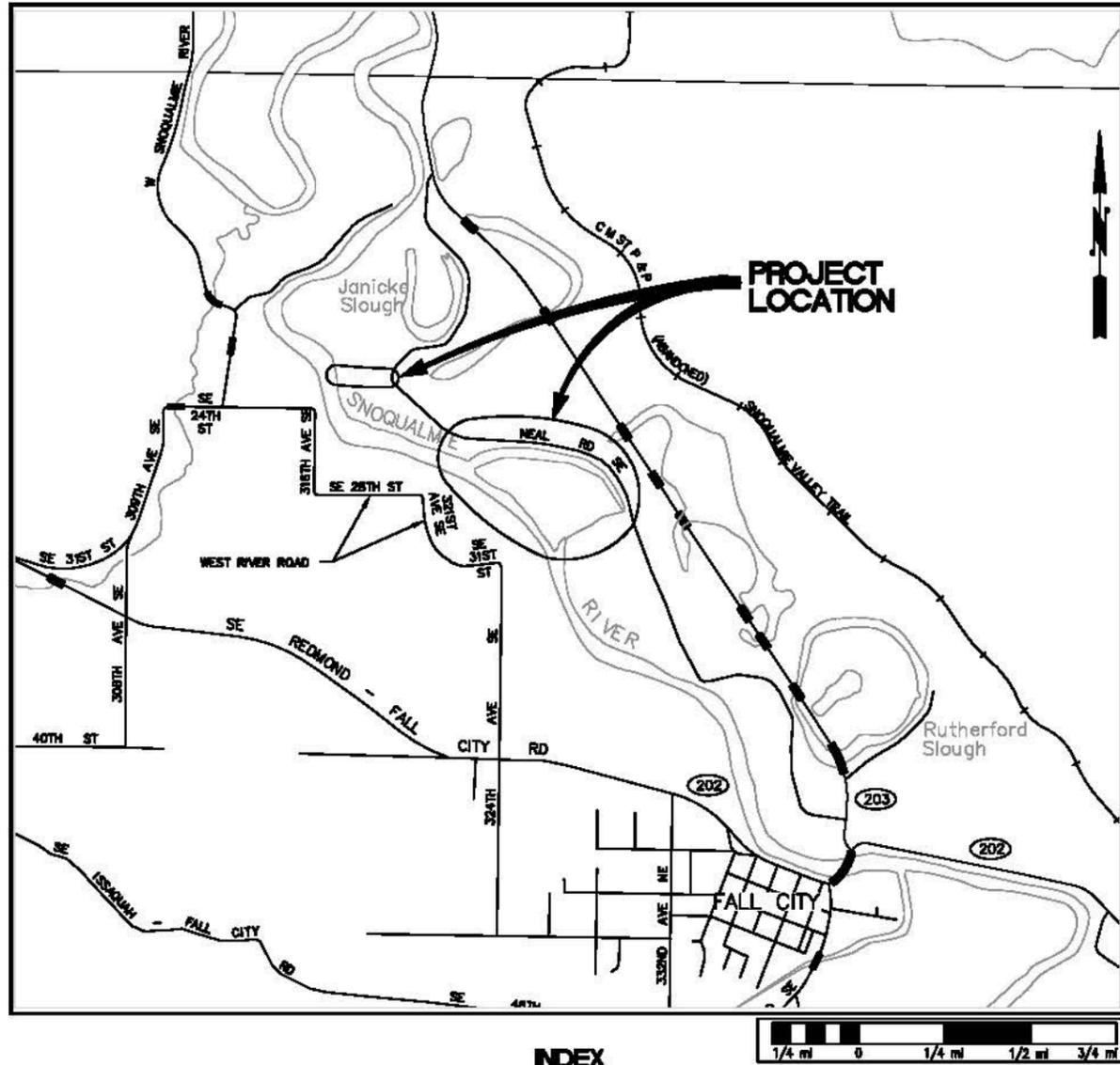
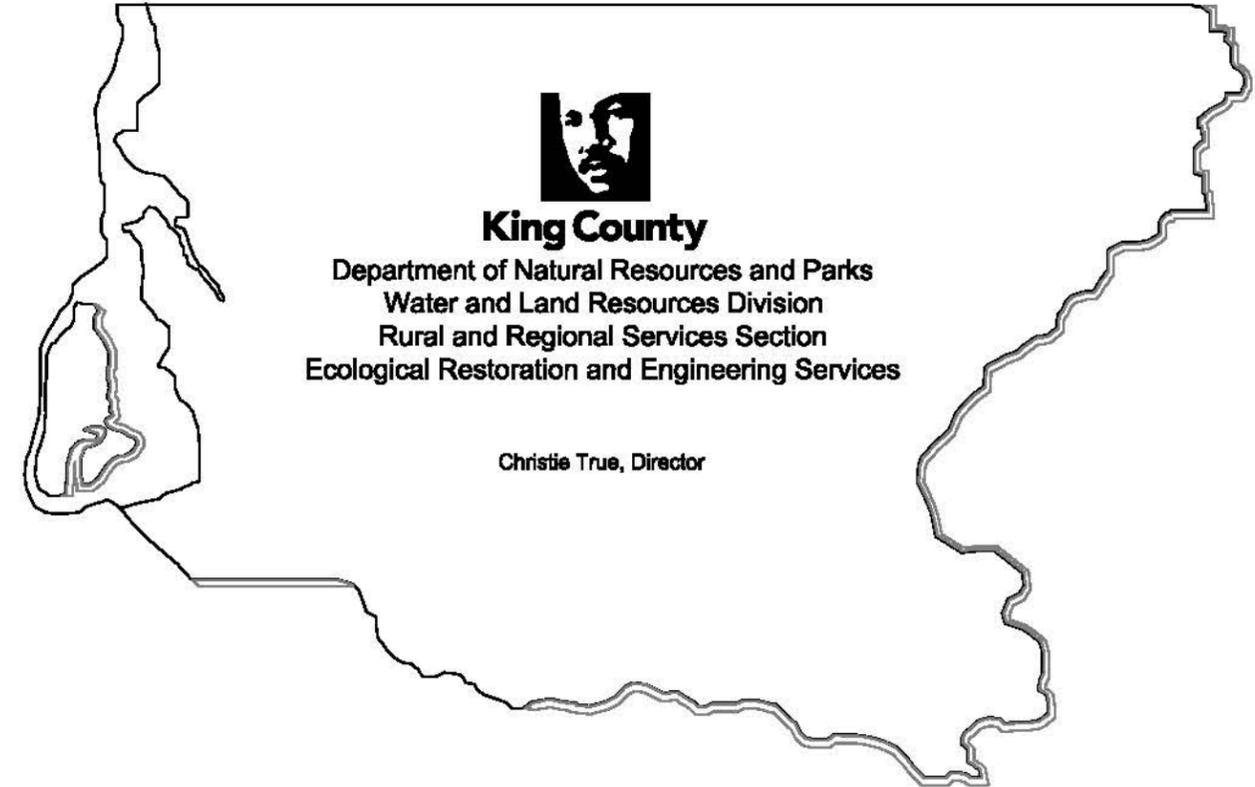


VICINITY MAP



INDEX



UPPER CARLSON
 FLOODPLAIN RESTORATION PROJECT
 60% DESIGN
 CONTRACT NO. XXXX

SHEET DESCRIPTION

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NAVD 88
 HORIZONTAL DATUM:
 NAD83 WA STATE PLANE NORTH

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File: C:\proj\2016\16-04785-070\CADD\2009-48_BH1.dwg
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PROJECT No. HERRERA: 10-04785-070	DESIGN ENTERED: T. PRESCOTT	10-2013
SURVEY No. _____		
NUM.	REVISION	BY DATE

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King County
 Department of Natural Resources and Parks
 Water and Land Resources Division
 Rural and Regional Services Section
 Ecological Restoration and Engineering Services
 Christie True, Director

UPPER CARLSON FLOODPLAIN
 RESTORATION PROJECT
 VICINITY MAP AND SHEET INDEX

SHEET
 1
 OF
 28
 SHEETS
 2006-48

GENERAL CONSTRUCTION NOTES:

1. THE WORK INCLUDES CLEARING WORK AREAS OF VEGETATION, STOCKPILING CLEARED VEGETATION, REMOVING AN EXISTING LEVEE AND ROCK ARMORING, CONSTRUCTING A NEW SETBACK ROCK REVETMENT, CONSTRUCTING ENGINEERED LOG JAMS, INSTALLING TIMBER PILES AND IMPORTED AND SALVAGED LOGS IN THE FLOODPLAIN, PLANTING, CONSTRUCTING AND REMOVING TEMPORARY FACILITIES, WORKING AROUND EXISTING ABOVE GROUND UTILITIES, AND RESTORING THE SITE.
2. THE WORK SHOWN ON THE PLANS SHALL BE SEQUENCED AND PERFORMED IN A MANNER THAT MINIMIZES IMPACTS TO THE RIVER, WETLANDS, EXISTING VEGETATION, THE WORK SITE AND ADJACENT PRIVATE PROPERTY AND PUBLIC INFRASTRUCTURE.
3. THE CONTRACTOR MAY DECIDE HOW TO SEQUENCE THE WORK AT EACH SITE. HOWEVER THIS PROJECT WILL BE CONSTRAINED BY AN IN-WATER WORK WINDOW SET FORTH IN THE PROJECT HYDRAULIC PROJECT APPROVAL PERMIT, 404 PERMIT, AND ANY OTHER APPLICABLE PERMIT, OUTSIDE OF WHICH NO IN-WATER WORK MAY OCCUR. WORK WITHIN THE ORDINARY HIGH WATER LINE WILL BE RESTRICTED TO THE DATES SET FORTH IN THE PROJECT HYDRAULIC PROJECT APPROVAL.
4. ENGINEER IS DEFINED AS THE OWNER'S REPRESENTATIVE OR OWNER'S ENGINEER. KING COUNTY IS DEFINED AS THE OWNER.
5. THE CONTRACTOR SHALL STAKE THE PROJECT CONSTRUCTION LIMITS FOR APPROVAL BY THE OWNER OR ENGINEER AT LEAST 5 WORKING DAYS PRIOR TO COMMENCING ONSITE ACTIVITIES. PROJECT CONSTRUCTION LIMITS SHOWN ON THE PLANS REPRESENT WORK AREAS AND DOES NOT REPRESENT CLEARING LIMITS. CLEARING LIMITS ARE NOT SHOWN. CLEARING MAY OCCUR WITHIN THE PROJECT LIMITS; HOWEVER, THE CONTRACTOR SHALL STAKE CLEARING LIMITS FOR APPROVAL BY THE OWNER OR ENGINEER AT LEAST 5 WORKING DAYS PRIOR TO COMMENCING ONSITE CLEARING ACTIVITIES. ALL CLEARING NECESSARY FOR CONSTRUCTION SHALL BE LIMITED TO THE AREA REQUIRED FOR SAFE EQUIPMENT OPERATION AND TO MINIMIZE THE AREA OF DISTURBANCE. CLEARING LIMITS SHALL NOT BE EXPANDED UNLESS APPROVED BY THE OWNER OR ENGINEER. THE CONTRACTOR SHALL PRESERVE AS MUCH EXISTING VEGETATION AS POSSIBLE AND NOT DAMAGE OR DISTURB VEGETATION MARKED BY THE OWNER OR ENGINEER FOR PRESERVATION.
6. TREES AND BRUSH NOT SHOWN ON THE PLANS WILL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES. THE OWNER SHALL IDENTIFY AND FLAG ALL TREES TO BE PROTECTED FROM DAMAGE PRIOR TO CONSTRUCTION. FOLLOWING CLEARING OF ALLOWED VEGETATION, THE CONTRACTOR SHALL STOCKPILE ALL TREES AND BRUSH IDENTIFIED BY THE OWNER, PRIOR TO AND DURING CONSTRUCTION ACTIVITIES, FOR USE IN AREAS AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE OWNER OR ENGINEER TO CREATE ROUGH FINISHED GRADED SURFACES. CERTAIN VEGETATION MAY BE FLAGGED BY THE ENGINEER OR OWNER FOR SALVAGE, AND CARE SHALL BE TAKEN TO PROTECT THOSE PLANTS FROM DAMAGE AND DESICCATION.
7. ALTERATION OR DISTURBANCE OF THE CHANNEL, FLOODPLAIN, AND ANY BANK AND FLOODPLAIN VEGETATION SHALL BE MINIMIZED TO THAT NECESSARY TO CONSTRUCT THE PROJECT. THE CONTRACTOR SHALL KEEP DISTURBED AREAS WITHIN THE PROJECT CONSTRUCTION LIMITS SHOWN ON THE PLANS, AND SHALL NOT EXTEND THESE LIMITS UNLESS APPROVED BY THE ENGINEER.
8. THE CONTRACTOR SHALL PROVIDE 24 HOURS ADVANCE NOTICE TO THE OWNER OR ENGINEER PRIOR TO ANY REQUIRED INSPECTION.
9. CONSTRUCTION MATERIAL AND EQUIPMENT STAGING AREAS SHALL BE LOCATED ENTIRELY WITHIN THE PROJECT CONSTRUCTION LIMITS. CONSTRUCTION MATERIALS AND EQUIPMENT SHALL NOT BE STORED OUTSIDE OF IDENTIFIED STAGING AREAS, UNLESS APPROVED BY THE OWNER OR ENGINEER. THE CONTRACTOR SHALL PROTECT ALL CONSTRUCTION MATERIALS AND EQUIPMENT FROM DAMAGE AT ALL TIMES.
10. NO EQUIPMENT SHALL BE STORED OVERNIGHT BELOW THE ORDINARY HIGH WATER (OHW) LINE.
11. EQUIPMENT USED FOR THIS PROJECT SHALL BE FREE OF EXTERNAL PETROLEUM-BASED PRODUCTS WHILE WORKING NEAR AND IN ANY SURFACE WATER OR WETLANDS. ACCUMULATION OF SOILS OR DEBRIS SHALL BE REMOVED FROM EQUIPMENT PRIOR TO ITS WORKING BELOW THE OHW LINE AND WITHIN THE WATER.
12. ALL EQUIPMENT OPERATING IN AREAS OTHER THAN EXISTING UNIMPROVED ACCESS ROADS SHALL USE ONLY BIODEGRADABLE, VEGETABLE BASED HYDRAULIC FLUIDS OR APPROVED OTHER.
13. EQUIPMENT SHALL BE CHECKED AT THE BEGINNING OF EACH WORK SHIFT FOR LEAKS, AND ANY NECESSARY REPAIRS SHALL BE COMPLETED PRIOR TO COMMENCING WORK ACTIVITIES.
14. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT NO PETROLEUM PRODUCTS, HYDRAULIC FLUID, CHEMICALS, OR ANY OTHER TOXIC OR DELETERIOUS MATERIALS ARE ALLOWED TO ENTER OR LEACH INTO THE RIVER, WETLANDS OR THE PROJECT SITE FROM EQUIPMENT OR SUPPLIES USED DURING CONSTRUCTION.
15. CONTRACTOR SHALL LIMIT MACHINERY MOVEMENT TO THE PROJECT CONSTRUCTION LIMITS DEFINED ON THE PLANS OR IDENTIFIED AS ACCEPTABLE BY THE OWNER OR ENGINEER.
16. IF AT ANY TIME, AS A RESULT OF PROJECT ACTIVITIES, FISH ARE OBSERVED IN DISTRESS, A FISH KILL OCCURS, OR WATER QUALITY PROBLEMS DEVELOP (INCLUDING EQUIPMENT LEAKS OR SPILLS), OPERATIONS SHALL CEASE AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY. WASHINGTON DEPARTMENT OF FISH AND WILDLIFE AND WASHINGTON STATE DEPARTMENT OF ECOLOGY SHALL BE CONTACTED IMMEDIATELY BY THE OWNER OR BY HIS/HER DESIGNEE. WORK SHALL NOT RESUME UNTIL FURTHER APPROVAL BY THE OWNER.
17. EROSION AND SEDIMENT CONTROL METHODS SHALL BE USED TO PREVENT SILT-LADEN WATER FROM ENTERING THE RIVER AND WETLANDS. MINIMUM EROSION AND WATER POLLUTION CONTROL AND WATER MANAGEMENT BMPs ARE SHOWN ON THE TESC AND WATER MANAGEMENT PLAN. THE CONTRACTOR SHALL IMPLEMENT THE PLAN, ADD ANY ADDITIONAL MEASURES REQUIRED TO MEET WASHINGTON STATE WATER QUALITY STANDARDS AND PROJECT PERMIT CONDITIONS, AND SHALL BE RESPONSIBLE FOR ALL EROSION AND SEDIMENT CONTROL AND WATER MANAGEMENT NEEDED DURING CONSTRUCTION ACTIVITIES.
18. IF HIGH FLOW CONDITIONS THAT MAY CAUSE SILTATION, EROSION OR A DANGEROUS WORK ENVIRONMENT ARE ENCOUNTERED DURING CONSTRUCTION, WORK SHALL STOP IN THOSE AFFECTED AREAS UNTIL THE FLOW SUBSIDES.
19. PROJECT SITE CULTURAL RESOURCES ASSESSMENT TO BE COMPLETED BY KING COUNTY DURING THE FINAL DESIGN PHASE OF THE PROJECT. APPROPRIATE CULTURAL RESOURCES MONITORING WILL BE COMPLETED BY KING COUNTY DURING CONSTRUCTION.

EXISTING LEGEND

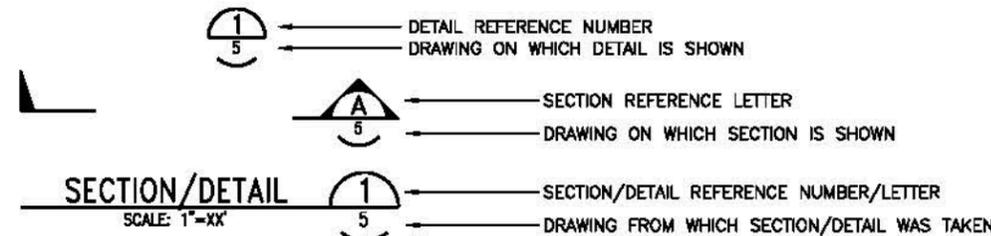
- PARCEL BOUNDARY
- PARCEL NUMBER
- VEGETATION CANOPY BOUNDARY
- APPROX WETLAND BOUNDARY
- ORDINARY HIGH WATER LINE
- ROAD/EDGE OF PAVEMENT
- EXISTING LEVEE/REVETMENT
- EXISTING SLOUGH
- EXISTING MAJOR CONTOUR (10 FT)
- EXISTING MINOR CONTOUR (2 FT)
- EXISTING BUILDING
- EXISTING LARGE TREE
- EXISTING UTILITY POLE

ABBREVIATIONS

- ALD ALDER
- APPROX APPROXIMATE
- AVG AVERAGE
- BMP BEST MANAGEMENT PRACTICE
- CF CUBIC FEET
- CFS CUBIC FEET PER SECOND
- CW COTTONWOOD
- DBH DIAMETER AT BREST HEIGHT
- DET DETAIL
- DIA DIAMETER
- EL ELEVATION
- ELJ ENGINEERED LOGJAM
- EXIST EXISTING
- FT FEET
- HORIZ HORIZONTAL
- IN INCHES
- LF LINEAR FEET
- MAX MAXIMUM
- MIN MINIMUM
- MPL MAPLE
- NTS NOT TO SCALE
- OC ON CENTER
- OHW ORDINARY HIGH WATER
- PLS PROFESSIONAL LAND SURVEYOR
- PT POINT
- STA STATION
- TEMP TEMPORARY
- TESC TEMPORARY EROSION AND SEDIMENT CONTROL
- TOT TOTAL
- TYP TYPICAL
- VERT VERTICAL
- WDFW WASHINGTON DEPARTMENT OF FISH AND WILDLIFE
- WET WETLAND
- WSE WATER SURFACE ELEVATION

PROPOSED LEGEND

- PROJECT CONSTRUCTION LIMITS
- LEVEE REMOVAL ALIGNMENT
- TEMPORARY CONSTRUCTION ACCESS ROAD
- LEVEE AND ROCK ARMORING REMOVAL WORK ZONE
- FLOODPLAIN LOG ROUGHENING ZONE
- SETBACK REVETMENT ZONE
- ENGINEERED LOGJAM AND BANK ROUGHENING LOG STRUCTURE ZONE
- FLOODPLAIN TREE REMOVAL ZONE
- CONSTRUCTION DEWATERING DISCHARGE AND INFILTRATION ZONE
- CONSTRUCTION MATERIAL STOCKPILE AREA
- EQUIPMENT STAGING AREA
- STABILIZED CONSTRUCTION ENTRANCE
- RIPRAP PLACEMENT ZONE
- TEMPORARY SILT CURTAIN
- STRAW WATTLES OR SILT FENCE
- TEMPORARY CONSTRUCTION FENCE
- LOG YARDING DISTURBANCE LIMITS
- TOP OF BANK POST RAPID CHANNEL ADJUSTMENT
- FLOODPLAIN ROUGHENING LOG WITHOUT PILES
- FLOODPLAIN ROUGHENING LOG STRUCTURE WITH PILES
- BANK ROUGHENING LOG STRUCTURE WITH PILES
- BANK DEFLECTOR ELJ
- ROW OF TIMBER PILES
- TEMPORARY BRIDGE CROSSING OVER WETTED AREA



"-" INDICATES THAT THE DETAIL/SECTION IS SHOWN ON THE SAME DRAWING
 "TYP" INDICATES THAT THE DETAIL/SECTION IS UNIFORMLY TYPICAL THROUGHOUT PROJECT EXCEPT WHERE OTHERWISE NOTED
 "VAR" SPECIFIES THAT DETAIL/SECTION WAS TAKEN FROM VARIOUS DRAWINGS

GENERAL LEGEND NOTES:

1. ITEMS IN LEGEND MAY DISPLAY DIFFERENTLY IN LEGEND THAN ON INDIVIDUAL SHEETS DUE TO SCALE AND FOR CLARITY.

CALL 2 WORKING DAYS BEFORE YOU DIG
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(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

NOTE AND DETAIL/SECTION REFERENCING

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SURVEYED:		PROJECT SUPERVISOR: DIANE CONCANNON	10-2013
SURVEY BASE MAP:		PROJECT MANAGER: DAN EASTMAN	10-2013
CHECKED: I. MOSTRENKO (HERRERA)	10/28/2013	DESIGNED: B. SCOTT, I. MOSTRENKO P.E.	10-2013
PROJECT No. HERRERA: 10-04785-070		DESIGN ENTERED: T. PRESCOTT	10-2013
SURVEY No.			
NUM.	REVISION	BY	DATE

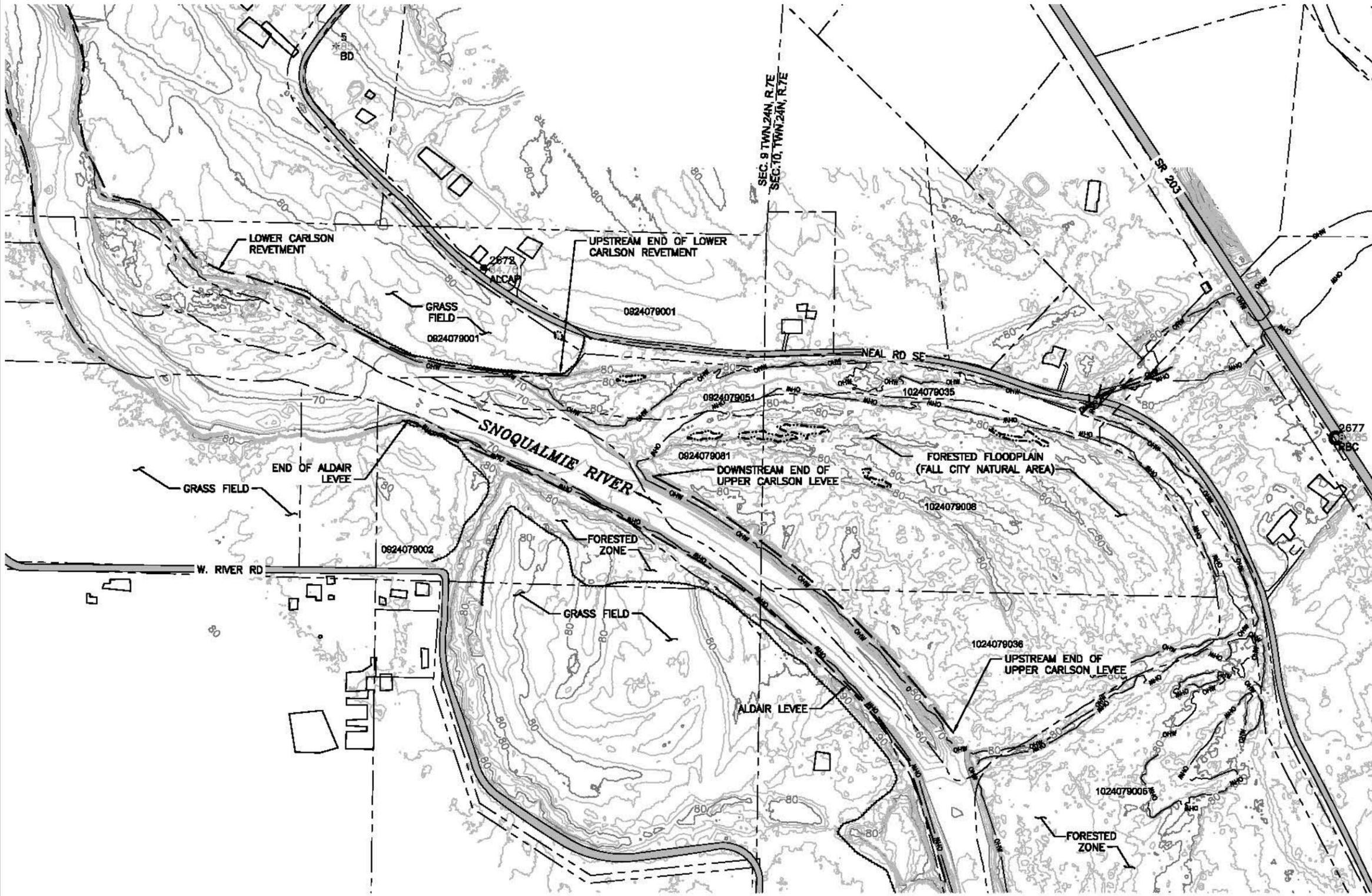
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 Water and Land Resources Division
 Rural and Regional Services Section
 Ecological Restoration and Engineering Services
 Christa Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT
 NOTES, LEGEND AND ABBREVIATIONS

SHEET
2
 OF
28
 SHEETS
2006-48



NOTES:

1. BASIS OF BEARING IS THE WASHINGTON STATE PLANE COORDINATE SYSTEM, NORTH ZONE, N.A.D. 83, VERTICAL DATUM NGVD 88.
2. CONTOURS SHOWN ARE BASED ON A COMBINATION OF LIDAR AND GROUND TOPOGRAPHY SURVEYS. LIDAR SURVEY COMPLETED IN FEBRUARY 2013 BY WATERSHED SCIENCES, INC. GROUND SURVEYS COMPLETED IN APRIL AND JUNE 2013 BY KING COUNTY PLS.
3. CONTOURS OF RIVER BED ARE NOT SHOWN. RIVER SURFACE CONTOURS ARE BASED ON THE 2013 LIDAR SURVEY AND REPRESENT WATER SURFACE ELEVATION AT THE TIME OF THE SURVEY. RIVER BED PROFILES IN DETAILS ARE BASED ON IN-WATER BATHYMETRY SURVEY COMPLETED BY KING COUNTY IN 2012.
4. WETLAND BOUNDARIES, OHW LINES, EXIST TREES AND EXIST LEVEE ALIGNMENTS SHOWN ARE APPROXIMATE AND ARE PROVIDED BY KING COUNTY.
5. PROPERTY LINES AND RIGHT OF WAY SHOWN ARE SOURCED FROM KING COUNTY ASSESSORS GIS DATABASE, AND ARE NOT INTENDED TO IMPLY A BOUNDARY SURVEY.
6. NEAL RD SE AND W. RIVER RD DELINEATED BASED ON 2008 AERIAL PHOTOGRAPHY OF SITE PROVIDED BY KING COUNTY.
7. INDIVIDUAL TREES WITHIN THE PROJECT AREA ARE NOT SHOWN ON THIS SHEET FOR CLARITY. SEE SHEETS 5, 6, 7, 11, 16, 17 AND 18 FOR ADDITIONAL TREE INFORMATION.

