



METRO

600 NE Grand Ave.
Portland, OR 97232-2736
(503) 797-1700

Addendum One / RFB 2526

RFB 2526 NORTH FORK DEEP CREEK STREAM STABILIZATION PROJECT

The following information is to be included in the solicitation. In the interest of fairness, this information is being provided to all interested proposers.

This project is not a Public Improvement and is Not subject to BOLI prevailing wages.

See Attached:

- Cost estimate for this project.
- Full Design of this project (reduced scale design is included in RFB 2526).

Issued October 22, 2013

A handwritten signature in cursive script, reading "Sharon Stiffler", written over a horizontal line.

Sharon Stiffler, CPPB
Metro Procurement Analyst

**NORTH FORK DEEP CREEK
STABILIZATION PROJECT**

ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COSTS
(NOT TO BE USED FOR BIDDING PURPOSES)

Job No: 12-048

4/11/2013

100% DESIGN SUBMITTAL

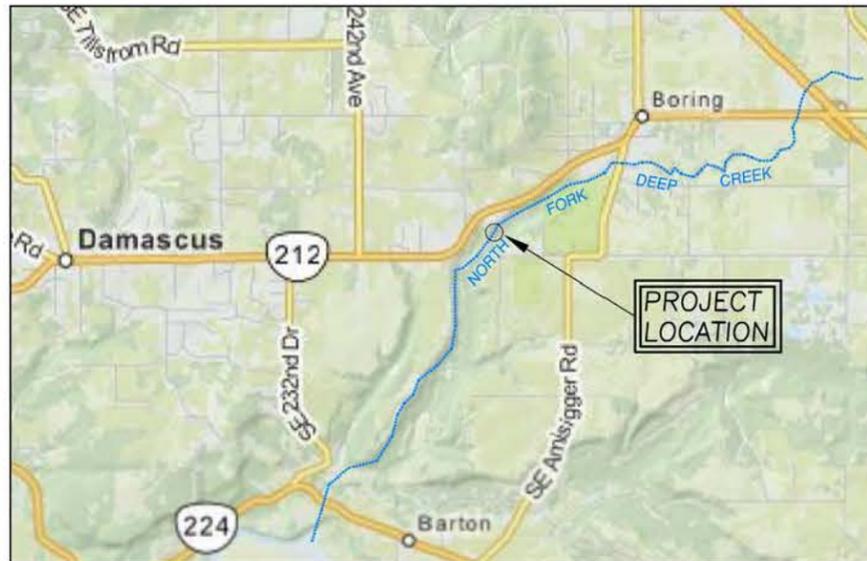
ITEM NO.	ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
1	MOBILIZATION & DEMOBILIZATION	1	LS	\$ 8,000	\$ 8,000
2	DEMOLITION	1	LS	\$ 4,040	\$ 4,040
3	CLEARING, GRUBBING, AND ACCESS	1	LS	\$ 3,000	\$ 3,000
4	DIVERSION AND DEWATERING	1	LS	\$ 7,500	\$ 7,500
5	EARTHWORK	1	LS	\$ 5,160	\$ 5,160
6	TYPE 1 LOG STRUCTURES	1	LS	\$ 11,050	\$ 11,050
7	TYPE 2 LOG STRUCTURES	1	LS	\$ 9,735	\$ 9,735
8	SLOPE PROTECTION FABRIC	467	SY	\$ 8.00	\$ 3,735
9	ESA FENCE	390	LF	\$ 3.50	\$ 1,365
10	FIBER ROLLS	475	LF	\$ 4	\$ 1,900
11	EROSION CONTROL SEEDING	1	LS	\$ 2,500	\$ 2,500
SUBTOTAL					\$ 57,985
CONTINGENCIES				10%	\$ 5,799
TOTAL PROJECT COST					\$ 63,784

NOTES & ASSUMPTIONS:

1. Quantities shown are approximate only; the Contractor shall be responsible for all work indicated on the Drawings and prescribed in the Specifications.
2. In the event that the product of a unit price and an estimated quantity does not equal the extended amount stated, the unit price will govern and the correct product of the unit price and the estimated quantity shall be deemed to be the bid amount.
3. Earthwork includes all required excavation and fill placement.
4. Revegetation and irrigation costs are not included in this estimate. Revegetation to be completed by others.

NORTH FORK DEEP CREEK STABILIZATION PROJECT

100% DESIGN SUBMITTAL



VICINITY MAP
N.T.S. (MAPQUEST)



REGIONAL MAP
N.T.S. (MAPQUEST)



PROJECT DESCRIPTION

THESE DRAWINGS PROVIDE 100% DESIGN LEVEL DETAILS FOR THE REMOVAL OF A BRIDGE CROSSING AND ASSOCIATED APPROACH ROADS, AND THE ADDITION OF LOG STRUCTURES WITHIN NORTH FORK DEEP CREEK.

SHEET INDEX

C1	COVER SHEET
C2	ACCESS, STAGING, AND LOGGING PLAN
C3	BRIDGE CROSSING EXISTING CONDITIONS PLAN
C4	BRIDGE DEMOLITION AND GRADING PLAN
C5	TYPE 2 LOG STRUCTURE PLAN AND DETAILS
C6	DEWATERING AND EROSION CONTROL PLAN
C7	NOTES

GENERAL NOTES

- TOPOGRAPHIC MAPPING WAS PERFORMED BY:
WATERWAYS CONSULTING, INC.
SURVEY DATES: JANUARY 8, 2013 AND JANUARY 21, 2013
- ELEVATION DATUM: AN ASSUMED ELEVATION OF 100.00' WAS ESTABLISHED AT SURVEY CONTROL POINT #1001 (#4 REBAR) SHOWN ON SHT. C.3.
- BASIS OF BEARINGS: BASIS OF BEARINGS BETWEEN POINTS #1001 AND #1002 IS N00°00'00"E, AS SHOWN ON SHT. C.3.
- CONTOUR INTERVAL IS ONE FOOT. ELEVATIONS AND DISTANCES SHOWN ARE IN DECIMAL FEET.
- THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES ARE NOT SHOWN HEREON.
- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE CURRENT EDITION OF THE OREGON DEPARTMENT OF TRANSPORTATION (ODOT) STANDARD SPECIFICATIONS (HEREAFTER REFERRED TO AS "STANDARD SPECIFICATIONS").

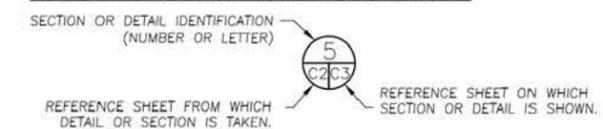
ABBREVIATIONS

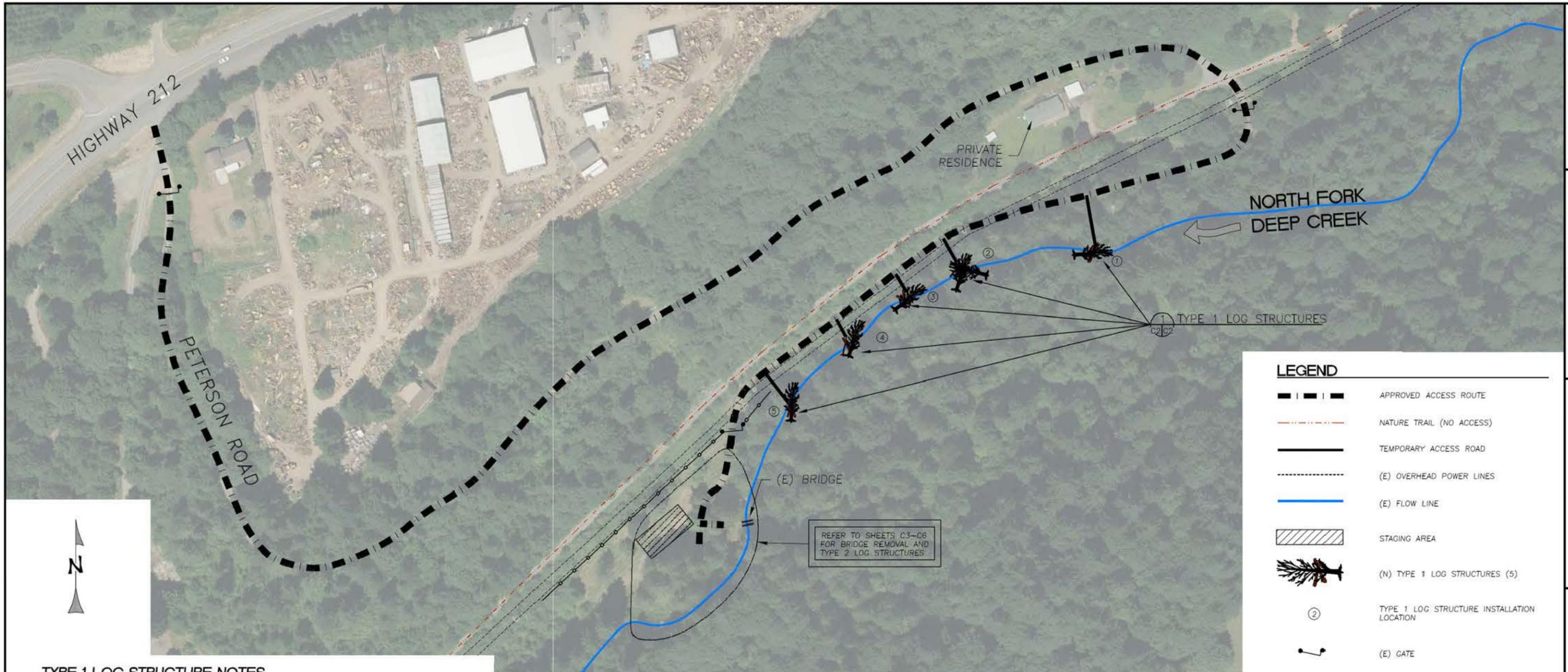
AVG.	AVERAGE
CC	CONCRETE
CY	CUBIC YARDS
DIA.	DIAMETER
E	EXISTING
E.G.	EXISTING GROUND
ELEV.	ELEVATION
DI	DRAINAGE INLET
F.G.	FINISHED GRADE
FT	FEET
INV	INVERT
N	NEW
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.D.	RELATIVE COMPACTION
RSP	ROCK SLOPE PROTECTION
SPK	SPIKE
SQ.FT.	SQUARE FOOT
T	TREE
T.B.D.	TO BE DETERMINED
TYP	TYPICAL
UNK	UNKNOWN
WSE	WATER SURFACE ELEVATION
YR	YEAR
W/	WITH
W/O	WITHOUT

TREE SPECIES

A	ALDER
CDR	CEDAR
DF	DOUGLAS FIR
M	MAPLE
P	PINE
R	REDWOOD

SECTION AND DETAIL CONVENTION





SITE PLAN
SCALE: 1"=80'

TYPE 1 LOG STRUCTURE NOTES

1. **PLACEMENT LOCATIONS:** LOG STRUCTURE DESIGNS ARE SHOWN CONCEPTUALLY DUE TO THE INHERENT VARIABILITY OF MATERIAL PROPERTIES. THE DESIGN REQUIRES THAT THE ENGINEER WILL OBSERVE CONSTRUCTION OF THE LOG STRUCTURES TO ENSURE THE INTENT OF THE DESIGN IS MET. OBSERVATIONS MUST INCLUDE LOG AND BOULDER SELECTION, PLACEMENT, AND BACKFILLING. ANY LOG STRUCTURES CONSTRUCTED WITHOUT THE ENGINEER PRESENT ON-SITE MAY RESULT IN REJECTION OF THE WORK BY THE ENGINEER.

