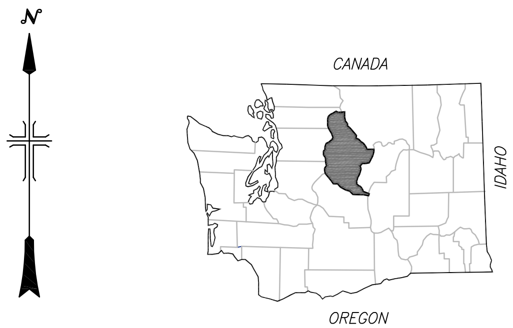
RECLAMATION
Managing Water in the West

ICF INTERNATIONAL

CHUMSTICK CREEK

Ott Culvert Replacement Project

Chelan County, Washington

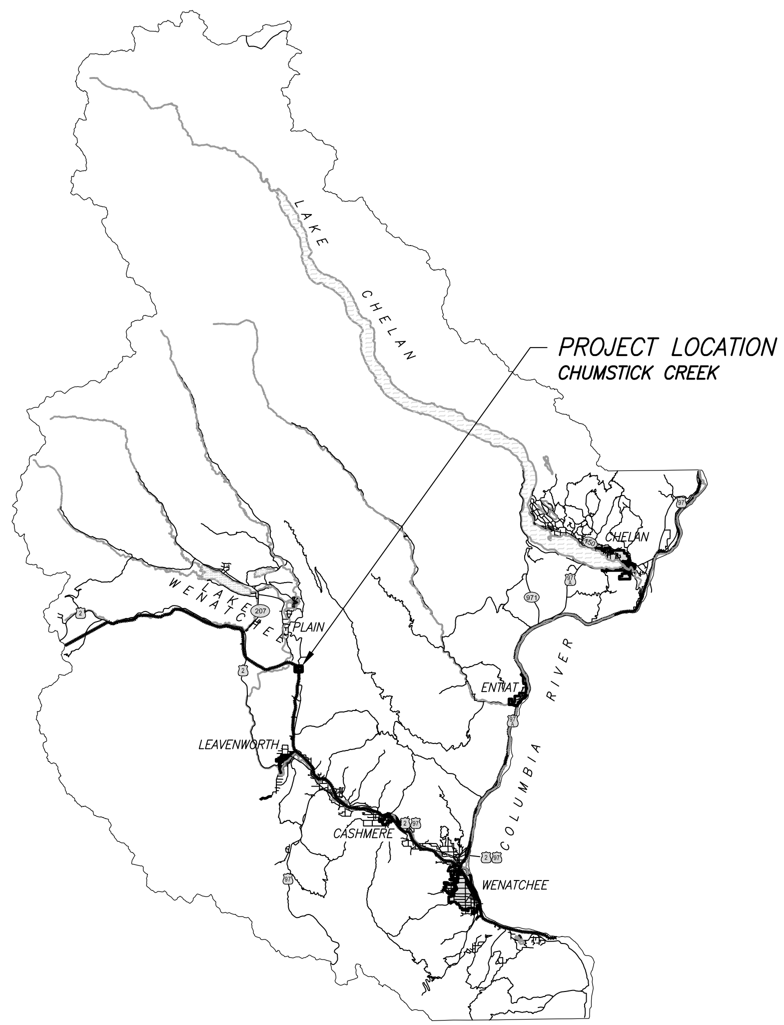


SITE SUMMARY

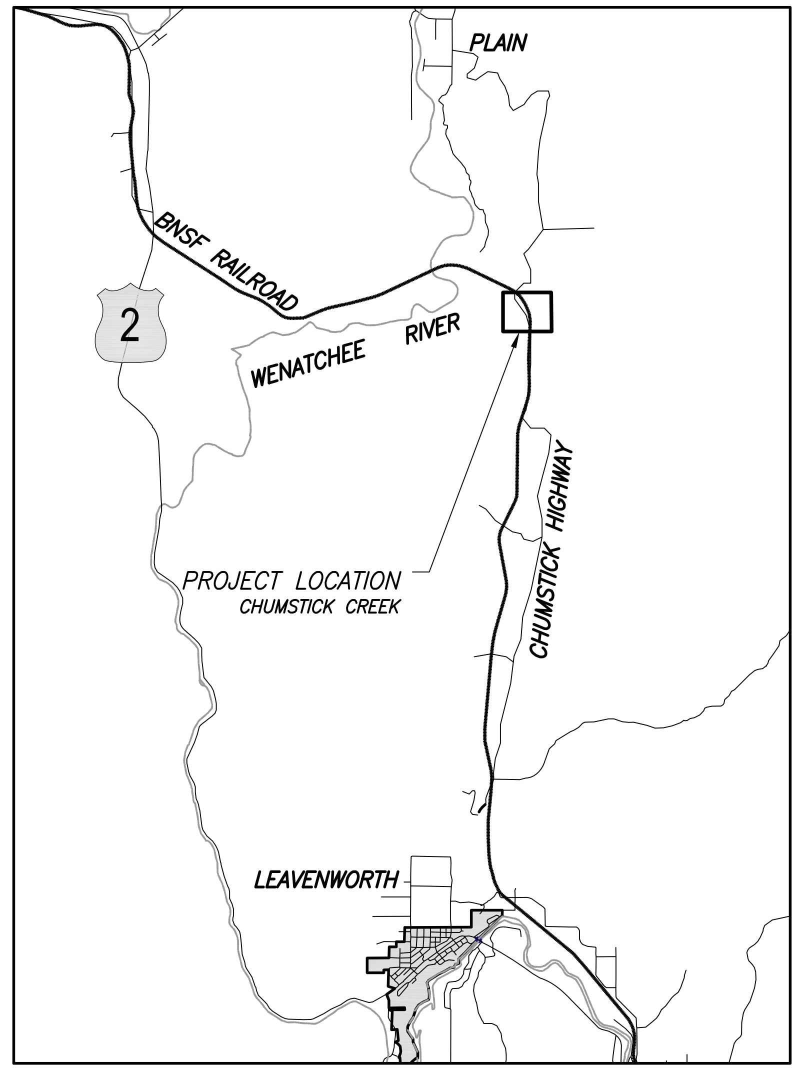
Chelan County
Plain, Washington

S31 T26N R18E

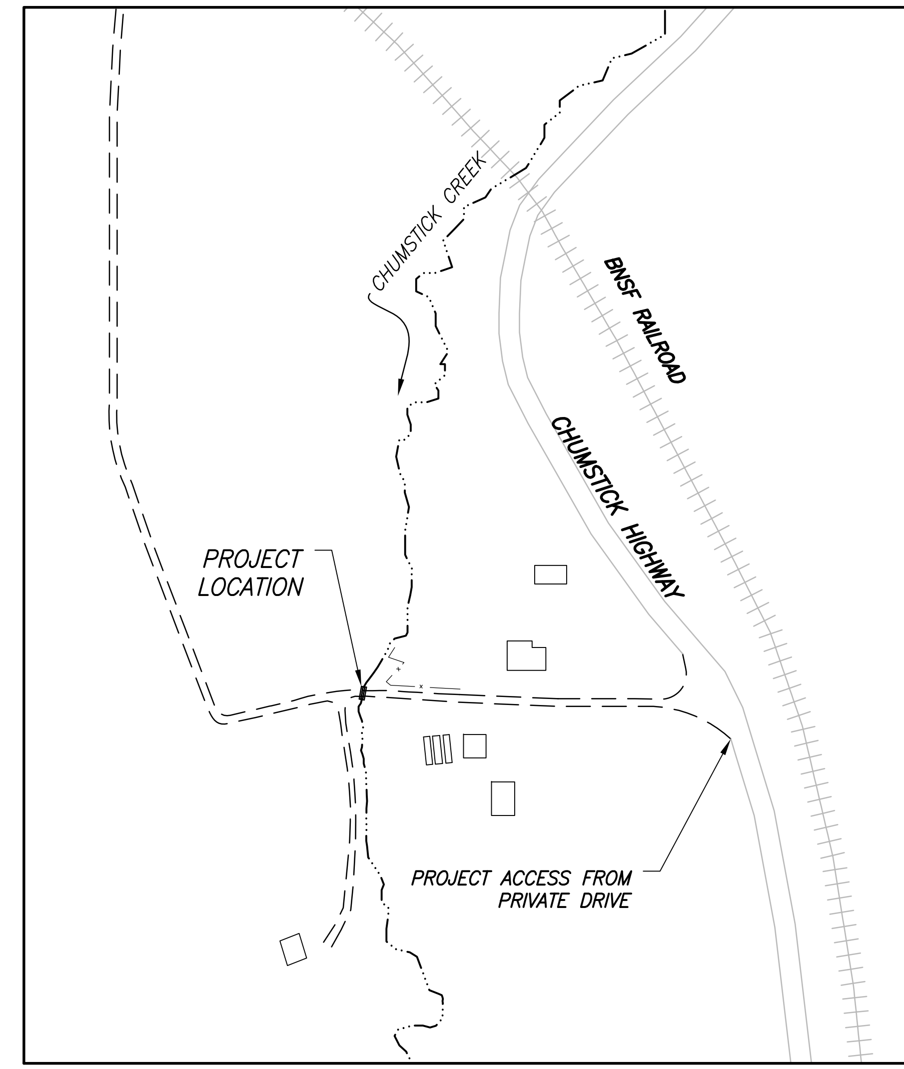
N47°42'39", W120°38'23"



