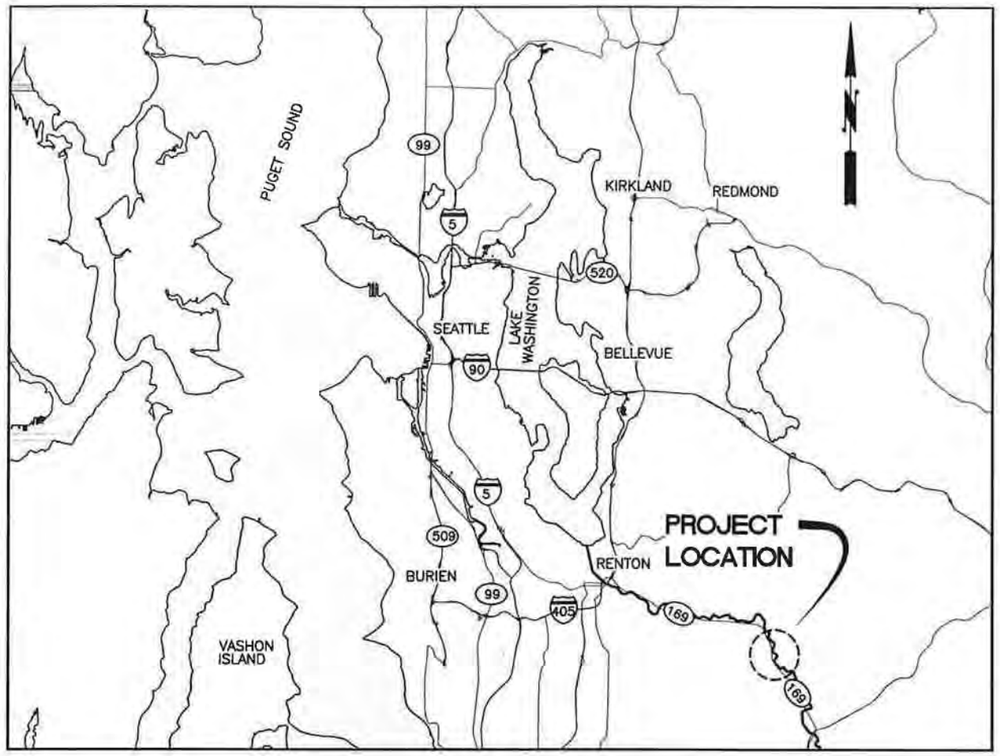
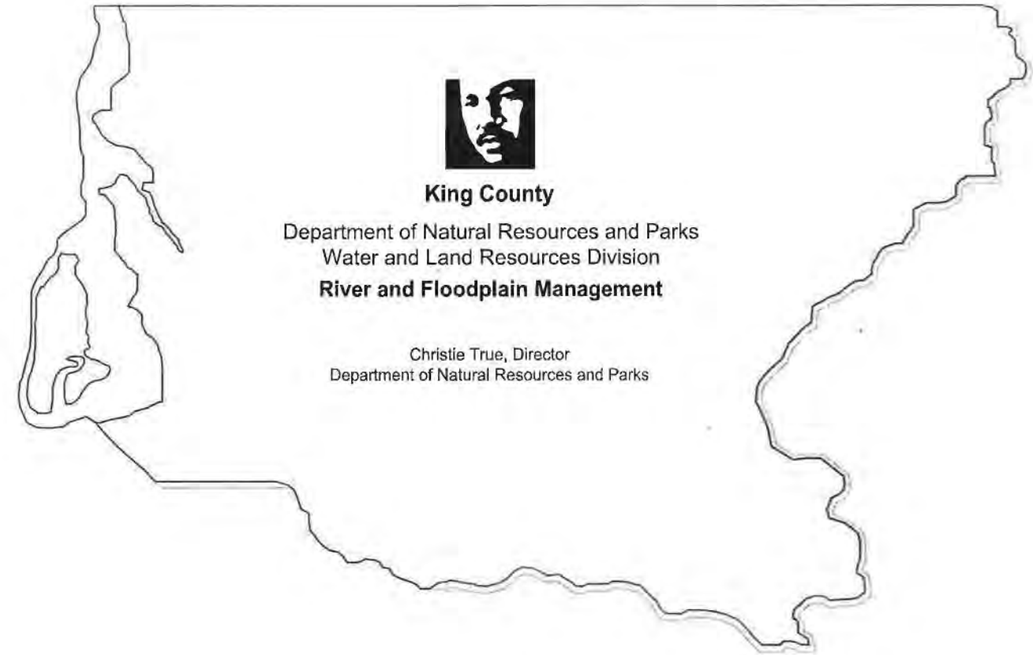
LOCATION MAP





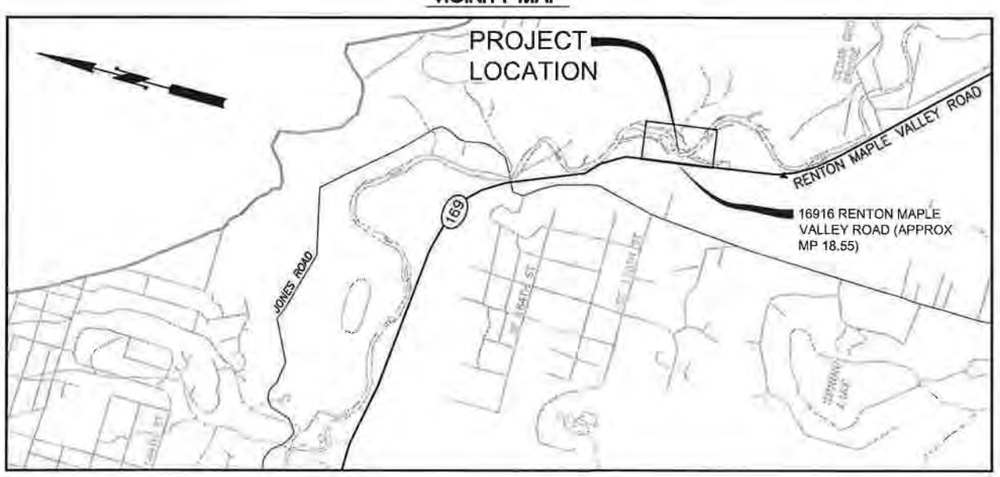
BELMONDO REVETMENT ENHANCEMENT 2013

CEDAR RIVER

RIVER MILE 10.4

CONTRACT NO. C00821C13

VICINITY MAP



INDEX

SHEET	DESCRIPTION
1	VICINITY MAP AND INDEX
2	GENERAL NOTES, LEGEND AND ABBREVIATIONS
3	SUMMARY OF QUANTITIES
4	EXISTING SITE PLAN
5	PROPOSED SITE PLAN
6	ELJ PLAN AND SECTION
7	ELJ LAYERING PLAN
8	PIPE DETAILS
9	ROUGHNESS TREES DETAILS
10	GEOGRID LIFTS DETAILS
11	TESC AND RIVER ISOLATION SYSTEM PLAN
12	MISCELLANEOUS DETAILS
13	TRAFFIC CONTROL PLAN
14	PLANTING PLAN

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

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:	08024	11-14-11
SURVEYED:	J. DIXON	11-14-11
SURVEY BASE MAP:	J. DIXON	11-14-11
CHECKED:	JAKE EVANS	12-01-11

NUM.	REVISION	BY	DATE
1	ADDENDUM, REV 1	CB	5/24/2013

APPROVED:	JOHN ENGEL, P.E.	4/13
PROJECT MANAGER:	MASON BOWLES P.W.S.	4/13
DESIGNED:	CAROLYN BUTCHART, P.E.	4/13
CAD ENTERED:	LAURA TURNIDGE, HERRERA	4/13

FED. AID No. PW-01653

PROJECT No. 1112019 1112045

SURVEY No.

MAINTENANCE DIVISION No. 4

CAROLYN D. BUTCHART — STATE OF WASHINGTON — 35950 — REGISTERED PROFESSIONAL ENGINEER — 5/24/13

JOHN P. ENGEL — STATE OF WASHINGTON — 35042 — REGISTERED PROFESSIONAL ENGINEER — 5/24/13

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO REVETMENT ENHANCEMENT 2013
CEDAR RIVER
VICINITY MAP AND INDEX

CONSTRUCTION NOTES:

SITE PREPARATION

1. CONDUCT A PRE-CONSTRUCTION MEETING.
2. CONTRACTOR TO SURVEY AND STAKE CLEARING LIMITS WITH HVF AND PROJECT CONTROL POINTS AND STATIONING.
3. MAINTAIN ACCESS TO PROJECT SITE THROUGH SR 169. INSTALL TRAIL CLOSED FENCE AND SITE CONTROL FENCE PER SHEET 13.
4. "CITY OF SEATTLE" PROPERTY, AS SHOWN ON THE TESC PLAN, MAY BE USED FOR STAGING, STOCKPILING AND WATER DISCHARGE FOR INFILTRATION. CONTRACTOR SHALL SUBMIT PROPOSED STAGING AND STOCKPILING LOCATIONS TO ENGINEER FOR APPROVAL.

TESC

1. POST SIGN WITHIN PROJECT AREA WITH NAME AND PHONE NUMBER OF PROJECT CESCL.
2. INSTALL CONSTRUCTION ENTRANCE(S).
3. INSTALL SURFACE WATER CONTROLS AS SHOWN ON THE TESC PLAN.
4. KING COUNTY TO SET CONTROL STAKES FOR EXTENT OF ELJS, AND ROUGHNESS LOGS.
5. MAINTAIN TESC MEASURES IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

IN-WATER WORK

1. IN WATER WORK SHALL NOT BEGIN UNTIL WATER QUALITY MONITORING SYSTEM IS IN PLACE. CONTRACTOR SHALL NOTIFY OWNER 2 DAYS PRIOR TO IN WATER WORK TO ALLOW INSTALLATION OF WATER QUALITY MONITORING SYSTEM BY OWNER.
2. INSTALL TEMPORARY RIVER ISOLATION PER PRE-APPROVED SUBMITTAL.
3. EXCAVATE EXISTING BANK RIPRAP AS SHOWN ON PLANS AND HAUL TO APPROVED DISPOSAL SITE.
4. INSTALL TREE ROUGHNESS LOG ANCHORS AS SHOWN ON PLANS.
5. INSTALL PIPE EXTENSION AND OUTFALL PROTECTION PER DETAILS.
6. COMPLETE EXCAVATION FOR ELJ CONSTRUCTION. CONTRACTOR SHALL NOT BACKFILL UNTIL EXCAVATION HAS BEEN APPROVED BY ENGINEER. SEE SPECIFICATION 2-09.3(3)B.
7. BACKFILL ELJ SCOUR APRON PER PLANS.
8. INSTALL LOG/ROCK LAYERS.
9. REPEAT STEPS 6, 7 AND 8 FOR 2ND ELJ.
10. INSTALL ANCHOR ROUGHNESS TREES PER PLANS.

DRAWING REFERENCE:

1 / 5 — DETAIL REFERENCE NUMBER; SHEET ON WHICH DETAIL IS SHOWN

A / 5 — SECTION REFERENCE LETTER; SHEET ON WHICH SECTION IS SHOWN

SECTION/DETAIL A / 5 — SECTION/DETAIL REFERENCE LETTER; SHEET FROM WHICH SECTION/DETAIL WAS TAKEN

SCALE: 1"=XX'

GENERAL NOTES:

1. SOIL TEST BORING LOCATIONS ARE INDICATED ON SHEET 4 – EXISTING SITE PLAN. BORING LOGS ARE INCLUDED IN THE CONTRACT DOCUMENTS.
2. REFUELING OF EQUIPMENT SHALL ONLY OCCUR IN ACCORDANCE WITH THE SPILL PREVENTION PLAN SUBMITTED BY CONTRACTOR. CONTRACTOR TO SUBMIT AND RECEIVE AN APPROVED SPILL PREVENTION PLAN TO ENGINEER BEFORE CONSTRUCTION BEGINS AND MAINTAIN A HAZARDOUS MATERIAL SPILL PREVENTION CLEANUP KIT ONSITE AT ALL TIMES AS SHOWN IN THE CONTRACTORS SUBMITTED PLAN. STORING (DURING NON WORK PERIODS) AND REFUELING OF EQUIPMENT SHALL ONLY OCCUR WITHIN THE STAGING AREA SHOWN ON THE PLANS.
3. THE CONTRACTOR SHALL PROVIDE TEMPORARY ACCESS AND STAGING PLAN TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION. ALL DISTURBED AREAS SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER.
4. ALL IN-WATER CONSTRUCTION WORK SHALL OCCUR DURING THE DESIGNATED FISH WINDOW DEFINED IN THE HPA PERMIT.
5. ALL EQUIPMENT OPERATING BELOW OHW AND WITHIN 50 FT OF RIVER SHALL USE VEGETABLE OIL BASED HYDRAULIC FLUID.
6. A PORTION OF RESTORATION PLANTINGS WILL BE COMPLETED BY THE OWNER FOLLOWING CONTRACTOR PROJECT COMPLETION.
7. ALL LOCATIONS OF EXISTING UTILITIES SHOWN HAVE BEEN OBTAINED FROM AVAILABLE RECORDS AND SHOULD THEREFORE BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS SHOWN AND TO FURTHER DISCOVER AND AVOID ANY OTHER UTILITIES NOT SHOWN WHICH MAY BE AFFECTED BY THE IMPLEMENTATION OF THIS PLAN. UTILITIES WHICH ARE NOT ABANDONED OR REMOVED SHALL BE PROTECTED, SUPPORTED, OR MAINTAINED DURING CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE UNDERGROUND UTILITIES LOCATION SERVICE (1-800-424-5555) AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER SHALL BE CONTACTED IMMEDIATELY IF A CONFLICT EXISTS.

