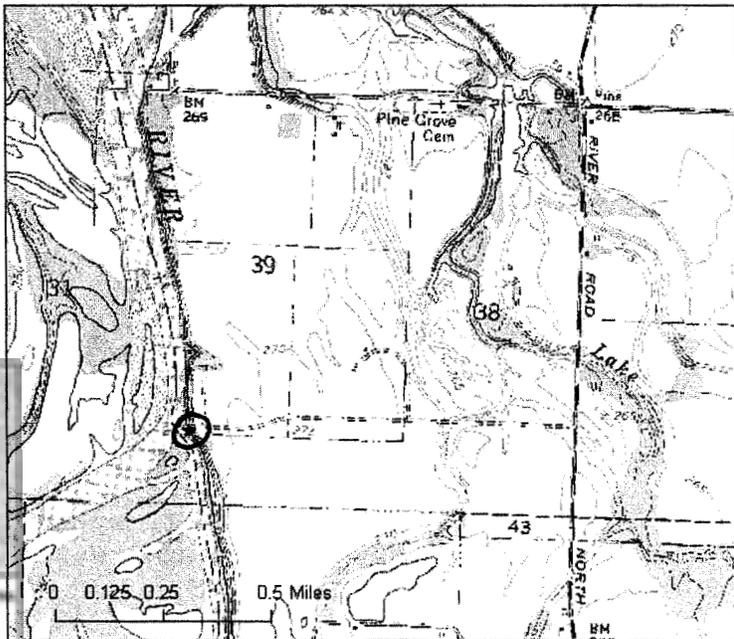


Project Location
Proposed Work Area
Fish Action Area

Completed By: ERM Ecological Services, Inc.
Map Date: May 2012
Data Source: BLM GIS
4/2012 (2012)



CASCADE PACIFIC PULP, LLC SIDE CHANNEL RECONNECTION 50% DESIGN

SHEET INDEX

C1	COVER SHEET
C2	CONSTRUCTION NOTES
C3	PROJECT OVERLAY AND SITE ACCESS
C4	EXISTING CONDITIONS
C5	STOCKPILE AND STAGING AREA PLAN
C6.0	OVERALL CHANNEL GRADING PLAN
C6.1	CHANNEL GRADING PLAN AND PROFILE
C6.2	CHANNEL GRADING PLAN AND PROFILE
C7	CONSTRUCTION SEQUENCE AND EROSION CONTROL PLAN
C8	CONSTRUCTION DETAILS
C9	REVEGETATION PLAN

PROJECT DESCRIPTION

THESE DRAWINGS PROVIDE PLANNING-LEVEL DESIGN DETAILS TO ADDRESS WATER QUALITY AND WATER SUPPLY CONCERNS AT A CASCADE PACIFIC WATER INTAKE ON THE MAINSTEM WILLAMETTE RIVER, JUST WEST OF HALSEY, OREGON. THE PROPOSED PROJECT CONSISTS OF ACTIVE RECONNECTION OF HISTORIC SIDE CHANNELS WITH THE WILLAMETTE RIVER AT ITS UPSTREAM END TO INCREASE THE FLOW OF WATER PAST THE WATER INTAKE.

GRADING SUMMARY

GRADING SUMMARY PROPOSED CHANNEL:

ITEM	VOLUME (CUBIC YARDS)
CUT =	22,800
FILL =	50

GRADING SUMMARY STOCKPILE AREA:

ITEM	VOLUME (CUBIC YARDS)
CUT =	0
FILL =	17,150

GRADING SUMMARY TEMPORARY ACCESS ROADS:

ITEM	VOLUME (CUBIC YARDS)
CUT =	0
FILL =	5,400

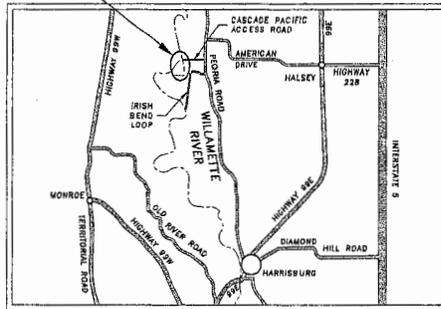
THE ABOVE QUANTITIES ARE APPROXIMATE IN-PLACE VOLUMES CALCULATED FROM THE DIFFERENCE BETWEEN EXISTING GROUND AND PROPOSED FINISH GRADE. EXISTING GROUND IS DEFINED BY THE TOPOGRAPHIC CONTOURS AND/OR SPOT ELEVATIONS ON THE PLAN. PROPOSED FINISH GRADE IS DEFINED AS THE DESIGN SURFACE ELEVATION OF EARTH TO BE CONSTRUCTED.

THE ABOVE QUANTITIES ARE FOR PERMIT PURPOSES ONLY AND HAVE NOT BEEN FACTORED TO INCLUDE ALLOWANCES FOR BULKING, CLEARING AND CRUSHING, SUBSIDENCE, SHRINKAGE, OVER EXCAVATION, RECOMPACTION, AND CONSTRUCTION METHODS.

THE ABOVE QUANTITIES WERE CALCULATED FROM 2008 LIDAR DEM AND ARE APPROXIMATE. THE GROUND SURFACE MAY HAVE CHANGED FROM THE LOCATION SHOWN ON THE DRAWINGS.

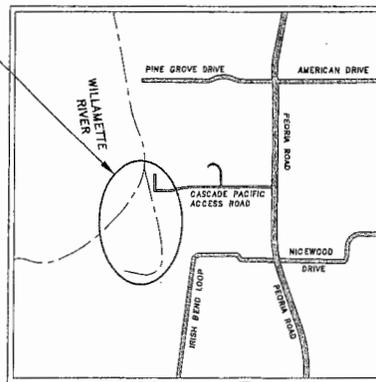
GRADING OF THE PROPOSED CHANNEL WILL PRODUCE APPROXIMATELY 11,500 CY OF SILTY SAND AND 11,100 CY OF SILTY GRAVEL.

PROJECT LOCATION



REGIONAL MAP
N.T.S. (GOOGLE)

PROJECT LOCATION



VICINITY MAP
N.T.S. (GOOGLE)

ABBREVIATIONS

AVG.	AVERAGE
CC	CONCRETE
CU	CUBIC YARDS
DM	DIAMETER
(E)	EXISTING
E.G.	EXISTING GROUND
EL	ELEVATION
FG	FINISHED GRADE
FT	FEET
IN	INCHES
LF	LINEAR FEET
MAX.	MAXIMUM
MIN.	MINIMUM
(N)	NEAR
(NIC)	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
R	RADIUS
R.C.	RELATIVE COMPACTION
RSP	ROCK SLOPE PROTECTION
SPK	SPIKE
SF	SQUARE FEET
SWPPP	STORMWATER POLLUTION PREVENTION PLAN
TBD	TO BE DETERMINED
TYP	TYPICAL
UNK	UNKNOWN
WSE	WATER SURFACE ELEVATION
YR	YEAR

GENERAL NOTES

- PREPARED AT THE REQUEST OF:
JIM WEMPER FOR CASCADE PACIFIC PULP, LLC
BROWN AND CALDWELL 30480 AMERICAN DRIVE
6500 SW MACDONALD AVE HALSEY, OR 97348
SUITE 200
PORTLAND, OR 97239
- AERIAL TOPOGRAPHIC SOURCE:
WATERFORD SCIENCES, INC.
421 SW 6TH AVE
SUITE 800
PORTLAND, OR 97204
DATE FLOWN: SEPTEMBER 5, 2008
- BATHYMETRIC SURVEY SOURCE:
SOLMAN HYDRO
8035 N. ELDON ST
PORTLAND, OR 97203
- CONTOUR INTERVAL: ONE FOOT
- ELEVATION DATUM: NAVD83
- BASIS OF BEARINGS: CONTACT BROWN AND CALDWELL
- INDIVIDUAL TREES WERE NOT LOCATED DURING THIS SURVEY.
- THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES SHOWN HEREON ARE APPROXIMATE, FOR PRELIMINARY PLANNING PURPOSES ONLY.

SECTION AND DETAIL CONVENTION

SECTION OR DETAIL IDENTIFICATION (NUMBER OR LETTER)

REFERENCE SHEET FROM WHICH DETAIL OR SECTION IS TAKEN.

REFERENCE SHEET TO WHICH SECTION OR DETAIL IS SHOWN.

