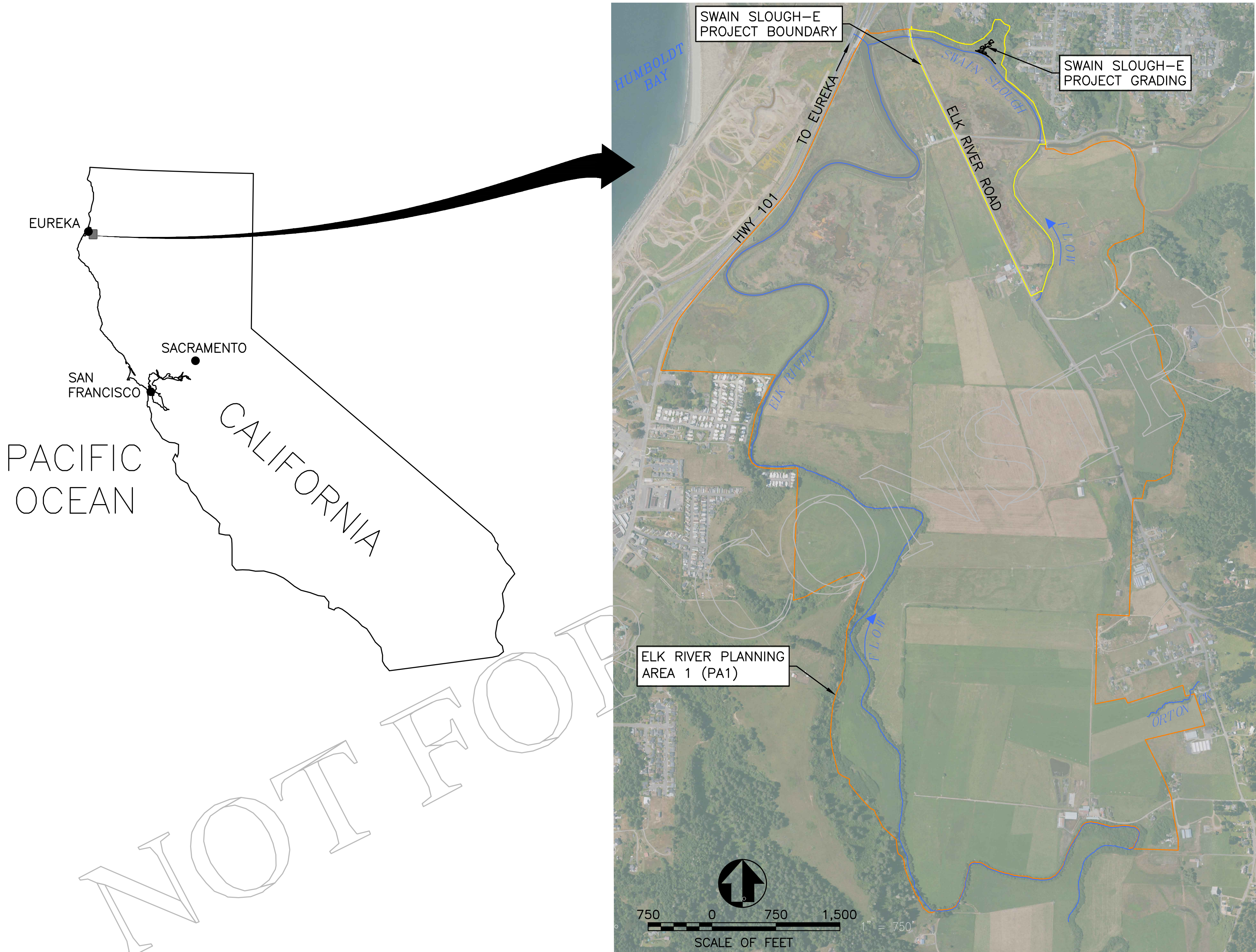


ELK RIVER PLANNING AREA 1 65% DESIGN: SWAIN SLOUGH EAST PERMIT SET
HUMBOLDT COUNTY, CALIFORNIA



SHEET INDEX

CIVIL SHEETS		
1	G1	COVER
2	G2	EXISTING CONDITIONS OVERVIEW
3	G3	CONTRACTOR USE AREAS & ACCESS
4	C1C	COLOR SITE OVERVIEW
5	C2	PROFILE AND SECTION
6	C3	ISOPACH
7	C4	DETAILS

Plotted: 10/15/2025 12:48 PM - By: LICENSED USER - R17.1 - File: G1-COVER-SWAIN-E-65PER-DRAFT-PERMIT

THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF JEFFREY K. ANDERSON P.E. LICENSE # 50713

ELK PA-1 65% DESIGN: PERMIT SET



**Northern
Hydrology &
Engineering**

- Engineering
- Hydrology
- Geomorphology
- Water Resources

PO BOX 2515, MCKINLEYVILLE, CA 95519 (707) 839-2195

DESIGNED:

NHE

TC

TECH. REVIEW:

DATE:
10/15/2025

SUB SHEET NO.