SURVEY BENCH MARK POINT TABLE				
POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
2677	88.85	215230.06	1377151.61	RBC
2672	84.76	215862.51	1373984.31	ALCAP
5	85.14	216685.62	1373435.80	BD



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HORIZONTAL DATUM:
NAD83 WA STATE PLANE NORTH (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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FIELD BOOK:		APPROVED: WILL MANSFIELD, P.E.	10-2013
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SURVEY BASE MAP:		SUPERVISOR: DIANE CONCANNON	10-2013
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PROJECT No. HERRERA: 10-04785-070		DESIGNED: B. SCOTT, I. MOSTRENKO P.E.	10-2013
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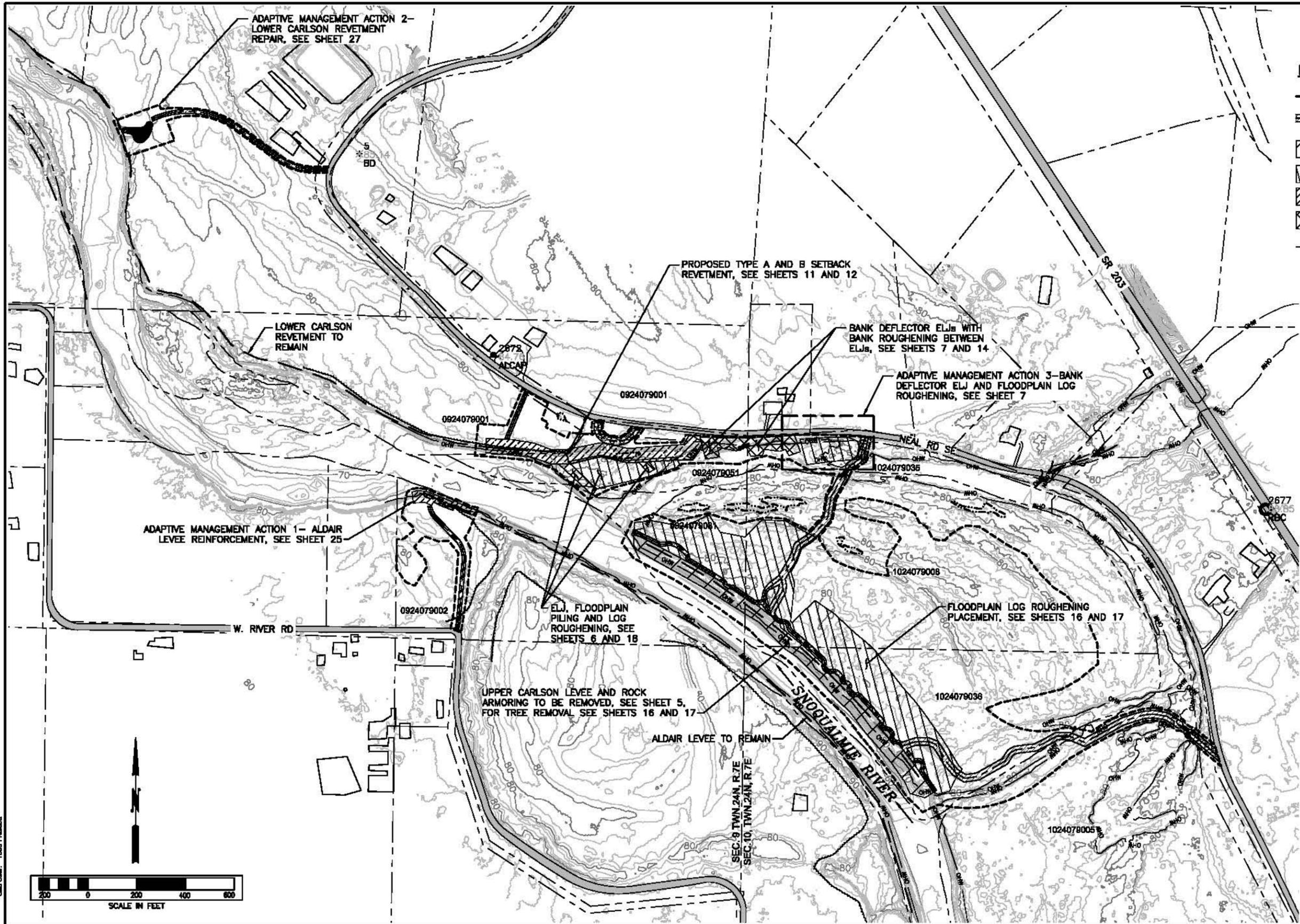
Christie Trus, Director

**UPPER CARLSON FLOODPLAIN
RESTORATION PROJECT**

EXISTING CONDITIONS AND SURVEY CONTROL PLAN

SHEET
3
OF
28
SHEETS

2006-48



LEGEND

- PROJECT CONSTRUCTION LIMITS
- TEMPORARY CONSTRUCTION ACCESS ROAD
- LEVEE AND ROCK ARMORING REMOVAL WORK ZONE
- FLOODPLAIN LOG ROUGHENING ZONE
- SETBACK REVETMENT ZONE
- ENGINEERED LOGJAM AND BANK ROUGHENING LOG STRUCTURE ZONE
- ORH - ORDINARY HIGH WATER LINE

- NOTES:**
- PROJECT CONSTRUCTION LIMITS AND TEMPORARY CONSTRUCTION ACCESS ROADS SHOWN ARE APPROXIMATE, WILL BE FINALIZED DURING THE FINAL DESIGN PHASE OF THE PROJECT AND WILL BE LOCATED TO MINIMIZE DISTURBANCE TO EXISTING PROPERTY, VEGETATION AND ALL ENVIRONMENTALLY SENSITIVE AREAS.
 - SEE SHEETS 19-22 FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AND WATER MANAGEMENT BMPs TO BE USED TO ISOLATE WORK AREAS AND PREVENT SILT-LADEN WATER FROM ENTERING THE RIVER AND WETLANDS.
 - ADAPTIVE MANAGEMENT ACTIONS 1, 2 AND 3 ARE SHOWN FOR REFERENCE ONLY AND WILL NOT BE CONSTRUCTED IN 2014.

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 Christa Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT
PROJECT SITE PLAN

SHEET **4** OF **28** SHEETS
2006-48

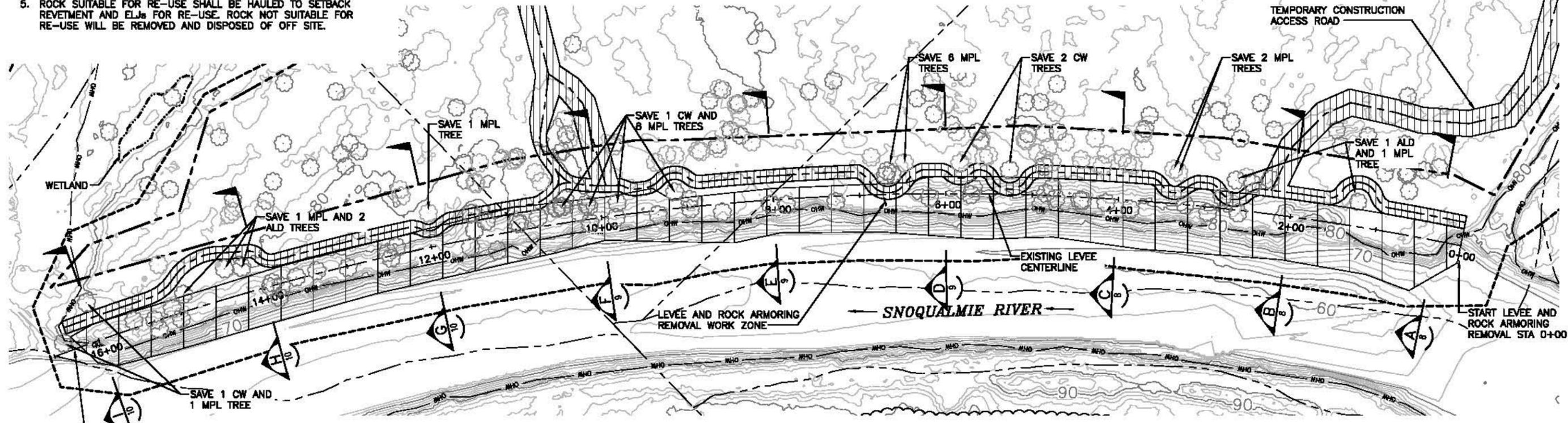
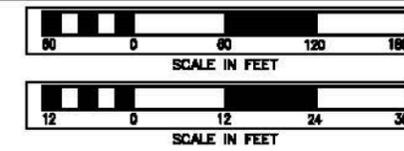
NOTES:

- SEE SHEETS 8-10 AND 17 FOR TREE REMOVAL ALONG EXIST LEVEL. DO NOT REMOVE OR DAMAGE TREES BEYOND TREE REMOVAL LIMITS SHOWN OR TREES DESIGNATED TO BE SAVED AS SHOWN BELOW.
- TEMP CONSTRUCTION ACCESS ROAD LOCATION ALONG UPPER CARLSON LEVEE WILL VARY AS LEVEE REMOVAL WORK IS COMPLETED.
- EXCAVATED ALLUVIUM FROM LEVEE CORE SHALL BE USED FOR BALLASTING FLOODPLAIN LOG CLUSTERS. SURPLUS ALLUVIUM SPOILS SHALL BE REMOVED AND DISPOSED OF OFF SITE.
- FOLLOWING LEVEE REMOVAL CONSTRUCT BENCH BELOW FINAL GRADE AS NECESSARY TO COMPLETE ROCK REMOVAL. BACKFILL BENCH FOLLOWING ROCK REMOVAL WITH NATIVE SPOILS, BUT DO NOT COMPACT. SURPLUS BENCH SPOILS SHALL BE REMOVED AND DISPOSED OF OFF SITE. SEE SHEETS 8-10 FOR BENCHING.
- ROCK SUITABLE FOR RE-USE SHALL BE HAULED TO SETBACK REVETMENT AND EL₅₀ FOR RE-USE. ROCK NOT SUITABLE FOR RE-USE WILL BE REMOVED AND DISPOSED OF OFF SITE.

UPPER CARLSON LEVEE REMOVAL GRADING SURVEY CONTROL POINT TABLE:

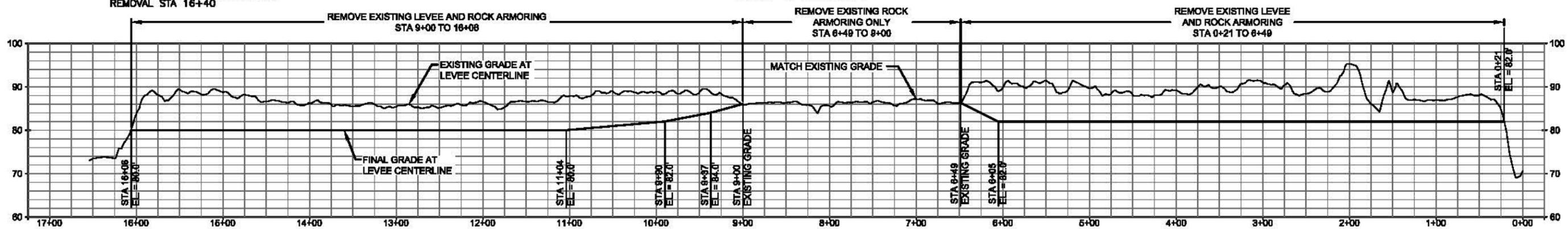
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1+00			10+00		
2+00			11+00		
3+00			12+00		
4+00			13+00		
5+00			14+00		
6+00			15+00		
7+00			16+00		
8+00			16+06		

NOTE: TABLE TO BE COMPLETED FOR FINAL DESIGN



LEVEE AND ROCK ARMORING REMOVAL - PLAN

SCALE: 1"=60' AT FULL SCALE



LEVEE REMOVAL - PROFILE

SCALE: 1"=60' HORIZ, 1"=12' VERT AT FULL SCALE

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SURVEY No.	
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BY	DATE

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SUPERVISOR: DIANE CONCANNON	10-2013
PROJECT MANAGER: DAN EASTMAN	10-2013
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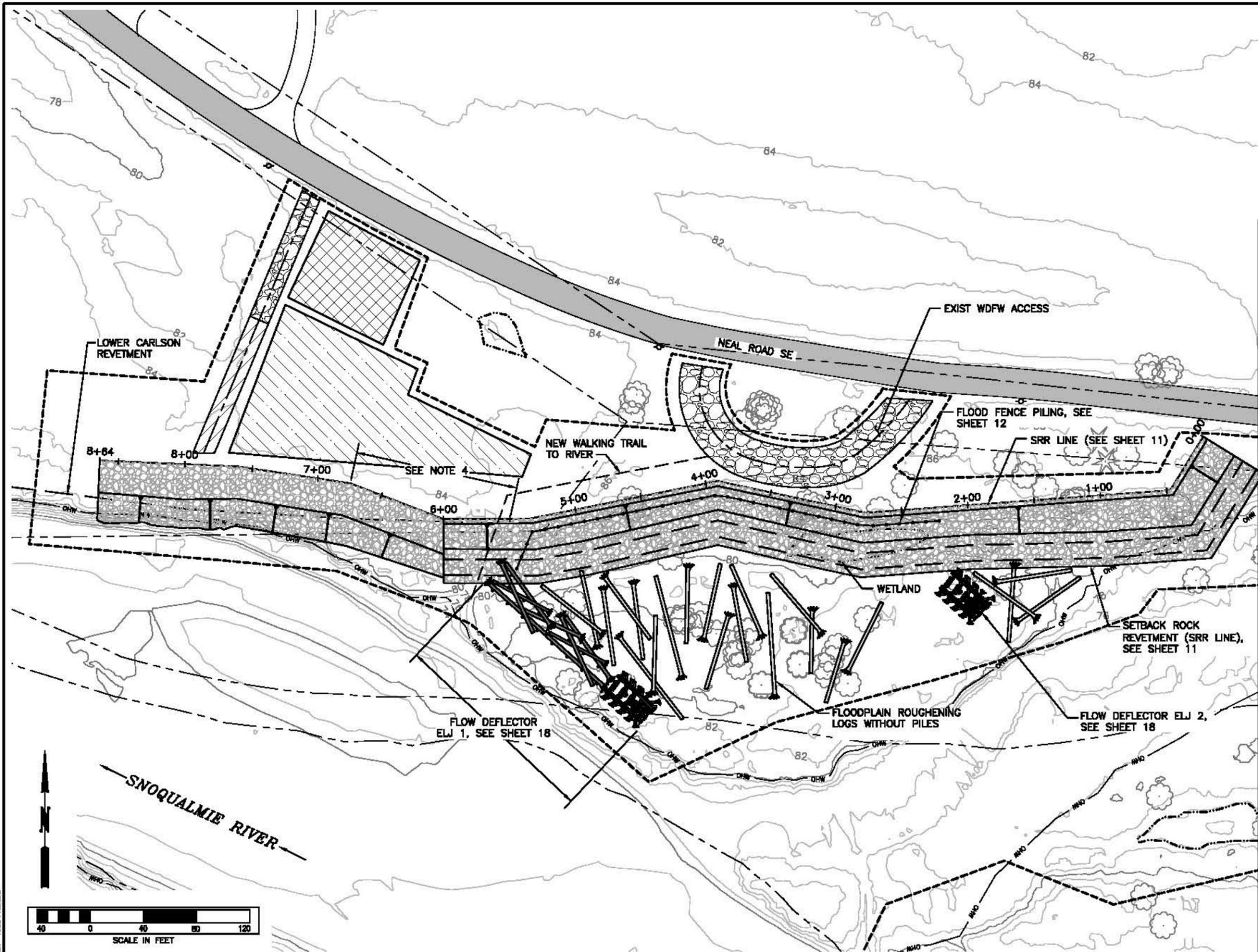
Christie Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

LEVEE AND ROCK ARMORING REMOVAL SITE PLAN AND PROFILE

SHEET 5 OF 28 SHEETS

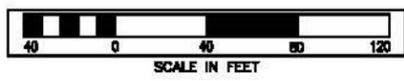
2006-48



LEGEND

	PROJECT CONSTRUCTION LIMITS
	TEMPORARY CONSTRUCTION ACCESS ROAD
	CONSTRUCTION MATERIAL STOCKPILE AREA
	EQUIPMENT STAGING AREA
	STABILIZED CONSTRUCTION ENTRANCE
	RIPRAP PLACEMENT ZONE FOR ROCK REVETMENT
	FLOODPLAIN ROUGHENING LOG WITHOUT PILES
	ORDINARY HIGH WATER LINE
	FLOOD FENCE PILING

- NOTES:**
1. CONSTRUCT TYPE A REVETMENT FROM SRR LINE STATIONS 0+00 TO 6+00. CONSTRUCT TYPE B REVETMENT FROM SRR LINE STATIONS 6+00 TO 8+64. SEE SHEET 12 FOR DIMENSIONS OF TYPE A AND B REVETMENTS.
 2. REMOVE APPROX 125 LF OF THE EXIST BURIED LOWER CARLSON REVETMENT BETWEEN SRR LINE STATIONS 5+50 AND 6+75 TO COMPLETE CONSTRUCTION. EXTENTS OF SUBSURFACE ROCK IS UNKNOWN. RE-USE ROCK IN TYPE B REVETMENT.



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FIELD BOOK: _____	APPROVED: WILL MANSFIELD, P.E.	10-2013
SURVEYED: _____	PROJECT SUPERVISOR: DIANE CONCANNON	10-2013
SURVEY BASE MAP: _____	PROJECT MANAGER: DAN EASTMAN	10-2013
CHECKED: I. MOSTRENKO (HERRERA) 10/28/2013	DESIGNED: B. SCOTT, I. MOSTRENKO P.E.	10-2013
PROJECT No. HERRERA: 10-04785-070	DESIGN ENTERED: T. PRESCOTT	10-2013
SURVEY No. _____		
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UPPER CARLSON FLOODPLAIN RESTORATION PROJECT
 NEAL ROAD SE PROTECTION
 SITE PLAN - SHEET 1 OF 2

SHEET
 6
 OF
 28
 SHEETS
 2006-48

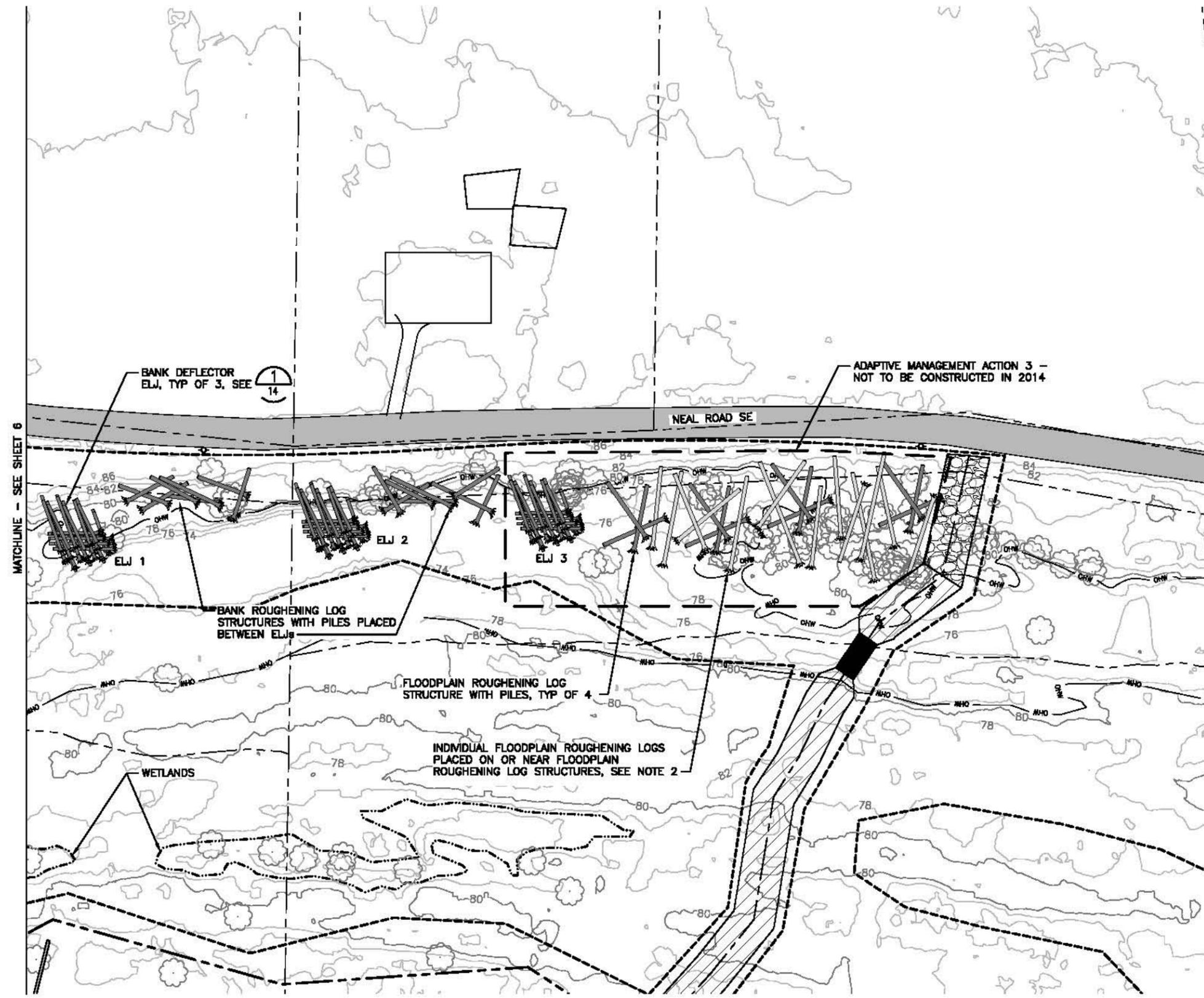


LEGEND

- PROJECT CONSTRUCTION LIMITS
- TEMPORARY CONSTRUCTION ACCESS ROAD
- STABILIZED CONSTRUCTION ENTRANCE
- FLOODPLAIN ROUGHENING LOG STRUCTURE WITH PILES
- FLOODPLAIN ROUGHENING LOG WITHOUT PILES
- BANK ROUGHENING LOG STRUCTURE WITH PILES
- BANK DEFLECTOR ELJ
- TEMPORARY 30'-40' BRIDGE CROSSING OVER WETTED AREA/BEAVER POND
- ORDINARY HIGH WATER LINE

NOTES:

1. PLACE SLASH (WOOD MATERIAL LESS THAN 12 INCHES IN DIAMETER) GENERATED FROM CONSTRUCTION ACTIVITIES WITHIN THE FLOODPLAIN LOG ROUGHENING ZONE AS DIRECTED BY ENGINEER.
2. ALLUVIUM AND ROCK REMOVED FROM THE UPPER CARLSON LEVEE SHALL BE USED TO PROVIDE BALLAST FOR THE ELJs.