2. **LOGS:** ALL LOGS SHOWN ON DRAWINGS SHALL EITHER BE SUPPLIED BY OWNER TO BE IMPORTED BY THE CONTRACTOR OR SHALL BE HARVESTED ON-SITE AT THE DIRECTION OF ENGINEER. OWNER SUPPLIED LOGS ARE LOCATED IN BARTON, OREGON. ALL ON-SITE HARVESTED TREES SHALL BE HARVESTED IN A MANNER THAT RETAINS THE TRUNK AND ROOTWAD AS A SINGLE PIECE. IMPORTED LOGS ARE NOT REQUIRED TO HAVE ROOTWADS. MATERIAL DIMENSIONS ARE AS FOLLOWS:

LOG TYPE	DIAMETER	LENGTH
IMPORTED	18"-36" (MIN. 18 INCHES AT ANY POINT)	25'-30'
ON-SITE HARVESTED	24"-36"	50'-75'

IMPORTED LOG DIAMETERS SHALL RANGE FROM 18"-36" (MIN. 18 INCHES AT ANY POINT) WITH LENGTHS RANGING FROM 25'-30'. HARVESTED LOG DIAMETERS SHALL RANGE FROM 24"-36" WITH LENGTHS RANGING FROM 50'-75'.

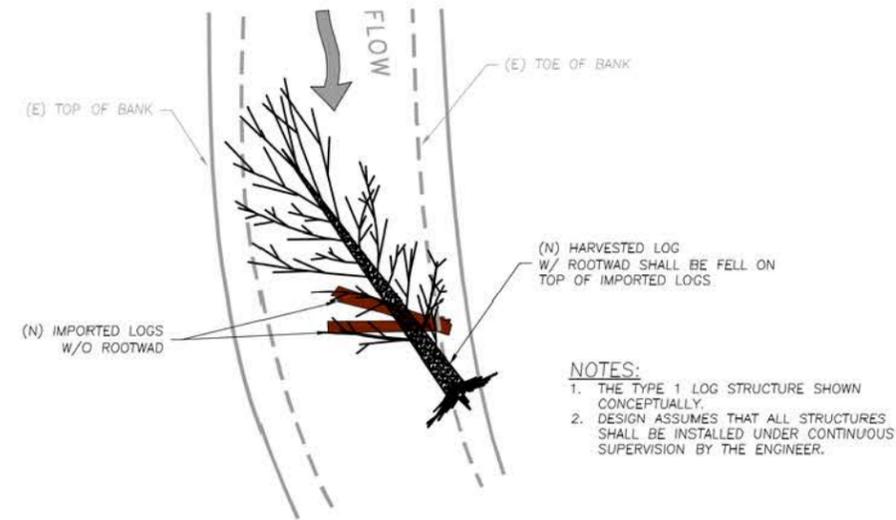
3. **QUANTITIES:** TYPE 1 LOG STRUCTURE MATERIALS

TYPE 1 LOG STRUCTURE LOCATION	# IMPORTED LOGS	# HARVESTED LOGS
①	2	1
②	2	2
③	2	1
④	3	1
⑤	2	1

4. **TEMPORARY ACCESS ROADS:** CONTRACTOR SHALL SALVAGE ANY TREES REMOVED DURING TEMP. ACCESS ROAD CONSTRUCTION TO INCORPORATE INTO LOG STRUCTURES AT THE DIRECTION OF THE ENGINEER.

ACCESS AND STAGING AREA NOTES

1. THE NATURE TRAIL ROAD DIRECTLY TO THE NORTH OF THE APPROVED ACCESS ROAD SHALL NOT BE USED FOR ACCESS OR STAGING. ONE CROSSING IS ALLOWED AS SHOWN.
2. PRIOR TO STARTING WORK ON THE PROJECT, SUBMIT FOR ACCEPTANCE BY THE ENGINEER A HAZARDOUS MATERIALS CONTROLS AND SPILL PREVENTION PLAN. THE PLAN SHALL INCLUDE PROVISIONS FOR PREVENTING HAZARDOUS MATERIALS FROM CONTAMINATING SOIL OR ENTERING WATER COURSES, AND SHALL ESTABLISH A SPILL PREVENTION AND COUNTERMEASURE PLAN.
3. UTILIZE ONLY THE APPROVED ACCESS POINTS AND ROADS, AS SHOWN ON THE DRAWINGS. MATERIALS SHALL BE STOCKPILED WITHIN AN EXISTING FLAT AND PREVIOUSLY DISTURBED AREA.
4. THE DOWNSLOPE PERIMETER OF STAGING OR STOCKPILE AREAS SHALL BE CONTAINED WITH FIBER ROLLS.
5. ALL EQUIPMENT AND MATERIALS SHALL BE STORED, MAINTAINED AND REFUELED IN A DESIGNATED PORTION OF THE STAGING AREA.
6. ALL TEMPORARY ACCESS ROADS USED TO CONSTRUCT TYPE 1 LOG STRUCTURES SHALL BE SCARIFIED, SEEDED, AND MULCHED PER THE EROSION CONTROL SEEDING NOTES, SHEET C6 AFTER CONSTRUCTING EACH TYPE 1 LOG STRUCTURE.
7. APPROVED ACCESS ROUTE SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS AT CONCLUSION OF WORK, UNLESS STATED OTHERWISE IN THE DRAWINGS, TO THE SATISFACTION OF THE ENGINEER.
8. MAINTAIN CONTINUOUS ACCESS ON PETERSON ROAD TO PRIVATE RESIDENCE DURING THE COURSE OF CONSTRUCTION.
9. ESTIMATED AREA OF DISTURBANCE = 0.7 ACRES (INCLUDES TEMP ACCESS ROADS TO CONSTRUCT TYPE 1 LOG STRUCTURES AND LIMITS OF DISTURBANCE SHOWN ON SHEET C6.



TYP. TYPE 1 LOG STRUCTURE DETAIL
NOT TO SCALE

LEGEND

- APPROVED ACCESS ROUTE
- - - NATURE TRAIL (NO ACCESS)
- TEMPORARY ACCESS ROAD
- (E) OVERHEAD POWER LINES
- (E) FLOW LINE
- ▨ STAGING AREA
- (N) TYPE 1 LOG STRUCTURES (5)
- ② TYPE 1 LOG STRUCTURE INSTALLATION LOCATION
- ⌋ (E) GATE
- (E) FENCE

WATERWAYS CONSULTING INC.
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PORTLAND, OR 97205
PH: (503) 227-5979 // FAX: (888) 819-6847
WWW.WATWAYS.COM

DATE: 4/12/13
PROFESSIONAL ENGINEER
MATT W. WELD
EXPIRES: 6/30/2014

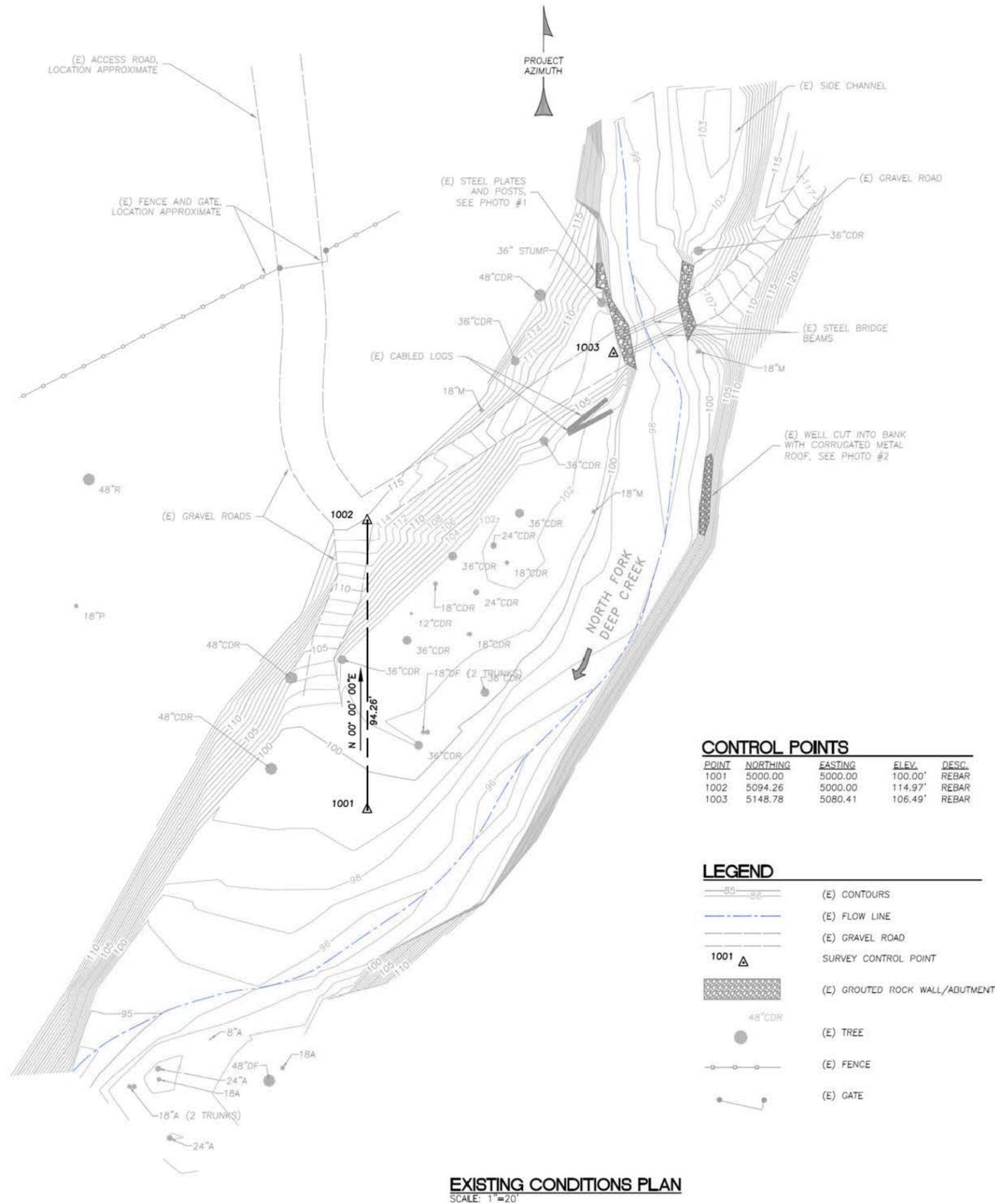
PREPARED AT THE REQUEST OF:
METRO
600 NE GRAND AVENUE
PORTLAND, OR 97232

