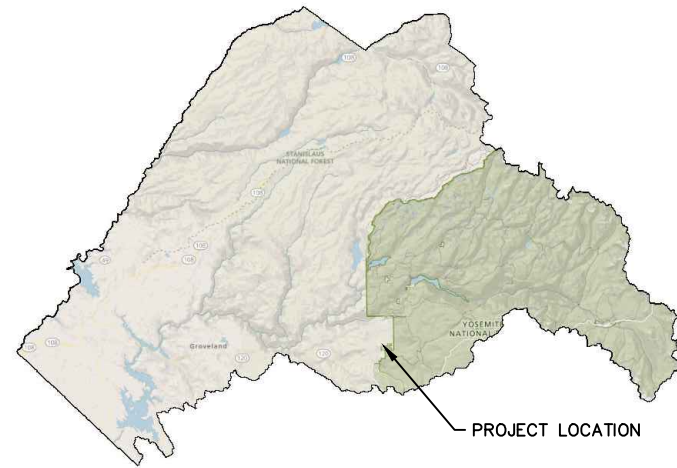
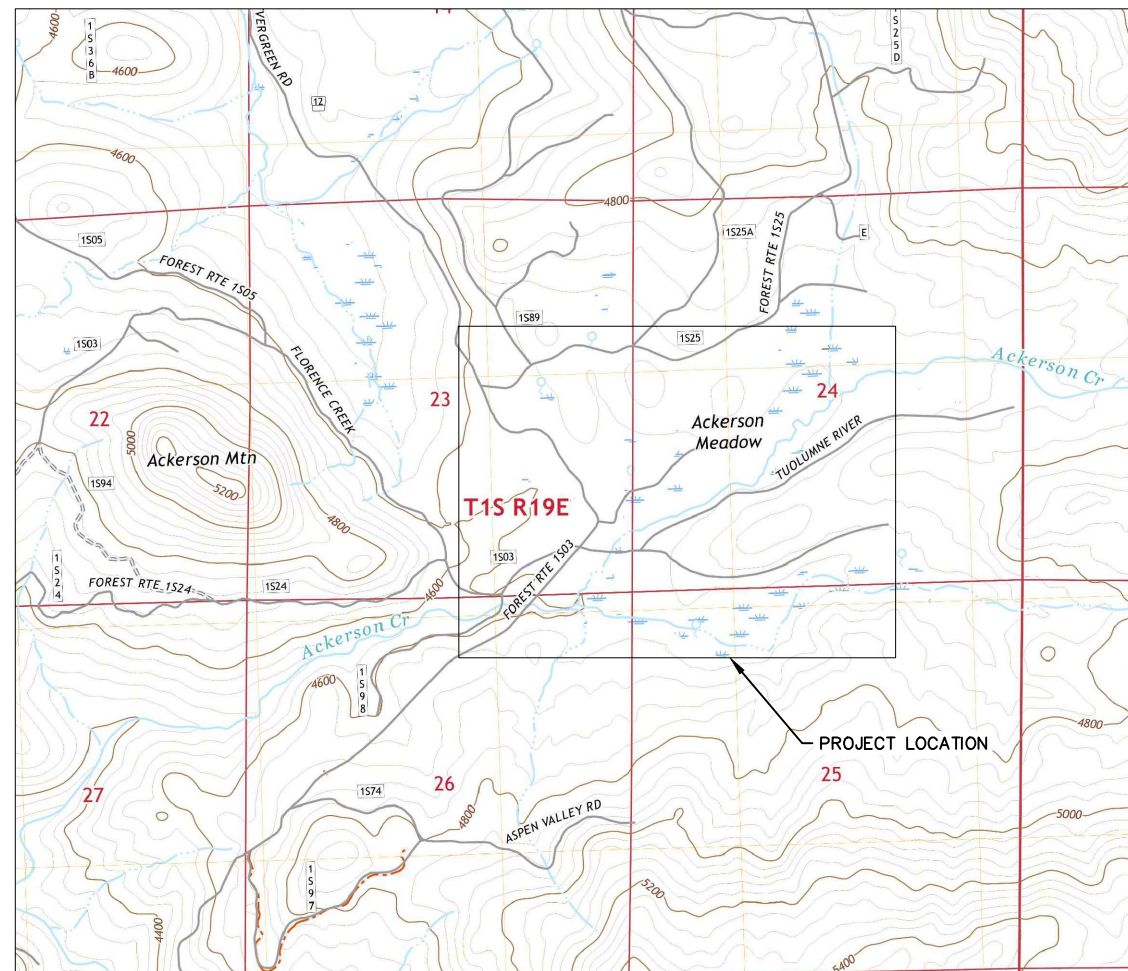


FILE PATH: C:\Users\nwander\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 2/23/2023 3:34 PM SAVED BY: NWANDERSON PLOT DATE: 2/23/2023 3:35 PM

# ACKERSON MEADOW RESTORATION TUOLUMNE COUNTY, CALIFORNIA



TUOLUMNE COUNTY CALIFORNIA



PROJECT LOCATION

SHEET INDEX	
SHEET	DESCRIPTION
G1	TITLE SHEET
G2	EXISTING CONDITIONS
G3	GENERAL PROJECT INFORMATION
G4	ESTIMATE REFERENCE INFORMATION
G5	PROJECT OVERVIEW & INDEX
G6	TYPICAL GULLY FILL SECTION
C1-C9	GRADING PLAN
C10	ROCK ARCH RAPIDS PLAN
C11	ROCK ARCH RAPIDS PROFILE
C12	POND PLAN
C13	DETAILS
L1	FENCING PLAN
L2	FENCING DETAILS
L3	VEGETATIVE RESTORATION PLAN
L4	SALVAGEABLE MATERIALS
U1	EROSION CONTROL PLAN
U2-U3	EROSION CONTROL DETAILS

PROJECT PARTNERS



**NATIONAL PARK  
SERVICE**



**AMERICAN  
RIVERS**

**NATIONAL PARK  
SERVICE**



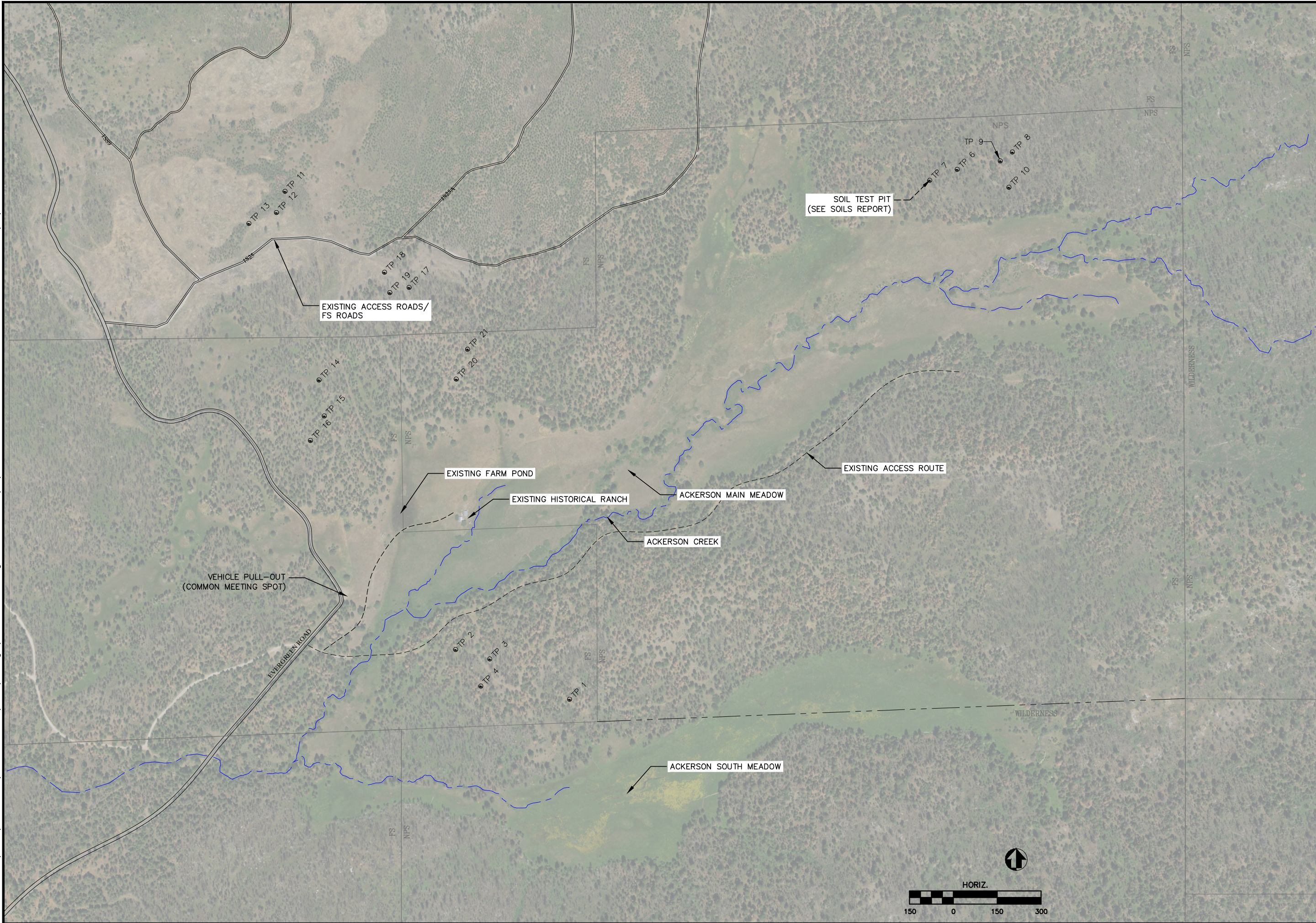
REVISIONS	
NO.	DATE

TITLE SHEET  
ACKERSON MEADOW RESTORATION  
TUOLUMNE COUNTY CALIFORNIA

SCALE: AS SHOWN
PMIS NO. _____
DRAWN BY: NWA
SHEET
SUBSHEET
<b>G1</b>



FILE PATH: C:\Users\nwanderson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/12/2022 4:02 PM SAVED BY: Nwanderson PLOT DATE: 12/12/2022 4:27 PM



**NATIONAL PARK SERVICE**

EXISTING CONDITIONS

ACKERSON MEADOW RESTORATION

TUOLUMNE COUNTY CALIFORNIA

NO.	DATE	DESCRIPTION

SCALE: AS SHOWN

PMIS NO. \_\_\_\_\_

DRAWN BY: NWA

SHEET

SUBSHEET

G2



FILE PATH: C:\Users\Nwanderson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/12/2022 4:30 PM SAVED BY: NWANDESON PLOT DATE: 12/12/2022 4:30 PM

**PROJECT SPECIFIC REQUIREMENTS:**

1. THIS PROJECT IS ON LAND THAT IS MANAGED BY TWO FEDERAL AGENCIES WITH VARYING REQUIREMENTS. THE CONTRACTOR SHALL OBEY ALL NATIONAL PARK SERVICE AND U.S. FOREST SERVICE RULES AND REGULATIONS WHILE OPERATING ON FEDERAL LAND.
2. TO PREVENT UNNATURAL ATTRACTANTS TO WILDLIFE, KEEP ALL FOODS, PETFOODS, GARBAGE, DRINKS, TRASH, OR FOOD AND DRINK CONTAINERS INSIDE VEHICLES, IN BEAR-PROOF CONTAINERS, OR ENCLOSED CONSTRUCTION EQUIPMENT, EXCEPT DURING ACTUAL USE. CONTRACTOR SUPPLIED GARBAGE BINS, WITHIN THE CONSTRUCTION SITE MUST BE BEAR PROOF AND MEET PARK REQUIREMENTS. REMOVE ALL GARBAGE AND FOOD TRASH FROM THE PROJECT SITE DAILY.
3. ALL VEHICLES AND EQUIPMENT WILL BE INSPECTED BY THE ENGINEER'S REPRESENTATIVE BEFORE THEIR INITIAL ENTRY INTO THE SITE FOR MUD, WEEDS, AND OTHER UNWANTED SUBSTANCES. POWER-WASH ALL EARTH-MOVING EQUIPMENT (INCLUDING HAULING VEHICLES) OF MUD AND WEEDS BEFORE ARRIVING ON-SITE. DIRTY EQUIPMENT WILL NOT BE ALLOWED TO ENTER.
4. ALL FILL MATERIAL NOT ORIGINATING ON-SITE MUST BE CLEAN AND FREE OF VEGETATION TO AVOID THE SPREAD OF INVASIVE SPECIES. AGGREGATE AND FILL MATERIAL CONTAINING VEGETATION SHALL BE REJECTED.
5. ALL CONSTRUCTION DEBRIS IS TO BE HAULED FROM THE PROJECT SITE TO A PROPER DISPOSAL LOCATION COMPLIANT WITH ALL LOCAL, STATE AND FEDERAL LAWS.
6. ALL TOOLS, EQUIPMENT, SURPLUS MATERIALS, AND RUBBISH WILL BE REMOVED FROM THE PROJECT SITE UPON PROJECT COMPLETION.
7. INSTALL TEMPORARY BARRIERS TO PROTECT EXISTING TREES WITHIN THE WORK AREA THAT ARE TO REAMIN.
8. DO NOT USE IMPORTED HAY/STRAW BALES DURING CONSTRUCTION.
9. ALL BMPS MUST BE MADE FROM MATERIALS THAT DO NOT CONTAIN SEEDS. PERMANENT BMPS MUST BE MADE FROM NATURAL MATERIALS.
10. COVER ALL HAUL TRUCKS BRINGING FILL MATERIALS FROM OUTSIDE THE PARK.
11. CONDUCT MACHINERY MAINTENANCE AND REFUELING AT A DISTANCE OF 150 FEET OR GREATER FROM ANY SURFACE WATERS AND WETLANDS.
12. INSTRUCT ALL WORKERS TO CONFINE CONSTRUCTION ACTIVITIES TO WITHIN THE CONSTRUCTION LIMITS.
13. AVOID ENTRAPMENT OF WILDLIFE BY COVERING HOLES AT THE END OF EACH WORK DAY.
14. ALL PROJECT ACTIONS WITHIN DESIGNATED WILDERNESS MUST CONFORM TO THE WILDERNESS ACT (1964), AND THE PROJECT MINIMUM REQUIREMENTS ANALYSIS.

**ENVIRONMENTAL MITIGATION REQUIREMENTS BY REFERENCE**

1. AN ENVIRONMENTAL ASSESSMENT (EA) AND INITIAL STUDY/MITIGATED NEGATIVE DECLARATION (MND) WAS COMPLETED FOR THIS PROJECT IN 2021 AND 2022. THE EA RESULTED IN A FINDING OF NO SIGNIFICANT IMPACT (FONSI). A COPY OF THE FONSI AND THE MND ARE INCLUDED WITH THE PROJECT SPECIFICATIONS.
2. THE FONSI AND MND CONTAINS NUMEROUS AGREED UPON MITIGATION MEASURES TO AVOID AND MINIMIZE ENVIRONMENTAL IMPACTS.
3. MOST OF THE MITIGATION MEASURES HAVE BEEN SPECIFICALLY DESIGNATED AND/OR SPECIFIED TO THE CONTRACTOR IN THE PLANS AND SPECIFICATIONS. FOR EXAMPLE, THE REQUIREMENT TO OBTAIN PERMITS AND DEVELOP VARIOUS PLANS ARE ADDRESSED IN THE SPECIFICATIONS. OTHER REQUIREMENTS REQUIRE THE CONTRACTOR TO COORDINATE WITH THE NPS AND CONDUCT THEIR OPERATIONS IS A COORDINATED MANNER.
4. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE REQUIRED MITIGATION MEASURES AND SHALL BE REQUIRED TO CONDUCT OPERATIONS IN SUCH A WAY AS TO MEET THE REQUIREMENTS DETAILED IN THE FONSI AND MND.

**PROJECT STAGING AREA**

1. THE PROJECT STAGING AREA IS SHOWN IN THE PLANS. THE EXTENT OF USE OF THE STAGING AREA SHALL GENERALLY BE LEFT TO THE CONTRACTOR EXCEPT AS NOTED BELOW.
2. THE STAGING AREA SHALL BE USED FOR TEMPORARY FIELD OFFICES AND SHALL BE THE PRIMARY PARKING LOCATION. THE STAGING AREA SHALL ALSO BE USED FOR ALL SEASONAL EQUIPMENT STORAGE.
3. THE STAGING AREA IS CURRENTLY THE AREA DESIGNATED TO RECEIVE DELIVERIES OF FURNISHED MATERIALS VIA SEPARATE CONTRACTS. HOWEVER, THE CONTRACTOR MAY COORDINATE WITH THE DELIVERY SUPPLIERS TO DELIVER MATERIALS AT OTHER ALLOWABLE LOCATIONS IF IT IS AGREEABLE TO BOTH PARTIES. REGARDLESS OF WHERE THE MATERIALS ARE DELIVERED, THE CONTRACTOR SHALL PREPARE THE DELIVERY AREA TO MEET THE NEEDS OF THE SUPPLIERS.
4. PRIOR TO USE OF THE STAGING AREA THE CONTRACTOR SHALL PREPARE THE SITE TO THE EXTENT REQUIRED, INCLUDING THE REMOVAL OF HAZARD TREES, SNAGS, AND STUMPS. IF EARTH FILL MATERIALS AND/OR ACCESS ROUTES ARE TO BE PLACED WITHIN THE STAGING AREA, THE PLACEMENT AREAS SHALL BE STRIPPED OF TOPSOIL AND THE TOPSOIL SHALL BE STOCKPILED.
5. ALL DISTURBED AREAS WITHIN THE STAGING AREA SHALL BE RESTORED UPON COMPLETION. RESTORATION INCLUDES SPREADING OF STRIPPED TOPSOIL, RIPPING THE SOIL TO A DEPTH OF 24", AND SPREADING 1"-2" OF WOOD CHIPS TO ACHIEVE 70% COVER.

**ACCESS ROUTES**

1. CLEAR AND GRUB ACCESS ROUTES AS SHOWN.
2. SENSITIVE ARCHEOLOGICAL FEATURES REQUIRE STRICT ADHERENCE TO THE USE OF SPECIFIED ACCESS ROUTES.
3. CONTRACTOR SHALL MARK AND MAINTAIN ACCESS ROUTES THROUGHOUT CONSTRUCTION. DO NOT DEVIATE OUTSIDE OF ACCESS ROUTES AND AREAS MARKED FOR GRADING WITHOUT PRIOR APPROVAL FROM THE ENGINEER'S REPRESENTATIVE.
4. THE LEVEL OF EFFORT NEEDED TO ESTABLISH AND MAINTAIN THE ACCESS ROUTES SHALL BE LEFT TO THE CONTRACTOR.
5. ALL AREAS DESIGNATED AS FILL OR BORROW MAY BE USED FOR ACCESS.
6. UPON PROJECT COMPLETION, ACCESS ROUTES NOT MARKED TO BE MAINTAINED SHALL BE REMOVED AND RESTORED TO ORIGINAL CONDITIONS OR BETTER.
7. WHERE EXISTING ROUTES ARE USED, OR DESIGNATED TO BE LEFT IN PLACE, THE ROUTE SHALL BE GRADED AND RESTORED (INCLUDING INSTALLATION OF PROPER DRAINAGE AND WATER BARS FOR EROSION CONTROL) TO CREATE A DRIVABLE SURFACE UPON COMPLETION.
8. ALL EXISTING FOREST SERVICE ROADS SHALL REMAIN OPEN TO THE PUBLIC THROUGHOUT CONSTRUCTION.

**CONSTRUCTION WATER**

1. PER SPECIFICATION 015000, THERE IS LIMITED CONSTRUCTION WATER AVAILABLE ON SITE. THE AVAILABILITY OF ON-SITE AND NEARBY CONSTRUCTION WATER WILL DEPEND ON SITE CONDITIONS AND THE OWNER DOES NOT GUARANTEE THAT ANY WILL BE AVAILABLE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CONSTRUCTION WATER, AND SHALL BE RESPONSIBLE FOR ALL ACTIVITIES REQUIRED TO ACCESS, HARVEST, TREAT, TRANSPORT, STORE, AND UTILIZE THE WATER. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FEES REQUIRED TO PURCHASE WATER FROM OUTSIDE SOURCES.
3. IN ADDITION TO ON-SITE WATER THE PROJECT HAS IDENTIFIED SEVERAL OTHER POTENTIAL SOURCES OF WATER NEARBY. THESE SOURCES INCLUDE:
  - (1) LIMITED CONSTRUCTION WATER MAY BE AVAILABLE FROM THE MIDDLE FORK OF THE TUOLUMNE RIVER AT EVERGREEN ROAD CROSSING (AKA PEACH GROWERS PICNIC AREA). SEE SPECIFICATIONS FOR DETAILS ON THIS SITE.
  - (2) ADDITIONAL CONSTRUCTION WATER MAY BE AVAILABLE FOR A FEE FROM ONE OF THE FOLLOWING SOURCES:
    - A. CITY OF SAN FRANCISCO
    - B. HETCHY HETCHY WATER AND POWER.
    - C. BUCK MEADOWS/GROVELAND AREA

**CONSTRUCTION SEQUENCING**

1. THIS PROJECT IS ENVISIONED AS SPANNING TWO CONSTRUCTION SEASONS AND CONSISTING OF TWO CONSTRUCTION PHASES. THE FIRST PHASE FOCUSES ON THE LOWER PORTION OF THE MEADOW, AND THE SECOND PHASE FOCUSES ON THE UPPER PORTION OF THE MEADOW.
2. IT IS ENVISIONED THAT CONSTRUCTION WILL GENERALLY PROCEED FROM THE DOWNSTREAM END TO THE UPSTREAM END. THE PROJECT ITSELF IS INTENDED TO BE THE PRIMARY MEANS OF SEDIMENT CONTROL WHERE THE LOWER GRADE CONTROL STRUCTURE (ROCK ARCH RAPIDS) FUNCTIONS AS A SEDIMENT BASIN.
3. THE FOLLOWING TASKS SHALL BE COMPLETED IN THE SEQUENCE LISTED PRIOR TO BEGINNING FILL OPERATIONS.
  - (1) CONSTRUCT POND
  - (2) INSTALL ALL FENCING AND GATES
  - (3) CONSTRUCT ROCK ARCH RAPIDS

**SOIL AMENDMENT**

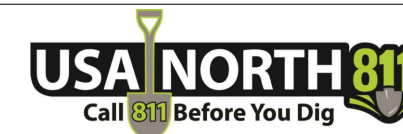
1. FILL MATERIAL SHALL CONSIST OF A MIXTURE OF:
  - 70% MINERAL SOIL OBTAINED FROM DESIGNATED BORROW AREAS
  - 15% WOOD CHIPS OBTAINED FROM ON-SITE AND OWNER SUPPLIED TREES THAT ARE CHIPPED BY CONTRACTOR.
  - 15% BIOCHAR OBTAINED FROM OWNER
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING AND STOCKPILING TREES AND BIOCHAR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHIPPING THE TREES.
3. THE CONTRACTOR SHALL BLEND THE FILL MATERIAL AT THE PROPORTIONS SPECIFIED AND SHALL BE RESPONSIBLE FOR ALL TRANSPORT AND PLACEMENT OF FILL MATERIALS.

