to secure the GCCM lining. The GCCM lining would also be secured with clamping bars to any outlet structures, valves and culvert crossings that are within the work area. Once installed, the GCCM would be hydrated using trucked in water, to cure and set the lining. Small construction equipment (steer skid and mini excavator) would be used to backfill the anchor trench on the south side of the irrigation canal and the barbed wire fence would be re-installed to complete the proposed project. A 1,500-square-foot construction staging area would be located on the northeast side of the project site and would be used for construction worker vehicle parking and materials. After construction is complete, the contractor would restore the construction staging area and remove all trash and debris. The contractor would then demobilize from the site. The plan set for the proposed project is included as **Attachment A**.

## **POTENTIAL PROJECT-RELATED ENVIRONMENTAL EFFECTS AND APPLICABILITY OF A CATEGORICAL EXEMPTION TO THE PROPOSED PROJECT**

The California Environmental Quality Act (CEQA) includes several Categorical Exemptions applicable to this project.

Class 1 categorical exemption — Under section 15301 of the CEQA Guidelines, the Class 1 exemption “consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of

# Regional Location

Hallwood Irrigation Company Seepage Loss Prevention Project  
Yuba County, CA

Figure 1

### Legend

- ★ Project Location
- ▭ Yuba County



Author: S. Burns  
Last updated on Wednesday, January 17, 2024



# Project Vicinity

Hallwood Irrigation Company Seepage Loss Prevention Project  
Yuba County, CA

Figure 2

### Legend

-  Project Boundary
-  Staging Area



0 200 Feet



Author: S. Burns  
Last updated on Monday, January 22, 2024



existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use.”

Class 2 categorical exemption — Under section 15302 of the CEQA Guidelines, the Class 2 exemption “consists of replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced.”

Class 4 categorical exemption — Under section 15304 of the CEQA Guidelines, the Class 4 exemption “consists of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry and agricultural purposes.”

Common sense exemption — As explained in section 15061(b)(3) of the CEQA Guidelines, the common sense exemption acknowledges that “CEQA applies only to projects which have the potential for causing a significant effect on the environment” and thus exempts activities “[w]here it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment.”

The project purpose and proposed construction activities are consistent with the CEQA Class I, 2, 4, and the Common Sense Categorical Exemptions.

The proposed project consists of installation of a new GCCM liner along 795 linear feet of the Hallwood irrigation canal, removal and replacement of 795 feet of existing barbed wire fencing along the south side of the irrigation ditch, and construction of a 12-inch by 12-inch (1 square foot) deep anchor trench on the south side of the ditch to secure the GCCM. The purpose of the proposed project is to repair the eroded concrete lining of the irrigation canal to reduce excessive water seepage from the facility and to improve water deliveries to the area. The proposed project would not expand the existing Hallwood irrigation canal.

A Categorical Exemption may not be used for projects where there is potential to significantly affect the environment. This section presents information on the existing conditions of environmental resources at the project site and summarizes evaluations of the potential proposed project-related environmental effects to support the determination that the proposed project would not result in significant effects to the environment.

## Biological Resources

A search of the California Natural Diversity Data Base (CNDDDB) and the U.S. Fish and Wildlife (USFWS) Information for Planning and Consultation (IPaC) determined that 17 special status wildlife species and 4 special status plant species could potentially occur in the project area (**Attachment B: Special Status Species with Potential to Occur in the Project Area Table**).

The project area consists of 795 linear feet of concrete lined irrigation canal and a narrow strip of land on either side. Vegetation to the north consists of ruderal species; vegetation to the south consists of irrigated pasture. Approximately 1,500 square feet of the irrigated pasture would also be used as a temporary staging area.

Aquatic habitat is limited to the irrigation channel, which is out of service (dry) each winter between February 1 and March 31. Work would be conducted during the out of service period; consequently, no aquatic habitat would be present during construction.

None of the 17 special-status wildlife species or the 4 special-status plant species are expected to occur in the project area or be affected by the proposed project. The project area lacks suitable habitat; habitat in the project area is limited to ruderal vegetation along SR-20 and irrigated pasture on the other side of the canal.

Construction would occur between February 1 and March 31, which is at the start of the typical bird nesting season of February 1 to August 31. The contractor would follow standard conditions during nesting season, such as conducting a pre-construction nesting survey completed by a qualified biologist. If active nests (i.e., presence of eggs and/or chicks) are observed in areas that could be directly or indirectly disturbed (including noise disturbance), a temporary, species-appropriate no-disturbance buffer would be created around the nest sufficient to reasonably expect that breeding would not be disrupted. No work would occur inside the buffer. The size of the buffer would be determined by the biologist, by taking into account factors including, but not limited to, noise and human disturbance around the nest, the distance and amount of vegetation or other screening, and the sensitivity of the nesting bird species considering topography, noise and vibration, and the phase of nesting.

### **Other Resource Topics**

The following provides information regarding potential exceptions defined under the CEQA Guidelines, Section 15300.2, that, if triggered, might exclude the proposed project from being categorically exempt from CEQA compliance.

Construction activities occurring at the project site may generate temporary noise within 500 feet of sensitive receptors; specifically, the three single-family residential units located to the southwest, northwest, and northeast of the project site. Existing ambient noise sources in the project area are generated by vehicles traveling on SR-20 and agricultural activities on nearby parcels. The construction equipment that would be used (a steer skid to install the GCCM and mini excavator for the 12-inch by 12-inch anchor trench) and the length of its use during proposed project construction would be minimal and would not increase the existing ambient noise level in the proposed project vicinity beyond what the nearby sensitive receptors already experience. Furthermore, construction activities associated with the proposed project would occur outside of the hours of 10:00 PM of one day and 7:00 AM the following day to be consistent with Section 8.20.310 of the Yuba County Code of Ordinances. As such, noise impacts would not occur.

Database searches were conducted using the California Department of Toxic Substances Control (DTSC) ENVIROSTOR list of hazardous wastes sites (i.e., Cortese list), State Water Resources Control Board (SWRCB) GeoTracker list of designated waste sites, and U.S. Environmental Protection Agency (EPA) National Priorities List of Superfunded hazardous cleanup sites. The search indicated that the project site is not within 5,000 feet of any designated site with known hazards on any list pursuant to Section 65962.5 of the Government Code. As such, impacts associated with hazardous materials and sites would not occur.

The project site is not located adjacent to, or visible from, any designated state or federal scenic highway. The nearest potentially scenic highway is State Route 49, approximately 24 miles northeast of the project site, the portion of which is designated as an eligible scenic highway by the State of California. As such, aesthetic impacts along a designated scenic highway would not occur.

The proposed project includes installing new GCCM liner on 795 linear feet of the irrigation canal, a 12-inch by 12-inch-deep anchor trench on the south side of the canal, and removal and reinstallation of 795 linear feet of barbed wire fencing along the south side of the canal. There are no known historical resources in or around the project site. The work proposed does not constitute activities (surface work and minimal trenching depth) that would cause a substantial adverse change to historical resources if they were to be inadvertently discovered in the area. As such, impacts to historical resources would not occur.

Implementation of the proposed project would involve minor disturbances as the proposed project primarily occurs within the footprint of the existing irrigation canal. Thus, the minor effects generated by the proposed project would not contribute to any cumulatively significant environmental impacts.