WATERWAYS CONSULTING, INC.
SIZE: 30" SW 6TH AVENUE SUITE 700
PORTLAND, OREGON 97204
PHONE: 503-227-5979 FAX: 503-227-0947
WWW.WATERWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
CASCADE PACIFIC PULP, LLC

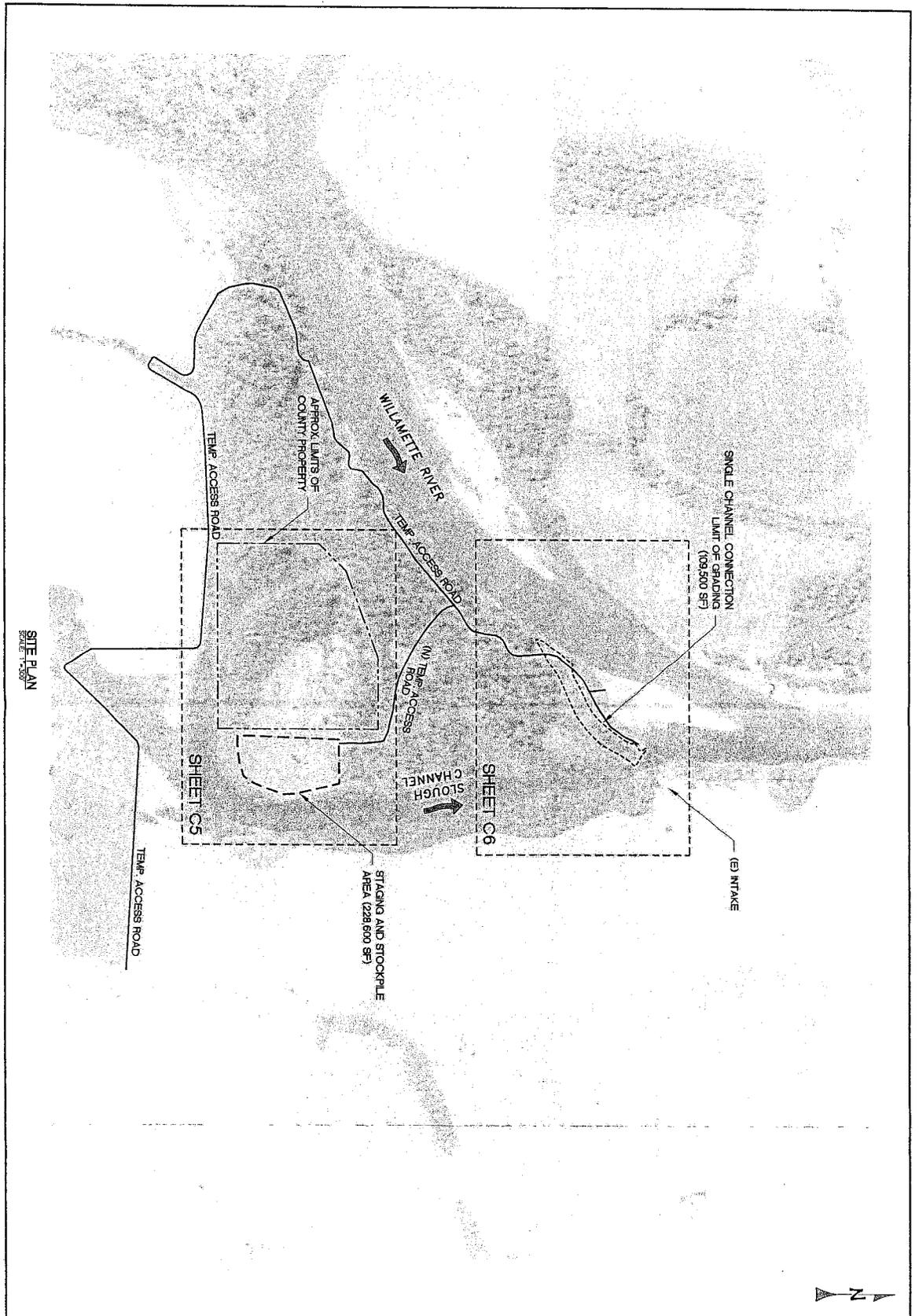
COVER SHEET

CASCADE PACIFIC SIDE CHANNEL RECONNECTION

DESIGNED BY: J.M.
DRAWN BY: J.M.
CHECKED BY: M.W.W.
DATE: 11/8/12
JOB NO.: 12-009

BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS.

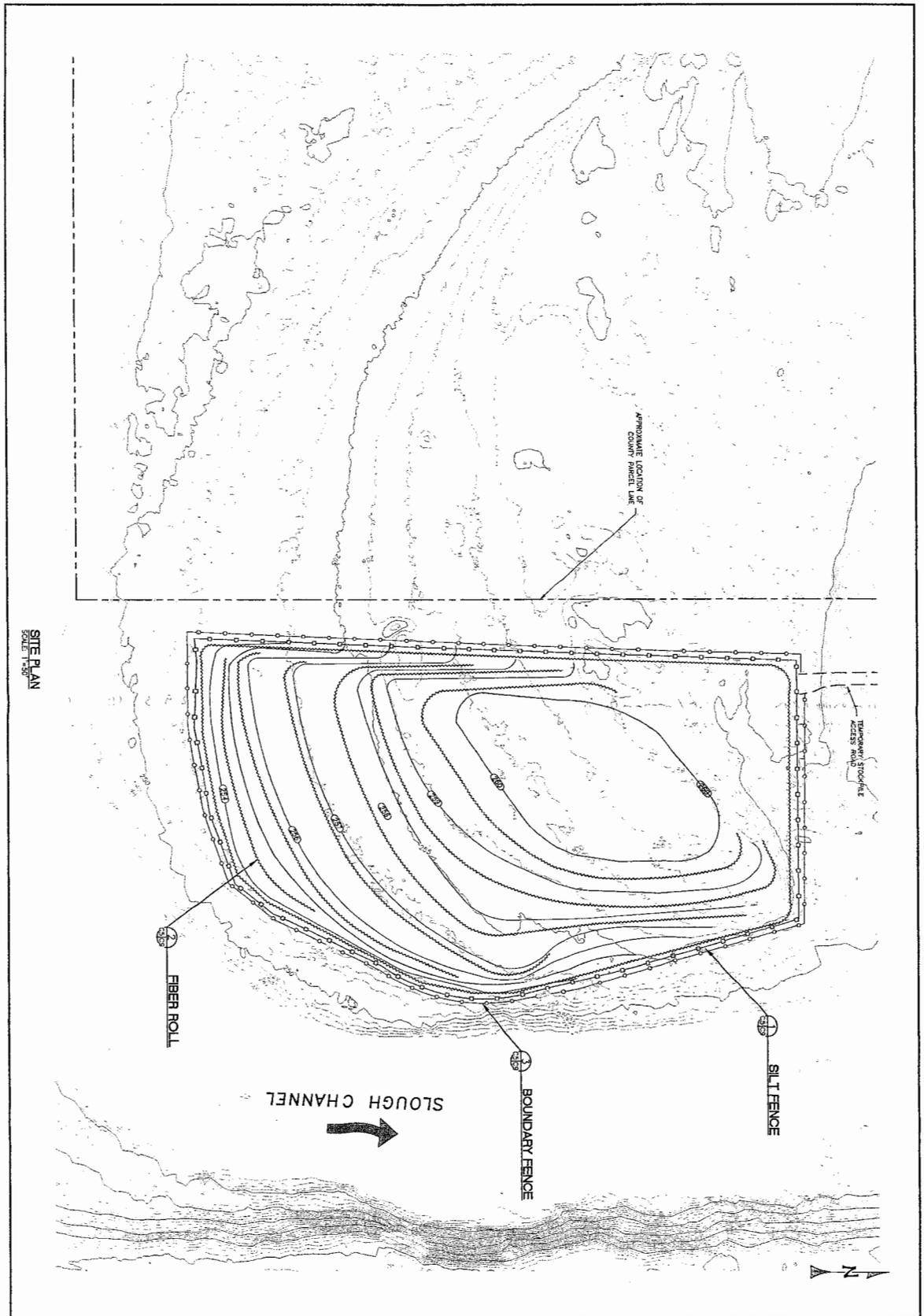
C1 OF 11



SITE PLAN
SCALE: 1"=50'

<p>C3 3 11</p>	<p>CASCADE PACIFIC SIDE CHANNEL RECONNECTION</p>	<p>PROJECT OVERVIEW AND SITE ACCESS PLAN</p>	<p>PREPARED AT THE REQUEST OF: CASCADE PACIFIC PULP, LLC</p>	<p>PRELIMINARY NOT FOR CONSTRUCTION</p>	<p>WATERWAYS CONSULTING INC. 522 SW 5TH AVENUE STE. 700 PORTLAND, OR 97204 PH: 503-327-9679 // FAX: 503-615-8847 WWW.WATERWAYS.COM</p>
------------------------	--	--	---	--	---