G1

TITLE OF SHEET

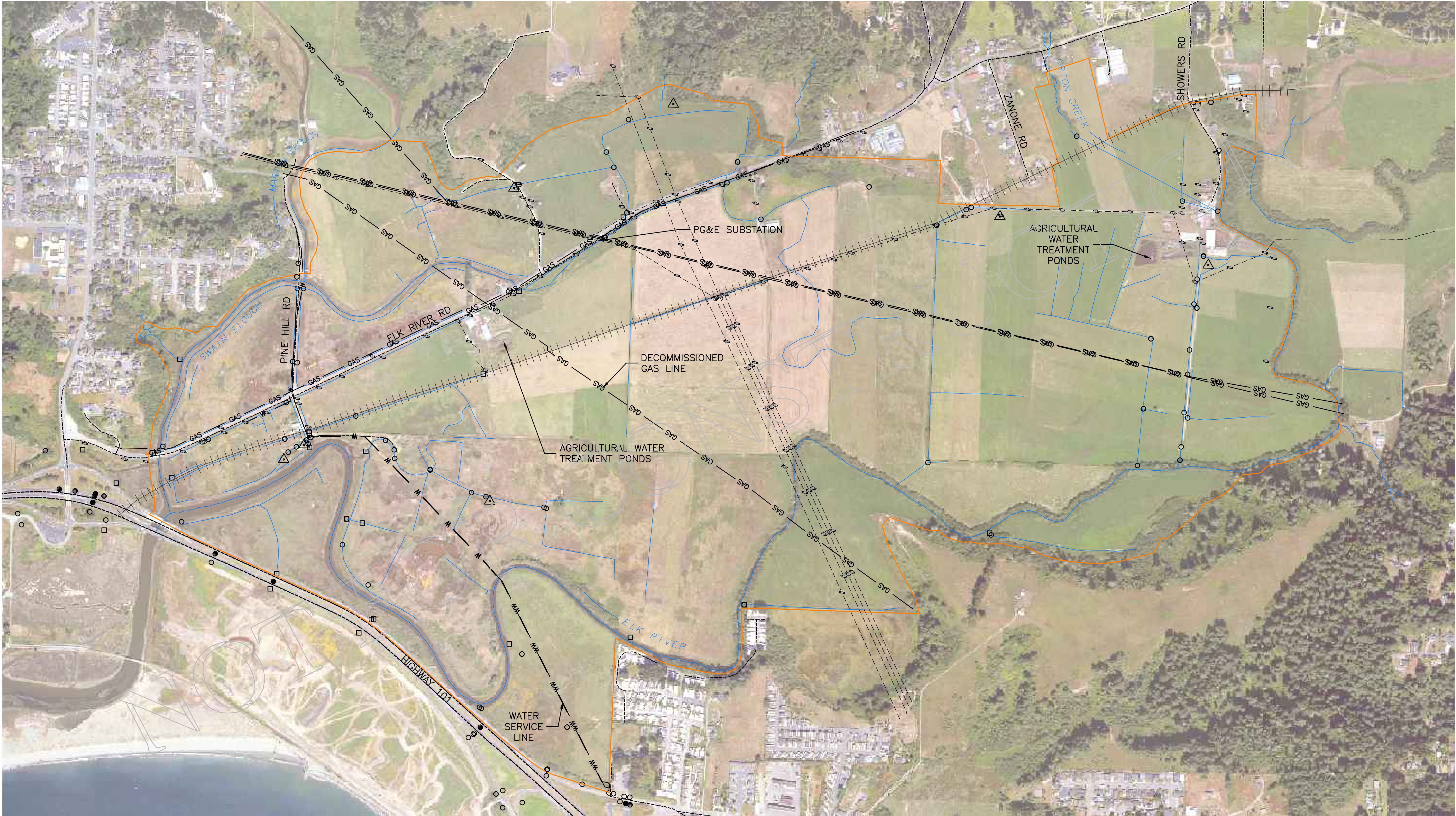
**COVER
SWAIN SLOUGH-E
PROJECT**

HUMBOLDT COUNTY, CA

SHEET

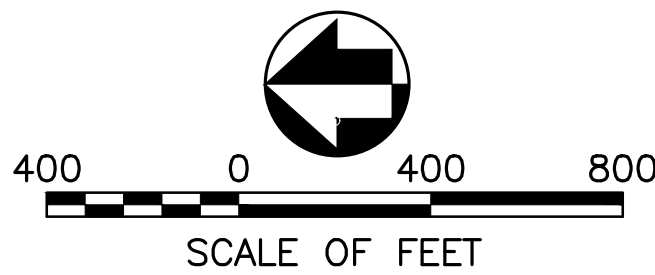
**1
OF
7**

Plotted: 10/9/2025 8:13 AM - By: LICENSED USER - R17.1 - File: G2-EXISTING-CONDITIONS