**LEGEND AND ABBREVIATIONS**

—x—x—x—	FENCE
—WETLAND—	WETLAND BOUNDARY
—ABANDONED—	ABANDONED LINE (VARIOUS TYPES)
— — — — —	PROPERTY LINE
— — — — —	CONSTRUCTION LIMIT/EASEMENT
— — — — —	ACCESS ROUTE (PERMANENT)
— — — — —	ACCESS ROUTE (TEMPORARY)
— — — — —	STREAM
— — — — —	WILDERNESS BOUNDARY
NPS	NATIONAL PARK SERVICE
USFS	UNITED STATES FOREST SERVICE


**DEWATERING**

1. THIS PROJECT PRIMARILY INVOLVES THE PLACEMENT OF FILL, AND THE NEED FOR EXTENSIVE DEWATERING IS GENERALLY NOT ANTICIPATED. HOWEVER, THE PROJECT AREA IS LOCATED IN WETLAND AND THERE IS THE POTENTIAL FOR THE NEED TO DEWATER, ESPECIALLY AT CERTAIN POINTS THROUGHOUT CONSTRUCTION. RAINFALL EVENTS THAT RESULT IN RUNOFF IN EXCESS OF THE NORMAL BASE FLOW HAVE THE POTENTIAL TO INUNDATE THE SITE, AND THE SITE IS SUBJECT TO FLOODING AS IT IS LOCATED IN A FLOODPLAIN. IN ADDITION REGULATIONS PROHIBIT THE CAPTURE AND STORAGE OF SURFACE WATER. THE SPECIFICATIONS PROVIDE DEFINITIONS OF SURFACE WATER VS NUISANCE WATER. IN GENERAL, NUISANCE WATER IS EXPECTED TO REQUIRE MOST, IF NOT ALL, OF THE DEWATERING EFFORT. UNDER CERTAIN CIRCUMSTANCES HOWEVER (SUCH AS PROLONGED WET CONDITIONS FOR EXAMPLE) MAY REQUIRE MORE EXTENSIVE DEWATERING EFFORTS.
2. ONCE THE ROCK ARCH RAPIDS ARE CONSTRUCTED THERE WILL BE NO DOWN-GRADIENT OUTLET FOR THE SYSTEM. THE CONCEPT OF THE CONSTRUCTION SEQUENCING IS THAT AS FILL IS PLACED MOVING DOWNSTREAM TO UPSTREAM THE DOWN-GRADIENT FILL WILL BECOME SATURATED, AND WATER THAT DOES NOT EXIT VIA SUBSURFACE FLOW WILL FLOW OVER THE ROCK-ARCH RAPIDS. AS WORK PROGRESSES UPSTREAM THE WORK AREA WILL GENERALLY BE OUT OF THE SATURATED ZONE.
3. IT IS ENVISIONED THAT THROUGHOUT MOST OF THE PROCESS DEWATERING WILL ONLY BE REQUIRED IN THE IMMEDIATE FILL AREA AS NUISANCE WATER ACCUMULATES AT THE HEAD OF THE FILL. DEWATERING MAY BE ACCOMPLISHED BY UTILIZING A TRASH PUMP AND POSSIBLY A SERIES OF CHECKS THAT PROGRESS IN AN UPSTREAM DIRECTION. NUISANCE WATER MAY BE DISCHARGED DIRECTLY TO THE MEADOW SURFACE DOWN GRADIENT OF THE WORK AREA WHERE IT WILL INFILTRATE AND BEGIN TO SATURATE THE LOWER SOILS.
4. SHOULD A SIGNIFICANT EVENT OCCUR AFTER THE ROCK ARCH RAPIDS IS BUILT, BUT BEFORE THE MEADOW IS FILLED IN, THE UNFILLED PORTION OF THE SITE COULD FILL WITH WATER. FOLLOWING THE EVENT, ADDITIONAL DEWATERING (IN EXCESS OF THE BASE SURFACE FLOW) WOULD BE REQUIRED TO REMOVE IMPOUNDED WATER.
5. SIMILARLY, THE GROUNDWATER STORAGE IN THE PHASE 1 WORK AREA IS EXPECTED TO INCREASE SIGNIFICANTLY DURING THE WINTER/SPRING BETWEEN PHASE 1 AND 2. SURFACE WATER INUNDATION OF THE MEADOW SURFACE IS ALSO EXPECTED DURING THIS TIME FRAME.
6. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR DEWATERING AND ANY REQUIRED WATER QUALITY SAMPLING AND REPORTING PER THE PROJECTS WATER QUALITY CERTIFICATIONS (SECTION 401 PERMIT). THE CONTRACTOR SHALL DEVELOP AND SUBMIT A DEWATERING PLAN PRIOR TO ISSUANCE OF THE NOTICE TO PROCEED. SHOULD ANY DEWATERING OF SURFACE WATER BE REQUIRED, THE CONTRACTOR SHALL ABIDE BY THIS PLAN AS IT WAS APPROVED BY THE CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD.
7. DEWATERING MUST BE CONDUCTED IN MANNER THAT DOES NOT INDUCE SURFACE EROSION.
8. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR CREATE CONDITIONS WHERE THE SITE WOULD FALL UNDER THE DEFINITION OF A JURISDICTIONAL DAM. THIS WILL GENERALLY BE CONTROLLED BY THE SEQUENCING AND PLACEMENT OF FILL. ADDITIONAL INFORMATION REGARDING JURISDICTIONAL DAMS CAN BE FOUND AT: <https://water.ca.gov/Programs/All-Programs/Division-of-Safety-of-Dams/>



WHERE PUBLIC UTILITY FIXTURES OR FACILITIES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THESE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION INVOLVING EXCAVATION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES OR RELOCATION. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND UTILITY OPERATOR LOCATION MARKINGS THAT WERE REQUESTED THROUGH GOPHER STATE ONE CALL; THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. TYPE, SIZE AND GENERAL LOCATION OF THE FACILITIES WERE REQUESTED OF THE OPERATORS AND SHOWN ON THE PLANS, AND IF NECESSARY, UPDATED WITHIN 90 DAYS OF COMPLETION OF THE FINAL PLANS. IT IS POSSIBLE THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY THE WORK.

NATIONAL PARK SERVICE



NO.	DATE	DESCRIPTION

GENERAL PROJECT INFORMATION

ACKERSON MEADOW RESTORATION

TUOLUMNE COUNTY CALIFORNIA

SCALE: AS SHOWN

PMIS NO. \_\_\_\_\_

DRAWN BY: NWA

SHEET \_\_\_\_\_

SUBSHEET  
G3

BID QUANTITIES

Item	Item Description	Quantity	Unit
1	Mobilization/Demobilization	1	LS
2	Remove Fence	1	LS
3	Clearing & Grubbing	1	LS
4	Establish Access Routes	1	LS
5	Culverts - 18" CMP	80	LF
6	Temporary Traffic Control	1	LS
7	Dewatering	1	LS
8	Topsoiling	1	LS
9	Tub Grinding & Chipping	1	LS
10	Borrow Excavation	105000	CY
11	Soil Amendment Handling (P)	45000	CY
12	Amended Soil Fill (P)	150000	CY
13	Directed Site Grading	40	HR
14	Aggregate Subbase	50	CY
15	Aggregate Base	500	CY
16	Void Filled Riprap	1600	TON
17	Void Fill Material	530	TON
18	Base Stone	1100	TON
19	Weir Stones	180	EA
20	Random Boulders	14	EA
21	Stream Crossing Access	1	LS
22	Erosion Matting - Stock	700	SY
23	Construct Habitat Pond	1	LS
24	Fencing	8960	LF
25	Fence Gate - Standard	3	EA
26	Fence Gates - Steel Frame	3	EA
27	Dewatering Plug	1	LS
28	Temporary Silt Fence	9800	LF
29	Temporary Fiber Rolls	600	LF
30	Temporary RECP	112000	SY
31	Wood Mulch	40	AC
32	Wetland Seeding	21.25	AC
33	Container Plantings	21.25	AC
34	Salvaged Sod	1	LS
35	Salvaged Willows	1	LS
36	SWPPP Management	1	LS
37	Site Restoration & Cleanup	1	LS
38	Range Rider	800	HR
BID OPTION	Water Quality Sampling	1	LS

(P) = PLAN QUANTITY

CLEARING & GRUBBING ESTIMATE

	Acres to Clear & Grub		Topsoil Salvage (yd <sup>3</sup> )	
	PH1	PH2	PH1	PH2
Borrow & Staging Areas	22.0	18.0	17,800	14,500
Gully Fill Zones	6.0	8.0	--	
<b>TOTAL</b>	<b>28.0</b>	<b>26.0</b>	<b>17,800</b>	<b>14,500</b>

ONSITE TREE CLEARING ESTIMATE

	Trees 3-11 inches DBH	Trees >11 inches DBH	Total Trees
Borrow sites	7700	9600	17300
Gully fill zones	350	350	700
<b>TOTAL</b>	<b>8050</b>	<b>9950</b>	<b>18000</b>

CONTAINER PLANTING ESTIMATE

	2023	2024		2025		Total
	Fall	Spring	Fall	Spring	Fall	
Container Plantings (18 inch spacing) Acres	0.5	0	9.3	11.7	0	<b>21.5</b>
# of Plantings (19360/ac)	9,680	0	180,048	226,512	0	<b>416,240</b>


WETLAND SEEDING ESTIMATE

	Phase 1	Phase 2	TOTAL
Acres	9.55	11.70	<b>21.25</b>
Pounds of seed	52.525	64.35	<b>116.9</b>

VEGETATION SALVAGE ESTIMATE

	Estimated Acres Available	Assumed Excavation & Transport Effort (yd <sup>3</sup> )*	Assumed Loss	Assumed Acres Available for Reuse
Salvagable Sod	4.8	7,750	50%	2.4
Salvagable Willows	14.5	35000	50%	7.25

FILE PATH: C:\Users\Nwanderson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/16/2022 9:52 AM SAVED BY: NWANDESON PLOT DATE: 12/16/2022 10:10 AM



**NATIONAL PARK SERVICE**

---

REVISIONS

NO.	DATE	DESCRIPTION

ESTIMATE REFERENCE INFORMATION

ACKERSON MEADOW RESTORATION

TUOLUMNE COUNTY CALIFORNIA

---

SCALE: AS SHOWN

PMIS NO. \_\_\_\_\_

DRAWN BY: NWA

SHEET \_\_\_\_\_

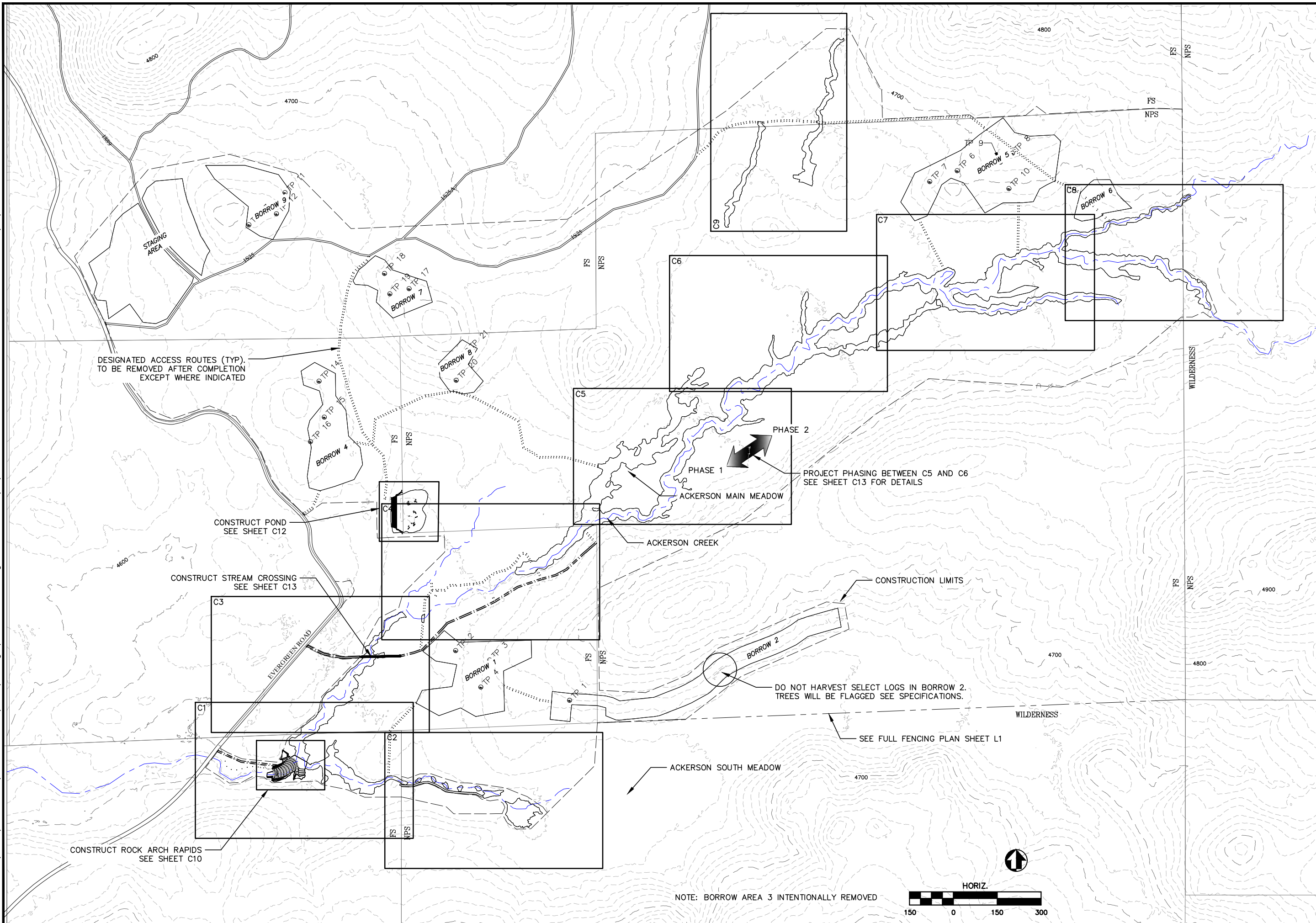
SUBSHEET

**G4**

ESTIMATES PROVIDED IN TABLES ARE FOR REFERENCE ONLY, AND SHALL NOT BE USED TO JUSTIFY MODIFICATIONS IF ASSUMPTIONS DIFFER FROM THOSE PRESENTED.



FILE PATH: C:\Users\Nwanderson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/12/2022 4:30 PM SAVED BY: Nwanderson PLOT DATE: 12/12/2022 4:47 PM



**PROJECT OVERVIEW & INDEX**  
**ACKERSON MEADOW RESTORATION**  
**TUOLUMNE COUNTY CALIFORNIA**

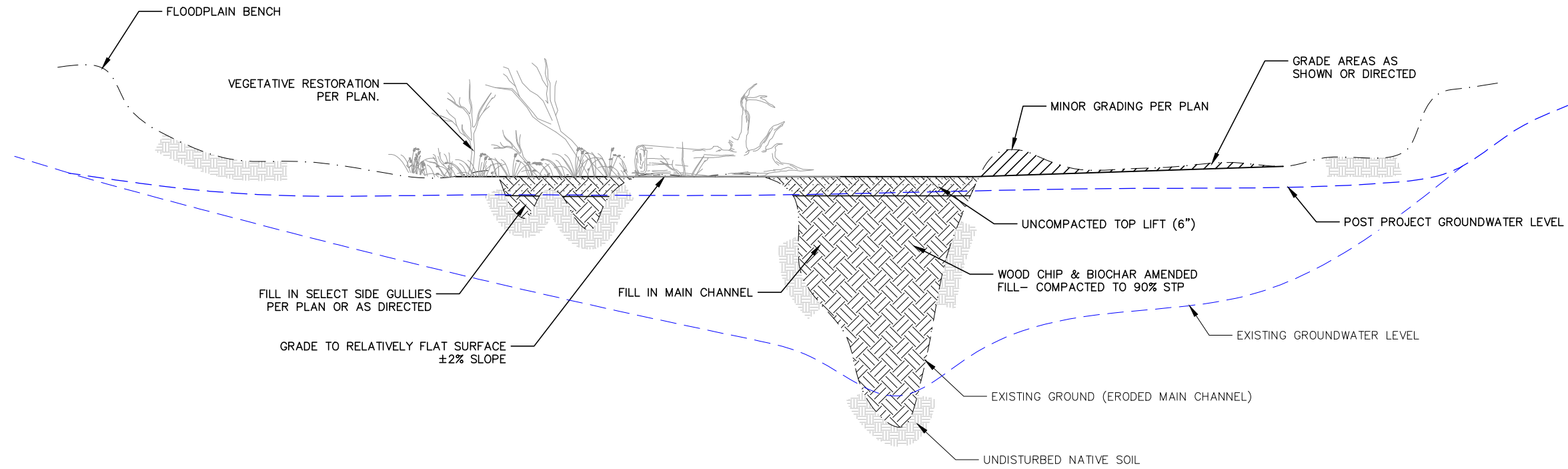
REVISIONS	
NO.	DESCRIPTION

SCALE: AS SHOWN
PMIS NO. _____
DRAWN BY: NWA
SHEET _____
SUBSHEET
<b>G5</b>

NOTE: BORROW AREA 3 INTENTIONALLY REMOVED



FILE PATH: C:\Users\nwanderson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/12/2022 4:30 PM SAVED BY: NWANDERSON PLOT DATE: 12/12/2022 4:48 PM



TYPICAL GULLY FILL CROSS SECTION  
NO SCALE

NATIONAL PARK SERVICE



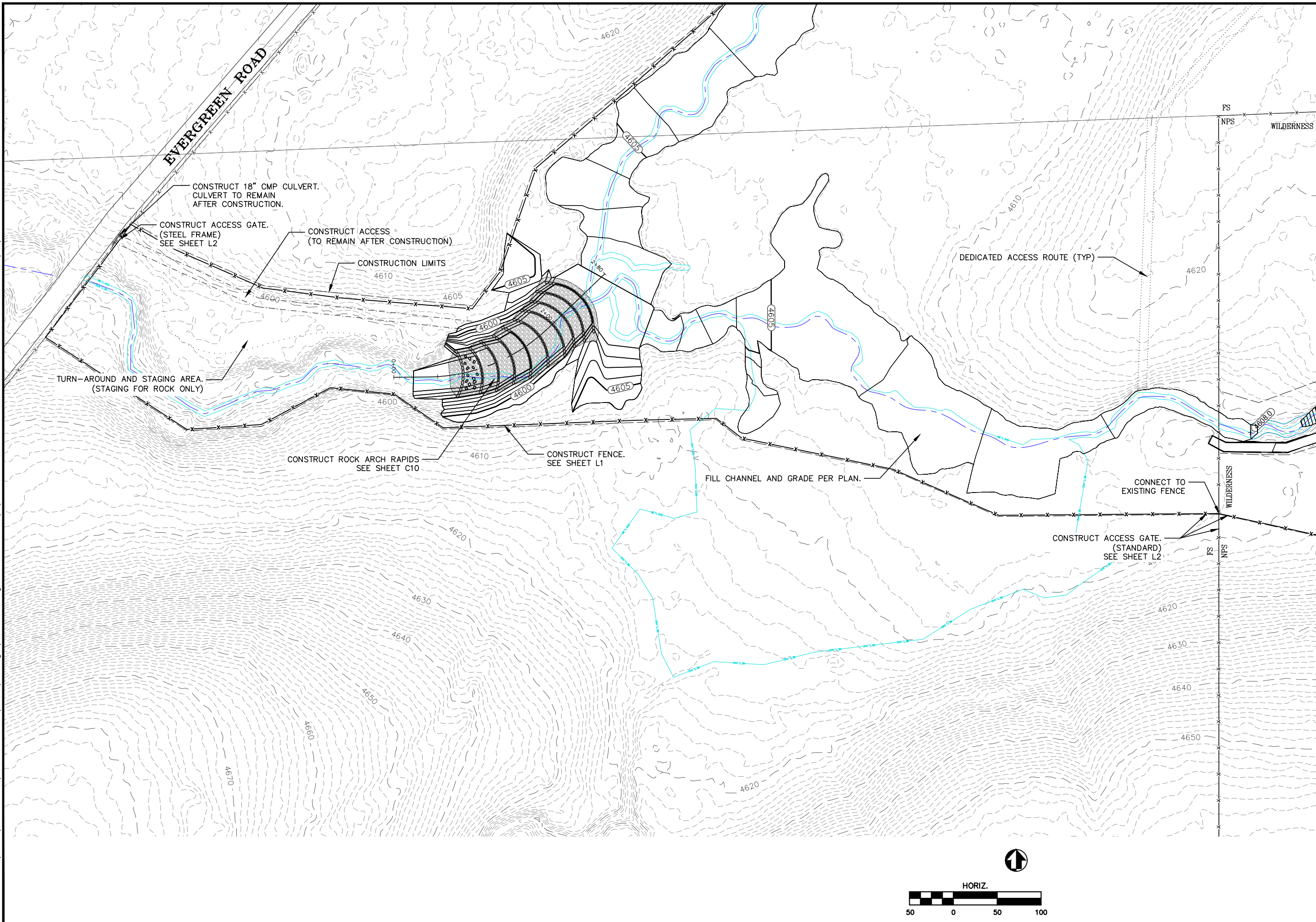
REVISIONS	
NO.	DATE

TYPICAL GULLY FILL SECTION  
ACKERSON MEADOW RESTORATION  
TUOLUMNE COUNTY CALIFORNIA

SCALE: AS SHOWN  
PMIS NO. \_\_\_\_\_  
DRAWN BY: NWA  
SHEET \_\_\_\_\_  
SUBSHEET  
GO



FILE PATH: C:\Users\nwanderson\OneDrive - DOI\YOSE\Drawings\C SHEETS.dwg LAST SAVE: 12/6/2022 8:13 AM SAVED BY: NWANDERSON PLOT DATE: 12/16/2022 9:18 AM

