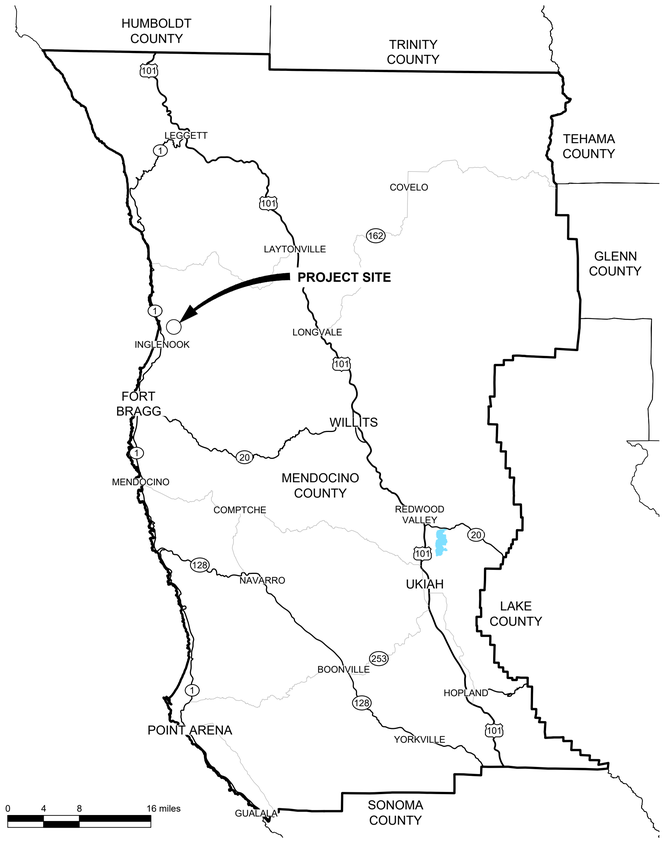
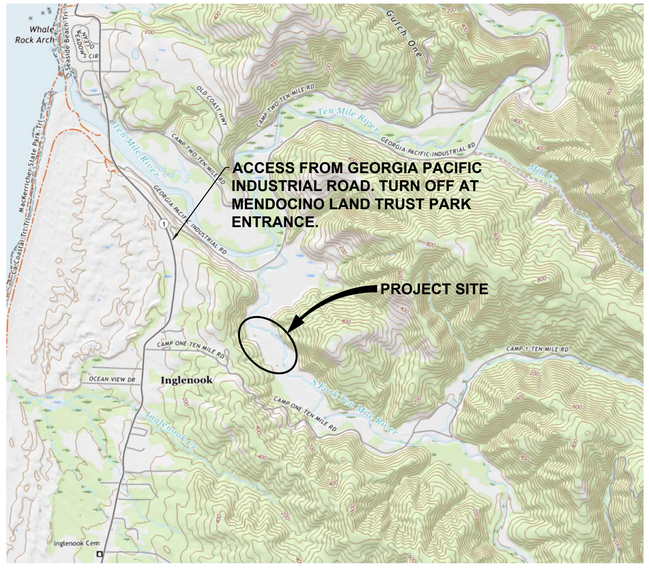
TEN MILE RIVER HABITAT ENHANCEMENT PHASE 2 - SOUTH FORK

PREPARED FOR:
THE NATURE CONSERVANCY
SPONSORED AND FUNDED BY:
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

90% SUBMITTAL
NOT FOR CONSTRUCTION

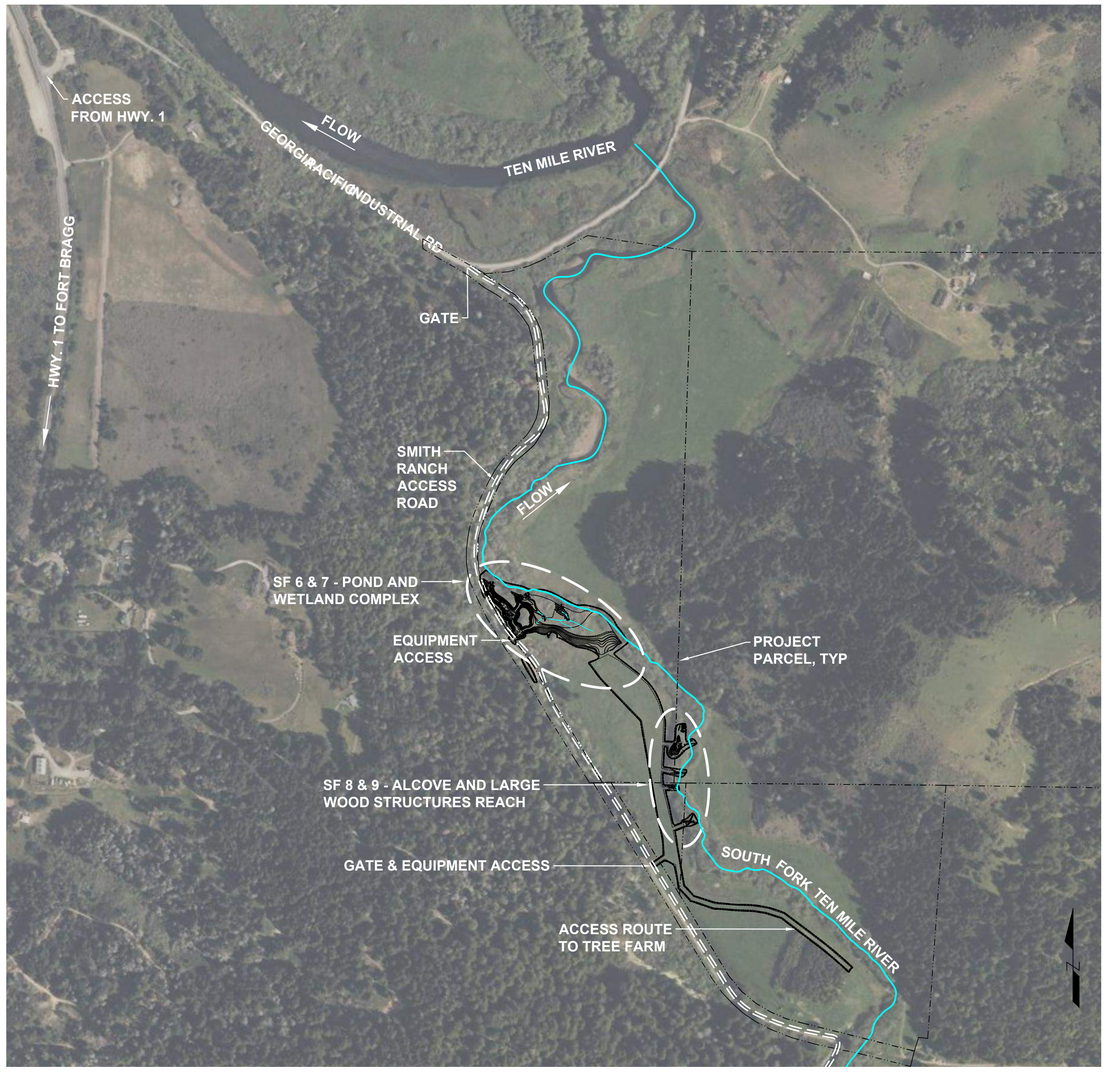


VICINITY MAP
SCALE: AS SHOWN



LOCATION MAP
SCALE: 1" = 2000'
USGS

PROJECT ADDRESS: The Smith Ranch
28761 N. Highway 1
Fort Bragg, CA 95437



SITE LAYOUT
SCALE: 1" = 350'

Sheet List Table		
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SURVEY NOTES

LIMITED TOPOGRAPHIC GROUND SURVEY PERFORMED BY PCI ON 11/10/2022 AND 8/1/2023. SURROUNDING TOPOGRAPHIC LIDAR DATA OBTAINED FROM NOAA AND IS APPROXIMATE ONLY. LIDAR FLOWN MARCH 2017.

HORIZONTAL DATUM: NAD83 CALIFORNIA STATE PLANE (ZONE 2)
VERTICAL DATUM: NAVD 1988

⚠ HORIZONTAL AND VERTICAL CONTROL AS SHOWN

PROJECT LOCATION: LAT: 39°31'59" N LONG: 123°44'48" W

VERIFY SCALES
ONE INCH

PRUNUSKE CHATHAM, INC.
103 MORRIS STREET, SUITE A-5
SEBASTOPOL, CA 95472
(707) 824-4600

PREPARED FOR:
THE NATURE CONSERVANCY
90 W. REDWOOD AVENUE
FORT BRAGG, CA 95437

DATE	BY
DATE: Nov 15, 2023	

PRELIMINARY

REVISIONS

DATE: 11/15/2023
SCALE: AS SHOWN
MAPPING BY: KJ
DESIGNED BY: LH, LW, KJ
DRAFTED BY: KJ
CHECKED BY: LW

TEN MILE RIVER HABITAT ENHANCEMENT
SOUTH FORK PHASE 2
TITLE SHEET

SHEET
1
OF 11

GENERAL CONSTRUCTION NOTES:

A. LEGAL

A1. Contractor shall assume sole and complete responsibility for job site conditions during the course of construction of the project, including safety of all persons and property. This requirement shall be made to apply continuously and not be limited to normal working hours. Construction Contractor shall hold harmless, indemnify and defend the Owner (The Nature Conservancy), the Project Designer and their consultants, and each of their officers, employees, and agents.