ABBREVIATIONS:

"–"	INDICATES THAT THE DETAIL/SECTION IS SHOWN ON THE SAME SHEET
"TYP"	INDICATES THAT THE DETAIL/SECTION IS UNIFORMLY TYPICAL THROUGHOUT PROJECT EXCEPT WHERE OTHERWISE NOTED
"SIM"	INDICATES THAT THE DETAIL/SECTION IS SIMILAR THROUGHOUT PROJECT BUT DIMENSIONS MAY VARY PER TOPOGRAPHIC VARIANCES
"VAR"	SPECIFIES THAT DETAIL/SECTION WAS TAKEN FROM SEVERAL DRAWINGS
"NTS"	NOT TO SCALE
"TESC"	TEMPORARY EROSION & SEDIMENT CONTROL
"ELJ"	ENGINEERED LOG JAM
"U/S"	UPSTREAM
"D/S"	DOWNSTREAM
"WSE"	WATER SURFACE ELEVATION
"OHW"	ORDINARY HIGH WATER
"CESCL"	CERTIFIED EROSION AND SEDIMENT CONTROL LEAD

LEGEND:

EXISTING MAJOR CONTOUR (FT)
EXISTING MINOR CONTOUR (FT)
RIGHT OF WAY
PROPERTY LINE
OHW — APPROX. ORDINARY HIGH WATER (OHW)
C — C — BURIED FIBER OPTIC CABLE
CEDAR RIVER TRAIL
EXISTING RIPRAP (PLAN)
EXISTING GEOGRID LIFTS (PLAN)
EXISTING TEMPORARY ACCESS
NATIVE GROUND
EXISTING ELJ
EXISTING TREE
EXISTING CULVERT
EXISTING RIPRAP (SECTION)
EXISTING NATIVE FILL (SECTION)
EXISTING ALLUVIUM (SECTION)
SURVEY CONTROL POINT
SOIL BORING POINT (KC)
SOIL BORING POINT (HERRERA)
EXISTING DITCH
EXCAVATION LIMITS/NEAT LINE
RIS — RIVER ISOLATION SYSTEM
HVF — HIGH VISIBILITY FENCE/CLEARING LIMITS
BYPASS PIPE
A — ELJ CONTROL STAKE

GEOGRID LIFTS (PLAN)
HEAVY LOOSE RIPRAP
ALLUVIUM
LIGHT LOOSE RIPRAP
GEOGRID LIFT FILL (SECTION)
EMBANKMENT FILL (SECTION)
TOPSOIL AND WOOD MULCH
STAGING AREA
STABILIZED CONSTRUCTION ENTRANCE
UPPER BANK WOODY PLANTS
LOWER BANK WOODY PLANTS
CYPRESS TREE ROUGHNESS LOG
ROUGHNESS LOG ANCHOR (ECOLOGY BLOCK)
BOULDER ANCHOR
CONIFER LOG ROUGHNESS LOG
ELJ
LOG WITH ROOTWAD
LOG WITHOUT ROOTWAD
LOG (SECTION)
BALLAST ROCKS
WILLOW STAKE
L3 — LOG NUMBER

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

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:	08024	11-14-11	1	ADDENDUM, REV 1	CB 5/24/2013
SURVEYED:	J. DIXON	11-14-11			
SURVEY BASE MAP:	J. DIXON	11-14-11			
CHECKED:	JAKE EVANS	12-01-11			
			NUM.	REVISION	BY DATE

APPROVED:	JOHN ENGEL, P.E.	4/13
PROJECT MANAGER:	MASON BOWLES P.W.S.	4/13
DESIGNED:	CAROLYN BUTCHART, P.E.	4/13
CAD ENTERED:	LAURA TURNIDGE, HERRERA	4/13

FED. AID No. PW-01653
PROJECT No. 1112019 1112045
SURVEY No.
MAINTENANCE DIVISION No. 4

CAROLYN D. BUTCHART — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO REVETMENT ENHANCEMENT 2013
CEDAR RIVER
GENERAL NOTES, LEGEND AND ABBREVIATIONS

SHEET 2 OF 14 SHEETS

SUMMARY OF QUANTITIES

ITEM NO.	TOTAL QUANTITY	UNIT	SECTION NO.	ITEM	PROJECT NUMBERS 1112019	1112045				AS-BUILT
				PREPERATION						
1	1	LS	1-09.7	MOBILIZATION	100%					
2	1	LS	2-01	CLEARING AND GRUBBING	100%					
				GRADING						
3	639	CY	2-03	GEOGRID LIFT EXCAVATION AND HAUL	100%					
4	655	CY	2-03	RIPRAP HAUL AND DISPOSAL	100%					
5	107	TN	2-03	COMMON BORROW INCLUDING HAUL	100%					
				DRAINAGE						
6	1	LS	7-02	PIPE EXTENSION	100%					
				STRUCTURES						
8	2	EA	6-20	ELJ STRUCTURE	100%					
7	2	EA	6-20	SCOUR APRON	100%					
				EROSION CONTROL AND ROADSIDE PLANTING						
9	196	SY	8-1.3(7)	STABILIZED CONSTRUCTION ENTRANCE	100%					
10	765	LF	8-1.3(10)	WATTLES	100%					
11	1	EST	8-01	EROSION/WATER POLLUTION CONTROL	100%					
12	149	CY	8-02.3(4)A	TOP SOIL TYPE A	100%					
13	1	LS	8-02.3(8)	PLANTING	100%					
14	47	CY	8-02.3(11)	BARK OR WOOD CHIP MULCH	100%					
15	1060	LF	8-1.3(17)	HIGH VISIBILITY FENCE	100%					
				TRAFFIC						
16	1	LS	1-10.1	PROJECT TEMPORARY TRAFFIC CONTROL	100%					
				OTHER ITEMS						
17	1	LS	1-08.3	PROGRESS SCHEDULE TYPE B	100%					
18	1	LS	2-09	SHORING OR EXTRA EXCAVATION CLASS B	100%					
19	1	LS	1-05.4(1)	CONSTRUCTION SURVEYING	100%					
20	960	SF	2-12	GEOGRID LIFT	100%					
21	27	EA	8-31	ROUGHNESS LOGS	100%					
22	27	EA	8-31	ANCHORS	100%					
23	1	LS	8-32	TEMPORARY RIVER ISOLATION SYSTEM	100%					
24	1	FA	8-34	FISH HANDLING ASSISTANCE	100%					
25	1	FA	1-04.4(1)	MINOR CHANGE	100%					
26	1	LS	1-07.15(1)	SPILL PREVENTION, CONTROL AND COUNTER MEASURES (SPCC) PLAN	100%					

NOTE: FOR SPECIAL FEATURES SEE SPECIAL PROVISIONS

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

FIELD BOOK: 08024 11-14-11
SURVEYED: J. DIXON 11-14-11
SURVEY BASE MAP: J. DIXON 11-14-11
CHECKED: JAKE EVANS 12-01-11

NUM.	REVISION	BY	DATE
1	ADDENDUM, REV 1	CB	5/24/2013

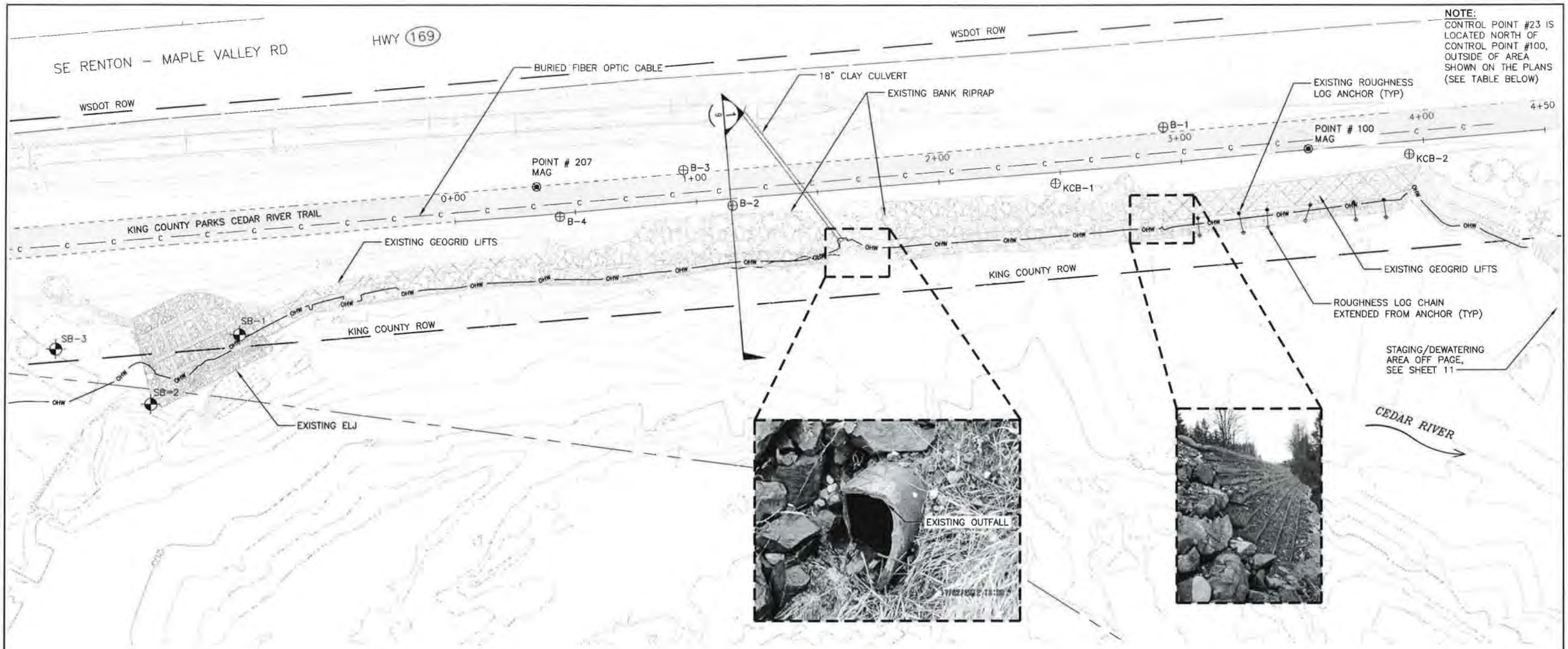
APPROVED: JOHN ENGEL, P.E. 4/13
PROJECT MANAGER: MASON BOWLES P.W.S. 4/13
DESIGNED: CAROLYN BUTCHART, P.E. 4/13
CAD ENTERED: LAURA TURNIDGE, HERRERA 4/13

FED. AID No. PW-01653
PROJECT No. 1112019 1112045
SURVEY No.
MAINTENANCE DIVISION No. 4

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO REVETMENT
ENHANCEMENT 2013
CEDAR RIVER
SUMMARY OF QUANTITIES

SHEET 3 OF 14 SHEETS



NOTE:
CONTROL POINT #23 IS LOCATED NORTH OF CONTROL POINT #100, OUTSIDE OF AREA SHOWN ON THE PLANS (SEE TABLE BELOW)

SURVEY CONTROL					
PT. #	NORTHING	EASTING	ELEV	DESC	STA
23	166859.20	1333428.46	216.94	MIC/GIS	N/A
100	166546.73	1333502.88	215.19	MAG	3+52
207	166229.26	1333518.27	214.05	MAG	0+35

SOIL BORINGS (KC 2012)			
PT. #	NORTHING	EASTING	ELEV
B-1	166487.06	1333494.01	214.466
B-2	166310.05	1333525.77	213.529
B-3	166289.80	1333511.28	213.472
B-4	166238.98	1333530.46	213.521

SOIL BORINGS (HERRERA 2010)		
PT. #	NORTHING	EASTING
SB-1	166107.31	1333579.02
SB-2	166071.17	1333607.67
SB-3	166032.10	1333585.03

SOIL BORINGS (KC 2008)			
PT. #	NORTHING	EASTING	ELEV
KCB-1	166442.88	1333516.85	N/A
KCB-2	166588.40	1333505.00	214.24

SURVEY CONTROL AND MAPPING NOTES:

1. HORIZONTAL DATUM: WASHINGTON STATE PLAN COORDINATE SYSTEM, NORTH ZONE, (NAD 83/91).
2. VERTICAL DATUM: NAVD 88
3. REFERENCE: KING COUNTY SURVEY CONTROL POINT DESIGNATION: 23, 100, 207.
4. ALTHOUGH THE DATA FOR SURVEY CONTROL POINTS REPRESENTS ACCURATE INFORMATION THERE WILL BE NO RECORD OF SURVEY FILED COVERING THE CONTROL NETWORK AS SHOWN.
5. COORDINATES SHOWN ON PLANS OR FURNISHED BY ENGINEER ARE PROJECT COORDINATES AND ARE NOT TO BE USED IN CONJUNCTION WITH OTHER COORDINATE SYSTEMS AVAILABLE IN THE AREA. THE COORDINATES AND ELEVATIONS OF CONTROL POINTS SHALL BE VERIFIED BY CONTRACTOR'S SURVEYOR PRIOR TO BEGINNING CONSTRUCTION.
6. BEFORE BEGINNING CONSTRUCTION THE CONTRACTOR SHALL VERIFY THAT EXISTING CONDITIONS ARE AS INDICATED IN THE PLANS AND SPECIFICATIONS. BATHYMETRY SHOWN ON PLANS WAS COLLECTED IN 2011 AND IS SUBJECT TO CHANGE DUE TO DYNAMIC RIVER CONDITIONS.
7. OVERHEAD POWER NOT SHOWN.