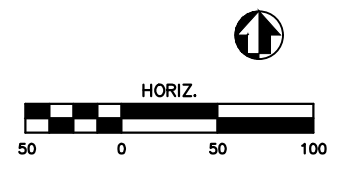


NATIONAL PARK SERVICE

REVISIONS	
NO.	DESCRIPTION

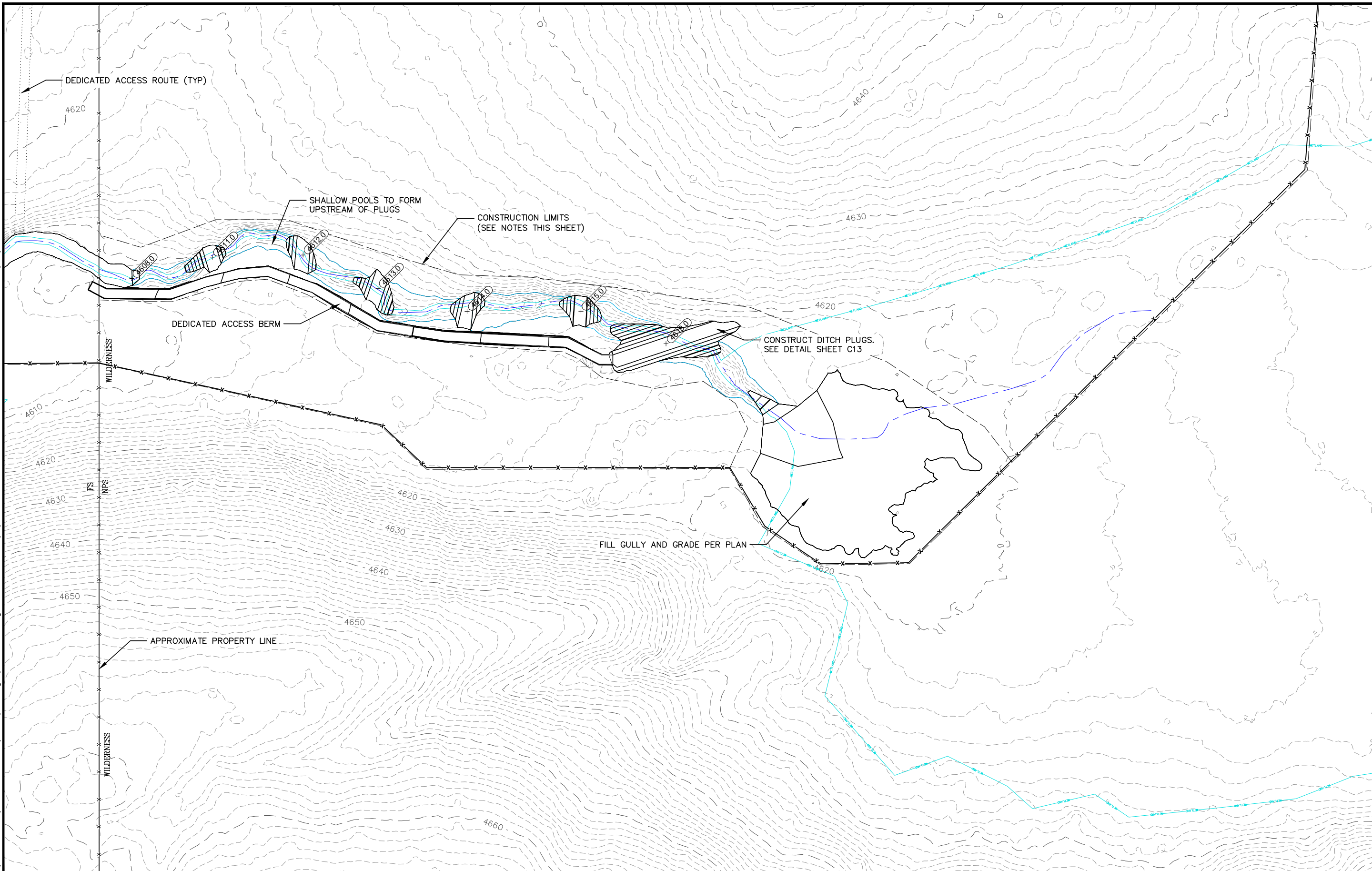
GRADING PLAN  
 ACKERSON MEADOW RESTORATION  
 TUOLUMNE COUNTY CALIFORNIA

SCALE: AS SHOWN  
 PMIS NO. \_\_\_\_\_  
 DRAWN BY: NWA  
 CHECKED BY: NA  
 SHEET  
**C1**



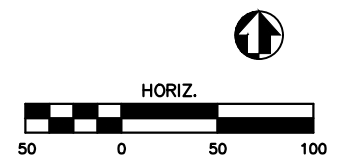



FILE PATH: C:\Users\nwanderson\OneDrive - DOI\YOSE\Drawings\C SHEETS.dwg LAST SAVE: 12/6/2022 8:13 AM SAVED BY: Nwanderson PLOT DATE: 12/16/2022 9:19 AM



NOTES

1. WORK IN THIS AREA IS WITHIN DESIGNATED WILDERNESS. NPS RULES DIFFER IN WILDERNESS. STRICT WORK LIMITS SHALL BE ENFORCED.
2. UTILIZE EXISTING GULLY AND FILL AREAS FOR ACCESS AS REQUIRED.
3. CONSTRUCTION LIMITS DO NOT APPLY TO FENCE.





**NATIONAL PARK SERVICE**

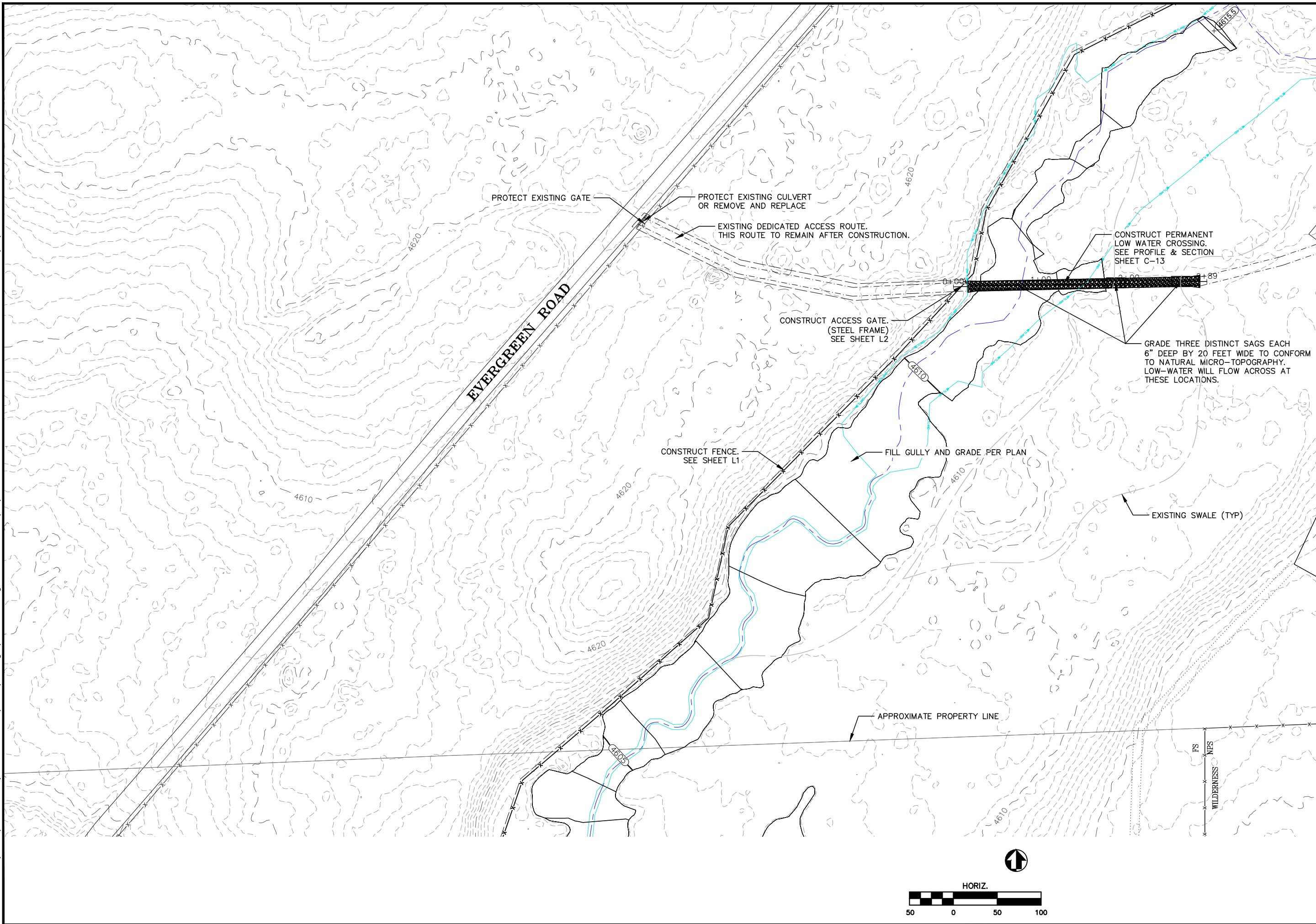
REVISIONS	
NO.	DATE

GRADING PLAN
ACKERSON MEADOW RESTORATION
TUOLUMNE COUNTY CALIFORNIA

SCALE: AS SHOWN
PMIS NO. _____
DRAWN BY: NWA
CHECKED BY: NA
SHEET
C2



FILE PATH: C:\Users\Nwanderson\OneDrive - DOI\YOSE\Drawings\C SHEETS.dwg LAST SAVE: 12/16/2022 9:20 AM SAVED BY: Nwanderson PLOT DATE: 12/16/2022 9:21 AM



**NATIONAL PARK  
SERVICE**

REVISIONS

NO.	DATE	DESCRIPTION

GRADING PLAN

**ACKERSON MEADOW RESTORATION**

**TUOLUMNE COUNTY CALIFORNIA**

SCALE: AS SHOWN

PMIS NO.

DRAWN BY:

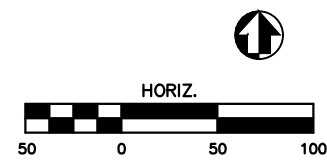
NWA

CHECKED BY:

NA

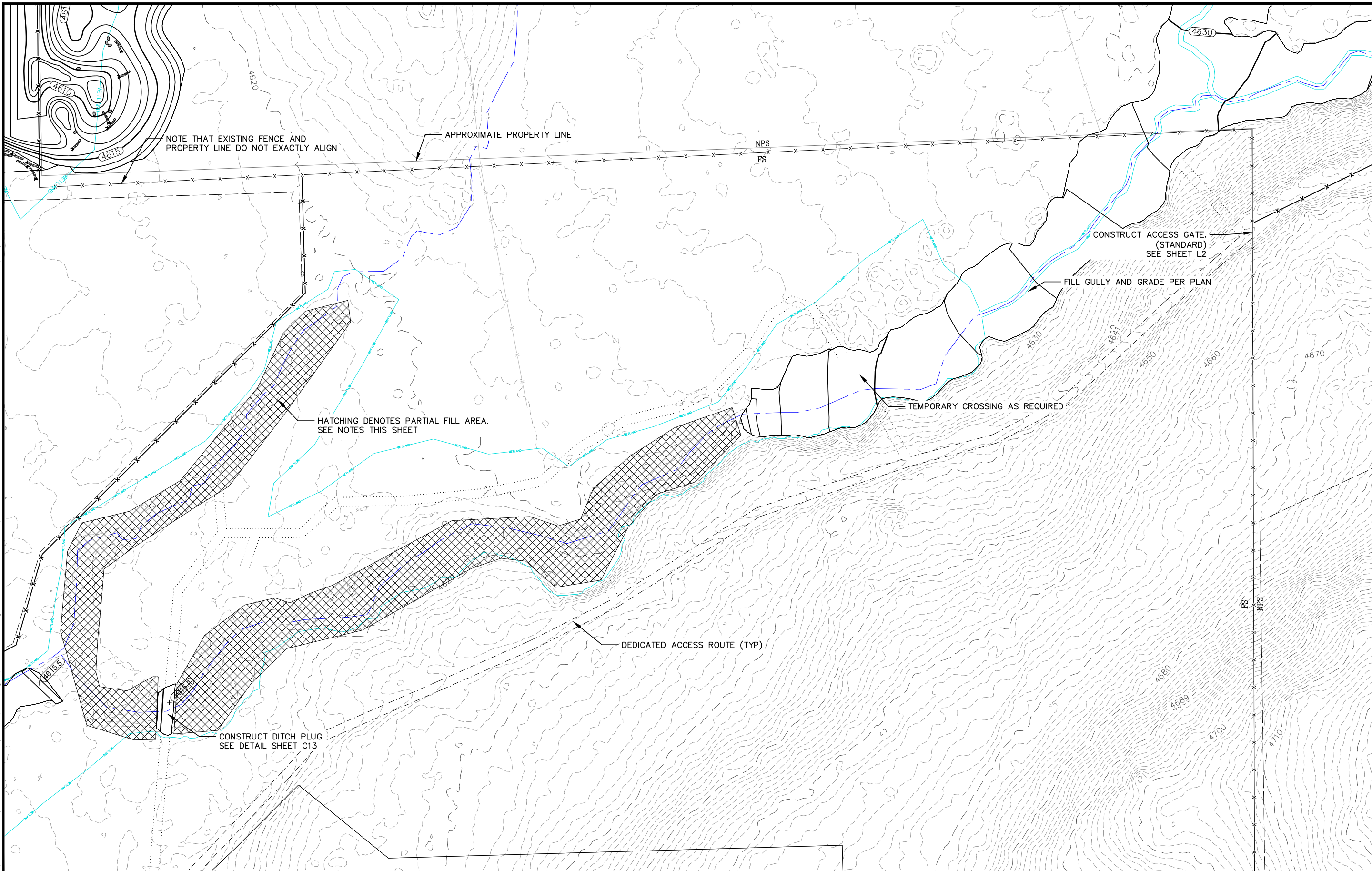
SHEET

C3



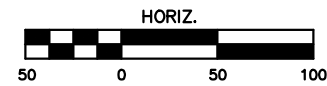


FILE PATH: C:\Users\Nwanderson\OneDrive - DOI\YOSE\Drawings\C SHEETS.dwg LAST SAVE: 12/16/2022 9:20 AM SAVED BY: Nwanderson PLOT DATE: 12/16/2022 9:23 AM



**PARTIAL FILL AREAS**

1. IN AREAS DESIGNATED AS PARTIAL FILL, DO NOT GRUB OUT EXISTING VEGETATION. PLACE LOOSE FILL SIX TO 12 INCHES DEEP IN SELECT LOW AREAS BY EXTENDING BUCKET AND DUMPING EARTH ONTO THE GROUND. LIGHTLY COMPACT WITH BUCKET. EXISTING VEGETATION WILL GROW THROUGH.
2. CONSULT WITH ON-SITE STAFF FOR PROPER PLACEMENT AS PART OF DIRECTED SITE GRADING BID ITEM
3. THIS AREA IS COMMONLY REFERRED TO AS "THE RANCH REACH".



**NATIONAL PARK SERVICE**

NO.	DATE	DESCRIPTION

**GRADING PLAN**

**ACKERSON MEADOW RESTORATION**

**TUOLUMNE COUNTY CALIFORNIA**

SCALE: AS SHOWN

PMIS NO. \_\_\_\_\_

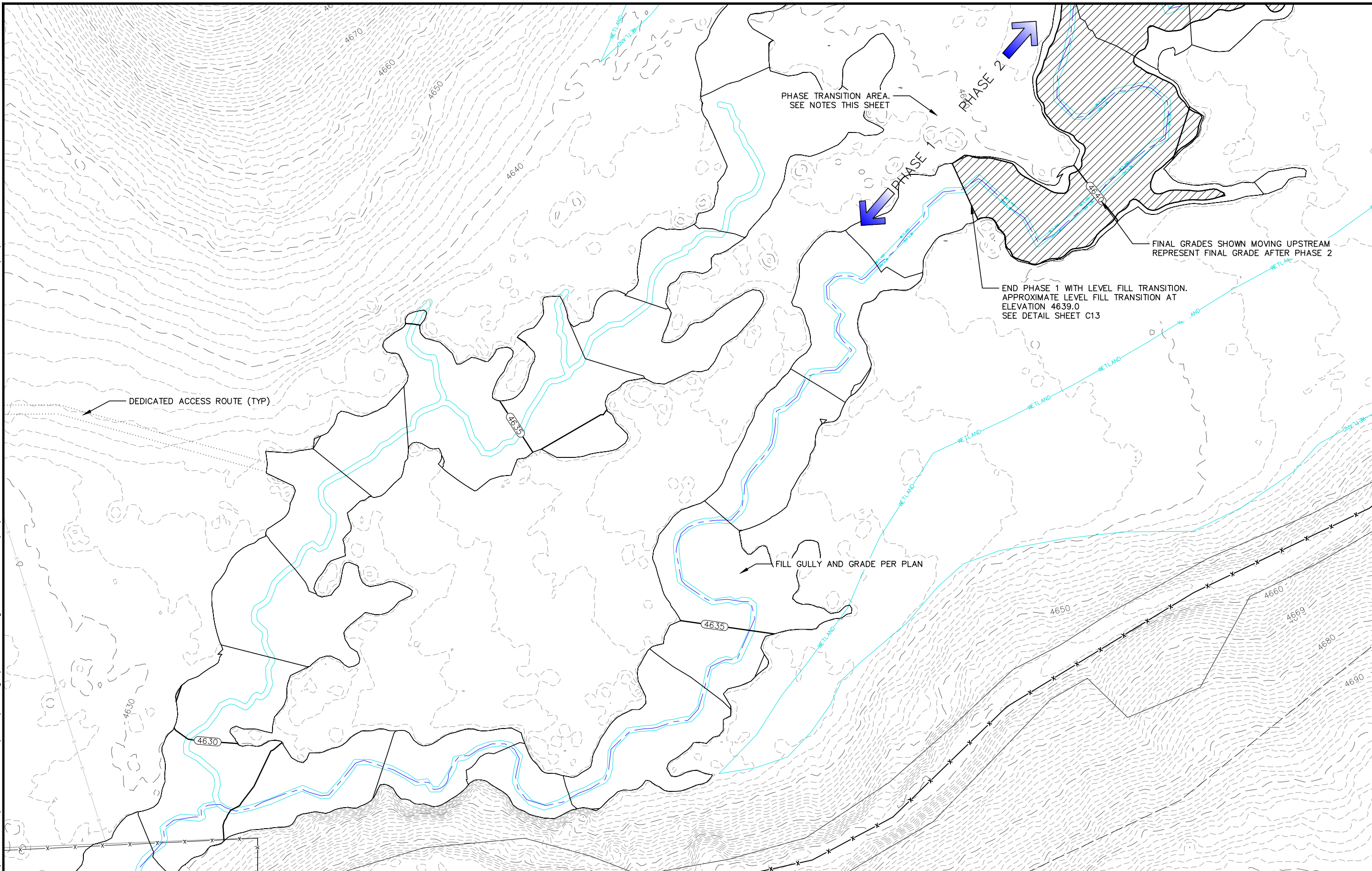
DRAWN BY: NWA

CHECKED BY: NA

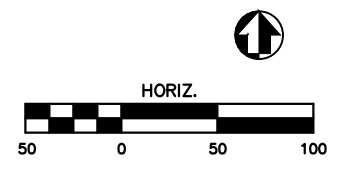
SHEET C4




FILE PATH: C:\Users\nwander\OneDrive - DOI\YOSE\Drawings\C SHEETS.dwg LAST SAVE: 12/16/2022 9:20 AM SAVED BY: NWANDERSON PLOT DATE: 12/16/2022 9:26 AM



- NOTE**
1. THE AREA SHOWN ON THIS SHEET AS THE PHASE TRANSITION AREA IS THE ENVISIONED AREA WHERE CONSTRUCTION WILL BE COMPLETED AFTER THE FIRST CONSTRUCTION SEASON. THE AREA IS NOT AN EXACT BOUNDARY AND MAY BE ADJUSTED BASED ON CONSTRUCTION SCHEDULE, AND WEATHER CONDITIONS.
  2. IN GENERAL, THE PHASE TRANSITION WILL CONSIST OF CONSTRUCTING A LEVEL FILL TRANSITION SECTION SO THAT THE SITE IS LEFT IN A STABLE CONDITION GOING INTO THE RAINY SEASON.
  3. TOUCH-UP GRADING THROUGHOUT THE PHASE 1 AREA SHALL BE REQUIRED AS SETTLEMENT AND MINOR EROSION OVER WINTER IS ANTICIPATED.