B. INSPECTION / CONSTRUCTION REVIEW

B1. Project Designer shall provide construction review related to site work and channel improvements shown on this plan set. Project Biologist shall conduct and oversee biological protection according to permit conditions.

B2. A pre-construction site meeting will be held with Contractor, Project Designer, Project Biologist, and Owner Representative to determine review points that require approval before continuing work, and discuss construction methods, work sequence, staging and spoils areas, protection of biological resources, permit conditions, property operations, schedule, and observation/inspection points and frequency.

B3. Construction observation points: Project Designer shall review:

1. All grade staking and layout of features prior to construction.
2. Salvage of topsoil.
3. After excavation to subgrade.
4. During and after placement of logs & rootwads.
5. During vertical & angled log anchor placement to verify depth.
6. After topsoil placement to finish grade & before revegetation/seeding/mulching and erosion control measures.
7. After erosion control measures are installed.
8. During plant installation and after.
9. At job completion.

C. GENERAL CONDITIONS

C1. This plan set and these general construction notes are not meant to fully describe all materials and methods required to construct the Ten Mile River South Fork Habitat Enhancement - Phase 2 Project.

C2. All construction materials and workmanship shall conform to the Ten Mile River South Fork Habitat Enhancement - Phase 2 Project plans and project specifications.

C3. Contractor shall be fully responsible for being familiar with the provisions and requirements contained in the Ten Mile River South Fork Habitat Enhancement - Phase 2 Project plans. Contractor shall have a copy available at the job site at all times.

C4. Contractor shall provide emergency telephone numbers to the police, fire, and public works departments and keep them informed daily regarding street closures and traffic control.

C5. Contractor shall notify the engineer of record five (5) working days prior to beginning work on the project.

C6. Construction staging areas and temporary access to be coordinated with Owner Representative and Project Designer prior to construction. Staging will occur within project area and as approved by Owner Representative and Project Designer.

C7. Dewatering: Contractor shall dewater site in accord with the Project Plans and Specifications. Contractor shall use temporary dewatering systems to control minor surface flow and ground water seeps through the work area. Contractor shall coordinate dewatering activities with Project Biologist and comply with all required permit conditions.

C8. All turbid water must be controlled and contained by Contractor. Turbid water shall not be discharged to the flowing river. Turbid water may be discharged in fields adjacent to project areas.

C9. Erosion Control Plan represents the minimum erosion control required. Project duration shall be from June 15 to October 12 to qualify for rainfall erosivity waiver.

C10. Species Protection: All work shall be conducted in conformance with regulatory permit conditions.

C11. No work shall commence prior to 7am except in an emergency. No work shall occur on weekends unless authorized by Owner Representative.

C13. Contractor to repair any fences or ground disturbance required for access.

D. UTILITIES

D1. Prior to construction, Contractor is responsible for locating all existing underground utilities through coordination with the Owner Representative, Underground Service Alert, and the various utility companies. Contractor shall protect all identified utilities.

D2. If utilities are required to be relocated, the Contractor shall submit a utility relocation plan for approval by Project Engineer as well as required County and Local agencies.

E. ENVIRONMENTAL AND CULTURAL RESOURCES PROTECTION

E1. Contractor is responsible for complying with all regulatory permit conditions.

E2. Vegetation Protection: Tree protection fencing shall be installed as shown on plans to protect existing vegetation beyond the project limits. Within the project area, protect trees designated to remain with temporary fencing located around the tree dripline. Where possible, do not operate equipment within the drip line of trees. Steel plates shall be used when operation within the drip line of trees creates excessive compaction.

E3. All vehicles and equipment on the site must not leak any type of hazardous materials such as oil, hydraulic fluid, or fuel. Vehicles and equipment must be inspected and approved by Owner Representative before use. Fueling shall take place outside of the riparian corridor.

E4. Contractor shall have emergency spill clean up gear (spill containment and absorption materials) and fire equipment available on site at all times. These items are to be reviewed by Owner Representative before construction begins.

E5. Access to the site must be reviewed with the Owner Representative and Project Designer. Exact location of access way and type of vehicles used shall be submitted prior to construction start up & approved by Owner Representative and Project Designer. Contractor shall be responsible for repairing, at their own cost above and beyond the scope of work, any damage to property caused by access not approved by the Owner Representative and Project Designer.

E6. Trash, litter, construction debris, cigarette butts, etc., must be stored in a designated area approved by the Owner Representative or removed from the site at the end of each working day. Upon completion of work, Contractor is responsible for removing all debris to the satisfaction of the Owner Representative.

E7. Construction personnel shall be briefed about the potential to uncover prehistoric resources, including chert or obsidian flakes, projectile points, mortars and pestles, dark friable soil containing shell and bone dietary, heat-affected rock, or human burials, as well as historic resources such as stone or adobe foundations or walls, structures and remains with square nails, and refuse deposits or bottle dumps. Construction personnel shall be instructed to avoid areas containing potential cultural resources and that collection of cultural resources is forbidden.

E8. Should potential cultural resources be discovered, work will be discontinued until the area can be evaluated by a qualified archaeologist. If human remains are encountered, all work must stop in the immediate vicinity of the discovered remains, and the County Coroner and a qualified archaeologist must be notified immediately so that an evaluation can be performed. If the remains are deemed to be Native American and prehistoric, the Native American Heritage Commission must be contacted by the Coroner so that a "Most Likely Descendant" can be designated

F. TEMPORARY CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPs)

F1. Dust Control: Contractor shall apply water as needed to minimize wind-blown dust.

F2. Sediment Control: Contractor shall employ Best Management Practices to prevent the discharge of sediment or turbid water beyond grading limits.

F3. All permanent erosion control material shall be 100% biodegradable and made of all natural materials (no plastic).

F4. In accord with California Air Resources Board regulations, heavy equipment shall not idle for over 5 minutes.

SUBMITTALS:

Contractor shall provide all submittals identified in the Plans and Project Specifications to the Project Designer for review and approval at least three (3) business days prior to bringing materials onsite.

Submittals shall include:

- Water Management Plan
- Turbidity Control Plan
- Fish screen materials
- Erosion control materials
- Large wood structure pinning materials

Submittal Notes:

1. Contractor shall submit a Water Management Plan to Project Designer for approval. Plan shall demonstrate means and methods to be used to manage river and tidal flow while meeting required permit conditions. Note that the lower project reach water surface is tidally influenced.
2. Contractor shall submit a Turbidity Control Plan to project engineer for approval. If not fully dewatering the project reach, Turbidity Control Plan shall demonstrate proposed means, methods, sequencing, and timing to complete required work within tidally influenced work areas while meeting required permit conditions.

LEGEND

GENERAL:

ø	DIAMETER	TR	TOP OF ROCK
±	APPROXIMATE	TL	TOP OF LOG
△	DELTA	EG	EXISTING GRADE
▽	WATER SURFACE	FG	FINISH GRADE

SECTION OR DETAIL DESIGNATION

SHEET WHERE SECTION OR DETAIL OCCURS

ELEVATION EXISTING — 10050 / 10071 — ELEVATION PROPOSED

10+50 — PROFILE STATION

PROPOSED	EXISTING	
		APPROXIMATE PROPERTY LINE
		LIMITS OF GRADING
100	100	CONTOUR LINE
		0.5' CONTOUR LINE/GRADE BREAK
10+50 10+60		ALIGNMENT / FLOW LINE
		ORDINARY HIGH WATER LINE
		EXISTING BRUSH/VEGETATION LINE
		ACCESS ROAD / TEMPORARY CONSTRUCTION ACCESS / STAGING AREA
X	X	FENCE
		PROJECT AREA BOUNDARY
		TREE PROTECTION FENCE/ORANGE SAFETY FENCE
		STORM DRAIN / SUBDRAIN
	OH OH OH	OVERHEAD LINE
	△	SURVEY CONTROL POINT
		LOG MEMBER
		ROOTWAD
		SLASH MATERIAL
		TREE TOP
		PIN
		STRAW WATTLES
		SILT FENCE/WILDLIFE EXCLUSION FENCE
		ALDER TOPPLING ZONE
		TREES TO REMOVE OR TRIM

CONSTRUCTION QUANTITY NOTES:

1. Construction quantities shown are approximate and existing ground conditions may have changed since topography data was collected. Contractor is responsible for determining proper earthwork, rock, and material quantities.
2. Soils for off-haul volume numbers do not account for compaction or expansion of materials.