CHELAN COUNTY, WASHINGTON
NOT TO SCALE



LOCATION MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

SHEET INDEX

DRAFT – NOT FOR CONSTRUCTION

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U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
COLUMBIA SNAKE RIVER SALMON RECOVERY PROGRAM – WASHINGTON
FCRPS HABITAT IMPROVEMENT PROGRAM
WENATCHEE SUBBASIN
OTT CULVERT REPLACEMENT PROJECT
95% PLANS
COVER SHEET

REV NO

DRAWN
N. TRUSCOTT

ACCEPTED
NAME
TITLE

BOISE, ID 2012-4-3

COVER SHEET

SHEET G-1
SHEET 1 OF 6

GENERAL NOTES

1. ANY ITEM NOT SPECIFICALLY DISCUSSED IN THE GENERAL CONTRACT FOR THIS PROJECT OR IN NOTES ON SHEETS IN THE PLANS SHALL BE AS DESCRIBED IN THE STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, AND MUNICIPAL CONSTRUCTION, 2012 PUBLISHED BY THE STATE OF WASHINGTON DEPARTMENT OF TRANSPORTATION. THE CONTRACTOR IS RESPONSIBLE TO BE FAMILIAR WITH THE STANDARD SPECIFICATIONS AND TO HAVE ACCESS TO THE STANDARD SPECIFICATIONS AT THE PROJECT SITE TO ENSURE THAT CONSTRUCTION OF THE PROJECT IS IN CONFORMANCE WITH THE STANDARD SPECIFICATIONS.
2. THE NOTES ON THIS PLAN SET SUPERSEDE ANY DUPLICATE ITEMS IN THE STANDARD SPECIFICATIONS.
3. HORIZONTAL DATUM: US STATE PLANE COORDINATE SYSTEM, WASHINGTON NORTH ZONE, NAD83/91, US SURVEY FEET