ACCESS, STAGING, AND LOGGING PLAN

NORTH FORK DEEP CREEK STABILIZATION PROJECT
100% DESIGN SUBMITTAL

DESIGNED BY: J.D.H.
DRAWN BY: J.D.H.
CHECKED BY: M.W.W.
DATE: 04/12/13
JOB NO.: 12-048

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



EXISTING CONDITIONS PLAN
SCALE: 1"=20'



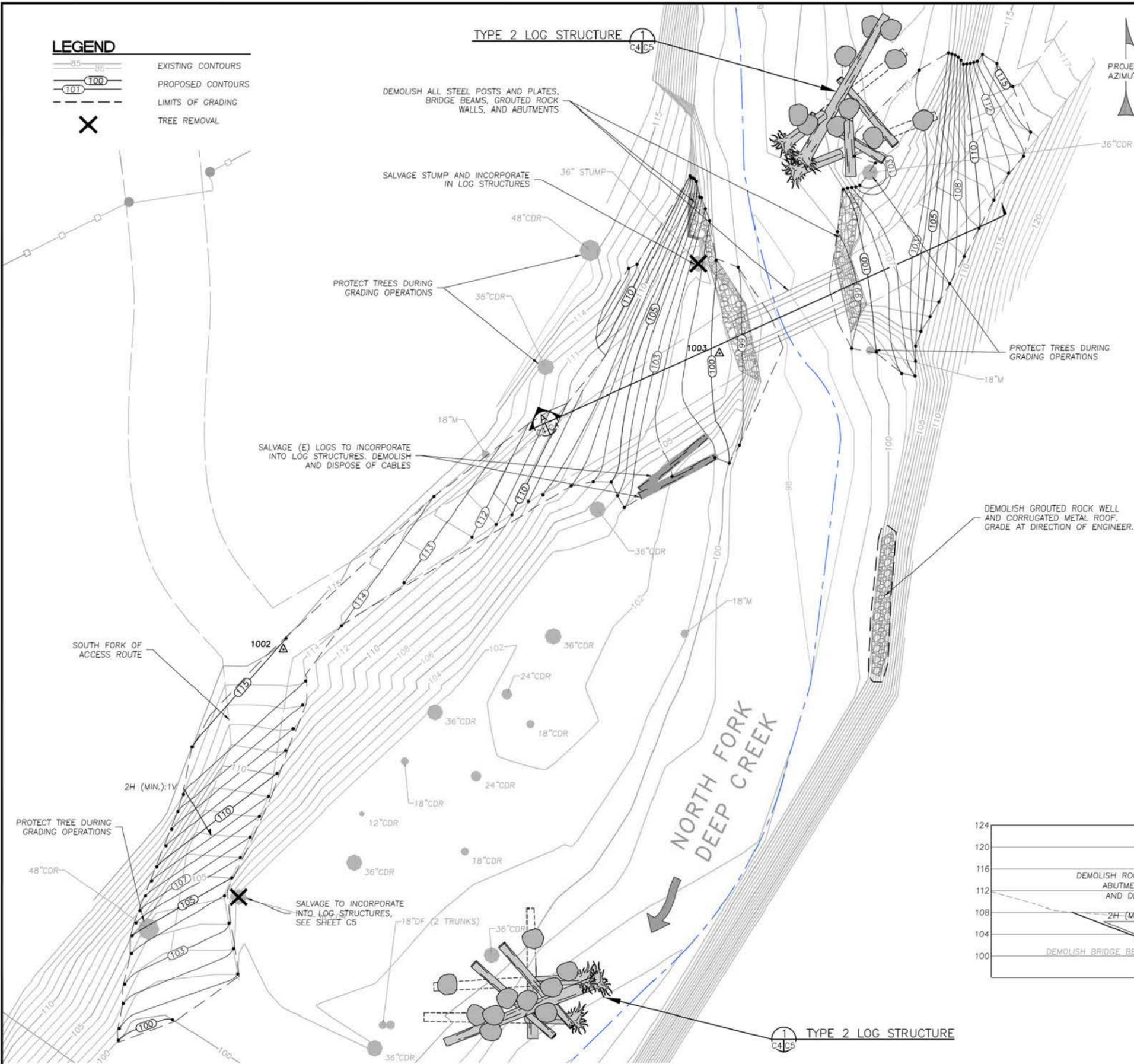
PHOTO #1: STEEL PLATES AND POSTS



PHOTO #2: WELLS

LEGEND

-  EXISTING CONTOURS
-  PROPOSED CONTOURS
-  LIMITS OF GRADING
-  TREE REMOVAL



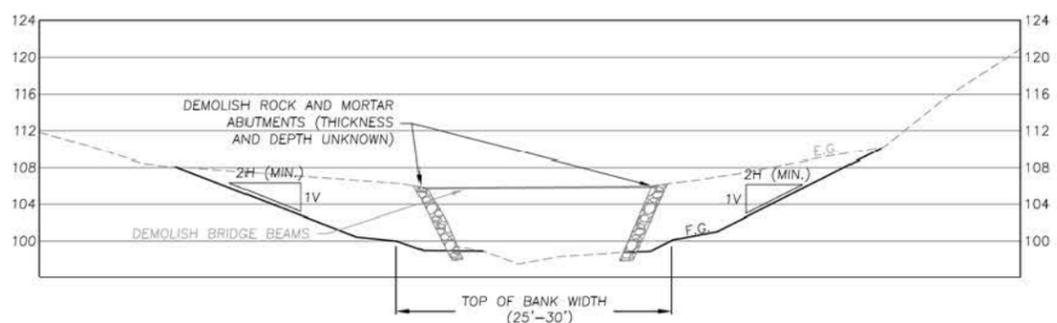
GRADING PLAN
SCALE: 1"=10'

DEMOLITION NOTES

1. ALL NON-NATIVE MATERIALS INCLUDING, BUT NOT LIMITED TO, CONCRETE, MORTAR, AND METAL WITHIN THE LIMITS OF GRADING SHALL BE DEMOLISHED AND DISPOSED OF OFF-SITE BY THE CONTRACTOR.
2. UTILITIES, TREES AND PLANTS THAT ARE NOT SPECIFICALLY CALLED FOR REMOVAL ON THE DRAWINGS SHALL BE PROTECTED FROM INJURY OR DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS.
3. MATERIALS PROJECTING ABOVE-GROUND SHALL BE CUT OFF AT A MINIMUM OF 2' BELOW GROUND (OR TO BEDROCK). BACKFILL AND COMPACT ALL HOLES CAUSED BY REMOVAL OF MATERIALS. AREAS OF THE SITE NOT DETAILED ON THE DRAWINGS SHALL BE FILLED AND GRADED TO DRAIN, GENERALLY MATING EXISTING CONDITIONS.

EARTHWORK NOTES

1. GRADING SUMMARY:
TOTAL CUT VOLUME = 250 CY (AT BRIDGE CROSSING)
TOTAL FILL VOLUME = 40 CY (TO SOUTH FORK OF ACCESS ROUTE)
- THE ABOVE QUANTITIES ARE APPROXIMATE IN-PLACE VOLUMES CALCULATED AS THE DIFFERENCE BETWEEN EXISTING GROUND AND THE PROPOSED FINISH GRADE, PREPARED FOR PERMITTING PURPOSES ONLY. (DETAILED EARTHWORK QUANTITIES SHALL BE INCLUDED IN THE BID DOCUMENTS.) 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 QUANTITIES HAVE NOT BEEN FACTORED TO INCLUDE ALLOWANCES FOR BULKING, CLEARING AND GRUBBING, SUBSIDENCE, SHRINKAGE, OVER EXCAVATION, AND RECOMPACTION, UNDERGROUND UTILITY AND SUBSTRUCTURE SPOILS AND CONSTRUCTION METHODS.
- THE CONTRACTOR SHALL PERFORM AN INDEPENDENT EARTHWORK ESTIMATE FOR THE PURPOSE OF PREPARING BID PRICES FOR EARTHWORK. THE BID PRICE SHALL INCLUDE COSTS FOR ANY NECESSARY IMPORT AND PLACEMENT OF EARTH MATERIALS OR THE EXPORT AND PROPER DISPOSAL OF EXCESS OR UNSUITABLE EARTH MATERIALS.
2. PRIOR TO COMMENCING WORK, ALL AREAS TO REMAIN UNDISTURBED SHALL BE ADEQUATELY PROTECTED WITH TEMPORARY FENCING.
 3. DO NOT DISTURB AREAS OUTSIDE OF THE DESIGNATED LIMITS OF DISTURBANCE AS SHOWN ON SHT. C6, UNLESS AUTHORIZED IN WRITING BY THE ENGINEER. ALL WORK ASSOCIATED WITH RESTORATION AND REVEGETATION OF DISTURBED AREAS OUTSIDE THE DESIGNATED LIMITS OF DISTURBANCE, AS SHOWN ON THE DRAWINGS, SHALL BE BORN SOLELY BY THE CONTRACTOR.
 4. ALL EXCESS SOILS SHALL BE DISPOSED OF ON SITE AT A LOCATION TO BE APPROVED BY THE ENGINEER, IN A MANNER THAT WILL NOT CAUSE EROSION.
 5. UNSUITABLE SOIL OR MATERIALS, NOT TO BE INCLUDED WITHIN ENGINEERED FILLS, INCLUDE:
 - A. ORGANIC MATERIALS SUCH AS PEAT, MULCH, ORGANIC SILT OR SOD.
 - B. SOILS CONTAINING EXPANSIVE CLAYS.
 - C. MATERIAL CONTAINING EXCESSIVE MOISTURE.
 - D. POORLY GRADED COURSE MATERIAL, PARTICLE SIZE IN EXCESS OF 6 INCHES.
 - E. MATERIAL WHICH WILL NOT ACHIEVE SPECIFIED DENSITY OR BEARING.
 6. FINE GRADING ELEVATIONS AND SLOPES NOT SHOWN SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD TO OBTAIN DRAINAGE IN THE DIRECTION INDICATED. ALL FINAL GRADING SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
 7. ALL FILL TO BE COMPACTED TO A MINIMUM OF 85% MAXIMUM DENSITY AS DETERMINED BY ASTM-D1557-78 (MODIFIED TO FIVE (5) LAYERS) AND SO CERTIFIED BY TESTS AND REPORTS FROM THE CIVIL ENGINEER IN CHARGE OF THE GRADING CERTIFICATION.
 8. FILL MATERIAL SHALL BE SPREAD IN LIFTS OF APPROXIMATELY 8 INCHES, MOISTENED OR DRIED TO NEAR OPTIMUM MOISTURE CONTENT AND RECOMPACTED. THE MATERIALS FOR ENGINEERED FILL SHALL BE APPROVED BY A REGISTERED CIVIL ENGINEER. ANY IMPORTED MATERIALS MUST BE APPROVED BEFORE BEING BROUGHT TO THE SITE. THE MATERIALS USED SHALL BE FREE OF ORGANIC MATTER AND OTHER DELETERIOUS MATERIALS.
 9. ALL CONTACT SURFACES BETWEEN ORIGINAL GROUND AND RECOMPACTED FILL SHALL BE EITHER HORIZONTAL OR VERTICAL. ALL ORGANIC MATERIAL SHALL BE REMOVED AND THE REMAINING SURFACE SCARIFIED TO A DEPTH OF AT LEAST 12 INCHES, UNLESS DEEPER EXCAVATION IS REQUIRED BY THE ENGINEER.