20 0 20 40 60
SCALE IN FEET

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

FIELD BOOK:	08024	11-14-11
SURVEYED:	J. DIXON	11-14-11
SURVEY BASE MAP:	J. DIXON	11-14-11
CHECKED:	JAKE EVANS	12-01-11

NUM.	REVISION	BY	DATE
1	ADDENDUM, REV 1	CB	5/24/2013

APPROVED:	JOHN ENGEL, P.E.	4/13
PROJECT MANAGER:	MASON BOWLES P.W.S.	4/13
DESIGNED:	CAROLYN BUTCHART, P.E.	4/13
CAD ENTERED:	LAURA TURNIDGE, HERRERA	4/13

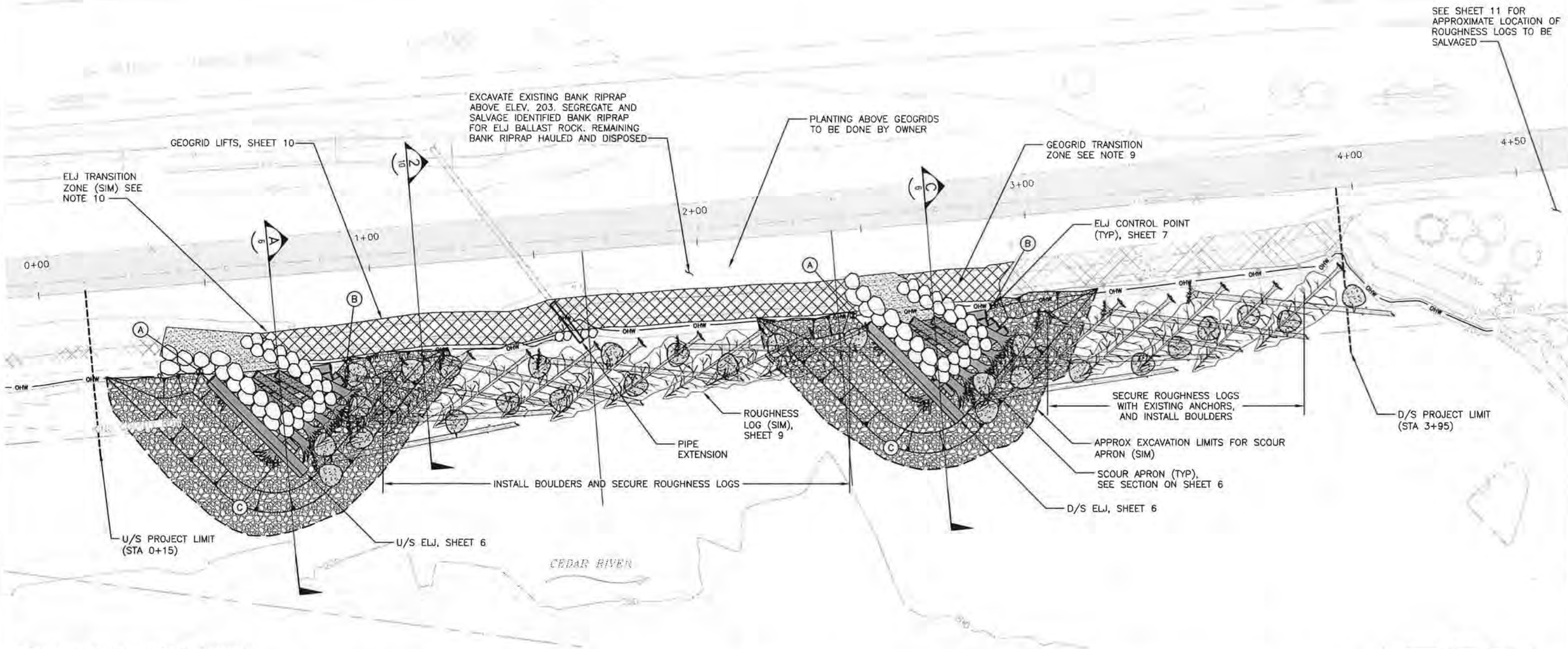
FED. AID No. PW-01653
PROJECT No. 1112019 1112045
SURVEY No.
MAINTENANCE DIVISION No. 4

CAROLYN D. BUTCHART, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO REVETMENT ENHANCEMENT 2013
CEDAR RIVER
EXISTING SITE PLAN

SHEET **4** OF **14** SHEETS



GENERAL CONSTRUCTION NOTES:

1. ALL EXISTING BANK ROCK ABOVE ELEVATION 203' TO BE REMOVED FOR RE-USE OR DISPOSED OF OFFSITE. ALL EXISTING BANK ROCK BELOW ELEVATION 203' TO REMAIN AS IS. AT ELJ LOCATIONS, BANK ROCK BELOW 204' TO REMAIN.
2. EXTEND EXISTING CULVERT AND BEVEL ENDS TO ALLOW FOR PLACEMENT OF GEOGRID LIFTS AS SHOWN ON THE PLANS.
3. ELJ STRUCTURES (NOT INCLUDING LOG 9 AND 15, SEE SHEET 7) ABOVE THE CHANNEL BED NOT TO EXTEND BEYOND 30' FROM ELEV 203' CONTOUR AS PER DETAIL ON SHEET 6.
4. ROUGHNESS LOG TO BE ANCHORED AS SHOWN ON DETAILS 2/9 AND 3/9.
5. GEOGRID SOIL LIFTS TO START AT ELEVATION 203' AS PER DETAILS ON SHEET 10.
6. FINAL GRADE EMBANKMENT ABOVE GEOGRID LIFTS WITH 6-INCH TOPSOIL AND 4-INCH MULCH AS SHOWN ON SHEETS 10.
7. CEDAR RIVER TRAIL TO BE PROTECTED.
8. FOLD COIR CORNERS TO END WRAP EACH GEOGRID LIFT DIRECTLY ADJACENT, AND IN CONTACT WITH, EXISTING GEOGRID LIFTS.
9. END WRAP GEOGRID LIFTS DIRECTLY ADJACENT, AND IN CONTACT WITH, THE ELJ BALLAST ROCK.
10. ELJ LOCATIONS TO BE STAKED BY ENGINEER. SEE SHEET 7

15 0 15 30 45
SCALE IN FEET

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

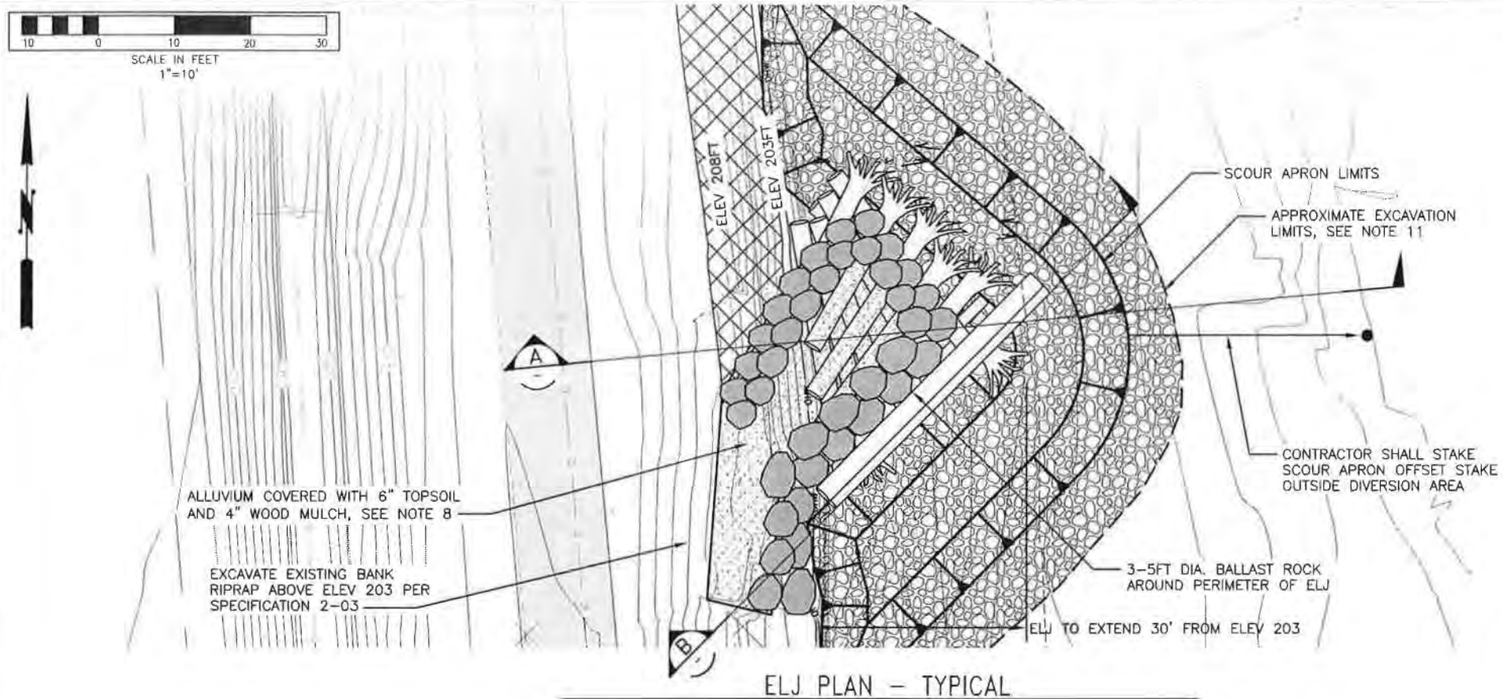
FIELD BOOK: 08024	11-14-11	1	ADDENDUM, REV 1	CB	5/24/2013	APPROVED: JOHN ENGEL, P.E.	4/13	FED. AID No. PW-01653	
SURVEYED: J. DIXON	11-14-11					PROJECT MANAGER: MASON BOWLES P.W.S.	4/13	PROJECT No. 1112019 1112045	
SURVEY BASE MAP: J. DIXON	11-14-11					DESIGNED: CAROLYN BUTCHART, P.E.	4/13	SURVEY No.	
CHECKED: JAKE EVANS	12-01-11					CAD ENTERED: LAURA TURNIDGE, HERRERA	4/13	MAINTENANCE DIVISION No. 4	
		NUM.	REVISION	BY	DATE				

CAROLYN D. BUTCHART, STATE OF WASHINGTON, 43350, REGISTERED PROFESSIONAL ENGINEER
05/24/2013

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO REVETMENT ENHANCEMENT 2013
CEDAR RIVER
PROPOSED SITE PLAN

SHEET 5 OF 14 SHEETS



ELJ PLAN – TYPICAL

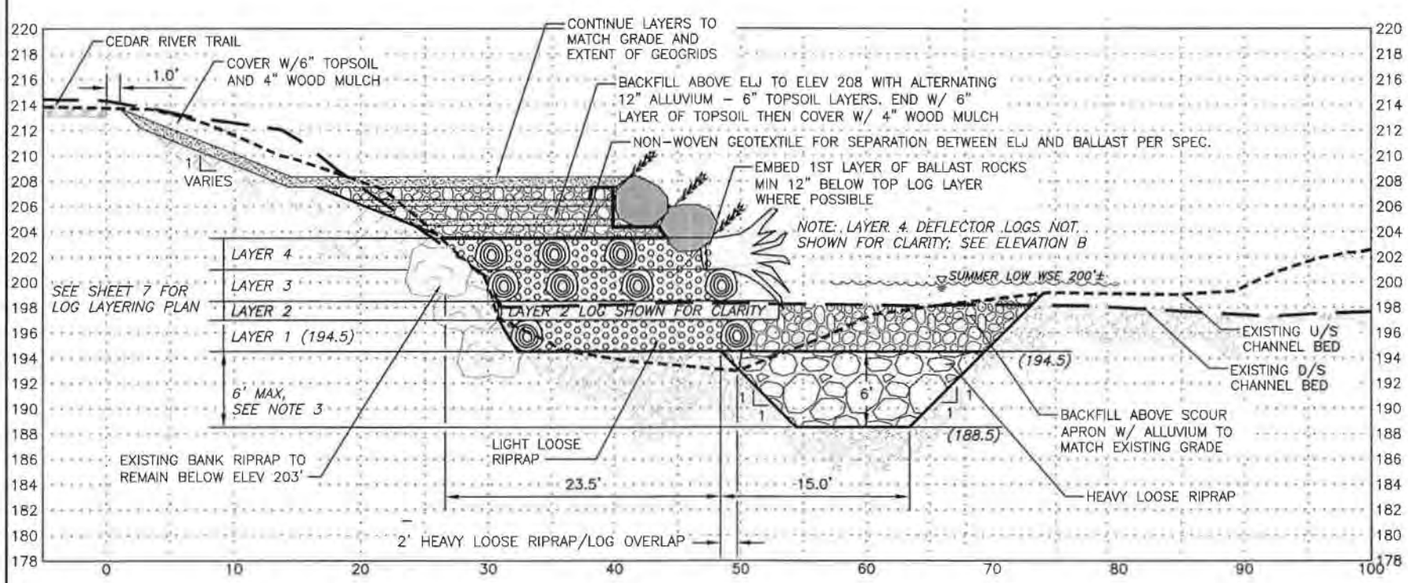
STA 0+70 AND 2+70
1"=10'

ELJ CONSTRUCTION NOTES:

1. THE LENGTH OF THE ELJS SHOWN ON THE PLANS ARE THE MINIMUM LENGTHS. THE FINAL ELJ MUST INCLUDE ALL OF THE SPECIFIED LOGS. ENGINEER TO IDENTIFY AND LABEL EACH SPECIFIED LOG ONSITE BEFORE INSTALLATION.
2. ADJUST TEMPORARY RIVER ISOLATION SYSTEM AS NECESSARY TO ENSURE WATER QUALITY REQUIREMENTS ARE MET.
3. SCOUR APRON IS RIVERSIDE OF EXISTING BANK RIPRAP BELOW ELEVATION 194.5'
4. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT THE COMPLETION OF THE SCOUR APRON EXCAVATION FOR INSPECTION PRIOR TO BACK FILLING OR PLACING LOGS.
5. STOCKPILE SCOUR APRON EXCAVATION SPOILS (ALLUVIUM) FOR USE AS BALLAST ABOVE ELJ.
6. INSTALL LOG LAYERS AND CHAINS AS SHOWN ON PLAN AND LAYERING DETAIL ON SHEET 7.
7. FILL VOIDS BETWEEN LOGS WITH LIGHT LOOSE RIPRAP FOR ALL LAYERS, CHINK TOP LAYER OF LIGHT LOOSE RIPRAP WITH QUARRY SPALLS, AND COVER WITH GEOTEXTILE.
8. BALLAST ELJ WITH ALLUVIUM AND TOPSOIL ENCLOSED WITHIN BALLAST ROCK AS SHOWN ON SECTION A,C/6
9. EXCAVATION EXTENTS SHOWN FOR ILLUSTRATION AND QUANTITY TAKE-OFFS. TEMPORARY EXCAVATION SLOPES MAY VARY WITH SOILS ENCOUNTERED AND SHORING OR EXTRA EXCAVATION MAY APPLY PER SPECIFICATION 2-09.3(3)B.
10. IF CLAY OR BEDROCK IS ENCOUNTERED DURING EXCAVATION FOR SCOUR APRON SEE SECTION 6-20.3(1) OF THE SPECIFICATIONS
11. SECTION A,C FOR ILLUSTRATION PURPOSES ONLY. SEE SHEET 7 FOR ROCK AND LOG LOCATIONS AND DIMENSIONS