   VERTICAL DATUM: NAVD88
4. TOPOGRAPHIC MAPPING OF THE PROJECT AREA WAS PERFORMED BY DAVID EVANS AND ASSOCIATES, INC IN 2009.
5. ELEVATIONS AND DISTANCES SHOWN ARE IN FEET AND DECIMALS WITH CONTOUR INTERVALS AT ONE FOOT INCREMENTS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING, AT THE CONTRACTOR'S EXPENSE, ALL CONSTRUCTION PERMITS AS REQUIRED BY THE LOCAL AGENCIES. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO COMPLY WITH ALL APPLICABLE PERMIT CONDITIONS AND REQUIREMENTS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE GENERAL SAFETY DURING CONSTRUCTION, AND ALL WORK SHALL CONFORM TO PERTINENT SAFETY REGULATIONS AND CODES. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF OSHA AND NRS CHAPTER 618, IN THE CONSTRUCTION PRACTICES FOR ALL EMPLOYEES DIRECTLY ENGAGED IN THE CONSTRUCTION OF THIS PROJECT.
8. EXISTING UNDERGROUND UTILITY LOCATIONS HAVE NOT BEEN IDENTIFIED AND ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR IS RESPONSIBLE TO LOCATE UTILITIES PRIOR TO CONSTRUCTION AND PROTECT UTILITIES DURING CONSTRUCTION AS DESCRIBED IN SECTION 1-07.17 OF THE STANDARD SPECIFICATIONS. THE TELEPHONE NUMBER FOR THE ONE CALL CENTER FOR UTILITY LOCATES IS 1-800-424-5555.
9. THE CONTRACTOR SHALL PURSUE WORK IN A CONTINUOUS AND DILIGENT MANNER TO ENSURE A TIMELY COMPLETION OF THE PROJECT.
10. CONTRACTOR SHALL CONFIRM THE ACCESS POINT, ROUTE(S), AND LOCATION OF STORAGE OF MATERIALS AND EQUIPMENT WITH THE CONTRACTING OFFICER PRIOR TO TRANSPORTING MATERIALS AND EQUIPMENT TO THE PROJECT SITE.
11. PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL PROVIDE THE CONTRACTING AGENCY WITH A DETAILED CONSTRUCTION SCHEDULE AND WORK PLAN FOR APPROVAL. THE CONTRACTOR SHALL NOT BEGIN ANY CONSTRUCTION WORK UNTIL THE PROJECT SCHEDULE AND WORK PLAN IS APPROVED BY THE CONTRACTING OFFICER.
12. ALL CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE CONTRACTING OFFICER SO THAT THE QUALITY OF WORK CAN BE CHECKED FOR APPROVAL.
13. 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 CONSTRUCTION STAGING AREAS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING AND SUPPLYING A PRECAST CONCRETE BRIDGE STRUCTURE MEETING THE DIMENSIONS AND REQUIREMENTS IDENTIFIED IN THESE PLANS AND THE SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT TO THE CONTRACTING AGENCY, DOCUMENTATION DEMONSTRATING THAT THE BRIDGE DECK AND ABUTMENTS ARE DESIGNED TO WITHSTAND HS20-44 LOADING. THE DOCUMENTATION SHALL BE PROVIDED TO THE CONTRACTING AGENCY AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE BRIDGE AT THE PROJECT SITE AND SHALL INCLUDE DRAWINGS OF THE BRIDGE DECK AND ABUTMENTS STAMPED BY A STRUCTURAL ENGINEER, LICENSED TO PRACTICE IN THE STATE OF WASHINGTON.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AND LAYOUT, UNLESS OTHERWISE SPECIFIED IN THE DRAWINGS. CONTRACTOR SHALL STAKE LOCATIONS OF CORNERS OF CONCRETE BRIDGE DECK AND OBTAIN APPROVAL FROM CONTRACTING OFFICER PRIOR TO EXCAVATION TO PLACE ABUTMENTS.
16. THE CONTRACTOR SHALL PLACE TEMPORARY DAMS IN CHUMSTICK CREEK UPSTREAM AND DOWNSTREAM TO KEEP WATER AND FISH FROM ENTERING THE ACTIVE CONSTRUCTION AREA AS SHOWN ON SHEET G-3. THE CONTRACTOR SHALL FURNISH AND OPERATE A PUMP, OR PUMPS, CAPABLE OF BYPASSING THE ENTIRETY OF CHUMSTICK CREEK STREAMFLOW; EXPECTED STREAMFLOW DURING PERIOD OF CONSTRUCTION IS APPROXIMATELY 650 GPM.
17. THE CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER A MINIMUM OF 5 WORKING DAYS IN ADVANCE OF TEMPORARY DAM CONSTRUCTION TO COORDINATE FISH REMOVAL. THE CONTRACTING AGENCY WILL BE RESPONSIBLE FOR ALL FISH REMOVAL AND HANDLING.
18. DEWATERING WITHIN THE WORK AREA SHALL BE PERFORMED TO THE EXTENT NECESSARY TO CONSTRUCT THE PROJECT, AS DETERMINED BY THE CONTRACTOR. DISCHARGE FROM DEWATERING WITHIN THE WORK AREA SHALL BE ROUTED TO FLOODPLAIN AREAS SO AS TO ALLOW THE REMOVAL OF FINE SEDIMENTS OR OTHER CONTAMINANTS PRIOR TO BEING ALLOWED TO REENTER CHUMSTICK CREEK. ALL PUMPS USED BY THE CONTRACTOR FOR DEWATERING SHALL HAVE SCREENED INTAKES THAT MEET WDFW SPECIFICATIONS AND JUVENILE FISH SCREENING CRITERIA.