SECTION
SCALE: 1"=10'

TYPE 2 LOG STRUCTURE NOTES

1. **PLACEMENT LOCATIONS:** LOG STRUCTURE DESIGNS ARE SHOWN CONCEPTUALLY DOE TO THE INHERENT VARIABILITY OF MATERIAL PROPERTIES. THE DESIGN REQUIRES THAT THE ENGINEER WILL OBSERVE CONSTRUCTION OF THE LOG STRUCTURES TO ENSURE THE INTENT OF THE DESIGN IS MET. OBSERVATIONS MUST INCLUDE LOG AND BOULDER SELECTION, PLACEMENT, AND BACKFILLING. ANY LOG STRUCTURES CONSTRUCTED WITHOUT THE ENGINEER PRESENT ON-SITE MAY RESULT IN REJECTION OF THE WORK BY THE ENGINEER.

2. **LOGS:** ALL LOGS SHOWN ON THE DRAWINGS SHALL EITHER BE SUPPLIED BY THE OWNER TO BE IMPORTED BY THE CONTRACTOR OR SHALL BE HARVESTED ON-SITE AT THE DIRECTION OF THE ENGINEER. OWNER SUPPLIED LOGS ARE LOCATED IN BARTON, OREGON. HOLES CREATED FROM ON-SITE LOG HARVESTING SHALL BE BACKFILLED PER EARTHWORK NOTES ON SHEET C4 TO MATCH ADJACENT GRADES.

FOR CLARITY, MOST LOGS ARE SHOWN WITHOUT BRANCHES OR ROOTWADS INTACT. IT IS PREFERABLE THAT LOGS BE SUPPLIED WITH THE MAXIMUM NUMBER OF BRANCHES AND ROOTS INTACT, TO MAXIMIZE PERFORMANCE OF THE STRUCTURES. STOCKPILE ALL SLASH MATERIAL FOR USE IN TYPE 2 LOG STRUCTURES. LOG SPECIES TO BE USED IN TYPE 2 LOG STRUCTURE CONSTRUCTION INCLUDE PINE, CEDAR, DOUGLAS FIR, AND REDWOOD. MATERIALS FOR USE IN THE STRUCTURES SHALL MEET THE FOLLOWING SIZE CRITERIA:

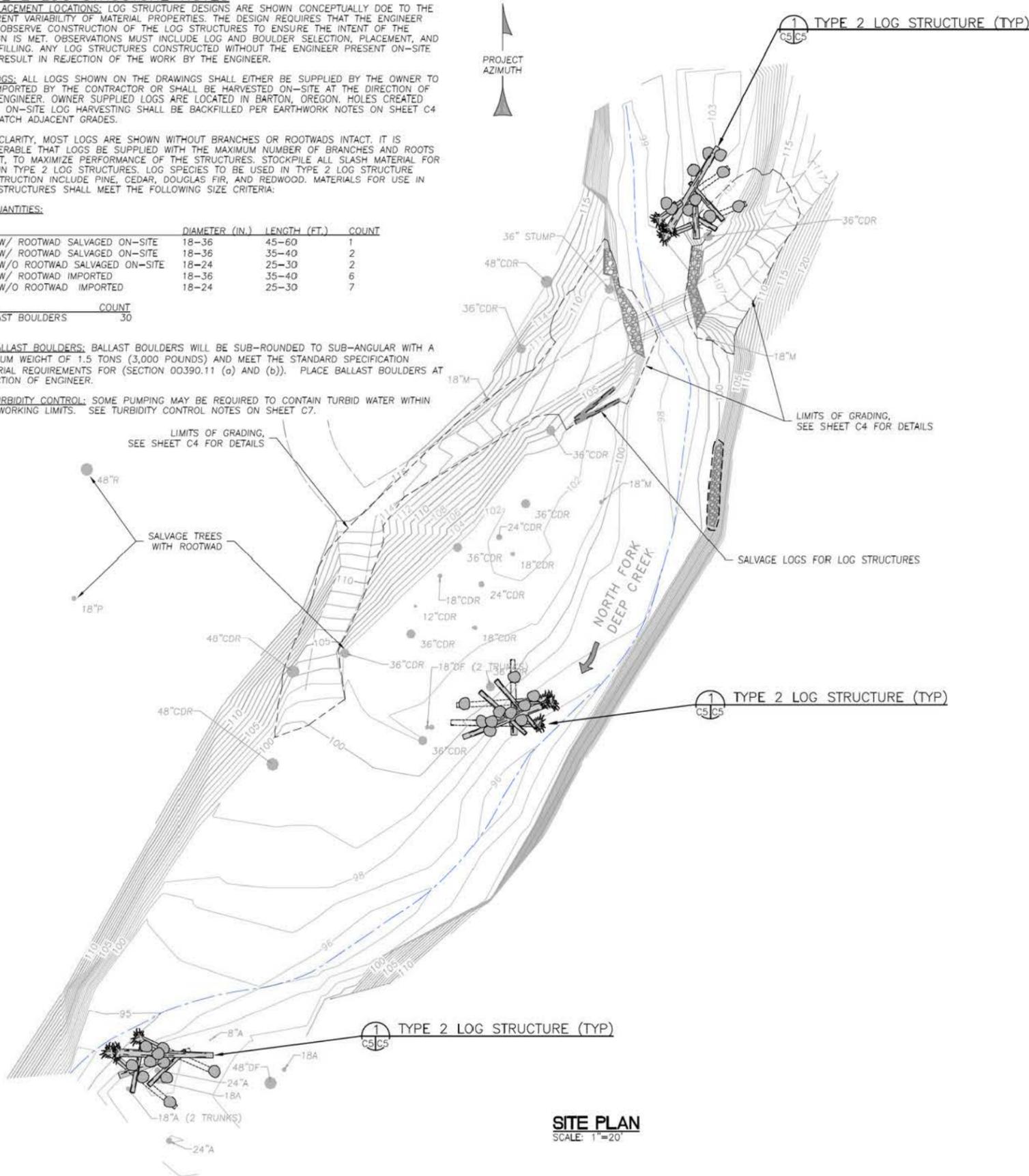
3. **QUANTITIES:**

ITEM	DIAMETER (IN.)	LENGTH (FT.)	COUNT
LOG W/ ROOTWAD SALVAGED ON-SITE	18-36	45-60	1
LOG W/ ROOTWAD SALVAGED ON-SITE	18-36	35-40	2
LOG W/O ROOTWAD SALVAGED ON-SITE	18-24	25-30	2
LOG W/ ROOTWAD IMPORTED	18-36	35-40	6
LOG W/O ROOTWAD IMPORTED	18-24	25-30	7

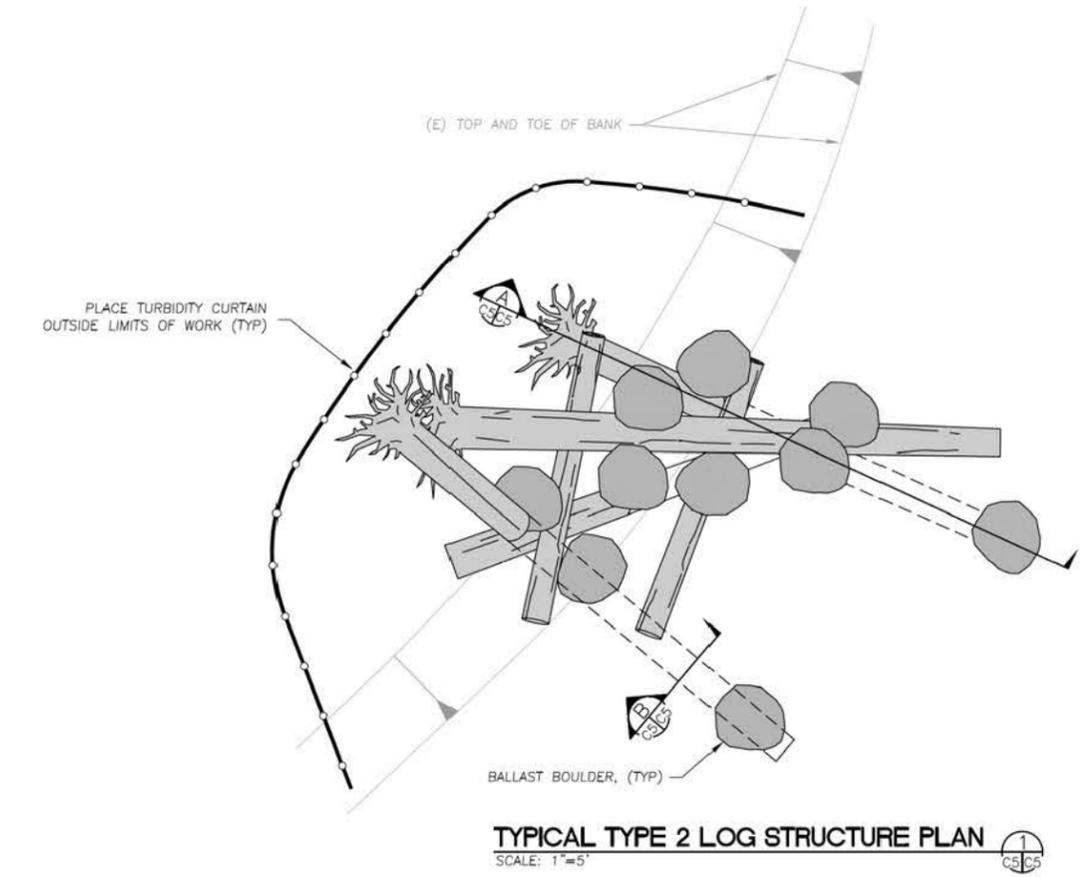
ITEM	COUNT
BALLAST BOULDERS	30

4. **BALLAST BOULDERS:** BALLAST BOULDERS WILL BE SUB-ROUNDED TO SUB-ANGULAR WITH A MINIMUM WEIGHT OF 1.5 TONS (3,000 POUNDS) AND MEET THE STANDARD SPECIFICATION MATERIAL REQUIREMENTS FOR (SECTION 00390.11 (a) AND (b)). PLACE BALLAST BOULDERS AT DIRECTION OF ENGINEER.