### **ATTACHMENTS**

Attachment A: Plan Set

Attachment B: Special Status Species with Potential to Occur in the Project Area Table

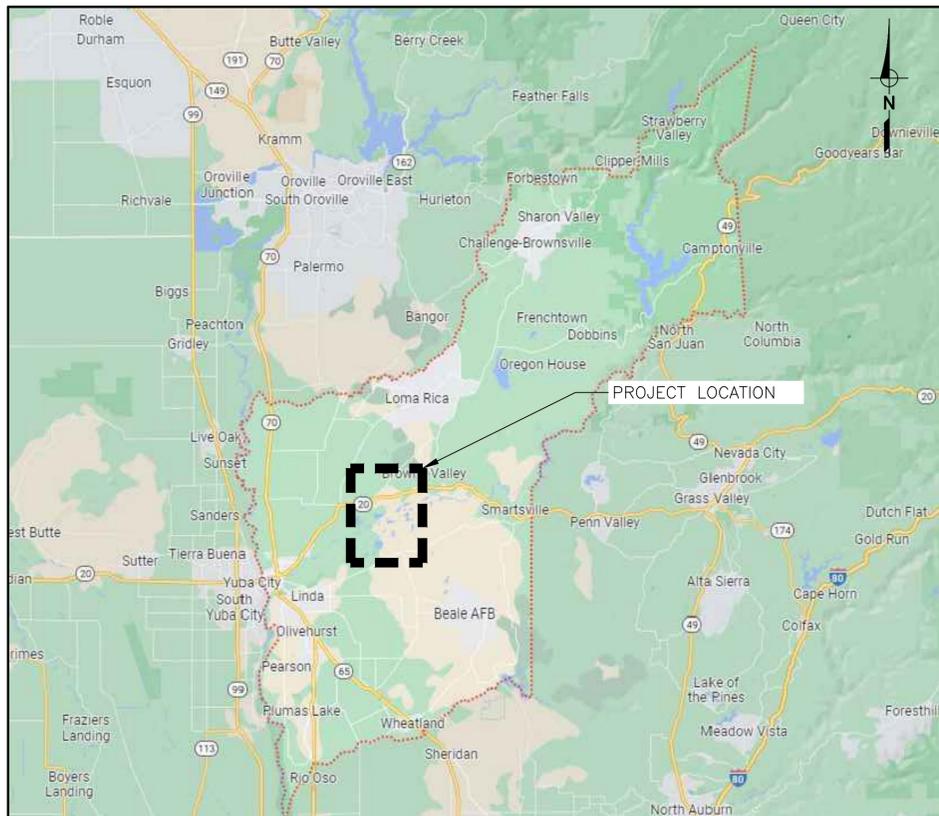
# HALLWOOD IRRIGATION COMPANY

## SEEPAGE LOSS PREVENTION - PHASE 1A PILOT PROJECT

### COUNTY OF YUBA STATE OF CALIFORNIA



WARNING: CONTRACTOR TO USE EXTREME CAUTION. EXACT DEPTH AND LOCATION OF UNDERGROUND UTILITIES ARE UNKNOWN. CONTRACTOR TO FIELD VERIFY LOCATIONS AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER OF ANY CONFLICT. CONTRACTOR SHALL CALL USA AT 1-800-642-2444 OR 811 AT LEAST TWO WORKING DAYS BEFORE DIGGING.



**VICINITY MAP**  
NTS



**LOCATION MAP**  
NTS

SHEET LIST TABLE		
SHEET NO	DWG NO	SHEET TITLE
01	G01	TITLE SHEET, LOCATION MAP, AND VICINITY MAP
02	G02	ABBREVIATIONS, SYMBOLS, AND NOTES
03	G03	SURVEY CONTROL
04	G04	HIGHWAY 20 DITCH OVERVIEW
05	G05	HIGHWAY 20 PLAN STA 0+00 TO STA 6+00
06	G06	HIGHWAY 20 PLAN STA 6+00 TO STA 7+95
07	G07	HIGHWAY 20 DITCH SECTION VIEWS STA 1+00 TO STA 7+00
08	G08	DETAILS I
09	G09	DETAILS II

MARK CHANDLESS, DIRECTOR - HIC

DATE

1/5/24

KARL BRUSTAD, P.E. - PBI

DATE

REV	DATE	BY	DESCRIPTION

SCALE:  
AS NOTED

DATE:  
JANUARY 2024

WARNING

0 1/2

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED: DMM/HED

DRAWN: TMB

CHECKED: KBB

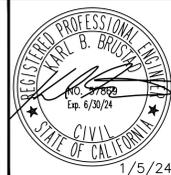
PROJECT ENGINEER \_\_\_\_\_ R.C.E. NO. \_\_\_\_\_ EXP. DATE \_\_\_\_\_

PRINCIPAL \_\_\_\_\_ R.C.E. NO. \_\_\_\_\_ EXP. DATE \_\_\_\_\_

**PBI** ENGINEERING CONSULTING™

80 Blue Ravine Rd. Suite 280  
Folsom, CA 95630

PH. 916-608-2212  
Fax 916-608-2232



HALLWOOD IRRIGATION COMPANY

TITLE SHEET, LOCATION MAP, AND VICINITY MAP

1/5/24

ISSUED FOR BID

SHEET

# G01

SHEET 01 OF 09

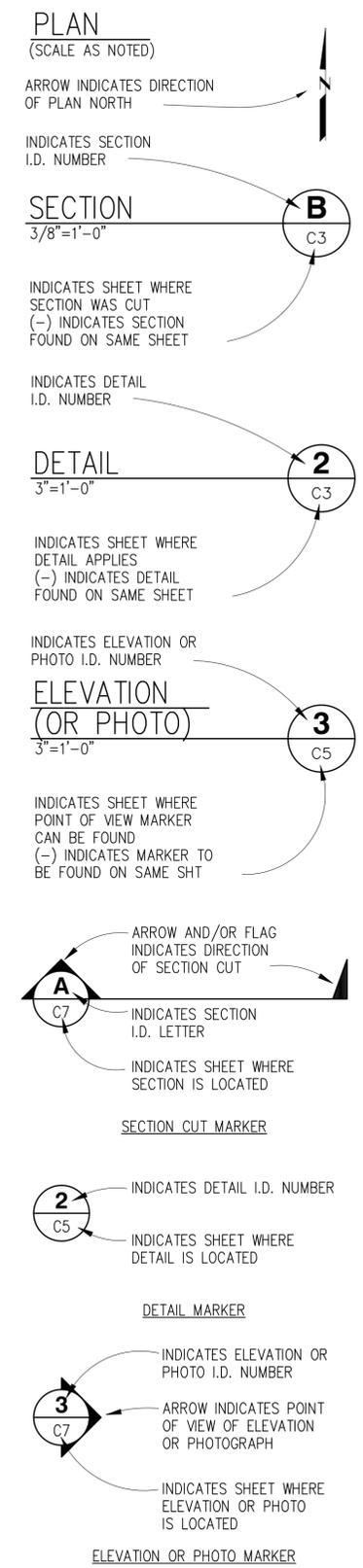
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NOTES

SITE PLAN SYMBOLOGY

- 50.5 — CONTOUR
- x-x- FENCE
- - - - - TOE OF DITCH
- - - - - TOP OF DITCH
- ..... LIMITS OF CONSTRUCTION
- PROJECT CONTROL LINE
- o- OVERHEAD WIRE
- - - - - ANCHOR TRENCH

GENERAL SYMBOLOGY



DESIGN CRITERIA

MATERIALS IN PLAN/SECTION

- STAGING AREA
- CONCRETE
- EARTH
- GCCM LINING
- CLAMPING BAR

SURVEY INFORMATION

COORDINATES REFERENCE THE NORTH AMERICAN DATUM OF 1983 (NAD83) SPC2 (2011 EPOCH) FROM TIES TO FOUND MONUMENTS: DH6522 "HALLWOOD", KS0774, AND KS1046 DOCUMENTED BY THE NATIONAL GEODETIC SURVEY.

THE VERTICAL REFERENCE TO THE NORTH AMERICAN VERTICAL DATUM OF 1998 (NAVD 88) ORIGINATE FROM THE NGS PUBLISHED NAVD 88 ELEVATION OF 93.73 FOR KS0774.

POSITIONS WERE ESTABLISHED USING REAL TIME KINETIC (RTK) GLOBAL POSITIONING SYSTEM (GPS) TECHNOLOGY REFERENCED TO THE TOPCON POSITIONING SYSTEM, INC. CONTROL NETWORK.

SURVEY DATE: 4/24/23 BY MHM INC.