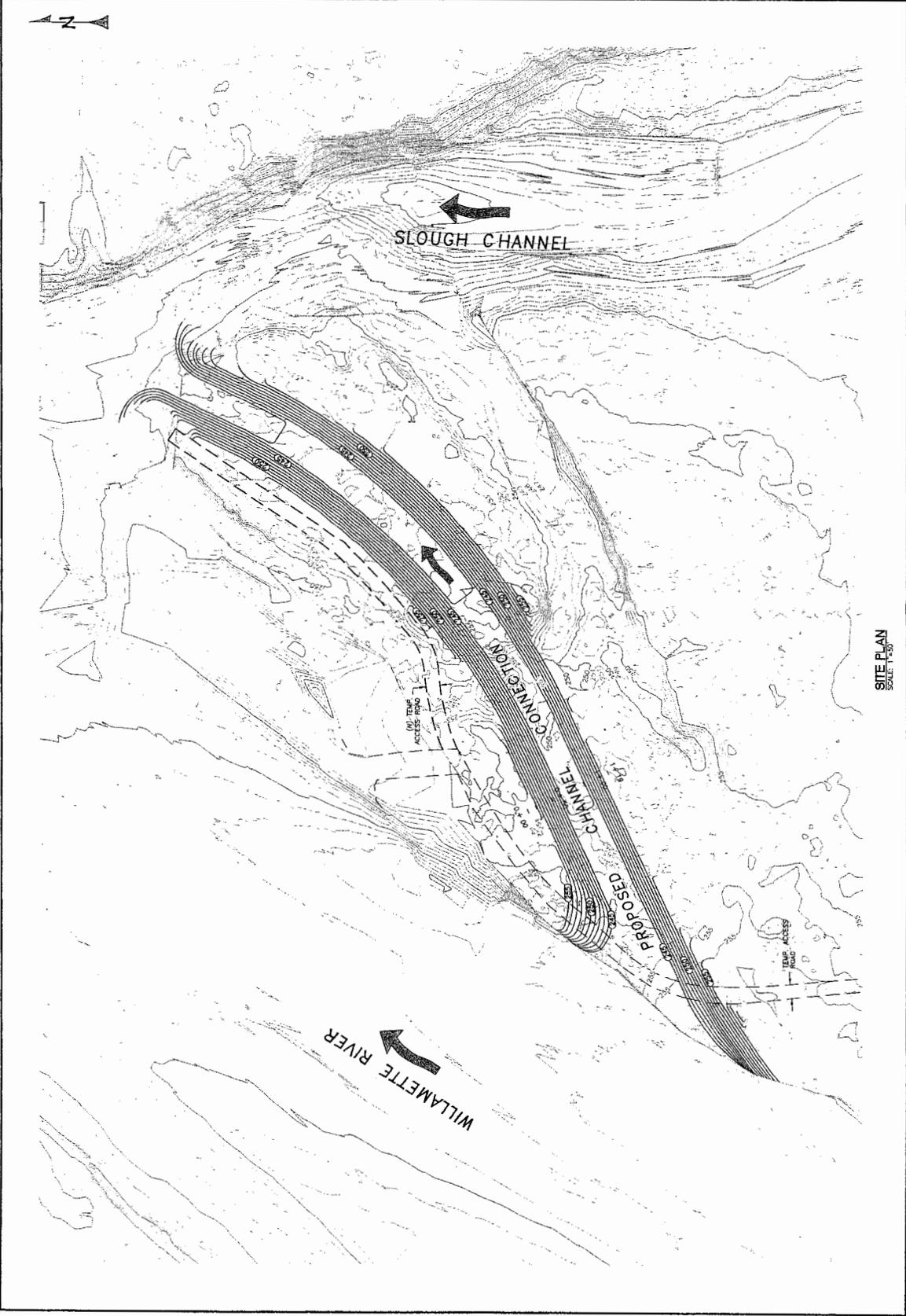
DESIGNED BY: J.M.
DRAWN BY: J.M.
CHECKED BY: J.M./A.W.
DATE: 11-2-00
JOB NO.: 12-000
EAG IS ONE INCH ON
ADJUSTED DRAWING
REDUCED PLANS



SITE PLAN
SCALE: 1"=50'

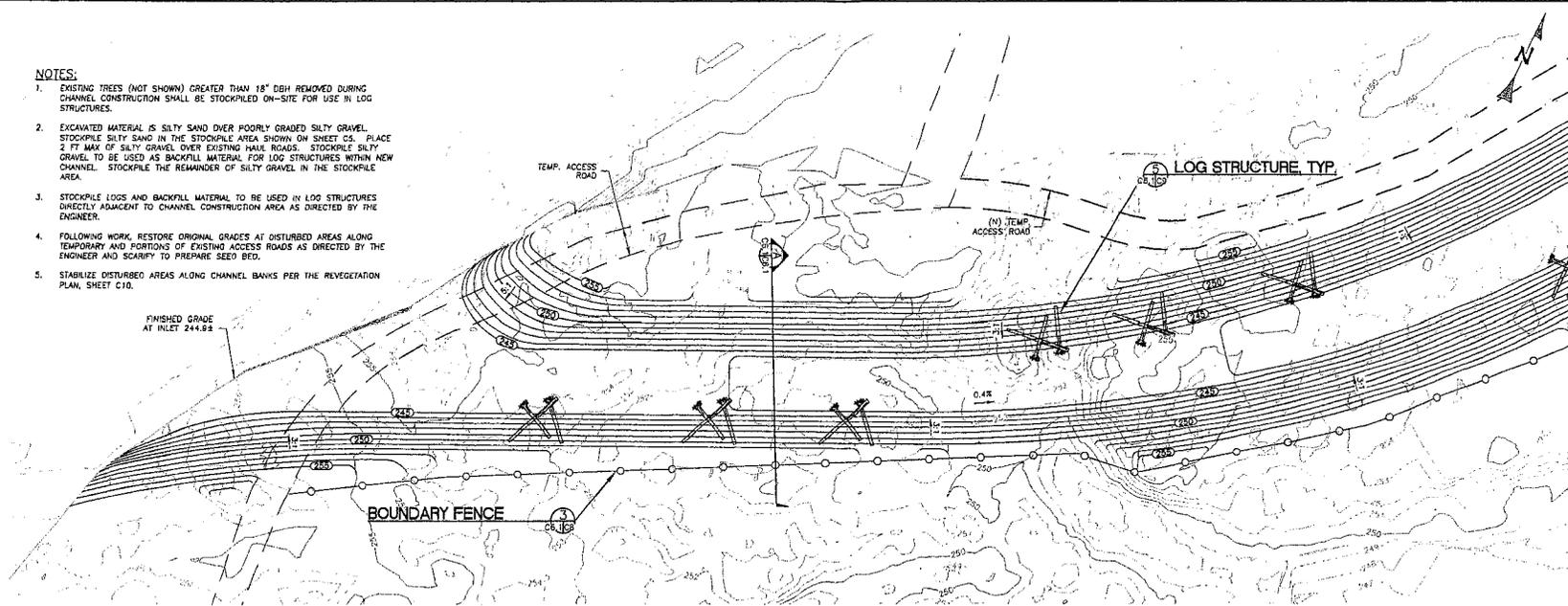
<p>C5 5 11</p>	<p>DESIGNED BY: JAM DRAWN BY: JAM DATE: 11/7/12 JOB NO.: 12-008</p> <p>BAR IS ONE INCH ON AN UNSTRAINED FOR REDUCED SCALE</p>	<p>CASCADE PACIFIC SIDE CHANNEL RECONNECTION</p>	<p>STOCKPILE AND STAGING AREA PLAN</p>	<p>PREPARED AT THE REQUEST OF: CASCADE PACIFIC PULP, LLC</p>	<p>PRELIMINARY NOT FOR CONSTRUCTION</p>	<p>WATERWAYS CONSULTING INC. 522 SW 5TH AVENUE, STE. 700 PORTLAND, OR 97204 PH: (503) 222-2879 // FAX: (503) 219-6547 WWW.WATWAYS.COM</p>
------------------------	---	--	--	--	--	--

 WATERWAYS CONSULTING INC. 322 SW 3TH AVENUE STE. 700 PORTLAND, OR 97204 PH: (503) 277-5275 / FAX: (503) 277-8847 WWW.WATERWAYS.COM	PRELIMINARY NOT FOR CONSTRUCTION	PREPARED AT THE REQUEST OF CASCADE PACIFIC PULP, LLC	OVERALL CHANNEL GRADING PLAN	CASCADE PACIFIC SIDE CHANNEL RECONNECTION	DESIGNED BY: JLM DRAWN BY: JLM CHECKED BY: JLM DATE: 11/6/12 JOB NO.: 12-003 BAR IS ONE INCH ON ADJUST SCALES FOR REDUCED POINTS.	C6.0	6 11
	SITE PLAN SHEET 1180						