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SURVEYED: _____	PROJECT _____	
SURVEY BASE MAP: _____	SUPERVISOR: DIANE CONCANNON	10-2013
CHECKED: I. MOSTRENKO (HERRERA)	PROJECT MANAGER: DAN EASTMAN	10-2013
NO: 2009-48	DESIGNED: B. SCOTT, I. MOSTRENKO P.E.	10-2013
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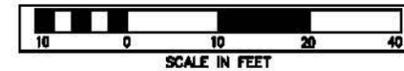
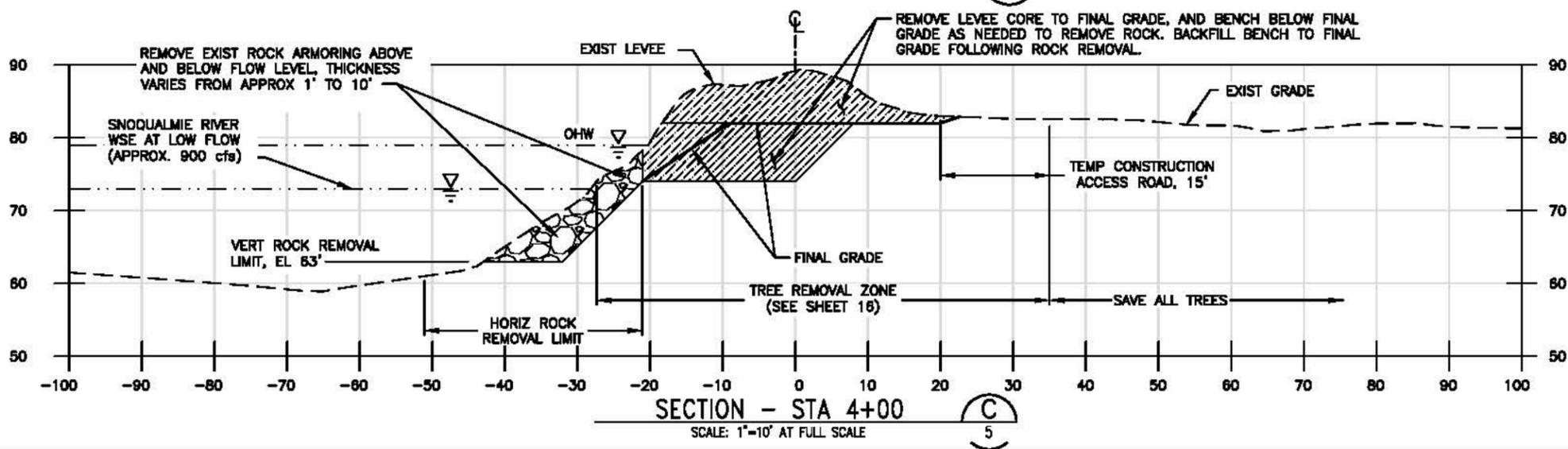
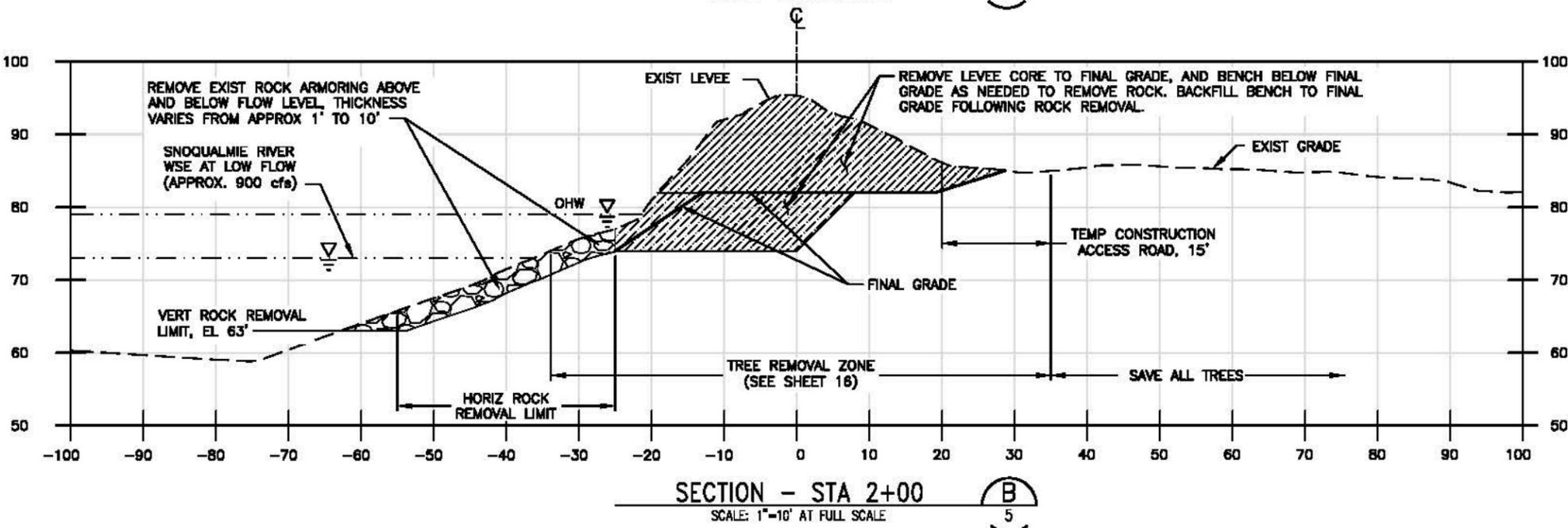
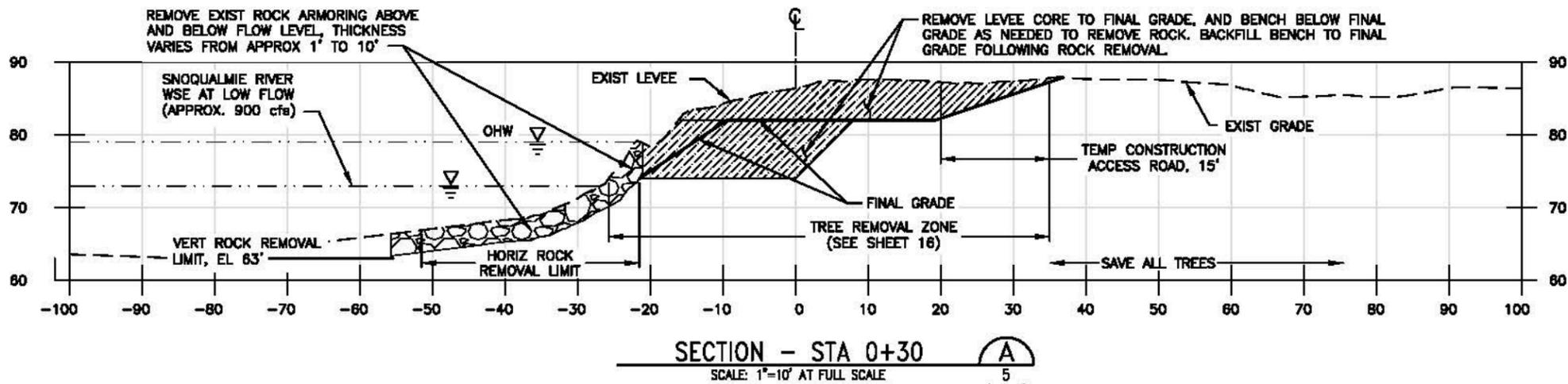
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UPPER CARLSON FLOODPLAIN RESTORATION PROJECT
NEAL ROAD SE PROTECTION SITE PLAN - SHEET 2 OF 2

SHEET **7** OF **28** SHEETS
2006-48



- NOTES:**
1. EXTENTS OF EXIST ROCK SHOWN ARE APPROX AND SHALL BE VERIFIED BY THE CONTRACTOR DURING ROCK REMOVAL WORK.
 2. TEMPORARY CONSTRUCTION ACCESS ROAD MAY BE ALIGNED OVER LEVEE REMOVAL FOOTPRINT AND WITHIN THE TEMP BENCH FOLLOWING TREE AND LEVEE REMOVAL.
 3. LEVEE CORE AND BENCH SPOILS MATERIAL IS ALLUVIAL SOILS CONSISTING OF SANDS, GRAVELS AND COBBLES.
 4. ROCK ARMORING CONSISTS OF ANGULAR AND SUB-ANGULAR ROCK APPROX 1"-5" IN DIAMETER. SOME SMALLER AND LARGER ROCK MAY ALSO BE PRESENT.
 5. REMOVE ALL ROCK ARMORING ABOVE EL 63' AND WITHIN HORIZ LIMIT SHOWN.

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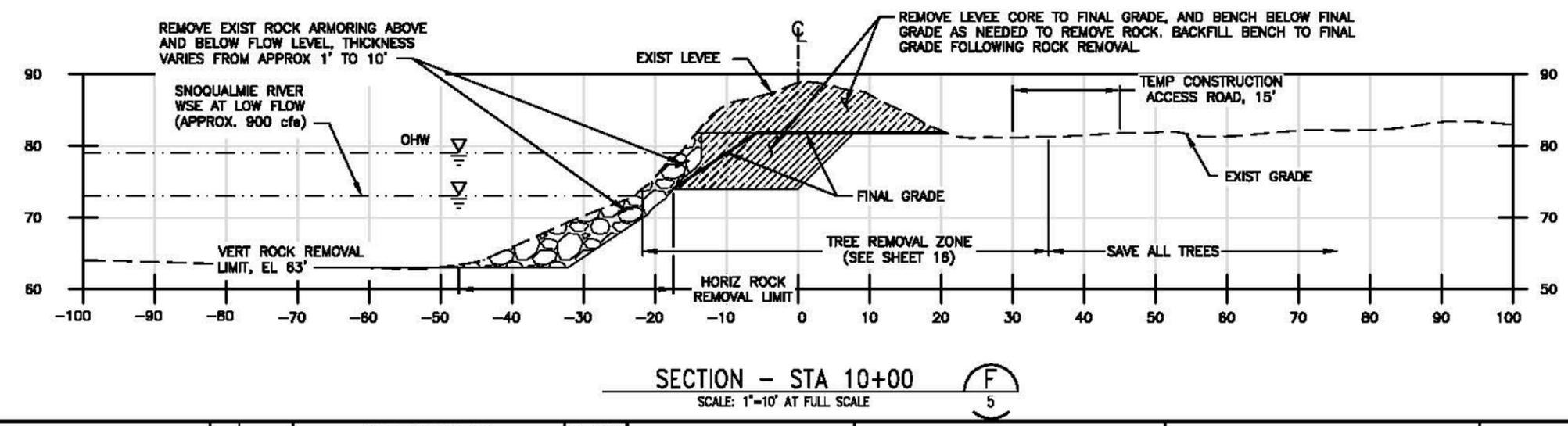
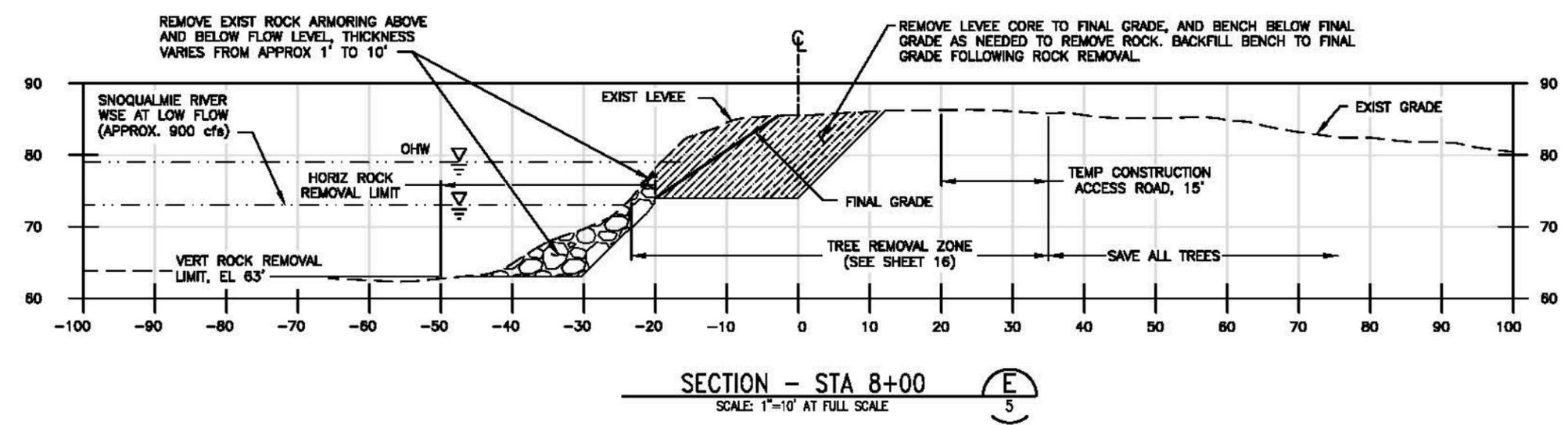
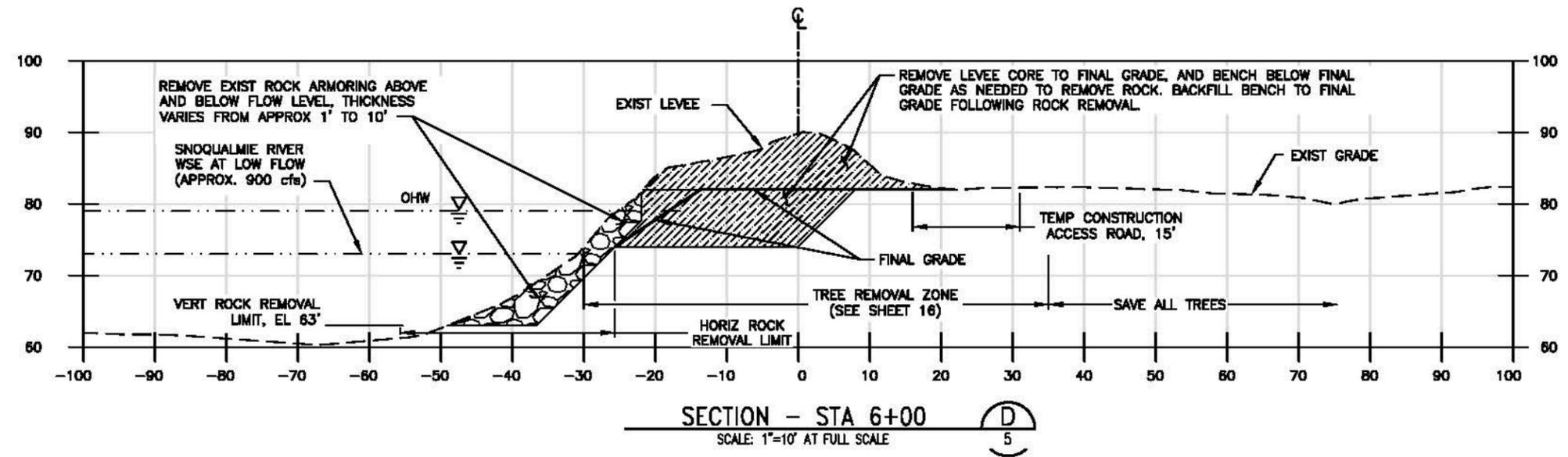
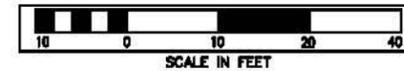
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UPPER CARLSON FLOODPLAIN RESTORATION PROJECT
LEVEE AND ROCK ARMORING REMOVAL CROSS SECTIONS - SHEET 1 OF 3

SHEET
8
 OF
28
 SHEETS
2006-48



- NOTES:**
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 3. LEVEE CORE AND BENCH SPOILS MATERIAL IS ALLUVIAL SOILS CONSISTING OF SANDS, GRAVELS AND COBBLES.
 4. ROCK ARMORING CONSISTS OF ANGULAR AND SUB-ANGULAR ROCK APPROX 1"-5" IN DIAMETER. SOME SMALLER AND LARGER ROCK MAY ALSO BE PRESENT.
 5. REMOVE ALL ROCK ARMORING ABOVE EL 6.3' AND WITHIN HORIZ LIMIT SHOWN.

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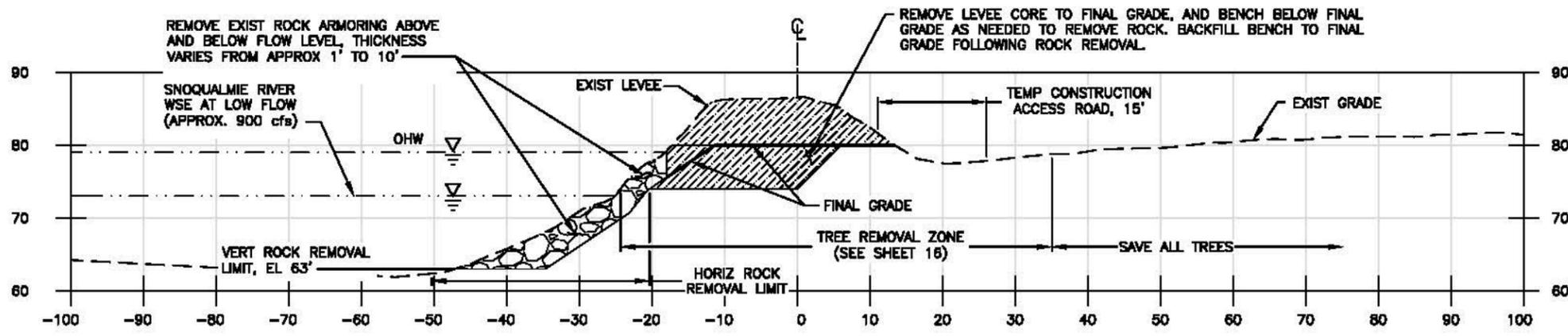
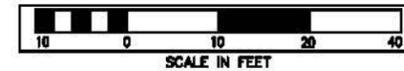
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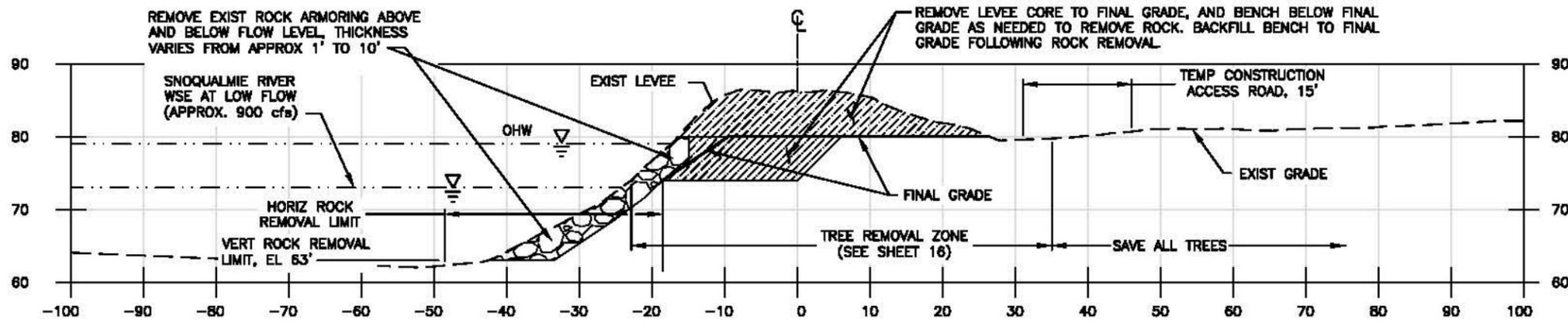
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LEVEE AND ROCK ARMORING REMOVAL CROSS SECTIONS - SHEET 2 OF 3

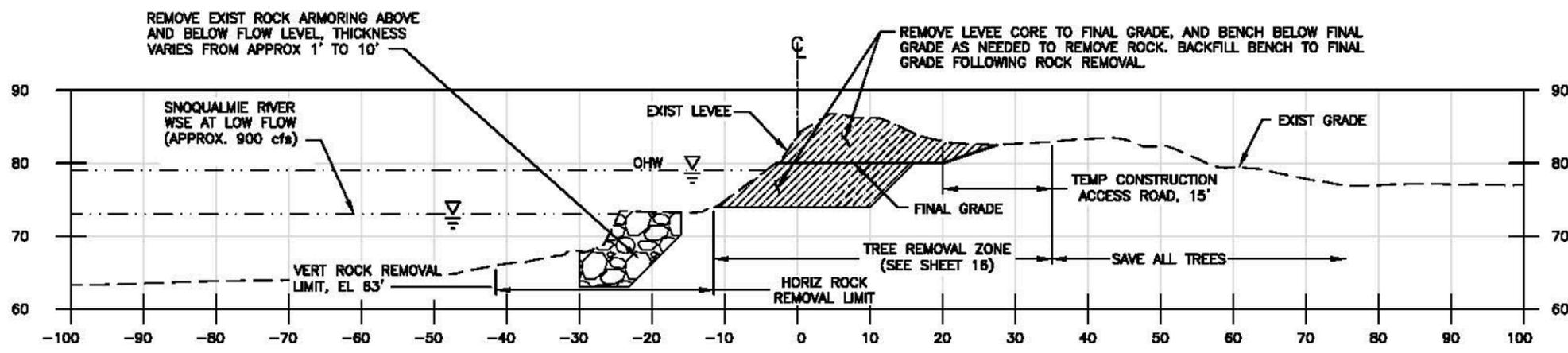
SHEET
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SHEETS
2006-48



SECTION - STA 12+00
SCALE: 1"=10' AT FULL SCALE



SECTION - STA 14+00
SCALE: 1"=10' AT FULL SCALE



SECTION - STA 16+00
SCALE: 1"=10' AT FULL SCALE

- NOTES:**
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 5. REMOVE ALL ROCK ARMORING ABOVE EL 63' AND WITHIN HORIZ LIMIT SHOWN.