ABBREVIATIONS

APPROX	APPROXIMATELY	NO	NUMBER
EL	ELEV ELEVATION	NPT	NATIONAL PIPE THREAD
EG	EXISTING GRADE	NTS	NOT TO SCALE
FG	FUTURE GRADE	OC	ON CENTER
HW	HIGHWAY	OH	OVERHEAD
INV	INVERT	STD	STANDARD

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REV	DATE	BY	DESCRIPTION

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NO SCALE

DATE:  
JANUARY 2024

WARNING  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

DESIGNED \_DMM/HED

DRAWN \_TMB

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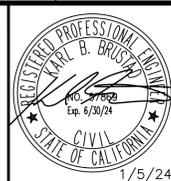
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PRINCIPAL \_\_\_\_\_ R.C.E. NO. \_\_\_\_\_ EXP. DATE \_\_\_\_\_

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Fax 916-608-2232



HALLWOOD IRRIGATION COMPANY

ABBREVIATIONS, SYMBOLS, AND NOTES

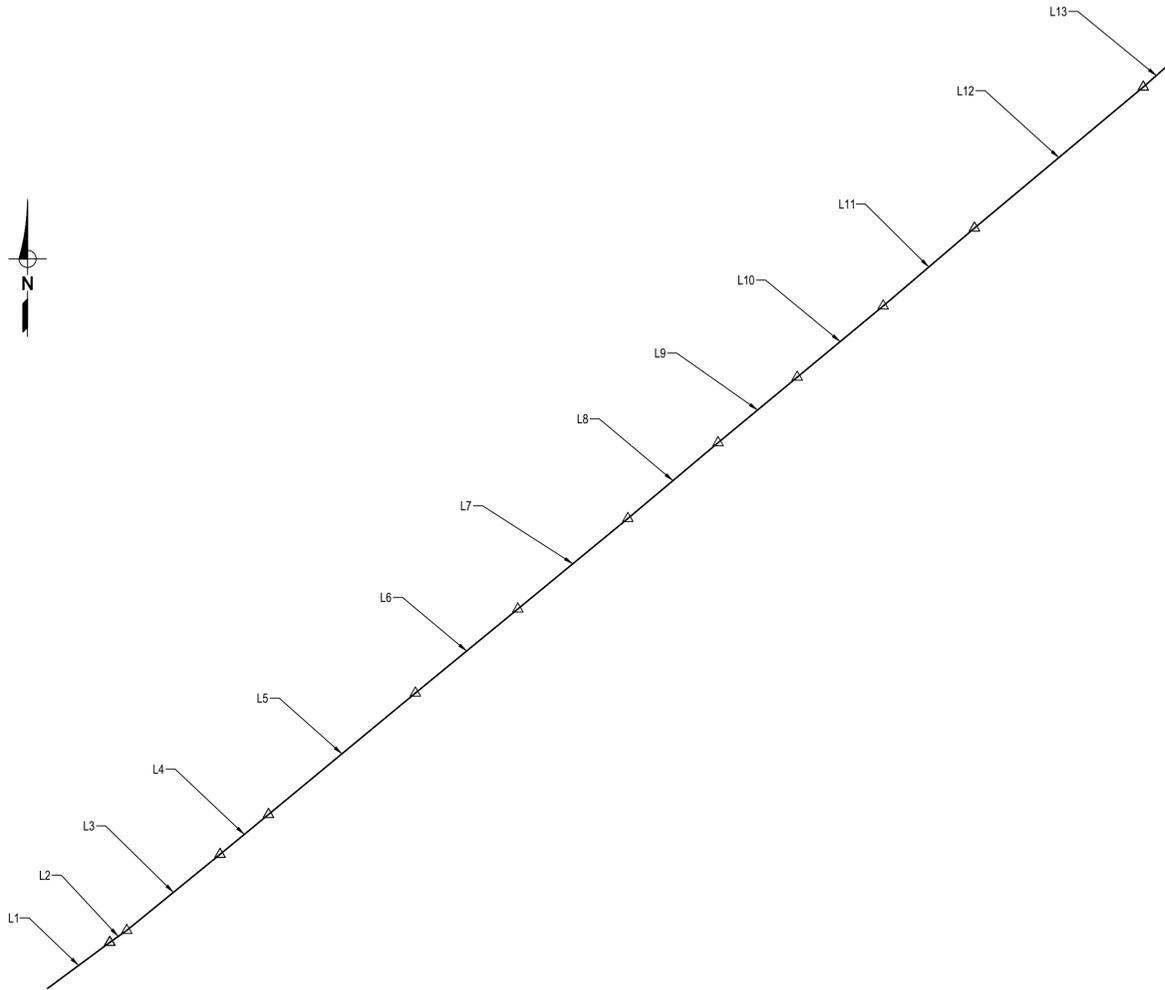
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**G02**

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PROJECT CONTROL LINE

PROJECT CONTROL LINE TABLE				
Line #	Length	Direction	Start Point	End Point
L1	42.29	N53° 31' 33.53"E	(6695342.00,2197259.87)	(6695376.01,2197285.01)
L2	11.39	N54° 54' 11.86"E	(6695376.01,2197285.01)	(6695385.33,2197291.56)
L3	65.78	N50° 53' 00.46"E	(6695385.33,2197291.56)	(6695436.37,2197333.06)
L4	34.26	N50° 38' 28.33"E	(6695436.37,2197333.06)	(6695462.86,2197354.79)
L5	104.14	N50° 29' 25.76"E	(6695462.86,2197354.79)	(6695543.20,2197421.04)
L6	72.43	N50° 40' 26.87"E	(6695543.20,2197421.04)	(6695599.23,2197466.95)
L7	77.83	N50° 37' 45.75"E	(6695599.23,2197466.95)	(6695659.40,2197516.31)
L8	64.37	N50° 03' 42.03"E	(6695659.40,2197516.31)	(6695708.75,2197557.64)
L9	56.17	N50° 25' 59.51"E	(6695708.75,2197557.64)	(6695752.05,2197593.41)
L10	60.98	N50° 25' 15.89"E	(6695752.05,2197593.41)	(6695799.05,2197632.27)
L11	65.57	N49° 36' 20.89"E	(6695799.05,2197632.27)	(6695848.99,2197674.76)
L12	120.20	N50° 11' 08.97"E	(6695848.99,2197674.76)	(6695941.32,2197751.72)
L13	18.99	N48° 40' 35.23"E	(6695941.32,2197751.72)	(6695955.58,2197764.27)

REV	DATE	BY	DESCRIPTION

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DATE:  
JANUARY 2024

WARNING  
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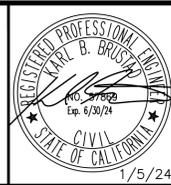
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PRINCIPAL \_\_\_\_\_ R.C.E. NO. \_\_\_\_\_ EXP. DATE \_\_\_\_\_

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HALLWOOD IRRIGATION COMPANY

SURVEY CONTROL

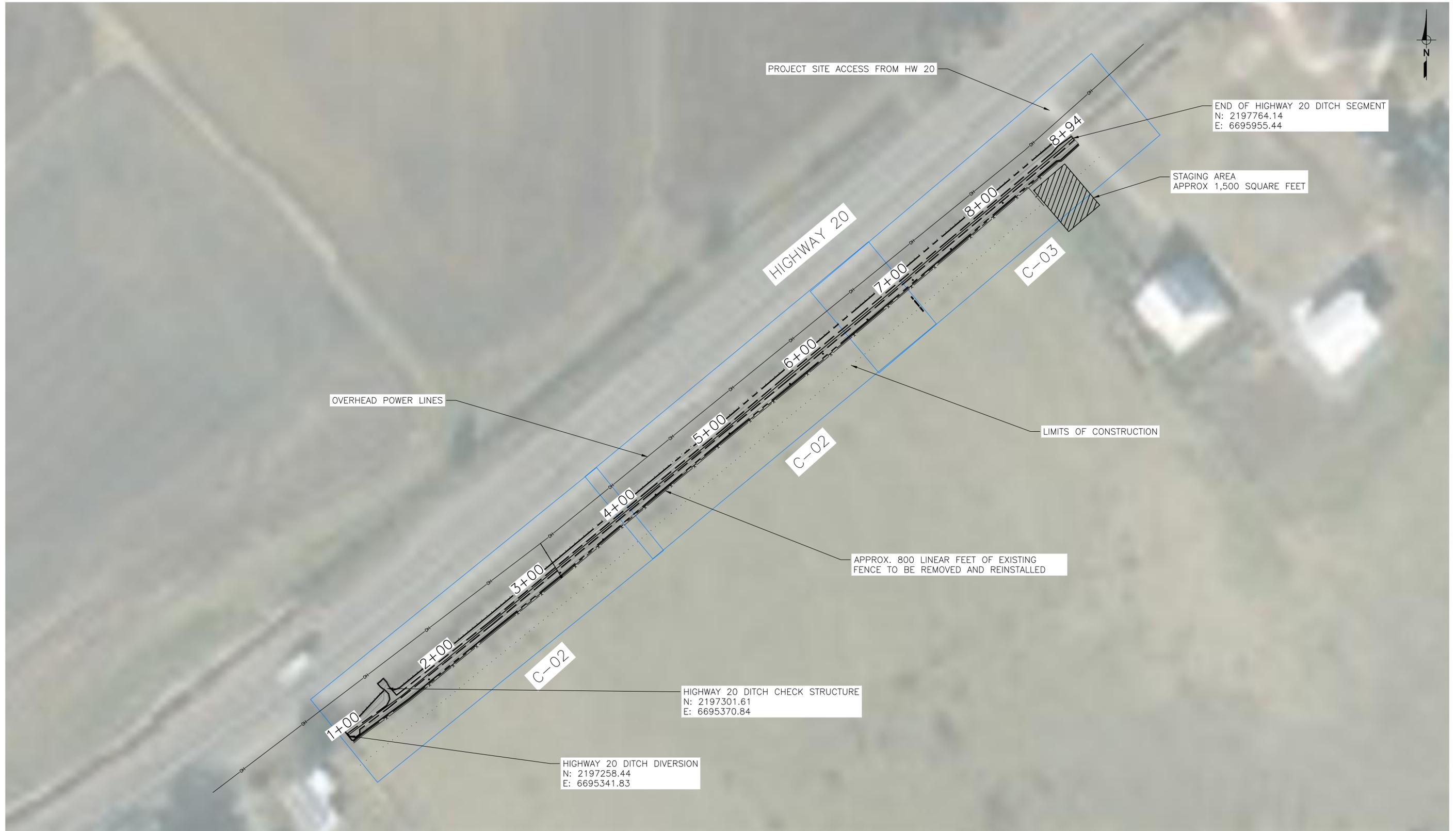
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SHEET