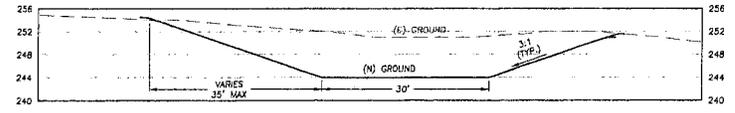


NOTES:

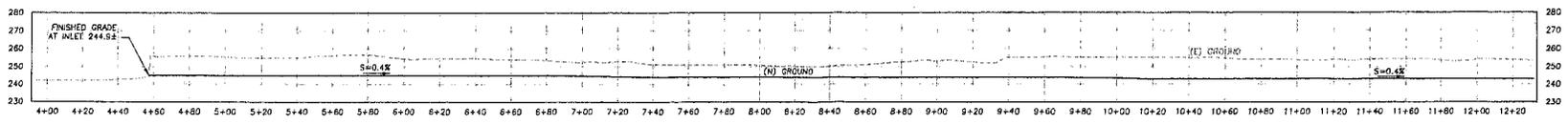
- EXISTING TREES (NOT SHOWN) GREATER THAN 18" DBH REMOVED DURING CHANNEL CONSTRUCTION SHALL BE STOCKPILED ON-SITE FOR USE IN LOG STRUCTURES.
- EXCAVATED MATERIAL IS SILTY SAND OVER POORLY GRADED SILTY GRAVEL. STOCKPILE SILTY SAND IN THE STOCKPILE AREA SHOWN ON SHEET C5. PLACE 2 FT MAX OF SILTY GRAVEL OVER EXISTING PAVE ROADS. STOCKPILE SILTY GRAVEL TO BE USED AS BACKFILL MATERIAL FOR LOG STRUCTURES WITHIN NEW CHANNEL. STOCKPILE THE REMAINDER OF SILTY GRAVEL IN THE STOCKPILE AREA.
- STOCKPILE LOGS AND BACKFILL MATERIAL TO BE USED IN LOG STRUCTURES DIRECTLY ADJACENT TO CHANNEL CONSTRUCTION AREA AS DIRECTED BY THE ENGINEER.
- FOLLOWING WORK RESTORE ORIGINAL GRADES AT DISTURBED AREAS ALONG TEMPORARY AND PORTIONS OF EXISTING ACCESS ROADS AS DIRECTED BY THE ENGINEER AND SCARIFY TO PREPARE SEED BED.
- STABILIZE DISTURBED AREAS ALONG CHANNEL BANKS PER THE REVEGETATION PLAN, SHEET C10.



GRADING PLAN - PROPOSED CHANNEL
SCALE: 1"=30'



TYPICAL CHANNEL SECTION
SCALE: 1"=10'



PROFILE - PROPOSED CHANNEL
SCALE: 1"=30'

WATERWAYS CONSULTING INC.
322 SW 8TH AVENUE, STE. 700
PORTLAND, OR 97204
PH: (503) 277-3979 / FAX: (503) 919-8877
WWW.WATERWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF
CASCADE PACIFIC PULP, LLC

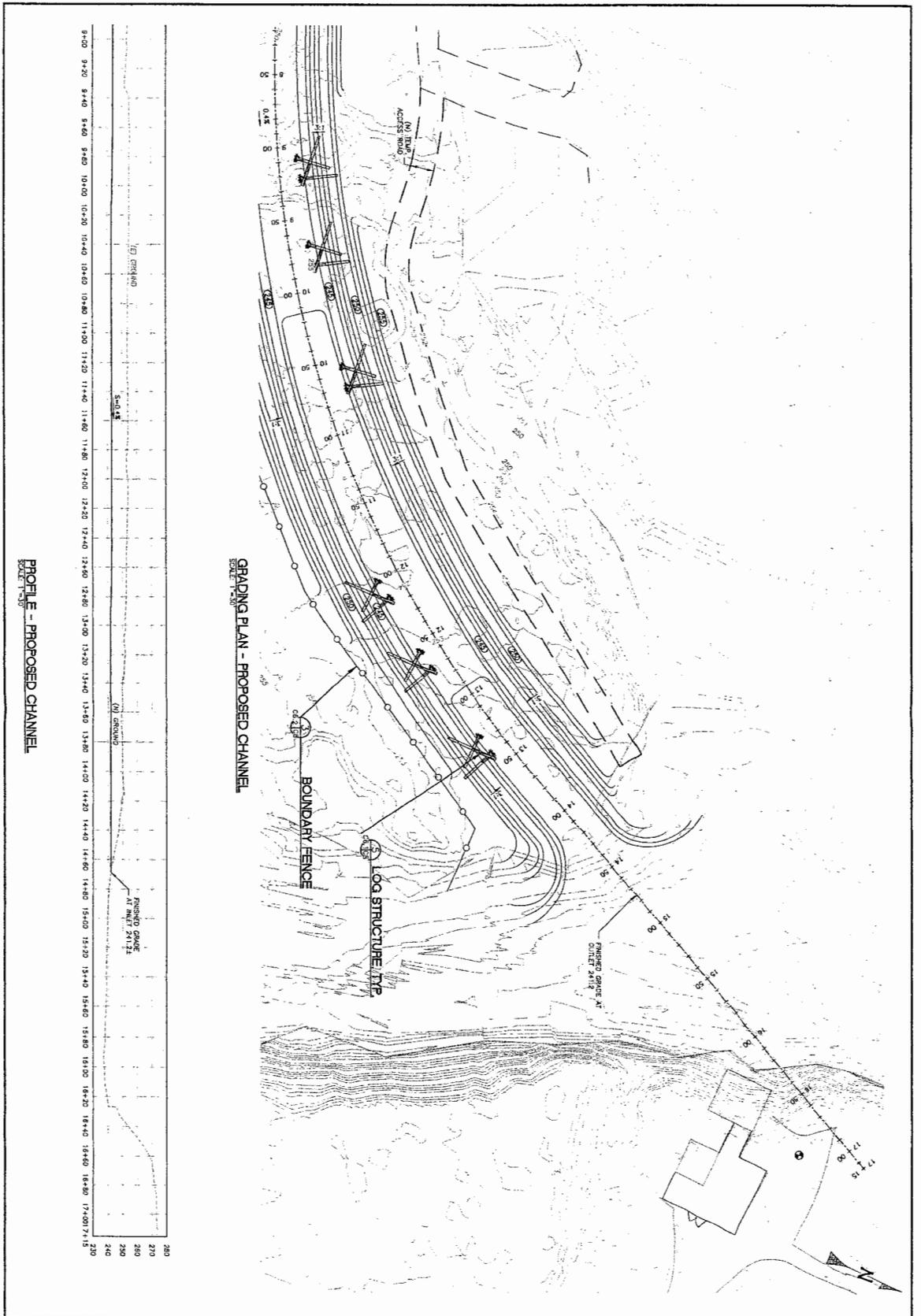
CHANNEL GRADING PLAN

CASCADE PACIFIC SIDE CHANNEL RECONNECTION

DESIGNED BY: J.M.
DRAWN BY: J.M.
CHECKED BY: M.W.W.
DATE: 11/8/12
JOB NO.: 13-008

BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS.

C6.1 7 OF 11



PROFILE - PROPOSED CHANNEL
SCALE 1" = 10'

DESIGNED BY: J.M. CHECKED BY: M.W. DATE: 12-03-03 JOB NO.: 12-003 BAR IS ONE INCH OR ORIGINAL DRAWING AND REDUCED PLANS 0 1" = 1"	CASCADIA PACIFIC SIDE CHANNEL RECONNECTION	CHANNEL GRADING PLAN	PREPARED AT THE REQUEST OF: CASCADIA PACIFIC PULP, LLC	PRELIMINARY NOT FOR CONSTRUCTION	WATERWAYS CONSULTING INC. 522 SW 5TH AVENUE STE. 700 PORTLAND, OR 97204 PH: (503) 227-5979 // FAX: (503) 819-6847 WWW.WATWAYS.COM