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DESIGNED: B. SCOTT, I. MOSTRENKO P.E.	10-2013
DESIGN ENTERED: T. PRESCOTT	10-2013

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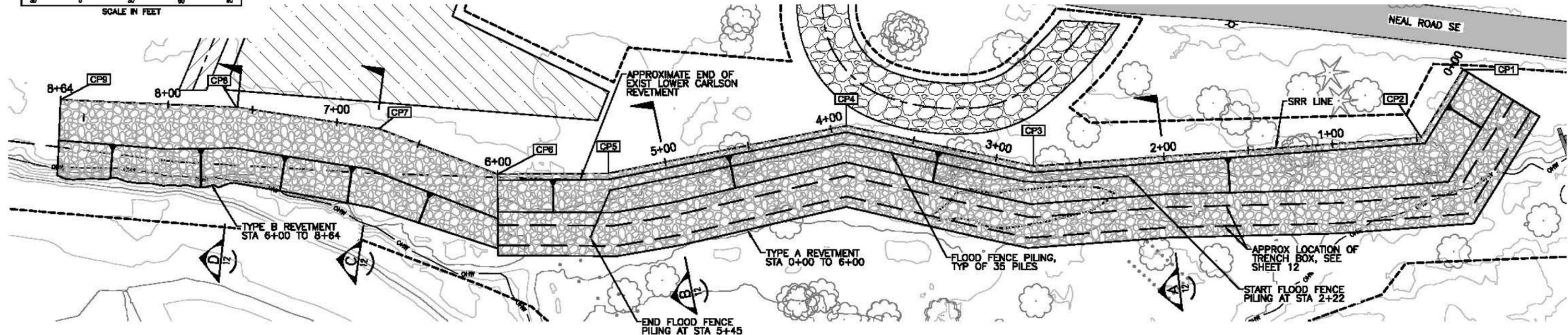
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Christie Trus, Director

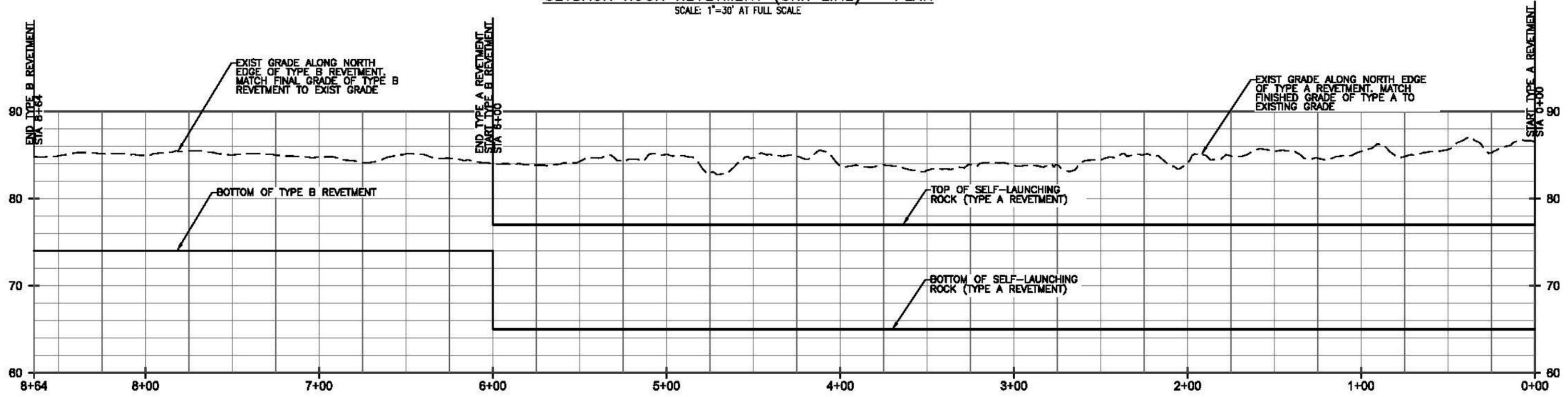
UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

LEVEE AND ROCK ARMORING REMOVAL CROSS SECTIONS - SHEET 3 OF 3

SHEET
10
OF
28
SHEETS
2006-48



SETBACK ROCK REVETMENT (SRR LINE) - PLAN
SCALE: 1"=30' AT FULL SCALE



SETBACK ROCK REVETMENT (SRR LINE) - PROFILE
SCALE: 1"=30' HORIZ, 1"=6' VERT AT FULL SCALE

SRR LINE GRADING SURVEY CONTROL POINT TABLE:

CONTROL POINT NO.	SRR LINE STATION	NORTHING	EASTING	CONTROL POINT NO.	SRR LINE STATION	NORTHING	EASTING
1	0+00			6	6+00		
2	0+47			7	6+75		
3	2+77			8	7+62		
4	3+91			9	8+64		
5	5+34						

NOTE: TABLE TO BE COMPLETED FOR FINAL DESIGN

NOTES:

- FLOOD FENCE PILING CONSISTS OF OF 35 PILES, 20' LONG 12" DIA. SEE SECTIONS A AND B, SHEET 12. SPACE PILES 10' APART O.C.

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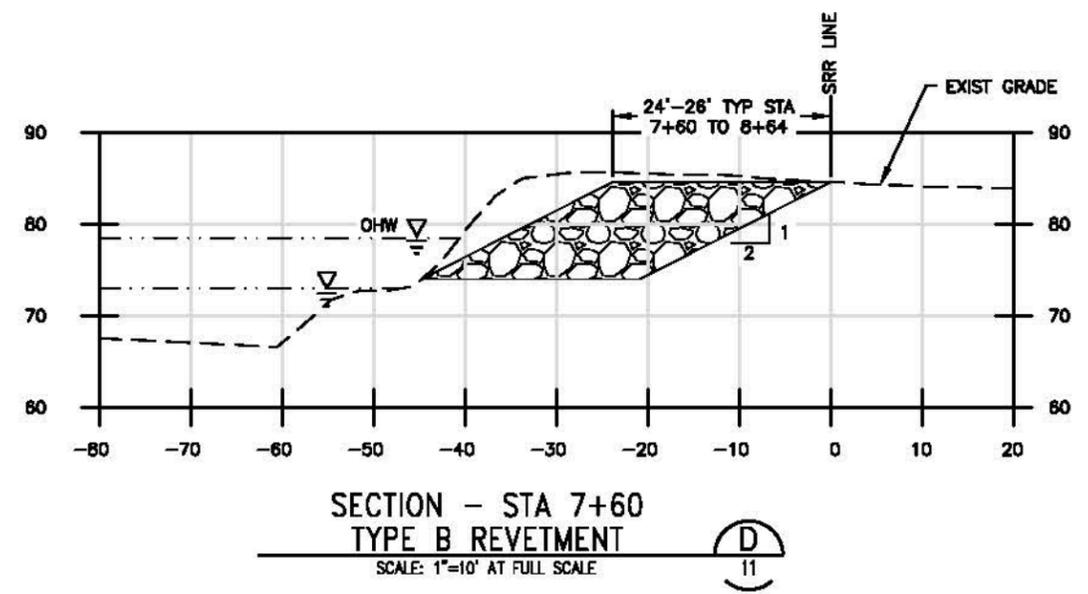
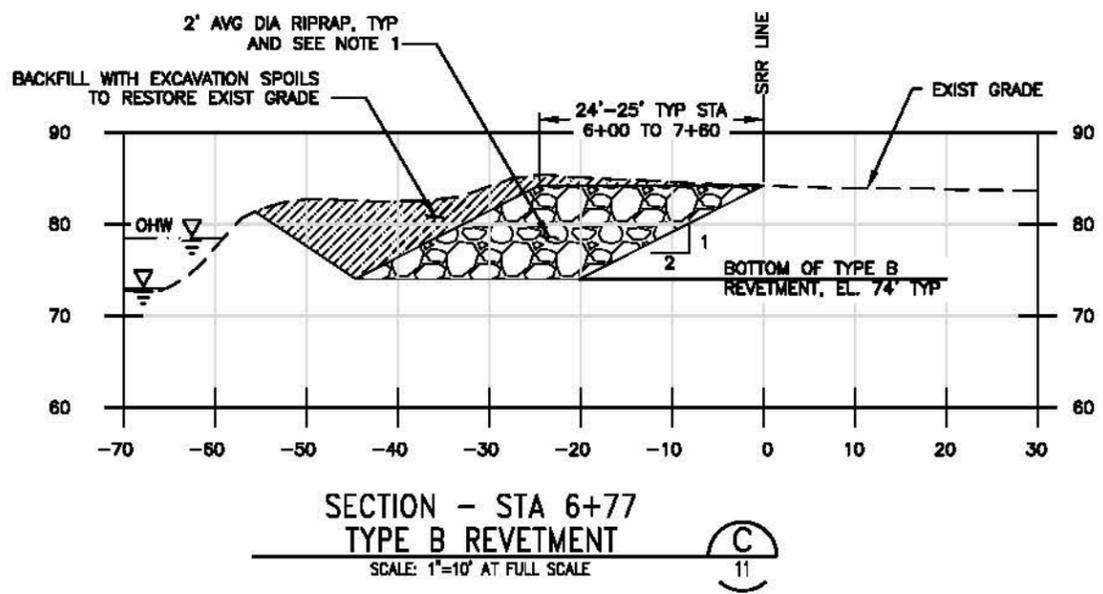
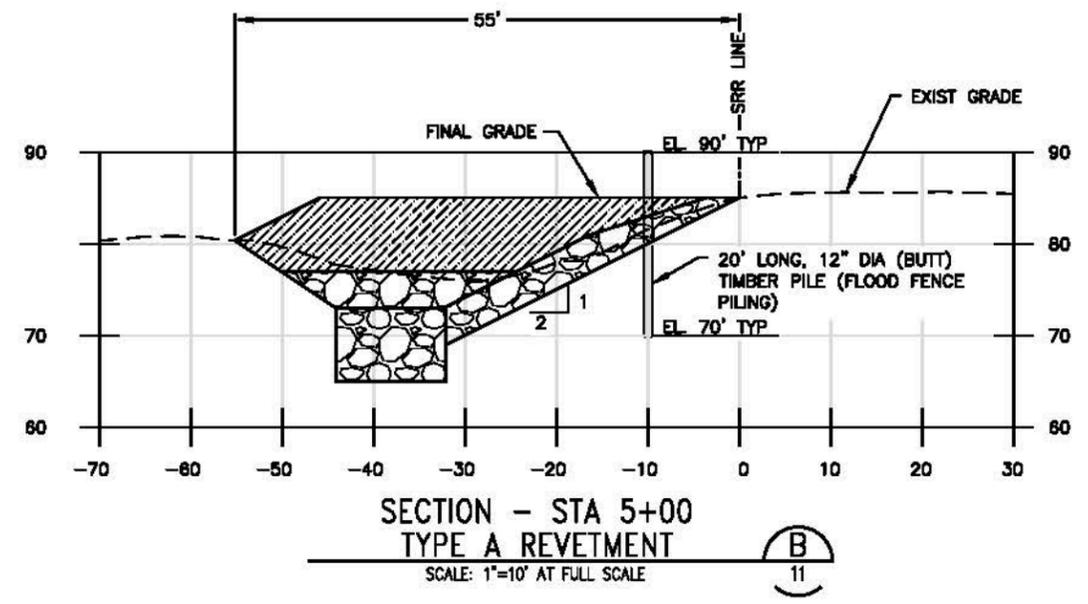
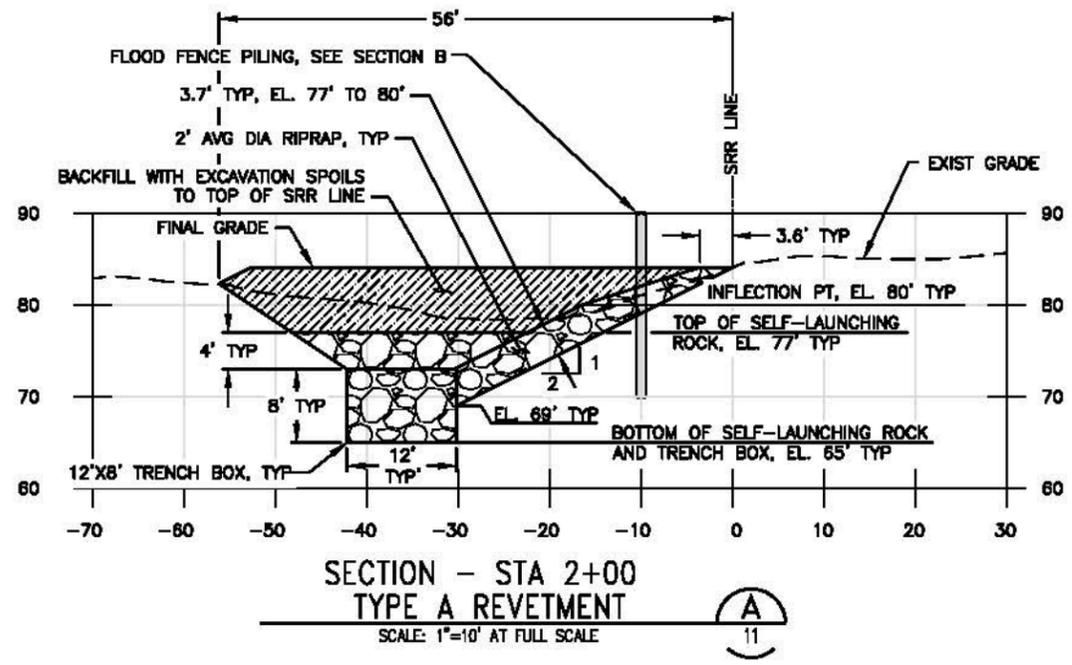
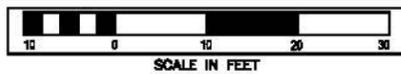


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Christie Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

SETBACK REVETMENT PLAN AND PROFILE



- NOTES:**
- BETWEEN SRR LINE STATION 6+00 AND 8+64, USE ROCK REMOVED FROM EXIST LOWER CARLSON REVETMENT TO CONSTRUCT TYPE B REVETMENT. APPROXIMATELY 280 CUBIC YARDS OF ROCK ESTIMATED TO EXIST BETWEEN END OF EXIST REVETMENT AND SRR LINE STATION 6+77. APPROXIMATELY 0 CUBIC YARDS OF ROCK ESTIMATED TO EXIST BETWEEN SRR LINE STATIONS 6+77 AND 8+64. 2,539 CUBIC YARDS OF ROCK NEEDED TO CONSTRUCT TYPE B REVETMENT.

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**UPPER CARLSON FLOODPLAIN
RESTORATION PROJECT**

**SETBACK REVETMENT CROSS SECTIONS
AND DETAILS**

SHEET
12
OF
28
SHEETS
2006-48

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PROJECT No. <u>NO: 2006-48</u>			MANAGER: <u>DAN EASTMAN</u>	10-2013
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			DESIGN ENTERED: <u>T. PRESCOTT</u>	10-2013
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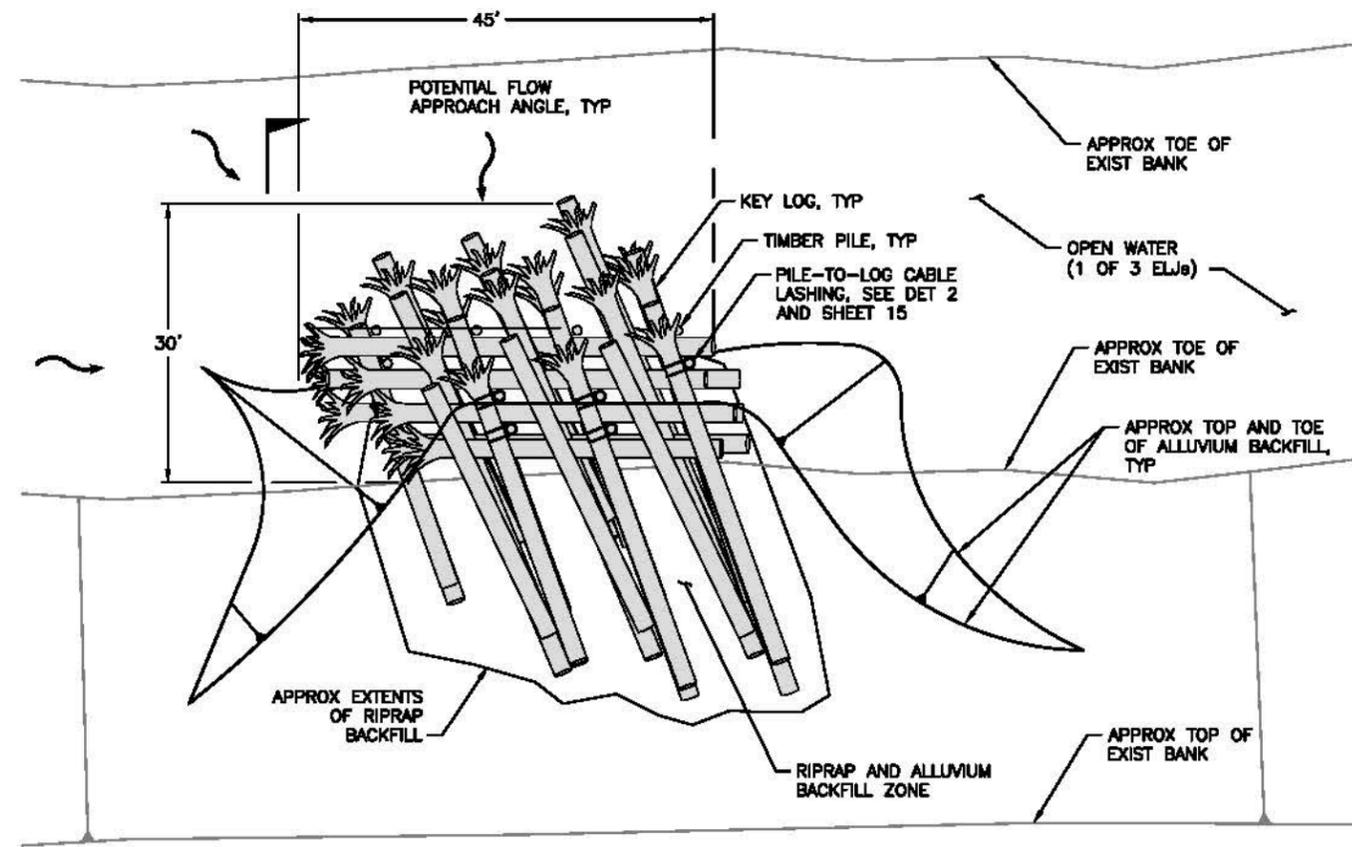
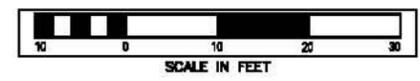
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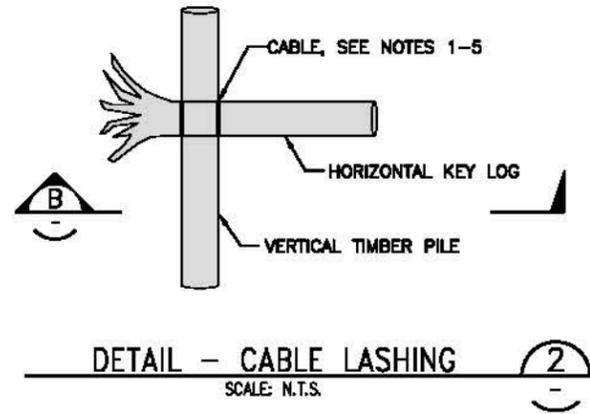
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**UPPER CARLSON FLOODPLAIN
RESTORATION PROJECT**

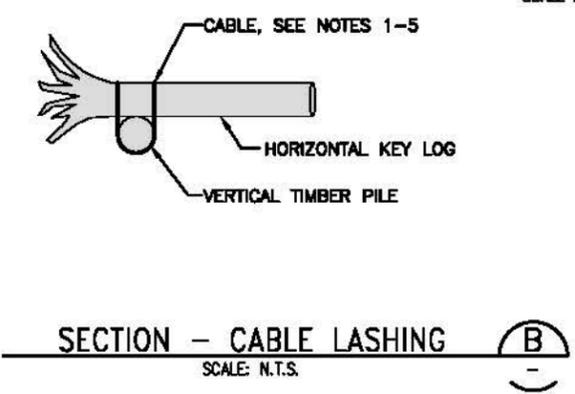
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OF
28
SHEETS
2006-48



PLAN - BANK DEFLECTOR ELJ (1/8)
SCALE: 1"=10' AT FULL SCALE



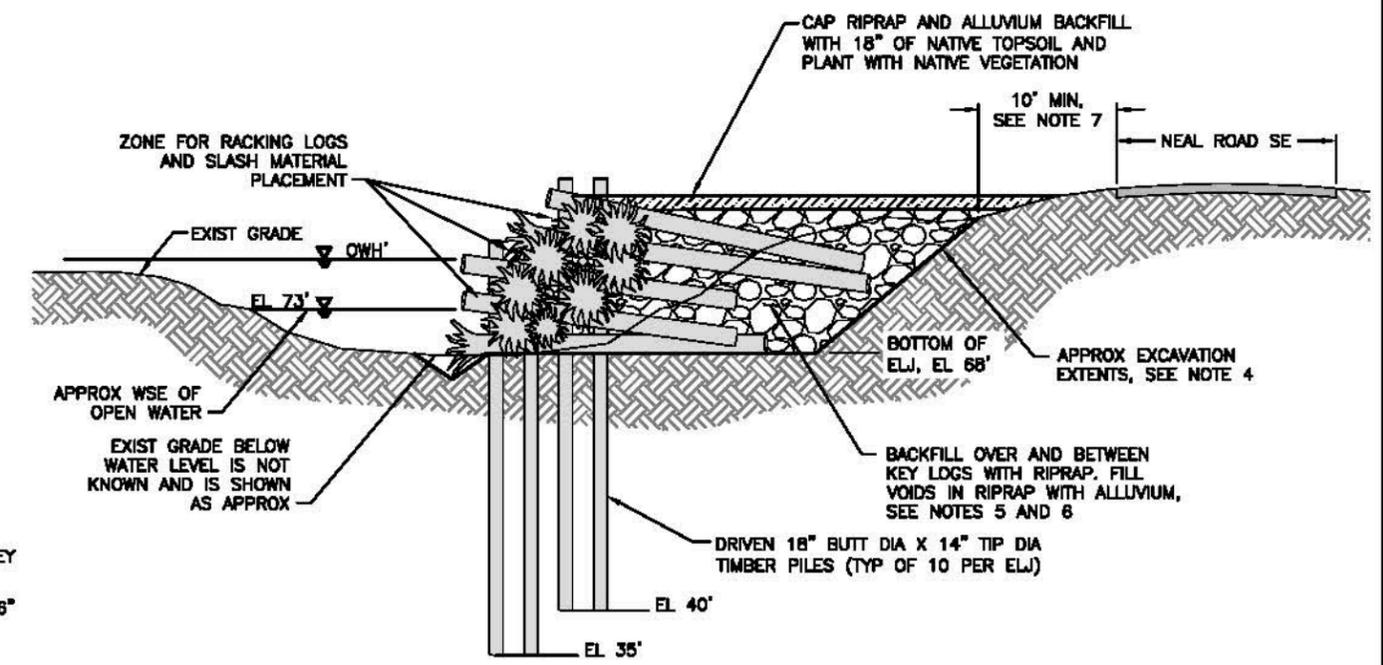
DETAIL - CABLE LASHING (2)
SCALE: N.T.S.



SECTION - CABLE LASHING (B)
SCALE: N.T.S.

CABLE LASHING NOTES:

- LASH HORIZONTAL KEY LOGS TO VERTICAL TIMBER PILE WITH CABLE AS SHOWN ON STRUCTURE LAYERING PLAN OR AS DIRECTED BY ENGINEER. CABLE LASHING SYSTEM SHALL BE PUT IN TENSION TO 1/4 OF THE CABLE WORKING LOAD LIMIT AND BE MAINTAINED DURING CABLE CLAMPING.
- CABLE LENGTH NEEDED PER LASHING WILL VARY BASED ON DIAMETER OF LOGS BEING LASHED TOGETHER.
- CABLE FOR LASHING SHALL BE 1/2 INCH DIAMETER GALVANIZED WIRE ROPE, CLASS 6X19, WITH A MINIMUM BREAKING STRENGTH OF 10 TONS. STEEL GRADE SHALL BE IMPROVED PLOWED STEEL (IPS). INTERNAL CORE SHALL BE INDEPENDENT WIRE ROPE CORE (IWRC).
- ALL HARDWARE USED FOR LASHING SHALL BE GALVANIZED OR STAINLESS STEEL, AND CONNECTIONS SHALL BE OF THE QUANTITY AND TYPE SPECIFIED BY THE MANUFACTURER WITH AN EQUAL OR GREATER STRENGTH THAN THE CABLE BREAKING STRENGTH OR AS APPROVED BY THE ENGINEER.
- WELD OR ROUND ALL EXPOSED HARDWARE NUTS AND BOLT THREADS AFTER INSTALLATION FOR THEFT PROTECTION. APPLY A ZINC RICH PAINT COATING TO ANY ALTERED GALVANIZED HARDWARE. ENGINEER OR OWNER SHALL APPROVE OF COATING PRIOR TO CONTRACTOR APPLYING IT.