APPROXIMATE EXCAVATION QUANTITIES:

LOCATION	CUT (CY)	FILL (CY)
SF 6 and Connector Channels	2,160	0
SF 7	12,010	0
SF 8	310	0
Topsoil to salvage from SF 6*	810	0
Topsoil replaced at portions of SF 6	0	225
Topsoil replaced at portions of SF 7	0	525
Topsoil replaced at SF 8	0	60
Total	**15,290**	**810**

*Note: SF6 cut quantity does not include soil for topsoil salvage. Topsoil to only be stripped from SF 6 to avoid invasive plant seed. Topsoil to be stockpiled onsite in staging area and replaced at end of project at each site as shown on Erosion Control Plan.

LOG STRUCTURE MATERIALS:

Log, rootwad, and pin quantities are the minimum as shown on these Contract Drawings. Additional materials may be requested by Project Designer during construction.

LOG SCHEDULE - MINIMUM:

LOG SIZE	LOG QTY	LOGS WITH ROOTWADS QTY
18" x 20'	0	10
18" x 25'	6	1
18" x 30'	6	15
18" x 40'	1	0
18" x 55' or longer (whole trees)	0	12
Vertical Log Anchors	35	N/A

OTHER MATERIALS - MINIMUM:

MATERIAL	QTY
Pins	53

APPROXIMATE PROJECT EXTENTS:

1. Total excavation: 15,290 cy
2. Total area in project limits including staging and access: 7.1 ac
3. Total area in extent of grading: 2.3 ac
4. Length of water management in channel: 810 ft
5. Small diameter willow and alder removal area (trees to be reused in large wood structures): 1.2 ac

VERIFY SCALES ONE INCH

PRUNUSKE CHATHAM, INC.
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SEBASTOPOL, CA 95472
(707) 824-4600

PREPARED FOR:
THE NATURE CONSERVANCY
90 W. REDWOOD AVENUE
FORT BRAGG, CA 95437

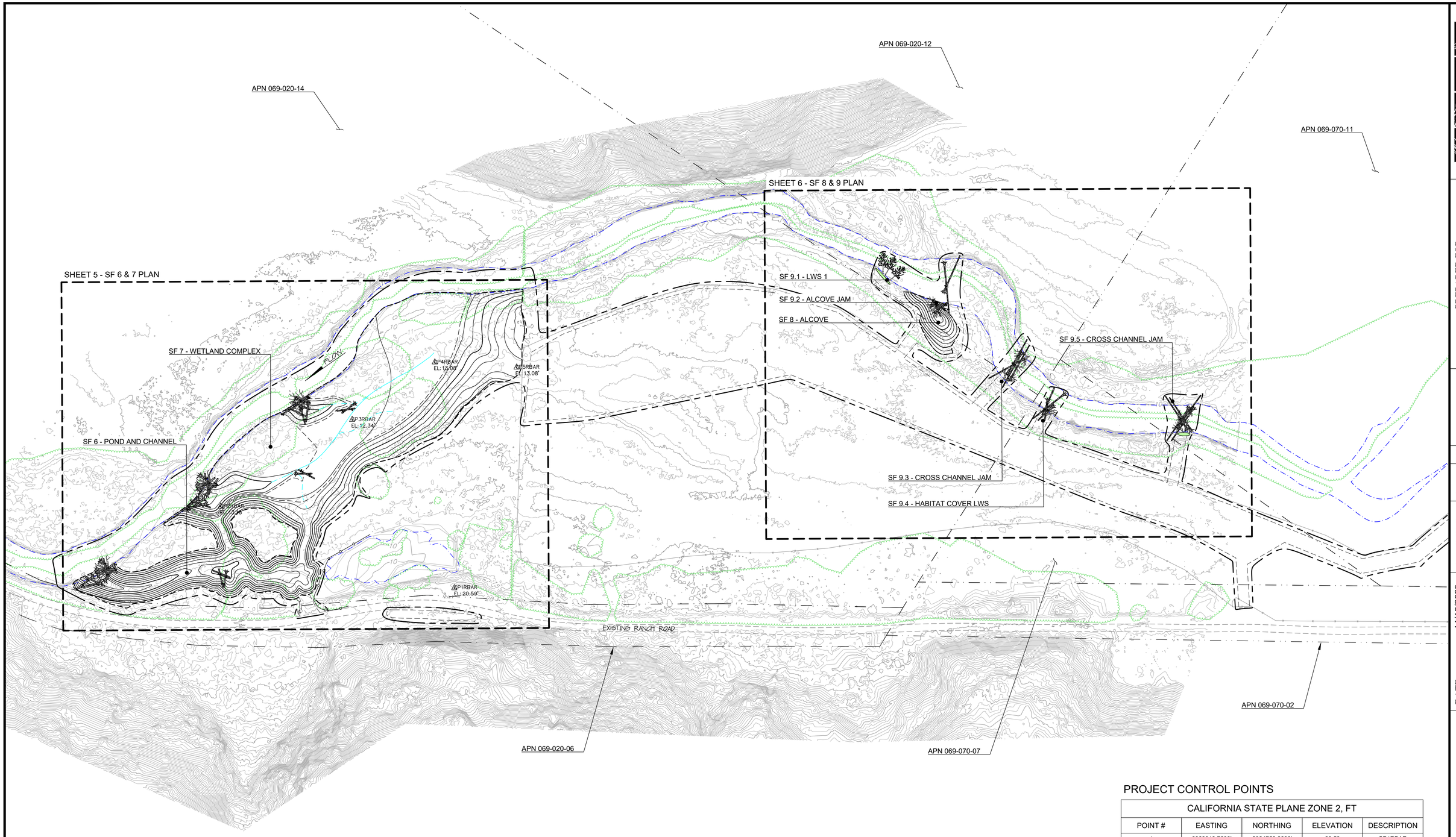
PRELIMINARY
DATE : May 15, 2023

REVISIONS	DATE	BY

DATE: 11/15/2023
SCALE: N/A
MAPPING BY: KJ
DESIGNED BY: LH, LW, KJ
DRAFTED BY: KJ
CHECKED BY: LW

TEN MILE RIVER HABITAT ENHANCEMENT
SOUTH FORK PHASE 2
CONSTRUCTION NOTES

SHEET 2 OF 11



PROJECT CONTROL POINTS

CALIFORNIA STATE PLANE ZONE 2, FT				
POINT #	EASTING	NORTHING	ELEVATION	DESCRIPTION
1	6068818.7600'	2324753.2690'	20.59	CP1RBAR
2	6068742.7470'	2325088.9270'	13.18	CP2RBAR
3	6068942.1530'	2324997.8640'	12.34	CP3RBAR
4	6069070.9130'	2324942.7660'	13.08	CP4RBAR
5	6069125.0790'	2324842.5230'	11.76	CP5RBAR

0 30 60 120

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PRELIMINARY
DATE : Nov 15, 2023