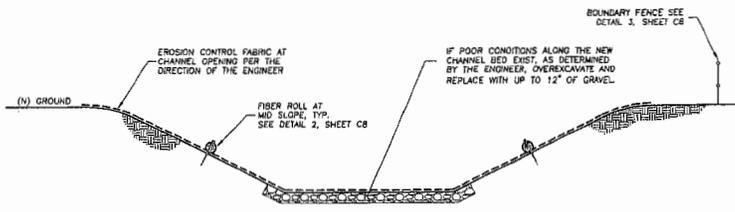
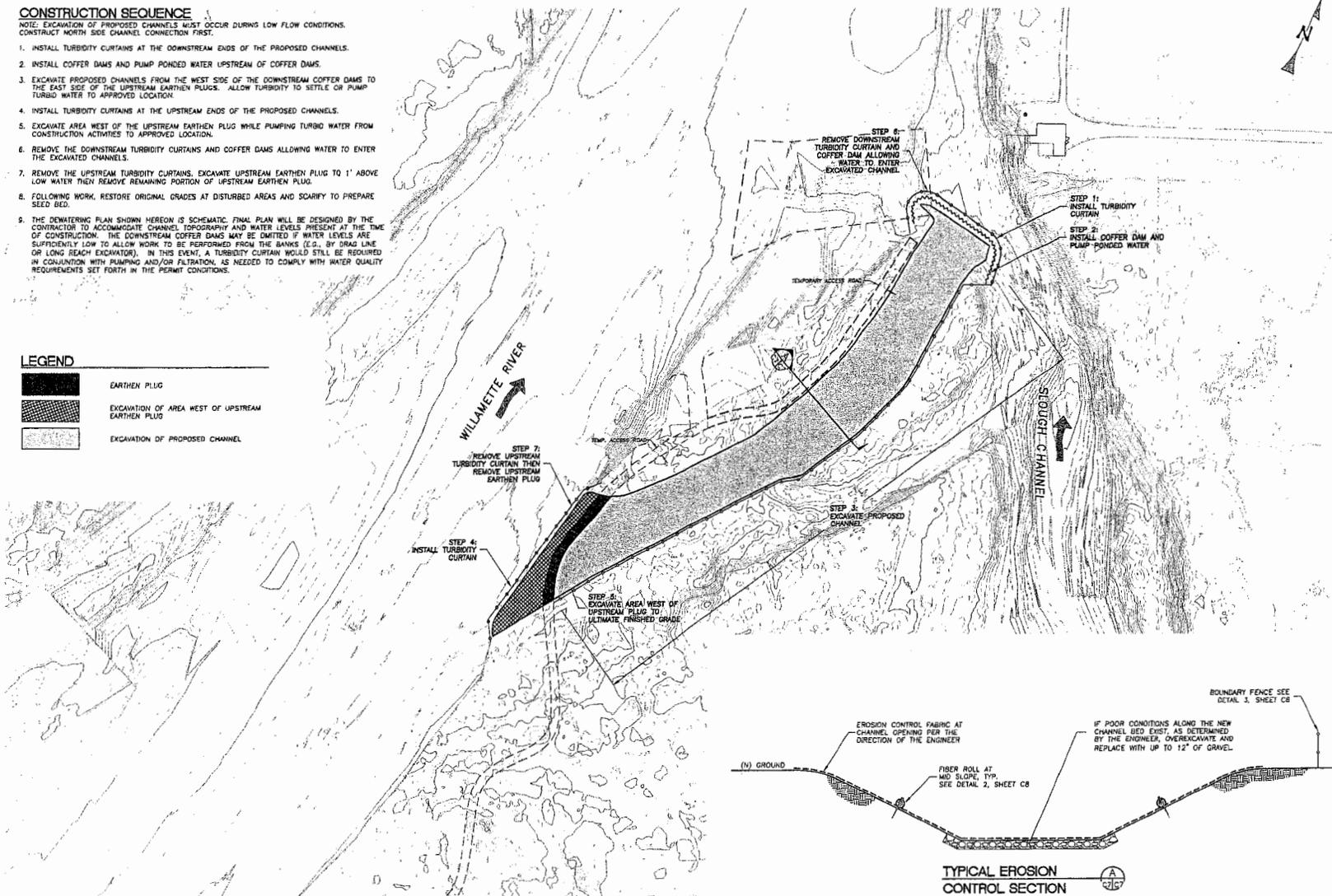
CONSTRUCTION SEQUENCE

NOTE: EXCAVATION OF PROPOSED CHANNELS MUST OCCUR DURING LOW FLOW CONDITIONS. CONSTRUCT NORTH SIDE CHANNEL CONNECTION FIRST.

1. INSTALL TURBIDITY CURTAINS AT THE DOWNSTREAM ENDS OF THE PROPOSED CHANNELS.
2. INSTALL COFFER DAMS AND PUMP PONDED WATER UPSTREAM OF COFFER DAMS.
3. EXCAVATE PROPOSED CHANNELS FROM THE WEST SIDE OF THE DOWNSTREAM COFFER DAMS TO THE EAST SIDE OF THE UPSTREAM EARTHEN PLUGS. ALLOW TURBIDITY TO SETTLE OR PUMP TURBID WATER TO APPROVED LOCATION.
4. INSTALL TURBIDITY CURTAINS AT THE UPSTREAM ENDS OF THE PROPOSED CHANNELS.
5. EXCAVATE AREA WEST OF THE UPSTREAM EARTHEN PLUG WHILE PUMPING TURBID WATER FROM CONSTRUCTION ACTIVITIES TO APPROVED LOCATION.
6. REMOVE THE DOWNSTREAM TURBIDITY CURTAINS AND COFFER DAMS ALLOWING WATER TO ENTER THE EXCAVATED CHANNELS.
7. REMOVE THE UPSTREAM TURBIDITY CURTAINS. EXCAVATE UPSTREAM EARTHEN PLUG TO 1' ABOVE LOW WATER THEN REMOVE REMAINING PORTION OF UPSTREAM EARTHEN PLUG.
8. FOLLOWING WORK, RESTORE ORIGINAL GRADES AT DISTURBED AREAS AND SCARIFY TO PREPARE SEED BED.
9. THE DEWATERING PLAN SHOWN HEREON IS SCHEMATIC. FINAL PLAN WILL BE DESIGNED BY THE CONTRACTOR TO ACCOMMODATE CHANNEL TOPOGRAPHY AND WATER LEVELS PRESENT AT THE TIME OF CONSTRUCTION. THE DOWNSTREAM COFFER DAMS MAY BE OMITTED IF WATER LEVELS ARE SUFFICIENTLY LOW TO ALLOW WORK TO BE PERFORMED FROM THE BANKS (E.G. BY DRAG LINE OR LONG REACH EXCAVATOR). IN THIS EVENT, A TURBIDITY CURTAIN WOULD STILL BE REQUIRED IN CONJUNCTION WITH PUMPING AND/OR FILTRATION, AS NEEDED TO COMPLY WITH WATER QUALITY REQUIREMENTS SET FORTH IN THE PERMIT CONDITIONS.

LEGEND

-  EARTHEN PLUG
-  EXCAVATION OF AREA WEST OF UPSTREAM EARTHEN PLUG
-  EXCAVATION OF PROPOSED CHANNEL



TYPICAL EROSION CONTROL SECTION
SCALE: N.T.S.

SITE PLAN
SCALE: 1"=50'

WATERWAYS CONSULTING, INC.
525 SW 5TH AVENUE, STE. 700
PORTLAND, OR 97204
PHONE: 503.241.1000
WWW.WATERWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF
CASCADE PACIFIC PULP, LLC

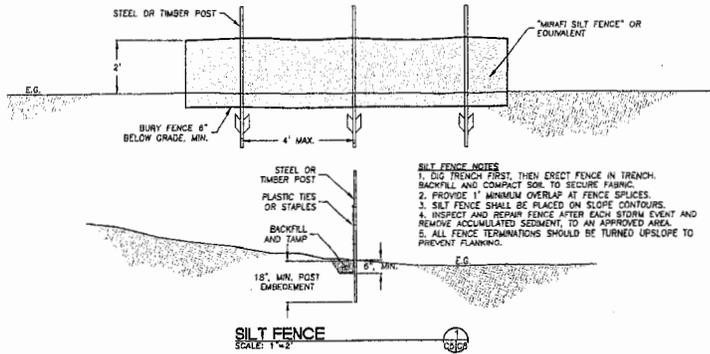
CONSTRUCTION SEQUENCING AND EROSION CONTROL PLAN

CASCADE PACIFIC SIDE CHANNEL RECONNECTION

DESIGNED BY: J.M.
DRAWN BY: J.M.
CHECKED BY: M.W.H.
DATE: 11/8/12
JOB NO.: 12-009

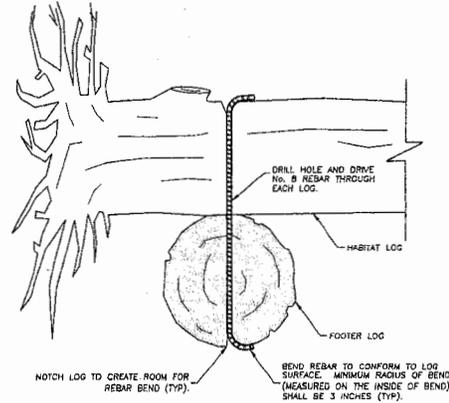
BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS.