**G03**

SHEET 03 OF 09

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DATE:  
JANUARY 2024

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DESIGNED DMM/HED

DRAWN TMB

CHECKED KBB

PROJECT ENGINEER	R.C.E. NO.	EXP. DATE
PRINCIPAL	R.C.E. NO.	EXP. DATE

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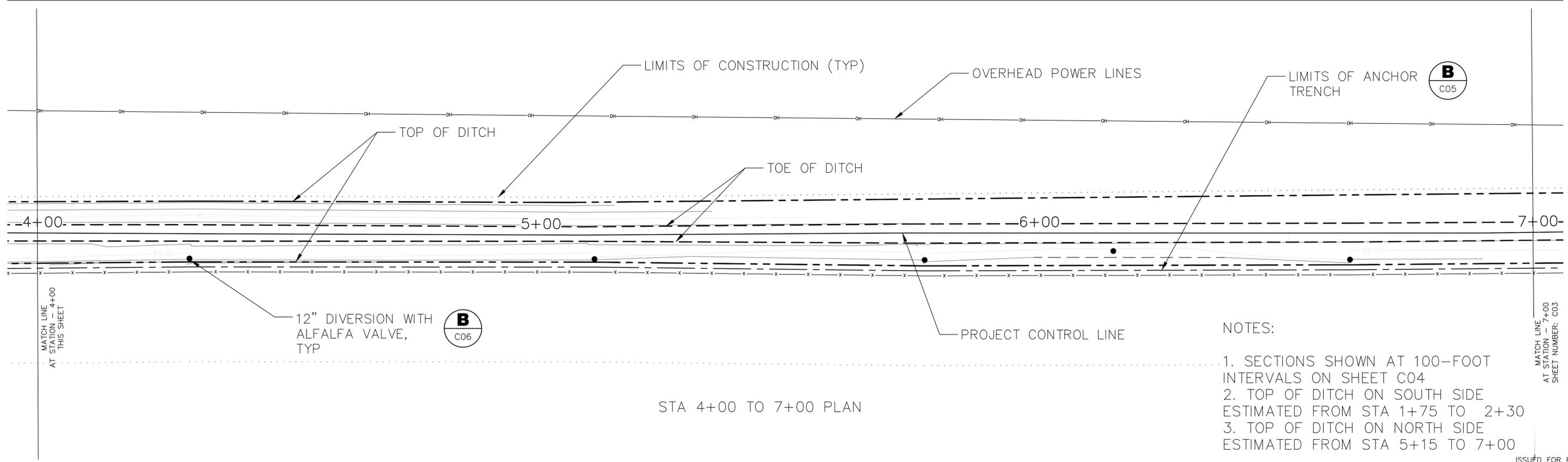
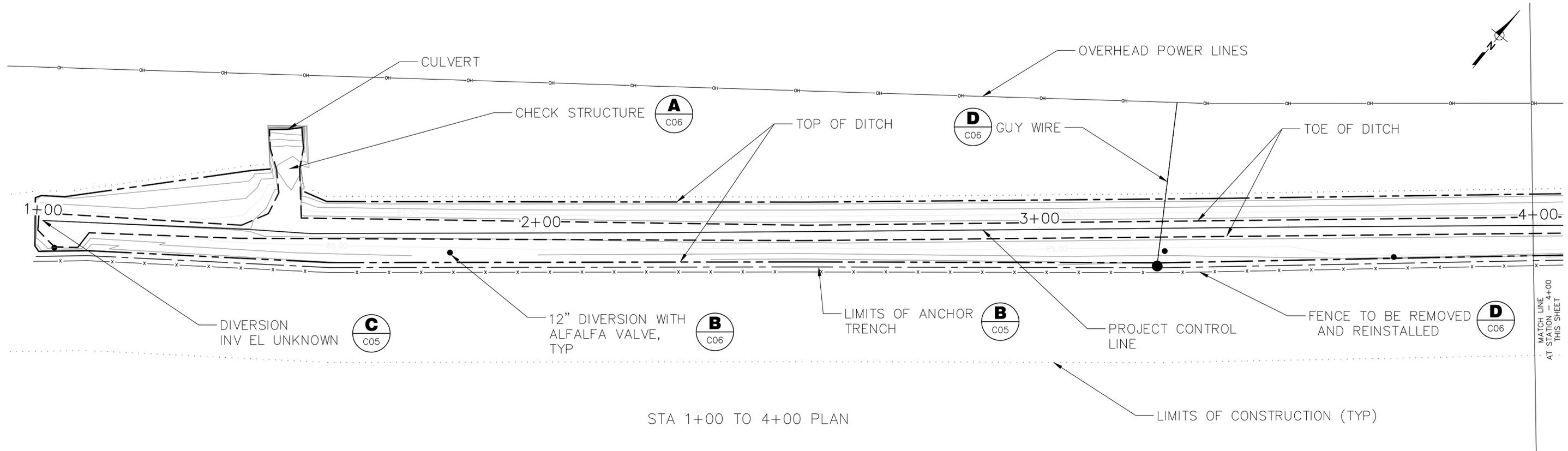
HIGHWAY 20 DITCH OVERVIEW

SHEET

**C01**

SHEET 04 OF 09

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- NOTES:
1. SECTIONS SHOWN AT 100-FOOT INTERVALS ON SHEET C04
  2. TOP OF DITCH ON SOUTH SIDE ESTIMATED FROM STA 1+75 TO 2+30
  3. TOP OF DITCH ON NORTH SIDE ESTIMATED FROM STA 5+15 TO 7+00

REV	DATE	BY	DESCRIPTION

SCALE:  
1" = 10'

DATE:  
JANUARY 2024

WARNING  
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DESIGNED DMM/HED

DRAWN TMB

CHECKED KBB

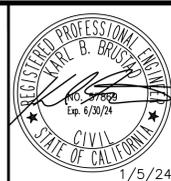
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PRINCIPAL R.C.E. NO. EXP. DATE