REVISIONS	DATE	BY

DATE: 11/15/2023
SCALE: 1" = 60'
MAPPING BY: KJ
DESIGNED BY: LH, LW, KJ
DRAFTED BY: KJ
CHECKED BY: LW

TEN MILE RIVER HABITAT ENHANCEMENT
SOUTH FORK PHASE 2
SITE PLAN

SHEET
3
OF 11

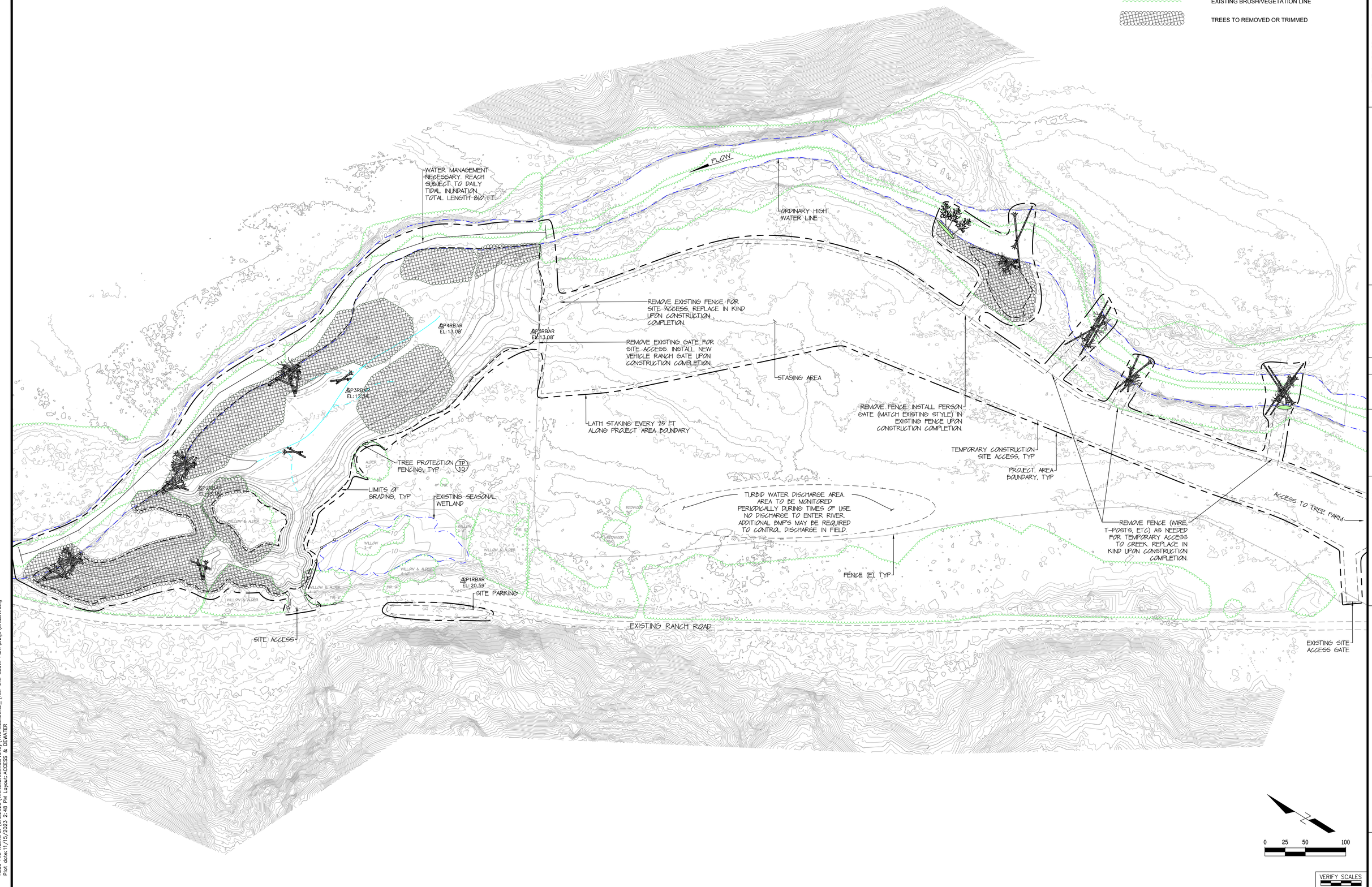
Acad File Name:G:\CAD2020\TheNatureConservancy\TNCTMDESIGN2_\Ten Mile South Fork\Dwgs\SP1.dwg
Plot date:11/15/2023 2:47 PM Layout:SITE PLAN

NOTES:
1. ALL ACCESS ROUTES AND WORK AREAS SHOWN ON THIS PLAN MAY NEED TO BE ADJUSTED BASED ON EXISTING CONDITIONS AT TIME OF CONSTRUCTION.

LEGEND

EXISTING BRUSH/VEGETATION LINE

TREES TO REMOVED OR TRIMMED



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FORT BRAGG, CA 95437

PRELIMINARY
DATE: Nov 15, 2023

REVISIONS	DATE	BY

DATE: 11/15/2023
SCALE: 1" = 50'
MAPPING BY: KJ
DESIGNED BY: LH, LW, KJ
DRAFTED BY: KJ
CHECKED BY: LW

TEN MILE RIVER HABITAT ENHANCEMENT
SOUTH FORK PHASE 2
ACCESS & SITE PREP PLAN

SHEET
4
OF 11

Earthworks - Cut Relative to Existing Ground			
Zone	Minimum Elevation	Maximum Elevation	Color
1	-10.50	-7.0	
2	-7.0	-4.0	
3	-4.0	-2.0	
4	-2.0	0	

SF 7.2 – ALCOVE COVER JAM:
LEFT SIDE OF ALCOVE:
1 SILL LOG UNDER 2 ROOTWADS PINNED TO 3 VLAS WITH A CROSS LOG, 5 PINS.
RIGHT SIDE OF ALCOVE:
SALVAGE MATERIAL AND 1 SILL LOG UNDER 3 ROOTWADS PINNED TO 3 VLAS, 5 PINS.

SF 7.1 – ALCOVE COVER JAM:
LEFT SIDE OF ALCOVE:
1 SILL LOG UNDER 3 ROOTWADS PINNED TO 3 VLAS, 4 PINS.
RIGHT SIDE OF ALCOVE:
SALVAGE MATERIAL UNDER 4 ROOTWADS PINNED TO 3 VLAS WITH 1 CROSS LOG, 5 PINS.

SF 6.1 – ALCOVE COVER JAM:
LEFT SIDE OF ALCOVE:
1 SILL LOG UNDER 2 ROOTWADS PINNED TO 3 VERTICAL LOG ANCHORS (VLAS), 4 PINS.
RIGHT SIDE OF ALCOVE:
SALVAGE MATERIAL UNDER 4 ROOTWADS PINNED TO 3 VLAS WITH 1 CROSS LOG, 5 PINS.

SF 7.3 – WETLAND LOGS:
1 ROOTWAD UNDER 1 LOG PINNED TO 2 VLAS, 3 PINS.

SF 7.3 – WETLAND LOGS:
1 ROOTWAD UNDER 1 LOG PINNED TO 2 VLAS, 3 PINS.

SF 6.2 – HABITAT LOGS:
1 SILL LOG WOVEN THROUGH 1 LOG AND 1 ROOTWAD PINNED TO 3 VLAS, 4 PINS.

EXCAVATE 6–12" DEEP, 3' WIDE CHANNELS UNDER DESIGNER SUPERVISION, TYP

LOG TO LOG CONNECTION, TYP.

VERTICAL LOG ANCHOR, TYP

CP4RBAR EL:13.08'

CP5RBAR EL:13.08'

CP3RBAR EL:12.34'

CP2RBAR EL:12.19'

CP1RBAR EL:20.59'

SF7 - WETLAND COMPLEX

SF 6 - POND AND DOWNSTREAM CHANNEL (ALSO INCLUDES CONNECTOR CHANNELS)

CONNECTOR CHANNEL 1

CONNECTOR CHANNEL 2

LIMITS OF GRADING

PROJECT AREA BOUNDARY

EXISTING SEASONAL WETLAND. DO NOT DISTURB.

SITE PARKING

FLOW

0 10 20 40

VERIFY SCALES
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PRELIMINARY
Nov 15, 2023

REVISIONS	DATE	BY

DATE:	11/15/2023
SCALE:	1" = 20'
MAPPING BY:	KJ
DESIGNED BY:	LH, LW, KJ
DRAFTED BY:	KJ
CHECKED BY:	LW

TEN MILE RIVER HABITAT ENHANCEMENT
SOUTH FORK PHASE 2
SF 6 & 7 PLAN

SHEET
5
OF 11

Acad File Name:G:\CAD2020\TheNatureConservancy\TNCTMDESIGN2_\Ten Mile South Fork\Dwgs\PP1 – SF6 and SF7.dwg
Plot date:11/15/2023 2:49 PM Layout:SF 6 & 7 Plan

SF 9.2 – PHOTO LOOKING UPSTREAM.

INSTALL EDDY JAM AT UPSTREAM END OF SF 8 ALCOVE. JAM HAS SALVAGE MATERIAL AND ONE SILL LOG UNDER 3 ROOTWADS PINNED TO 3 VLAS, 6 PINS.

INSTALL 2 WHOLE REDWOOD TREES WEDGED BETWEEN LIVE TREES ON BANKS AS SWEEPER LOGS. INSTALL ONE VLA TO HOLD WHOLE TREES IN PLACE AND ONE VLA ON BANK IF NEEDED. 2 PINS.

OBJECTIVE: PROVIDE COVER AND KEEP ALCOVE INLET SCOURED.

CONFORM ALCOVE OPENING TO CHANNEL BED

SF 8 ALCOVE LOCATION

Earthworks - Cut Relative to Existing Ground			
Zone	Minimum Elevation	Maximum Elevation	Color
1	-7.0	-4.0	
2	-4.0	-2.0	
3	-2.0	0	

17+09
17+20
17+26
17+40
17+60
17+73
17+50

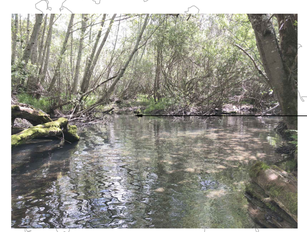
SF 8 – ALCOVE

APPROX LOG CONFIGURATION.

SF 9.4 – PHOTO LOOKING UPSTREAM.

PLACE SALVAGE MATERIAL. PLACE ROOTWADS ON TOP OF SALVAGE MATERIAL AND WEDGE ROOTWADS TOPS BETWEEN LIVE TREES ON BANK. INSTALL ONE WHOLE TREE AND ONE LONG TREE TOP ACROSS CHANNEL WITH ENDS WEDGED BETWEEN LIVE TREES ON BANK. SECURE LOGS WITH 2 VLAS, 4 PINS.