C7 OF 11

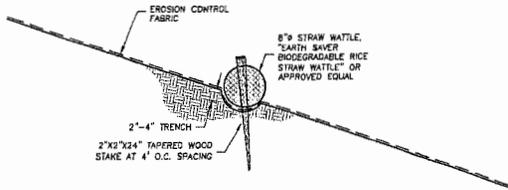


SILT FENCE
SCALE: 1"=2'

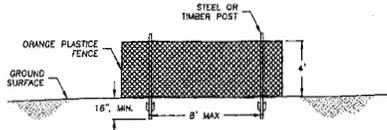
- SILT FENCE NOTES**
1. DIG TRENCH FIRST, THEN ERECT FENCE IN TRENCH. BACKFILL AND COMPACT SOIL TO SECURE FABRIC.
 2. PROVIDE 1" MINIMUM OVERLAP AT FENCE SPLICES.
 3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS.
 4. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE ACCUMULATED SEDIMENT TO AN APPROVED AREA.
 5. ALL FENCE TERMINATIONS SHOULD BE TURNED UPSLOPE TO PREVENT FLANKING.



LOG/LOG CONNECTION
SCALE: 1"=3'



FIBER ROLL
SCALE: 1"=1'

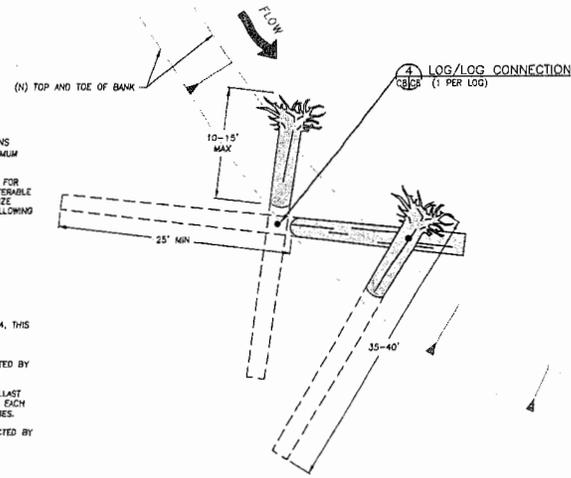


BOUNDARY FENCE DETAIL
SCALE: 1"=4'

LOG STRUCTURE NOTES

1. **PLACEMENT LOCATIONS:** LOG LOCATIONS SHOWN ON DRAWINGS ARE APPROXIMATE. EXACT LOCATIONS SHALL BE AS DIRECTED BY THE ENGINEER. BURY LOGS WITH A MINIMUM OF 4" COVER OVER A MINIMUM OF 20 FT OF LOG.
2. **LOGS:** LOGS SHALL BE COTTONWOOD OR CONIFEROUS, SOUND AND FREE OF SIGNIFICANT DECAY. FOR CLARITY, MOST LOGS ARE SHOWN WITHOUT BRANCHES OR ROOTWADS INTACT. HOWEVER, IT IS PREFERABLE THAT LOGS BE SUPPLIED WITH THE MAXIMUM NUMBER OF BRANCHES AND ROOTS INTACT TO MAXIMIZE PERFORMANCE OF THE STRUCTURES. MATERIALS FOR USE IN THE STRUCTURES SHALL MEET THE FOLLOWING SIZE CRITERIA:
3. **QUANTITIES:**

ITEM	DIAMETER (IN.)	LENGTH (FT.)	COUNT
LOG WITH ROOTWAD	18-24	15-40	18
LOG WITHOUT ROOTWAD	18-24	35-40	9
LOG-LOG CONNECTIONS			18
4. **CONNECTIONS:** CONNECTIONS SHALL CONSIST OF LOG/LOG CONNECTIONS, AS SHOWN ON DETAIL 4. THIS SHEET. PROVIDE A MINIMUM OF ONE (1) LOG/LOG CONNECTION PER LOG, OR AS DIRECTED BY THE ENGINEER. ALL CONNECTIONS SHALL BE PLACED TO MINIMIZE VISUAL IMPACT.
5. **FOOTER LOGS:** PLACE TOP OF FOOTER LOGS AT OR BELOW LOW WATER ELEVATION OR AS DIRECTED BY THE ENGINEER.
6. **STONE BALLAST:** PLACE SANDY GRAVEL (EXCAVATED DURING CHANNEL GRADING ACTIVITIES) AS BALLAST MATERIAL. PLACE SANDY GRAVEL 2 FT. DEEP X 3 FT. WIDE TRENCH OVER THE BURIED LENGTH OF EACH LOG. BACKFILL TOP 1" OF TRENCH WITH SILTY SAND EXCAVATED DURING CHANNEL GRADING ACTIVITIES.
7. **SLASH:** 20-30 FT. PIECES WITH BRANCHES RETAINED, ADD SLASH TO LOG STRUCTURES AS DIRECTED BY THE ENGINEER.



TYPICAL LOG STRUCTURE PLAN
SCALE: 1"=5'



WATERWAYS CONSULTING INC.
522 SW 3TH AVENUE STE. 700
PORTLAND, OR 97204
PH: (503) 251-1616
WWW.WATERWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

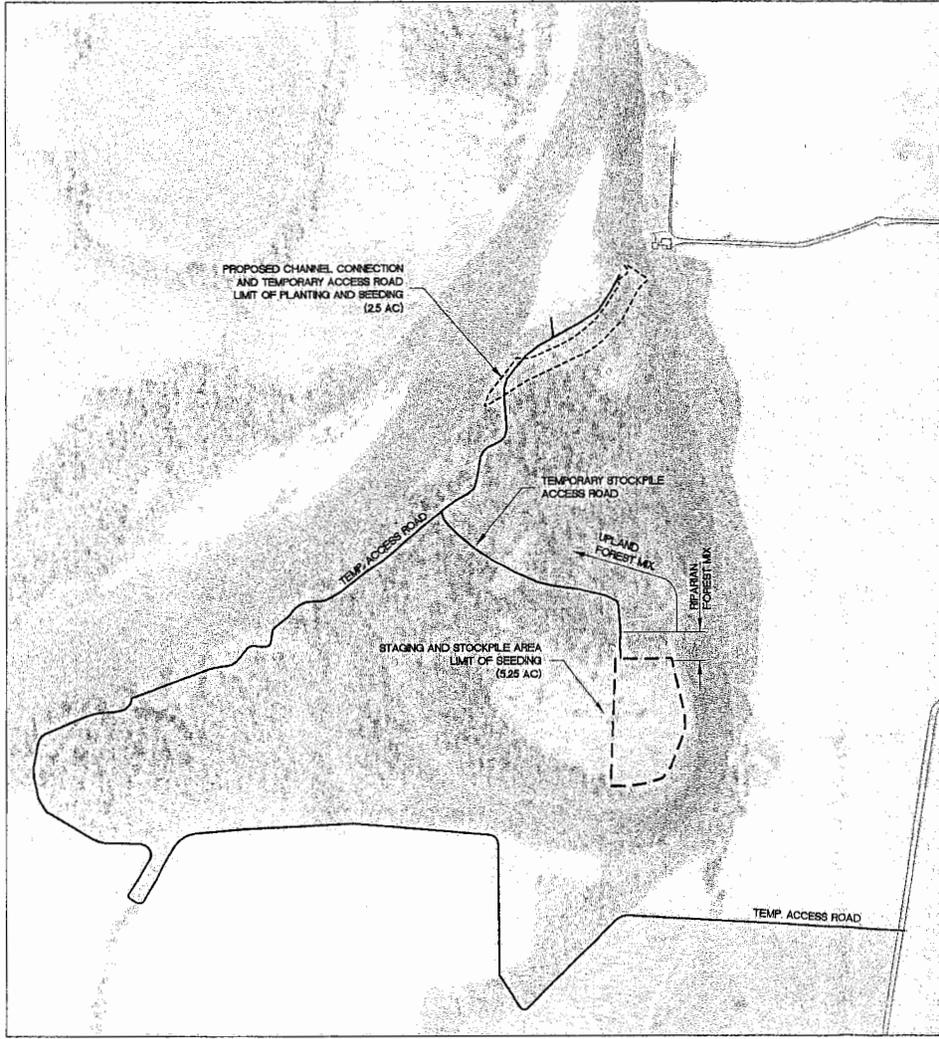
PREPARED AT THE REQUEST OF:
CASCADE PACIFIC PULP, LLC

CONSTRUCTION DETAILS

CASCADE PACIFIC SIDE CHANNEL RECONNECTION

DESIGNED BY: J.M.
DRAWN BY: J.M.
CHECKED BY: M.W.M.
DATE: 11/8/12
JOB NO.: 12-008
BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS.
0

C8 OF 11



SITE PLAN
SCALE: 1" = 30'