**NATIONAL PARK SERVICE**

NO.	DATE	DESCRIPTION

**GRADING PLAN**

**ACKERSON MEADOW RESTORATION**

**TUOLUMNE COUNTY CALIFORNIA**

SCALE: AS SHOWN

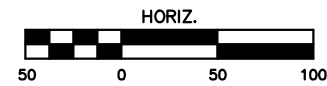
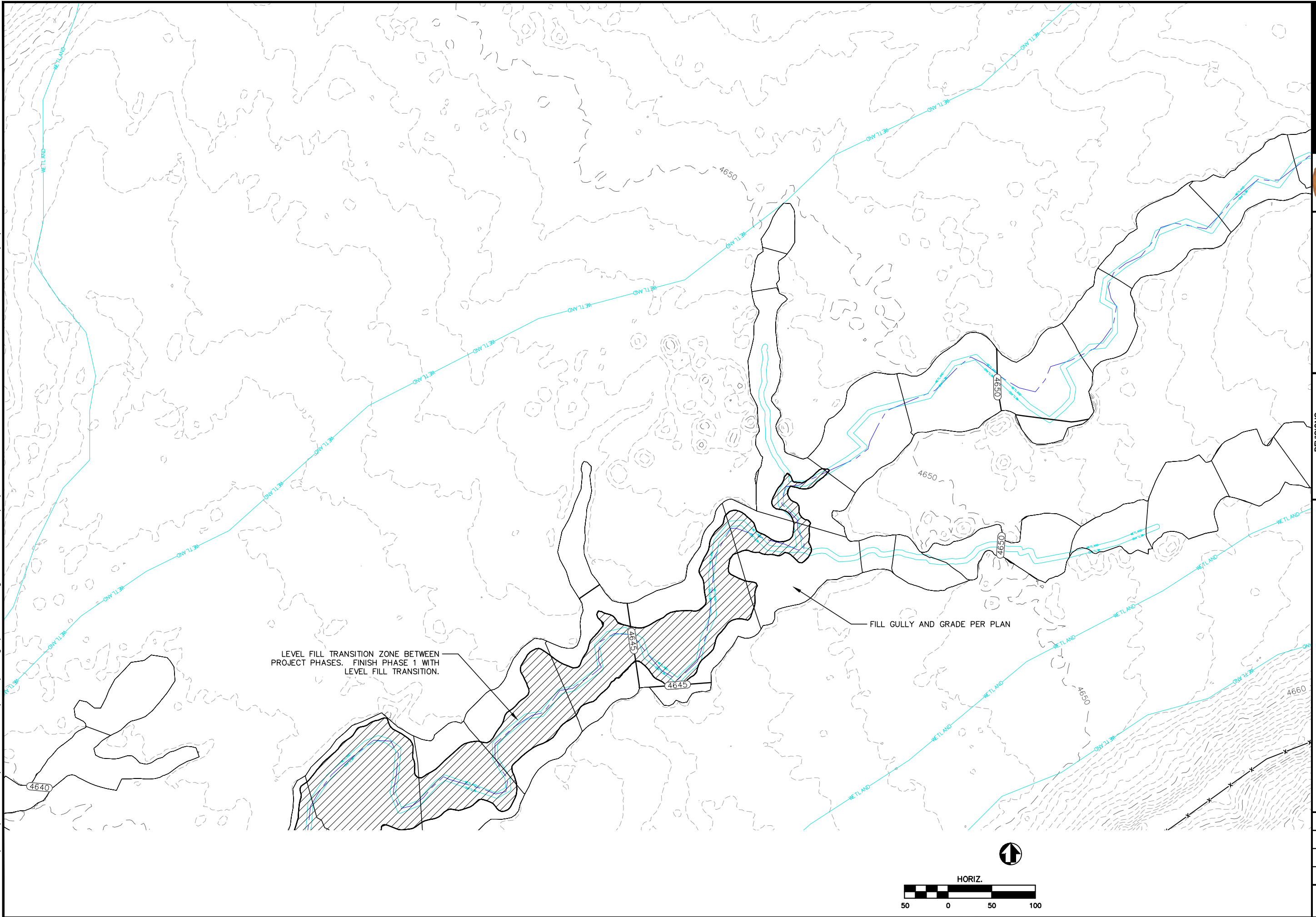
PMIS NO. \_\_\_\_\_

DRAWN BY: NWA

CHECKED BY: NA

SHEET **C5**





**GRADING PLAN**  
**ACKERSON MEADOW RESTORATION**  
**TUOLUMNE COUNTY CALIFORNIA**

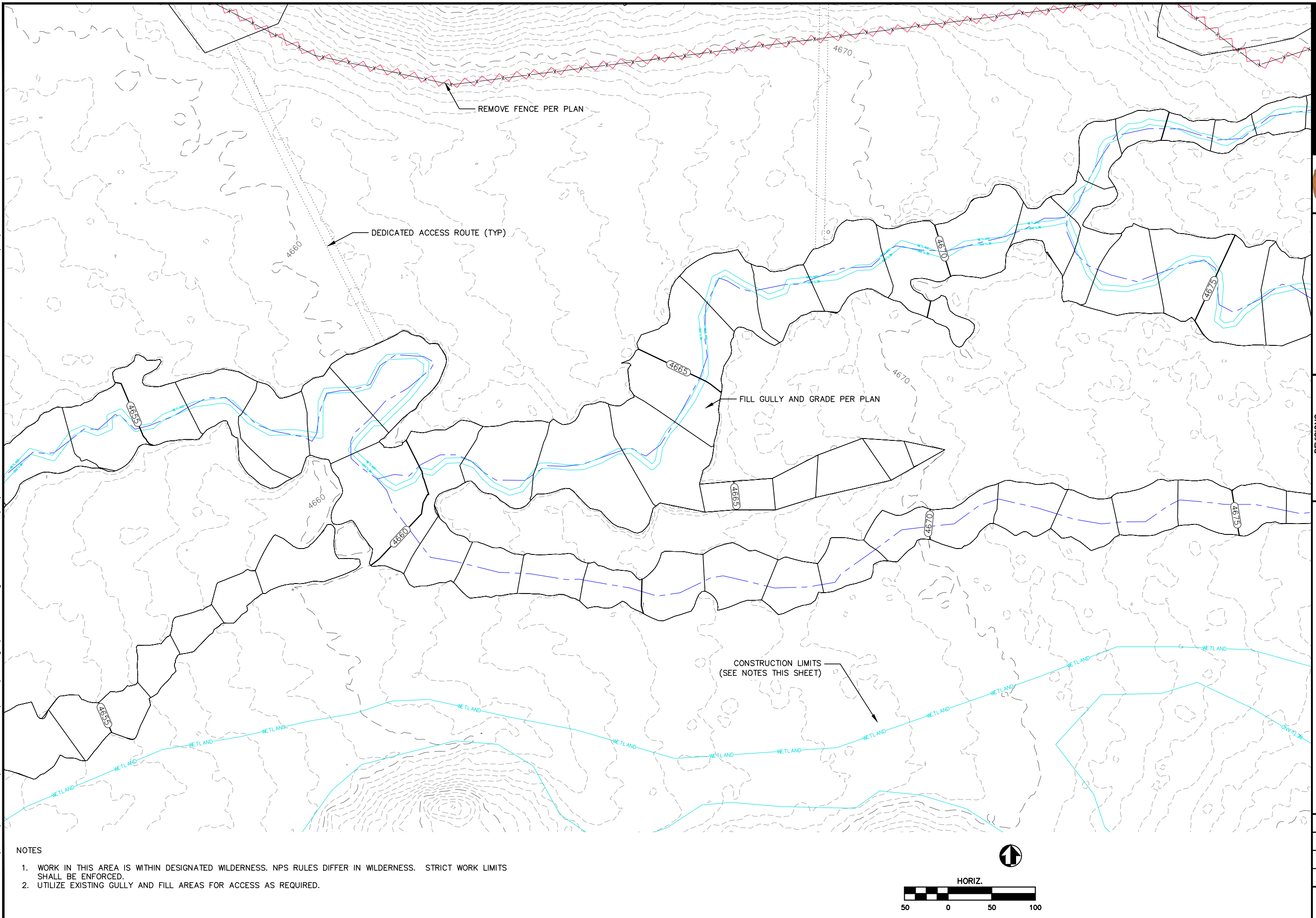
REVISIONS	
NO.	DATE

SCALE: AS SHOWN  
 PMIS NO. \_\_\_\_\_  
 DRAWN BY: NWA  
 CHECKED BY: NA  
 SHEET

**C6**



FILE PATH: C:\Users\nwander\OneDrive - DOI\YOSE\Drawings\C SHEETS.dwg LAST SAVE: 12/16/2022 9:20 AM SAVED BY: NWANDERSON PLOT DATE: 12/16/2022 9:28 AM



NOTES

1. WORK IN THIS AREA IS WITHIN DESIGNATED WILDERNESS. NPS RULES DIFFER IN WILDERNESS. STRICT WORK LIMITS SHALL BE ENFORCED.
2. UTILIZE EXISTING GULLY AND FILL AREAS FOR ACCESS AS REQUIRED.

**NATIONAL PARK SERVICE**

NO.

DATE

DESCRIPTION

NO.

DATE

DESCRIPTION

GRADING PLAN

ACKERSON MEADOW RESTORATION

TUOLUMNE COUNTY CALIFORNIA

SCALE: AS SHOWN

PMIS NO.

DRAWN BY: NWA

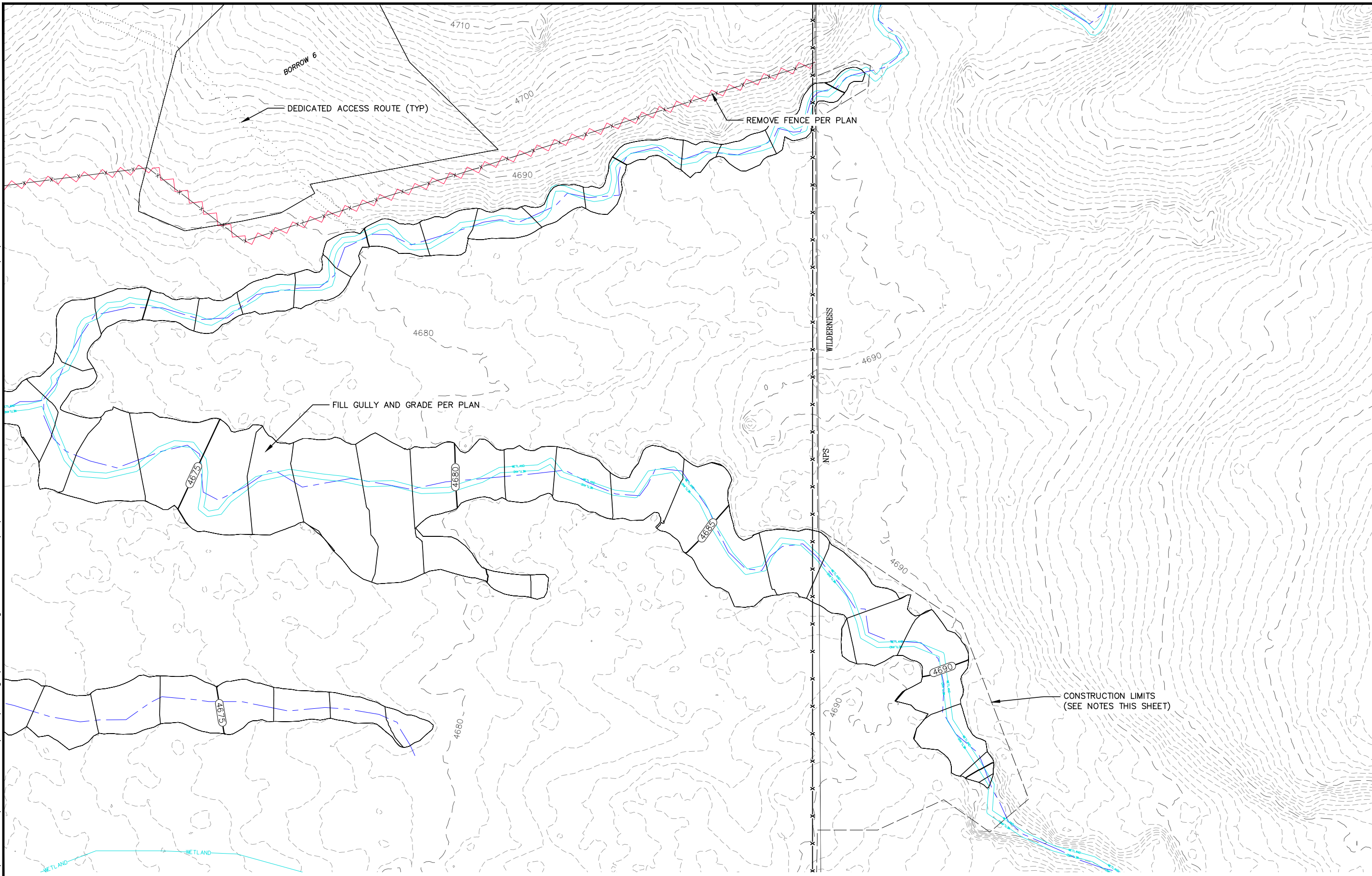
CHECKED BY: NA

SHEET

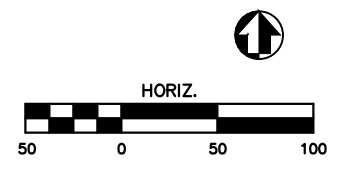
C7



FILE PATH: C:\Users\Nwanderson\OneDrive - DOI\YOSE\Drawings\C SHEETS.dwg LAST SAVE: 12/16/2022 9:20 AM SAVED BY: Nwanderson PLOT DATE: 12/16/2022 9:30 AM



- NOTES
1. WORK IN THIS AREA IS WITHIN DESIGNATED WILDERNESS. NPS RULES DIFFER IN WILDERNESS. STRICT WORK LIMITS SHALL BE ENFORCED.
  2. UTILIZE EXISTING GULLY AND FILL AREAS FOR ACCESS AS REQUIRED.



**NATIONAL PARK  
SERVICE**

NO.

DATE

REVISIONS

DESCRIPTION

GRADING PLAN

ACKERSON MEADOW RESTORATION

TUOLUMNE COUNTY CALIFORNIA

SCALE: AS SHOWN

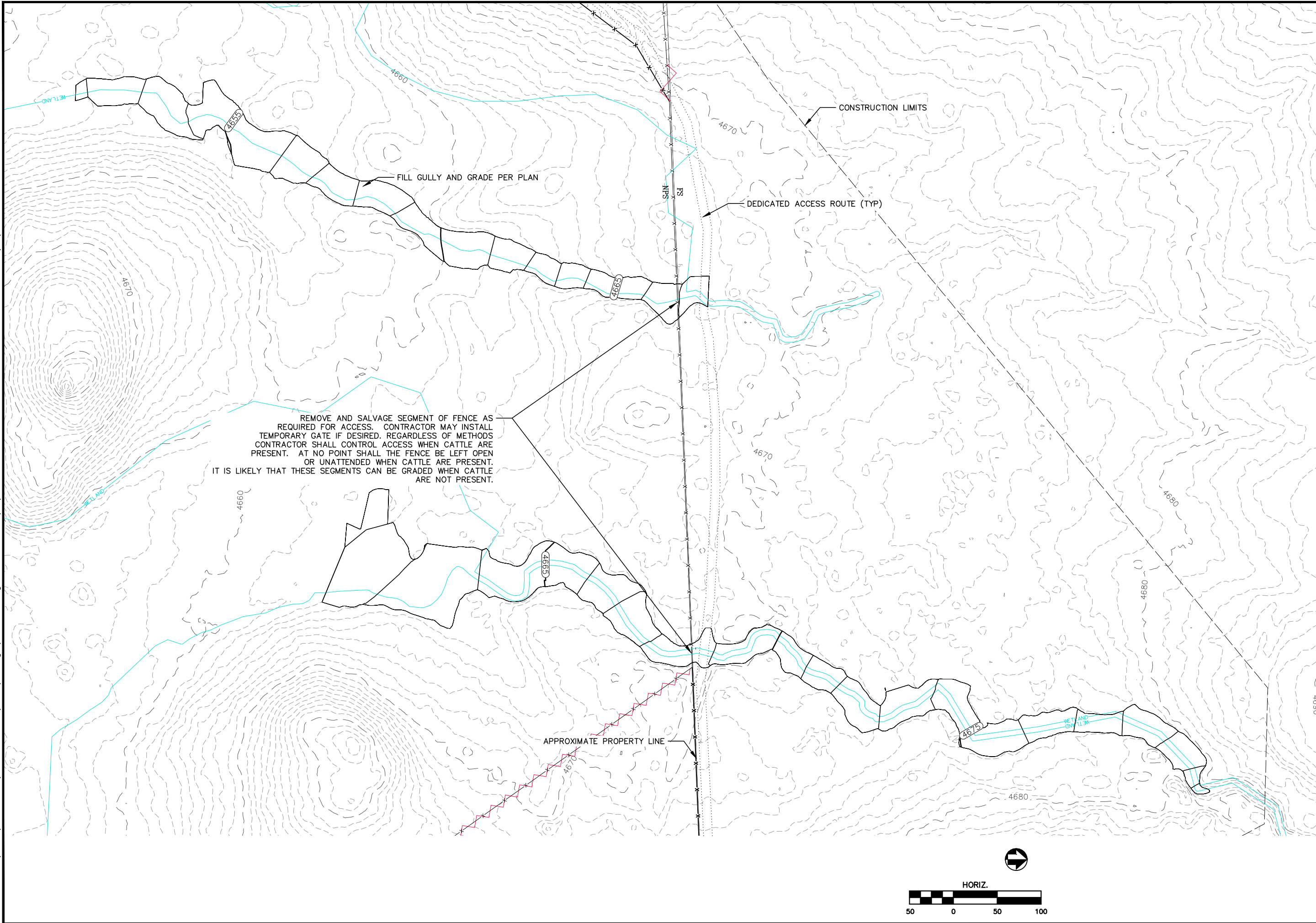
PMIS NO.

DRAWN BY:  
NWA


CHECKED BY:  
NA

SHEET  
**C8**





REMOVE AND SALVAGE SEGMENT OF FENCE AS REQUIRED FOR ACCESS. CONTRACTOR MAY INSTALL TEMPORARY GATE IF DESIRED. REGARDLESS OF METHODS CONTRACTOR SHALL CONTROL ACCESS WHEN CATTLE ARE PRESENT. AT NO POINT SHALL THE FENCE BE LEFT OPEN OR UNATTENDED WHEN CATTLE ARE PRESENT. IT IS LIKELY THAT THESE SEGMENTS CAN BE GRADED WHEN CATTLE ARE NOT PRESENT.