SUMMARY OF QUANTITIES

ITEM NO.	QUANTITY	UNITS	DESCRIPTION
SITE PREPARATION			
1	LUMP SUM	LS	MOBILIZATION
2	LUMP SUM	LS	REMOVAL OF STRUCTURE AND OBSTRUCTION
3	LUMP SUM	LS	TEMPORARY DAMS AND DEWATERING
4	LUMP SUM	LS	SURVEYING
EARTHWORK & STRUCTURES			
5	65	CY	STRUCTURE EXCAVATION
6	LUMP SUM	LS	FURNISH AND INSTALL PRECAST CONCRETE BRIDGE
7	4	CY	GRAVEL BACKFILL CLASS A
8	13	SY	CONSTRUCTION GEOTEXTILE FOR SEPARATION
9	9	CY	STREAMBED GRAVELS
10	4	EA	BOULDER RETAINING WALL
11	7	CY	CRUSHED SURFACING BASE COURSE
OTHER			
12	LUMP SUM	LS	EROSION CONTROL AND WATER POLLUTION CONTROL
13	LUMP SUM	LS	FINAL CLEANUP
14	2,000	DOLLAR	MINOR CHANGE

CONTROL TABLE

CONTROL POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP-1	259463.00	1688082.36	1662.18	DEA CONTROL POINT
CP-2	259325.34	1688064.70	1659.98	STAKE
CP-3	259324.70	1688121.09	1658.35	STAKE
CP-4	259311.25	1688208.94	1663.24	DEA CONTROL POINT
CP-5	259300.30	1688046.54	1660.89	DEA CONTROL POINT
CP-6	259295.46	1688065.47	1659.76	REBAR AND CAP
CP-7	259295.07	1688091.45	1659.30	REBAR AND CAP
CP-8	259265.46	1688069.34	1658.70	REBAR AND CAP
CP-9	259265.27	1688092.24	1658.63	BENT REBAR, NO CAP
CP-10	259214.67	1688114.96	1657.84	DEA CONTROL POINT
CP-11	259140.11	1688147.28	1657.14	DEA CONTROL POINT

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FCRPS HABITAT IMPROVEMENT PROGRAM

WENATCHEE SUBBASIN
OTT CULVERT REPLACEMENT PROJECT
95% PLANS
SUMMARY OF QUANTITIES, GENERAL NOTES & CONTROL

For Construction
Not For Distribution

REV NO

DRAWN
N. TRUSCOTT

ACCEPTED
NAME
TITLE

BOISE, ID 2012-4-3

SUMMARY OF QUANTITIES, GENERAL NOTES & SURVEY CONTROL

SHEET G-2

SHEET 2 OF 6

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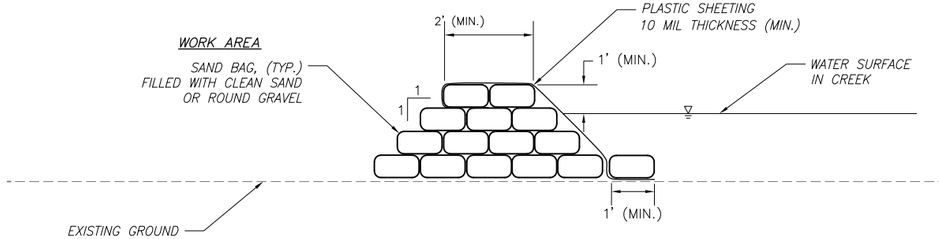