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HALLWOOD IRRIGATION COMPANY

HIGHWAY 20 PLAN  
STA 0+00 TO STA 6+00

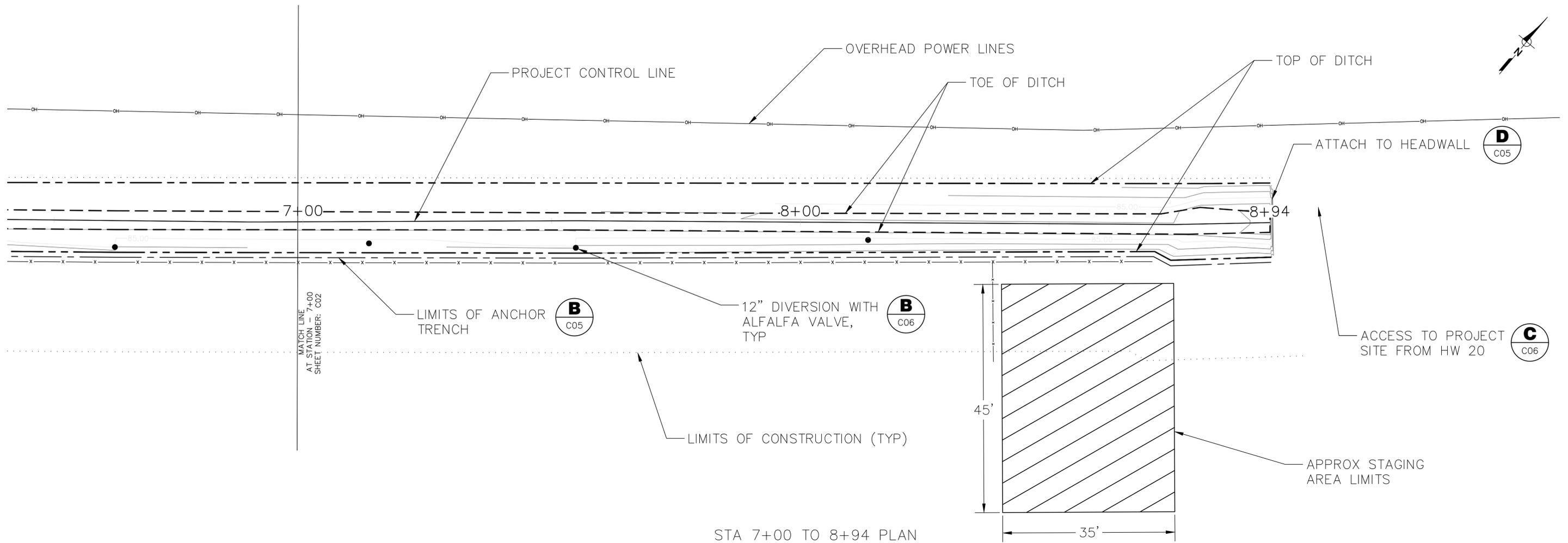
SHEET

**C02**

SHEET 05 OF 09

ISSUED FOR BID

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STA 7+00 TO 8+94 PLAN

- NOTES:
1. SECTIONS SHOWN AT 100-FOOT INTERVALS ON SHEET C04
  2. ACCESS TO WORK SITE THROUGH PRIVATE DRIVEWAY.
  3. TOP OF DITCH ON SOUTH SIDE ESTIMATED FROM STA 6+60 TO 7+55
  4. TOP OF DITCH ON NORTH SIDE ESTIMATED FROM STA 7+00 TO 8+65

ISSUED FOR BID

REV	DATE	BY	DESCRIPTION

SCALE:  
1" = 10'

DATE:  
JANUARY 2024

WARNING  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

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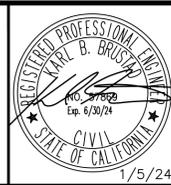
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PRINCIPAL \_\_\_\_\_ R.C.E. NO. \_\_\_\_\_ EXP. DATE \_\_\_\_\_

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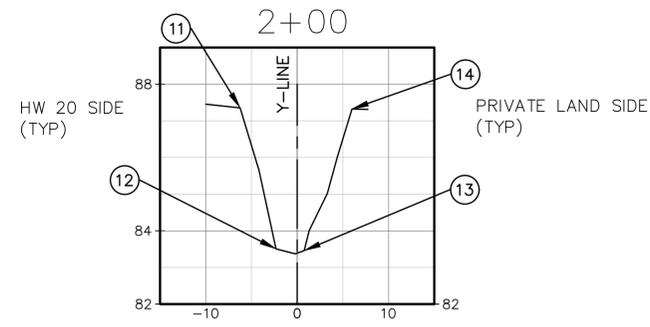


HALLWOOD IRRIGATION COMPANY

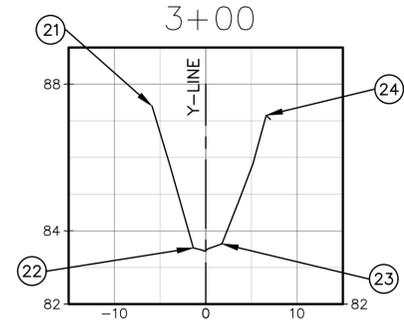
HIGHWAY 20 PLAN  
STA 6+00 TO STA 7+95

SHEET  
**C03**  
SHEET 06 OF 09

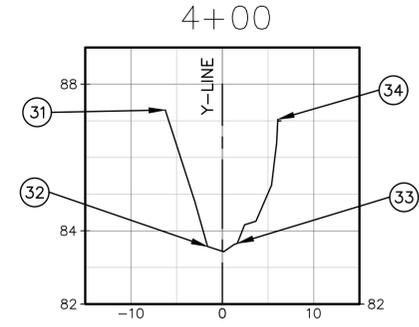
P:\Hallwood Irrigation Co\05 Drawings\5.1 CAD\Seepage Losses\HIC-Seepage Losses-Civil (2023)-Highway 20 Plot.dwg 1-08-24 03:15:31 PM tbuggy



SECTION 1+00			
NOTE	ELE	STA	EG/FG
11	87.4	-6.2	BOTH
12	83.5	-2.3	BOTH
13	83.5	+0.8	BOTH
14	87.3*	+6.3*	BOTH*



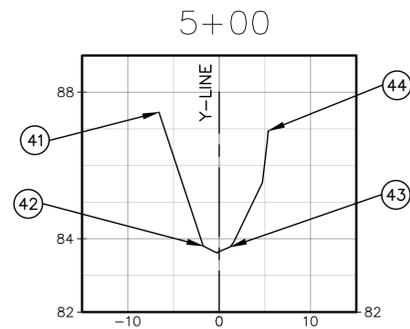
SECTION 2+00			
NOTE	ELE	STA	EG/FG
21	87.4	-5.8	BOTH
22	83.5	-1.4	BOTH
23	83.6	+1.8	BOTH
24	87.1	+6.6	BOTH



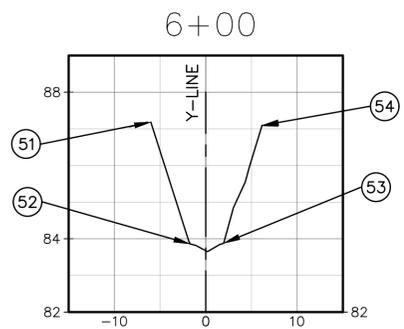
SECTION 3+00			
NOTE	ELE	STA	EG/FG
31	87.3	-6.2	BOTH
32	83.6	-1.6	BOTH
33	83.4	+1.6	BOTH
34	87.0	+6.1	BOTH

NOTES:

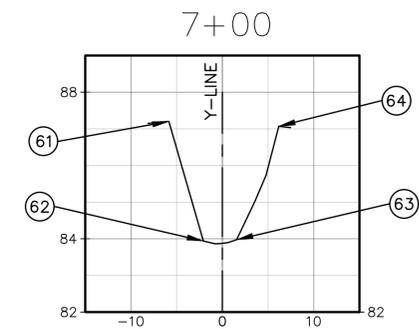
1. PATCH AND SMOOTH EXISTING CONCRETE PER SPECIFICATIONS
2. SEE C05 FOR LINER INSTALLATION
3. \* INDICATES APPROXIMATE LOCATIONS TO BE FIELD VERIFIED



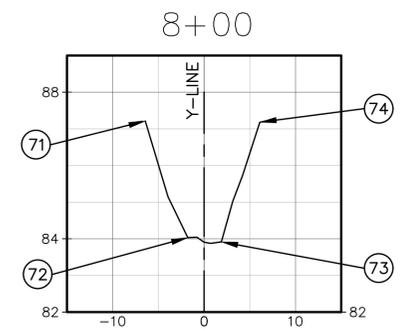
SECTION 4+00			
NOTE	ELE	STA	EG/FG
41	87.5	-6.7	BOTH
42	83.8	-1.9	BOTH
43	83.8	+0.3	BOTH
44	86.9	+1.6	BOTH



SECTION 5+00			
NOTE	ELE	STA	EG/FG
51	87.2*	-6.0*	BOTH*
52	83.9	-1.7	BOTH
53	83.9	+2.0	BOTH
54	87.1*	+6.2*	BOTH*



SECTION 6+00			
NOTE	ELE	STA	EG/FG
61	87.2*	-5.9*	BOTH*
62	83.9	-2.1	BOTH
63	84.0	+1.5	BOTH
64	87.1*	+6.2*	BOTH*



SECTION 7+00			
NOTE	ELE	STA	EG/FG
71	87.2*	-6.4*	BOTH*
72	84.0	-1.8	BOTH
73	83.9	+1.9	BOTH
74	87.2	+6.1	BOTH

REV	DATE	BY	DESCRIPTION

SCALE:  
1" = 10'