OBJECTIVE: PROVIDE HABITAT COVER AND DEEPEN POOL.



UPSTREAM ALCOVE TO BACKWATER

SF 9.5 – PHOTO LOOKING UPSTREAM.

PUSH IN ALDERS ON LEFT BANK. WHOLE REDWOOD TREES TO BE PLACED ON TOP OF ALDERS AND SALVAGE MATERIAL AND PINNED OR WEDGED BETWEEN LIVE TREES ON BANK. INSTALL 1-2 VLAS TO HOLD LOGS IN LOCATION. 2 PINS.

OBJECTIVE: SCOUR POOL FOR LOW FLOW REFUGIA AND BACKWATER UPSTREAM ALCOVE AT HIGH FLOWS.

SF 9.1 – PHOTO LOOKING UPSTREAM.

TRENCH BEHIND AND TOPPLE WHOLE LIVE ALDER TREES ALONG LEFT BANK. KEEP HALF OF ROOTS INTACT.

OBJECTIVE: PROVIDE COVER AND CREATE CHANNEL COMPLEXITY IN SHALLOW, SIMPLIFIED CHANNEL REACH.

ALDERS TO TOPPLE.

FLOW

ALDERS ON LEFT BANK TO PUSH IN.

SF 9.3 – PHOTO LOOKING UPSTREAM.

PLACE WHOLE REDWOOD TREES ON TOP OF SALVAGE MATERIAL. PIN OR WEDGE TREES BETWEEN LIVE TREES ON BANK. INSTALL 1-2 VLAS TO HOLD LOGS IN LOCATION. 1 PIN.

OBJECTIVE: SLOW FLOWS AND BACKWATER RIGHT BANK FLOODPLAIN. WORK WITH UPSTREAM STRUCTURES TO SORT GRAVELS. PROVIDE COVER.

APPROX LOCATION OF CROSS-CHANNEL LOGS.

0 10 20 40

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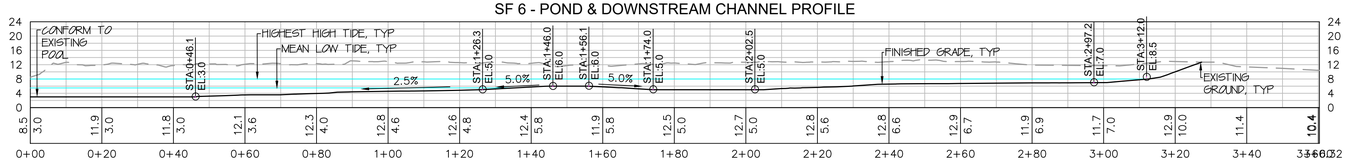
TEN MILE RIVER HABITAT ENHANCEMENT
SOUTH FORK PHASE 2
SF 8 & 9 PLAN

SHEET
6
OF 11

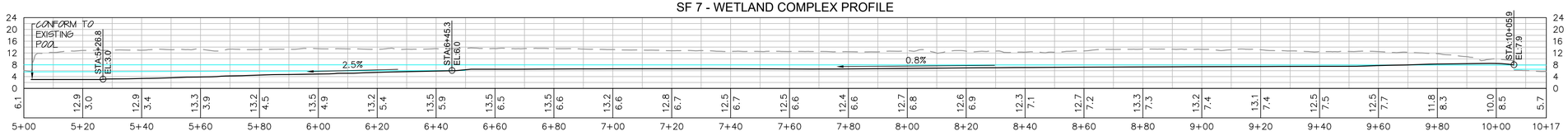
Acad File Name:G:\CAD2020\TheNatureConservancy\TNCTMDESIGN2_\Ten Mile South Fork\Dwgs\PP2-LWD Plan.dwg
Plot date:11/15/2023 2:51 PM Layout:SF 8 & 9 PLAN

PROFILES

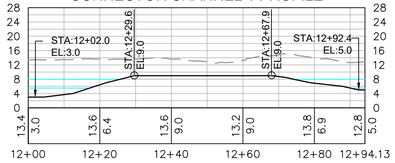
SF 6 - POND & DOWNSTREAM CHANNEL PROFILE



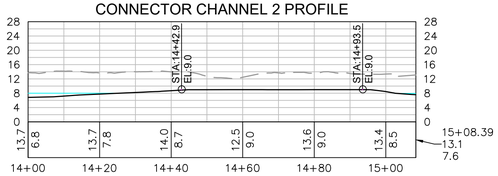
SF 7 - WETLAND COMPLEX PROFILE



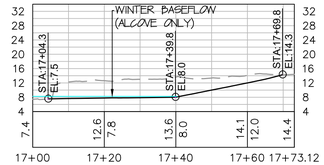
CONNECTOR CHANNEL 1 PROFILE



CONNECTOR CHANNEL 2 PROFILE



SF 8 - ALCOVE PROFILE



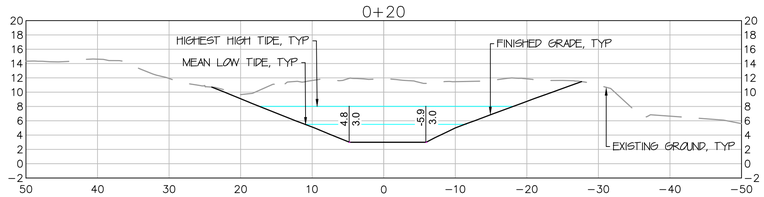
NOTES:
1. TIDE LEVELS BASED ON DATA COLLECTED BY PCI IN 2022/2023.
2. MEAN TIDE AT DOWNSTREAM END OF PROJECT REACH IS 5.5 FT AND AT UPSTREAM END OF REACH IS 6.5 FT.
3. HIGHEST NORMAL HIGH TIDE LEVEL IS 8 FT WITH NO WINTER BASEFLOW.
4. WINTER BASEFLOW IS NOT SHOWN IN THESE PROFILES OR SECTIONS.