**NATIONAL PARK SERVICE**

REVISIONS	
NO.	DATE

**GRADING PLAN**

**ACKERSON MEADOW RESTORATION**

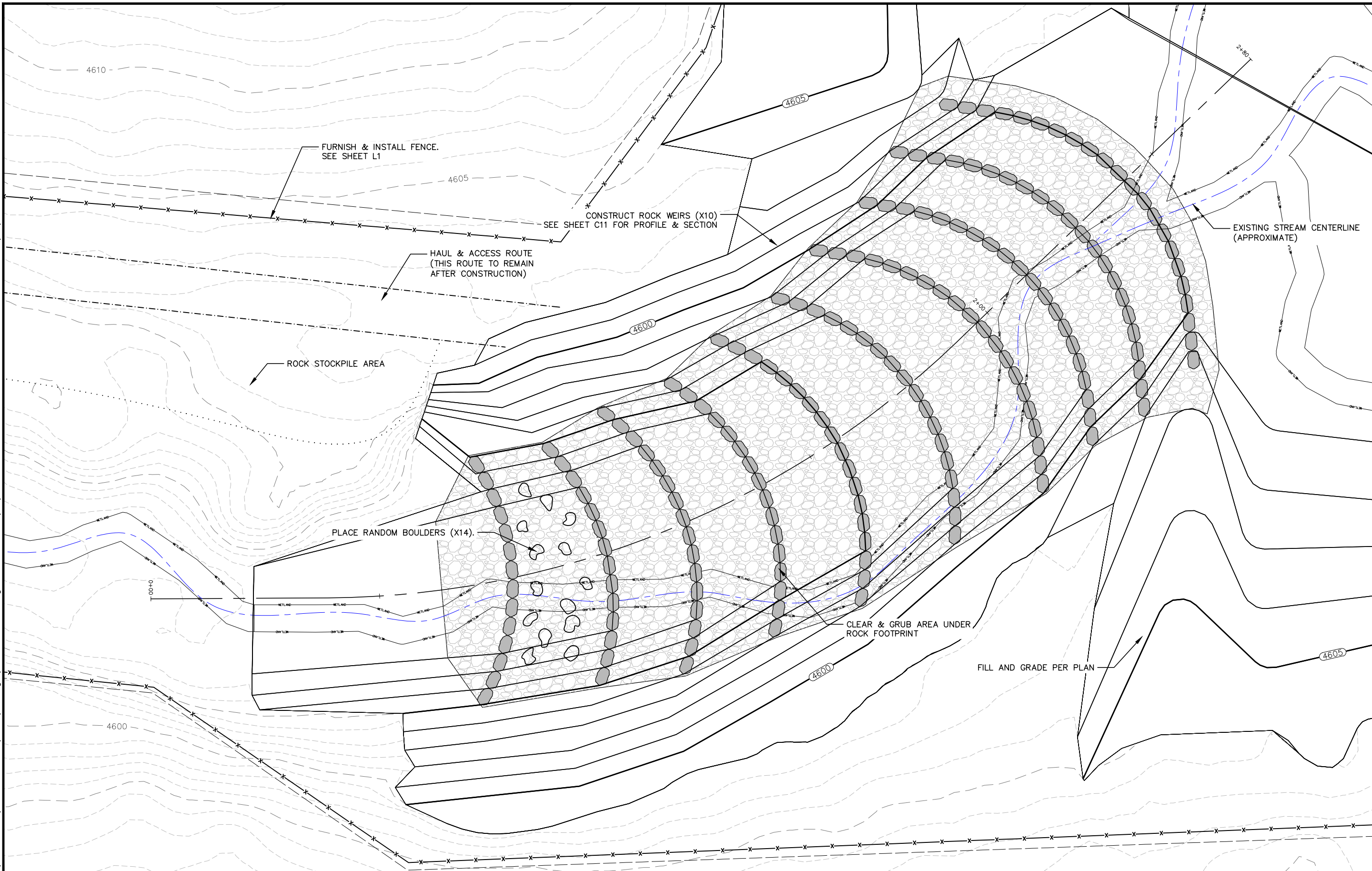
**TUOLUMNE COUNTY CALIFORNIA**

SCALE: AS SHOWN
PMIS NO. _____
DRAWN BY: NWA
CHECKED BY: NA
SHEET

C9



FILE PATH: C:\Users\nwanderson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/12/2022 4:30 PM SAVED BY: NWARDERSON PLOT DATE: 12/12/2022 4:53 PM



FURNISH & INSTALL FENCE.  
SEE SHEET L1

CONSTRUCT ROCK WEIRS (X10)  
SEE SHEET C11 FOR PROFILE & SECTION

HAUL & ACCESS ROUTE  
(THIS ROUTE TO REMAIN  
AFTER CONSTRUCTION)

ROCK STOCKPILE AREA

PLACE RANDOM BOULDERS (X14)

CLEAR & GRUB AREA UNDER  
ROCK FOOTPRINT

FILL AND GRADE PER PLAN

EXISTING STREAM CENTERLINE  
(APPROXIMATE)

NATIONAL PARK  
SERVICE



REVISIONS	
NO.	DATE

ROCK ARCH RAPIDS PLAN  
ACKERSON MEADOW RESTORATION  
TUOLUMNE COUNTY CALIFORNIA

SCALE: AS SHOWN

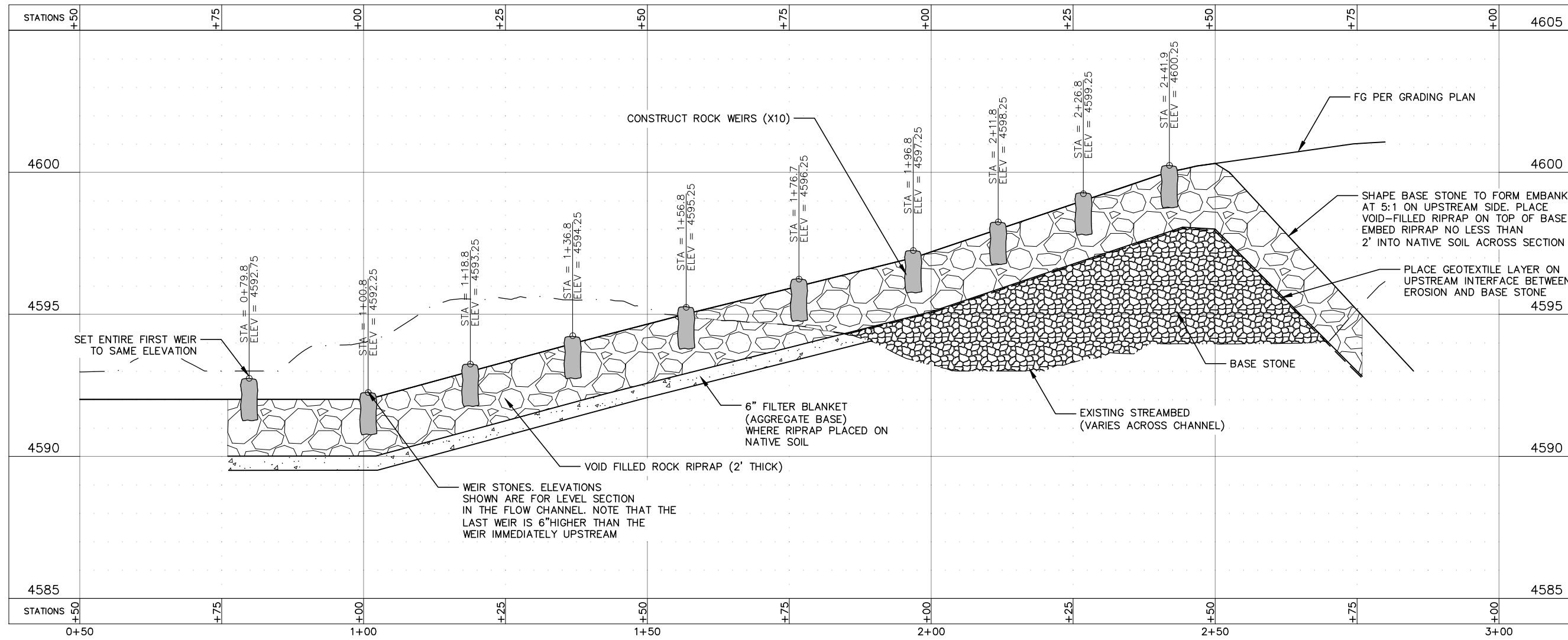
PMIS NO. \_\_\_\_\_  
DRAWN BY: NWA  
SHEET \_\_\_\_\_  
SUBSHEET  
**C10**

- NOTES
- ROCK FOR WEIR STONES SHALL BE FLAGSTONE WITH AVERAGE DIMENSIONS OF 4' LONG X 2-3' WIDE X 2' DEEP.





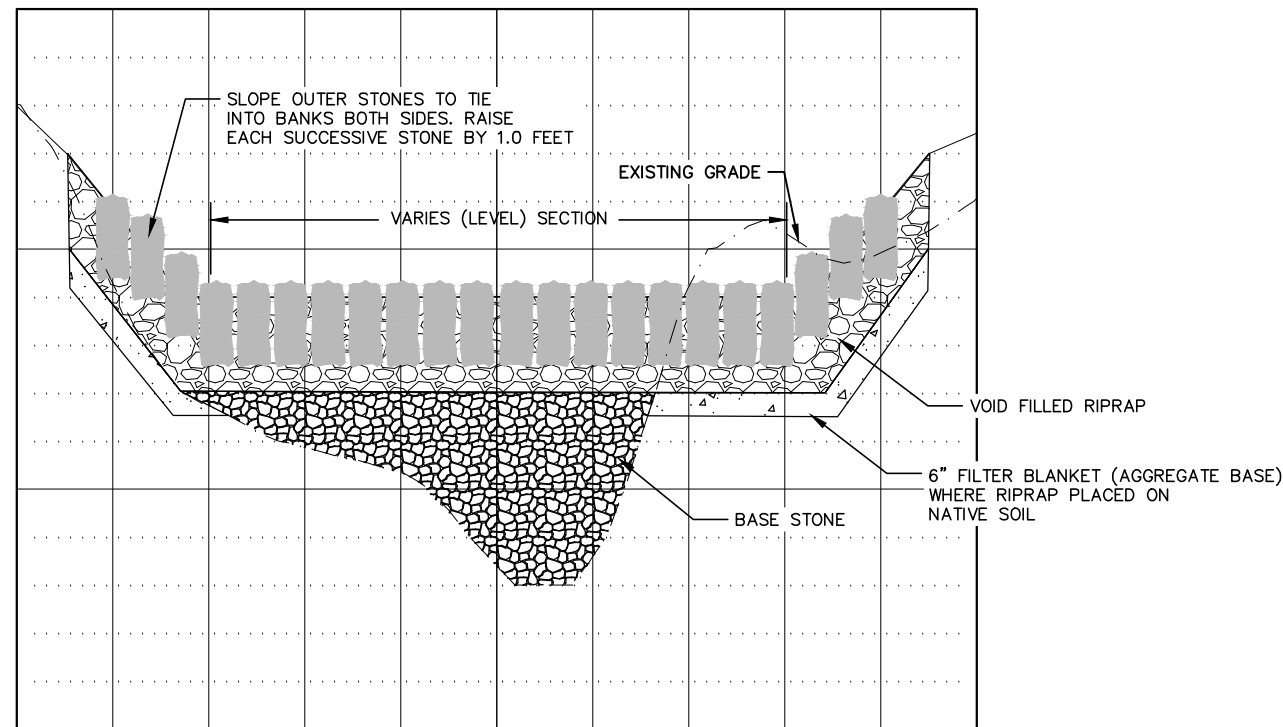
FILE PATH: C:\Users\nwanderson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/12/2022 4:30 PM SAVED BY: NWANDERSON PLOT DATE: 12/12/2022 4:54 PM



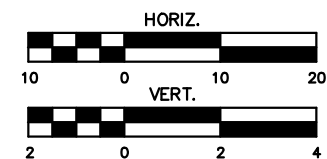
ROCK ARCH RAPIDS PROFILE

NOTES

1. SEE SPECIFICATIONS FOR MATERIAL GRADATIONS & REQUIREMENTS
2. WEIR STONES SHALL BE FLAGSTONE WITH AVERAGE DIMENSIONS OF 4' LONG X 2-3' WIDE X 2' DEEP.



ROCK ARCH RAPIDS TYPICAL WEIR SECTION



**NATIONAL PARK SERVICE**

REVISIONS	
NO.	DATE

ROCK ARCH RAPIDS PLAN & PROFILE  
ACKERSON MEADOW RESTORATION  
TUOLUMNE COUNTY CALIFORNIA

SCALE: AS SHOWN

PMIS NO. \_\_\_\_\_

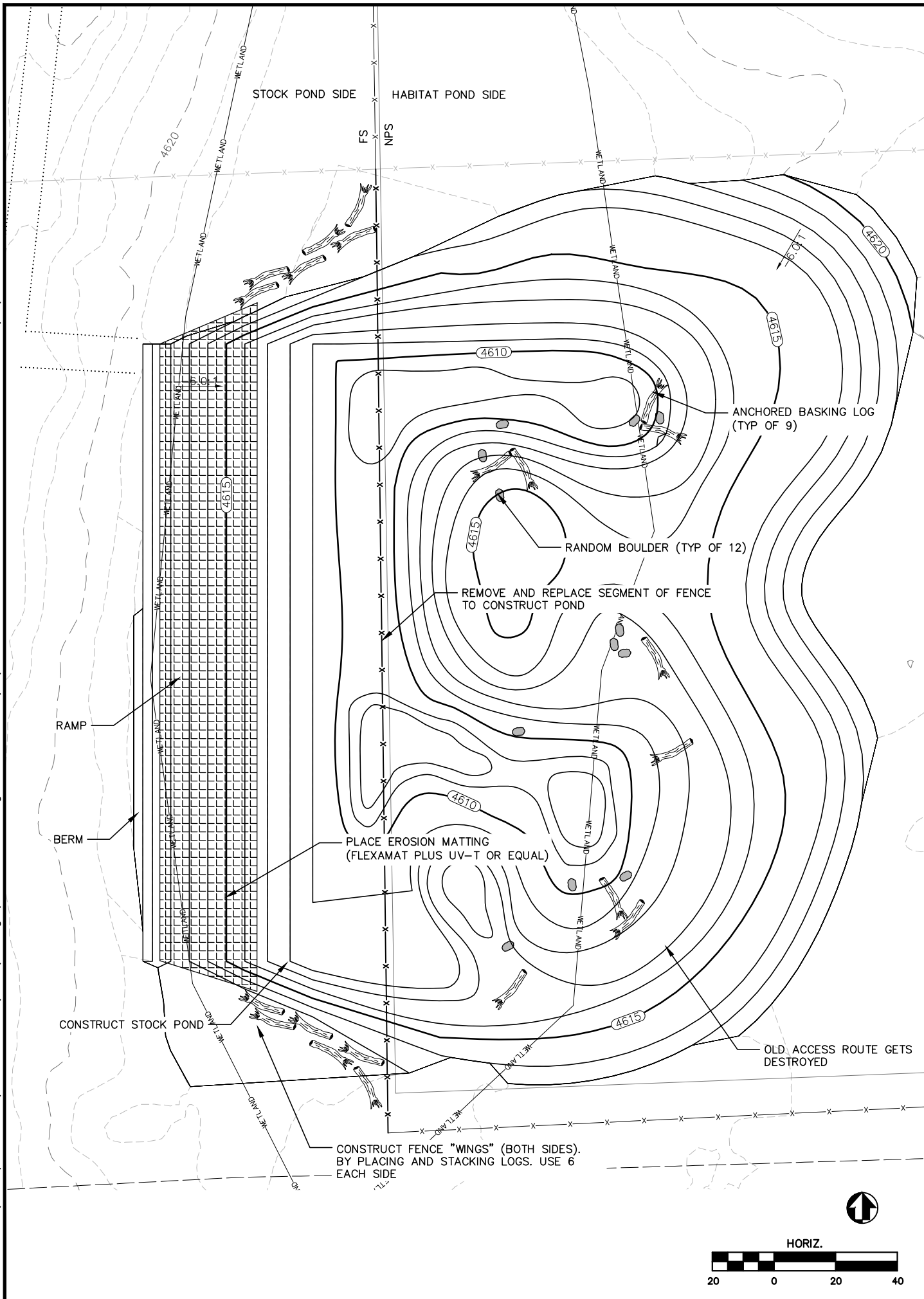
DRAWN BY: NWA

SHEET \_\_\_\_\_

SUBSHEET C11

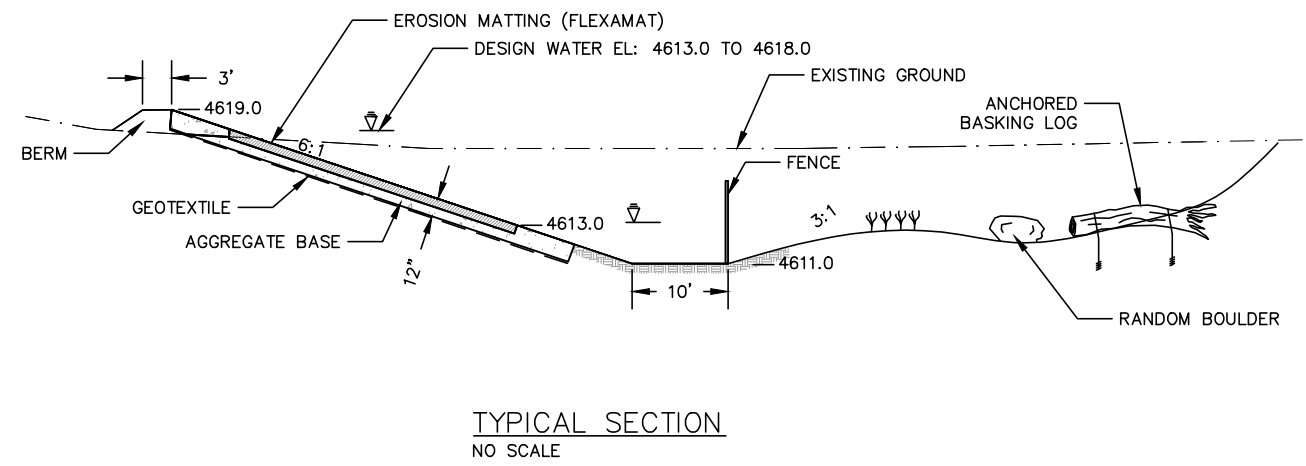


FILE PATH: C:\Users\nwanderson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/12/2022 4:30 PM SAVED BY: NWANDERSON PLOT DATE: 12/12/2022 4:57 PM



NOTES

1. THE OBJECTIVE OF THE POND IS TO CREATE A FACILITY SUITABLE FOR WATERING LIVESTOCK ON THE FOREST SERVICE SIDE OF THE FENCE AND A WETLAND WITH TURTLE HABITAT ON THE NPS SIDE.
2. THE FENCE WILL BE SUBMERGED WHEN THE WATER LEVEL IN THE POND IS HIGH. CONSTRUCT FENCE CONFORMING TO TOPOGRAPHY SIMILAR TO AS SHOWN IN DETACHABLE WIRE PANEL DETAIL ON SHEET L1.
3. RANDOM BOULDERS SHALL BE THE SAME AS USED FOR THE ROCK-ARCH-RAPIDS.
4. BASKING LOGS SHALL SALVAGED ON SITE FROM REMOVED TREES. BASKING LOGS SHALL BE NO LESS THAN 18" IN DIAMETER AND 20' FEET LONG.
5. LOGS SHALL BE ANCHORED USING SOIL ANCHORS (HELICAL OR DUCK BILLED) AND STEEL CABLE TO PREVENT LOGS FROM FLOATING AT MAXIMUM POND DEPTH.
6. CONTRACTOR SHALL WORK WITH ON-SITE INSPECTOR TO ORIENTATE THE ROCKS AND LOGS AS DIRECTED.



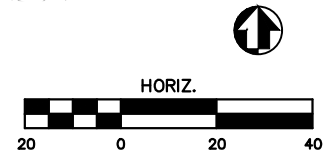
TYPICAL SECTION  
NO SCALE



NO.	DATE	DESCRIPTION

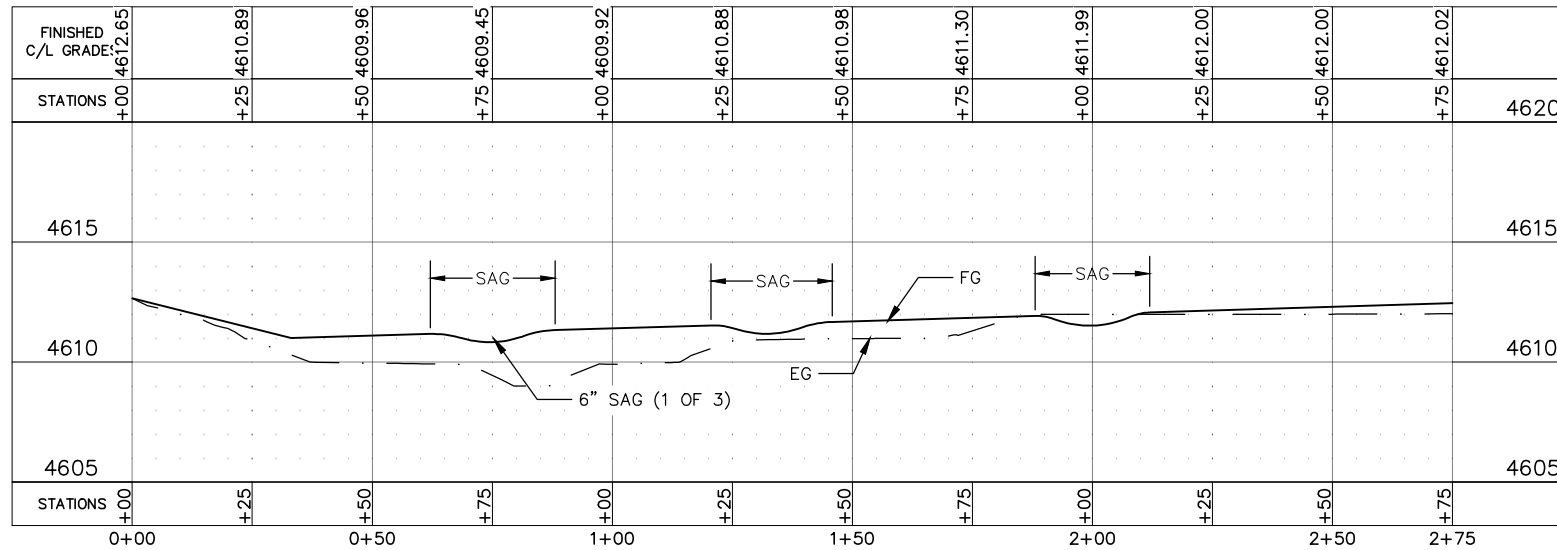
POND PLAN  
ACKERSON MEADOW RESTORATION  
TUOLUMNE COUNTY CALIFORNIA

SCALE: AS SHOWN  
PMIS NO. \_\_\_\_\_  
DRAWN BY: NWA  
SHEET  
SUBSHEET  
C12

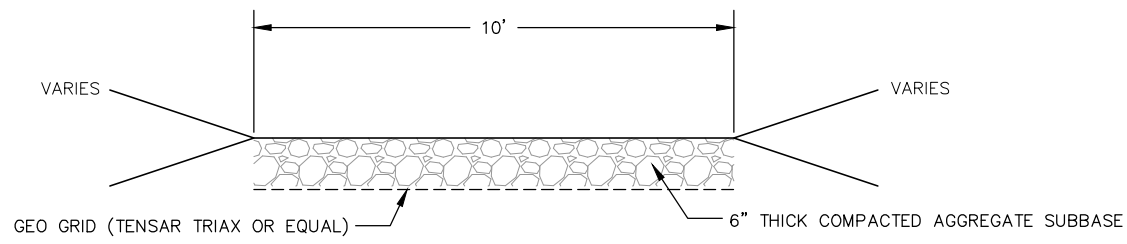




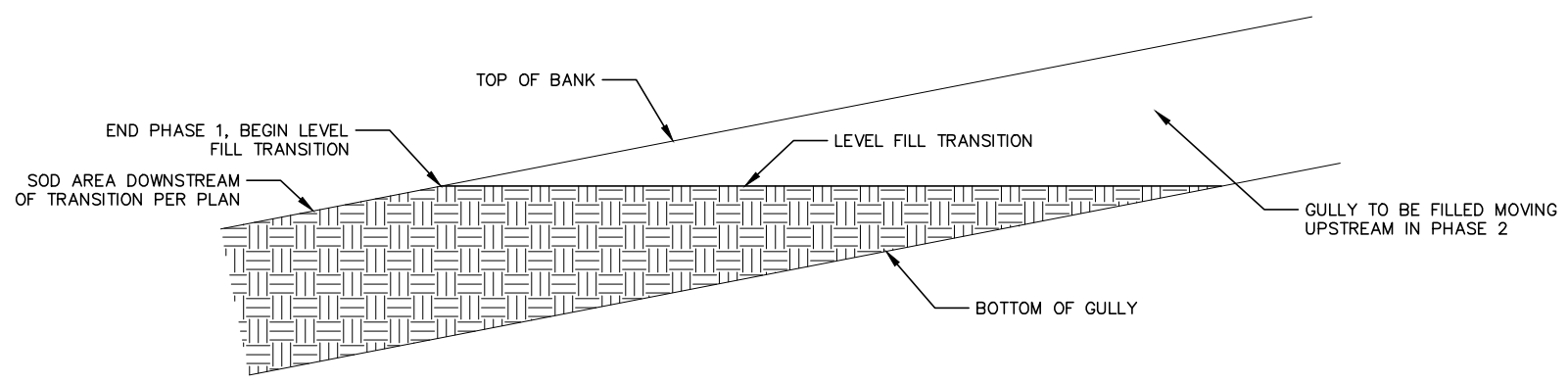
FILE PATH: C:\Users\Nwanderson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/12/2022 4:30 PM SAVED BY: Nwanderson PLOT DATE: 12/12/2022 5:00 PM