DATE:  
JANUARY 2024

WARNING  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

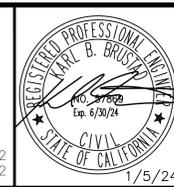
DESIGNED: DMM/HED  
DRAWN: TMB  
CHECKED: KBB

PROJECT ENGINEER \_\_\_\_\_ R.C.E. NO. \_\_\_\_\_ EXP. DATE \_\_\_\_\_  
PRINCIPAL \_\_\_\_\_ R.C.E. NO. \_\_\_\_\_ EXP. DATE \_\_\_\_\_

**PBI** ENGINEERING CONSULTING™

80 Blue Ravine Rd. Suite 280  
Folsom, CA 95630

PH: 916-608-2212  
Fax: 916-608-2232

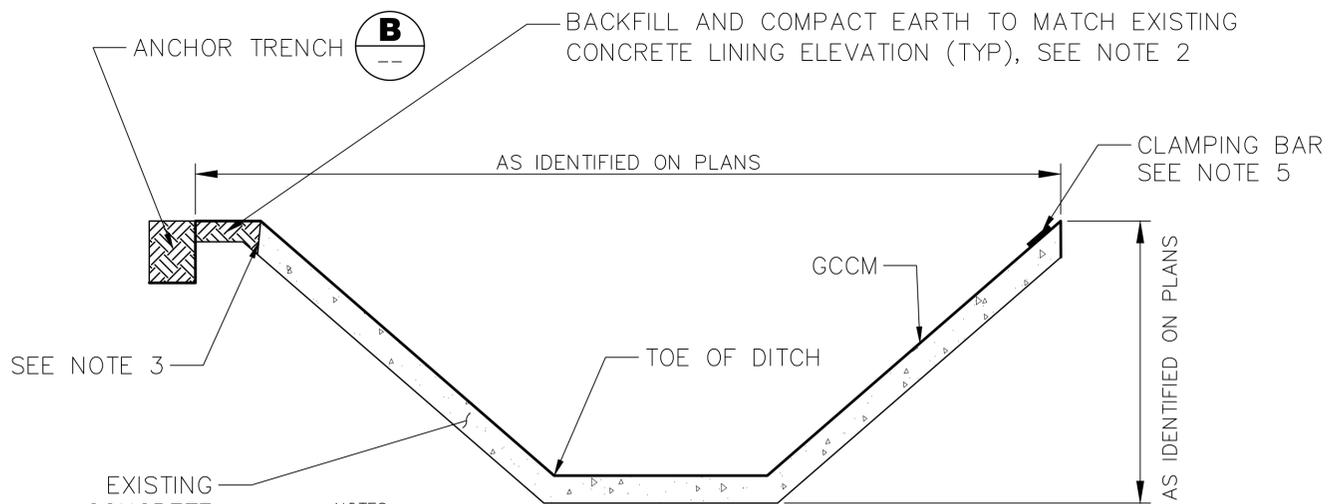


HALLWOOD IRRIGATION COMPANY

HIGHWAY 20 DITCH SECTION VIEWS  
STA 1+00 TO STA 7+00

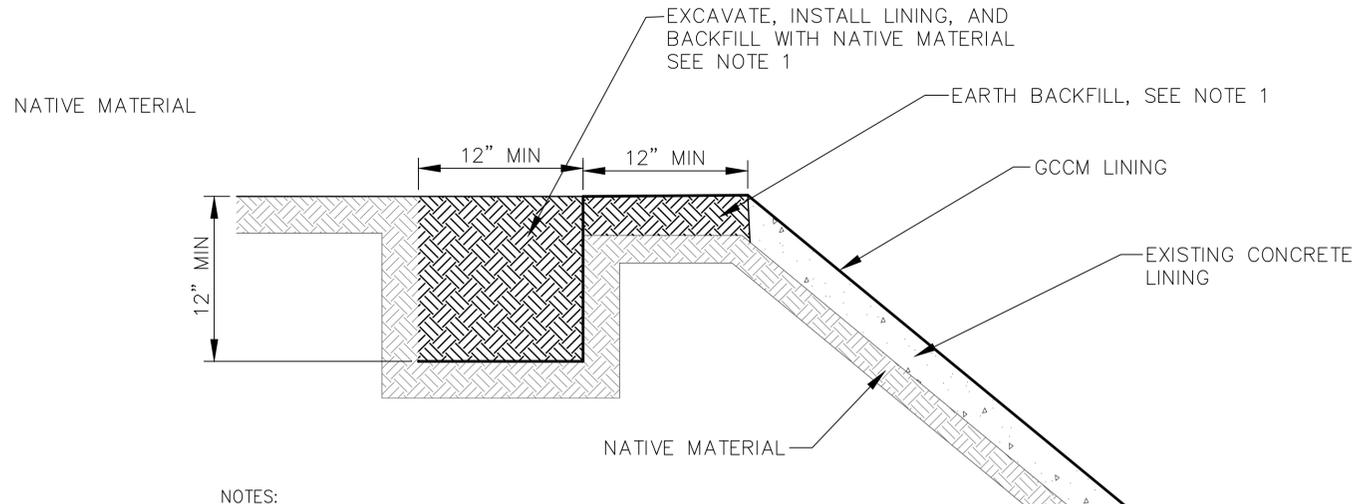
1/5/24

P:\Hallwood Irrigation Co\05 Drawings\5.1 CAD\Seepage Losses\HIC-Seepage Losses-Civil (2023)-Details Pilot.dwg 1-08-24 03:15:40 PM tbuggy



- NOTES:
1. SURFACE PREPARATION REQUIRES SMOOTHING AND FILLING EXISTING CONCRETE LINING CRACKS. BACKFILL ANY GAPS OR CRACKS WITH MORTAR AND TROWEL FINISH. SMOOTH TRANSITIONS TO ELIMINATE THE RISK OF TEARS OR PUNCTURE TO THE GCCM LINER. ALLOW CONCRETE TO CURE BEFORE INSTALLING LINER.
  2. ON PRIVATE PROPERTY SIDE ONLY, EARTH TO BE FILLED TO EXISTING CONCRETE LINING ELEVATION AND UNIFORMLY COMPACTED TO 90%.
  3. END OF EXISTING CONCRETE LINING VERIFIED IN THE FIELD. SOIL MUST BE LEVEL WITH THE EDGE OF THE CONCRETE WITH SMOOTH TRANSITIONS.
  4. LINER INSTALLED DIRECTLY ON TOP OF EXISTING CONCRETE LINING.
  5. ON HIGHWAY 20 SIDE OF DITCH, GCCM LINING TO BE INSTALLED USING CLAMPING BAR AND ANCHOR SCREWS FOLLOWING MANUFACTURER RECOMMENDATION AT 24" SPACING.

TYPICAL CANAL CROSS SECTION DETAIL (GCCM)  
NTS



- NOTES:
1. BACKFILL TO EXISTING CONCRETE LINER ELEVATION AND COMPACT TO 90%.
  2. HYDROSEED ALL DISTURBED SOIL WITH A PERMANENT CALIFORNIA NATIVE SEED MIX COMPATIBLE WITH LOCAL AREA CLIMATE. MULCH WITH OAT OR WHEAT STRAW, FREE FROM WEEDS, FOREIGN MATTER DETRIMENTAL TO PLANT LIFE, AND DRY.
  3. ANCHOR TRENCH ON PRIVATE PROPERTY SIDE OF DITCH ONLY.

TYPICAL GCCM LINING ANCHOR TRENCH DETAIL  
NTS



CLAMPING BAR  
GCCM LINING

NOTES:

1. STAINLESS STEEL CLAMPING BAR MIN. 1-1/4" WIDE, 0.2" THICK COMPRESSING GCCM LINING OVER NEOPRENE GASKET (1-1/4" WIDE, 0.4" THICK).
2. ATTACH CLAMPING BAR, GCCM LINING AND NEOPRENE GASKET TO CONCRETE HEADWALL WITH CONCRETE SCREW ANCHORS.
3. INSTALL GCCM LINING SO THAT A MINIMUM 2" GCCM SURFACE EXTENDS BEYOND THE SCREW ANCHORS. ONCE THE GCCM LINING IS CURED, TRIM EXCESS GCCM LINING SO THAT 2" MIN TO 3" MAX EXTENDS BEYOND THE SCREW ANCHORS.