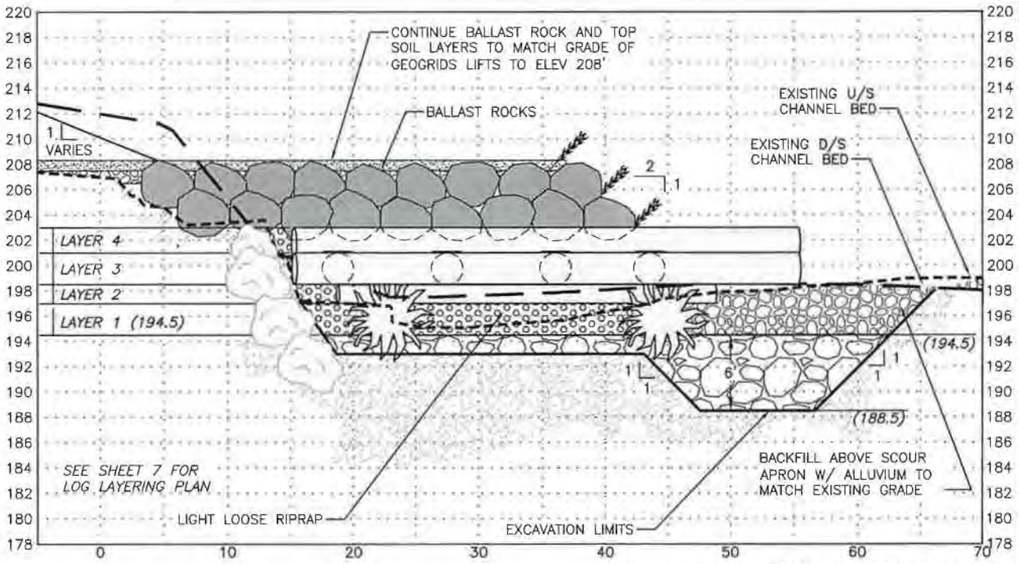
LEGEND:

- EXISTING UPSTREAM CHANNEL BED
- EXISTING DOWNSTREAM CHANNEL BED
- ALLUVIUM
- LIGHT LOOSE RIPRAP
- HEAVY LOOSE RIPRAP
- BALLAST ROCK



CROSS-SECTION – TYPICAL (A,C / 5, 6)

STA 0+70 AND 2+70
HORIZONTAL: 1"=6' VERTICAL: 1"=6'



ELEVATION – TYPICAL (B)

STA 0+70 AND 2+70
HORIZONTAL: 1"=6' VERTICAL: 1"=6'

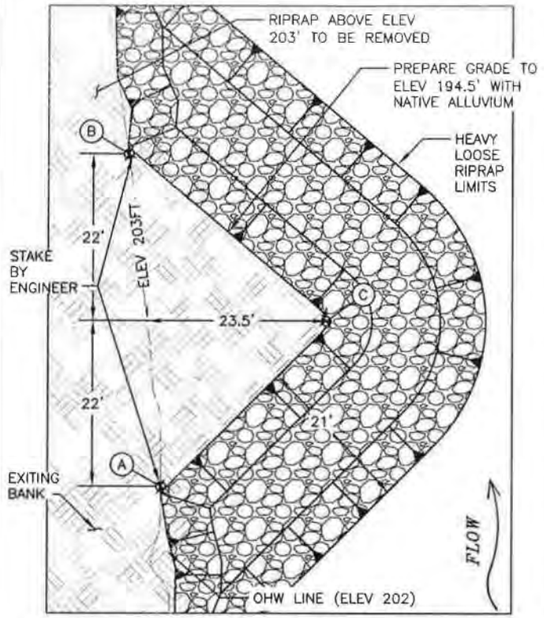
CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK: 08024	11-14-11	1	ADDENDUM, REV 1	CB	5/24/2013	APPROVED: JOHN ENGEL, P.E.	4/13	FED. AID No. PW-01653
SURVEYED: J. DIXON	11-14-11					PROJECT MANAGER: MASON BOWLES P.W.S.	4/13	PROJECT No. 1112019 1112045
SURVEY BASE MAP: J. DIXON	11-14-11					DESIGNED: CAROLYN BUTCHART, P.E.	4/13	SURVEY No.
CHECKED: JAKE EVANS	12-01-11					CAD ENTERED: LAURA TURNIDGE, HERRERA	4/13	MAINTENANCE DIVISION No. 4
		NUM.	REVISION	BY	DATE			

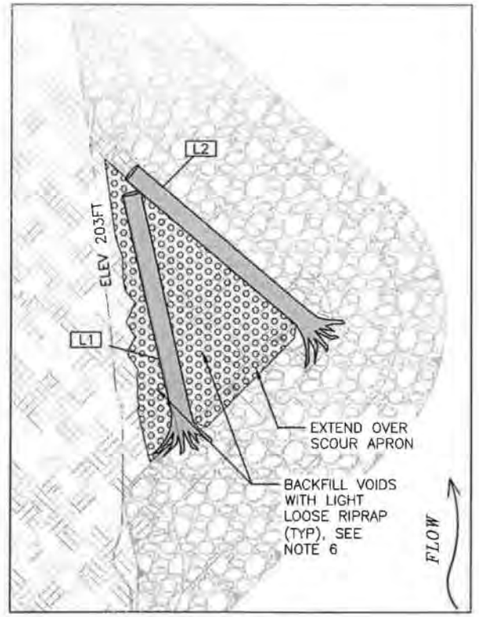
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO REVETMENT ENHANCEMENT 2013
CEDAR RIVER
ELJ PLAN AND SECTION

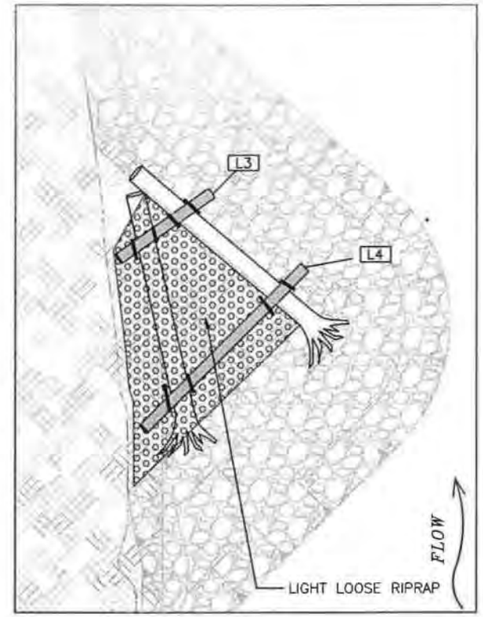
SHEET 6 OF 14 SHEETS



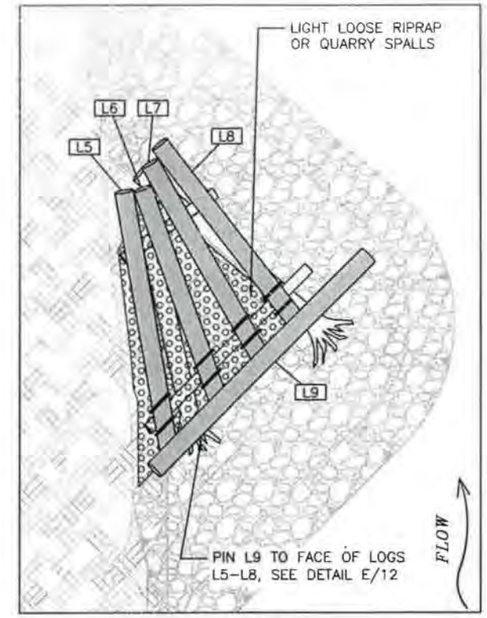
SCOUR APRON



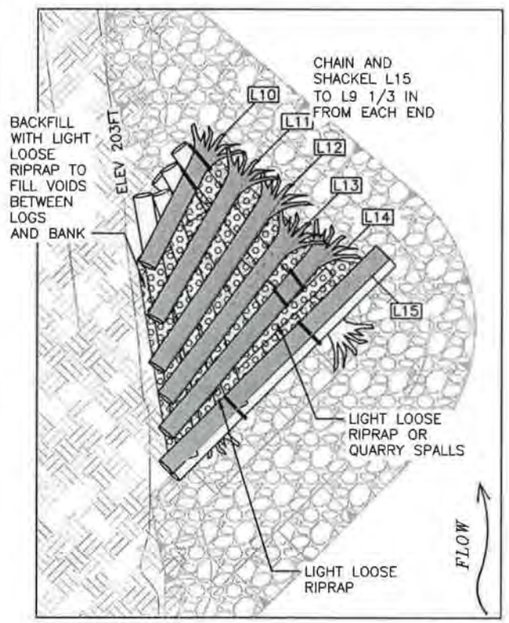
LAYER 1



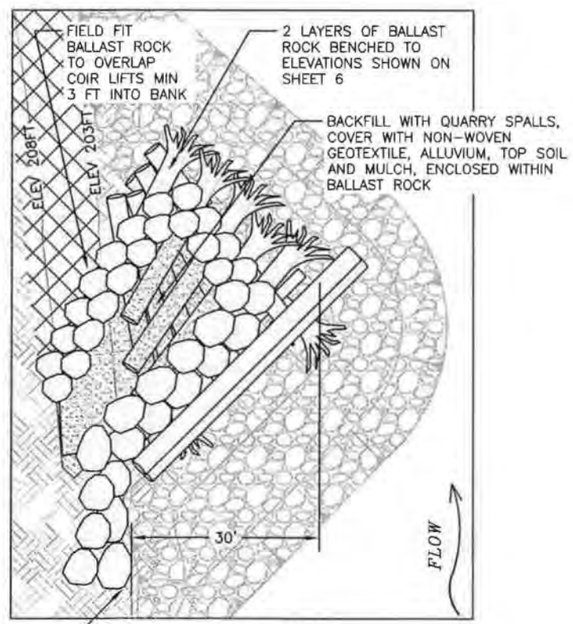
LAYER 2



LAYER 3



LAYER 4



SEE SHEET 5, NOTE 10 FOR BALLAST ROCK AND GEOGRID INTERFACE

BALLAST LAYER

LOG SCHEDULE

LOG NO.	DBH DIA (FT)	I.E.***	LOG TYPE	LENGTH (FT)*	ROOTWAD**	MATERIAL
L1	2.25–2.5	194.5'	2	35	YES	DOUGLAS FIR OR CEDAR
L2	2.25–2.5	194.5'	2	35	YES	DOUGLAS FIR OR CEDAR
L3	1.5	197.0'	1	15	NO	DOUGLAS FIR OR CEDAR
L4	1.5	197.0'	1	20	NO	DOUGLAS FIR OR CEDAR
L5	2.25–2.5	198.5'	3	35	NO	DOUGLAS FIR OR CEDAR
L6	2.25–2.5	198.5'	3	30	NO	DOUGLAS FIR OR CEDAR
L7	2.25–2.5	198.5'	3	30	NO	DOUGLAS FIR OR CEDAR
L8	2.25–2.5	198.5'	3	30	NO	DOUGLAS FIR OR CEDAR
L9	2.25–2.5	198.5'	5	40	NO	DOUGLAS FIR OR CEDAR
L10	2.25–2.5	201.0'	4	20	YES	DOUGLAS FIR OR CEDAR
L11	2.25–2.5	201.0'	4	25	YES	DOUGLAS FIR OR CEDAR
L12	2.25–2.5	201.0'	4	30	YES	DOUGLAS FIR OR CEDAR
L13	2.25–2.5	201.0'	4	30	YES	DOUGLAS FIR OR CEDAR
L14	2.25–2.5	201.0'	4	35	YES	DOUGLAS FIR OR CEDAR
L15	2.25–2.5	201.0'	5	40	NO	DOUGLAS FIR OR CEDAR

* LOGS MAY BE FIELD FIT TRIMMED AS APPROVED BY ENGINEER
** ALL ROOTWAD DIAMETERS BETWEEN 5–8 FT
*** LOG INVERTS SHOWN ARE ± 0.5 FT. CONTRACTOR SHALL SUPPLY AND SELECT LOG DIAMETERS SUCH THAT LAYER INVERTS DO NOT VARY GREATER THAN TOLERANCES SHOWN.

ELJ CONTROL POINT TABLE

ELJ	CONTROL POINT	APPROX NORTHING	APPROX EASTING	APPROX STATION OFFSET
U/S ELJ	A	166244.7	1333556.2	0+47 R 27'
	B	166288.5	1333552.1	0+91 R 27'
	C	166266.9	1333583.0	0+67 R 56'
D/S ELJ	A	166442.5	1333538.5	2+46 R 26'
	B	166484.8	1333535.5	2+88 R 26'
	C	166464.4	1333565.0	2+65 R 54'

LAYERING PLAN NOTES:

1. EACH LOG HAS BEEN ASSIGNED A UNIQUE LOG NUMBER, SHOWN IN THE CALL OUTS AND LOG SCHEDULE ON THIS SHEET.
2. EXCAVATE AND BACKFILL SCOUR APRON AS SHOWN ON PLANS. SEE SHEET 6.
3. LOGS SHALL BE PLACED AT THE LOCATIONS AND ELEVATIONS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. EACH LOG PLACED TO BE IN DIRECT CONTACT WITH THE LOGS DIRECTLY BELOW AND/OR ABOVE THEM.
4. CONTRACTOR TO CHAIN LOGS AS SHOWN ON D/12 BEFORE CONTINUING WITH NEXT LOG LAYER.
5. ALL LOGS IN CONTACT WITH THE EXISTING BANK SHALL BE PLACED IN TIGHT CONTACT WITH THE BANK.
6. FOLLOWING PLACEMENT OF LOGS, BACKFILL WITH LIGHT LOOSE RIPRAP TO MINIMIZE VOID SPACE.
7. INSTALL LOG 9 IN FRONT OF, AND AT THE SAME ELEVATION AS, LAYER 3 AS SHOWN ON E/12 AND LOG SCHEDULE.
8. INSTALL AND CHAIN LOG 15 ON TOP OF, AND OFFSET FROM LOG 9 AS FIELD DIRECTED.
9. CHINK TOP LOG LAYER WITH QUARRY SPALLS , COVER WITH GEOTEXTILE THEN BEGIN ALLUVIUM AND TOPSOIL LAYERING ENCLOSED WITHIN BALLAST ROCK AS SHOWN ON DETAILS.
10. SEQUENCE OF LAYERING SHOWN MAY BE MODIFIED AS APPROVED BY ENGINEER. CONTRACTOR MAY ELECT TO ASSEMBLE LAYER 1 AND 2 LOGS ON BANK AND PLACE THEM AS A UNIT THEN BACKFILL VOIDS WITH LIGHT LOOSE RIPRAP.