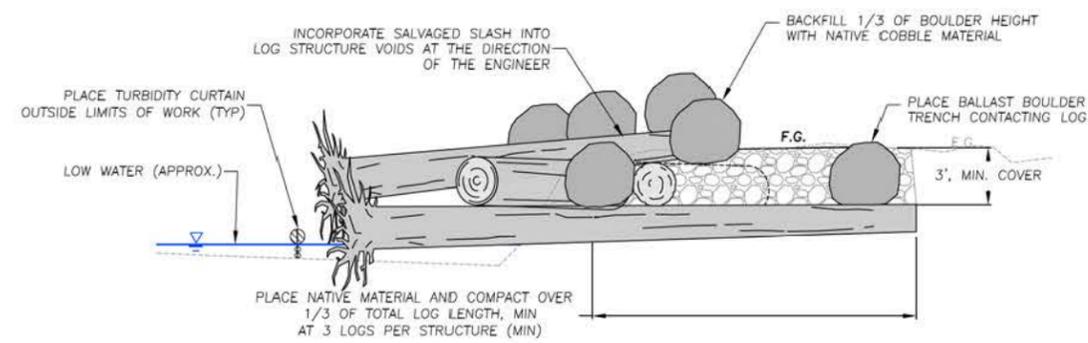
5. **TURBIDITY CONTROL:** SOME PUMPING MAY BE REQUIRED TO CONTAIN TURBID WATER WITHIN THE WORKING LIMITS. SEE TURBIDITY CONTROL NOTES ON SHEET C7.



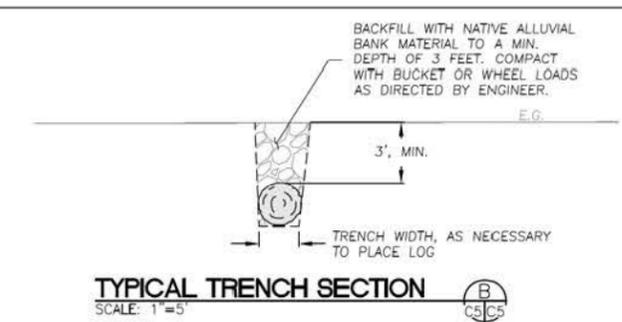
SITE PLAN
SCALE: 1"=20'



TYPICAL TYPE 2 LOG STRUCTURE PLAN
SCALE: 1"=5'



TYPICAL ELEVATION AT TYPE 2 LOG STRUCTURE
SCALE: 1"=5'



TYPICAL TRENCH SECTION
SCALE: 1"=5'

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WWW.WATWAYS.COM

DATE: 4/12/13
REGISTERED PROFESSIONAL ENGINEER
MATT W. WELD
OREGON LICENSE NO. 78668PE
EXPIRES: 6/30/2014

PREPARED AT THE REQUEST OF:
METRO
600 NE GRAND AVENUE
PORTLAND, OR 97232

TYPE 2 LOG STRUCTURE PLAN AND DETAILS

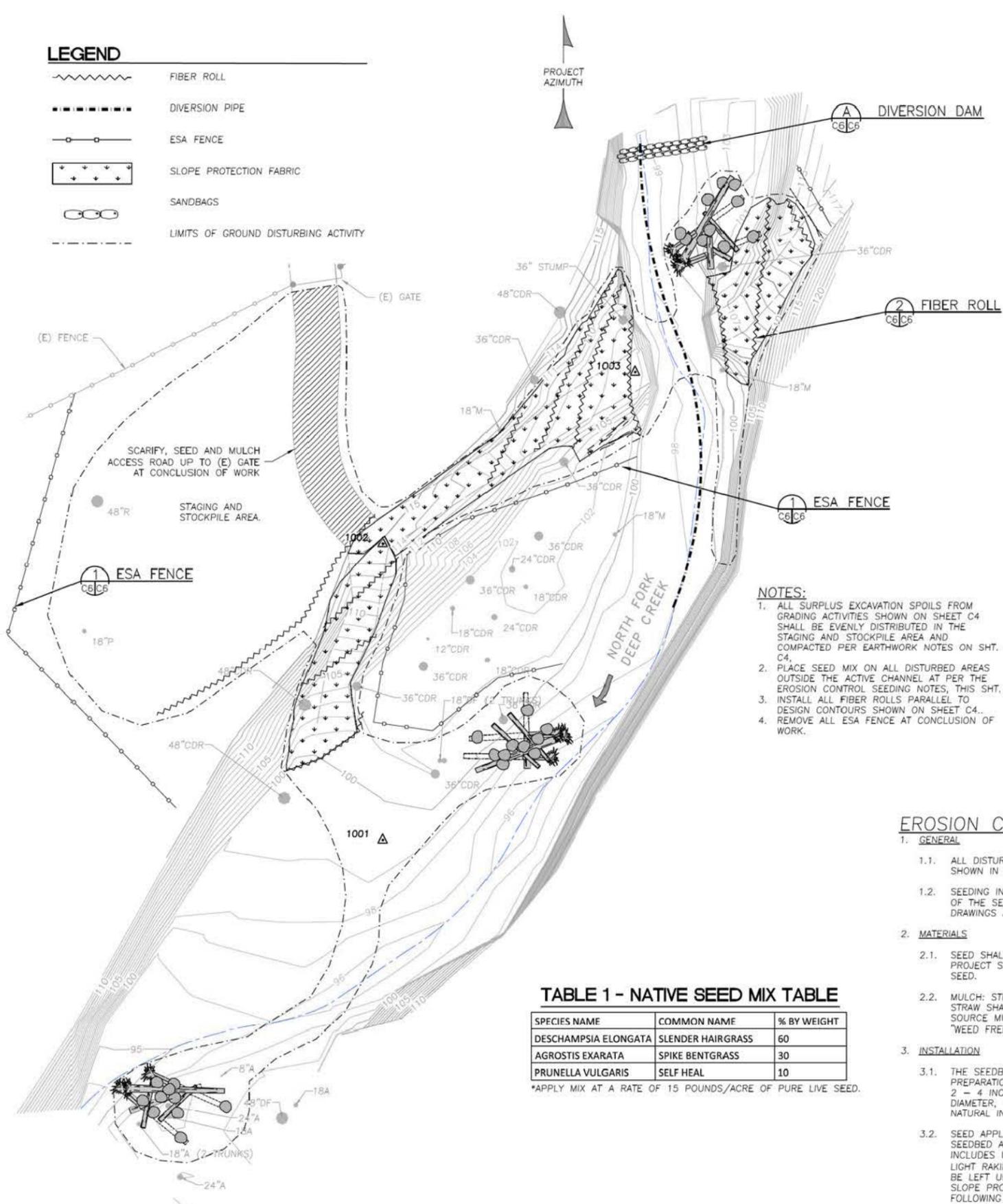
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BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS

LEGEND

-  FIBER ROLL
-  DIVERSION PIPE
-  ESA FENCE
-  SLOPE PROTECTION FABRIC
-  SANDBAGS
-  LIMITS OF GROUND DISTURBING ACTIVITY



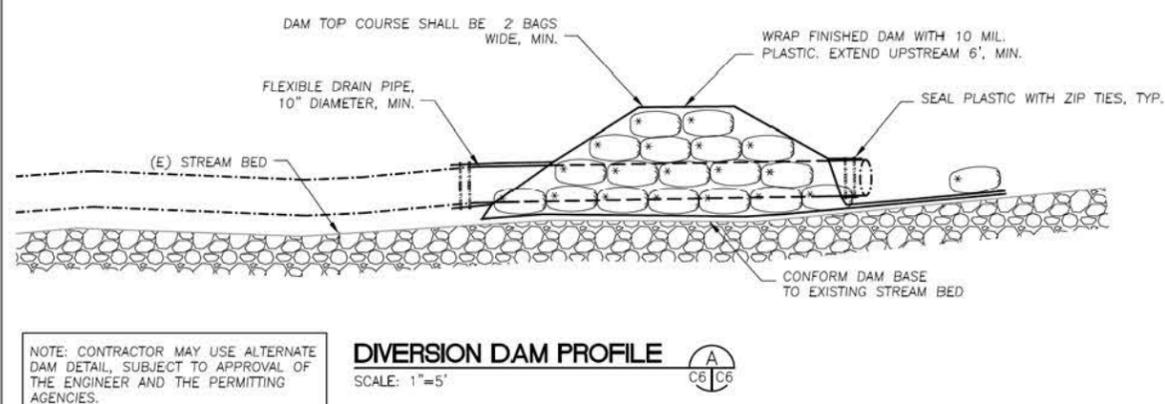
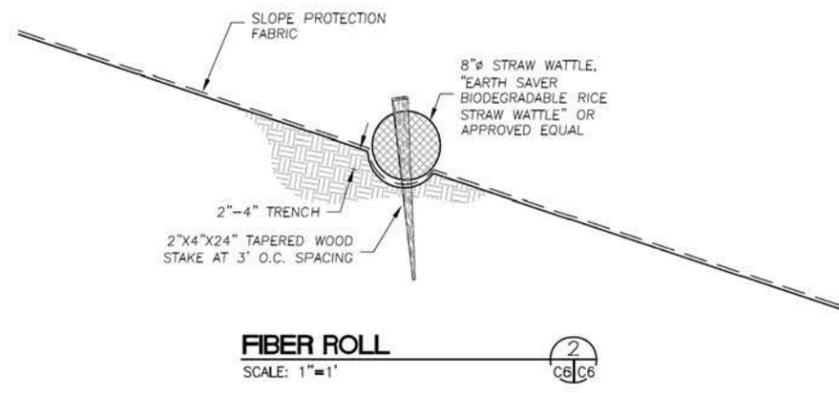
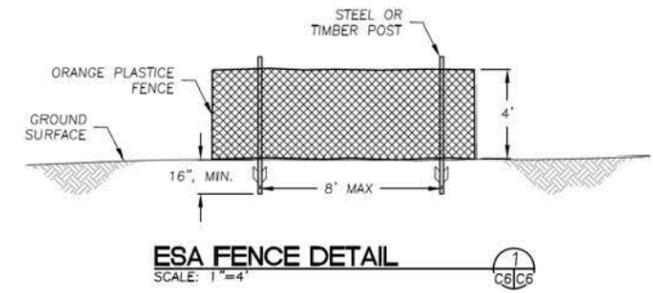
- NOTES:**
1. ALL SURPLUS EXCAVATION SPOILS FROM GRADING ACTIVITIES SHOWN ON SHEET C4 SHALL BE EVENLY DISTRIBUTED IN THE STAGING AND STOCKPILE AREA AND COMPACTED PER EARTHWORK NOTES ON SHT. C4.
 2. PLACE SEED MIX ON ALL DISTURBED AREAS OUTSIDE THE ACTIVE CHANNEL AT PER THE EROSION CONTROL SEEDING NOTES, THIS SHT.
 3. INSTALL ALL FIBER ROLLS PARALLEL TO DESIGN CONTOURS SHOWN ON SHEET C4.
 4. REMOVE ALL ESA FENCE AT CONCLUSION OF WORK.