DIVERSION AT STA 1+00  
NTS



GCCM LINING  
CLAMPING BAR

NOTES:

1. STAINLESS STEEL CLAMPING BAR MIN. 1-1/4" WIDE, 0.2" THICK COMPRESSING GCCM LINING OVER NEOPRENE GASKET (1-1/4" WIDE, 0.4" THICK).
2. ATTACH CLAMPING BAR, GCCM LINING AND NEOPRENE GASKET TO CONCRETE HEADWALL WITH CONCRETE SCREW ANCHORS.
3. INSTALL GCCM LINING SO THAT A MINIMUM 2" GCCM SURFACE EXTENDS BEYOND THE SCREW ANCHORS. ONCE THE GCCM LINING IS CURED, TRIM EXCESS GCCM LINING SO THAT 2" MIN TO 3" MAX EXTENDS BEYOND THE SCREW ANCHORS.

END OF DITCH HEADWALL STA 8+94  
NTS



REV	DATE	BY	DESCRIPTION

SCALE:	WARNING
0 1/2	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
DATE:	
JANUARY 2024	

DESIGNED	DMM/HED
DRAWN	TMB
CHECKED	KBB
PROJECT ENGINEER	R.C.E. NO. EXP. DATE
PRINCIPAL	R.C.E. NO. EXP. DATE

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80 Blue Ravine Rd. Suite 280  
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PH. 916-608-2212  
Fax 916-608-2232



HALLWOOD IRRIGATION COMPANY

DITCH DETAILS I

P:\Hallwood Irrigation Co\05 Drawings\5.1 CAD\Seepage Losses\HC-Seepage Losses-Civil (2023)-Details Pilot.dwg 1-08-24 03:15:42 PM tbuggy



NOTES:

1. STAINLESS STEEL CLAMPING BAR MIN. 1- $\frac{3}{4}$ " WIDE, 0.2" THICK COMPRESSING GCCM LINING OVER NEOPRENE GASKET (1- $\frac{1}{4}$ " WIDE, 0.4" THICK).
2. ATTACH CLAMPING BAR, GCCM LINING AND NEOPRENE GASKET TO CONCRETE HEADWALL WITH CONCRETE SCREW ANCHORS.
3. INSTALL GCCM LINING SO THAT A MINIMUM 2" GCCM SURFACE EXTENDS BEYOND THE SCREW ANCHORS. ONCE THE GCCM LINING IS CURED, TRIM EXCESS GCCM LINING SO THAT 2" MIN TO 3" MAX EXTENDS BEYOND THE SCREW ANCHORS.

CHECK STRUCTURE STA 1+50  
NTS



ATTACH GCCM LINING TO EXISTING CONCRETE DITCH LINING AROUND DIVERSION



NOTES:

1. TOTAL OF 12 ALFALFA VALVES
2. ATTACH GCCM LINING TO CONCRETE DITCH LINING WITH SEALANT, CONCRETE SCREW ANCHORS, AND WASHER, SEALANT AND SCREW ANCHOR SIZE AND SPACING PER MANUFACTURER RECOMMENDATION.
3. INSTALL GCCM LINING SO THAT 2" GCCM SURFACE EXTENDS BEYOND THE SCREW ANCHORS.

TYPICAL ALFALFA VALVE  
NTS



ACCESS ROAD AND STAGING AREA  
NTS



POWER LINES AND FENCE  
NTS



REV	DATE	BY	DESCRIPTION

SCALE:	WARNING
	0 1/2
DATE:	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.
JANUARY 2024	

DESIGNED	DMM/HED
DRAWN	TMB
CHECKED	KBB

PROJECT ENGINEER	R.C.E. NO.	EXP. DATE
PRINCIPAL	R.C.E. NO.	EXP. DATE


**PBI** ENGINEERING CONSULTING™  
 80 Blue Ravine Rd. Suite 280 Folsom, CA 95630  
 PH. 916-608-2212 Fax 916-608-2232

REGISTERED PROFESSIONAL ENGINEER  
 CLARENCE B. BROCK  
 No. 57952 Exp. 6/30/24  
 CIVIL  
 STATE OF CALIFORNIA  
 1/5/24

HALLWOOD IRRIGATION COMPANY  
**DITCH DETAILS II**

ISSUED FOR BID  
 SHEET  
**C06**  
 SHEET 09 OF 09

**Special-Status Plant Species with the Potential to Occur in the Project Study Area**

Common and Scientific Name	Legal Status <sup>1</sup>	Lifeform	Distribution	Habitat Association	Identification Period	Habitat Present/Absent <sup>2</sup>	Rationale <sup>3</sup>
	Federal/State/C NPS						
<b>Ferris' milk-vetch</b> <i>Astragalus tener</i> <i>var. ferrisiae</i>	--/--/1B.1	Annual herb	Butte, Colusa, Glenn, Solano <sup>4</sup> , Sutter, Yolo, and Yuba counties	Vernally mesic meadows and seeps and subalkaline flats of valley and foothill grassland 5 to 245 feet	April – May	A	No suitable habitat is present in the project area (i.e., no meadows and seeps, no subalkaline soils).
<b>Recurved larkspur</b> <i>Delphinium recurvatum</i>	--/--/1B.1	Perennial herb	Alameda, Butte <sup>4</sup> , Contra Costa, Fresno, Kern, Kings, Madera, Merced, Monterey, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Solano, Sutter, Tulare, and Yuba counties	Alkaline soils of chenopod scrub, cismontane woodland, and valley and foothill grassland 10 to 2,590 feet	March – June	A	No suitable habitat is present in the project area (i.e., no alkaline soils).
<b>Veiny monardella</b> <i>Monardella venosa</i>	--/--/1B.1	Annual herb	Butte, Sutter, Tuolumne, and Yuba counties	Clay soils of cismontane woodland and valley and foothill grassland 195 to 1,345 feet	May – July	A	The project area occurs below the elevational range of this species.
<b>Hartweg's golden sunburst</b> <i>Pseudobahia bahiifolia</i>	E/E/1B.2	Annual herb	Fresno, Madera, Merced, Stanislaus, Sutter, Tuolumne, and Yuba <sup>4</sup> counties	Clay and often acidic soils of cismontane woodland and valley and foothill grassland 50 to 590 feet	March – April	A	No suitable habitat is present in the project area (i.e., no clay soils); Presumed extirpated from Yuba County

Common and Scientific Name	Legal Status <sup>1</sup>	Lifeform	Distribution	Habitat Association	Identification Period	Habitat Present/Absent <sup>2</sup>	Rationale <sup>3</sup>
	Federal/State/CNPS						

<sup>1</sup>Status explanations:  
 -- = no listing.

**Federal**  
 E = listed as endangered under the federal Endangered Species Act.  
 T = listed as threatened under the federal Endangered Species Act.

**State**  
 E = listed as endangered under the California Endangered Species Act.  
 R = listed as rare under the California Endangered Species Act.  
 T = listed as threatened under the California Endangered Species Act.