10 0 10 20 30
SCALE IN FEET

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

FIELD BOOK: 08024	11-14-11	
SURVEYED: J. DIXON	11-14-11	
SURVEY BASE MAP: J. DIXON	11-14-11	
CHECKED: JAKE EVANS	12-01-11	

NUM.	REVISION	BY	DATE
1	ADDENDUM, REV 1	CB	5/24/2013

APPROVED:	JOHN ENGEL, P.E.	4/13
PROJECT MANAGER:	MASON BOWLES P.W.S.	4/13
DESIGNED:	CAROLYN BUTCHART, P.E.	4/13
CAD ENTERED:	LAURA TURNIDGE, HERRERA	4/13

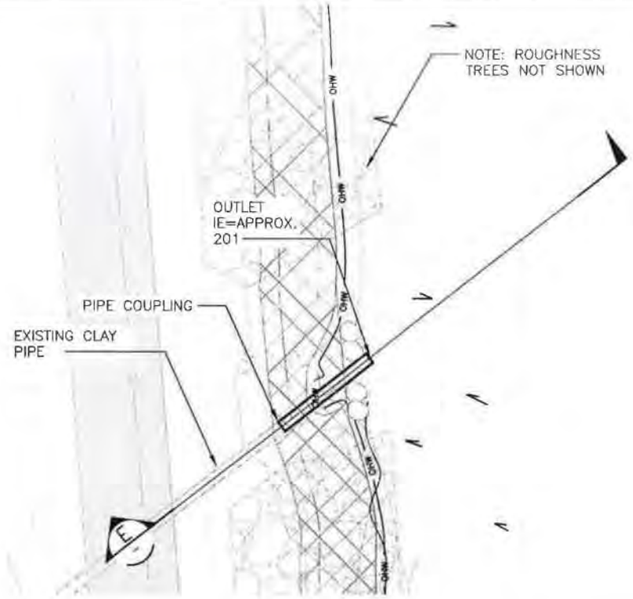
FED. AID No. PW-01653
PROJECT No. 1112019 1112045
SURVEY No.
MAINTENANCE DIVISION No. 4

CAROLYN D. BUTCHART STATE OF WASHINGTON 43350 REGISTERED PROFESSIONAL ENGINEER
5/24/13

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO REVETMENT ENHANCEMENT 2013
CEDAR RIVER
ELJ LAYERING PLAN

SHEET 7 OF 14 SHEETS

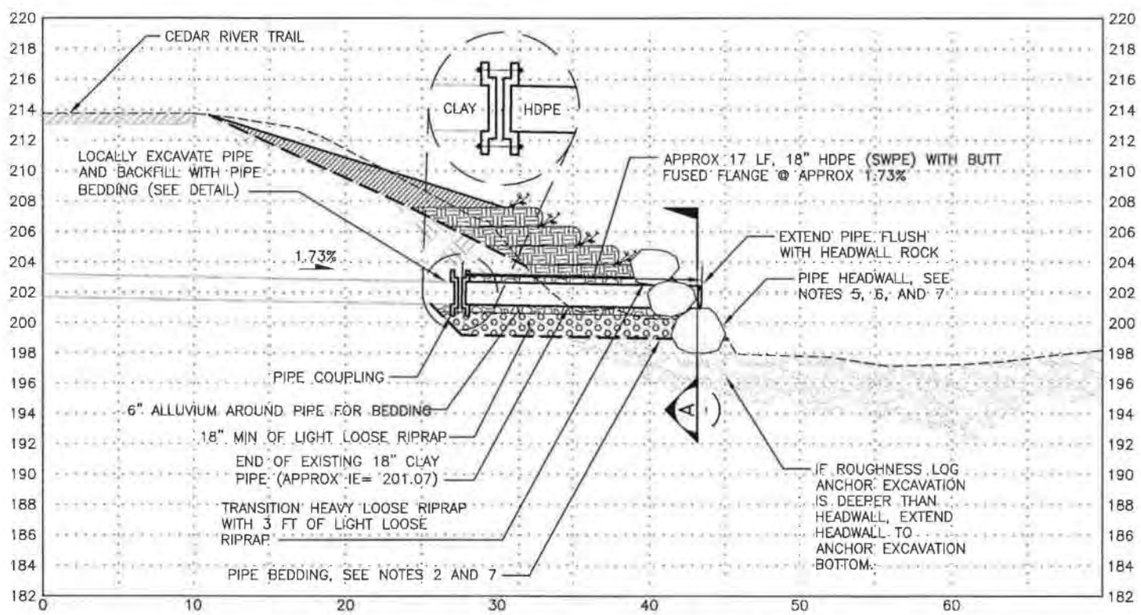


PIPE PLAN

STA 1+50–1+90 AND 3+60–3+90
1"=10'

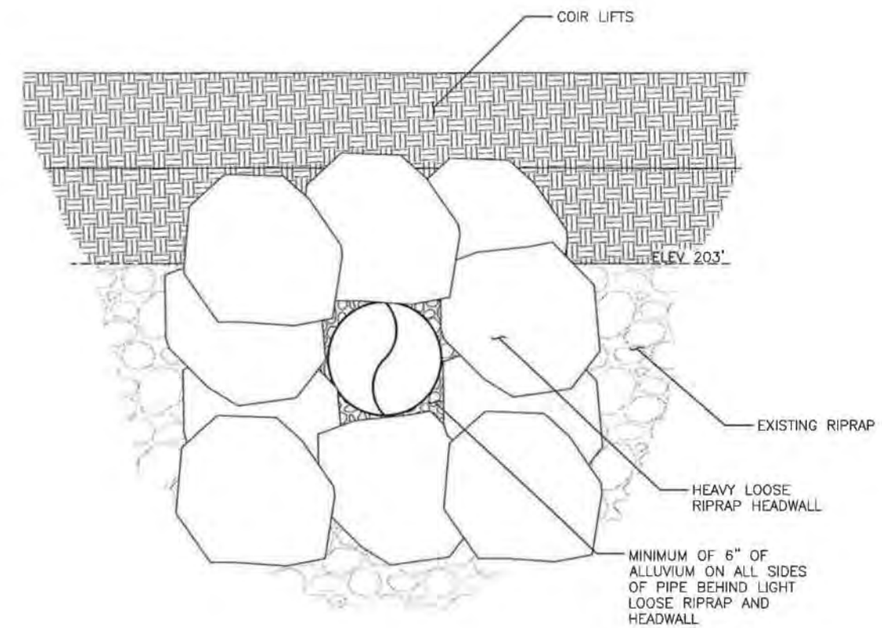
PIPE NOTES:

1. EXPOSE EXISTING PIPE TO ALLOW FOR SAWCUTTING DAMAGED END OF CLAY PIPE TO ACCOMMODATE NEW COUPLING.
2. SUPPORT AND BED PIPE WITH LIGHT LOOSE RIPRAP, MINIMUM 18" EITHER SIDE OF PIPE AND MINIMUM 18" IN DEPTH. CHINK WITH QUARRY SPALLS AND ENSURE A MINIMUM OF 6 INCHES OF ALLUVIUM ON ALL SIDES OF PIPE.
3. TRIM PIPE END TO MATCH FACE OF SLOPE.
4. CONTRACTOR SHALL FIELD VERIFY EXISTING PIPE ID AND OD FOR PIPE COUPLING ACQUISITION.
5. THE PIPE OUTLET SHALL BE PROTECTED BY A HEADWALL THAT IS CONSTRUCTED FLUSH WITH THE SURROUNDING SLOPE, CONSISTING OF INDIVIDUALLY PLACED HEAVY LOOSE RIPRAP TO ELEV 203'.
6. HEADWALL SHALL EXTEND A MINIMUM OF 5 FEET UP AND DOWNSTREAM AND TIE INTO EXISTING ROCK BELOW.
7. PIPE BEDDING SHALL BE CONTAINED BEHIND THE HEADWALL.



PIPE SECTION (E)

STA 1+45
HORIZONTAL: 1"=5' VERTICAL: 1"=5'



DETAIL – PIPE HEADING (A)

NTS

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

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK: 08024	11-14-11	1	ADDENDUM, REV 1	CB	5/24/2013
SURVEYED: J. DIXON	11-14-11				
SURVEY BASE MAP: J. DIXON	11-14-11				
CHECKED: JAKE EVANS	12-01-11				
		NUM.	REVISION	BY	DATE

APPROVED:	JOHN ENGEL, P.E.	4/13
PROJECT MANAGER:	MASON BOWLES P.W.S.	4/13
DESIGNED:	CAROLYN BUTCHART, P.E.	4/13
CAD ENTERED:	LAURA TURNIDGE, HERRERA	4/13

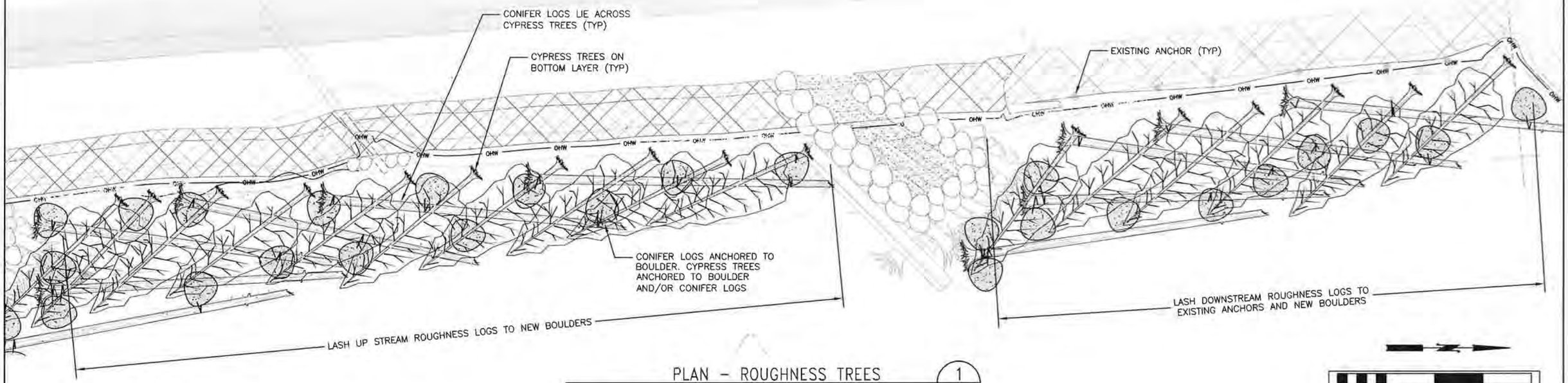
FED. AID No. PW-01653
PROJECT No. 1112019 1112045
SURVEY No.
MAINTENANCE DIVISION No. 4

CAROLYN D. BUTCHART, STATE OF WASHINGTON, 43350, REGISTERED PROFESSIONAL ENGINEER

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

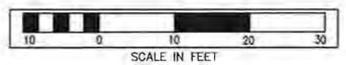
BELMONDO REVETMENT ENHANCEMENT 2013
CEDAR RIVER
PIPE DETAILS

SHEET 8 OF 14 SHEETS



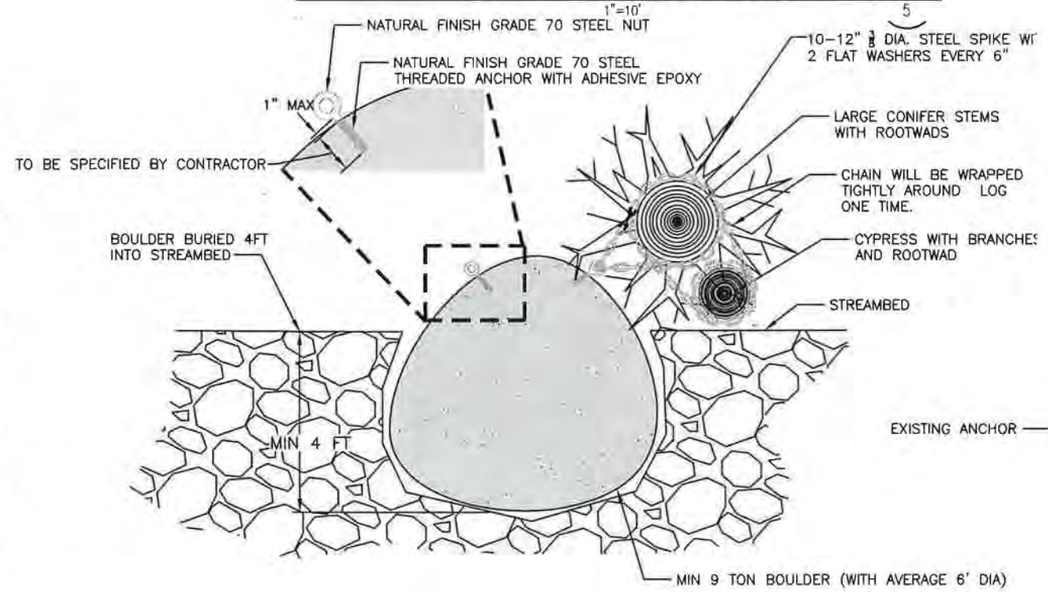
PLAN – ROUGHNESS TREES (1/5)

1"=10'



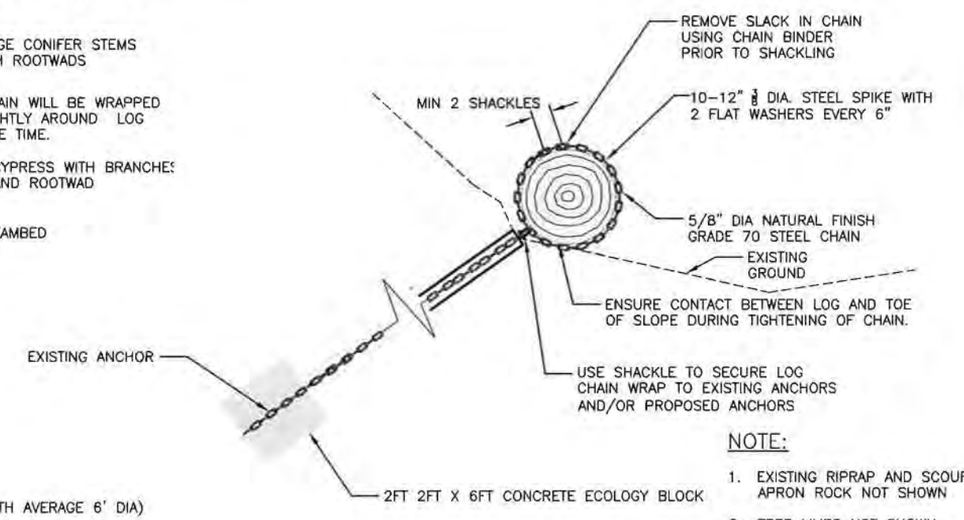
ROUGHNESS LOGS NOTES:

1. 16–18" DBH CYPRESS TREES WITH ROOTWADS SHALL BE HARVESTED BY CONTRACTOR FROM EXISTING ADJACENT PROPERTY
2. 2 FT DIA CONIFER LOGS WITH ROOTWADS SHALL BE DELIVERED AND STAGED ONSITE BY CONTRACTOR
3. LOGS WILL BE PLACED IN TWO LAYERS WITH CYPRESS TREES ON THE BOTTOM AND THE CONIFERS LOGS ON TOP.
4. EACH CONFER LOG WILL BE ANCHORED TO AT LEAST TWO ANCHORS (OR THREE WHERE SHOWN), WITH ONE ANCHOR ATTACHED IN THE TOP QUARTER OF THE STEM AND ONE ATTACHED IN THE BOTTOM QUARTER. ANCHORS WILL CONSIST OF EXISTING BURIED ECOLOGY BLOCKS OR BOULDER ANCHORS INSTALLED PER DETAIL 2/9.
5. EACH CYPRESS WILL BE CONNECTED AT TWO LOCATIONS WITH ONE CONNECTION IN THE TOP QUARTER OF THE STEM AND ONE CONNECTION IN THE BOTTOM QUARTER. ALL CONNECTIONS WILL BE BY CHAIN, EITHER TO A CROSSING CONIFER LOG, ECOLOGY BLOCK ANCHOR, OR TO A BOULDER ANCHOR AS SHOWN ON PLANS. SEE DETAIL F/12.
6. AT EACH CHAIN CONNECTION TO A LOG, THE CHAIN WILL ENCIRCLE THE LOG ENTIRELY, AND THE CHAIN WILL BE INSTALLED WITH NO SLACK.
7. FOR ALL CHAIN CONNECTIONS CONNECTORS WILL BE RATED AT THE SAME WORKING LOAD AS THE CHAIN AND INSTALLED SUCH THAT THEY CANNOT BE LOOSENED OR REMOVED USING HAND TOOLS.
8. EACH ANCHOR BOULDER WILL BE FITTED WITH TWO ATTACHMENT POINTS SUITABLE FOR CONNECTING TO CHAIN AS SHOWN ON 2/9.
9. EACH ANCHOR BOULDER WILL BE EMBEDDED 4 FT BELOW EXISTING GRADE OR SCOUR APRON BACKFILL.
10. FINAL NUMBER AND ARRANGEMENT OF BOULDER ANCHORS AND LOGS MAY BE MODIFIED BY THE ENGINEER BASED ON SITE CONDITIONS AND THE CHARACTERISTICS OF THE SUPPLIED LOGS.



DETAIL – BOULDER ANCHOR (2/9)

HORIZONTAL: 1"=5' VERTICAL: 1"=5'



DETAIL – ECOLOGY BLOCK ANCHOR (3/9)

NTS

NOTE:

1. EXISTING RIPRAP AND SCOUR APRON ROCK NOT SHOWN
2. TREE LIMBS NOT SHOWN.

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

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:	08024	11–14–11
SURVEYED:	J. DIXON	11–14–11
SURVEY BASE MAP:	J. DIXON	11–14–11
CHECKED:	JAKE EVANS	12–01–11

NUM.	REVISION	BY	DATE
1	ADDENDUM, REV 1	CB	5/24/2013

APPROVED:	JOHN ENGEL, P.E.	4/13
PROJECT MANAGER:	MASON BOWLES P.W.S.	4/13
DESIGNED:	CAROLYN BUTCHART, P.E.	4/13
CAD ENTERED:	LAURA TURNIDGE, HERRERA	4/13

FED. AID No. PW–01653

PROJECT No. 1112019 1112045

SURVEY No.

MAINTENANCE DIVISION No. 4

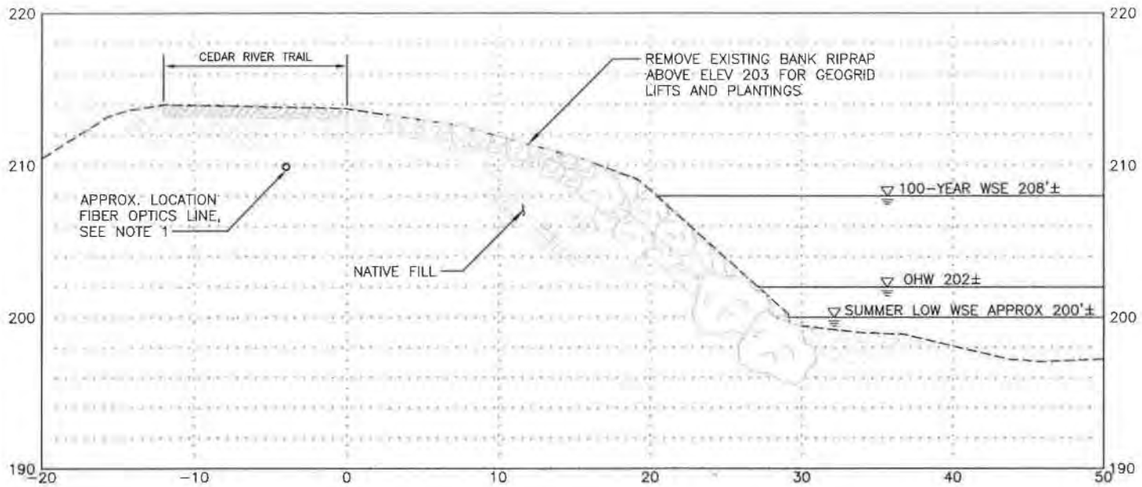
CAROLYN D. BUTCHART — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

State of Washington — Licensed Geologist — John Bethel

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

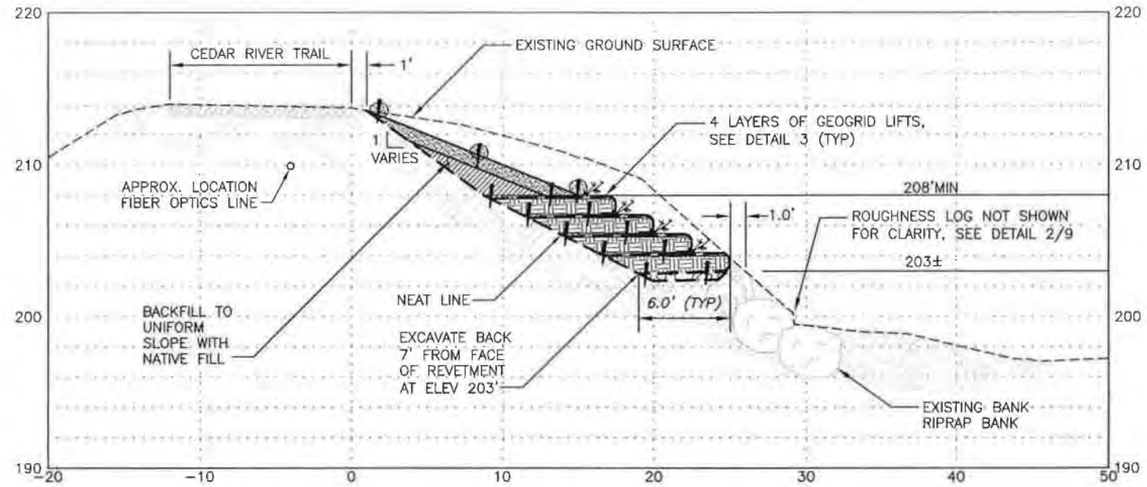
BELMONDO REVETMENT ENHANCEMENT 2013
CEDAR RIVER
ROUGHNESS TREE DETAILS

SHEET 9 OF 14 SHEETS



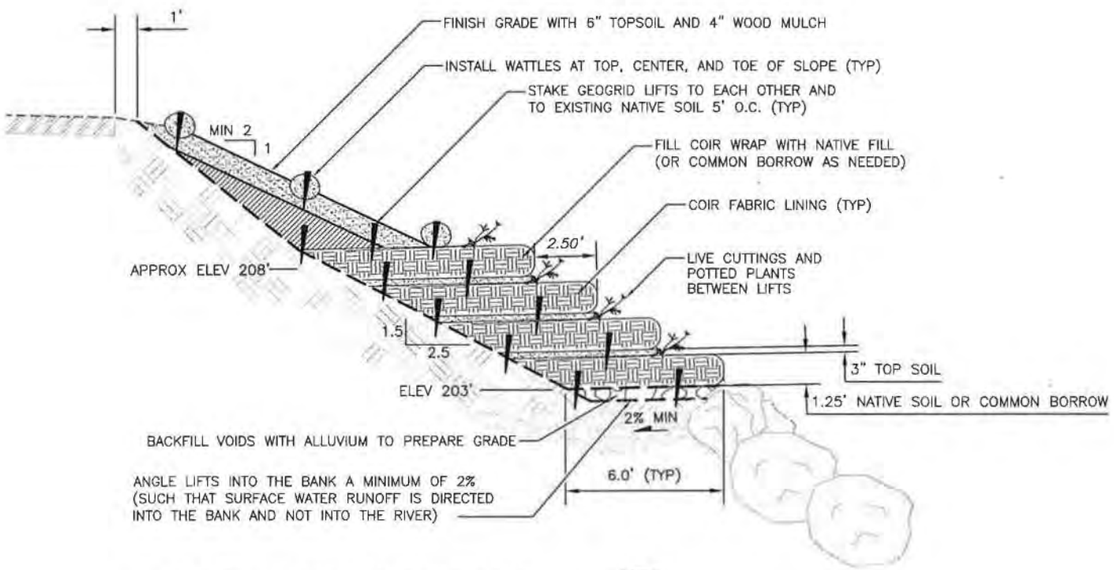
SECTION – EXISTING CONDITIONS (TYP) 1/4

STA 0+35 TO 2+85
HORIZONTAL: 1"=5' VERTICAL: 1"=5'



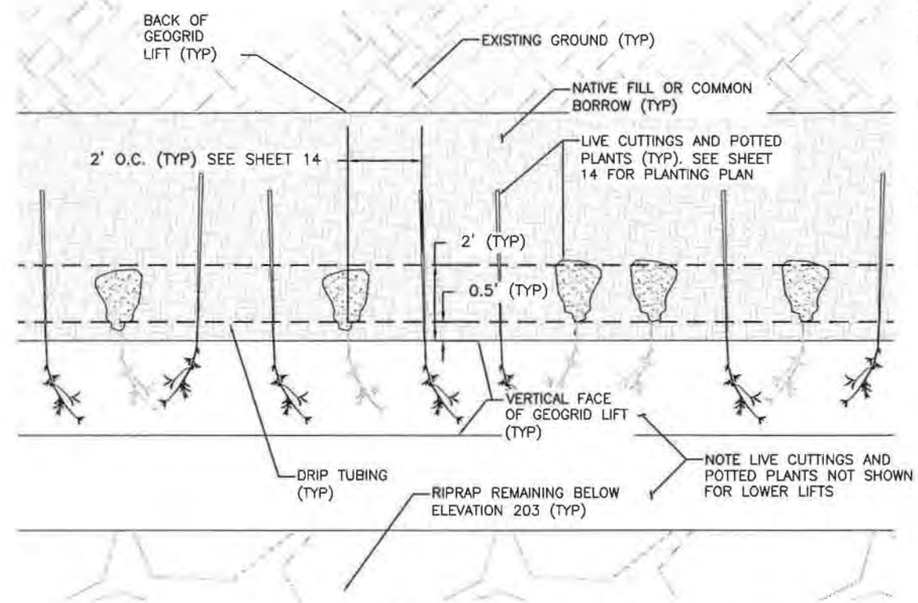
SECTION – GEOGRID STABILIZATION (TYP) 2/5

STA 0+35 TO 0+50 AND 0+65 TO 2+90
HORIZONTAL: 1"=5' VERTICAL: 1"=5'



DETAIL – GEOGRID LIFTS (TYP) 3/–

NTS



DETAIL – GEOGRID LIFT DRIP TUBING (TYP) 4/–

NTS

NOTES:

1. SLOPE EMBANKMENT ABOVE COIR VARIES TO MEET TRAIL WITH 1 FT OFFSET.
2. FOLD COIR CORNERS TO END WRAP EACH GEOGRID LIFT DIRECTLY ADJACENT, AND IN CONTACT WITH, EXISTING GEOGRID LIFTS AT DOWNSTREAM END OF PROJECT.
3. END WRAP GEOGRID LIFTS DIRECTLY ADJACENT, AND IN CONTACT WITH, THE ELJ BALLAST ROCK.