SECTION - BANK DEFLECTOR ELJ (A)
SCALE: 1"=10' AT FULL SCALE

ELJ NOTES:

- ONLY THE TOP LAYER OF LOGS FOR EACH STRUCTURE SHALL BE CABLED TO DRIVEN PILES. DO NOT SECURE LOWER LAYER KEY LOGS TO PILE OR TO ANOTHER KEY LOG.
- RACKING LOGS AND SLASH MATERIAL NOT SHOWN FOR CLARITY. RACKING LOGS SHALL CONSIST OF APPROX 100 - 150 INDIVIDUAL LOGS PER STRUCTURE AT 6"-16" DIA EACH. RACKING PLACEMENT SHALL BE COORDINATED WITH LOG LAYER PLACEMENT AND SLASH PLACEMENT TO ENSURE RACKING AND SLASH EXTEND THROUGH WATERWARD FACE OF STRUCTURE.
- EXTENTS OF BACKFILL SHOWN ARE APPROXIMATE AND WILL VARY FOR EACH STRUCTURE. PLACE ALL EXCESS SPOILS OVER KEY LOGS AS SHOWN AND AS DIRECTED BY THE ENGINEER.
- EXCAVATION LIMITS SHOWN ARE APPROXIMATE AND WILL VARY BASED ON CONSTRUCTION MEANS AND METHODS, SUBSURFACE CONDITIONS AND LOCATION OF STRUCTURE. CONTRACTOR SHALL ADJUST AND MINIMIZE EXCAVATION LIMITS AS NECESSARY TO COMPLETE CONSTRUCTION.
- RIPRAP FOR ELJ BACKFILLING WILL CONSIST OF RIPRAP SALVAGED FROM THE EXIST UPPER CARLSON LEVEE AND/OR IMPORTED RIPRAP DEPENDING ON VOLUME OF RIPRAP REMOVED FROM THE LEVEE AND REUSED IN THE NEW SETBACK REVETMENT.
- BACKFILL MATERIAL FOR ELJ WILL CONSIST OF LOCALLY EXCAVATED SOILS, ALLUVIUM AND ANGULAR ROCK (RIPRAP) EXCAVATED FROM THE EXIST UPPER CARLSON LEVEE AS NEEDED. TOP ELEVATION OF BACKFILL SHALL NOT EXCEED ELEVATION OF NEAL ROAD SE.
- NO EXCAVATION SHALL OCCUR WITHIN 10 FT OF THE EDGE OF PAVEMENT ALONG NEAL ROAD. RESTORE ROAD SHOULDER FOLLOWING ELJ CONSTRUCTION TO ORIGINAL CONDITION.

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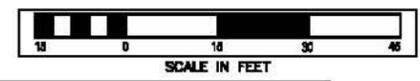
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Christie Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

BANK DEFLECTOR ELJ PLAN AND SECTION

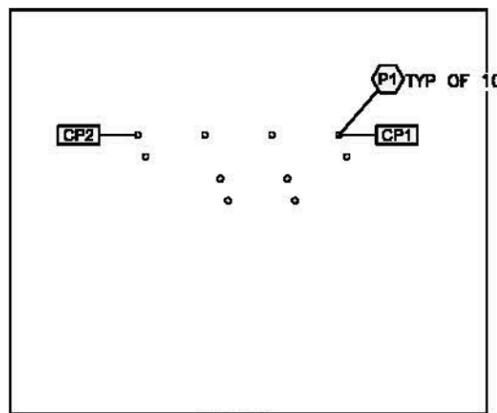
SHEET
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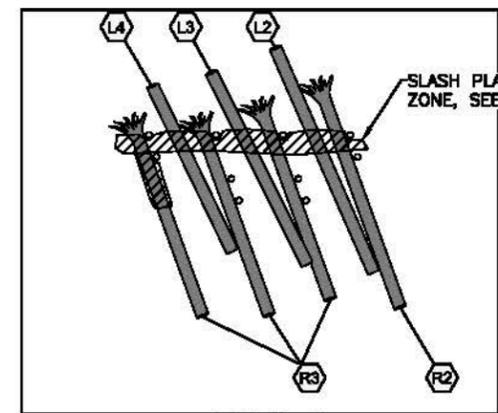
LEGEND:

- CURRENT LAYER KEY LOG
- PREVIOUS LAYER KEY LOG (AFTER BACKFILLING)
- VERTICAL PILE LOG
- SLASH PLACEMENT ZONE
- KEY LOG TYPE ID (LOG TYPE L1)
- STRUCTURE CONTROL POINT (1)

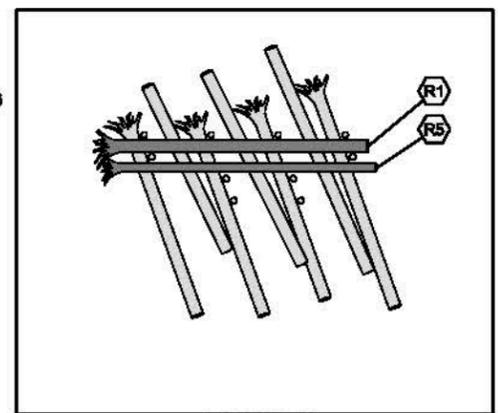
- NOTES:**
- STRUCTURE GENERAL LOCATION AND ORIENTATION SHALL BE STAKED BY THE CONTRACTOR. FINAL STRUCTURE LOCATION AND ORIENTATION TO BE FIELD VERIFIED BY THE PROJECT REPRESENTATIVE FOLLOWING CONTRACTOR STAKING.
 - ALL PILE LOCATIONS SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE PROJECT REPRESENTATIVE PRIOR TO PILE INSTALLATION.
 - ALL PILE LOCATIONS SHALL BE BASED ON THE LOCATION OF THE STRUCTURE CONTROL POINTS AND SHALL BE WITHIN 6" OF THE LOCATION SHOWN ON THE DRAWINGS.
 - PILE DIAMETERS SHALL BE MEASURED AT THE BUTT (LARGER) ENDS. PILES SHALL BE UNTREATED DOUGLAS FIR MEETING ASTM D25 REQUIREMENTS.
 - LOG MATERIALS SHALL BE PLACED AT THE LOCATIONS AND ORIENTATIONS SPECIFIED ON THE DRAWINGS OR AS DIRECTED BY THE PROJECT REPRESENTATIVE. TRIM CUT ENDS OF HORIZONTAL KEY LOGS TO FIT AS REQUIRED.
 - PLACE SLASH OVER AND BETWEEN KEY LOGS AND PILES AS SHOWN FOR EACH LAYER SPECIFIED FOLLOWING PLACEMENT OF KEY LOGS AND RACKING LOGS. PLACE APPROXIMATELY 2" TO 3" OF NATIVE ALLUVIUM OVER 1/2 THE WIDTH OF SLASH TO SECURE IN PLACE SUCH THAT SLASH IS VISIBLE FOLLOWING CONSTRUCTION. COORDINATE WITH THE PROJECT REPRESENTATIVE PRIOR TO PLACING RACKING AND SLASH.
 - RACKING LOGS NOT SHOWN FOR CLARITY. PLACE RACKING LOGS ALONG UPSTREAM FACES OF STRUCTURE. APPROXIMATELY 1/2 OF RACKING LOGS SHALL BE PLACED ACROSS PILE ROWS (PERPENDICULAR TO FLOW) AND 1/2 OF THE LOGS PARALLEL TO FLOW AND (EXTENDING INTO THE CORE OF THE STRUCTURE BETWEEN HORIZONTAL LOGS. RACKING SHALL BE PLACED WITH EACH LAYER OF LOGS, SHALL BE ANGLED UP AND DOWN FROM THE HORIZONTAL, AND SHALL BE PLACED TO CREATE AN INTERLOCKING MATRIX OF LOGS SECURED BETWEEN VERTICAL PILE LOGS AND HORIZONTAL LOGS. COORDINATE WITH ENGINEER PRIOR TO PLACING RACKING LOGS, SLASH AND BACKFILLING.
 - BACKFILL EACH LAYER WITH DRY COARSE ALLUVIUM AND RIPRAP EXCAVATED FROM THE EXISTING LEVEE FLUSH TO TOP OF CURRENT LAYER PRIOR TO CONSTRUCTING SUBSEQUENT LAYER. COMPACT BACKFILL WITH EXCAVATOR BUCKET. FILL ALL VOIDS BETWEEN ROCKS GREATER THAN 12" DIAMETER WITH FINER ALLUVIUM TO ACHIEVE A WELL GRADED AND COMPACTED MASS.



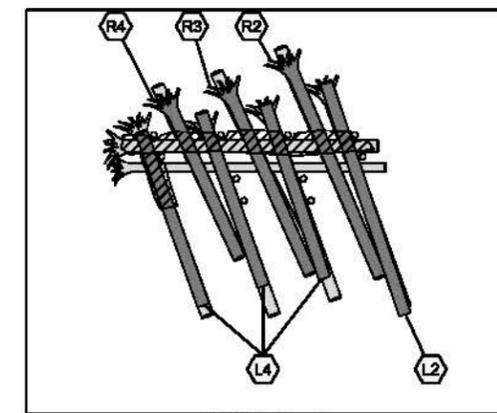
PILES



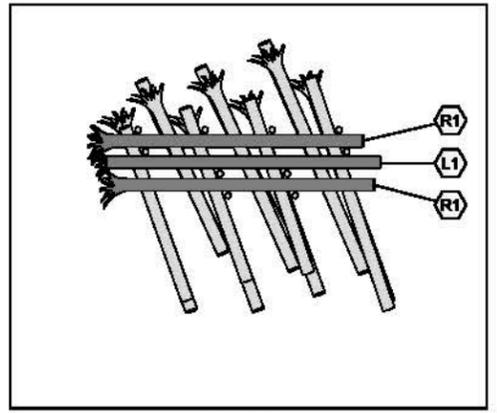
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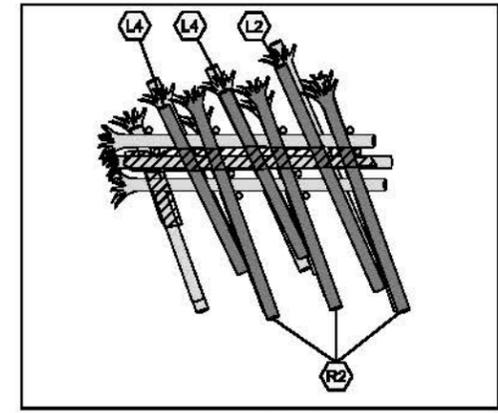
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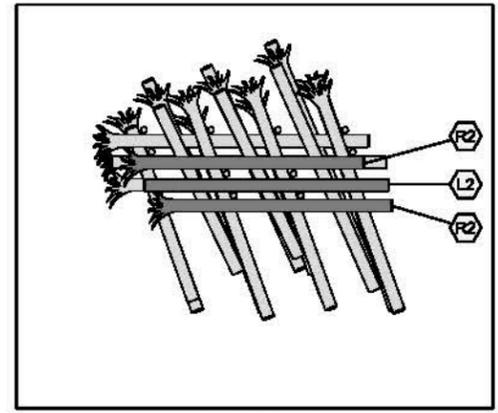
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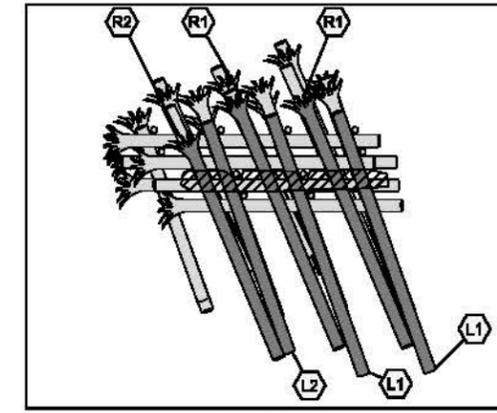
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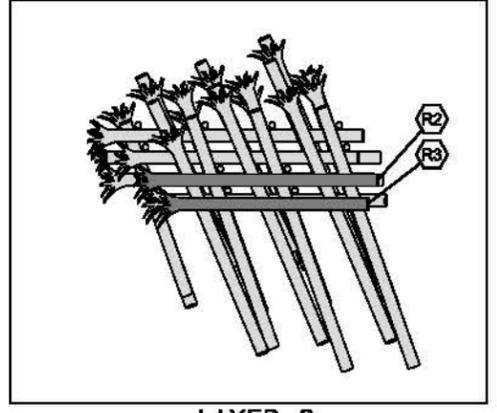
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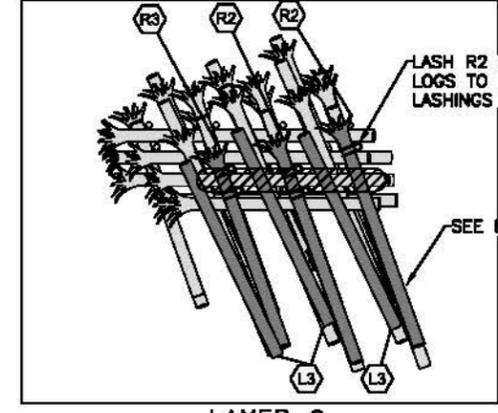
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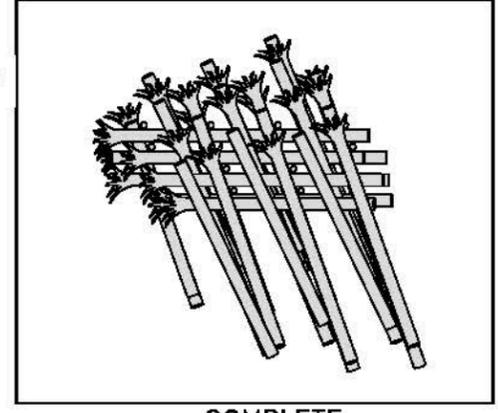
LAYER 7



LAYER 8



LAYER 9



COMPLETE

LOG SCHEDULE:

LOG TYPE	DIAMETER (IN)	LENGTH (FT)	ROOTWAD	TOTAL/ELJ
P1	18 (BUTT), 14 (TIP)	50	NO	10
R1	24	45	YES	5
R2	24	40	YES	11
R3	24	35	YES	6
R4	24	30	YES	1
R5	18	45	YES	1
L1	24	45	NO	3
L2	24	40	NO	5
L3	24	35	NO	4
L4	24	30	NO	6
RACKING	4"-16"	15-30	OPTIONAL	100
SLASH				120 CY

BANK DEFLECTOR ELJ SURVEY CONTROL POINT TABLE:

ELJ NO.	CONTROL POINT NO.	NORTHING	EASTING
1	1	215457.08	1374860.99
	2	215457.08	1374893.99
2	1	215465.82	1375041.64
	2	215465.82	1375074.64
3	1	215471.39	1375193.68
	2	215471.39	1375226.68

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(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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NUM.	REVISION	BY	DATE

APPROVED: WILL MANSFIELD, P.E.	10-2013
PROJECT SUPERVISOR: DIANE CONCANNON	10-2013
PROJECT MANAGER: DAN EASTMAN	10-2013
DESIGNED: B. SCOTT, I. MOSTRENKO, P.E.	10-2013
DESIGN ENTERED: T. PRESCOTT	10-2013

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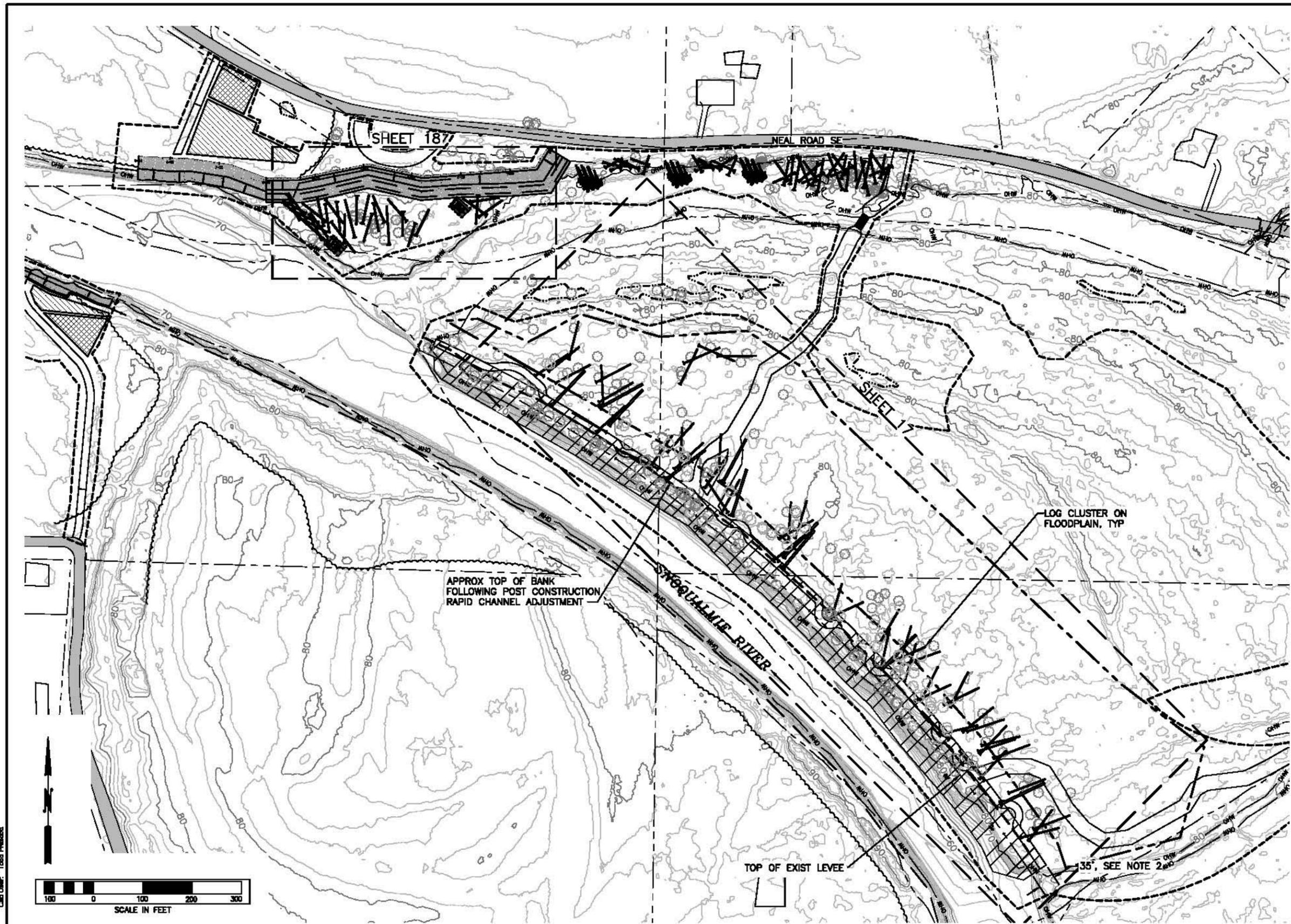
King County
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Ecological Restoration and Engineering Services

Christie Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

BANK DEFLECTOR ELJ LAYERING PLAN

SHEET
15
OF
28
SHEETS
2006-48



LEGEND

- PROJECT CONSTRUCTION LIMITS
- LEVEE REMOVAL ALIGNMENT
- ▨ FLOODPLAIN TREE REMOVAL ZONE
- OHW --- ORDINARY HIGH WATER LINE
- LOG YARDING DISTURBANCE LIMITS
- TOP OF BANK POST RAPID CHANNEL ADJUSTMENT

NOTES:

1. TREES TO BE FELLED ALONG EXIST UPPER CARLSON LEVEE SHALL BE REMOVED WITH ROOTWADS FULLY INTACT. TREES TO BE FELLED SHALL NOT BE CUT.
2. NO TREES SHALL BE FELLED OUTSIDE OF THE DESIGNATED TREE REMOVAL ZONE, WHICH SHALL EXTEND 35 FT LANDWARD FROM THE TOP OF THE EXIST LEVEE. SEE SHEET 5 FOR TREES TO BE SAVED WITHIN LEVEE AND TREE REMOVAL ZONE.
3. FELLED TREES SHALL BE A MIN 80' LONG FROM TIP OF ROOTWAD.
4. MINIMIZE REMOVAL OF BRANCHES AND LIMBS FROM FELLED TREES PRIOR TO PLACING THEM IN THEIR FINAL LOCATION.
5. SECTIONS OF FELLED TREES THAT ARE BROKEN DURING FELLING ACTIVITIES SHALL BE KEPT AS LONG AS POSSIBLE.
6. PLACE FELLED TREES IN CLUSTERS AS DIRECTED BY THE ENGINEER.
7. ALL SLASH AND BROKEN LIMBS AND BRANCHES GENERATED DURING TREE FELLING ACTIVITIES SHALL BE PLACED IN LOG CLUSTERS AS DIRECTED BY THE ENGINEER.

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FIELD BOOK: _____			
SURVEYED: _____			
SURVEY BASE MAP: _____			
CHECKED: I. MOSTRENKO (HERRERA) 10/28/2013			
PROJECT No. HERRERA: 10-04785-070			
SURVEY No. _____			
NUM.	REVISION	BY	DATE

APPROVED: WILL MANSFIELD, P.E.	10-2013
PROJECT SUPERVISOR: DIANE CONCANNON	10-2013
PROJECT MANAGER: DAN EASTMAN	10-2013
DESIGNED: B. SCOTT, I. MOSTRENKO P.E.	10-2013
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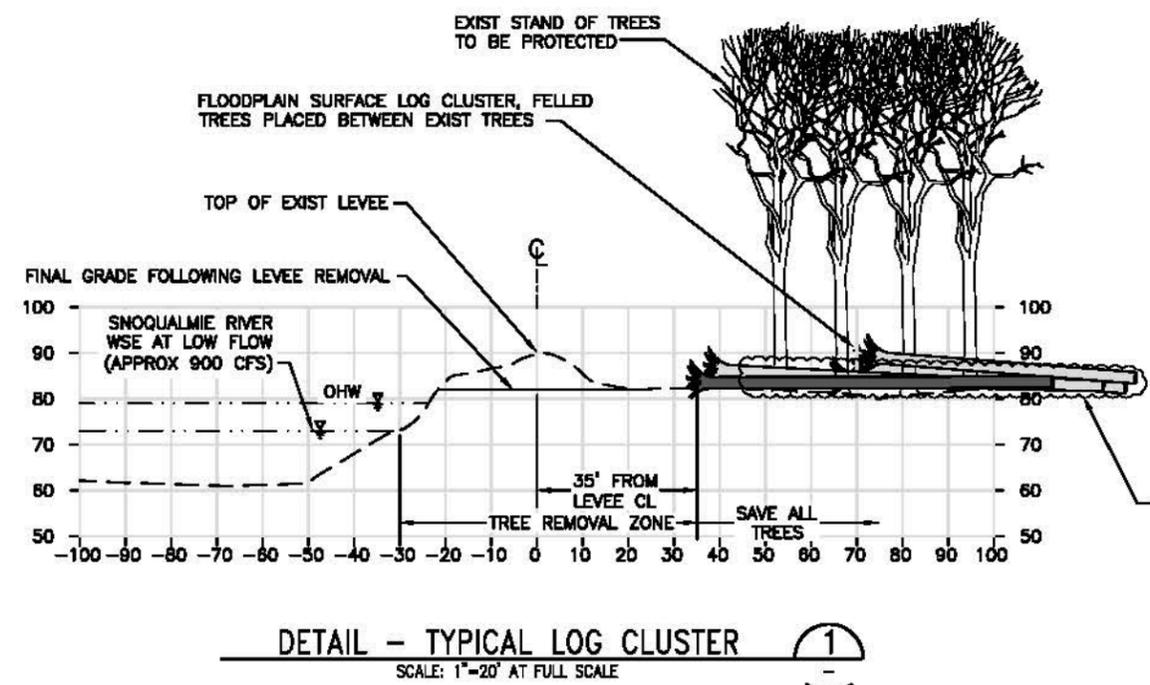
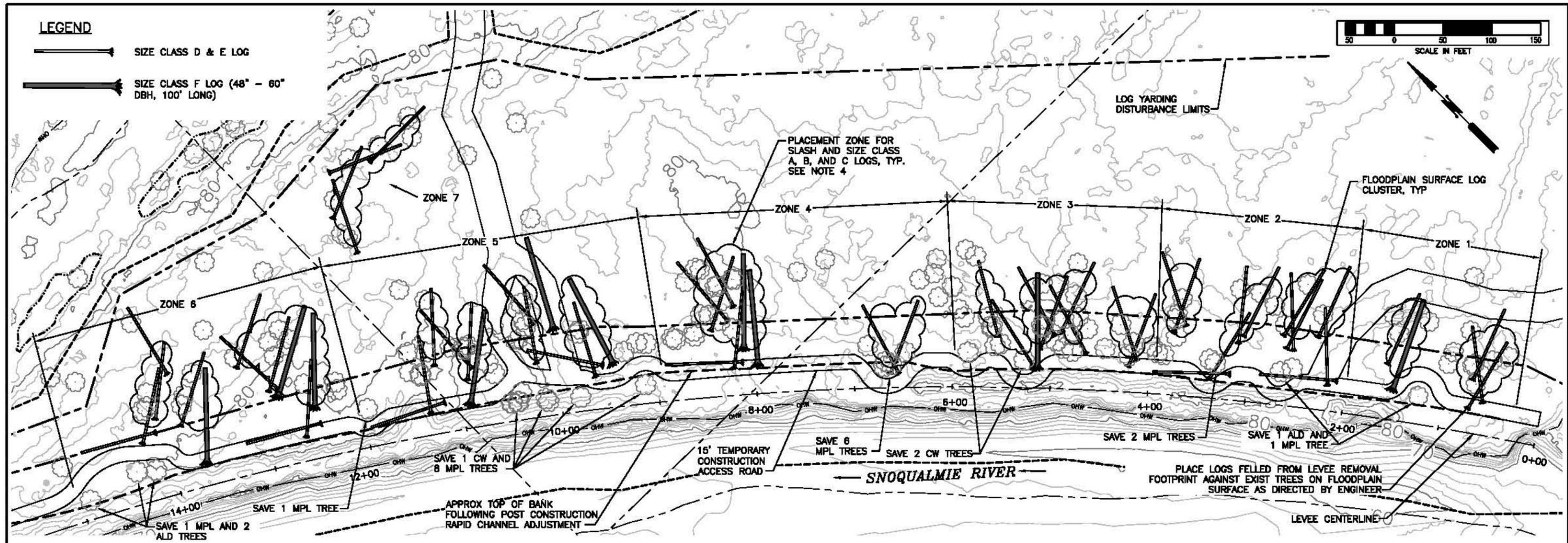
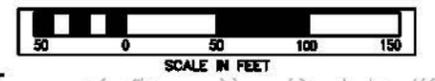
King County
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 Ecological Restoration and Engineering Services
 Christi Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT
FLOODPLAIN LOG ROUGHENING SITE PLAN

SHEET
16
 OF
28
 SHEETS
2006-48

LEGEND

-  SIZE CLASS D & E LOG
-  SIZE CLASS F LOG (48" - 60" DBH, 100' LONG)



LOG CLUSTER ZONE PLACEMENT SCHEDULE

LOG CLUSTER ZONE NO.	NO. OF SIZE CLASS D,E&F TREES	NO. OF SIZE CLASS A,B&C TREES
1	5	9
2	12	20
3	9	16
4	9	16
5	12	20
6	13	22
7	4	7
TOTAL	64	110

NOTES:

1. PLACE 5,170 CUBIC YARDS OF ALLUVIAL LEVEE SPOILS OVER LOG CLUSTERS AS DIRECTED BY ENGINEER. AVERAGE DEPTH OF SPOILS PER CLUSTER IS 4.5 FEET.
2. LENGTH, LOCATION AND ORIENTATION OF LOGS IN CLUSTERS SHOWN IS APPROXIMATE AND WILL VARY. ADJUST LOCATION AND ORIENTATION AS DIRECTED BY ENGINEER.
3. DO NOT DAMAGE OR REMOVE TREES OUTSIDE OF THE TREE REMOVAL ZONE TO CONSTRUCT CLUSTERS. ANY ADDITIONAL TREE REMOVAL OR TRIMMING NECESSARY SHALL FIRST BE APPROVED BY THE ENGINEER.
4. PLACE SLASH AND SIZE CLASS A, B AND C LOGS AMIDST LOG CLUSTERS AS DIRECTED BY ENGINEER. APPROXIMATELY 70% OF ALL FELLED CLASS A, B AND C LOGS WILL BE PLACED WITH LOG CLUSTERS.
5. HAUL ALL REMAINING FELLED LOGS TO SETBACK REVETMENT FOR PLACEMENT IN THE FLOODPLAIN AS SHOWN ON SHEET 18 (APPROX 47 SIZE CLASS A, B AND C LOGS; APPROX 27 SIZE CLASS D AND E LOG; 0 SIZE CLASS F LOGS).