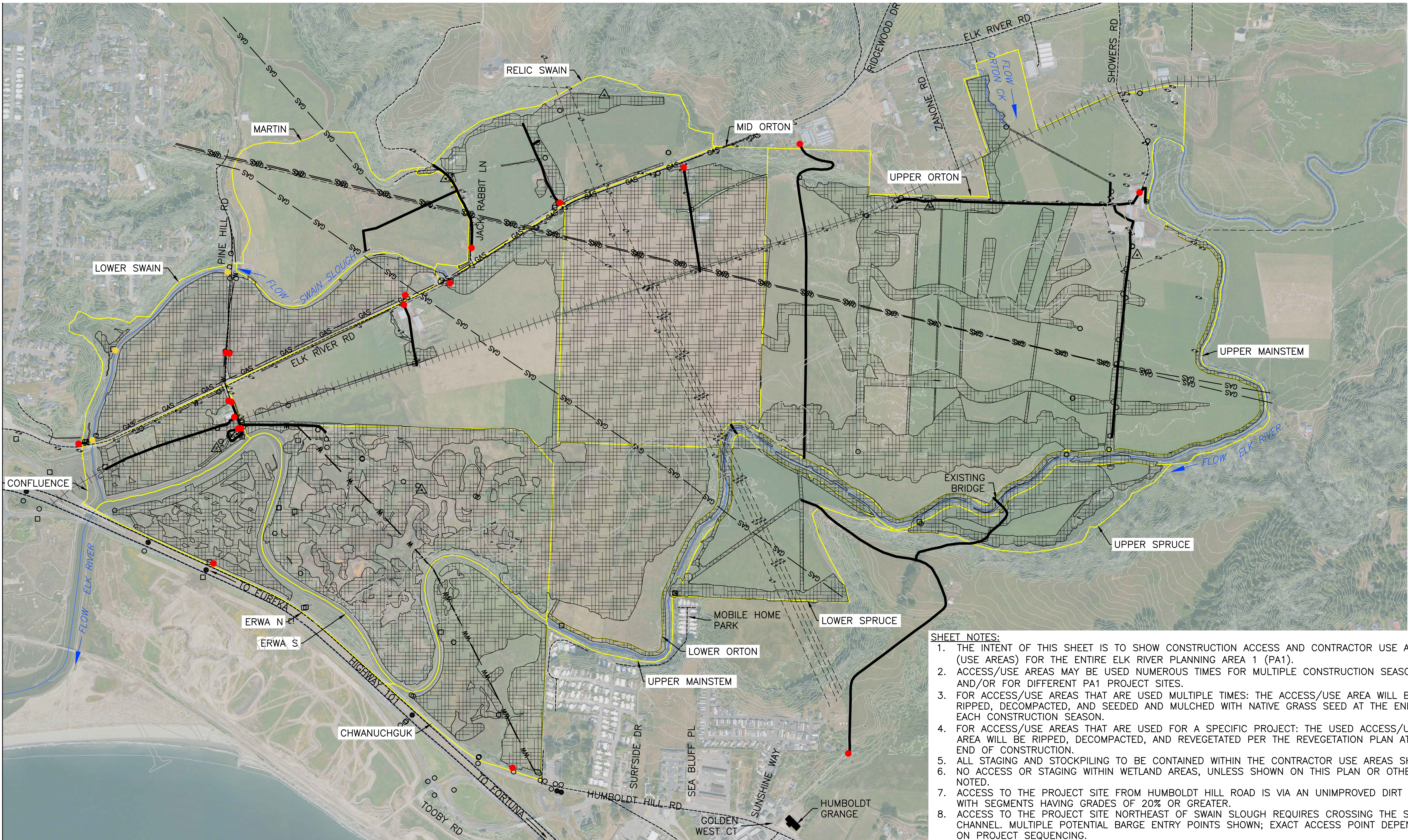


- | | | | | | |
|--|--------------------|--|-----------------------|--|---------------|
| | PLANNING AREA 1 | | OVERHEAD UTILITY LINE | | CULVERT |
| | HIGHWAY | | WATER LINE | | DROP INLET |
| | MAIN ROAD | | RIVER CENTERLINE | | TIDE GATE |
| | ABANDONED RAILROAD | | STREAMS | | ARTESIAN WELL |
| | GAS | | DRAINAGE CHANNEL | | UTILITY POLE |

SHEET NOTES:
1) ALL INFRASTRUCTURE LOCATIONS ARE APPROXIMATE.