TABLE 1: PLANTING

Location / Elevation Zone	Botanical name	Common Name	Propagation Method	Size	Spacing/Notes	Growth Form	Percent of Group	Quantity
Channel Edge Zone (3 ft above channel bed to top of bank and temporary access roads)	<i>Cornus stolonifera</i>	Red-osier dogwood	Cutting	4 ft length, 0.75 to 2-inch diameter	Average 5 ft O.C.	tree	25%	1178
	<i>Salix scouleriana</i>	Scouler willow	Cutting	4 ft length, 0.75 to 2-inch diameter	Average 5 ft O.C.	tree	25%	1178
	<i>Salix lasioandra</i>	Pacific willow	Cutting	4 ft length, 0.75 to 2-inch diameter	Average 5 ft O.C.	tree	25%	1178
	<i>Salix litchneri</i>	Sika willow	Cutting	4 ft length, 0.75 to 2-inch diameter	Average 5 ft O.C.	tree	25%	1178

TABLE 2: SEED MIX

Community Type	Scientific Name	Common Name	Grass	(lbs. p.l.s.)	% of Area
Riparian Forest (RF)	<i>Hordium brechyananthum</i>	Meadow Barley	Grass	2	8.33%
	<i>Bromus cernuus</i>	California Brome-grass	Grass	2	8.33%
	<i>Bromus alicensis</i>	Alaska Brome	Grass	2	8.33%
	<i>Darlingtonia californica</i>	California Calgrass	Grass	2	8.33%
	<i>Festuca subulifera</i>	Coast Range Fescue-grass	Grass	2	8.33%
	<i>Deschampsia elongata</i>	Slender Hairgrass	Grass	2	8.33%
	<i>Oryzopsis alata</i>	Poor Mangrass	Grass	2	8.33%
	<i>Festuca occidentalis</i>	Western Fescue-grass	Grass	2	8.33%
	<i>Festuca subulata</i>	Bearded Fescue-grass	Grass	2	8.33%
	<i>Agrostis oregonensis?</i>	Oregon Bentgrass	Grass	2	8.33%
Upland Forest (UF)	<i>Agrostis exaristata</i>	Spike Bentgrass	Grass	2	8.33%
	<i>Agrostis scabra</i>	Rough Hairgrass	Grass	2	8.33%
	<i>Bromus alicensis</i>	Alaska Brome	Grass	10	11.1%
	<i>Elymus glaucus</i> sp. jepson	Jepson's Blue Wildrye	Grass	10	11.1%
	<i>Festuca californica</i>	California Fescue	Grass	10	11.1%
	<i>Festuca subulifera</i>	Coast Range Fescue-grass	Grass	10	11.1%
	<i>Poa compressa</i>	Canada Bluegrass	Grass	10	11.1%
	<i>Festuca occidentalis</i>	Western Fescue-grass	Grass	10	11.1%
	<i>Festuca subulata</i>	Bearded Fescue-grass	Grass	10	11.1%
	<i>Bromus cernuus</i>	California Brome-grass	Grass	10	11.1%
	<i>Elymus glaucus</i>	Blue Wildrye	Grass	10	11.1%

Seeding rate: pure live seed (pls) pounds per acre

REVEGETATION NOTES

- IMMEDIATELY FOLLOWING CONSTRUCTION COMPLETION, SEED CHANNEL BANKS (3' ABOVE BED ELEVATION TO TOP OF BANK), TEMPORARY ACCESS ROADS AND THE STOCKPILE AREA WITH "REGREEN" OR APPROVED EQUAL.
 - SEED CHANNEL BANKS (3' ABOVE BED ELEVATION TO TOP OF BANK), TEMPORARY ACCESS ROADS ADJACENT TO NEW CHANNELS AND PORTION OF STOCKPILE ACCESS ROAD WITH "RIPARIAN FOREST" MIX IN LATE WINTER OR EARLY SPRING FOLLOWING PROJECT COMPLETION PER TABLE 2, THIS SHEET.
 - SEED THE STOCKPILE AREA AND PORTION OF STOCKPILE ACCESS ROAD IN LATE WINTER OR EARLY SPRING WITH "UPLAND FOREST" MIX PER TABLE 2, THIS SHEET.
- IMMEDIATELY FOLLOWING SEEDING WITH "REGREEN" OR APPROVED EQUAL, INSTALL FIBER ROLL AND EROSION CONTROL FABRIC AS SHOWN ON THE PLANS DR AS DIRECTED BY THE ENGINEER.
- COLLECT AND PREPARE PLANT MATERIAL ON-SITE. PLANT NEW CHANNELS (3' ABOVE BED ELEVATION TO TOP OF BANK) AND TEMPORARY ACCESS ROADS ADJACENT TO NEW CHANNELS PER TABLE 1, THIS SHEET.
- MIX PLANT MATERIAL TO REFLECT DENSITIES OF EXISTING ON-SITE MATERIAL.
- DO NOT DISTURB AREAS OUTSIDE OF THE DESIGNATED LIMITS OF DISTURBANCE, UNLESS AUTHORIZED IN WRITING BY THE ENGINEER. ALL ASSOCIATED RESTORATION AND REVEGETATION OF DISTURBED AREAS OUTSIDE OF THE DESIGNATED LIMITS OF DISTURBANCE, AS SHOWN ON THE DRAWINGS, SHALL BE BORNE SOLELY BY THE CONTRACTOR.

WATERWAYS CONSULTING INC.
522 SW 3TH AVENUE, STE. 200
PORTLAND, OR 97204
PH: 503.251.1111
WWW.WATERWAYS.COM

PRELIMINARY
NOT FOR CONSTRUCTION

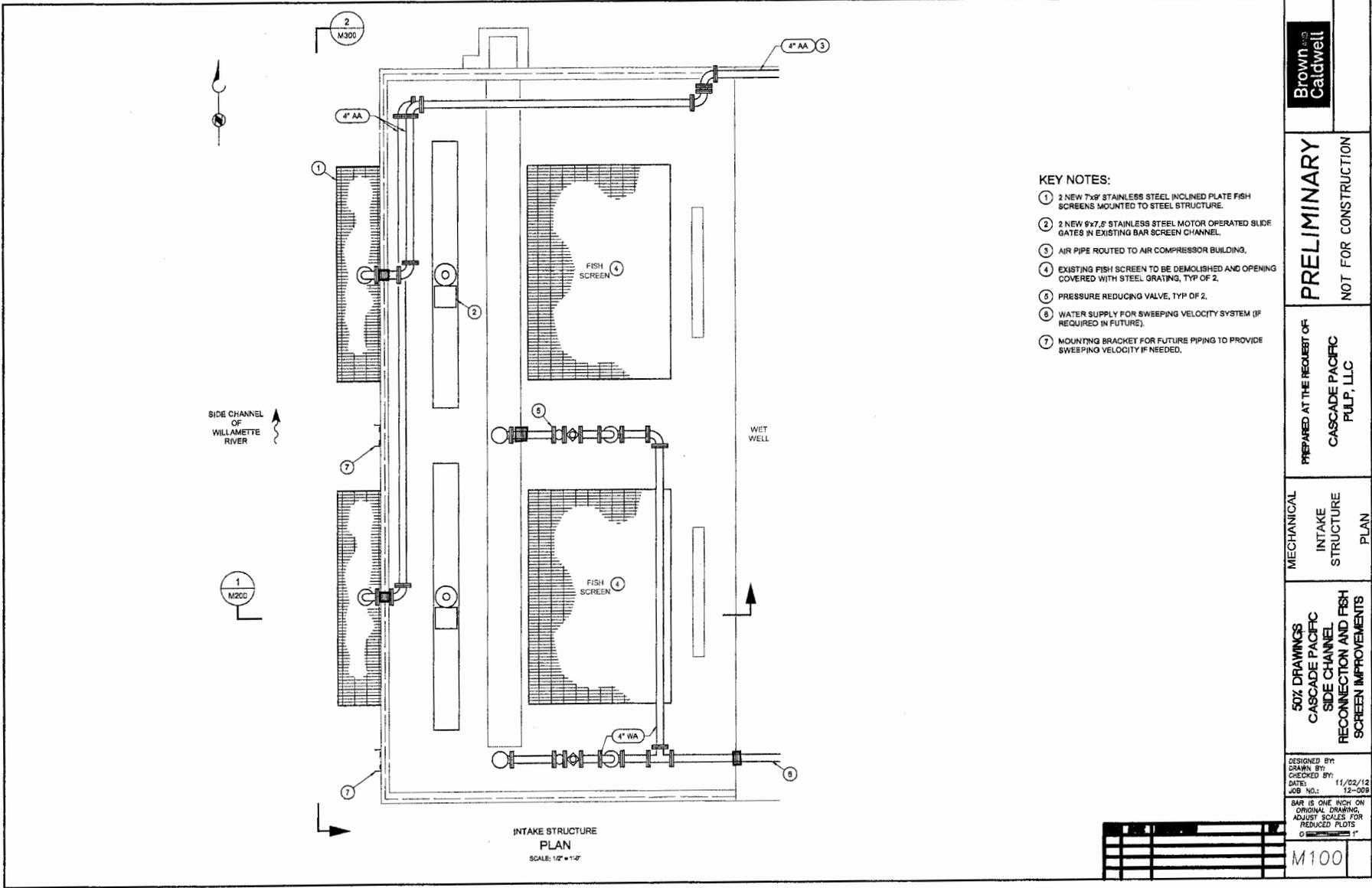
PREPARED AT THE REQUEST OF
CASCADE PACIFIC PULP, LLC