**California Native Plant Society**  
 1A = List 1A species: extirpated in California, rare or extinct elsewhere  
 1B = List 1B species: rare, threatened, or endangered in California and elsewhere.  
 2B = List 2B species: rare, threatened, or endangered in California but more common elsewhere.  
 0.1 = Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)  
 0.2 = Moderately threatened in California (20%-80% occurrences threatened/moderate degree and immediacy of threat)  
 0.3 = Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)  
 4 = Limited distribution in California

<sup>2</sup>A = absent; HP = habitat present  
<sup>3</sup>Rationale includes an effects determination under the FESA for all federally listed species.  
<sup>4</sup> Presumed extirpated  
<sup>5</sup> Presumed extirpated if once present

### Special-Status Wildlife with the Potential to Occur in the Project Area

Common and Scientific Name	Legal Status <sup>1</sup>		Distribution	Habitat Association	Habitat Present/Absent <sup>2</sup>	Rationale <sup>3</sup>
	Federal	State				
<b>Fish</b>						
<b>Green sturgeon (Southern Distinct Population Segment [DPS])</b> <i>Acipenser medirostris</i> pop. 1	T	SSC	Sacramento River and its tributaries.	Found in both marine and freshwater along the entire CA coast. Spawn in turbulent, deep and large freshwater rivers. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	A	No suitable habitat is present in the project area (i.e., no marine or freshwater habitat).
<b>Steelhead (Central Valley DPS)</b> <i>Oncorhynchus mykiss irideus</i> pop. 11	T	--	The Sacramento and San Joaquin Rivers and their tributaries, excluding San Francisco and San Pablo Bays and their tributaries, and coastal marine waters off California.	Central Valley rivers and streams.	A	No suitable habitat is present in the project area (i.e., no marine or freshwater habitat).
<b>Chinook salmon (Central Valley spring-run Evolutionarily Significant Unit [ESU])</b> <i>Oncorhynchus tshawytscha</i> pop. 11	T	T	The Sacramento and San Joaquin Rivers and tributaries March to July. Young move to rearing areas in and through the Sacramento and San Joaquin Rivers, Delta, and San Pablo and San Francisco Bays.	Central Valley rivers.	A	No suitable habitat is present in the project area (i.e., no marine or freshwater habitat).
<b>Crustaceans</b>						
<b>Conservancy fairy shrimp</b> <i>Branchinecta conservatio</i>	E	--	Tehama, Butte, Glenn, Solano, Yolo, Stanislaus, Merced, and Ventura counties.	Hardpan vernal pools.	A	No suitable habitat is present in the project area (i.e., no vernal pools).
<b>Vernal pool fairy shrimp</b> <i>Branchinecta lynchi</i>	T	--	Central valley, central coast ranges, and south coast ranges.	Vernal pools and seasonal wetlands.	A	No suitable habitat is present in the project area (i.e., no vernal pools).

**Special-Status Wildlife with the Potential to Occur in the Project Area**

Common and Scientific Name	Legal Status <sup>1</sup>		Distribution	Habitat Association	Habitat Present/Absent <sup>2</sup>	Rationale <sup>3</sup>
	Federal	State				
<b>Vernal pool tadpole shrimp</b> <i>Lepidurus packardii</i>	E	--	Shasta County south to Merced County.	Vernal pools, seasonal wetlands, and ephemeral stock ponds.	A	No suitable habitat is present in the project area (i.e., no vernal pools).
<b>Amphibians</b>						
<b>Western spadefoot</b> <i>Spea hammondi</i>	PT	SSC	Originally found over most of California below 6,000 feet, west of the deserts and the Sierra-Cascade crest.	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rainpools which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	A	Not known to occur in Yuba County. No suitable habitat is present in the project area (i.e., no sufficient aquatic habitat for breeding).
<b>Reptiles</b>						
<b>Northwestern pond turtle</b> <i>Actinemys marmorata</i>	PT	SSC	Found throughout California west of the Cascade-Sierras from near sea level to 4,700 ft in elevation. They are found in many of the Natomas Basin's aquatic habitats.	This species inhabits a variety of aquatic habitats provided there is permanent, year-round water, some aquatic vegetation, adequate basking sites, and suitable upland habitat for egg laying.	A	No suitable habitat is present in the project area (i.e., no year-round aquatic habitat).
<b>Giant garter snake</b> <i>Thamnophis gigas</i>	T	T	Their range extends from Butte and Glenn counties in the north to Fresno County in the south of CA.	Known to inhabit in a variety of agricultural, managed, and natural wetlands like marshes, sloughs, ponds, small lakes, and small streams. These snakes also live in artificial waters and agricultural wetlands like irrigation and drainage canals.	A	Construction would occur when the canal is dry and during this species' inactive season; no suitable aquatic or upland habitat is present in the project area.

**Special-Status Wildlife with the Potential to Occur in the Project Area**

Common and Scientific Name	Legal Status <sup>1</sup>		Distribution	Habitat Association	Habitat Present/Absent <sup>2</sup>	Rationale <sup>3</sup>
	Federal	State				
<b>Insects</b>						
<b>Monarch Butterfly</b> <i>Danaus plexippus</i>	C	--	Western monarchs aggregate in clusters at forested groves scattered along 620 miles of the Pacific coast from Mendocino County to Baja California, Mexico.	Very specific microclimate conditions, including dappled sunlight, high humidity, access to fresh water, and an absence of freezing temperatures or high winds. Most commonly found roosting in nonnative blue gum eucalyptus ( <i>Eucalyptus globulus</i> ) and Monterey pine ( <i>Pinus radiata</i> ) and Monterey cypress ( <i>Cupressus macrocarpa</i> ).	A	No suitable habitat is present in the project area (i.e., no suitable roost trees within project area).
<b>Valley elderberry longhorn beetle</b> <i>Desmocerus californicus dimorphus</i>	T	--	Occurs only in the central valley of California below 1,500-foot elevations.	Prefers to lay eggs in elderberry shrubs 2-8 inches in diameter; can also use smaller elderberry shrubs as food source.	A	No suitable habitat is present in the project area (i.e., no elderberry shrubs).
<b>Birds</b>						
<b>Tricolored blackbird</b> <i>Agelaius tricolor</i>	--	T, SSC	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County to San Diego County; and at scattered locations in Lake, Sonoma, and Solano counties.	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony.	A	No suitable habitat is present in the project area (i.e., habitat is too small; no emergent marsh vegetation).
<b>Swainson's hawk</b> <i>Buteo swainsoni</i>	--	T	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley.	Nests in oaks or cottonwoods in or near riparian habitats; forages in grasslands, irrigated pastures, and grain fields.	A	No suitable nest trees in the project area.

**Special-Status Wildlife with the Potential to Occur in the Project Area**

Common and Scientific Name	Legal Status <sup>1</sup>		Distribution	Habitat Association	Habitat Present/Absent <sup>2</sup>	Rationale <sup>3</sup>
	Federal	State				
<b>Western yellow-billed cuckoo</b> <i>Coccyzus americanus occidentalis</i>	T	E	Isolated areas of the Sacramento Valley primarily along the upper Sacramento River from Red Bluff to and at the South Fork Kern River.	Found in dense willow-cottonwood riparian forests.	A	No suitable habitat is present in the project area (i.e., no cottonwood riparian forests; not known to be present in project area's location).
<b>Song sparrow ("Modesto" population)</b> <i>Melospiza melodia pop. 1</i>	--	SSC	Most of California, but avoids higher mountains and occurs only locally in southern deserts.	Prefers riparian, fresh or saline emergent wetland, and wet meadow habitats. Breeds in riparian thickets of willows, other shrubs, vines, tall herbs, and in fresh or saline emergent vegetation.	A	No suitable habitat is present in the project area (i.e., no riparian or wetland habitat).
<b>Bank swallow</b> <i>Riparia riparia</i>	--	T	Central coast from Monterey to San Mateo counties, and northeastern California in Shasta, Siskiyou, Lassen, Plumas, and Modoc counties.	Restricted to riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine-textured or sandy soils, into which it digs nesting holes.	A	No suitable habitat is present in the project area (i.e., no riparian habitat or banks suitable for nesting).
<b>Least Bell's vireo</b> <i>Vireo bellii pusillus</i>	E	E	San Benito and Monterey counties; in coastal southern California from Santa Barbara County south to the Baja Peninsula	Willows and other low, dense valley foothill riparian habitat and lower portions of canyons; and along the western edge of the deserts in desert riparian habitat.	A	Not known to occur in Yuba County. No suitable habitat is present in the project area (i.e., no riparian habitat).

### Special-Status Wildlife with the Potential to Occur in the Project Area

Common and Scientific Name	Legal Status <sup>1</sup>		Distribution	Habitat Association	Habitat Present/ Absent <sup>2</sup>	Rationale <sup>3</sup>
	Federal	State				
<b>Natural Communities</b>						

<sup>1</sup> Status explanations:

-- = no listing.

Federal

PT= proposed threatened for listing under the federal Endangered Species Act.  
 E = listed as endangered under the federal Endangered Species Act.  
 T = listed as threatened under the federal Endangered Species Act.  
 C = candidate for listing under the federal Endangered Species Act

State

E = listed as endangered under the California Endangered Species Act.  
 T = listed as threatened under the California Endangered Species Act.  
 CT= candidate for listing as threatened under the California Endangered Species Act.  
 SSC= state species of special concern  
 WL= watch list

<sup>2</sup> A = absent; HP = habitat present

<sup>3</sup>Rationale includes an effects determination under the FESA for all federally listed species.