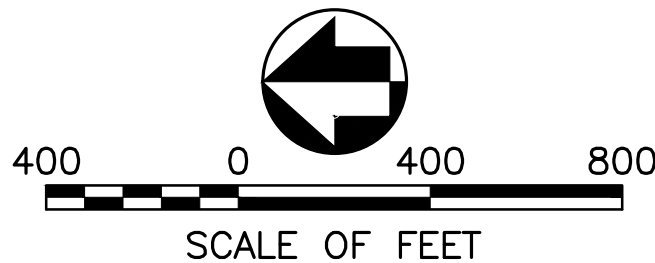


DRAFT ELK RIVER PA1			
DESIGNED: NHE CV TECH. REVIEW: JRP DATE: 10/01/2025	SUB SHEET NO. G2	TITLE OF SHEET EXISTING CONDITIONS OVERVIEW PLANNING AREA 1 HUMBOLDT COUNTY, CA	SHEET 2 OF 7



- SHEET NOTES:**
1. THE INTENT OF THIS SHEET IS TO SHOW CONSTRUCTION ACCESS AND CONTRACTOR USE AREAS (USE AREAS) FOR THE ENTIRE ELK RIVER PLANNING AREA 1 (PA1).
 2. ACCESS/USE AREAS MAY BE USED NUMEROUS TIMES FOR MULTIPLE CONSTRUCTION SEASONS AND/OR FOR DIFFERENT PA1 PROJECT SITES.
 3. FOR ACCESS/USE AREAS THAT ARE USED MULTIPLE TIMES: THE ACCESS/USE AREA WILL BE RIPPED, DECOMPACTED, AND SEEDED AND MULCHED WITH NATIVE GRASS SEED AT THE END OF EACH CONSTRUCTION SEASON.
 4. FOR ACCESS/USE AREAS THAT ARE USED FOR A SPECIFIC PROJECT: THE USED ACCESS/USE AREA WILL BE RIPPED, DECOMPACTED, AND REVEGETATED PER THE REVEGETATION PLAN AT THE END OF CONSTRUCTION.
 5. ALL STAGING AND STOCKPILING TO BE CONTAINED WITHIN THE CONTRACTOR USE AREAS SHOWN.
 6. NO ACCESS OR STAGING WITHIN WETLAND AREAS, UNLESS SHOWN ON THIS PLAN OR OTHERWISE NOTED.
 7. ACCESS TO THE PROJECT SITE FROM HUMBOLDT HILL ROAD IS VIA AN UNIMPROVED DIRT ROAD WITH SEGMENTS HAVING GRADES OF 20% OR GREATER.
 8. ACCESS TO THE PROJECT SITE NORTHEAST OF SWAIN SLOUGH REQUIRES CROSSING THE SLOUGH CHANNEL. MULTIPLE POTENTIAL BARGE ENTRY POINTS SHOWN; EXACT ACCESS POINT DEPENDENT ON PROJECT SEQUENCING.