REVEGETATION PLAN

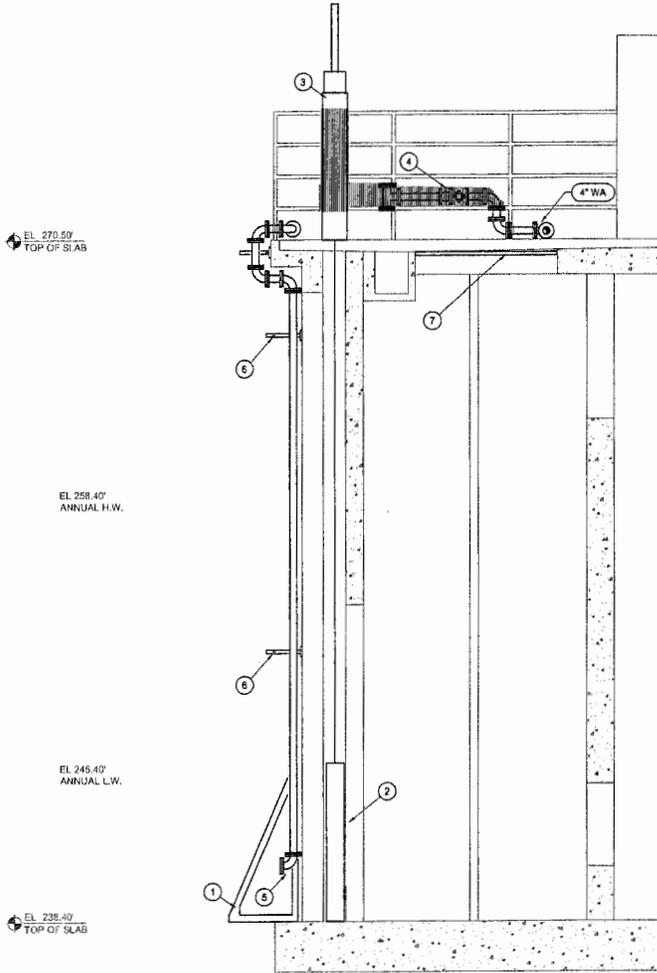
CASCADE PACIFIC SIDE CHANNEL RECONNECTION

DESIGNED BY: J.M.
DRAWN BY: J.M.
CHECKED BY: M.W.
DATE: 11/5/12
JOB NO.: 12-029

BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS.
0



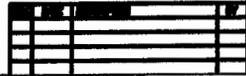
Brown & Caldwell	
PRELIMINARY	NOT FOR CONSTRUCTION
MECHANICAL	INTAKE STRUCTURE PLAN
PREPARED AT THE REQUEST OF	CASCADE PACIFIC PULP, LLC



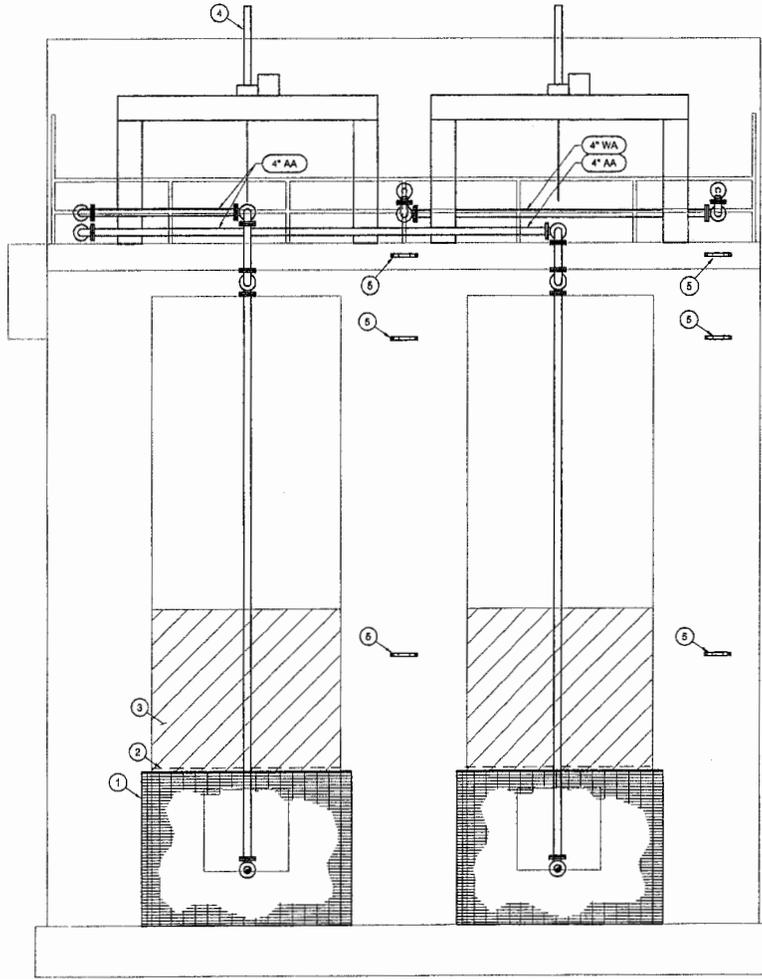
INTAKE STRUCTURE
SECTION 1
M100
SCALE: 3/8" = 1'-0"

KEY NOTES:

- 1 2 NEW 7"x8" STAINLESS STEEL INCLINED PLATE FISH SCREENS MOUNTED TO STEEL STRUCTURE.
- 2 NEW SLIDE GATE, SEE KEY NOTE 2M100.
- 3 2 NEW 8"x7.5" STAINLESS STEEL SLIDE GATE OPERATORS AND STRUCTURES.
- 4 SWEEPING VELOCITY SYSTEM PRESSURE REDUCING VALVE.
- 5 AIR BURST HEADER PIPING TO BE PROVIDED BY FISH SCREEN VENDOR
- 6 MOUNTING BRACKET FOR FUTURE PIPING TO PROVIDE SWEEPING VELOCITY IF NEEDED.
- 7 INSTALL GRATE OVER EXISTING FISH SCREEN OPENING



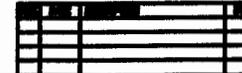
Brown and Caldwell	PRELIMINARY	NOT FOR CONSTRUCTION	
	PREPARED AT THE REQUEST OF CASCADE PACIFIC PULP, LLC		
	MECHANICAL INTAKE STRUCTURE SECTION		
	50% DRAWINGS CASCADE PACIFIC SIDE CHANNEL RECONNECTION AND FISH SCREEN IMPROVEMENTS		
	DESIGNED BY: DRAWN BY: CHECKED BY: DATE: 11/02/12 JOB NO.: 12-009		
	BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS		
	M200		



INTAKE STRUCTURE FRONT
SECTION 2
M100
SCALE: 3/8" = 1'-0"

KEY NOTES:

- 1 NEW INCLINED PLATE FISH SCREEN, SEE KEY NOTE 1/M100, TYP OF 2.
- 2 NEW SLIDE GATE, SEE KEY NOTE 2/M100, TYP OF 2.
- 3 BLANK OFF OPENING WITH STEEL PLATE, TYP OF 2.
- 4 SLIDE GATE STEM AND OPERATOR, TYP OF 2.
- 5 MOUNTING BRACKET FOR FUTURE PIPING TO PROVIDE SWEEPING VELOCITIES IF NEEDED.



<p>PRELIMINARY NOT FOR CONSTRUCTION</p>
<p>PREPARED AT THE REQUEST OF CASCADE PACIFIC PULP, LLC</p>
<p>MECHANICAL INTAKE STRUCTURE SECTION</p>
<p>50% DRAWINGS CASCADE PACIFIC SIDE CHANNEL RECONNECTION AND FISH SCREEN IMPROVEMENTS</p>
<p>DESIGNED BY: DRAWN BY: CHECKED BY: DATE: 11/02/12 JOB NO.: 12-009</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS.</p>
<p>M300</p>