TABLE 1 - NATIVE SEED MIX TABLE

SPECIES NAME	COMMON NAME	% BY WEIGHT
DESCHAMPSIA ELONGATA	SLENDER HAIRGRASS	60
AGROSTIS EXARATA	SPIKE BENTGRASS	30
PRUNELLA VULGARIS	SELF HEAL	10

*APPLY MIX AT A RATE OF 15 POUNDS/ACRE OF PURE LIVE SEED.

SITE PLAN
SCALE: 1"=20'



EROSION CONTROL SEEDING NOTES:

- 1. GENERAL**
 - 1.1. ALL DISTURBED AREAS SHALL BE SEEDED WITH THE NATIVE SEED MIX SHOWN IN TABLE 1, THIS SHT.
 - 1.2. SEEDING INCLUDES FURNISHING AND HANDLING OF THE SEED, PREPARATION OF THE SEEDBED, AND HAND BROADCASTING SEED AS SPECIFIED ON THE DRAWINGS AND IN THESE NOTES.
- 2. MATERIALS**
 - 2.1. SEED SHALL BE PRE-MIXED BY THE SUPPLIER BEFORE SHIPMENT TO THE PROJECT SITE. AT NO TIME SHALL SEED MIX CONTAIN NOXIOUS WEED SEED.
 - 2.2. MULCH: STRAW MULCH SHALL BE DERIVED FROM WHEAT OR BARLEY. STRAW SHALL BE CURED AND DRY WITH NO WATER ADDED AFTER BALING. SOURCE MUST MEET OR EXCEED STATE CERTIFICATION STANDARDS FOR "WEED FREE".
- 3. INSTALLATION**
 - 3.1. THE SEEDBED SHALL BE PREPARED PRIOR TO SEED APPLICATION. SEEDBED PREPARATION INCLUDES LOOSENING OF COMPACTED SOILS TO A DEPTH OF 2 - 4 INCHES, BREAKING DOWN SOIL CLUMPS LARGER THAN 2 INCHES IN DIAMETER, GRADING OF THE SURFACE TO BE NON-UNIFORM, ROUGH AND NATURAL IN APPEARANCE.
 - 3.2. SEED APPLICATION SHALL COMMENCE FOLLOWING PREPARATION OF THE SEEDBED AND BEFORE APPLICATION OF MULCH. SEED APPLICATION INCLUDES UNIFORMLY BROADCASTING SEED OVER PREPARED AREAS AND LIGHT RAKING TO A DEPTH OF 1/4 INCH TO 1/2 INCH. SEED SHALL NOT BE LEFT UNCOVERED FOR MORE THAN 24 HOURS. EITHER MULCH OR SLOPE PROTECTION FABRIC SHALL BE APPLIED TO ALL SEEDED AREAS FOLLOWING SEED APPLICATION.
 - 3.3. MULCH: FOLLOWING THE APPLICATION OF THE SEED MIX, STRAW MULCH SHALL BE HAND BROADCAST AT A RATE OF 3,000 LBS/ACRE WHERE SLOPE PROTECTION FABRIC IS NOT SPECIFIED, AND 500 LBS/ACRE WHERE SLOPE PROTECTION FABRIC IS SHOWN IN DRAWINGS.

SLOPE PROTECTION FABRIC NOTES:

1. INSTALL SLOPE PROTECTION FABRIC AFTER PLACEMENT OF SEEDING AND MULCH.
2. SLOPE PROTECTION FABRIC SHALL CONSIST OF A DOUBLE LAYER OF FULLY BIODEGRADABLE EROSION CONTROL FABRIC. PLASTIC NETTING IS NOT ACCEPTABLE. THE INNER LAYER SHALL BE "NORTH AMERICAN GREEN C125BN", OR APPROVED EQUAL. THE OUTER LAYER SHALL BE "GEOCOIR 900", OR APPROVED EQUAL.
3. GROUND ANCHORING DEVICES SHALL BE 12" LONG HARDWOOD STAKES. IN LOOSE SOIL CONDITIONS, THE USE OF STAKES GREATER THAN 12" MAY BE NECESSARY TO PROPERLY ANCHOR SLOPE PROTECTION FABRIC.
4. SECURE UPSLOPE EDGE OF SLOPE PROTECTION FABRIC INTO A 6" X 6" TRENCH WITH A ROW OF GROUND ANCHORING DEVICES SPACED APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER ANCHORING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF SLOPE PROTECTION FABRIC'S BACK OVER SEED AND COMPACTED SOIL. SECURE SLOPE PROTECTION FABRIC OVER COMPACTED SOIL WITH A ROW OF GROUND ANCHORING DEVICES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE SLOPE PROTECTION FABRIC.
5. UNROLL SLOPE PROTECTION FABRIC DOWNSLOPE. CONSECUTIVE ROLLS SPICED DOWN THE SLOPE MUST BE PLACED END (SHINGLE STYLE) WITH AN 18" OVERLAP. ANCHOR THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS THE ENTIRE SLOPE PROTECTION FABRIC'S LENGTH.
6. SECURE SLOPE PROTECTION FABRIC TO SLOPE WITH GROUND ANCHORING DEVICES AT 2' ON-CENTER SPACING. ADDITIONAL ANCHORS SHALL BE INSTALLED, AS NECESSARY, TO ENSURE CONSISTENT CONTACT WITH THE GROUND SURFACE.
7. ALL SLOPE PROTECTION FABRIC EDGES SHALL BE INSTALLED IN A 6" X 6" TRENCH WITH A ROW OF GROUND ANCHORING DEVICES SPACED APPROXIMATELY 12" APART AS DESCRIBED ABOVE.
8. PLACE FIBER ROLL OVER FABRIC AS SHOWN ON DETAIL 2, THIS SHT.