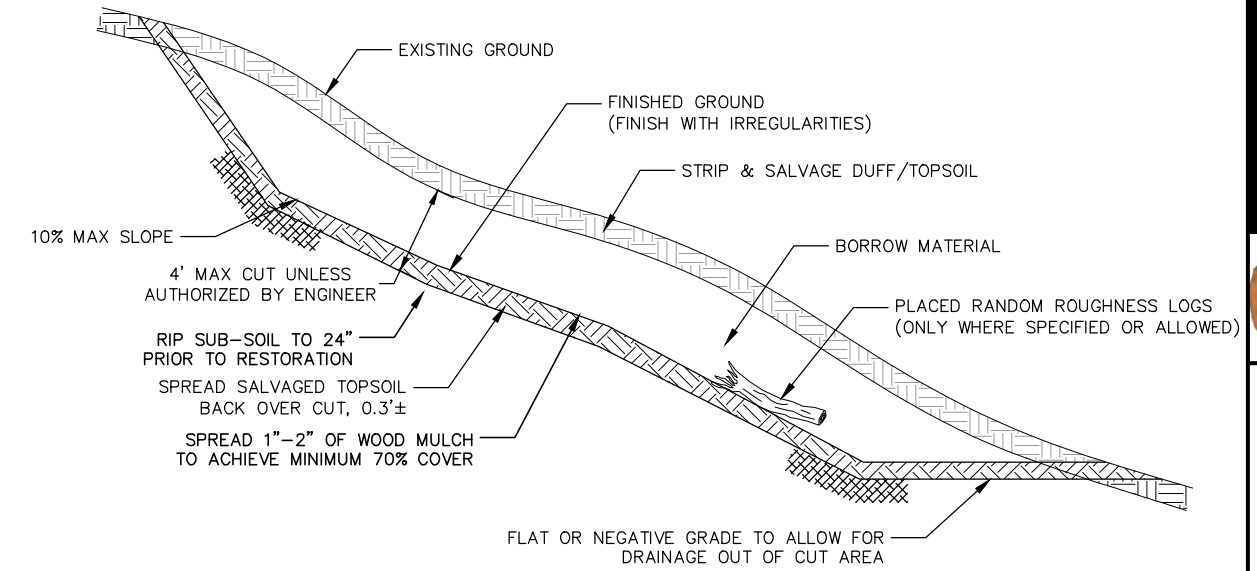
**LOW WATER CROSSING PROFILE**  
NO SCALE



**TYPICAL LOW WATER CROSSING SECTION**  
NO SCALE



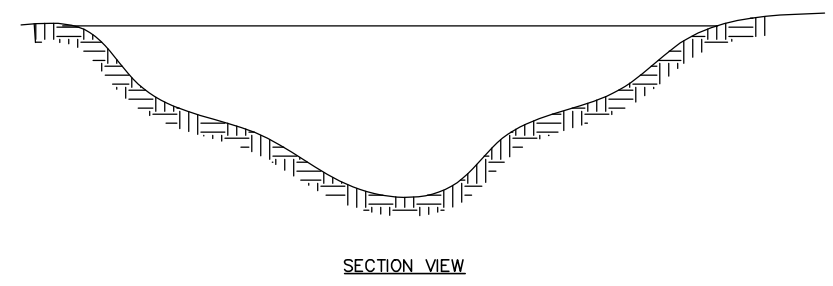
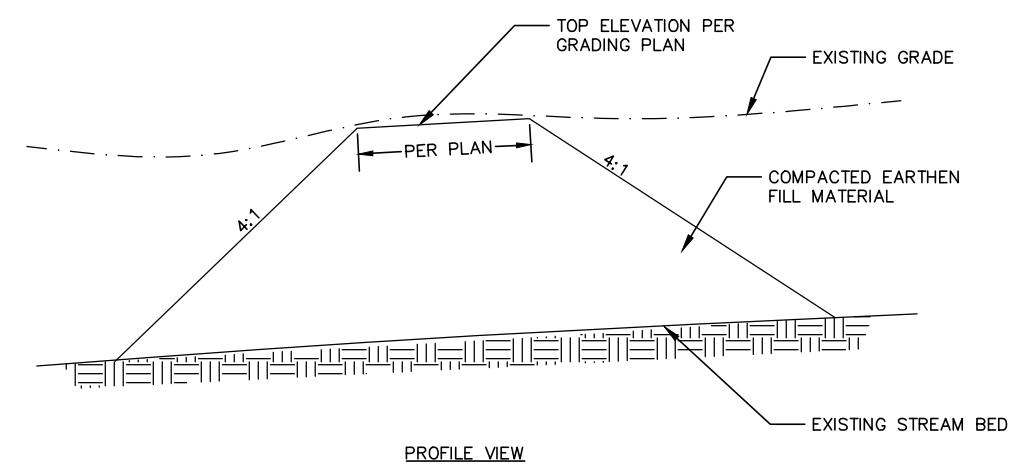
DETAIL SHOWN WITH VERTICAL EXAGGERATION FOR CLARITY  
**LEVEL FILL TRANSITION SECTION**  
NO SCALE



**NOTES**

1. DURING CONSTRUCTION BORROW SITES SHALL BE MANAGED SUCH THAT THERE ARE NO STEEP SLOPES (> 3:1) OR HOLES LEFT OVERNIGHT THAT COULD ENTRAP ANIMALS.
2. FEATHER BORROW SITE EDGES TO MATCH EXISTING TOPOGRAPHY.
3. RANDOMLY SCATTER SCREENED OR SALVAGED BOULDER EVENLY OVER SITE.

**TYPICAL BORROW AREA RESTORATION**  
NO SCALE



**TYPICAL DITCH PLUG**  
NO SCALE

NO.	DATE	DESCRIPTION

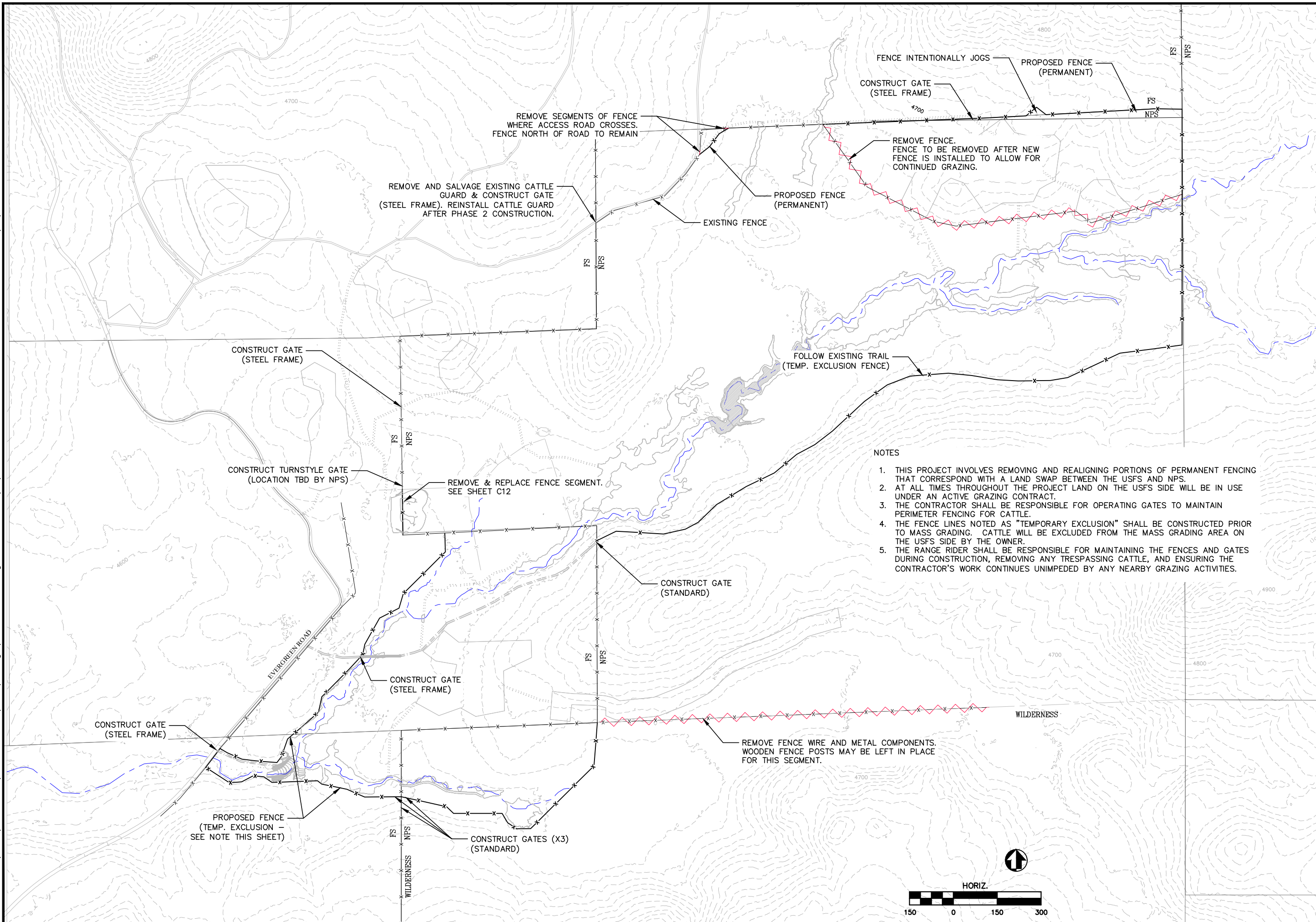
DETAILS

ACKERSON MEADOW RESTORATION

TUOLUMNE COUNTY CALIFORNIA



FILE PATH: C:\Users\nwandererson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/12/2022 5:15 PM SAVED BY: NWANDERSON PLOT DATE: 12/12/2022 5:16 PM



- NOTES**
1. THIS PROJECT INVOLVES REMOVING AND REALIGNING PORTIONS OF PERMANENT FENCING THAT CORRESPOND WITH A LAND SWAP BETWEEN THE USFS AND NPS.
  2. AT ALL TIMES THROUGHOUT THE PROJECT LAND ON THE USFS SIDE WILL BE IN USE UNDER AN ACTIVE GRAZING CONTRACT.
  3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OPERATING GATES TO MAINTAIN PERIMETER FENCING FOR CATTLE.
  4. THE FENCE LINES NOTED AS "TEMPORARY EXCLUSION" SHALL BE CONSTRUCTED PRIOR TO MASS GRADING. CATTLE WILL BE EXCLUDED FROM THE MASS GRADING AREA ON THE USFS SIDE BY THE OWNER.
  5. THE RANGE RIDER SHALL BE RESPONSIBLE FOR MAINTAINING THE FENCES AND GATES DURING CONSTRUCTION, REMOVING ANY TRESPASSING CATTLE, AND ENSURING THE CONTRACTOR'S WORK CONTINUES UNIMPEDED BY ANY NEARBY GRAZING ACTIVITIES.

**NATIONAL PARK SERVICE**

FENCING PLAN

ACKERSON MEADOW RESTORATION

TUOLUMNE COUNTY CALIFORNIA

REVISIONS	
NO.	DATE

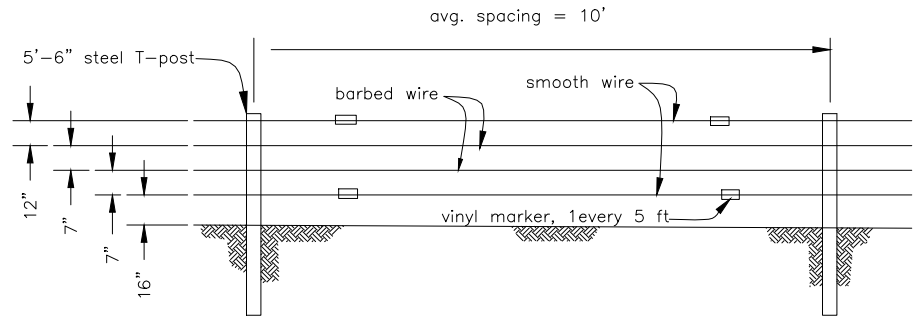
SCALE: AS SHOWN

PMIS NO. \_\_\_\_\_

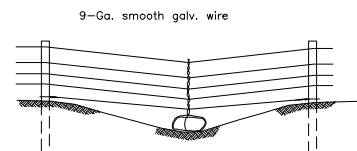
DRAWN BY: NWA

SHEET \_\_\_\_\_

SUBSHEET 1

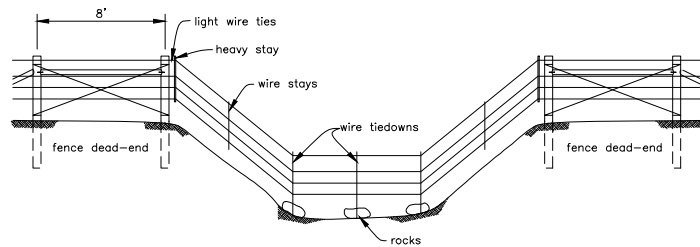


TYPICAL LINE PANEL



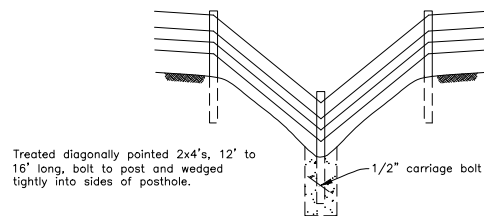
Add additional wire of the same material as bottom wire of fence and a rock deadman (min. weight 50 lbs.) when space between bottom wire and ground exceed 20 inches.

ROCK ANCHORS AT MINOR DEPRESSION

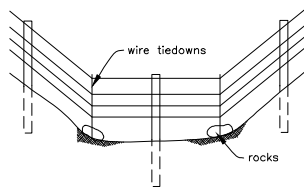


Panels of woven wire or board can be used. Panels built separate and tied to fence with light wire, then during floods ends can break loose and not disturb main fencelines.

DETACHABLE WIRE PANEL W/ROCK ANCHORS FOR DEEP WASHES AND LIVE STREAMS



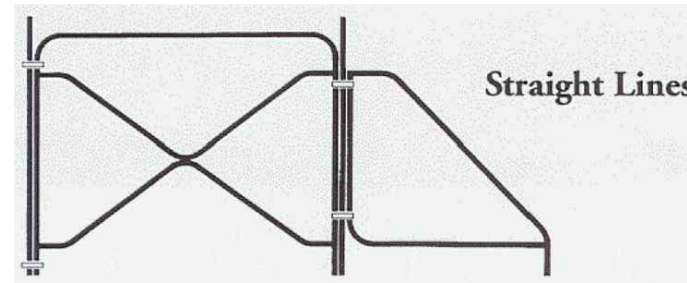
FENCE POST ANCHOR



ROCK ANCHORS IN DRY DRAWS SQUARE ROCK CRIBS ALSO USEFUL

- All corner and brace posts shall be 7' long and 3" embedment.
- Line posts shall have a minimum length of 8'-6" and 2'-6" embedment.

PLACE PREFAB FENCE BRACE EVERY 330', OR AS NEEDED (CORNERS, TURNS, TERRAIN CHANGE, ETC.). ADD BRACE POSTS AS REQUIRED PER MANUFACTURER.

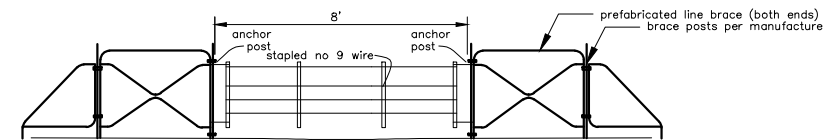


Straight Lines

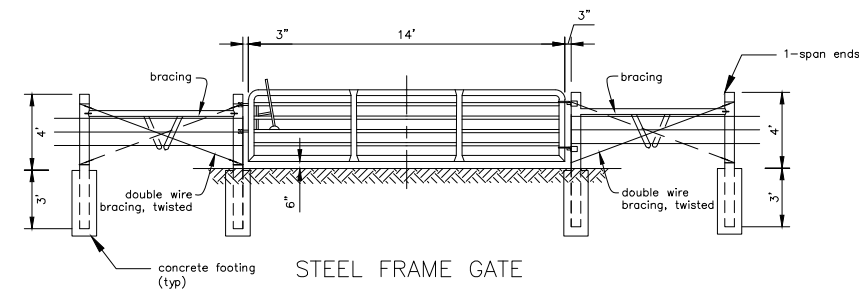
TYPICAL PREFABRICATED LINE BRACE



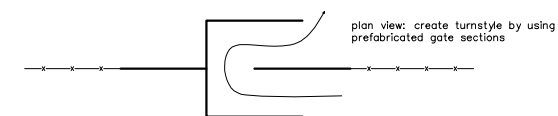
TYPICAL CORNER BRACE



STANDARD GATE



STEEL FRAME GATE



TURNSTYLE GATE

REVISIONS	
NO.	DATE

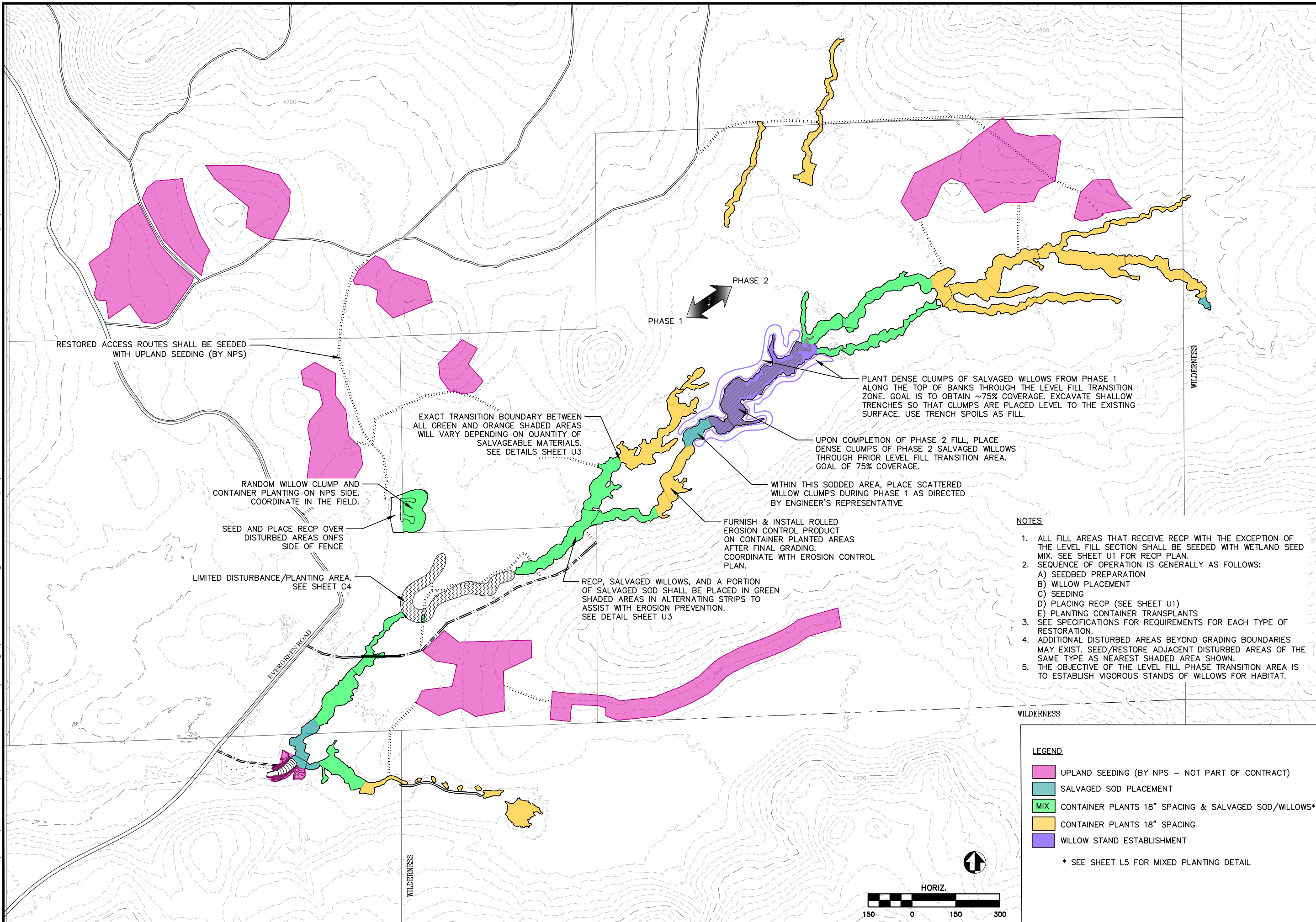
FENCING DETAILS  
ACKERSON MEADOW RESTORATION  
TUOLUMNE COUNTY CALIFORNIA

SCALE: AS SHOWN  
PMIS NO. \_\_\_\_\_  
DRAWN BY: NWA  
SHEET  
SUBSHEET L2





FILE PATH: C:\Users\nwanderson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/13/2022 7:59 AM SAVED BY: Nwanderson PLOT DATE: 12/13/2022 9:01 AM



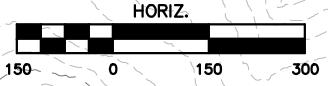
**NOTES**

1. ALL FILL AREAS THAT RECEIVE RECP WITH THE EXCEPTION OF THE LEVEL FILL SECTION SHALL BE SEEDDED WITH WETLAND SEED MIX. SEE SHEET U1 FOR RECP PLAN.
2. SEQUENCE OF OPERATION IS GENERALLY AS FOLLOWS:  
 A) SEEDBED PREPARATION  
 B) WILLOW PLACEMENT  
 C) SEEDING  
 D) PLACING RECP (SEE SHEET U1)  
 E) PLANTING CONTAINER TRANSPLANTS
3. SEE SPECIFICATIONS FOR REQUIREMENTS FOR EACH TYPE OF RESTORATION.
4. ADDITIONAL DISTURBED AREAS BEYOND GRADING BOUNDARIES MAY EXIST. SEED/RESTORE ADJACENT DISTURBED AREAS OF THE SAME TYPE AS NEAREST SHADED AREA SHOWN.
5. THE OBJECTIVE OF THE LEVEL FILL PHASE TRANSITION AREA IS TO ESTABLISH VIGOROUS STANDS OF WILLOWS FOR HABITAT.