TEMPORARY DAM DETAIL–TYPICAL SECTION

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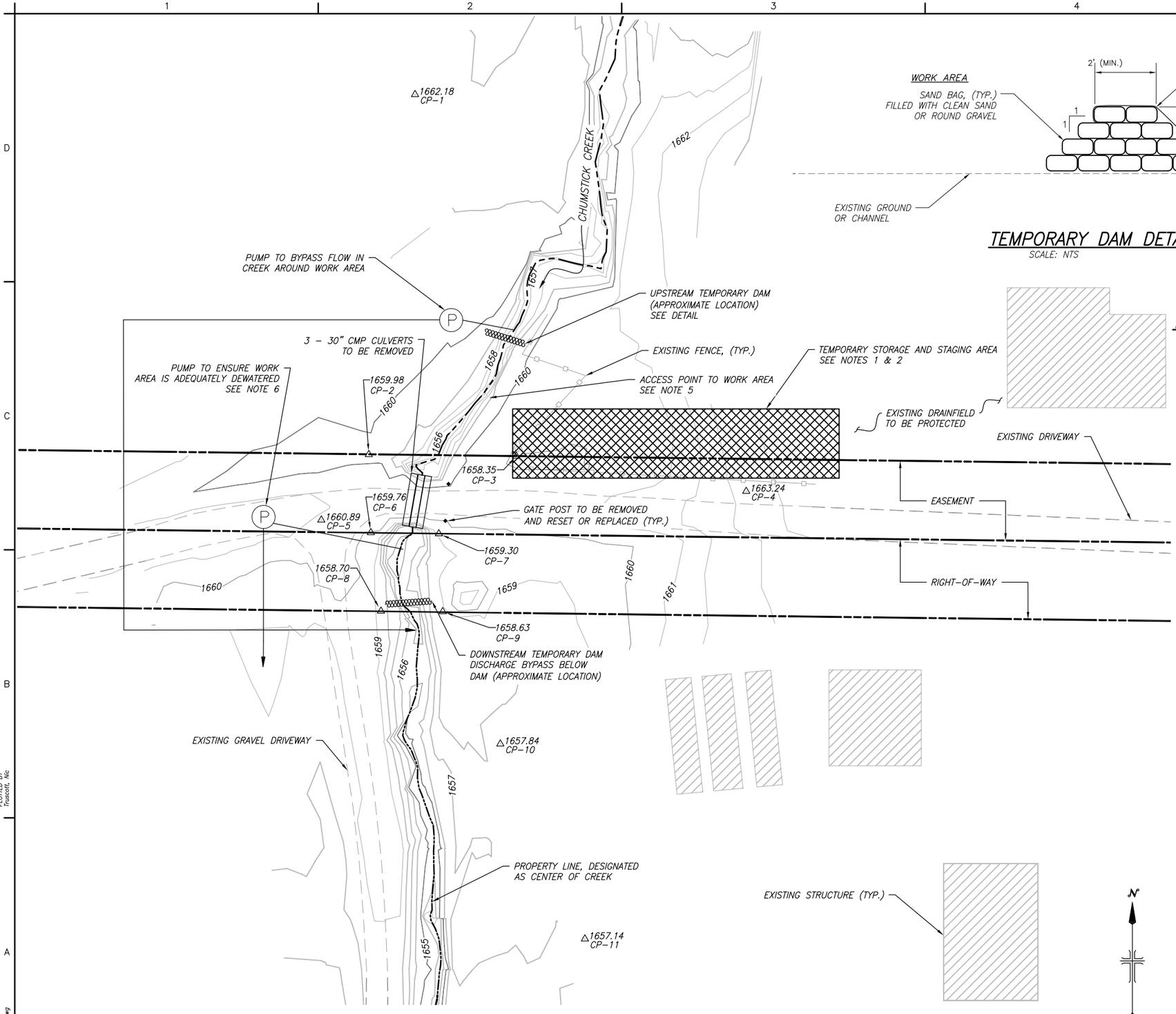