FELLED TREE INVENTORY FOR LEVEE REMOVAL

SIZE CLASS	SIZE	NO. OF TREES
A	< 6" DBH	61
B	6"-11" DBH	52
C	12"-17" DBH	44
D	18"-29" DBH	58
E	30"-47" DBH	23
F	48"-60" DBH	10

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(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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SURVEY BASE MAP:		PROJECT MANAGER: DAN EASTMAN	10-2013
CHECKED: I. MOSTRENKO (HERRERA)	10/28/2013	DESIGNED: B. SCOTT, I. MOSTRENKO, P.E.	10-2013
PROJECT No. HERRERA: 10-04785-070		DESIGN ENTERED: T. PRESCOTT	10-2013
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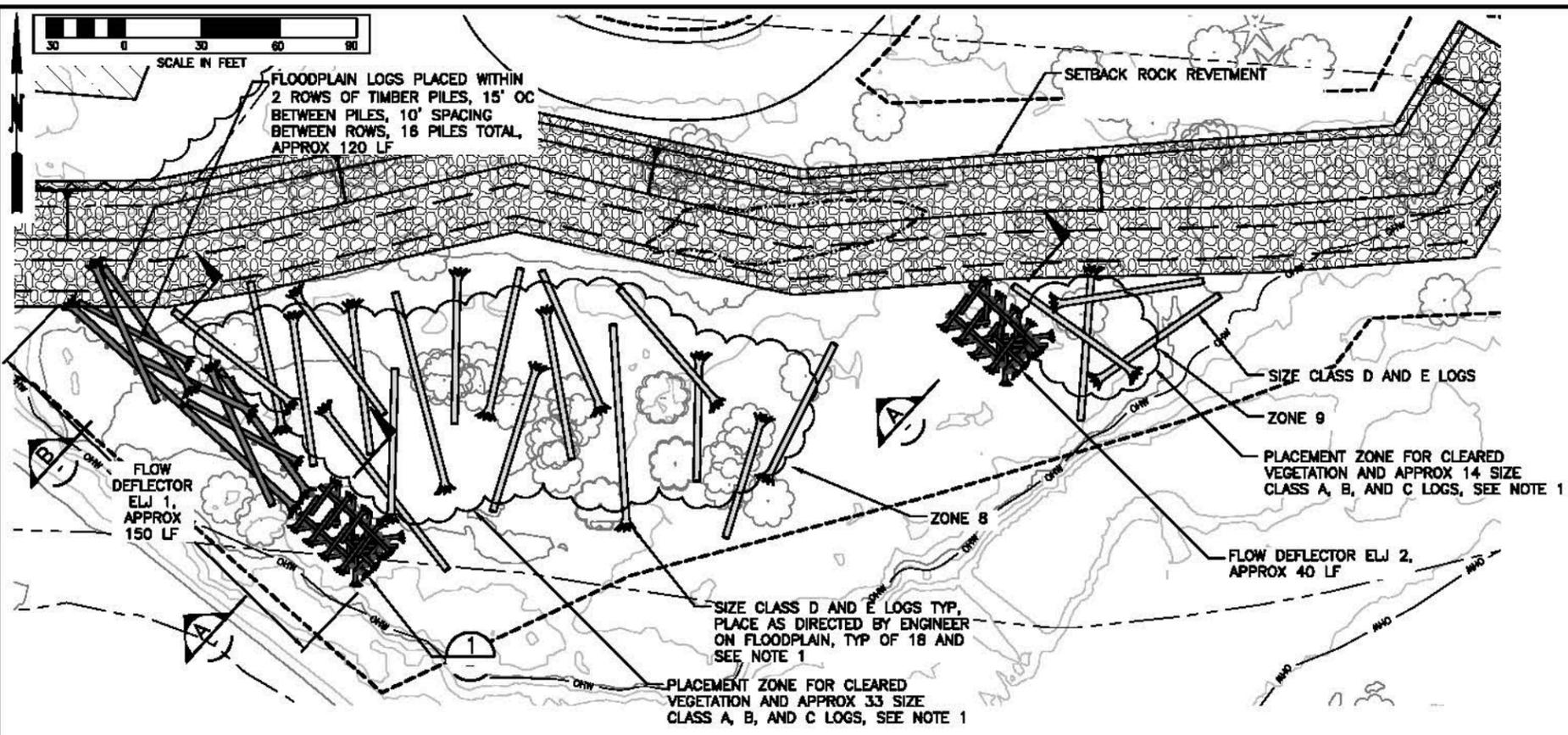
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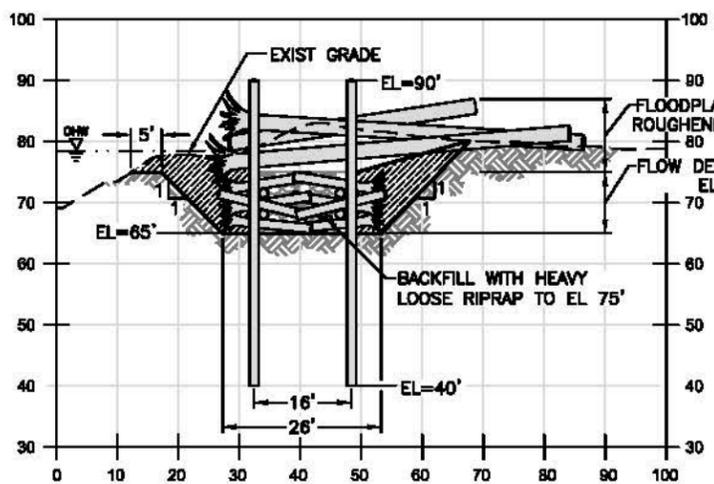
UPPER CARLSON FLOODPLAIN RESTORATION PROJECT
FLOODPLAIN LOG ROUGHENING DETAILS
SHEET 1 OF 2

SHEET 17 OF 28 SHEETS
2006-48

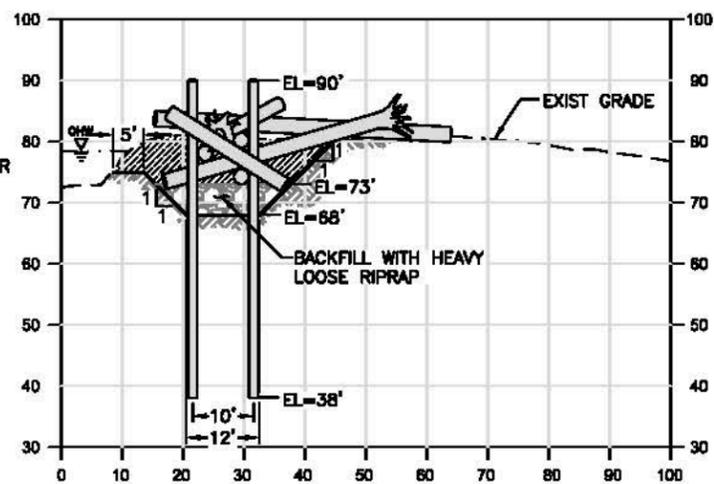


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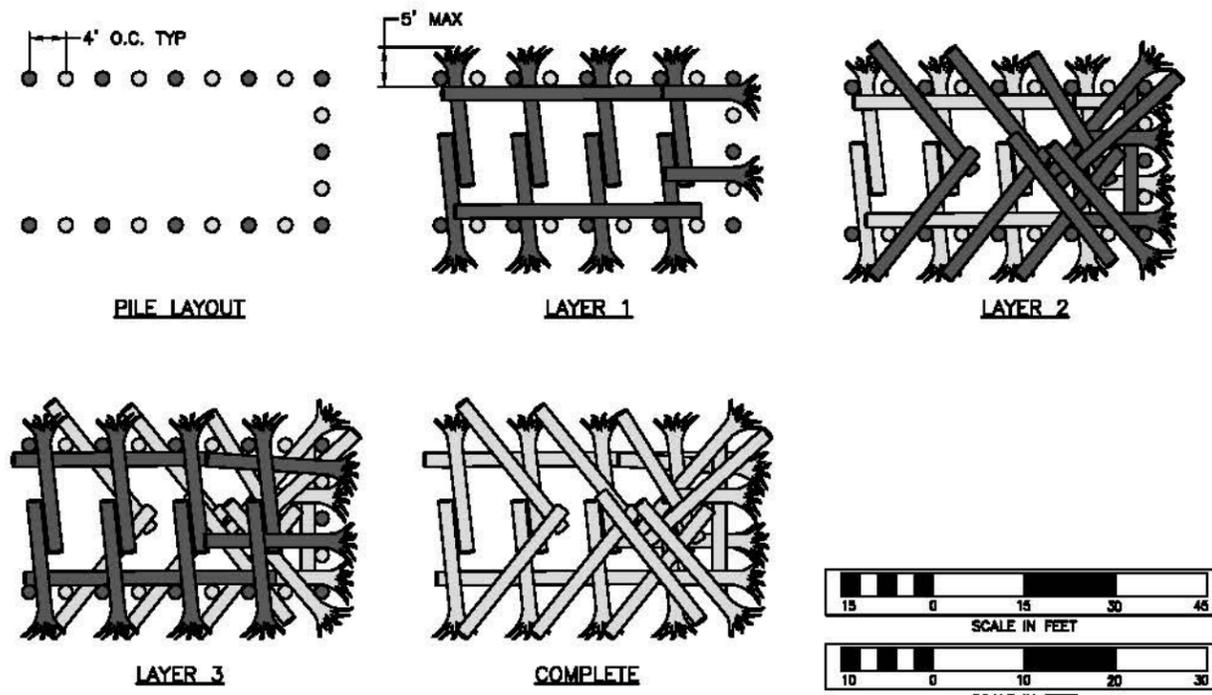
1. PLACE WOOD MATERIAL LOCALLY GENERATED FROM CONSTRUCTION ACTIVITIES AND SIZE CLASS A, B, C, D AND E LOGS THAT WERE NOT PLACED AMIDST LOG CLUSTERS SHOWN ON SHEET 17 WITHIN THE FLOODPLAIN LOG ROUGHENING ZONE AS DIRECTED BY ENGINEER. WOOD MATERIAL SMALLER THAN SIZE CLASS D AND E LOGS NOT SHOWN FOR CLARITY.



SECTION - FLOW DEFLECTOR ELJ (A)
SCALE: 1"=15' AT FULL SCALE



SECTION - FLOW DEFLECTOR ELJ (B)
SCALE: 1"=15' AT FULL SCALE



NOTE: ONLY PREVIOUS LAYER OF LOGS SHOWN ON EACH CURRENT LAYER. PREVIOUS LAYER LOGS ARE LIGHT. CURRENT LAYER LOGS ARE DARK.

DETAIL - FLOW DEFLECTOR ELJ 1 (1)
SCALE: 1"=10' AT FULL SCALE

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FIELD BOOK: _____	APPROVED: WILL MANSFIELD, P.E.	10-2013
SURVEYED: _____	PROJECT: _____	
SURVEY BASE MAP: _____	SUPERVISOR: DIANE CONCANNON	10-2013
CHECKED: I. MOSTRENKO (HERRERA)	PROJECT MANAGER: DAN EASTMAN	10-2013
NO: 2008-48	DESIGNED: B. SCOTT, I. MOSTRENKO P.E.	10-2013
PROJECT No. HERRERA: 10-04785-070	DESIGN ENTERED: T. PRESCOTT	10-2013
SURVEY No. _____		
NUM.	REVISION	BY DATE

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UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

FLOODPLAIN LOG ROUGHENING DETAILS
SHEET 2 OF 2

SHEET
18
OF
28
SHEETS
2006-48

**STORMWATER POLLUTION PREVENTION PLAN NOTES (SWPPP)
IN COMPLIANCE WITH THE STORMWATER MANAGEMENT MANUAL FOR PUGET SOUND (2001)**

MINIMUM REQUIREMENT #2 - CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

ELEMENT REQUIREMENTS	BEST MANAGEMENT PRACTICES - (BMP's)
ELEMENT #1 "DELINEATE CLEARING AND GRADING LIMITS"	(PRESERVE NATURAL VEGETATION; BUFFER ZONES; HIGH VISIBILITY FENCE) - SURVEY AND STAKE ALL "CUT & FILL" SLOPES. INDIVIDUAL TREES TO BE PRESERVED WITHIN THE CONSTRUCTION AREA SHALL BE MARKED.
ELEMENT #2 "ESTABLISH CONSTRUCTION ACCESS"	(STABILIZED CONSTRUCTION ENTRANCE, CONSTRUCTION ROAD STABILIZATION) - CONSTRUCTION VEHICLE ACCESS AND EXIT TO STAGING AREAS, STOCKPILING AND GRADED AREAS, SHALL BE LIMITED TO SEVEN DEFINED ACCESS POINTS DESIGNED TO ACCOMMODATE LARGE EQUIPMENT MANEUVERING. ACCESS POINTS SHALL TYPICALLY BE STABILIZED AND MAINTAINED WITH QUARRY SPALLS OR CRUSHED ROCK TO MINIMIZE THE TRANSPORT OF SEDIMENT ONTO PAVED SURFACES. WHEEL WASH OR TIRE BATHS SHOULD BE LOCATED ON SITE AS FEASIBLE AND APPLICABLE. SEDIMENT SHALL BE REMOVED FROM ROADWAYS BY SHOVELING OR PICKUP SWEEPING AND DEPOSITED IN A SEDIMENT DISPOSAL AREA. CONSTRUCTION ACCESS RESTORATION SHALL BE EQUAL TO OR BETTER THAN ITS PRE-CONSTRUCTION STATE.
ELEMENT #3 "CONTROL FLOW RATES"	(SEDIMENT TRAP; CHECK DAMS; INTERCEPTOR DIKE & SWALE) - DOWNSTREAM PROPERTIES AND WATERWAYS SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOWS FROM CONSTRUCTION SITE STORMWATER RUNOFF. TEMPORARY STORMWATER FACILITIES SHALL BE BUILT AND OPERATIONAL AS PART OF THE FIRST STAGE OF GRADING OPERATIONS.
ELEMENT #4 "INSTALL SEDIMENT CONTROLS"	(BRUSH BARRIER; GRAVEL FILTER BERM; COMPOST BERM; SILT FENCE; VEGETATED STRIP; STRAW WATTLES, COIR LOGS; SEDIMENT TRAP; SEDIMENT POND) - PRIOR TO THE RELEASE OF STORMWATER FROM DISTURBED AREAS DURING CONSTRUCTION WINDOW, IT SHALL PASS THROUGH A SEDIMENT POND, TRAP, BIOSWALE, SEDIMENT BAG OR OTHER APPROPRIATE SEDIMENT REMOVAL BMP.
ELEMENT #5 "STABILIZE SOILS"	(TEMPORARY & PERMANENT SEEDING; STRAW AND WOOD CHIP MULCHING; EROSION CONTROL BLANKETS, MATTING AND NETS); PLASTIC COVERING; SODDING; TOPSOILING; COMPOST; PAM'S; SURFACE ROUGHENING; GRADIENT TERRACES; DUST CONTROL) - DURING THE CONSTRUCTION WINDOW ALL DISTURBED AREAS NOT EXPECTED TO EXPERIENCE IMMEDIATE EROSION WILL BE STABILIZED AS DEEMED APPROPRIATE BY THE PROJECT ECOLOGIST.
ELEMENT #6 "PROTECT SLOPES"	(TEMPORARY & PERMANENT SEEDING; PRESERVE VEGETATION; PHASED GRADING; SURFACE ROUGHENING; EROSION CONTROL BLANKETS, MATTING & NETS; PLASTIC COVERING; GRADIENT TERRACES; INTERCEPTOR DIKE & SWALE; GRASS LINED CHANNELS; PIPE SLOPE DRAINS; SUBSURFACE DRAINS; LEVEL SPREADER; CHECK DAMS; TRIANGULAR SILT DIKE) - PHASE GRADING TO MINIMIZE EXPOSED CUT & FILL SLOPES; AND SURFACE ROUGHEN AND DIVERT UPSLOPE DRAINAGE AT TOP OF SLOPES AWAY FROM GRADING OPERATIONS.

ELEMENT REQUIREMENTS	BEST MANAGEMENT PRACTICES - (BMP's)
ELEMENT #7 "PROTECT DRAIN INLETS"	(STORMDRAIN INLET PROTECTION, INTERCEPTOR DIKE & SWALE) - NOT APPLICABLE. THERE ARE NO STORMWATER INLET DRAINS ONSITE OR IN VICINITY OF THE PROJECT.
ELEMENT #8 "STABILIZE CHANNELS AND OUTLETS"	(CHANNEL LINING; OUTLET PROTECTION; EROSION CONTROL BLANKETS, MATTING & NETS; SODDING AND/OR PERMANENT SEEDING) - NOT APPLICABLE. ALL WORKS AREAS ARE WITHIN THE ACTIVE FLOODWAY AND ARE ANTICIPATED TO BE ALTERED SIGNIFICANTLY FOLLOWING CONSTRUCTION DURING THE FIRST LARGE FLOOD EVENT.
ELEMENT #9 "CONTROL POLLUTANTS"	(CONCRETE HANDLING; SAWCUTTING AND SURFACE POLLUTION PREVENTION; FUGITIVE DUST CONTROL) - ALL POLLUTANTS INCLUDING WASTE MATERIALS, DEMOLITION DEBRIS WHEEL WASH WATER, SHALL BE HANDLED AND DISPOSED OF IN A MANNER TO PREVENT STORMWATER CONTAMINATION. COVER, CONTAINMENT AND PROTECTION FROM VANDALISM SHALL BE PROVIDED FOR ALL EQUIPMENT, CHEMICALS, LIQUID, PETROLEUM AND INERT WASTES.
ELEMENT #10 "CONTROL DE-WATERING"	(SEDIMENT TRAP; SEDIMENT BAG; SANITARY SEWER DISCHARGE W/ DISTRICT APPROVAL; TRANSPORT OFF SITE, VEGETATED FILTER STRIP; INFILTRATION) - FOUNDATION, VAULT, PILING, TRENCH DE-WATERING AND WHEEL WASH WATER SHALL BE DISCHARGED INTO A CONTROLLED CONVEYANCE SYSTEM PRIOR TO DISCHARGE TO A SEDIMENT POND. CLEAN, NON-TURBID DEWATERING WATER SUCH AS WELL-POINT SOURCEGROUND WATER, MAY BE DISCHARGED TO VEGETATED FILTER STRIPS OR TRIBUTARIES, PROVIDED THE DE-WATERING FLOW DOES NOT CAUSE EROSION OR FLOODING OF RECEIVING WATERS. CLEAN WATERS, SHOULD NOT BE ROUTED THROUGH STORMWATER SEDIMENT POND. ACCEPTABLE DISPOSAL OPTIONS INCLUDE INFILTRATION, OFFSITE TRANSPORT, SANITARY SEWER DISCHARGE WITH DISTRICT APPROVAL, SEDIMENTATION BAG WITH OUTFALL TO VEGETATED DITCH OR SWALE FOR SMALL VOLUMES OF LOCALIZED DE-WATERING. ON SITE CHEMICAL TREATMENT OR OTHER SUITABLE TECHNOLOGIES AS D.O.E. APPROVED
ELEMENT #11 "MAINTAIN BMP'S"	TEMPORARY AND PERMANENT TESC AND POLLUTANT BMP'S SHALL BE INSTALLED PER THE PROJECT PLANS, SPECIFICATIONS AND CONTRACTING AGENCY DIRECTION. THEY SHALL BE "MAINTAINED & REPAIRED" AS NEEDED TO ENSURE THEIR CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. SEDIMENT CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER A RUNOFF PRODUCING STORM EVENT DURING THE DRY SEASON AND DAILY DURING THE WET SEASON. BMP'S SHALL ONLY BE REMOVED 30 DAYS AFTER THE FINAL SITE STABILIZATION IS ACHIEVED AS DIRECTED BY THE CONTRACTING AGENCY. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. A PROJECT RECORD OR LOG SHALL BE KEPT OF ALL BMP MEASURES IMPLEMENTED WITH DATES OF INSTALLATION, MAINTENANCE, STORM EVENTS, REQUIRED WATER QUALITY SAMPLING, REPAIR AND ACTION TAKEN TO PREVENT AND/OR CORRECT IMPACTS.
ELEMENT #12 "MANAGE THE PROJECT"	(PHASE CONSTRUCTION; SEASONAL WORK LIMITATIONS) - (CONSTRUCTION SHALL BE PHASED WHERE FEASIBLE TO THE MAXIMUM EXTENT PRACTICABLE, THE TRANSPORT OF SEDIMENT FROM CLEARING & GRUBBING AND GRADING OPERATIONS.) STABILIZATION AND MAINTENANCE SHALL BE AN INTEGRAL PART OF EACH CONSTRUCTION PHASE. THE CONTRACTING AGENCY MAY IMPOSE SEASONAL LIMITATIONS DURING THE WET SEASON (OCTOBER 1 - APRIL 30) ON CLEARING, GRUBBING AND GRADING OPERATIONS BASED ON SOILS, SLOPES VEGETATIVE COVER, WEATHER, ETC. TO PREVENT THE TRANSPORT OF SEDIMENT FROM THE CONSTRUCTION SITE TO RECEIVING WATERS. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL DESIGNATE THEIR CERTIFIED EROSION & SEDIMENT CONTROL PROFESSIONAL(S) WHOM SHALL BE ON-SITE OR, ON CALL AT ALL TIMES WITH AUTHORITY TO TAKE QUICK ACTION TO CORRECT AND/OR IMPLEMENT EFFECTIVE BMP'S. WHENEVER INSPECTION, MONITORING AND SAMPLING REVEALS THAT BMP'S IDENTIFIED IN THE SWPPP ARE INADEQUATE, DUE TO THE ACTUAL OR POTENTIAL DISCHARGE OF SIGNIFICANT AMOUNTS OF ANY POLLUTANT, THE SWPPP SHALL BE MODIFIED AS DIRECTED BY THE CONTRACTING AGENCY. THE SWPPP SHALL BE RETAINED ON-SITE AND MODIFIED AND DOCUMENTED WHENEVER THERE IS A SIGNIFICANT CHANGE IN THE PROJECT DESIGN, CONSTRUCTION, OPERATION OR MAINTENANCE OF ANY BMP.