0 10 20 40

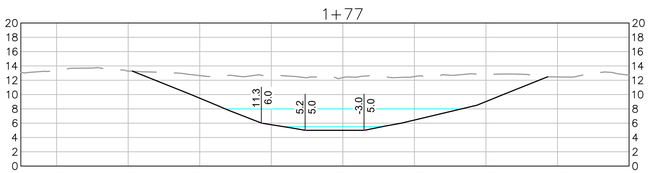
SECTIONS

SF 6 - POND & DOWNSTREAM CHANNEL

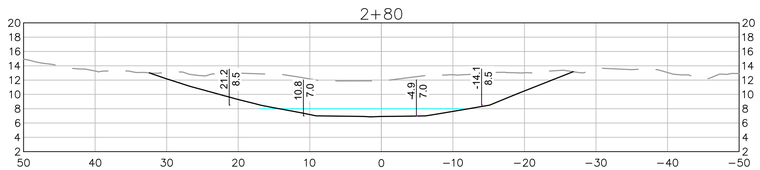
0+20



1+77

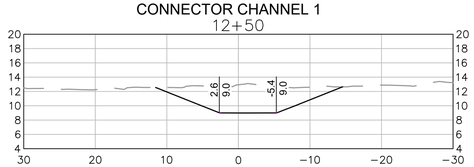


2+80



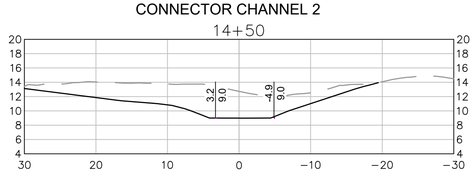
CONNECTOR CHANNEL 1

12+50



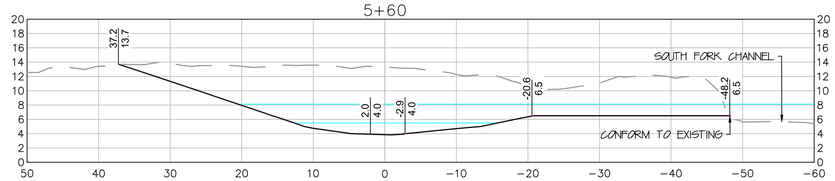
CONNECTOR CHANNEL 2

14+50

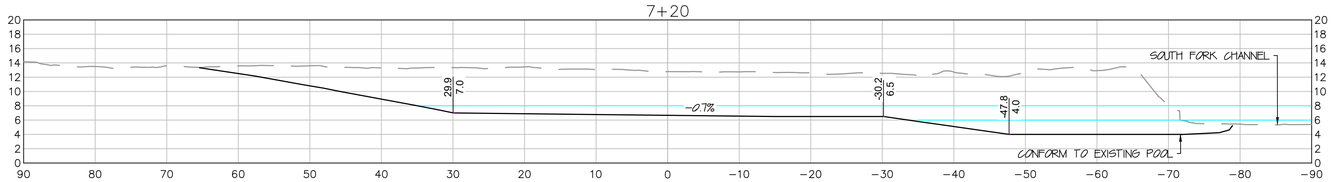


SF 7 - WETLAND COMPLEX

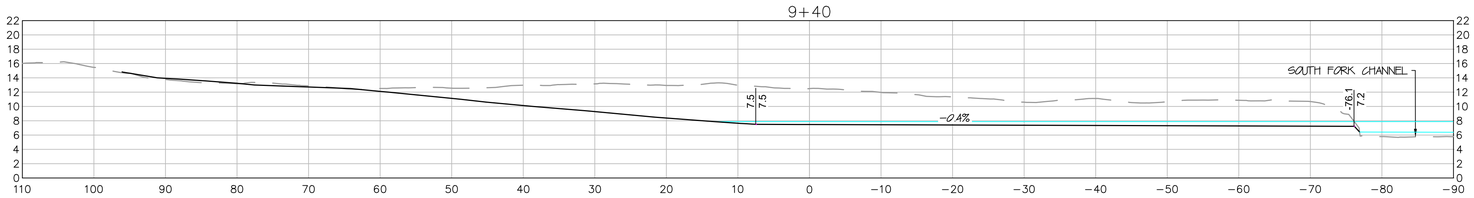
5+60



7+20

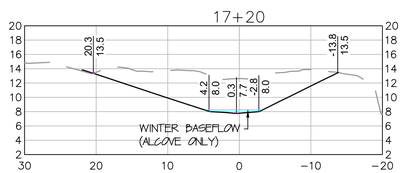


9+40

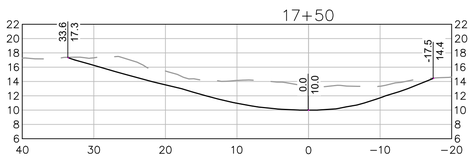


SF 8 - ALCOVE

17+20



17+50



0 5 10 20

VERIFY SCALES
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103 MORRIS STREET, SUITE A-5
SEBASTOPOL, CA 95472
(707) 824-4600

PREPARED FOR:
THE NATURE CONSERVANCY
90 W. REDWOOD AVENUE
FORT BRAGG, CA 95437

PRELIMINARY
DATE: Nov 15, 2023

REVISIONS	DATE	BY

DATE: 11/15/2023
SCALE: VARIES
MAPPING BY: KJ
DESIGNED BY: LH, LW, KJ
DRAFTED BY: KJ
CHECKED BY: LW

TEN MILE RIVER HABITAT ENHANCEMENT
SOUTH FORK PHASE 2
PROFILES & SECTIONS

SHEET
7
OF 11

Acad File Name:G:\CAD2020\TheNatureConservancy\TNCTMDESIGN2_\Ten Mile South Fork\Dwgs\PP1 - SF6 and SF7.dwg
Plot date:11/15/2023 2:53 PM Layout:PROFILES AND SECTIONS

NOTE:
1. THIS EROSION CONTROL PLAN REPRESENTS THE MINIMUM EROSION CONTROL MEASURES/BEST MANAGEMENT PRACTICES (BMP's) REQUIRED FOR THE PROJECT AS DETERMINED BY THE PROJECT DESIGNER. IF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED THE PROJECT'S QSD AND QSP MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES AND BMP's TO MEET THE REQUIREMENT OF THE SWPPP AS REQUIRED BY CONSTRUCTION GENERAL PERMIT ORDER OR BY OTHER FEDERAL, STATE, OR LOCAL REQUIREMENTS.

EROSION CONTROL LEGEND

SYMBOL/HATCH	AREA	EROSION CONTROL TREATMENT
	WETLAND COMPLEX 52,200 SF	• INSTALL PLUG PLANTING PER REVEGETATION PLAN.
	SF8 AND CRITICAL SLOPES 12,900 SF	• REPLACE AND TRACK WALK TOPSOIL, 1 PASS W/ TRACKED EQUIPMENT (SEE SPECS). • INSTALL NATIVE SEED. • SPREAD WEED FREE STRAW OVER SURFACE. • COVER W/ EROSION CONTROL FABRIC PER DETAIL (SHEET 10).
	HYDROMULCH 30,900 SF	• REPLACE AND TRACK WALK TOPSOIL, 1 PASS W/ TRACKED EQUIPMENT (SEE SPECS). • APPLY HYDROMULCH PER SPECIFICATIONS WITH NATIVE SEED MIX.
	STAGING AREA/ ACCESS ROUTES 117,800 SF	• DECOMPACT STAGING AREA/ ACCESS ROUTES. • REPLACE AND TRACK WALK TOPSOIL, 1 PASS W/ TRACKED EQUIPMENT (SEE SPECS). • INSTALL PASTURE SEED MIX. • SPREAD WEED FREE STRAW OVER SURFACE. • ROLLER PUNCH OR CRIMPER PUNCH STRAW W/ TRACKED EQUIPMENT (SEE SPECS).
	NON PASTURE PARKING AREA/ ACCESS ROUTES 2,000 SF	• DECOMPACT PARKING AREA/ ACCESS ROUTES. • REPLACE AND TRACK WALK TOPSOIL, 1 PASS W/ TRACKED EQUIPMENT (SEE SPECS). • INSTALL NATIVE SEED MIX. • SPREAD WEED FREE STRAW OVER SURFACE. • ROLLER PUNCH OR CRIMPER PUNCH STRAW W/ TRACKED EQUIPMENT (SEE SPECS).
	STRAW WATTLES 1,400 LF	• INSTALL STRAW WATTLES PER DETAIL (SHEET 10) AND SPECIFICATIONS.

SOUTH FORK TEN MILE - PROJECT UPSTREAM END

TREE FARM

0 15 30 60

0 35 70 140

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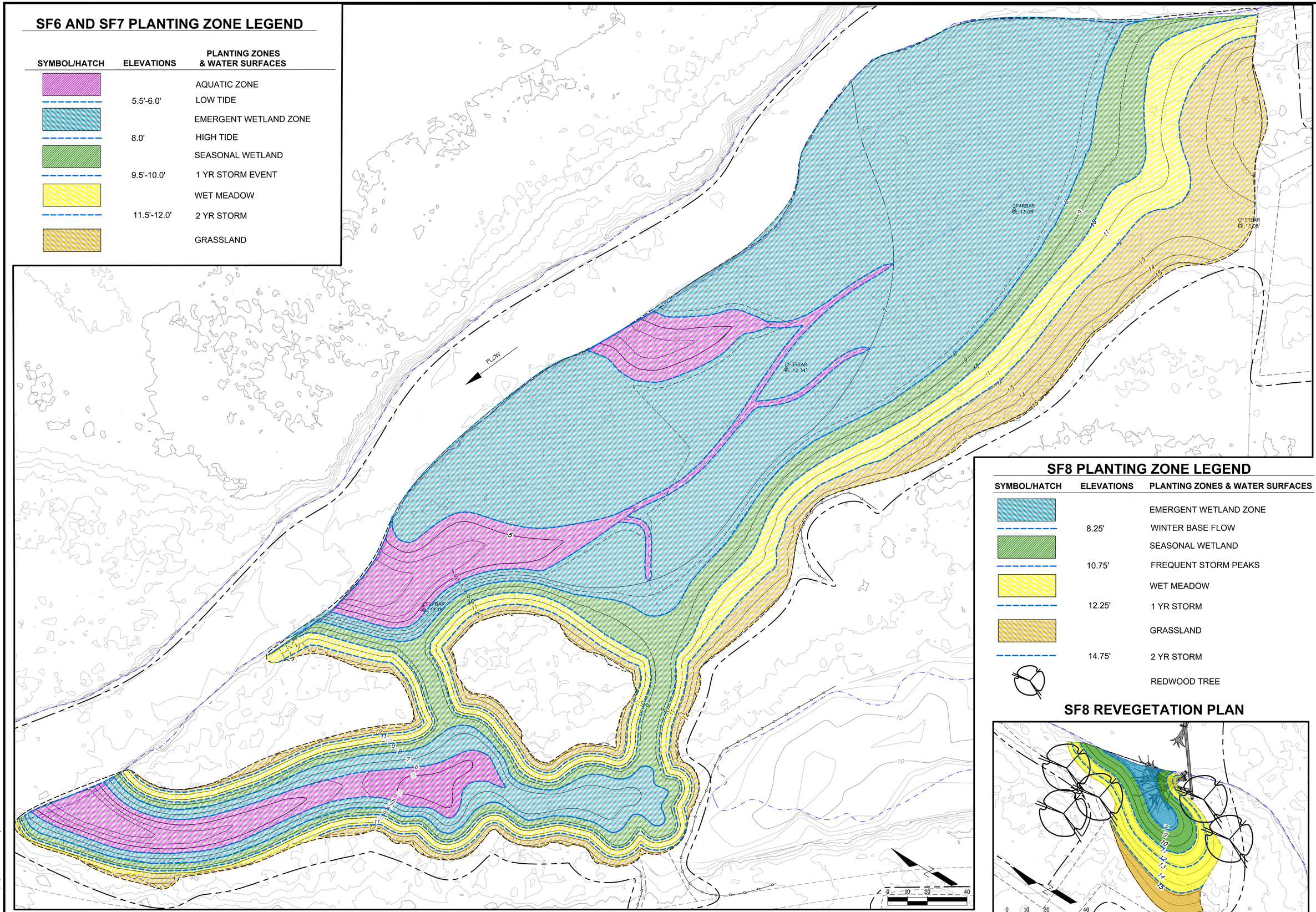
TEN MILE RIVER HABITAT ENHANCEMENT
SOUTH FORK PHASE 2
EROSION CONTROL PLAN