**LEGEND**

- UPLAND SEEDING (BY NPS - NOT PART OF CONTRACT)
- SALVAGED SOD PLACEMENT
- MIX CONTAINER PLANTS 18" SPACING & SALVAGED SOD/WILLOWS\*
- CONTAINER PLANTS 18" SPACING
- WILLOW STAND ESTABLISHMENT

\* SEE SHEET L5 FOR MIXED PLANTING DETAIL



REVISIONS	
NO.	DESCRIPTION

**SEEDING AND PLANTING PLAN**  
**ACKERSON MEADOW RESTORATION**  
**TUOLUMNE COUNTY CALIFORNIA**

SCALE: AS SHOWN

PMIS NO. \_\_\_\_\_

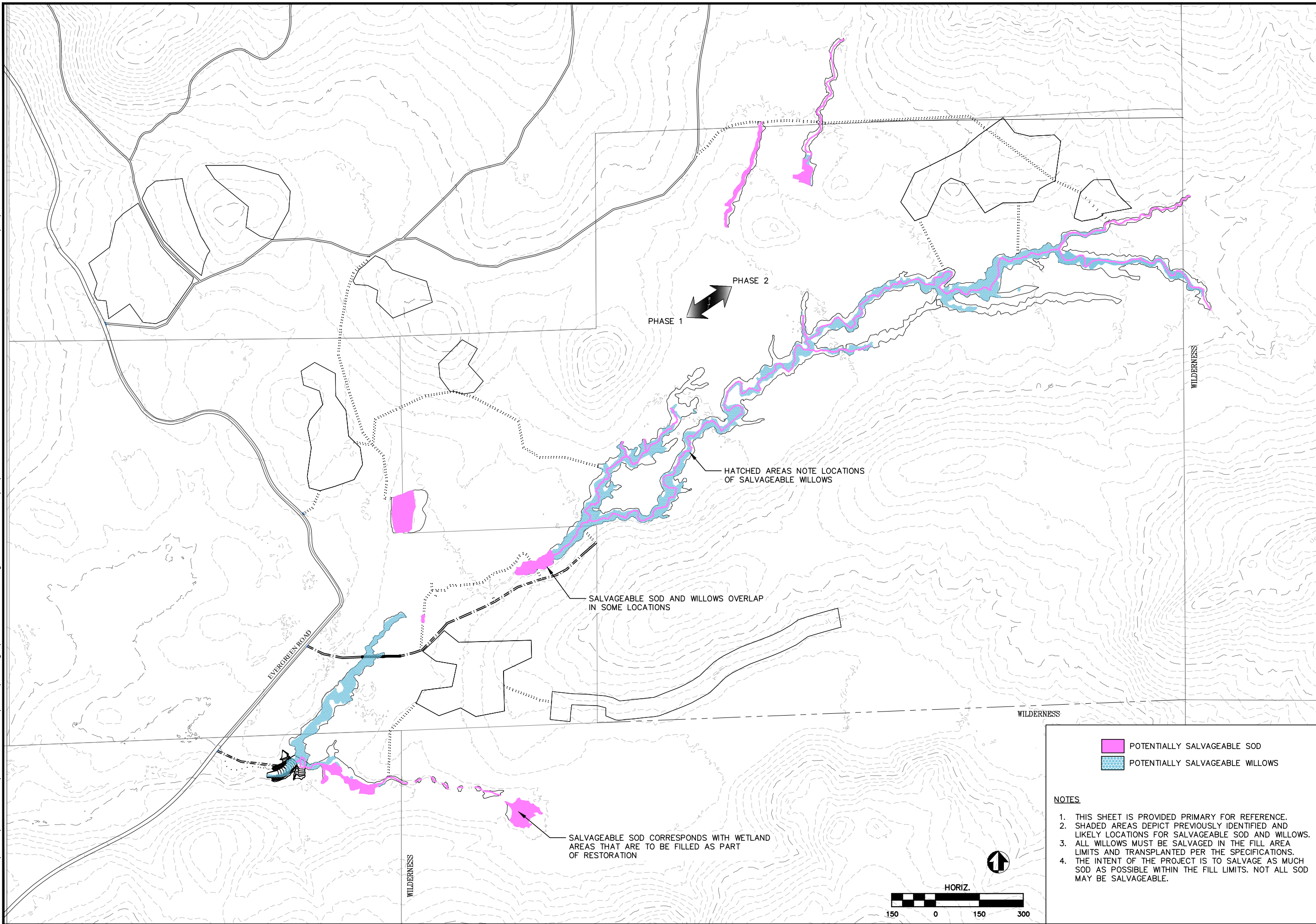
DRAWN BY: NWA

SHEET

SUBSHEET  
**L3**



FILE PATH: C:\Users\Nwanderson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/13/2022 9:18 AM SAVED BY: Nwanderson PLOT DATE: 12/13/2022 9:29 AM



- POTENTIALLY SALVAGEABLE SOD
- POTENTIALLY SALVAGEABLE WILLOWS

- NOTES**
1. THIS SHEET IS PROVIDED PRIMARY FOR REFERENCE.
  2. SHADED AREAS DEPICT PREVIOUSLY IDENTIFIED AND LIKELY LOCATIONS FOR SALVAGEABLE SOD AND WILLOWS.
  3. ALL WILLOWS MUST BE SALVAGED IN THE FILL AREA LIMITS AND TRANSPLANTED PER THE SPECIFICATIONS.
  4. THE INTENT OF THE PROJECT IS TO SALVAGE AS MUCH SOD AS POSSIBLE WITHIN THE FILL LIMITS. NOT ALL SOD MAY BE SALVAGEABLE.

**NATIONAL PARK SERVICE**

SALVAGEABLE MATERIALS  
ACKERSON MEADOW RESTORATION  
TUOLUMNE COUNTY CALIFORNIA

REVISIONS	
NO.	DESCRIPTION

SCALE: AS SHOWN

PMIS NO. \_\_\_\_\_

DRAWN BY: NWA

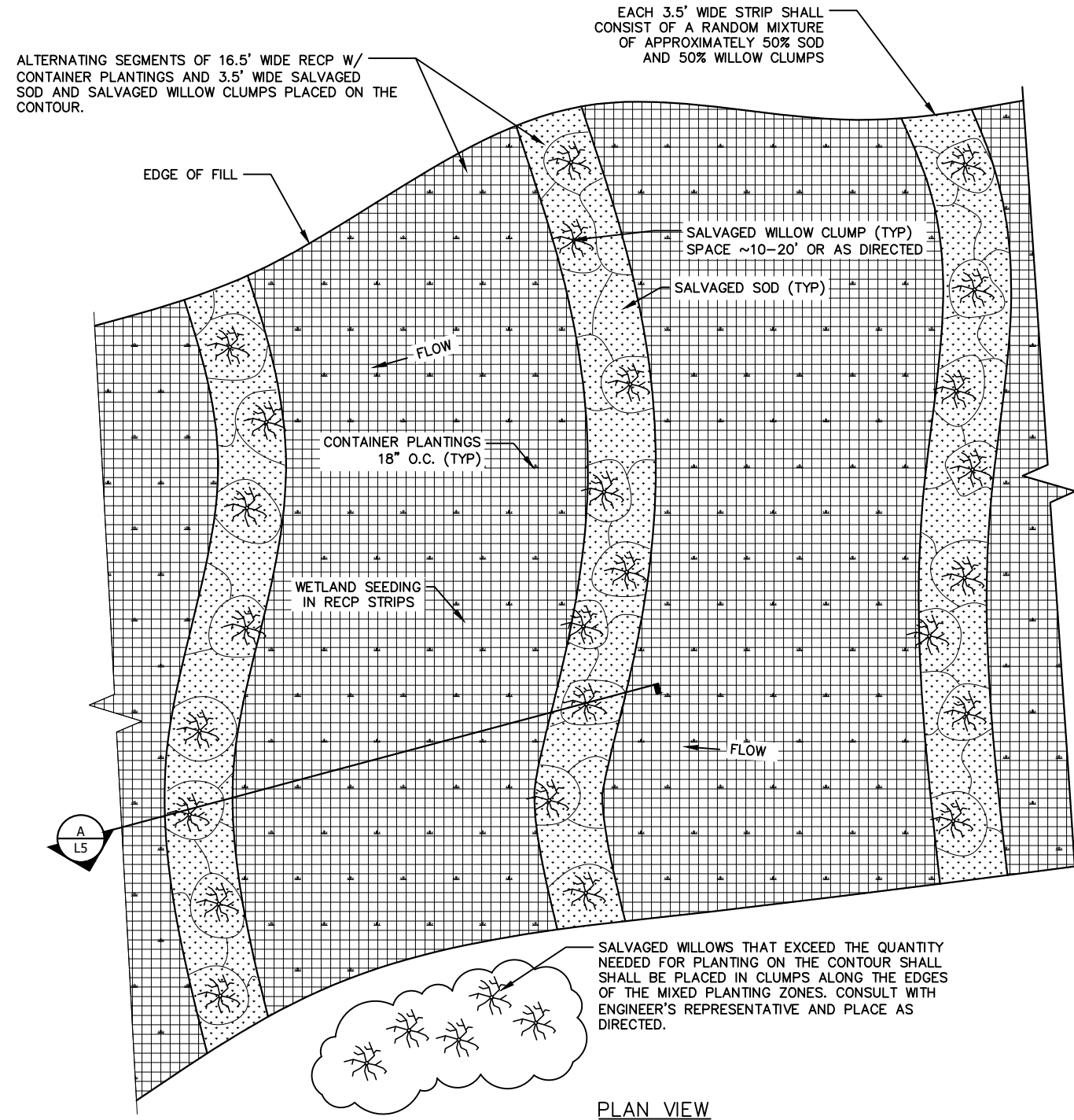
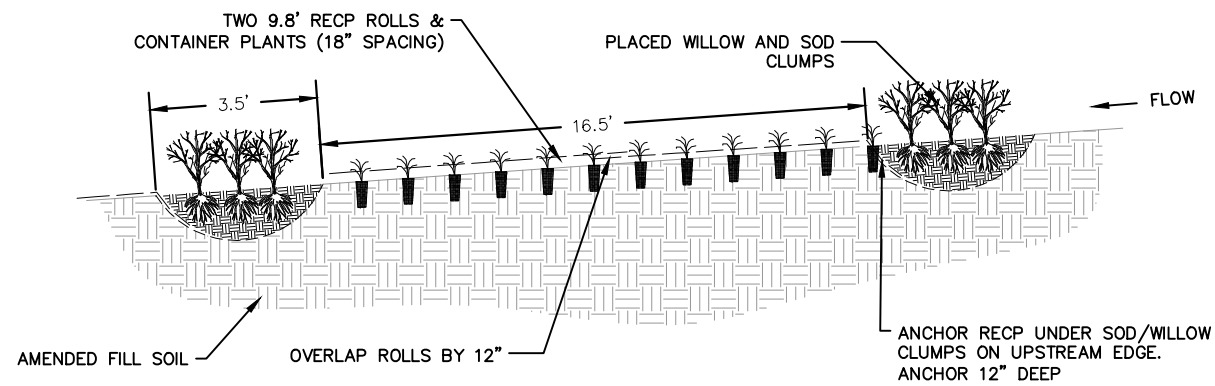
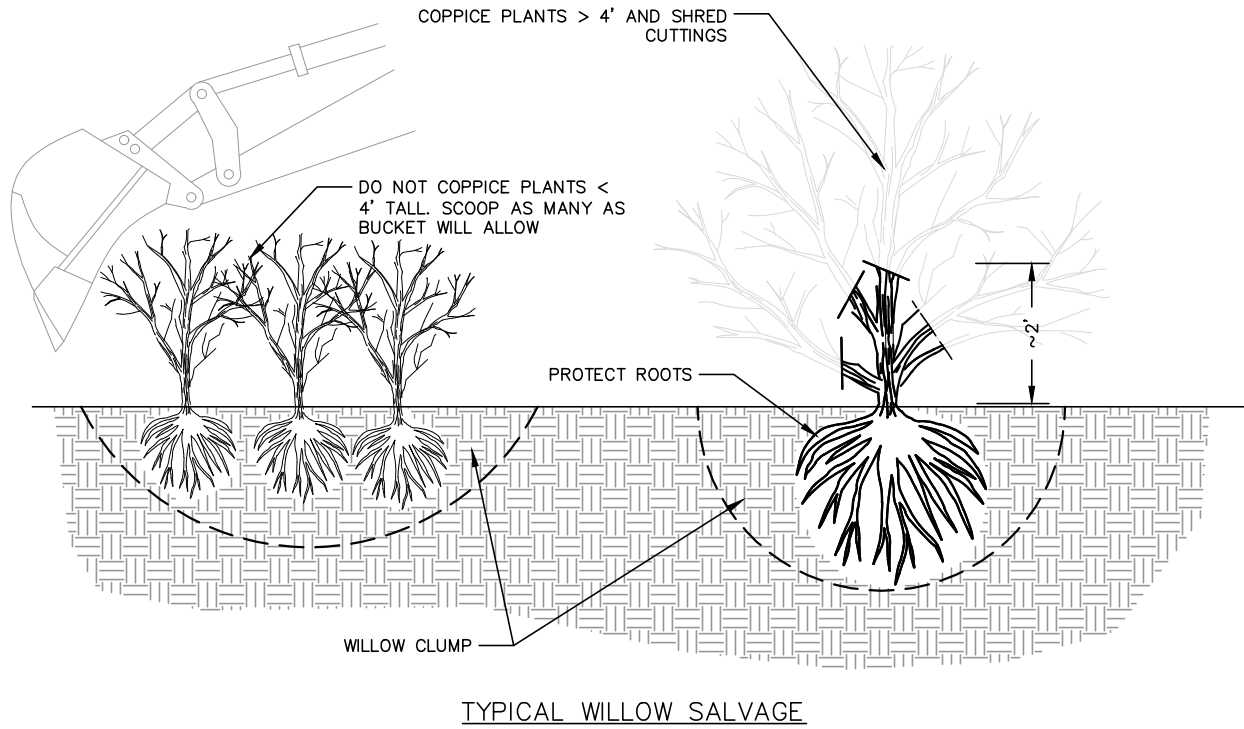
SHEET

SUBSHEET

L4



FILE PATH: C:\Users\nwanderson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/13/2022 9:18 AM SAVED BY: NWARDERSON PLOT DATE: 12/13/2022 9:29 AM



NOTES

1. THE EXTENT OF THE MIXED PLANTING SHALL BE LIMITED BY THE AMOUNT OF ON-SITE SALVAGEABLE MATERIAL (WILLOW AND SOD). SOD WILL LIKELY BE THE LIMITING FACTOR.
2. THE EXTENT OF THE MIXED PLANTING SHOWN ON SHEET L3 IS BASED ON PRESUMED QUANTITIES.
3. IF THERE IS INSUFFICIENT SALVAGEABLE MATERIAL TO COMPLETE THE PLANTING AS SHOWN, THE REMAINDER OF THE AREA SHALL ONLY BE COVERED WITH RECP, AND PLANTED WITH CONTAINER PLANTINGS, AND SEEDING.
4. PRIORITY FOR SALVAGEABLE MATERIAL USE SHALL BE GIVEN TO AREAS DESIGNATED FOR SOD ONLY, AND FOR THE WILLOW STAND ESTABLISHMENT AREA AS SHOWN ON SHEET L3.

MIXED PLANTING PLAN



NO.	DATE	DESCRIPTION

PLANTING DETAILS  
ACKERSON MEADOW RESTORATION  
TUOLUMNE COUNTY CALIFORNIA

SCALE: AS SHOWN

PMIS NO. \_\_\_\_\_

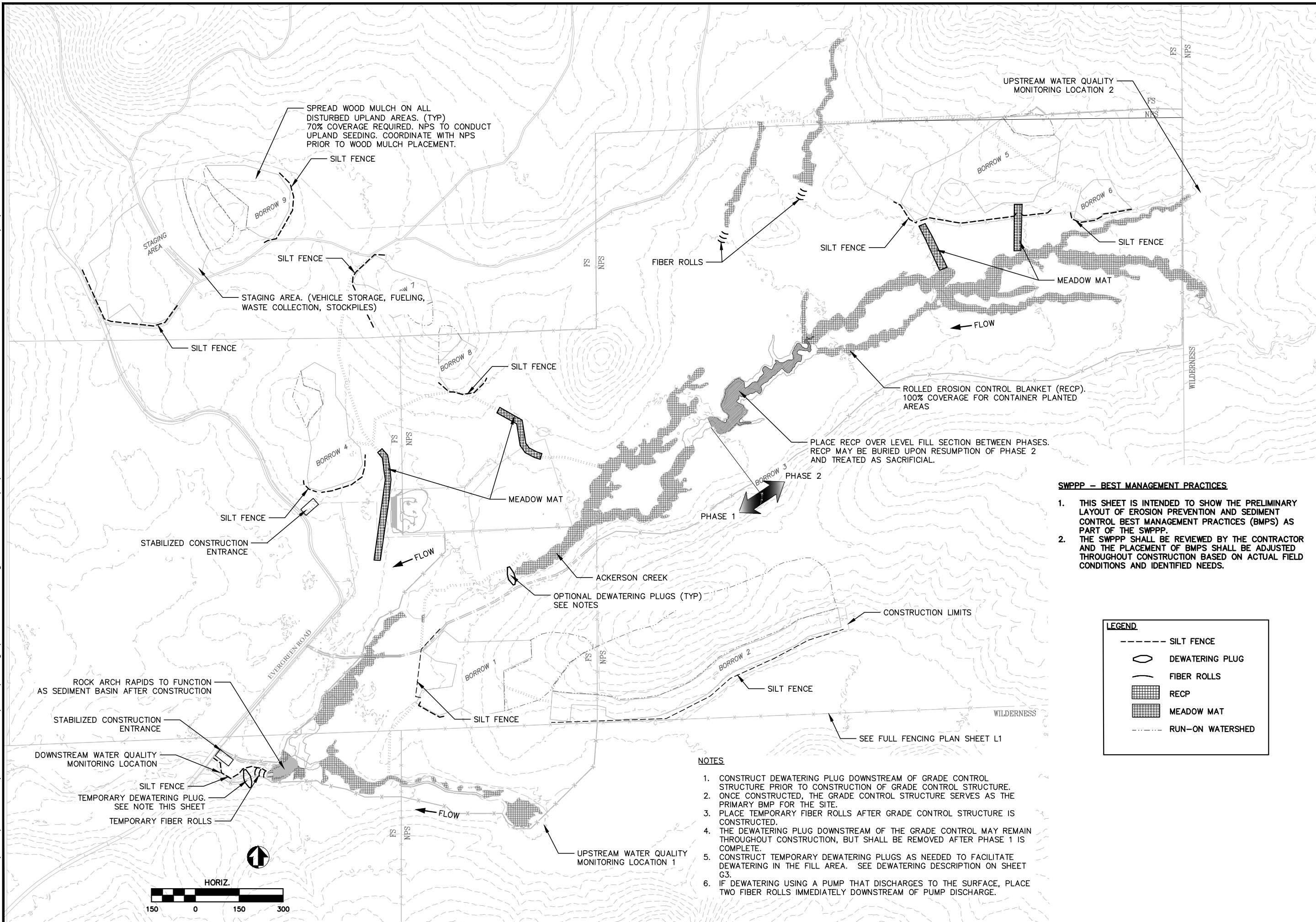
DRAWN BY: NWA

SHEET

SUBSHEET

L5

FILE PATH: C:\Users\Nwanderson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/13/2022 9:18 AM SAVED BY: Nwanderson PLOT DATE: 12/13/2022 9:27 AM



SPREAD WOOD MULCH ON ALL DISTURBED UPLAND AREAS. (TYP) 70% COVERAGE REQUIRED. NPS TO CONDUCT UPLAND SEEDING. COORDINATE WITH NPS PRIOR TO WOOD MULCH PLACEMENT.