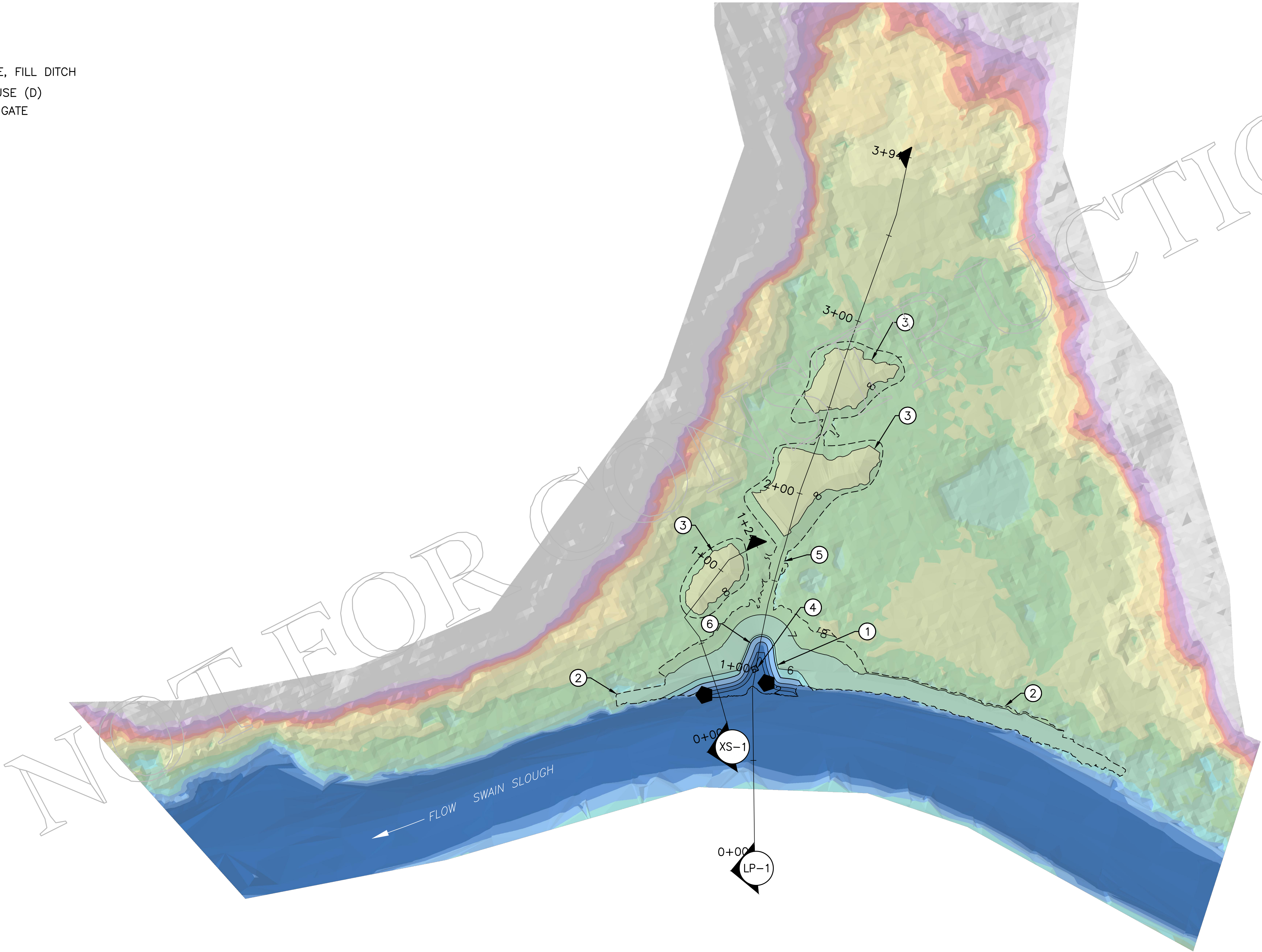
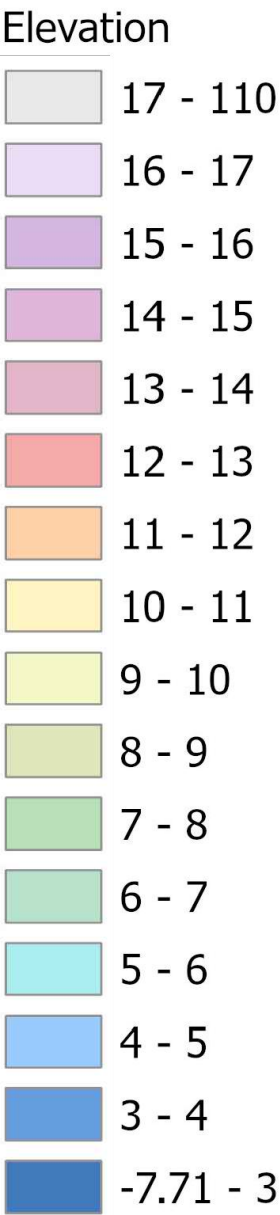
- | | |
|------------------------------------|--|
| — EXISTING CONTOUR (5-FT INTERVAL) | ○ CULVERT (E) |
| — GAS — GASLINE (E) | ⊕ DROP INLET |
| --- OVERHEAD UTILITY LINE (E) | △ ARTESIAN WELL |
| ++++ ABANDONED RAILROAD | ● ACCESS POINT (E) |
| — w — WATER LINE | ● ACCESS POINT: POTENTIAL BARGE ENTRY LOCATION (SEE NOTE #8) |
| --- HIGHWAY | — ACCESS ROAD (E) |
| --- MAIN ROAD | ▨ CONTRACTOR USE AREA |
| ○ UTILITY POLE (E) | |
| □ TIDE GATE (E) | |