GENERAL NOTES

- THE ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER OR A DESIGNATED REPRESENTATIVE SHALL MONITOR THE CONSTRUCTION PROCESS, AS NECESSARY, TO ENSURE PROPER INSTALLATION PROCEDURES.
- EXISTING UNDERGROUND UTILITY LOCATIONS:
 - PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL CONTACT ALL UTILITIES COMPANIES WITH REGARD TO WORKING OVER, UNDER, OR AROUND EXISTING FACILITIES AND TO OBTAIN INFORMATION REGARDING RESTRICTIONS THAT ARE REQUIRED TO PREVENT DAMAGE TO THE FACILITIES.
 - LOCATIONS SHOWN ARE COMPILED FROM INFORMATION SUPPLIED BY THE APPROPRIATE UTILITY AGENCIES AND FROM FIELD MEASUREMENTS TO ABOVE GROUND FEATURES READILY VISIBLE AT THE TIME OF SURVEY. LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND DEPTH OF UNDERGROUND UTILITIES.
 - THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE LOCATION AND/OR PROTECTION OF ALL EXISTING AND PROPOSED PIPING, UTILITIES, TRAFFIC SIGNAL EQUIPMENT (BOTH ABOVE GROUND AND BELOW GROUND), STRUCTURES, AND ALL OTHER EXISTING IMPROVEMENTS THROUGHOUT CONSTRUCTION.
 - PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION, CONTRACTOR SHALL DISCOVER OR VERIFY THE ACTUAL DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND ELEVATIONS OF ALL EXISTING UTILITIES AND POTHOLE THOSE AREAS WHERE POTENTIAL CONFLICTS ARE LIKELY OR DATA IS OTHERWISE INCOMPLETE.
 - CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PROTECT EXISTING UTILITIES DURING CONSTRUCTION OPERATIONS, AND SHALL BE SOLELY RESPONSIBLE FOR THE COST OF REPAIR/REPLACEMENT OF ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION. CONTRACTOR TO CALL UNDERGROUND SERVICE ALERT (1-800-332-2344) TO LOCATE ALL UNDERGROUND UTILITY LINES PRIOR TO COMMENCING CONSTRUCTION.
 - UPON LEARNING OF THE EXISTENCE AND/OR LOCATIONS OF ANY UNDERGROUND FACILITIES NOT SHOWN OR SHOWN INACCURATELY ON THE PLANS OR NOT PROPERLY MARKED BY THE UTILITY OWNER, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY OWNER AND THE CITY BY TELEPHONE AND IN WRITING.
 - UTILITY RELOCATIONS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT FACILITIES WILL BE PERFORMED BY THE UTILITY COMPANY, UNLESS OTHERWISE NOTED.
- SHOULD THE CONTRACTOR DISCOVER ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, HE SHALL NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE FULLY INFORMED OF AND TO COMPLY WITH ALL LAWS, ORDINANCES, CODES, REQUIREMENTS AND STANDARDS WHICH IN ANY MANNER AFFECT THE COURSE OF CONSTRUCTION OF THIS PROJECT, THOSE ENGAGED OR EMPLOYED IN THE CONSTRUCTION AND THE MATERIALS USED IN THE CONSTRUCTION.
- ANY TESTS, INSPECTIONS, SPECIAL OR OTHERWISE, THAT ARE REQUIRED BY THE BUILDING CODES, LOCAL BUILDING DEPARTMENTS, OR THESE PLANS, SHALL BE DONE BY AN INDEPENDENT INSPECTION COMPANY. JOB SITE VISITS BY THE ENGINEER DO NOT CONSTITUTE AN OFFICIAL INSPECTION.
- PROJECT SCHEDULE: PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL PROVIDE ENGINEER A DETAILED CONSTRUCTION SCHEDULE FOR APPROVAL. THE CONTRACTOR SHALL NOT BEGIN ANY CONSTRUCTION WORK UNTIL THE PROJECT SCHEDULE AND WORK PLAN IS APPROVED BY THE ENGINEER. ALL CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER SO THAT THE QUALITY OF WORK CAN BE CHECKED FOR APPROVAL. THE CONTRACTOR SHALL PURSUE WORK IN A CONTINUOUS AND DILIGENT MANNER TO ENSURE A TIMELY COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, PERMITTING, INSTALLATION, AND MAINTENANCE OF ANY AND ALL TRAFFIC CONTROL MEASURES DEEMED NECESSARY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR GENERAL SAFETY DURING CONSTRUCTION. ALL WORK SHALL CONFORM TO PERTINENT SAFETY REGULATIONS AND CODES. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING ALL WARNING SIGNS AND DEVICES NECESSARY TO SAFEGUARD THE GENERAL PUBLIC AND THE WORK, AND PROVIDE FOR THE PROPER AND SAFE ROUTING OF VEHICULAR AND PEDESTRIAN TRAFFIC DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF OSHA IN THE CONSTRUCTION PRACTICES FOR ALL EMPLOYEES DIRECTLY ENGAGED IN THE CONSTRUCTION OF THIS PROJECT.
- CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTION LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL. NEITHER THE PROFESSIONAL ACTIVITIES OF CONSULTANT NOR THE PRESENCE OF CONSULTANT OR HIS OR HER EMPLOYEES OR SUB-CONSULTANTS AT A CONSTRUCTION SITE SHALL RELIEVE THE CONTRACTOR AND ITS SUBCONTRACTORS OF THEIR RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND APPLICABLE HEALTH OR SAFETY REQUIREMENTS OF ANY REGULATORY AGENCY OR OF STATE LAW.
- THE CONTRACTOR SHALL MAINTAIN A CURRENT, COMPLETE, AND ACCURATE RECORD OF ALL AS-BUILT DEVIATIONS FROM THE CONSTRUCTION AS SHOWN ON THESE DRAWINGS AND SPECIFICATIONS, FOR THE PURPOSE OF PROVIDING THE ENGINEER OF RECORD WITH A BASIS FOR THE PREPARATION OF RECORD DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE SITE IN A NEAT AND ORDERLY MANNER THROUGHOUT THE CONSTRUCTION PROCESS. ALL MATERIALS SHALL BE STORED WITHIN APPROVED STAGING AREAS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AT HIS EXPENSE, ALL REQUIRED PERMITS NOT PREVIOUSLY OBTAINED BY THE OWNER. THE CONTRACTOR SHALL PROVIDE, AT HIS EXPENSE, ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO COMPLY WITH ALL APPLICABLE PERMIT CONDITIONS AND REQUIREMENTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AND LAYOUT, UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND PRESERVATION OF ALL SURVEY MONUMENTS OR PROPERTY CORNERS. DISTURBED MONUMENTS SHALL BE RESTORED BACK TO THEIR ORIGINAL LOCATION AND SHALL BE CERTIFIED BY A REGISTERED CIVIL ENGINEER OR LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.
- TREE DIMENSIONS: TRUNK DIAMETERS SHOWN REPRESENT DIAMETER AT BREST HEIGHT (DBH), MEASURED IN INCHES. DBH IS MEASURED 4.5 FT ABOVE GROUND FOR SINGLE TRUNKS AND TRUNKS THAT SPLIT INTO SEVERAL STEMS CLOSE TO THE GROUND. THE DBH FOR TREES THAT SPLIT INTO SEVERAL STEMS CLOSE TO THE GROUND MAY BE CONSOLIDATED INTO A SINGLE DBH BY TAKING THE SQUARE ROOT OF THE SUM OF ALL SQUARED STEM DBH'S, UNLESS OTHERWISE NOTED. WHERE TREES FORK NEAR BREST HEIGHT, TRUNK DIAMETER IS MEASURED AT THE NARROWEST PART OF THE MAIN STEM BELOW THE FORK. FOR TREES ON A SLOPE, BREST HEIGHT IS REFERENCED FROM THE UPPER SIDE OF THE SLOPE. FOR LEANING TREES, BREST HEIGHT IS MEASURED ON THE SIDE THAT THE TREE LEANS TOWARD. TREES WITH DBH LESS THAN 8" ARE TYPICALLY NOT SHOWN.
- 12" P = 12" DBH PINE
- TREE SPECIES ARE IDENTIFIED WHEN KNOWN. HOWEVER, FINAL DETERMINATION SHOULD BE MADE BY A QUALIFIED BOTANIST. REFER TO THE LEGEND FOR TREE SPECIES SYMBOLS.
- TREE TRUNK DIMENSIONS MAY BE SHOWN OUT-OF-SCALE FOR PLOTTING CLARITY. CAUTION SHOULD BE USED IN DESIGNING NEAR TREE TRUNKS. THERE ARE LIMITATIONS ON FIELD ACCURACY, DRAFTING ACCURACY, MEDIUM STRETCH AS WELL AS THE "SPREAD" OR "LEANING" OF TREES. REQUEST ADDITIONAL TOPOGRAPHIC DETAIL WHERE CLOSE TOLERANCES ARE ANTICIPATED. INDIVIDUAL TREES ARE NOT TYPICALLY LOCATED WITHIN DRIPLINE CANOPY AREAS SHOWN.

EROSION CONTROL NOTES

- THE EROSION CONTROL PLAN SHOWN IS INTENDED FOR THE SUMMER CONSTRUCTION SEASON (JUNE 1ST TO OCTOBER 1ST). IF THE DRAINAGE FEATURES SHOWN ON THESE DRAWINGS ARE NOT COMPLETED AND DISTURBED AREAS STABILIZED BY OCTOBER 1ST, CONSULT THE ENGINEER FOR ADDITIONAL RAINY SEASON EROSION CONTROL MEASURES.
- IMPLEMENTATION OF EROSION CONTROL MEASURES SHALL BE THE FIRST ORDER OF BUSINESS UPON SITE MOBILIZATION.
- PRIOR TO COMMENCING WORK, AREAS TO REMAIN UNDISTURBED SHALL BE PROTECTED WITH ESA FENCING, AS SHOWN ON THE DRAWINGS. ADDITIONAL FENCING MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER.
- CONTRACTOR SHALL UTILIZE ONLY THE APPROVED HAUL ROADS AND ACCESS POINTS (AS SHOWN ON THE DRAWINGS) FOR TRANSPORT OF MATERIALS AND EQUIPMENT.
- BETWEEN OCTOBER 1ST AND MAY 31ST, EXPOSED SOIL SHALL BE PROTECTED FROM EROSION AT ALL TIMES. DURING CONSTRUCTION, SUCH PROTECTION MAY CONSIST OF MULCHING AND/OR PLANTING OF NATIVE VEGETATION OF ADEQUATE DENSITY. BEFORE COMPLETION OF THE PROJECT, ANY EXPOSED SOIL ON DISTURBED SLOPES SHALL BE PERMANENTLY PROTECTED FROM EROSION.
- A STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (OCTOBER 1ST THROUGH MAY 31ST). NECESSARY MATERIALS SHALL BE AVAILABLE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES.
- CONSTRUCT TEMPORARY EROSION CONTROL MEASURES AS SHOWN ON THIS PLAN AND/OR AS DIRECTED BY THE ENGINEER TO CONTROL DRAINAGE WHICH HAS BEEN AFFECTED BY GRADING AND/OR TRENCHING OPERATIONS.
- THE CONTRACTOR SHALL INCORPORATE ADEQUATE DRAINAGE PROCEDURES DURING THE CONSTRUCTION PROCESS TO ELIMINATE EXCESSIVE PONDING AND EROSION.
- CONSTRUCT AND MAINTAIN EROSION CONTROL MEASURES TO PREVENT THE DISCHARGE OF EARTHEN MATERIALS TO THE CREEK FROM DISTURBED AREAS UNDER CONSTRUCTION AND FROM COMPLETED CONSTRUCTION AREAS.
- INSTALL ALL PROTECTIVE DEVICES AT THE END OF EACH WORK DAY WHEN THE FIVE-DAY RAIN PROBABILITY EQUALS OR EXCEEDS 50 PERCENT AS DETERMINED FROM THE NATIONAL WEATHER SERVICE FORECAST OFFICE: WWW.SRH.NOAA.GOV.
- AFTER A RAINSTORM, ALL EROSION CONTROL FEATURES SHALL BE INSPECTED AND CLEANED OR REPLACED.
- THE EROSION CONTROL DEVICES ON THIS PLAN ARE A SCHEMATIC REPRESENTATION OF WHAT MAY BE REQUIRED. EROSION CONTROL DEVICES MAY BE RELOCATED, DELETED, OR ADDITIONAL ITEMS MAY BE REQUIRED DEPENDING ON THE ACTUAL SOIL CONDITIONS ENCOUNTERED, AT THE DISCRETION OF THE ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE TO KEEP IN FORCE ALL EROSION CONTROL DEVICES AND TO MODIFY THOSE DEVICES AS SITE PROGRESS DICTATES.
- THE CONTRACTOR SHALL MONITOR THE EROSION CONTROL DEVICES DURING STORMS AND MODIFY THEM IN ORDER TO PREVENT PROGRESS OF ANY ONGOING EROSION.
- THE CONTRACTOR IS RESPONSIBLE FOR CLEANING ANY EROSION OR DEBRIS SPILLING ONTO A PUBLIC STREET.
- THE CONTRACTOR SHALL CONTACT THE ENGINEER IN THE EVENT THAT THE EROSION CONTROL PLAN AS DESIGNED REQUIRES ANY SUBSTANTIAL REVISIONS.
- CONTRACTOR SHALL BE FAMILIAR WITH THE CONDITIONS OF APPROVAL OF ALL REQUIRED PROJECT PERMITS AND SHALL IMPLEMENT ALL REQUIRED BMP'S PRIOR TO COMMENCING GRADING OPERATIONS.