UPSTREAM WATER QUALITY MONITORING LOCATION 2

STAGING AREA

STAGING AREA. (VEHICLE STORAGE, FUELING, WASTE COLLECTION, STOCKPILES)

STABILIZED CONSTRUCTION ENTRANCE

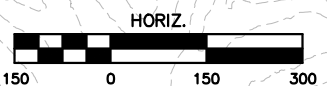
ROCK ARCH RAPIDS TO FUNCTION AS SEDIMENT BASIN AFTER CONSTRUCTION

STABILIZED CONSTRUCTION ENTRANCE

DOWNSTREAM WATER QUALITY MONITORING LOCATION

TEMPORARY DEWATERING PLUG. SEE NOTE THIS SHEET

TEMPORARY FIBER ROLLS



FIBER ROLLS

SILT FENCE

MEADOW MAT

FLOW

ROLLED EROSION CONTROL BLANKET (RECP). 100% COVERAGE FOR CONTAINER PLANTED AREAS

PLACE RECP OVER LEVEL FILL SECTION BETWEEN PHASES. RECP MAY BE BURIED UPON RESUMPTION OF PHASE 2 AND TREATED AS SACRIFICIAL.

PHASE 1

PHASE 2

MEADOW MAT

FLOW

ACKERSON CREEK  
OPTIONAL DEWATERING PLUGS (TYP) SEE NOTES

CONSTRUCTION LIMITS

BORROW 1

SILT FENCE

BORROW 2

SILT FENCE

WILDERNESS

SEE FULL FENCING PLAN SHEET L1

UPSTREAM WATER QUALITY MONITORING LOCATION 1

**NOTES**

1. CONSTRUCT DEWATERING PLUG DOWNSTREAM OF GRADE CONTROL STRUCTURE PRIOR TO CONSTRUCTION OF GRADE CONTROL STRUCTURE. ONCE CONSTRUCTED, THE GRADE CONTROL STRUCTURE SERVES AS THE PRIMARY BMP FOR THE SITE.
2. PLACE TEMPORARY FIBER ROLLS AFTER GRADE CONTROL STRUCTURE IS CONSTRUCTED.
3. THE DEWATERING PLUG DOWNSTREAM OF THE GRADE CONTROL MAY REMAIN THROUGHOUT CONSTRUCTION, BUT SHALL BE REMOVED AFTER PHASE 1 IS COMPLETE.
4. CONSTRUCT TEMPORARY DEWATERING PLUGS AS NEEDED TO FACILITATE DEWATERING IN THE FILL AREA. SEE DEWATERING DESCRIPTION ON SHEET G3.
5. IF DEWATERING USING A PUMP THAT DISCHARGES TO THE SURFACE, PLACE TWO FIBER ROLLS IMMEDIATELY DOWNSTREAM OF PUMP DISCHARGE.

**SWPPP - BEST MANAGEMENT PRACTICES**

1. THIS SHEET IS INTENDED TO SHOW THE PRELIMINARY LAYOUT OF EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS) AS PART OF THE SWPPP.
2. THE SWPPP SHALL BE REVIEWED BY THE CONTRACTOR AND THE PLACEMENT OF BMPS SHALL BE ADJUSTED THROUGHOUT CONSTRUCTION BASED ON ACTUAL FIELD CONDITIONS AND IDENTIFIED NEEDS.

**LEGEND**

	SILT FENCE
	DEWATERING PLUG
	FIBER ROLLS
	RECP
	MEADOW MAT
	RUN-ON WATERSHED

**NATIONAL PARK SERVICE**

NO.	DATE	DESCRIPTION

EROSION CONTROL PLAN  
ACKERSON MEADOW RESTORATION  
TUOLUMNE COUNTY CALIFORNIA

SCALE: AS SHOWN

PMIS NO. \_\_\_\_\_

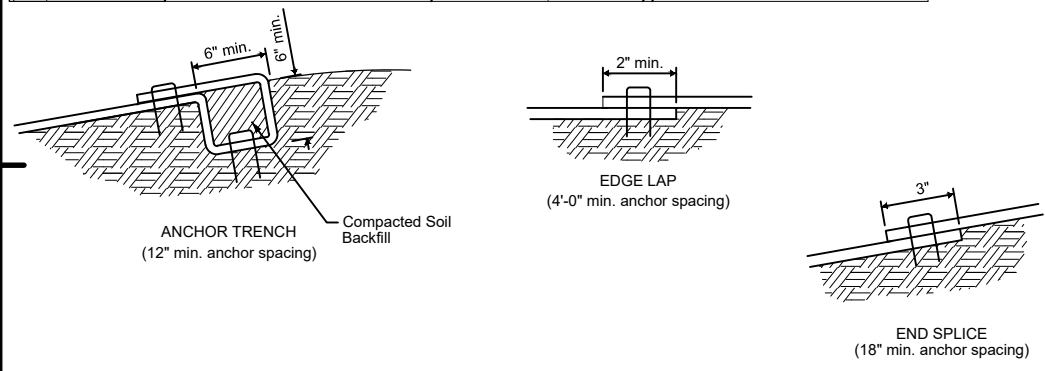
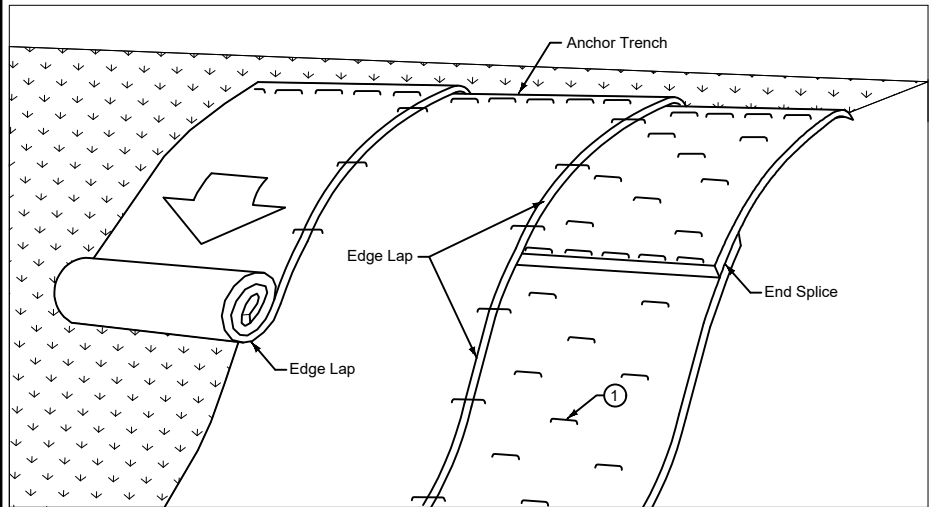
DRAWN BY: NWA

SHEET \_\_\_\_\_

SUBSHEET  
**U1**



FILE PATH: C:\Users\Nwanderson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/13/2022 9:18 AM SAVED BY: Nwanderson PLOT DATE: 12/13/2022 9:19 AM



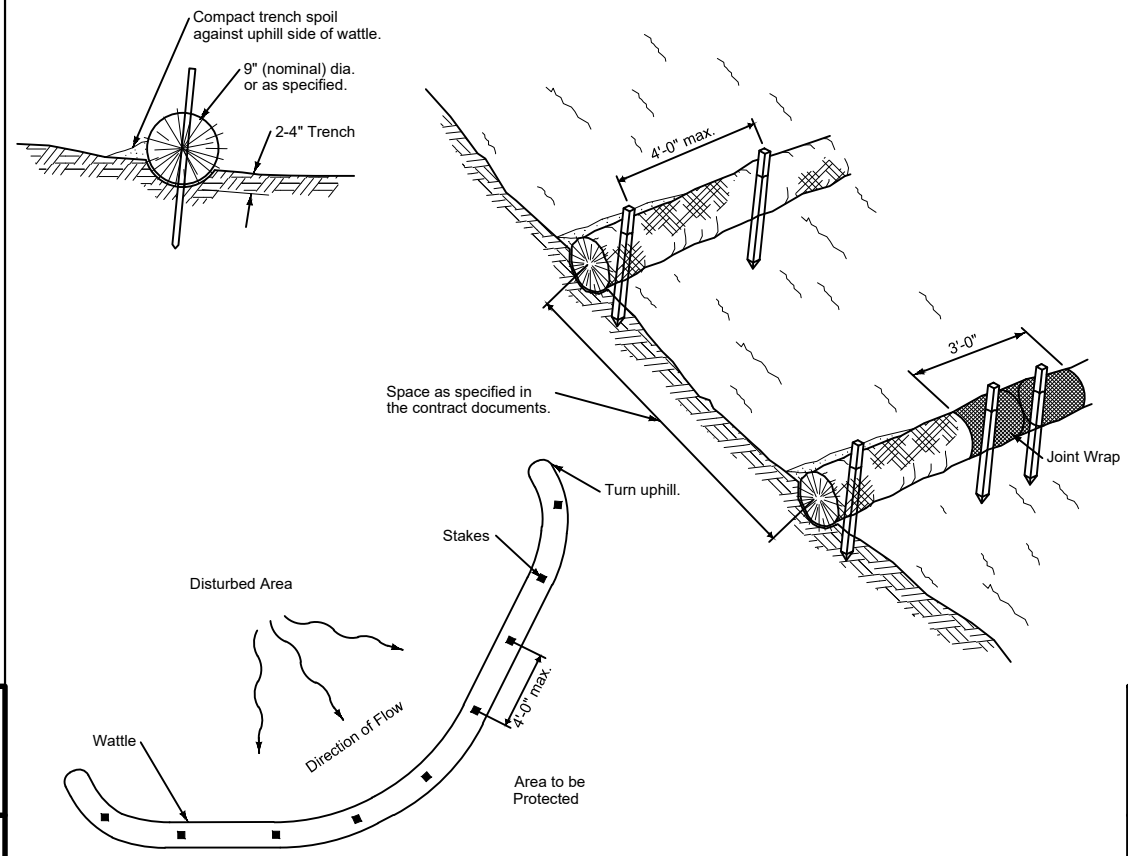
1 Secure blanket to ground according to manufacturer's recommended anchoring pattern and minimum shown in Table 1.

TABLE 1

Max. slope	Min. anchors
≤ 3:1	1.5/yd <sup>2</sup>
2:1	2/yd <sup>2</sup>
1:1	2.5/yd <sup>2</sup>

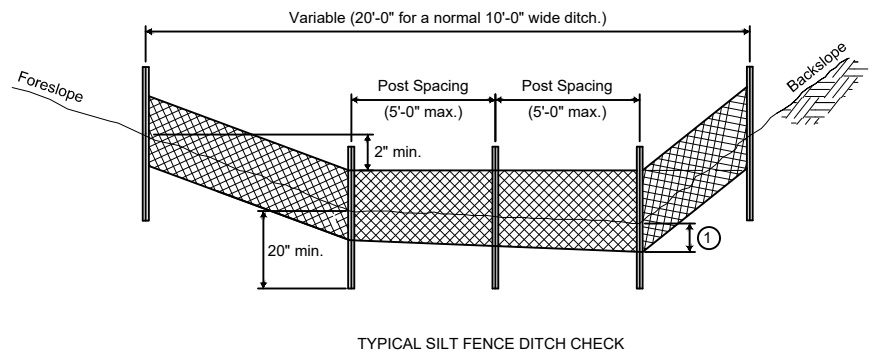
THIS DETAIL IS SUPPLEMENTAL TO BMP EC-7 IN THE SWPPP

ROLLED EROSION CONTROL PRODUCT (RECP) INSTALLATION ON SLOPES

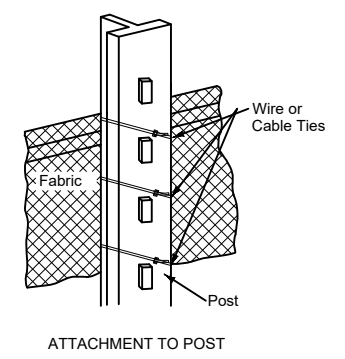


THIS DETAIL IS SUPPLEMENTAL TO BMP SE-5 IN THE SWPPP

TEMPORARY FIBER ROLL



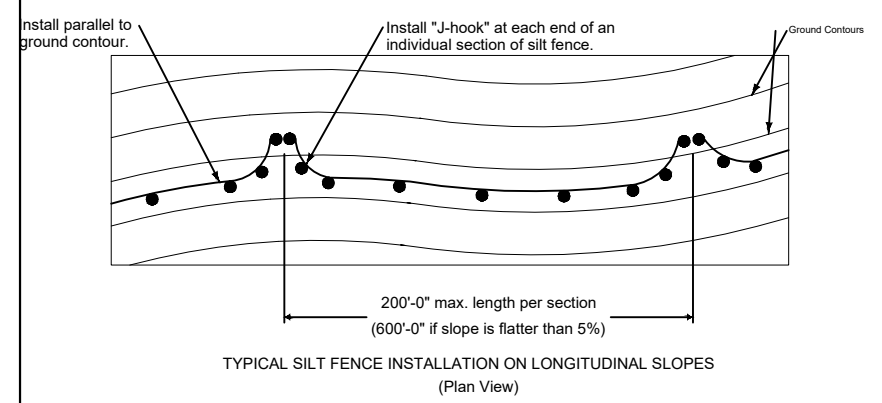
TYPICAL SILT FENCE DITCH CHECK



1 Insert 12 inches of fabric a minimum of 6 inches deep (fabric may be folded below the ground line).

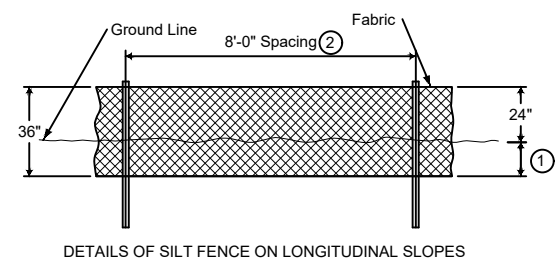
THIS DETAIL IS SUPPLEMENTAL TO BMP SE-1 IN THE SWPPP

SILT FENCE

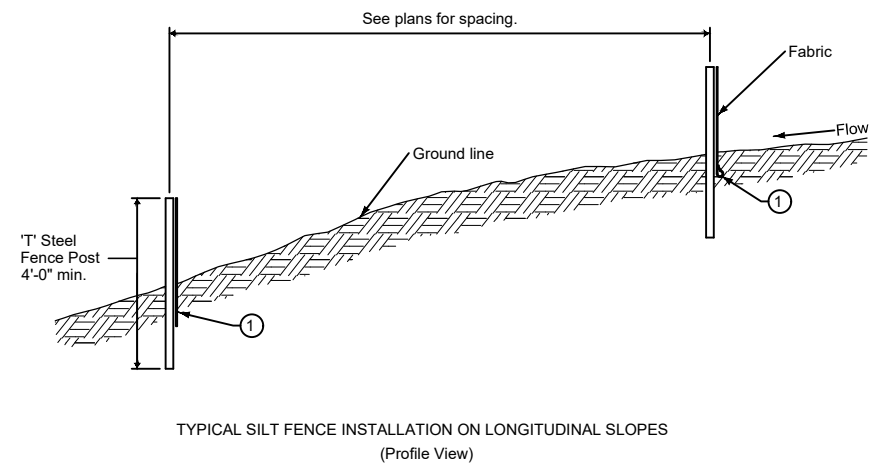


1 Insert 12 inches of fabric a minimum of 6 inches deep (fabric may be folded below the ground line).

2 Reduce post spacing to 5'-0" at water concentration areas, or as required to adequately support fence.



DETAILS OF SILT FENCE ON LONGITUDINAL SLOPES



TYPICAL SILT FENCE INSTALLATION ON LONGITUDINAL SLOPES (Profile View)

THIS DETAIL IS SUPPLEMENTAL TO BMP SE-1 IN THE SWPPP

SILT FENCE

NATIONAL PARK SERVICE

EROSION CONTROL DETAILS

ACKERSON MEADOW RESTORATION

TUOLUMNE COUNTY CALIFORNIA

SCALE: AS SHOWN

PMIS NO. \_\_\_\_\_

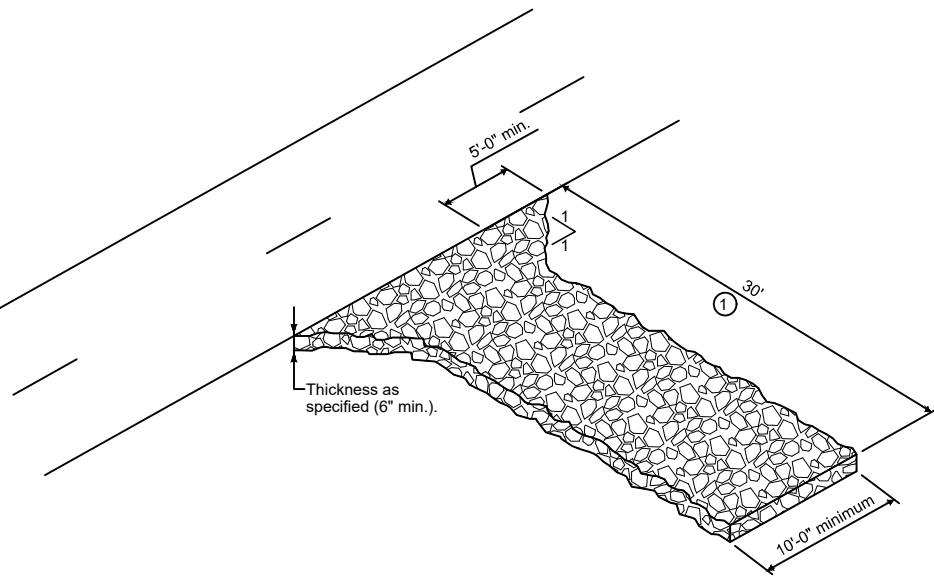
DRAWN BY: NWA

SHEET \_\_\_\_\_

SUBSHEET U2

NO.	DATE	DESCRIPTION

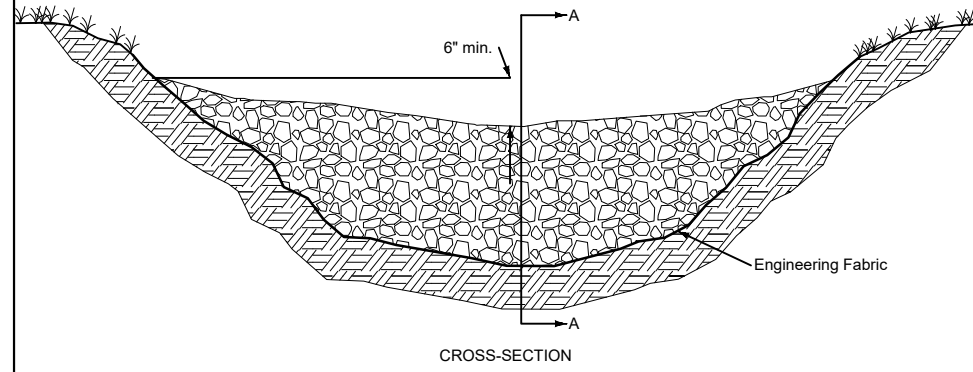
FILE PATH: C:\Users\nwanderson\OneDrive - DOI\YOSE\Drawings\BASE\_DRAWING.dwg LAST SAVE: 12/13/2022 9:18 AM SAVED BY: NWANDERSON PLOT DATE: 12/13/2022 9:18 AM



① Entrance length: 50 foot minimum (30 foot for single family residential), or as specified in the contract documents. Length of entrance may be increased if sediment track-out occurs.

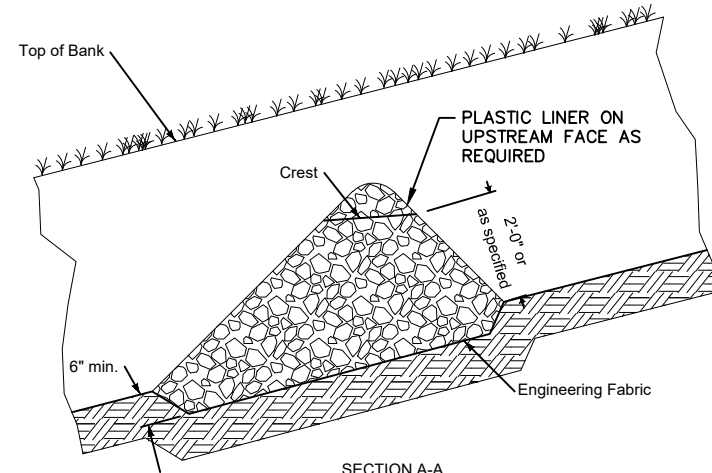
THIS DETAIL IS SUPPLEMENTAL TO BMP TC-1 IN THE SWPPP

STABILIZED CONSTRUCTION ENTRANCE



CROSS-SECTION

Engineering Fabric



SECTION A-A

Top of Bank

Crest

PLASTIC LINER ON UPSTREAM FACE AS REQUIRED

as specified

2'-0" or more

Engineering Fabric

6" min.

NOTES:  
① IN LIEU OF CRUSHED STONE, USE SANDBAGS

THIS DETAIL IS SUPPLEMENTAL TO BMP SE-4 IN THE SWPPP

TEMPORARY DEWATERING PLUG



REVISIONS	
NO.	DATE

EROSION CONTROL DETAILS  
ACKERSON MEADOW RESTORATION  
TUOLUMNE COUNTY CALIFORNIA

SCALE: AS SHOWN  
PMIS NO. \_\_\_\_\_  
DRAWN BY: NWA  
SHEET \_\_\_\_\_  
SUBSHEET U3