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

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:	08024	11-14-11			
SURVEYED:	J. DIXON	11-14-11			
SURVEY BASE MAP:	J. DIXON	11-14-11			
CHECKED:	JAKE EVANS	12-01-11			

NUM.	REVISION	BY	DATE
1	ADDENDUM, REV 1	CB	5/24/2013

APPROVED:	JOHN ENGEL, P.E.	4/13
PROJECT MANAGER:	MASON BOWLES P.W.S.	4/13
DESIGNED:	CAROLYN BUTCHART, P.E.	4/13
CAD ENTERED:	LAURA TURNIDGE, HERRERA	4/13

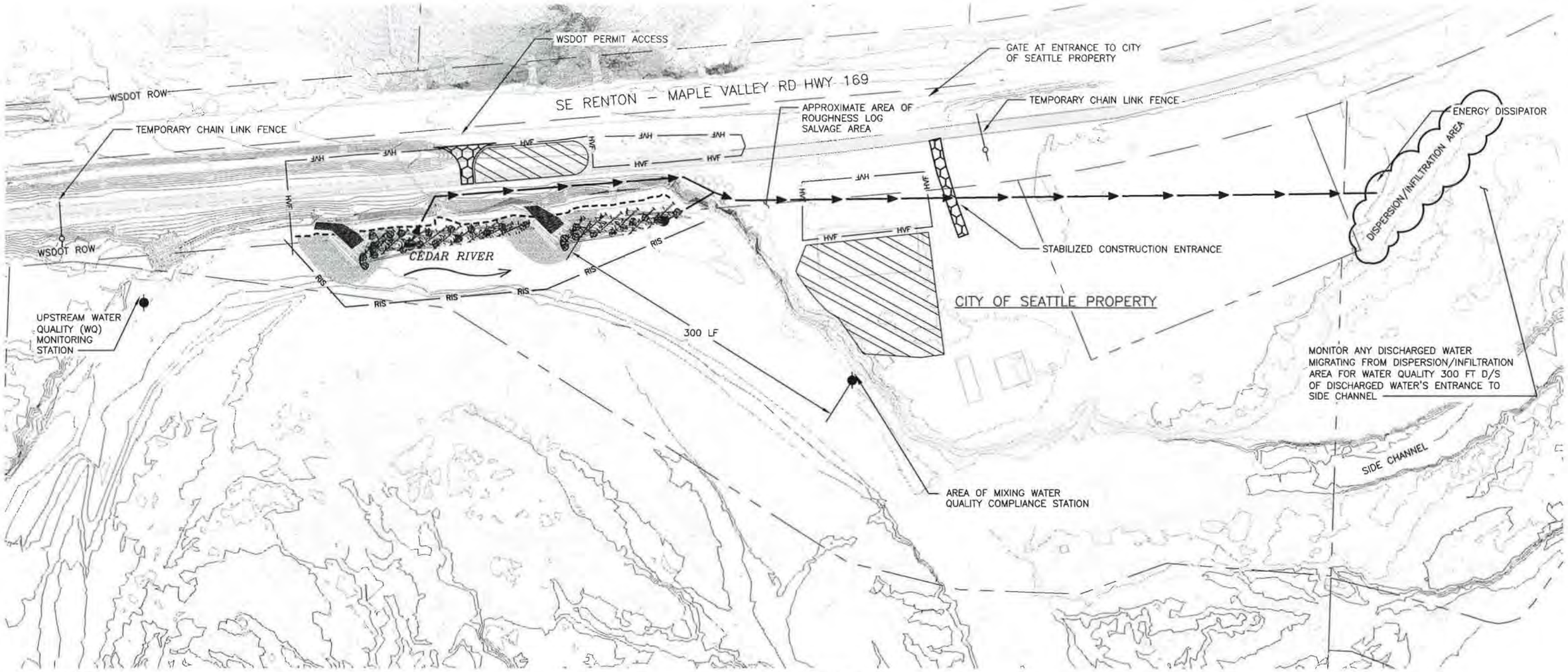
FED. AID No. PW-01653
PROJECT No. 1112019 1112045
SURVEY No.
MAINTENANCE DIVISION No. 4

CAROLYN D. BUTCHART, STATE OF WASHINGTON, 43550, REGISTERED PROFESSIONAL ENGINEER

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO REVETMENT ENHANCEMENT 2013
CEDAR RIVER
GEOGRID LIFTS DETAILS

SHEET 10 OF 14 SHEETS



TESC NOTES:

1. THE CLEARING LIMITS SHALL BE CLEARLY FLAGGED BY HIGH VISIBILITY FENCING PRIOR TO CONSTRUCTION (SWDM APPENDIX D). DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE ESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION.
2. INSTALL TESC MEASURES FOLLOWING APPROVAL OF TEMPORARY ACCESS ROAD ALIGNMENT AND PRIOR TO ANY CONSTRUCTION. TEMPORARY ACCESS ROAD SHALL BE STABILIZED AS SHOWN ON THE PLANS FOR THE DURATION OF USE. ADDITIONAL MEASURES, SUCH AS WASH PADS AND STREET SWEEPING, MAY BE REQUIRED TO ENSURE THAT ALL OFFSITE PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
3. FINAL TESC SHALL BE DETERMINED BY CONTRACTOR AND IDENTIFIED IN THE CONTRACTOR'S TESC PLAN
4. STOCKPILES SHALL BE CHECKED AND MAINTAINED THROUGHOUT CONSTRUCTION. ANY AREAS OF EXPOSED SOILS THAT WILL NOT BE DISTURBED FOR SEVEN DAYS SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS (E.G. SEEDING, MULCHING, PLASTIC COVERING, ETC.) PER APPENDIX D OF THE SWDM.
5. THE IMPLEMENTATION OF THESE TESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE TESC FACILITIES IS THE RESPONSIBILITY OF THE ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.

RIVER ISOLATION SYSTEM NOTES:

1. OFFSITE CITY OF SEATTLE PROPERTIES TO BE USED STAGING AND FOR INFILTRATING PUMPED WATER DURING IN WATER CONSTRUCTION. PUMPED WATER SHALL BE DISCHARGED IN AREAS INDICATED IN THE PLANS
2. IN WATER WORK SHALL NOT BEGIN UNTIL WATER QUALITY MONITORING SYSTEM. NOTIFY OWNER 2 DAYS PRIOR TO IN WATER WORK TO ALLOW INSTALLATION OF WATER QUALITY SYSTEM BY OWNER
3. CONTRACTOR SHALL COMPLY WITH 401 WATER QUALITY STANDARDS
4. WORK WILL BE PERFORMED DURING THE FISH WINDOW CONDITIONS PER THE WDFW HYDRAULIC PROJECT APPROVAL (HPA).
5. IN–WATER WORK AND EXCAVATION WILL BE REQUIRED.
6. FINAL RIVER ISOLATION SYSTEM SHALL BE DETERMINED BY CONTRACTOR AND IDENTIFIED IN THE CONTRACTOR'S RIVER ISOLATION PLAN
7. THE IMPLEMENTATION OF THE RIVER ISOLATION PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THE RIVER ISOLATION FACILITIES IS THE RESPONSIBILITY OF THE ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.

50 0 50 100 150
SCALE IN FEET

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

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK: 08024	11–14–11	1	ADDENDUM, REV 1	CB	5/24/2013
SURVEYED: J. DIXON	11–14–11				
SURVEY BASE MAP: J. DIXON	11–14–11				
CHECKED: JAKE EVANS	12–01–11				
		NUM.	REVISION	BY	DATE

APPROVED:	JOHN ENGEL, P.E.	4/13
PROJECT MANAGER:	MASON BOWLES P.W.S.	4/13
DESIGNED:	CAROLYN BUTCHART, P.E.	4/13
CAD ENTERED:	LAURA TURNIDGE, HERRERA	4/13

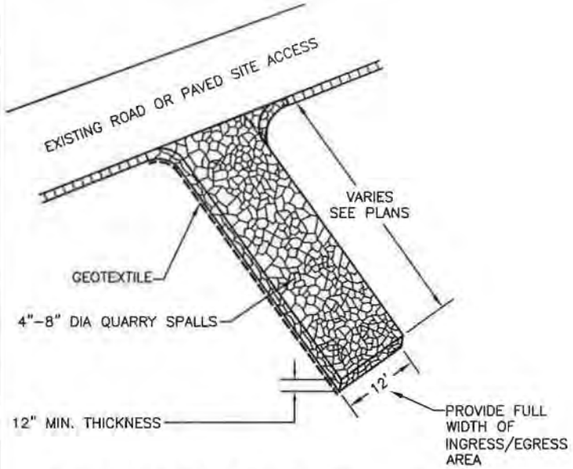
FED. AID No. PW–01653
PROJECT No. 1112019 1112045
SURVEY No.
MAINTENANCE DIVISION No. 4

CAROLYN D. BUTCHART STATE OF WASHINGTON 43350 REGISTERED PROFESSIONAL ENGINEER

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO REVETMENT ENHANCEMENT 2013
CEDAR RIVER
TESC AND RIVER ISOLATION SYSTEM PLAN

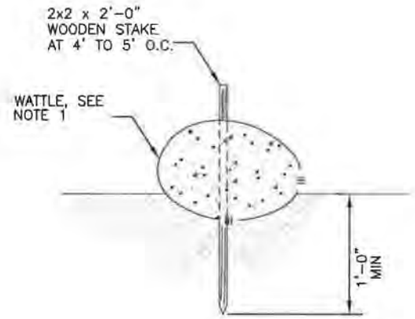
SHEET 11 OF 14 SHEETS



TEMPORARY ACCESS NOTES:

1. PLACE SEPARATION GEOTEXTILE UNDER THE SPALLS TO PREVENT FINE SEDIMENT FROM PUMPING UP INTO THE ROCK PAD. THE GEOTEXTILE SHALL MEET THE STANDARDS IN APPENDIX D OF THE SWDM.
2. ANY QUARRY SPALLS THAT ARE LOOSENED FROM THE PAD AND END UP ON THE EXISTING ROAD SHALL BE REMOVED.

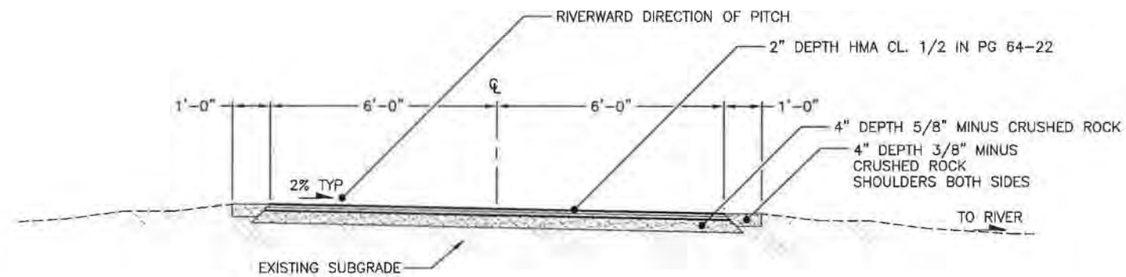
STABILIZED CONSTRUCTION ENTRANCE (A/11)
SCALE: NTS



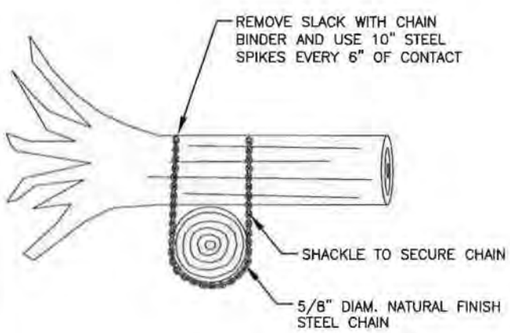
WATTLE DETAIL NOTES:

1. WATTLE SHALL BE PER WSDOT STANDARD PLAN

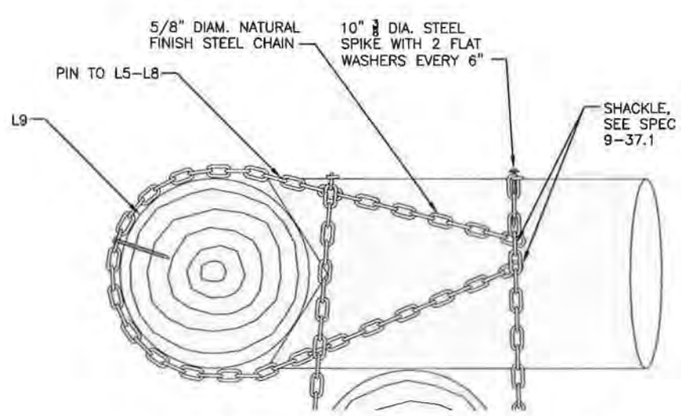
WATTLE (B/11)
SCALE: NTS



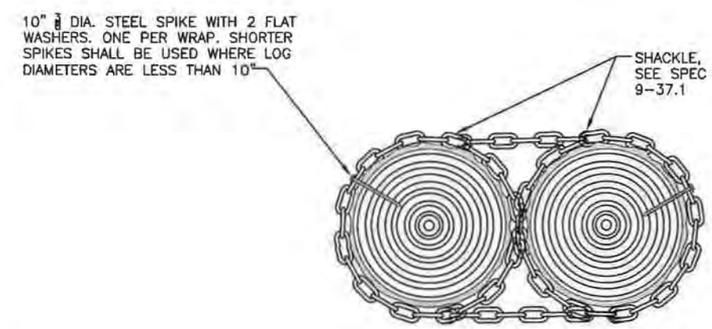
TYPICAL EXISTING TRAIL SECTION (C)
SCALE: NTS



TYPICAL LOG AND CHAIN DETAIL (D/7)
SCALE: NTS



L12 CONNECTION DETAIL (E/7)
SCALE: NTS



ROUGHNESS LOG TO LOG CONNECTION DETAIL (F/9)
SCALE: NTS

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

FIELD BOOK: 08024	11-14-11	1	ADDENDUM, REV 1	CB	5/24/2013
SURVEYED: J. DIXON	11-14-11				
SURVEY BASE MAP: J. DIXON	11-14-11				
CHECKED: JAKE EVANS	12-01-11				
		NUM.	REVISION	BY	DATE

APPROVED:	JOHN ENGEL, P.E.	4/13
PROJECT MANAGER:	MASON BOWLES P.W.S.	4/13
DESIGNED:	CAROLYN BUTCHART, P.E.	4/13
CAD ENTERED:	LAURA TURNIDGE, HERRERA	4/13

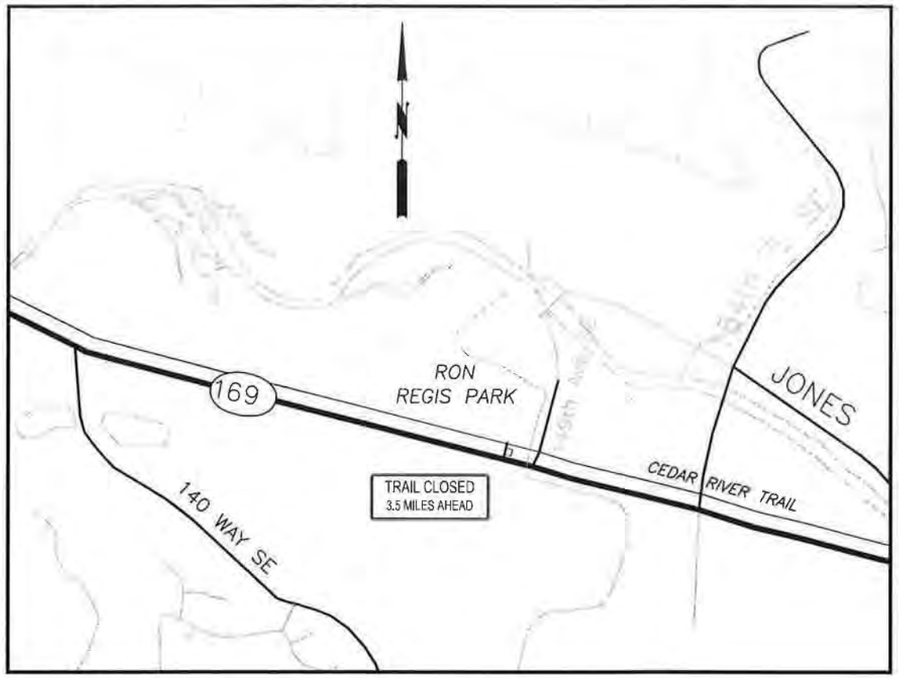
FED. AID No. PW-01653
PROJECT No. 1112019 1112045
SURVEY No.
MAINTENANCE DIVISION No. 4