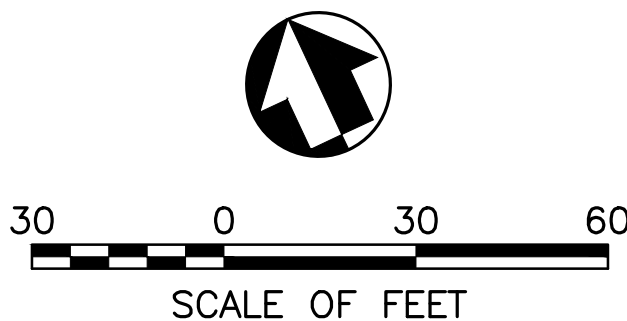
ELK PA1 65% DESIGN: PERMIT SET			
DESIGNED: NHE GADD BD TECH. REVIEW:	SUB SHEET NO. G3	TITLE OF SHEET CONTRACTOR USE AREAS & ACCESS PLANNING AREA 1 HUMBOLDT COUNTY, CA	SHEET 3 OF 7
DATE: 10/15/2025			

Plotted: 10/15/2025 12:50 PM - By: LICENSED USER - R17.1 - File: 04_LOWER-SWAIN-E-PRELIM-65%-DRAFT-PERMIT-SET

- KEY NOTES:
- ① ALCOVE (D)
 - ② REMOVE LEVEE, FILL DITCH
 - ③ SEDIMENT REUSE (D)
 - ④ REMOVE TIDE GATE
 - ⑤ FILL DITCH
 - ⑥ FABRIC (D)



- SHEET NOTES:
- 1. XS-1 REFERS TO CROSS-SECTION LOCATION; SEE CROSS SECTION SHEET.
 - 2. LP-1 REFERS TO LONG-PROFILE LOCATION; SEE LONG PROFILE SHEET.

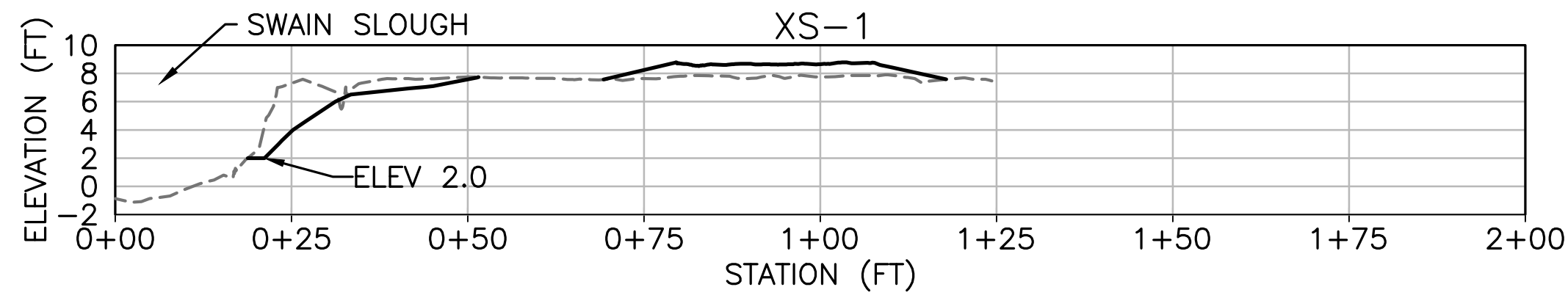
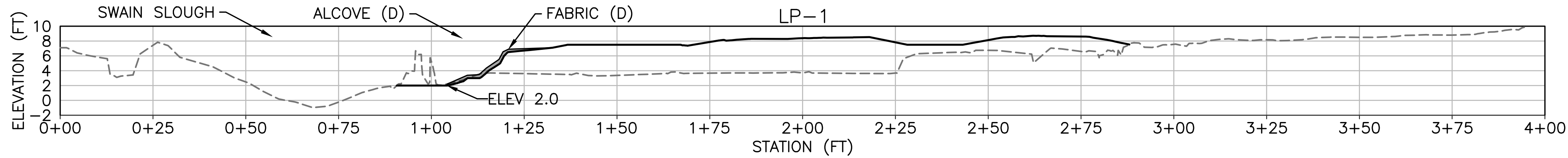


- DESIGN CONTOUR (1-FT INTERVAL)
- DESIGN CONTOUR (5-FT INTERVAL)
- - - GRADING BOUNDARY
- TIDE GATE (E)
- WOOD STRUCTURE (D)



ELK PA1 65% DESIGN: PERMIT SET			
DESIGNED: NHE CADD TC	SUB SHEET NO. C1C	TITLE OF SHEET COLOR SITE OVERVIEW SWAIN SLOUTH-E PROJECT	SHEET 4 OF 7
TECH. REVIEW: JRP, JKA	DATE: 10/15/2025	HUMBOLDT COUNTY, CA	