SHEET
8
OF 11

Acad File Name:G:\CAD2020\TheNatureConservancy\TNCTMDESIGN2_\Ten Mile South Fork\Dwgs\ECP.dwg
Plot date:11/15/2023 2:53 PM Layout:EROSION CONTROL PLAN

SF6 AND SF7 PLANTING ZONE LEGEND

SYMBOL/HATCH	ELEVATIONS	PLANTING ZONES & WATER SURFACES
		AQUATIC ZONE
	5.5'-6.0'	LOW TIDE
		EMERGENT WETLAND ZONE
	8.0'	HIGH TIDE
		SEASONAL WETLAND
	9.5'-10.0'	1 YR STORM EVENT
		WET MEADOW
	11.5'-12.0'	2 YR STORM
		GRASSLAND



SF6 AND SF7 REVEGETATION PLAN

SF8 PLANTING ZONE LEGEND

SYMBOL/HATCH	ELEVATIONS	PLANTING ZONES & WATER SURFACES
		EMERGENT WETLAND ZONE
	8.25'	WINTER BASE FLOW
		SEASONAL WETLAND
	10.75'	FREQUENT STORM PEAKS
		WET MEADOW
	12.25'	1 YR STORM
		GRASSLAND
	14.75'	2 YR STORM
		REDWOOD TREE

SF8 REVEGETATION PLAN

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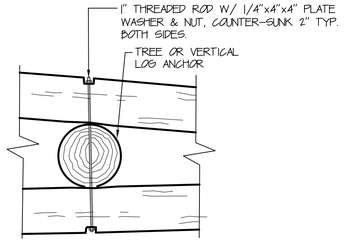
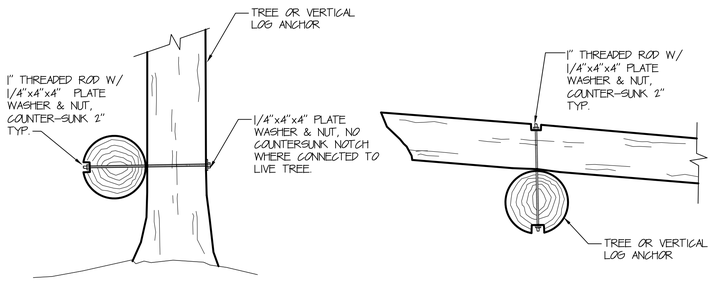
DRAFTED BY: KJ
CHECKED BY: LW

TEN MILE RIVER HABITAT ENHANCEMENT
SOUTH FORK PHASE 2
REVEGETATION PLAN

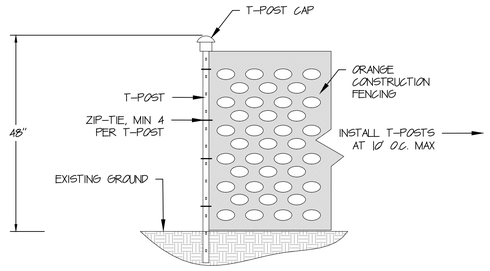
SHEET
9
OF 11



LLL — LOG-LOG-LOG CONNECTION
NTS

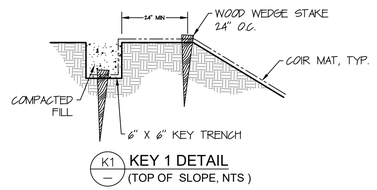


LC — LOG-LOG CONNECTION
NTS

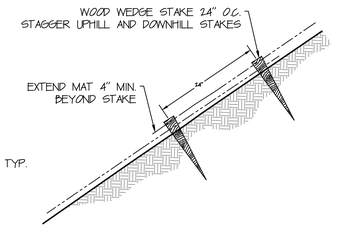


TP — WETLAND AND TREE PROTECTION FENCING
NTS

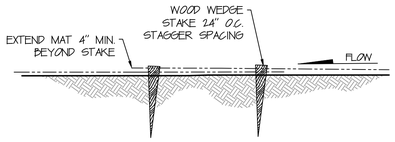
WS — WOOD WEDGE STAKE
NTS



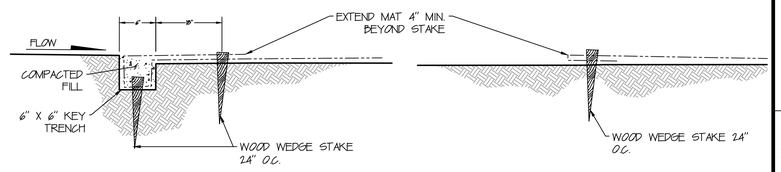
K1 — KEY 1 DETAIL
(TOP OF SLOPE, NTS)



K2 — KEY 2 DETAIL
(SLOPE & TOE OVERLAP, NTS)



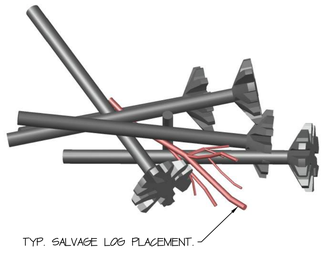
K3 — KEY 3 DETAIL
(SIDE SLOPE OVERLAP, NTS)



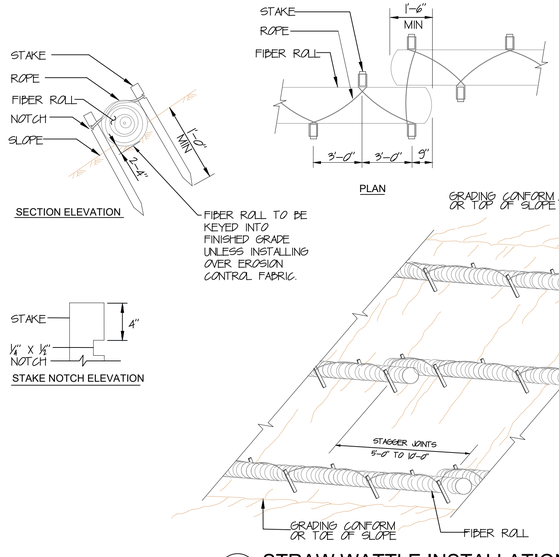
K4 — KEY 4 DETAIL
(UPSTREAM EDGE FOR CHANNEL AND BANKS)

K5 — KEY 5 DETAIL
(TERMINATION, NTS)

NOTES:
1. SALVAGE MATERIAL SHALL BE PORTIONS OF TREES TAKEN FROM AREAS OF THE TREE WITH BRANCHED STRUCTURE.
2. MAIN TRUNK OF OF SALVAGE MATERIAL SHALL BE 6–15" IN DIAMETER, AND MAY TAPER THROUGH THIS FULL RANGE IN A SINGLE PIECE.
3. A MINIMUM OF THREE BRANCHES SHALL BE PRESENT ON EACH PIECE.
4. BRANCHES SHALL BE NO SMALLER THAN 3" IN DIAMETER AT THE TRIMMED END.
5. INSTALL LOGS TO HELP LOCK STRUCTURE TOGETHER IN TENSION OR COMPRESSION BY WEDGING BETWEEN STRUCTURE MEMBERS.
6. PROJECT END OUT FROM STRUCTURE 3–10' TO RACK FLOATING DEBRIS.
7. SALVAGE MATERIAL IS NOT PINNED BUT SHALL REMAIN IMMOBILE WHEN SUBMERGED.
8. MANILLA ROPE MAY BE USED TO HELP SECURE SALVAGE MATERIAL.