DUST CONTROL NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUS DUST CONTROL, THROUGHOUT THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REGULAR CLEANING OF ALL MUD, DIRT, DEBRIS, ETC., FROM ANY AND ALL ADJACENT ROADS AND SIDEWALKS, AT LEAST ONCE EVERY 24 HOURS WHEN OPERATIONS ARE OCCURRING.
- ALL DISTURBED AREAS, INCLUDING UNPAVED ACCESS ROADS OR STORAGE PILES, NOT BEING ACTIVELY UTILIZED FOR CONSTRUCTION PURPOSES, SHALL BE EFFECTIVELY STABILIZED OF DUST EMISSIONS USING WATER, CHEMICAL STABILIZER/SUPPRESSANT, OR VEGETATIVE GROUND COVER.
- ALL GROUND-DISTURBING ACTIVITIES (E.G., CLEARING, GRUBBING, SCRAPING, AND EXCAVATION) SHALL BE EFFECTIVELY CONTROLLED OF FUGITIVE DUST EMISSIONS UTILIZING APPLICATION OF WATER OR BY PRE-SOAKING.
- ALL MATERIALS TRANSPORTED OFFSITE SHALL BE COVERED OR EFFECTIVELY WETTED TO LIMIT DUST EMISSIONS.
- FOLLOWING THE ADDITION OF MATERIALS TO, OR THE REMOVAL OF MATERIALS FROM, THE SURFACES OF OUTDOOR STORAGE PILES, SAID PILES SHALL BE EFFECTIVELY STABILIZED OF FUGITIVE DUST EMISSIONS UTILIZING SUFFICIENT WATER OR CHEMICAL STABILIZER/SUPPRESSANT.
- ONSITE VEHICLE SPEED ON UNPAVED SURFACES SHALL BE LIMITED TO 15 MPH.
- DISTURBED AREAS SHALL BE REVEGETATED AS QUICKLY AS POSSIBLE.
- ONSITE TRUCK AND EQUIPMENT ENGINES SHALL BE MAINTAINED IN GOOD RUNNING CONDITION, IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS.

DIVERSION NOTES

- GENERAL
 - A WATER DIVERSION SYSTEM SHALL BE INSTALLED TO DEWATER THE PROJECT SITE TO FACILITATE IN-STREAM CONSTRUCTION AND TO REDUCE THE POTENTIAL IMPACTS TO WATER QUALITY DOWNSTREAM OF THE PROJECT SITE.
 - THE PROPOSED DIVERSION STRUCTURE SHALL CONSIST OF A SEALED SAND BAG DAM AND A GRAVITY FLOW PIPELINE. NO OTHER DIVERSION METHOD SHALL BE USED WITHOUT AUTHORIZATION OF THE ENGINEER. IF ANOTHER DIVERSION METHOD IS PREFERRED BY THE CONTRACTOR, THE CONTRACTOR SHALL SUBMIT A PLAN TO THE ENGINEER, DETAILING THE DESIRED DIVERSION METHOD.
 - THE CONTRACTOR SHALL CONFIRM THAT A FAVORABLE LONG TERM WEATHER FORECAST (1 WEEK MIN.) IS OBSERVED PRIOR TO PLACEMENT OF DIVERSION STRUCTURE.
 - PRIOR TO PLACEMENT OF DIVERSION STRUCTURE, FISH SHALL BE REMOVED FROM THE PROJECT REACH BY OTHERS.
 - DIVERSION CONSTRUCTION SHALL NORMALLY BEGIN IN THE DOWNSTREAM AREA AND CONTINUE IN AN UPSTREAM DIRECTION. THE FLOW SHALL BE DIVERTED ONLY WHEN THE DIVERSION CONSTRUCTION IS COMPLETE. FOLLOWING ENGINEER'S APPROVAL OF THE COMPLETED WORK, DIVERSION SHALL BE REMOVED IMMEDIATELY, IN AN UPSTREAM DIRECTION.
- FISH REMOVAL
 - FISH SHALL BE REMOVED FROM THE PROJECT SITE BY A QUALIFIED FISHERIES BIOLOGIST, LICENSED FOR SUCH ACTIVITIES BY THE NATIONAL MARINE FISHERIES SERVICE AND THE OREGON DEPARTMENT OF FISH AND GAME.
 - BLOCK NETS SHALL BE PROVIDED AND INSTALLED BY THE FISHERIES BIOLOGIST. BLOCK NETS SHALL BE MAINTAINED BY THE CONTRACTOR BOTH UPSTREAM AND DOWNSTREAM OF THE WORK AREA, THROUGHOUT THE PERIOD OF CONSTRUCTION. MAINTENANCE INCLUDES PERIODIC REMOVAL OF ACCUMULATED DEBRIS, AS NECESSARY TO ENSURE FUNCTION. BLOCK NETS SHALL BE REMOVED BY THE FISHERIES BIOLOGIST AFTER THE DIVERSION IS REMOVED AND THE IN CHANNEL WORK AREA IS RE-WATERED.
- DIVERSION SYSTEM
 - THE CONTRACTOR SHALL INSTALL A TEMPORARY SEALED SANDBAG DAM TO CAPTURE AND DIVERT STREAM FLOW UPSTREAM OF THE PROJECT SITE. THE DAM AND METHOD OF SEALING SHALL BE PLACED AT AN APPROPRIATE DEPTH TO CAPTURE SUBSURFACE STREAM FLOW, AS NEEDED TO DEWATER THE STREAMBED.
 - THE CONTRACTOR SHALL MAINTAIN THE DIVERSION DAM DURING THE COURSE OF CONSTRUCTION WORK.
 - THE DIVERSION STRUCTURE SHALL BE CONSTRUCTED AS SHOWN ON PROFILE A SHEET C6, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.
 - IN THE EVENT OF A SIGNIFICANT STORM, THE CONTRACTOR SHALL BE PREPARED TO TAKE NECESSARY MEASURES TO INSURE SAFE PASSAGE OF STORM WATER FLOW THROUGH THE PROJECT AREA, WITHOUT DAMAGE TO EXISTING STRUCTURES, OR INTRODUCTION OF EXCESSIVE SEDIMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY EROSION CONTROL B.M.P.'S.
 - THE GRAVITY PIPELINE SHALL BE A MINIMUM DIAMETER OF 10".
- DEWATERING OF CONSTRUCTION AREAS
 - ANY DEWATERING ACTIVITIES WHICH MAY BE REQUIRED FOR CONSTRUCTION PURPOSES SHALL BE CONDUCTED IN A MANNER WHICH DOES NOT RESULT IN AN EXCEEDANCE OF ANY WATER QUALITY REQUIREMENTS ESTABLISHED BY THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY.
 - DISCHARGE OF WATER FROM THE DEWATERED CONSTRUCTION SITE, EITHER BY GRAVITY OR PUMPING, SHALL BE PERFORMED IN A MANNER TO PREVENT EXCESSIVE TURBIDITY FROM ENTERING THE RECEIVING WATERWAYS AND TO PREVENT SCOUR AND EROSION OUTSIDE OF THE CONSTRUCTION SITE. PUMPED WATER SHOULD BE PRE-FILTERED WITH SAND/GRAVEL PACK AROUND SUMPS FOR SUBSURFACE FLOWS AND A SILT FENCE OR HAY BALES AROUND PUMPS FOR SURFACE FLOW. PUMPED WATER SHALL BE DISCHARGED INTO ISOLATED LOCAL DEPRESSIONS, FILTER BAGS, SETTLING (BAKER) TANKS, OR TEMPORARY SEDIMENT BASINS, AS NECESSARY TO MEET WATER QUALITY REQUIREMENTS. WHERE WATER TO BE DISCHARGED INTO THE RIVER WILL CREATE EXCESSIVE TURBIDITY, THE WATER SHALL BE ROUTED THROUGH A SEDIMENT INTERCEPTOR OR OTHER FACILITIES TO REMOVE SEDIMENT FROM WATER.
 - CONTRACTOR SHALL SUPPLY ALL NECESSARY PUMPS, PIPING, FILTERS, SHORING, AND OTHER TOOLS AND MATERIALS NECESSARY FOR DEWATERING.

TURBIDITY CONTROL NOTES

- INSTALL AND MAINTAIN TURBIDITY CURTAINS OUTSIDE THE WORK LIMITS OF THE LOG STRUCTURE LOCATIONS TO MAXIMIZE THE WIDTH OF UNDISTURBED CHANNEL. THE TURBIDITY CURTAINS SHALL REMAIN IN PLACE UNTIL THE LOG STRUCTURE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED AGAINST EROSION OR OTHER POTENTIAL WATER QUALITY HAZARDS.
- PUMP AREA WITHIN TURBIDITY CURTAIN TO PREVENT TURBID WATER FROM LEAVING THE WORK LIMITS. DISCHARGE TO AN APPROVED DISPOSAL SITE, SUCH AS A NATURAL DEPRESSION. THE EXACT LOCATION OF DISCHARGE POINTS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER. AT A MINIMUM, PUMPING OPERATIONS AND DISCHARGE POINTS SHALL BE MANAGED AND ADJUSTED SUCH THAT DISCHARGED WATER DOES NOT ENTER THE CREEK AS OVERLAND FLOW. ADDITIONAL FILTRATION MEASURES AND BMPs MAY BE NECESSARY TO FILTER TURBID WATER AND PROTECT WATER QUALITY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT TURBID WATER DOES NOT ENTER THE CREEK AS OVERLAND FLOW. ALL ACCUMULATED SEDIMENT FROM PUMPING AND FILTRATION BMP IMPLEMENTATION MUST BE REMOVED AND DISPOSED OF AT A LOCATION APPROVED BY THE ENGINEER.
- TURBIDITY CONTROLS SHALL REMAIN IN PLACE UNTIL LOG STRUCTURE CONSTRUCTION IS COMPLETE AND THE AREA IS STABILIZED AGAINST EROSION OF OTHER POTENTIAL WATER QUALITY HAZARDS.

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DATE: 4/12/13
 REGISTERED PROFESSIONAL ENGINEER
 MATT W. WELD
 OREGON LICENSE NO. 78668PE
 EXPIRES: 6/30/2014

PREPARED AT THE REQUEST OF:
METRO
 600 NE GRAND AVENUE
 PORTLAND, OR 97232

NOTES

**NORTH FORK DEEP CREEK
 STABILIZATION PROJECT
 100% DESIGN SUBMITTAL**

DESIGNED BY: J.D.H.
 DRAWN BY: J.D.H.
 CHECKED BY: M.W.W.
 DATE: 04/12/13
 JOB NO.: 12-048

BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS
 0 1"