Plotted: 10/15/2025 12:50 PM - By: LICENSED USER - R17.1 - File: 04_LOWER-SWAIN-E-PRELIM-65%-DRAFT-PERMIT-SET



SHEET NOTES:

1. SEE SITE OVERVIEW SHEET FOR PROFILE AND SECTION ALIGNMENT LOCATION.
2. VERTICAL EXAGGERATION OF 2 FOR ALL PROFILE AND SECTION VIEWS ON THIS SHEET.
3. THIS SHEET SHOWS EXISTING AND DESIGN GRADES, AND APPROXIMATE LOCATION OF DESIGN ELEMENTS.
4. DESIGN MHHW = ~7 FT

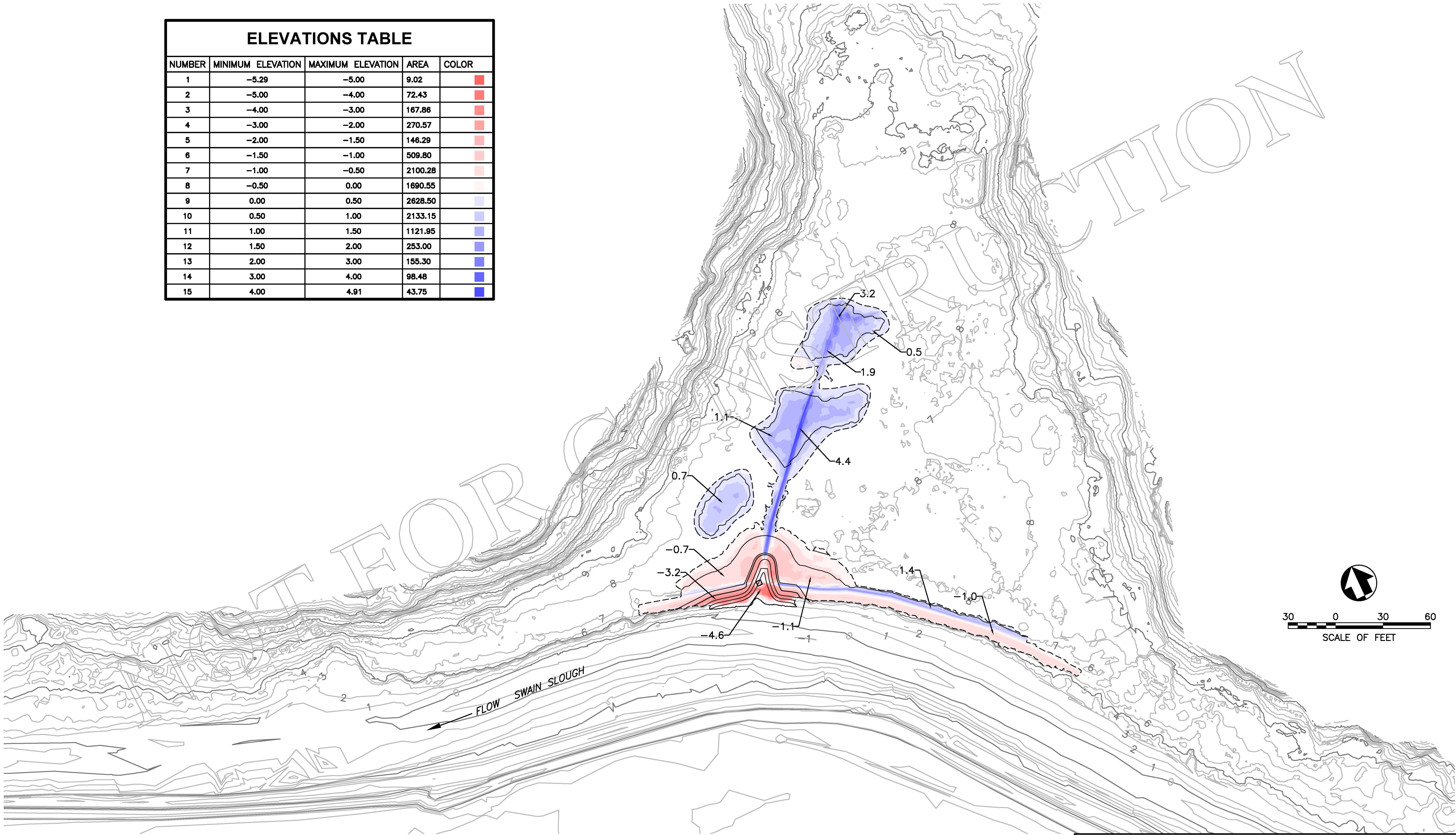
----- EXISTING GRADE PROFILE
————— DESIGN GRADE PROFILE