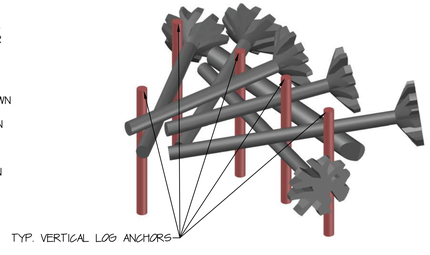


SM — SALVAGE MATERIAL
1"=10'

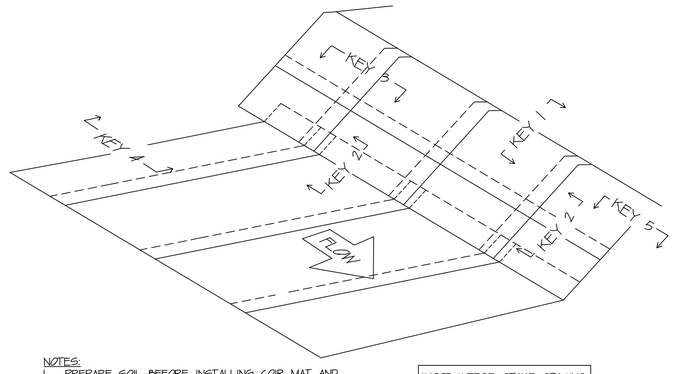


SW — STRAW WATTLE INSTALLATION
NTS

NOTES:
1. TAPERED END OF VERTICAL LOG ANCHORS SHALL BE A MINIMUM OF 15" IN DIAMETER UNLESS OTHERWISE SPECIFIED.
2. VERTICAL LOG ANCHORS SHALL BE A MINIMUM OF 20' IN LENGTH UNLESS OTHERWISE SPECIFIED.
3. INSTALL VERTICAL LOG ANCHORS AS SHOWN IN CONTRACT DRAWINGS.
4. PIN VERTICAL LOG ANCHORS AS SHOWN IN CONTRACT DRAWINGS.
5. INSTALL VERTICAL LOG ANCHORS WITH TAPERED END DOWN.
6. VERTICAL LOG ANCHORS SHALL BE DRIVEN A MINIMUM OF 15 FEET INTO NATIVE, UNDISTURBED SOIL UNLESS OTHERWISE SPECIFIED.



VLA — VERTICAL LOG ANCHOR
1"=10'



NOTES:
1. PREPARE SOIL BEFORE INSTALLING COIR MAT AND BLANKET, INCLUDING SEEDING.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING MAT IN A KEY TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAKING.
3. BEGIN MAT PLACEMENT @ THE DOWNSTREAM END OF PROJECT.
4. STAKE MAT AS SHOWN.
5. LOWER END OF FABRIC ON SLOPE TO BE FOLDED UNDER AT THE TOE OF SLOPE.

WOOD WEDGE STAKE SPACING	
LOCATION	SPACING
KEYS 1–5	24" OC.
FIELD (STREAM BANKS AND CHANNEL BOTTOM)	36" OC. WITH TRIANGULAR SPACING

EC — EROSION CONTROL FABRIC (BLANKET & COIR)
NTS

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FORT BRAGG, CA 95437

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PRELIMINARY DATE: Nov 15, 2023	

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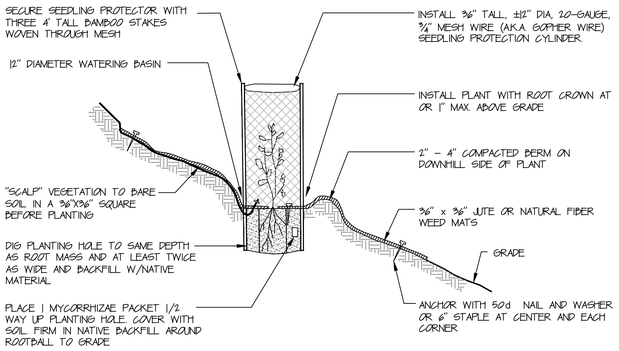
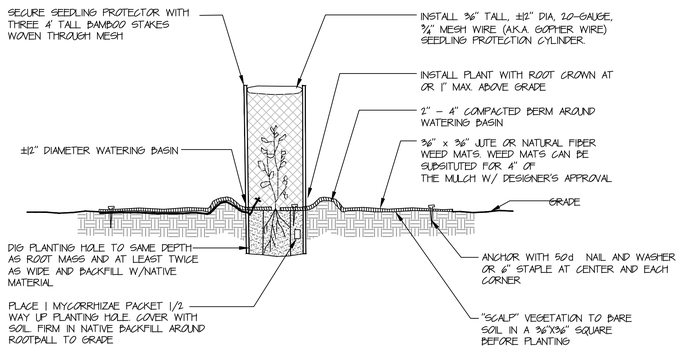
TEN MILE RIVER HABITAT ENHANCEMENT
SOUTH FORK PHASE 2
CONSTRUCTION DETAILS

SHEET
10
OF 11



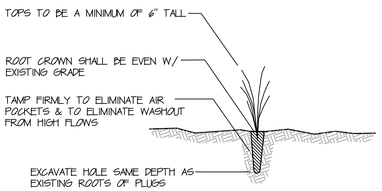
INSTALLATION ON HILL SLOPE



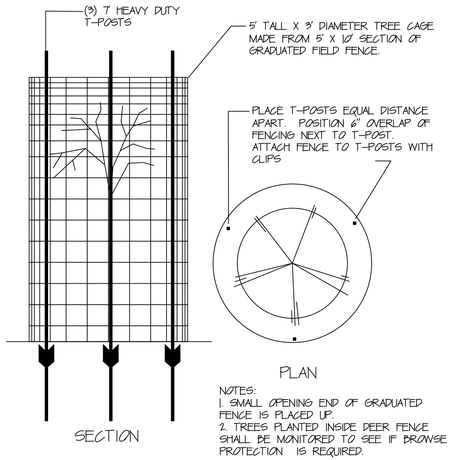
INSTALLATION ON FLAT GROUND

CP – CONTAINER PLANTING DETAIL

FOR CONTAINER GROWN PLANTS UNDER 5 GALLONS



PP – PLUG PLANTING DETAIL



NOTES:
1. SMALL OPENING END OF GRADUATED FENCE IS PLACED UP.
2. TREES PLANTED INSIDE DEER FENCE SHALL BE MONITORED TO SEE IF BROWSE PROTECTION IS REQUIRED.

TC – TREE CAGE DETAIL

NTS

TEN MILE RIVER SOUTH FORK PHASE 2 PLANT LIST

		ZONES	EMERGENT	SEASONAL	WET MEADOW	PLANT TOTAL	PLANT SIZE	PROTECTION
	Latin Name	Common Name	QTY	QTY	QTY			
TREES								
	Sequoia sempervirens	Redwood	2	3		5	TP	CAGE
Subtotal						5		
GRASSES, SEDGES & RUSHES								
	Agrostis exarata	spike bentgrass		445	1045	1490	STUB	-
	Deschampsia cespitosa	tufted hairgrass		934	1330	2264	STUB	-
	Carex obnupta	slough sedge	1522	751		2273	D16	-
	Carex tumulicola	split awn sedge			1045	1045	STUB	-
	Eleocharis macrostachya	creeping spikerush	1572	445		2017	STUB	-
	Equisetum hyemale ssp. affine	scouring-rush		751	760	1510	STUB	-
	Equisetum telmateia ssp. braunii	giant horsetail	1195			1195	STUB	-
	Juncus balticus	Baltic rush	4592	1056		5648	STUB	-
	Juncus patens	gray rush		751	760	1510	STUB	-
	Juncus phaeocephalus	brown-headed rush		628		628	STUB	-
	Schoenoplectus americanus	chairmaker's bulrush, common three square	1195			1195	STUB	-
	Schoenoplectus pungens	common threesquare	2327			2327	STUB	-
	Scirpus microcarpus	small-fruited bulrush	3460	751		4210	D16	-
subtotal						27313		
PERENNIAL HERBS								
	Alisma triviale	Water plantain	515			515	4"	
	Oenanthe sarmentosa	water parsley	742	445		1187	4"	-
	Potentilla anserina ssp. pacifica	Pacific silverweed		445	760	1205	4"	-
	Scrophularia californica	bee plant		262	474	736	D16	-
	Stachys chamissonis	coast hedge nettle		262	474	736	D16	-
	Symphyotrichum chilense	Pacific aster			760	760	1 GAL	-
								-
								-
Subtotal						5139		
TOTALS						**32457**		

Notes:

Plant sizes: TP = Treepot; DP = Deepot; Plug = Supercell (Note: Salvage material can be used for plug divisions.); 1 Gal = 1 gallon pot; Cuttings = 1.5" diameter by 4' long;

Emergent Zone and Seasonal Wetland space at 18" O.C., Wet Meadow space at 24" O.C. with triangular spacing. install clusters throughout with 15 to 30 plants with the remainder seeded. Plant trees approximately 15' O.C.

Plant list does not include qty for willow used in bioengineering. Details on Sheet XX

*CURRENT QTYS ASSUME PLANTING 50% OF THE AREA

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TEN MILE RIVER HABITAT ENHANCEMENT
SOUTH FORK PHASE 2
REVEGETATION DETAILS

SHEET 11 OF 11

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