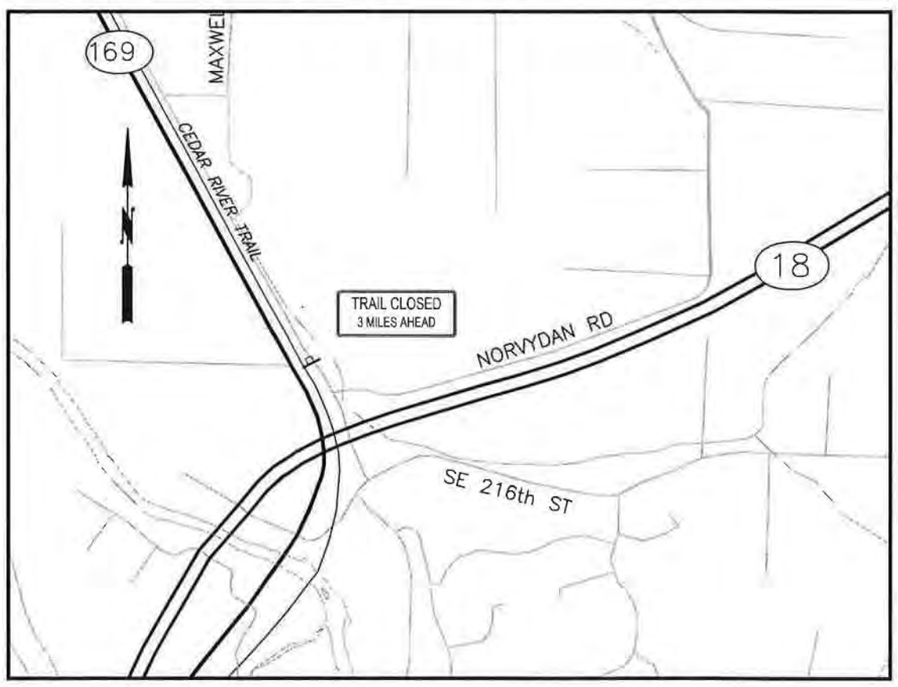
CAROLYN D. BUTCHART, STATE OF WASHINGTON, 43350, REGISTERED PROFESSIONAL ENGINEER

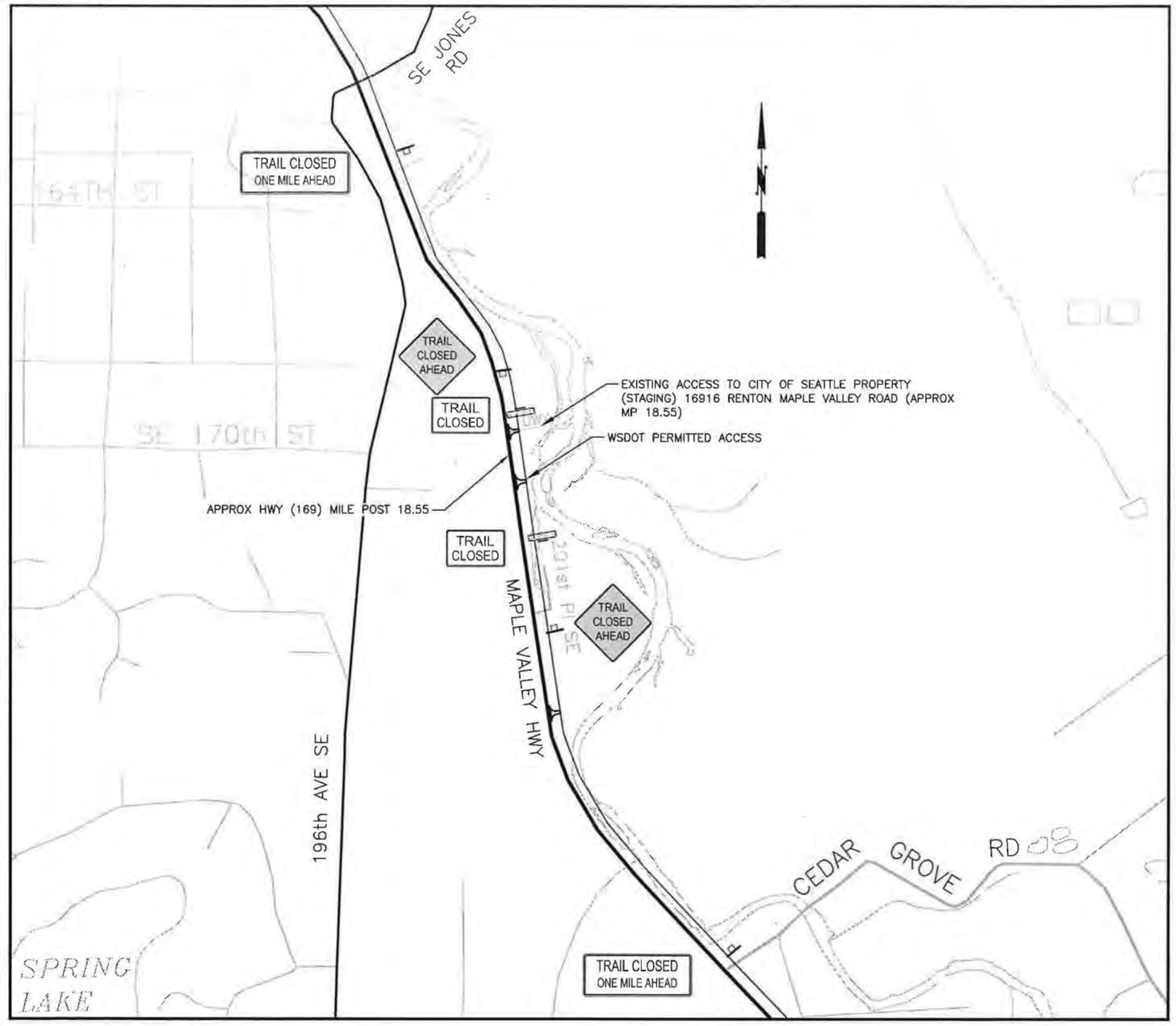
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO REVETMENT
ENHANCEMENT 2013
CEDAR RIVER
MISCELLANEOUS DETAILS

SHEET 12 OF 14 SHEETS







TRAFFIC CONTROL NOTES:

1. PROJECT SITE WILL BE CLOSED TO PUBLIC DURING CONSTRUCTION PERIOD.
2. CONTRACTOR TO PROVIDE TRAFFIC CONTROL PLAN FOR ACCESS TO SR 169.
3. KC TO PROVIDE AND INSTALL TRAIL CLOSED SIGNS ON CEDAR RIVER TRAIL AS SHOWN.

500 0 500 1000 1500
SCALE IN FEET

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

FIELD BOOK:	08024	11-14-11
SURVEYED:	J. DIXON	11-14-11
SURVEY BASE MAP:	J. DIXON	11-14-11
CHECKED:	JAKE EVANS	12-01-11

NUM.	REVISION	BY	DATE
1	ADDENDUM, REV 1	CB	5/24/2013

APPROVED:	JOHN ENGEL, P.E.	4/13
PROJECT MANAGER:	MASON BOWLES P.W.S.	4/13
DESIGNED:	CAROLYN BUTCHART, P.E.	4/13
CAD ENTERED:	LAURA TURNIDGE, HERRERA	4/13

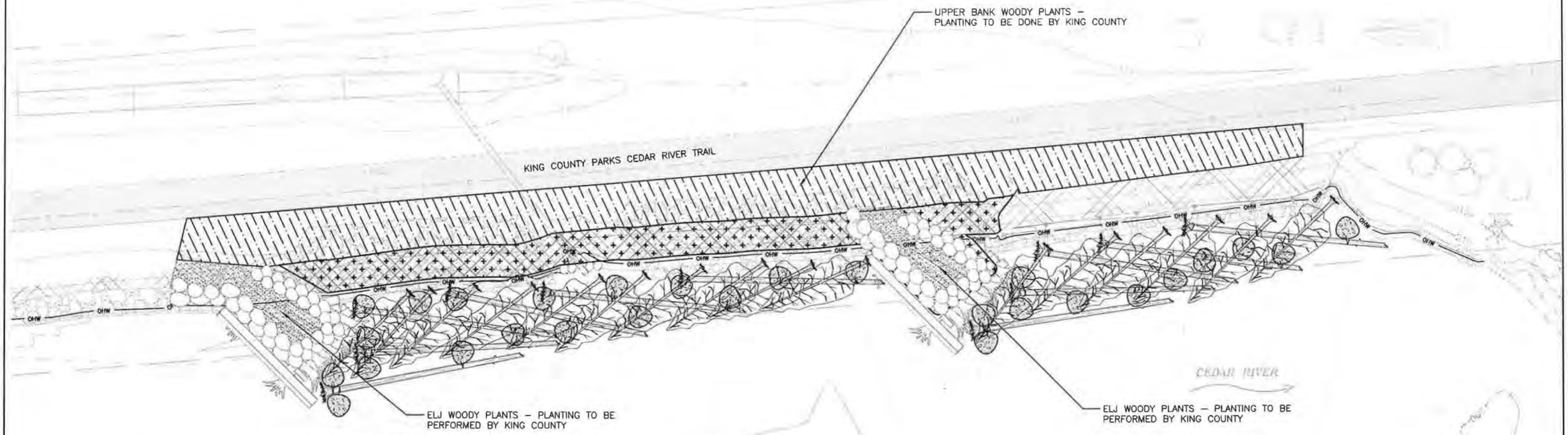
FED. AID No. PW-01653
PROJECT No. 1112019 1112045
SURVEY No.
MAINTENANCE DIVISION No. 4

5/24/13

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO REVETMENT ENHANCEMENT 2013 CEDAR RIVER
TRAFFIC CONTROL PLAN

SHEET 13 OF 14 SHEETS



15 0 15 30 45
SCALE IN FEET

KING COUNTY PLANT SCHEDULE: UPPER SLOPE

SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	QTY	SPACING
UPPER BANK WOODY PLANTS – TOTAL AREA 3750 SF					
	ABIES LASIOCARPA	WESTERN HEMLOCK	1 GAL	10	10' O.C.
	THUJA PLICATA	WESTERN RED CEDAR	1 GAL	12	10' O.C.
	ACER MACROPHYLLUM	BIG LEAD MAPLE	1 GAL	16	10' O.C.
	POLYSTICHUM MUNITUM	SWORD FERN	1 GAL	20	4' O.C.
	ACER CIRCINATUM	VINE MAPLE	1 GAL	30	4' O.C.
	RUBUS PARVIFLORUS	THIMBLEBERRY	1 GAL	30	4' O.C.
	HOLODISCUS DISCOLOR	OCEANSPRAY	1 GAL	30	4' O.C.
	CORNUS CORNUTA	WESTERN HAZEL	1 GAL	30	4' O.C.
	SYMPHOCARPUS ALBUS	SNOWBERRY	1 GAL	30	4' O.C.
	RIBES SANGUINEUM	RED-FLOWER CURRANT	1 GAL	30	4' O.C.
	RUBUS NUTKANA	NOOTKA ROSE	1 GAL	30	4' O.C.

KING COUNTY PLANT SCHEDULE: ELJ

SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	QTY	SPACING
UPPER BANK WOODY PLANTS – TOTAL AREA 1200 SF					
	THUJA PLICATA	WESTERN RED CEDAR	1 GAL	12	10' O.C.
	ACER MACROPHYLLUM	BIG LEAD MAPLE	1 GAL	16	10' O.C.
	ACER CIRCINATUM	VINE MAPLE	1 GAL	30	4' O.C.
	RUBUS PARVIFLORUS	THIMBLEBERRY	1 GAL	30	4' O.C.
	HOLODISCUS DISCOLOR	OCEANSPRAY	1 GAL	30	4' O.C.
	RIBES SANGUINEUM	RED-FLOWERING CURRANT	1 GAL	30	4' O.C.

CONTRACTOR GEOGRID LIFT PLANT SCHEDULE:

SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	QTY	SPACING
LOWER BANK WOODY PLANTS – TOTAL AREA 809 SF					
	ACER CIRCINATUM	VINE MAPLE	1 GAL	125	2' O.C.
	SALIX SCOULERANIA	SCOULER'S WILLOW	6', 1-2"D	375	2' O.C.
	SALIX SITCHENSIS	SITKA WILLOW	6', 1-2"D	375	2' O.C.
	LONICERA INVOLUCRATA	TWINBERRY	1 GAL	125	2' O.C.
	CORNUS SERICEA	RED OSIER DOGWOOD	1 GAL	125	2' O.C.
	HOLODISCUS DISCOLOR	OCEANSPRAY	1 GAL	125	2' O.C.
	PHYSOCARPUS CAPITATUS	PACIFIC NINEBARK	1 GAL	125	2' O.C.

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

FIELD BOOK:	08024	11-14-11
SURVEYED:	J. DIXON	11-14-11
SURVEY BASE MAP:	J. DIXON	11-14-11
CHECKED:	JAKE EVANS	12-01-11

NUM.	REVISION	BY	DATE
1	ADDENDUM, REV 1	CB	5/24/2013

APPROVED:	JOHN ENGEL, P.E.	4/13
PROJECT MANAGER:	MASON BOWLES P.W.S.	4/13
DESIGNED:	CAROLYN BUTCHART, P.E.	4/13
CAD ENTERED:	LAURA TURNIDGE, HERRERA	4/13

FED. AID No. PW-01653
PROJECT No. 1112019 1112045
SURVEY No.
MAINTENANCE DIVISION No. 4

CAROLYN D. BUTCHART STATE OF WASHINGTON 43350 REGISTERED PROFESSIONAL ENGINEER

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO REVETMENT ENHANCEMENT 2013
CEDAR RIVER
PLANTING PLAN

SHEET 14 OF 14 SHEETS