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User: Todd Prescott

FIELD BOOK: _____	APPROVED: WILL MANSFIELD, P.E.	10-2013
SURVEYED: _____	PROJECT SUPERVISOR: DIANE CONCANNON	10-2013
SURVEY BASE MAP: _____	PROJECT MANAGER: DAN EASTMAN	10-2013
CHECKED: I. MOSTRENKO (HERRERA) 10/28/2013	DESIGNER: T. HURLEY, L.E.G.	10-2013
PROJECT No. HERRERA: 10-04785-070	DESIGNER: D. EASTMAN	10-2013
SURVEY No. _____	DESIGN ENTERED: T. PRESCOTT	10-2013
NUM. _____	REVISION _____	BY _____
DATE _____		

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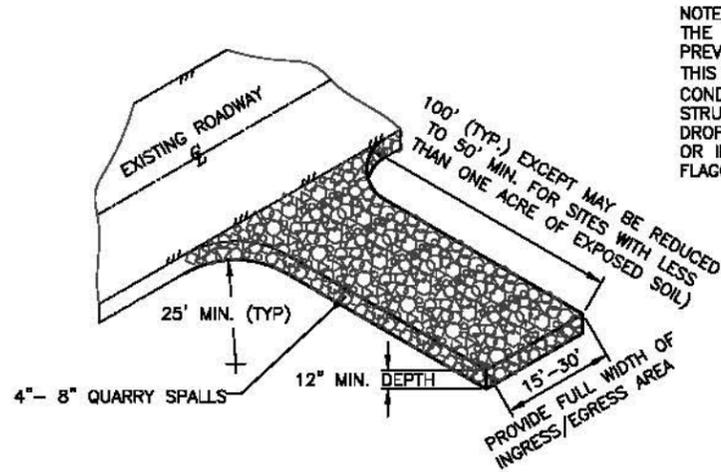
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**UPPER CARLBON FLOODPLAIN
RESTORATION PROJECT**

**STORMWATER POLLUTION PREVENTION
PLAN (SWPPP) NOTES**

SHEET
19
OF
28
SHEETS
2006-48

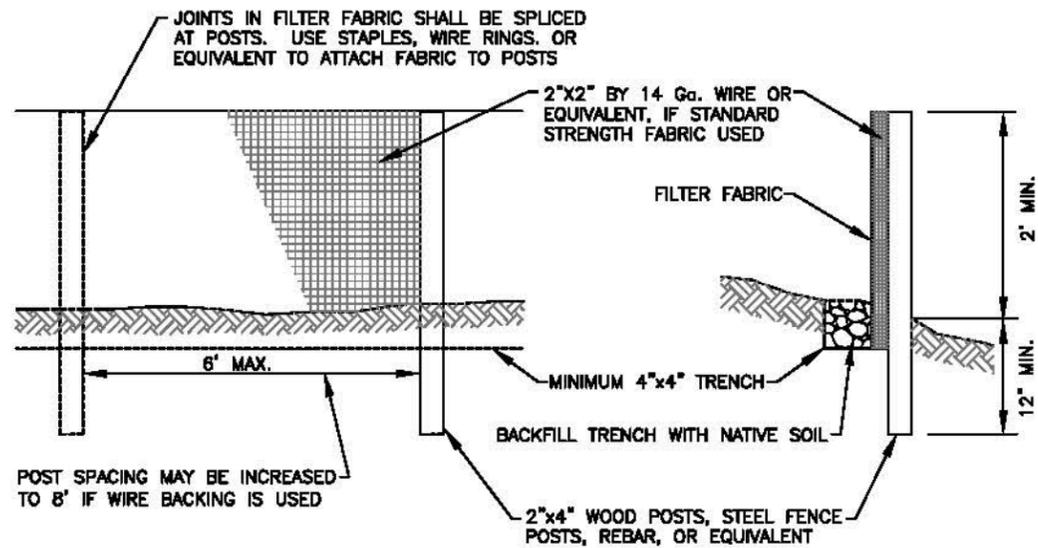


NOTE:
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2" STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEAN-OUT OF ANY STRUCTURES USE TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. PROVIDE FLAGGING FOR CONSTRUCTION VEHICLES ENTERING AND LEAVING SITE.

STABILIZED CONSTRUCTION ENTRANCE

NTS

1

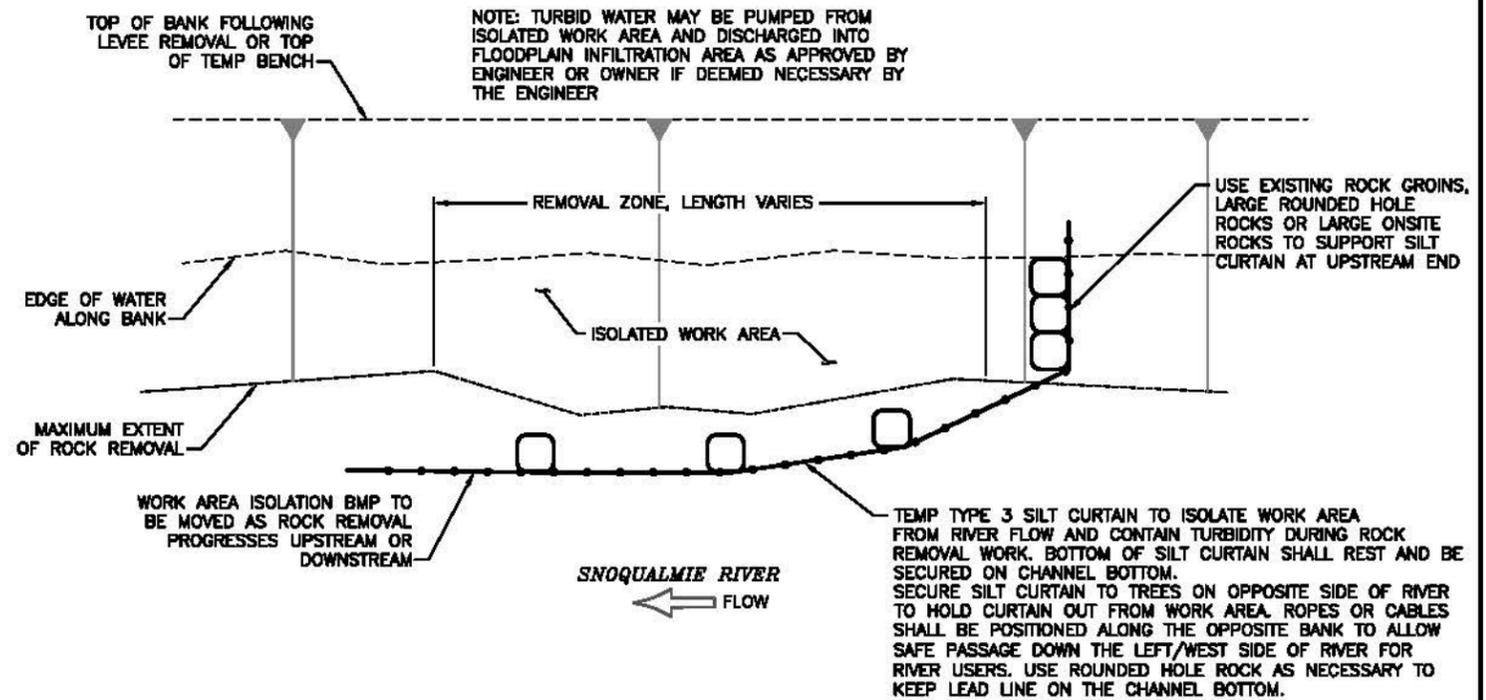


SILT FENCE DETAIL

NTS

2

1. MAXIMIZE DETENTION OF STORMWATER BY PLACING FENCE AS FAR AWAY FROM TOE OF SLOPE AS POSSIBLE WITHOUT ENCRANCHING ON SENSITIVE AREAS OR OUTSIDE OF THE CLEARING BOUNDARIES.
2. INSTALL SILT FENCING ALONG CONTOURS WHENEVER POSSIBLE.
3. INSTALL THE ENDS OF THE SILT FENCE TO POINT SLIGHTLY UP-SLOPE TO PREVENT SEDIMENT FROM FLOWING AROUND THE ENDS OF THE FENCE.
4. PERFORM MAINTENANCE IN ACCORDANCE WITH STANDARD SPECIFICATIONS 8.01.3(9)A AND 8.01.3(15).



DETAIL - LEVEE ROCK REMOVAL AREA ISOLATION CONCEPT SCHEMATIC

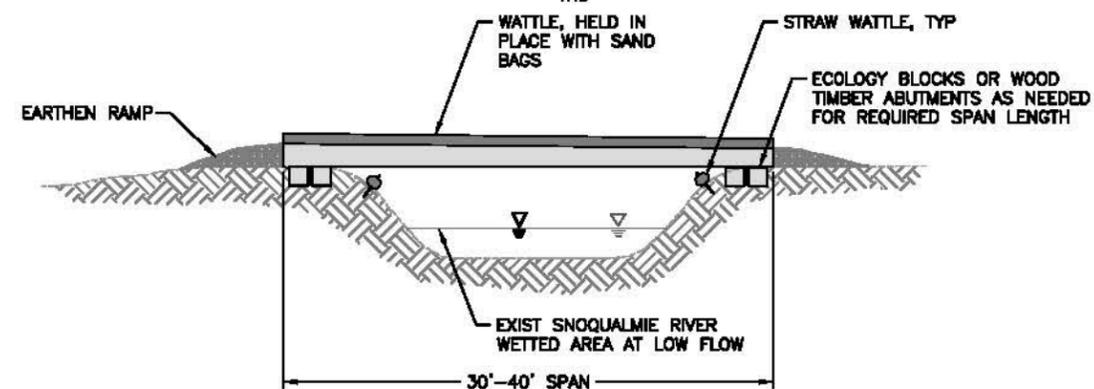
SNOQUALMIE RIVER
← FLOW

NOTE: TURBID WATER MAY BE PUMPED FROM ISOLATED WORK AREA AND DISCHARGED INTO FLOODPLAIN INFILTRATION AREA AS APPROVED BY ENGINEER OR OWNER IF DEEMED NECESSARY BY THE ENGINEER

USE EXISTING ROCK GROINS, LARGE ROUNDED HOLE ROCKS OR LARGE ONSITE ROCKS TO SUPPORT SILT CURTAIN AT UPSTREAM END

TEMP TYPE 3 SILT CURTAIN TO ISOLATE WORK AREA FROM RIVER FLOW AND CONTAIN TURBIDITY DURING ROCK REMOVAL WORK. BOTTOM OF SILT CURTAIN SHALL REST AND BE SECURED ON CHANNEL BOTTOM. SECURE SILT CURTAIN TO TREES ON OPPOSITE SIDE OF RIVER TO HOLD CURTAIN OUT FROM WORK AREA. ROPES OR CABLES SHALL BE POSITIONED ALONG THE OPPOSITE BANK TO ALLOW SAFE PASSAGE DOWN THE LEFT/WEST SIDE OF RIVER FOR RIVER USERS. USE ROUNDED HOLE ROCK AS NECESSARY TO KEEP LEAD LINE ON THE CHANNEL BOTTOM.

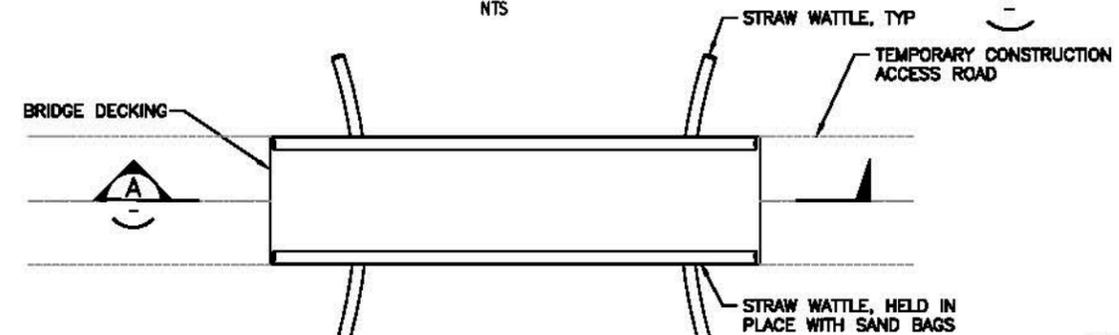
3



SECTION - TEMPORARY BRIDGE FOR WETTED AREA CROSSING

NTS

A



DETAIL - TEMPORARY BRIDGE FOR WETTED AREA CROSSING

NTS

4

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

File: C:\proj\2016\16-04785-070\CAD\DWG\2009-48_S122_KC.dwg
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User: T. Prescott

FIELD BOOK:				APPROVED: WILL MANSFIELD, P.E.	10-2013
SURVEYED:				PROJECT SUPERVISOR: DIANE CONCANNON	10-2013
SURVEY BASE MAP:				PROJECT MANAGER: DAN EASTMAN	10-2013
CHECKED: I. MOSTRINO (HERRERA)	10/28/2013			DESIGNER: T. HURLEY, L.E.G.	10-2013
PROJECT No. HERRERA: 16-04785-070				DESIGNER: D. EASTMAN	10-2013
SURVEY No.				DESIGN ENTERED: T. PRESCOTT	10-2013
NUM.	REVISION	BY	DATE		

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Ecological Restoration and Engineering Services

Christie Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

TEBC AND WATER MANAGEMENT DETAILS

SHEET 22 OF 28 SHEETS
2006-48

I:\2006-48 Carlson Levee\DWG\006-48_SHT23_PLANT.dwg, PLANT, 10/30/2013 11:36:18 AM, Mkitamura, 1:2

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Plot Date: 10/30/2013 11:36 AM
Cad User: Kitanura, Kay

FIELD BOOK:				
SURVEYED:				
SURVEY BASE MAP:				
CHECKED: I. MOSTRENKO (HERRERA)	10/28/2013			
PROJECT No.	KC: 2006-48 HERRERA: 10-04765-070			
SURVEY No.				
NUM.	REVISION	BY	DATE	

APPROVED: WILL MANSFIELD, P.E.	10-2013
PROJECT SUPERVISOR: DIANE CONCANNON	10-2013
PROJECT MANAGER: DAN EASTMAN	10-2013
DESIGNED: CINDY YOUNG	10-2013
DESIGN ENTERED: KAY KITAMURA	10-2013

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CONSTRUCTION



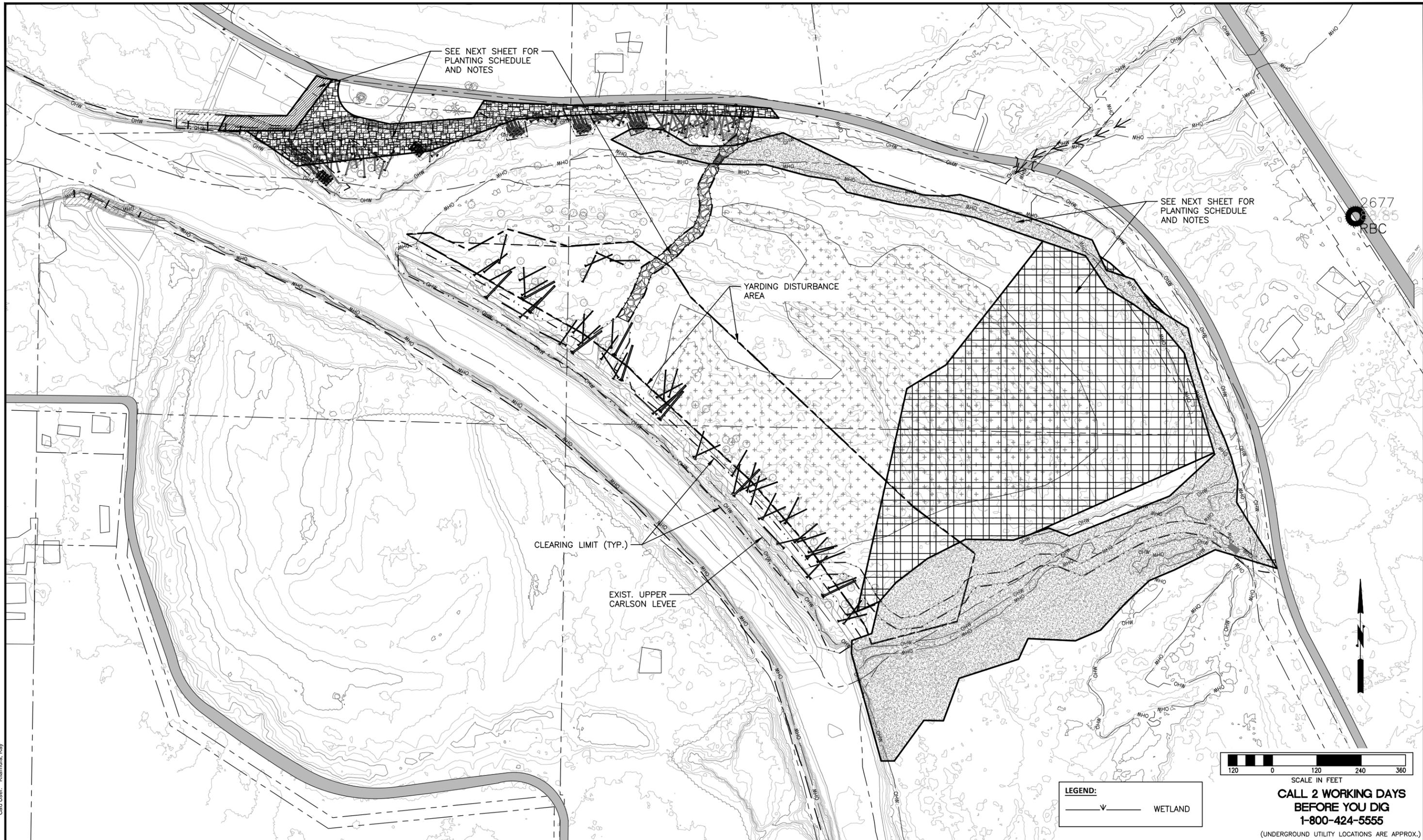
King County
Department of Natural Resources and Parks
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Rural and Regional Services Section
Ecological Restoration and Engineering Services

Christie True, Director

**UPPER CARLSON FLOODPLAIN
RESTORATION PROJECT**

**PLANTING AND COTTONWOOD FLOOD FENCE
SITE PLAN AND DETAILS**

SHEET
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OF
28
SHEETS
2006-48



PLANTING SCHEDULE:

	Carlson Field					
	Common name	Scientific name	Condition	Quantity	Spacing	
	Black Cottonwood	<i>Populus balsamifera</i>	3-4" dia., 6 feet tall	400	3' O.C.	
	Black Cottonwood	<i>Populus balsamifera</i>	1-2" dia., 6 feet tall	1,200	3' O.C.	
	Total			1,600		
	Construction Area					
	Common name	Scientific name	Condition	Quantity	Spacing	
	Western red cedar	<i>Thuja plicata</i>	1 gallon	500	8' O.C.	
	Douglas fir	<i>Pseudotsuga menziesii</i>	1 gallon	100	8' O.C.	
	Red alder	<i>Alnus rubra</i>	1 gallon	200	5' O.C.	
	Black Cottonwood	<i>Populus balsamifera</i>	1 gal, stakes or BR	200	5' O.C.	
	Oregon ash	<i>Fraxinus latifolia</i>	1 gallon	500	8' O.C.	
	Snowberry	<i>Symphoricarpos alba</i>	1 gal, BR or salvaged	500	5' O.C.	
	Thimbleberry	<i>Rubus parviflorus</i>	1 gal, BR or salvaged	500	5' O.C.	
	Salmonberry	<i>Rubus spectabilis</i>	1 gal, BR or salvaged	500	5' O.C.	
	Total			3,000		
		Conifer Underplanting				
		Common name	Scientific name	Condition	Quantity	Spacing
Western Red Cedar		<i>Thuja plicata</i>	BR	4,000	8' O.C.	
Sitka spruce		<i>Picea sitchensis</i>	BR	2,000	8' O.C.	
Douglas fir		<i>Pseudotsuga menziesii</i>	BR	2,000	8' O.C.	
Total			8,000			
	Construction Access Road					
	Common name	Scientific name	Condition	Quantity	Spacing	
	Western red cedar	<i>Thuja plicata</i>	1 gallon	300	8' O.C.	
	Red alder	<i>Alnus rubra</i>	1gallon	400	5' O.C.	
	Black cottonwood	<i>Populus balsamifera</i>	Stakes	400	5' O.C.	
Total			1,100			
	Side Channel					
	Common name	Scientific name	Condition	Quantity	Spacing	
	Red alder	<i>Alnus rubra</i>	1 gallon	4,000	5' O.C.	
	Black Cottonwood	<i>Populus balsamifera</i>	Stakes	4,000	5' O.C.	
	Willow species	<i>Salix spp.</i>	Stakes	4,000	1-3' O.C.	
	Oregon Ash	<i>Fraxinus latifolia</i>	1 gallon	300	5' O.C.	
	Twinberry	<i>Lonicera involucrata</i>	1 gallon	100	5' O.C.	
	Pacific ninebark	<i>Physocarpus capitatus</i>	1 gallon	100	5' O.C.	
	Red Twig dogwood	<i>Cornus sericea</i>	1 gallon	100	5' O.C.	
	Total			12,600		

NOTES:

1. PLANTS WILL BE INSTALLED BETWEEN NOVEMBER 2014 AND MARCH 2015.
2. PLANTS WILL BE MAINTAINED FOR THREE GROWING SEASONS.
3. KNOTWEED WILL BE TREATED WITH HERBICIDE FOR THREE GROWING SEASONS.

CALL 2 WORKING DAYS
BEFORE YOU DIG
1-800-424-5555

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

Path: I:\2006-48 Carlson Levee\DWG\006-48_SHT24_PLANT-DET.dwg
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Cad User: Kltamura, Kay

FIELD BOOK: _____				APPROVED: WILL MANSFIELD, P.E.	10-2013
SURVEYED: _____				PROJECT	
SURVEY BASE MAP: _____				SUPERVISOR: DAN BROWN	10-2013
CHECKED: I. MOSTRENKO (HERRERA) 10/28/2013				PROJECT MANAGER: DAN EASTMAN	10-2013
KC: 2006-48				DESIGNED: BINBOTOJUNMOSTRENKO P.E.	10-2013
PROJECT No. HERRERA: 10-04765-070				DESIGN ENTERED: KAYPREMORA	10-2013
SURVEY No. _____	NUM.	REVISION	BY	DATE	

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Department of Natural Resources and Parks
Water and Land Resources Division
Rural and Regional Services Section
Ecological Restoration and Engineering Services

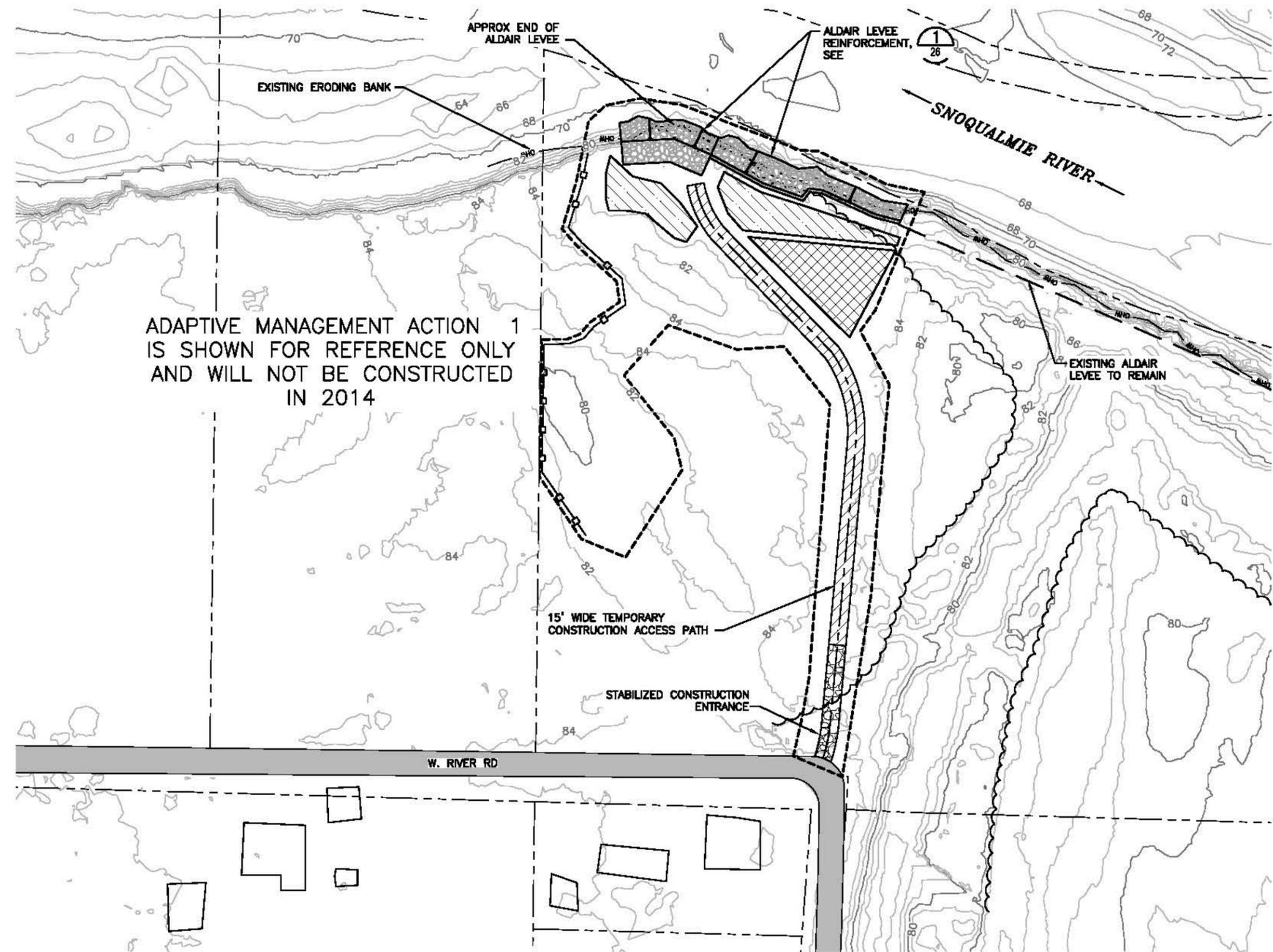
Christie True, Director

**UPPER CARLSON FLOODPLAIN
RESTORATION PROJECT**

PLANTING SCHEDULE AND DETAILS

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OF
28
SHEETS

2006-48



LEGEND

- PROJECT CONSTRUCTION LIMITS
- TEMPORARY CONSTRUCTION ACCESS ROAD
- CONSTRUCTION MATERIAL STOCKPILE AREA
- EQUIPMENT STAGING AREA
- STABILIZED CONSTRUCTION ENTRANCE
- RIPRAP PLACEMENT ZONE FOR ALDAIR LEVEE REINFORCEMENT
- TEMPORARY CONSTRUCTION FENCE
- ORDINARY HIGH WATER LINE

NOTES:

1. PROJECT CONSTRUCTION LIMITS, TEMPORARY CONSTRUCTION ACCESS ROADS, STOCKPILE AREAS, AND STAGING AREAS SHOWN ARE APPROXIMATE, WILL BE FINALIZED DURING THE FINAL DESIGN PHASE OF THE PROJECT, AND WILL BE LOCATED TO MINIMIZE DISTURBANCE TO EXISTING PROPERTY AND VEGETATION SUBJECT TO LANDOWNER NEGOTIATION.
2. WORK AREA WILL BE RESTORED TO EXISTING CONDITIONS FOLLOWING COMPLETION OF STRUCTURES. WORK AREA TO BE PLANTED WITH NATIVE VEGETATION BY OWNER FOLLOWING CONTRACTOR DEMOBILIZATION SUBJECT TO LANDOWNER NEGOTIATION.