ELK PA1 65% DESIGN: PERMIT SET			
DESIGNED: NHE CADD TC	SUB SHEET NO. C2	TITLE OF SHEET PROFILE AND SECTION SWAIN SLOUGH-E PROJECT	SHEET 5 OF 7
TECH. REVIEW: JRP, JKA DATE: 10/15/2025		HUMBOLDT COUNTY, CA	

Plotted: 10/15/2025 12:53 PM - By: LICENSED USER - R17.1 - File: 04_LOWER-SWAIN-E-PRELIM-65%-DRAFT-ISOPACH

ELEVATIONS TABLE				
NUMBER	MINIMUM ELEVATION	MAXIMUM ELEVATION	AREA	COLOR
1	-5.29	-5.00	9.02	
2	-5.00	-4.00	72.43	
3	-4.00	-3.00	167.86	
4	-3.00	-2.00	270.57	
5	-2.00	-1.50	146.29	
6	-1.50	-1.00	509.80	
7	-1.00	-0.50	2100.28	
8	-0.50	0.00	1690.55	
9	0.00	0.50	2628.50	
10	0.50	1.00	2133.15	
11	1.00	1.50	1121.95	
12	1.50	2.00	253.00	
13	2.00	3.00	155.30	
14	3.00	4.00	98.48	
15	4.00	4.91	43.75	



- EXISTING CONTOUR (1-FT INTERVAL)
- EXISTING CONTOUR (5-FT INTERVAL)
- DESIGN CONTOUR (1-FT INTERVAL)
- DESIGN CONTOUR (5-FT INTERVAL)
- GRADING BOUNDARY
- TIDE GATE (E)

SHEET NOTES:
1) THE INTENT OF THIS DRAWING IS TO SHOW FINISHED GRADE CUT/FILL DEPTHS RELATIVE TO EXISTING GRADE (EG).
2) ISOPACH LABELS REPRESENT CUT/FILL DEPTHS IN FEET (RELATIVE TO EG).
3) SEE SHEETS C1C-C2 FOR ADDITIONAL GRADING DETAILS.



ELK PA1 65% DESIGN: PERMIT SET			
DESIGNED: NHE TC	SUB SHEET NO. C3	TITLE OF SHEET ISOPACH: CUT-FILL SWAIN SLOUTH-E PROJECT	SHEET 6 OF 7
TECH. REVIEW: JRP, JKA	DATE: 10/15/2025	HUMBOLDT COUNTY, CA	

Plotted: 10/15/2025 12:51 PM - By: LICENSED USER - R17.1 - File: CX-DETAILS-65PER-PERMIT



DETAIL 1: LWS INSTALLATION AND INTEGRATION ALONG STREAM BANK. PHOTO OF LWS INSTALLED AT PRAIRIE CREEK, HUMBOLDT COUNTY.



DETAIL 3: LWS INSTALLATION WITHIN FLOODPLAIN. PHOTO OF LWS INSTALLED AT PRAIRIE CREEK, HUMBOLDT COUNTY.



DETAIL 5: LWS INSTALLATION ALONG STREAM BANK HIGHLIGHTING ANCHORING WITH PINNING LOGS. PHOTO OF LWS INSTALLED AT PRAIRIE CREEK, HUMBOLDT COUNTY.



DETAIL 2: LWS INSTALLATION AND INTEGRATION ALONG STREAM BANK. PHOTO OF LWS INSTALLED AT PRAIRIE CREEK, HUMBOLDT COUNTY.



DETAIL 4: LWS INSTALLATION WITHIN FLOODPLAIN. PHOTO OF LWS INSTALLED AT PRAIRIE CREEK, HUMBOLDT COUNTY.

SHEET NOTES:

1. THE INTENT OF THIS SHEET IS TO SHOW GENERAL EXAMPLES OF THE TYPES OF LARGE WOOD STRUCTURES TO BE INSTALLED.
2. THIS SHEET SHOWS APPROXIMATE LARGE WOOD STRUCTURE CONFIGURATIONS AND INSTALLATION TECHNIQUES USING LOG PILES AS PINNING LOG ANCHORS. ACTUAL LOG STRUCTURES WILL VARY DEPENDING ON VARIABLE FIELD CONDITIONS, LOG VARIABILITY, AND OTHER UNFORESEEN CONDITIONS.



ELK PA1 65% DESIGN: PERMIT SET			
DESIGNED: NHE BD TECH. REVIEW:	SUB SHEET NO. C4	TITLE OF SHEET DETAILS SWAIN SLOUGH-E PROJECT HUMBOLDT COUNTY, CA	SHEET 7 OF 7