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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 Cad User: Todd Prescott

FIELD BOOK: _____			
SURVEYED: _____			
SURVEY BASE MAP: _____			
CHECKED: I. MOSTRENKO (HERRERA) 10/28/2013			
PROJECT No. HERRERA: 10-04785-070			
SURVEY No. _____			
NUM.	REVISION	BY	DATE

APPROVED: WILL MANSFIELD, P.E.	10-2013
PROJECT SUPERVISOR: DIANE CONCANNON	10-2013
PROJECT MANAGER: DAN EASTMAN	10-2013
DESIGNED: B. SCOTT, I. MOSTRENKO, P.E.	10-2013
DESIGN ENTERED: T. PRESCOTT	10-2013

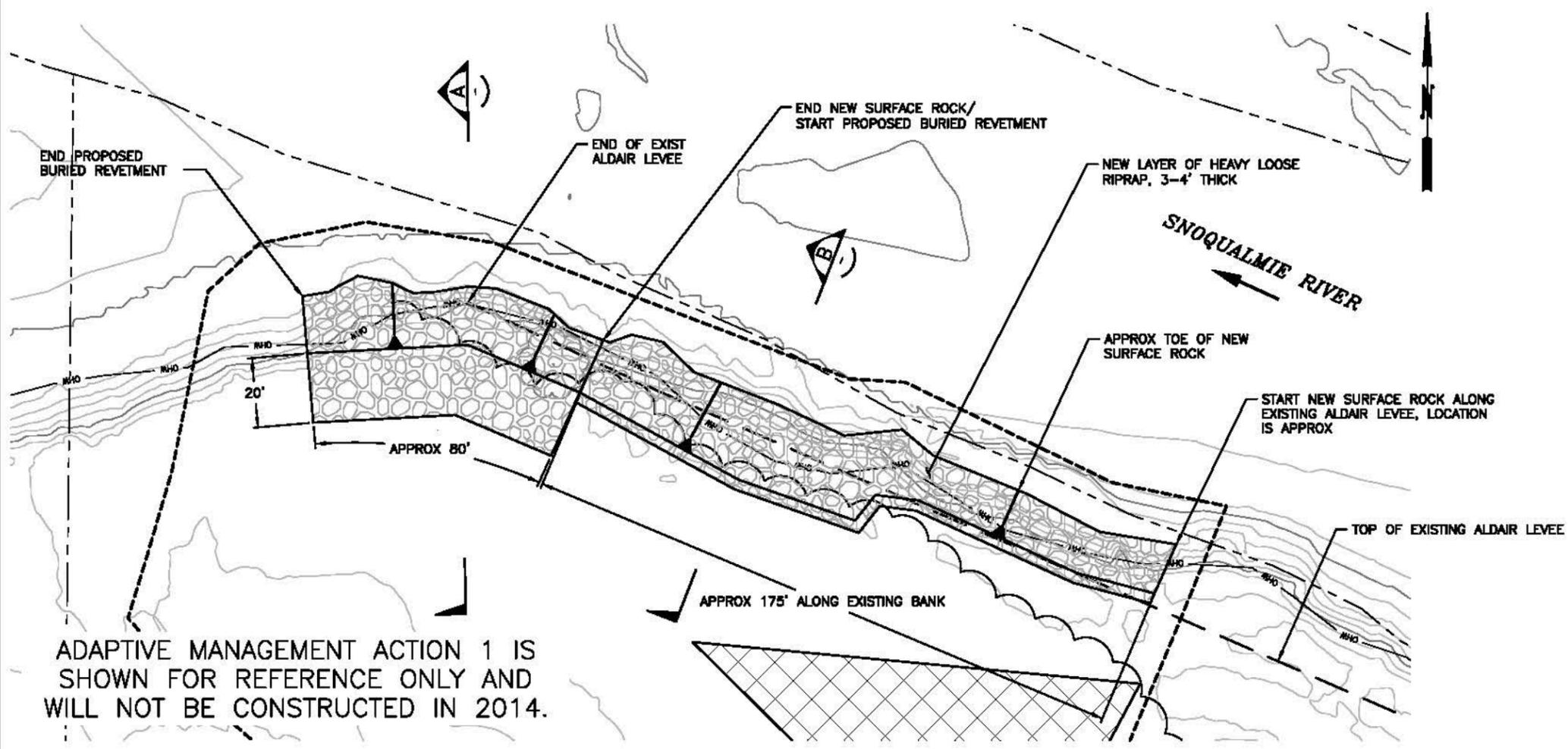
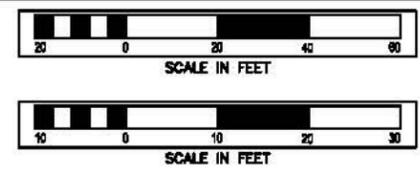
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 Christa Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT
 ADAPTIVE MANAGEMENT ACTION 1
 ALDAIR LEVEE REINFORCEMENT SITE PLAN

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 OF
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2006-48

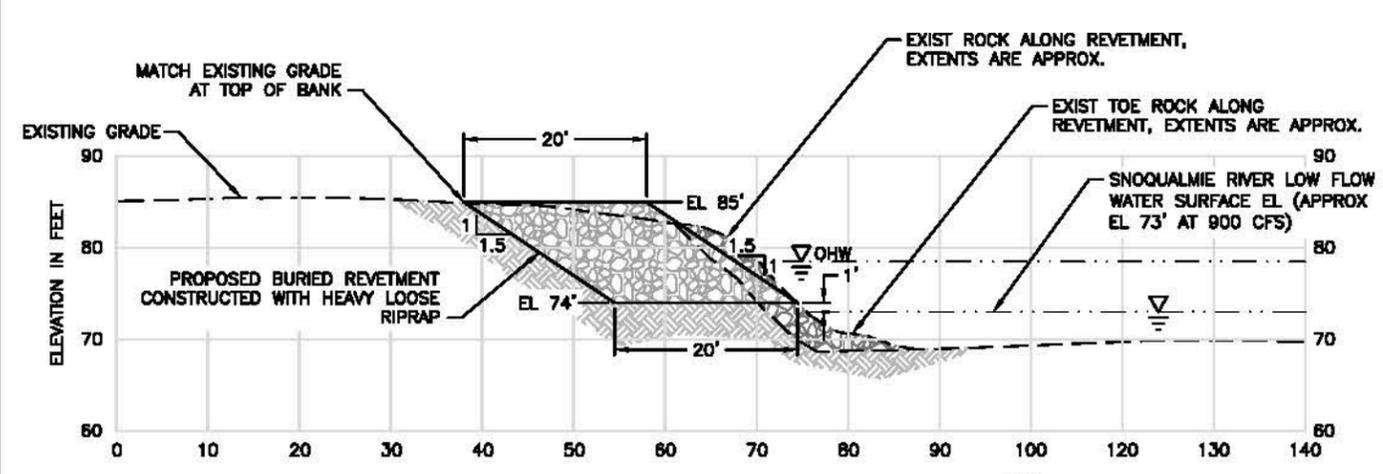


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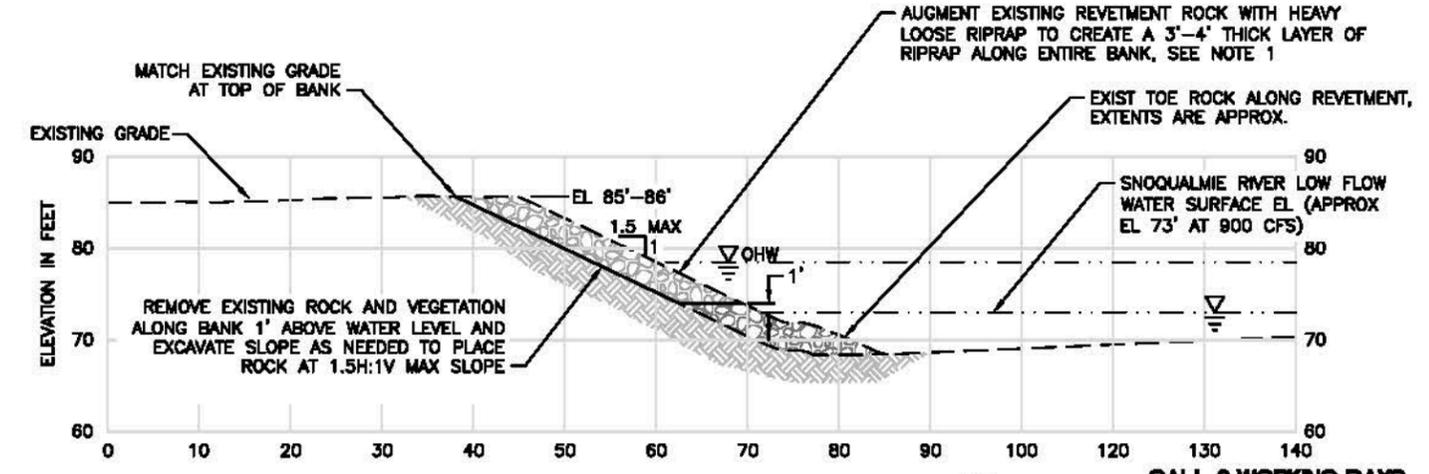
- ALDAIR LEVEE REINFORCEMENT WORK SHALL OCCUR IN THE DRY. EXCAVATIONS ALONG EXISTING REVETMENT SHALL BE 1 FT ABOVE THE WATER LEVEL AT THE TIME OF CONSTRUCTION TO AVOID RIVER WATER INTRUSION INTO EXCAVATION PIT.
- REMOVE EXIST ROCK ALONG DOWNSTREAM MOST 40 FT OF LEVEE TO CONSTRUCT BURIED REVETMENT. USE EXIST AND IMPORTED ROCK TO CONSTRUCT REVETMENT.
- REMOVE EXIST TREE WITHIN FOOTPRINT OF NEW BURIED REVETMENT.

ADAPTIVE MANAGEMENT ACTION 1 IS SHOWN FOR REFERENCE ONLY AND WILL NOT BE CONSTRUCTED IN 2014.

PLAN - ALDAIR LEVEE REINFORCEMENT (1/25)
SCALE: 1"=20' AT FULL SCALE



SECTION - ALDAIR LEVEE REINFORCEMENT (A)
SCALE: 1"=10' AT FULL SCALE



SECTION - ALDAIR LEVEE REINFORCEMENT (B)
SCALE: 1"=10' AT FULL SCALE

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

Path: C:\proj\2013\10-04785-070\CADD\dwg\2009-48_S128.dwg
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 User: Todd Prescott

FIELD BOOK:			
SURVEYED:			
SURVEY BASE MAP:			
CHECKED: I. MOSTRENKO (HERRERA)	10/28/2013		
PROJECT No. HERRERA: 10-04785-070			
SURVEY No.:			
NUM.	REVISION	BY	DATE

APPROVED: WILL MANSFIELD, P.E.	10-2013
SUPERVISOR: DIANE CONCANNON	10-2013
PROJECT MANAGER: DAN EASTMAN	10-2013
DESIGNED: B. SCOTT, I. MOSTRENKO P.E.	10-2013
DESIGN ENTERED: T. PRESCOTT	10-2013

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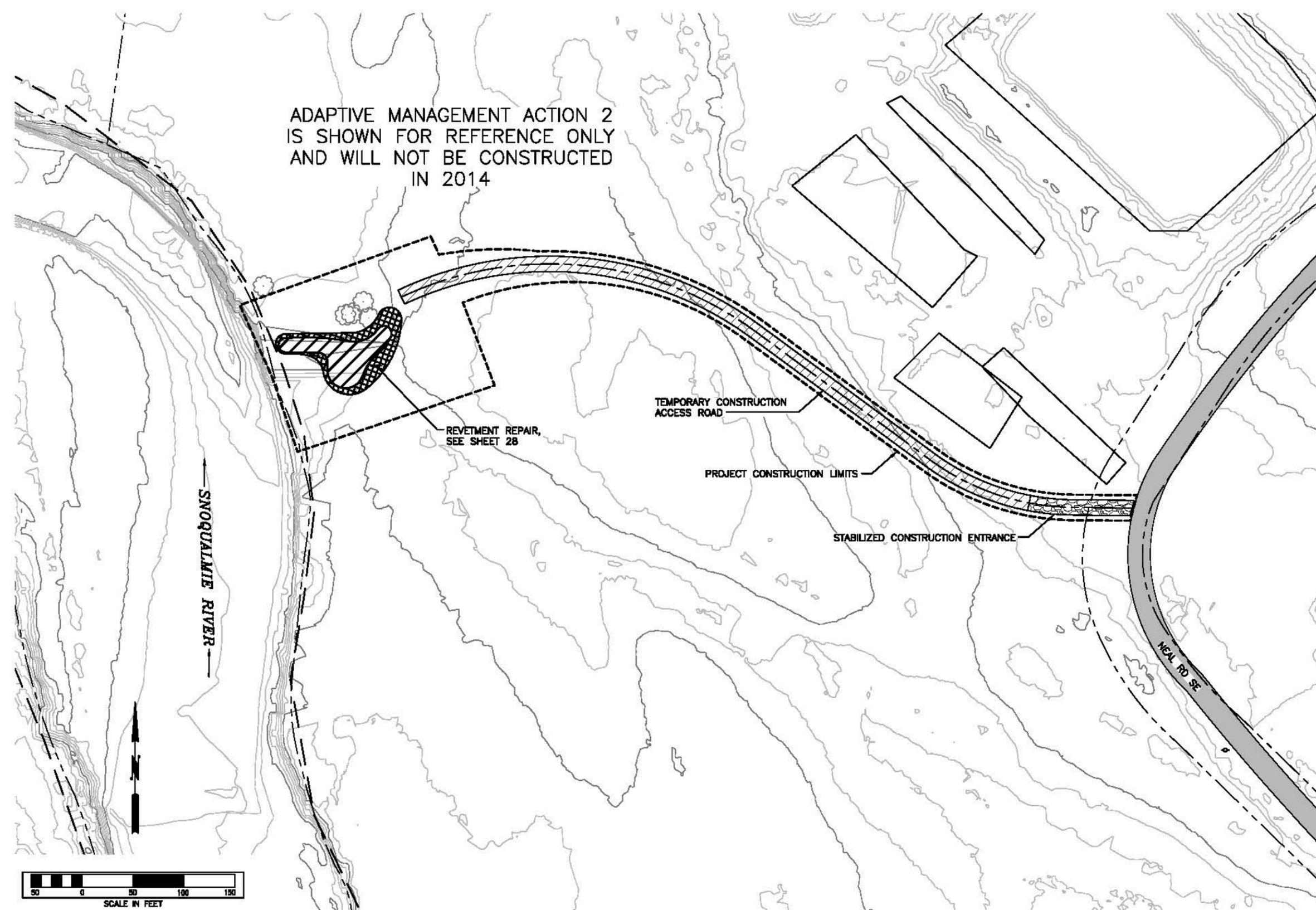


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Christie Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT
ADAPTIVE MANAGEMENT ACTION 1 CROSS SECTIONS

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OF
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SHEETS
2006-48

ADAPTIVE MANAGEMENT ACTION 2
IS SHOWN FOR REFERENCE ONLY
AND WILL NOT BE CONSTRUCTED
IN 2014



CALL 2 WORKING DAYS
BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

File: C:\p\2011\10-04785-070\CAD\dwg\2009-48_S127.dwg
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 Cad User: Todd Prescott

FIELD BOOK:			
SURVEYED:			
SURVEY BASE MAP:			
CHECKED: I. MOSTRENKO (HERRERA)	10/28/2013		
PROJECT No.:	NO: 2006-48 HERRERA: 10-04785-070		
SURVEY No.:			
NUM.	REVISION	BY	DATE

APPROVED: WILL MANSFIELD, P.E.	10-2013
PROJECT SUPERVISOR: DIANE CONCANNON	10-2013
PROJECT MANAGER: DAN EASTMAN	10-2013
DESIGNED: B. SCOTT, I. MOSTRENKO P.E.	10-2013
DESIGN ENTERED: T. PRESCOTT	10-2013

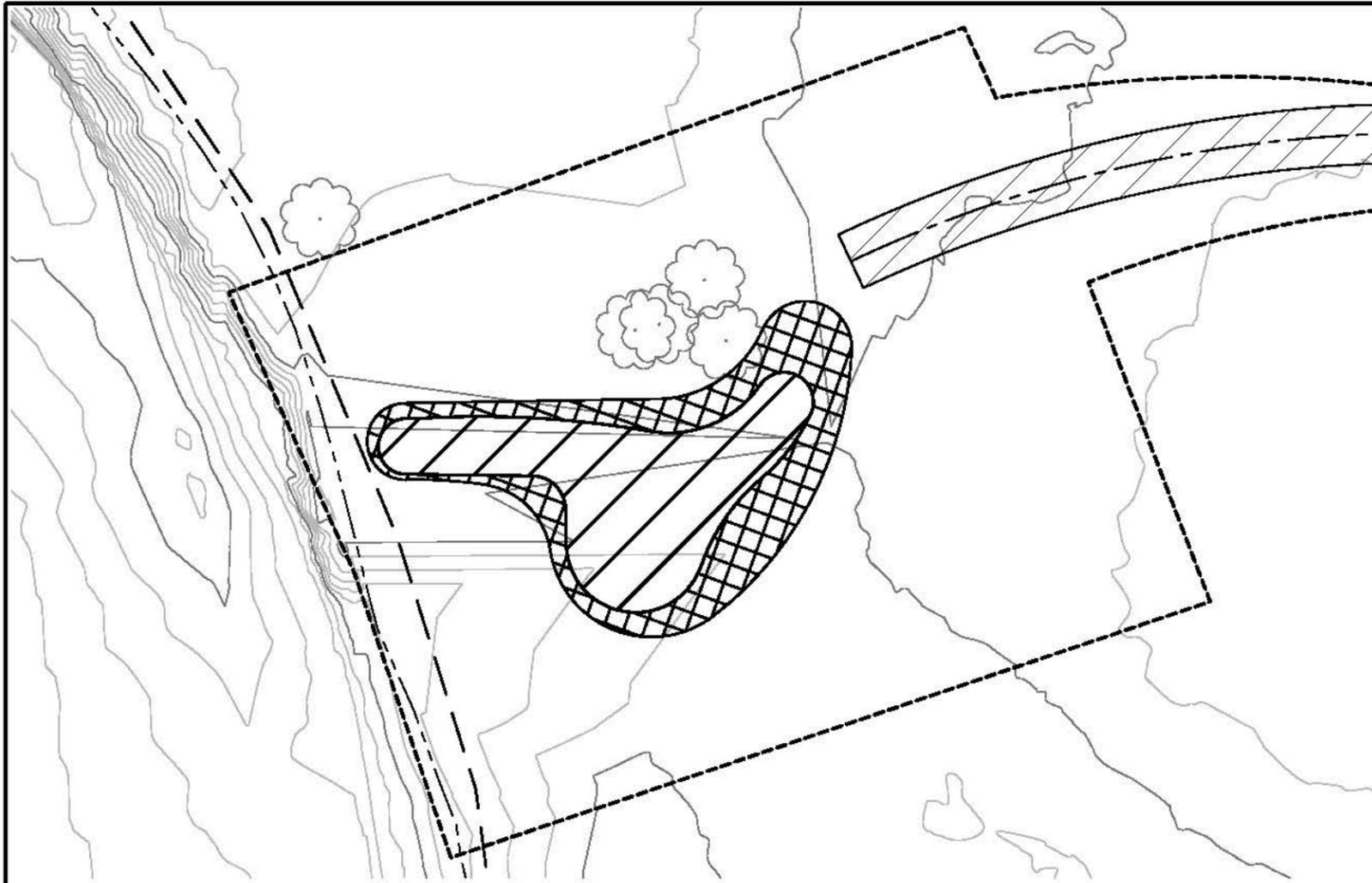
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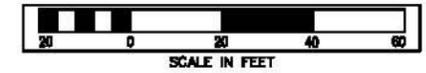
King County
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 Christie Trus, Director

**UPPER CARLSON FLOODPLAIN
RESTORATION PROJECT**
 ADAPTIVE MANAGEMENT ACTION 2 - LOWER
 CARLSON REVIEMENT REPAIR SITE PLAN

SHEET
27
OF
28
SHEETS
2006-48



ADAPTIVE MANAGEMENT ACTION 2
IS SHOWN FOR REFERENCE ONLY
AND WILL NOT BE CONSTRUCTED
IN 2014



NOTES:

1. REMOVE 1 FOOT OF TOPSOIL FROM DISTURBANCE AREA SHOWN AND PLACE RIPRAP TO DEPTH SHOWN.
2. PLACE 1 FOOT OF TOP SOIL TYPE B OVER RIPRAP

LEGEND

- PROJECT CONSTRUCTION LIMITS
- TEMPORARY CONSTRUCTION ACCESS ROAD
- 1 FOOT DEPTH OF LIGHT LOOSE RIPRAP
- 3 FEET DEPTH OF LIGHT LOOSE RIPRAP

CALL 2 WORKING DAYS
BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

Path: C:\p\2013\10-04785-070\CAD\dwg\2009-48_SH28.dwg
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SURVEYED: _____			
SURVEY BASE MAP: _____			
CHECKED: I. MOSTRENKO (HERRERA) 10/28/2013			
PROJECT No. HERRERA: 10-04785-070			
SURVEY No. _____			
NUM.	REVISION	BY	DATE

APPROVED: WILL MANSFIELD, P.E.	10-2013
PROJECT SUPERVISOR: DIANE CONCANNON	10-2013
PROJECT MANAGER: DAN EASTMAN	10-2013
DESIGNED: B. SCOTT, I. MOSTRENKO, P.E.	10-2013
DESIGN ENTERED: T. PRESCOTT	10-2013

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**UPPER CARLSON FLOODPLAIN
RESTORATION PROJECT**
 ADAPTIVE MANAGEMENT ACTION 2 DETAILS

SHEET
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OF
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SHEETS
2006-48