PROJECT OVERVIEW, SITE PREPARATION AND DEWATERING PLAN

NOTES

1. STORAGE AREA DIMENSIONS: APPROX. 125' X 25'. THAT PORTION OF THE STORAGE AREA USED FOR VEHICLE AND/OR EQUIPMENT PARKING SHALL BE COVERED WITH GEOTEXTILE FABRIC AND A 3" LAYER OF WOODCHIPS TO PREVENT SEEDS OF NOXIOUS WEED SPECIES FROM STICKING TO TIRES AND TRACKS. CONTRACTOR SHALL REMOVE WOODCHIPS AND GEOTEXTILE FOLLOWING COMPLETION OF CONSTRUCTION.
2. CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING PRE–PROJECT CONDITION OF EXISTING DRIVEWAY AND FENCE LINES; WHERE NECESSARY TO DISTURB EITHER, THE CONTRACTOR SHALL RESTORE TO PRE–PROJECT CONDITIONS AT THE END OF CONSTRUCTION.
3. EXISTING UNDERGROUND UTILITY LOCATIONS HAVE NOT BEEN IDENTIFIED AND ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR IS RESPONSIBLE TO LOCATE AND PROTECT UTILITIES DURING CONSTRUCTION AS DESCRIBED IN SECTION 1–07.17 OF THE WSDOT STANDARD SPECIFICATIONS. THE TELEPHONE NUMBER FOR THE ONE CALL CENTER FOR UTILITY LOCATES IS 1–800–424–5555.
4. LOCATIONS OF CONTROL POINTS WILL BE CLEARLY MARKED BY THE CONTRACTING AGENCY. FOR SURVEY CONTROL POINT SUMMARY SEE SHEET G2.
5. CONTRACTOR SHALL ACCESS CREEK FROM THE EAST SIDE, NORTH OF THE EXISTING DRIVEWAY IDENTIFIED ON THIS SHEET, UNLESS SEPARATE ACCESS POINT IS IDENTIFIED AND APPROVED BY OWNER AND CONTRACTING OFFICER. ACCESS POINT SHALL BE RETURNED AS CLOSE TO PRE–PROJET CONDITIONS AS POSSIBLE. CONTRACTING OFFICER MUST APPROVE ACCESS POINT RESTORATION PRIOR TO CONTRACTOR LEAVING SITE.
6. WORK AREA SHALL BE SUFFICIENTLY DEWATERED FOR CONTRACTOR TO PERFORM, AND CONTRACTING OFFICER TO INSPECT, ALL WORK. SHOULD A PUMP BE REQUIRED WITHIN THE WORK AREA TO DEWATER GROUNDWATER FROM SEEPAGE, THE DISCHARGE FROM THIS PUMP SHALL BE RELEASED ONTO THE FLOODPLAIN OUTSIDE OF WETLAND AREAS. ALL PUMP INTAKES SHALL BE SCREENED AS REQUIRED BY WDFW.
7. CONTRACTOR SHALL PROVIDE A PUMP, OR PUMPS, CAPABLE OF BYPASSING THE ENTIRETY OF CHUMSTICK CREEK STREAMFLOW. EXPECTED STREAMFLOW DURING PERIOD OF CONSTRUCTION IS APPROXIMATELY 650 GPM, HOWEVER FLOW CONDITIONS VARY FROM YEAR TO YEAR. CONTRACTING OFFICER WILL ASSIST CONTRACTOR IN DETERMINING MINIMUM PUMP CAPACITY IF REQUESTED BY THE CONTRACTOR.
8. THE LOCATIONS OF TEMPORARY DAMS, PUMPS, AND DISCHARGE LOCATIONS SHOWN ON THIS SHEET ARE APPROXIMATE AND ARE INTENDED TO SCHEMATICALLY REPRESENT ONE METHOD OF DEWATERING THE PROJECT AREA. THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN AS DESCRIBED IN THE SPECIFICATIONS PRIOR TO CONSTRUCTION FOR REVIEW AND APPROVAL BY THE CONTRACTING AGENCY.

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FCRPS HABITAT IMPROVEMENT PROGRAM

WENATCHEE SUBBASIN

OTT CULVERT REPLACEMENT PROJECT

95% PLANS
PROJECT OVERVIEW, SITE PREP, & DEWATERING

REV. NO

DRAWN
N. TRUSCOTT

ACCEPTED
NAME
TITLE

2012-4-3

PROJECT OVERVIEW, SITE PREPARATION AND DEWATERING PLAN

SHEET G-3

SHEET 3 OF 6

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EXISTING CONTOURS
CHUMSTICK CREEK
TEMPORARY STORAGE AND STAGING AREA
PROPOSED CONTOURS
1659.98 CP-2
1658.35 CP-3
LIMITS OF GRADING
EASEMENT
FLEXIBLE GUIDEPOST SEE NOTE 6
EXISTING DRIVEWAY
△1660.89 CP-5
RAMP TO BRIDGE DECK SEE NOTE 4
RETAINING WALL SEE SHEETS C2 & C3
TREE TO BE REMOVED SEE NOTE 5
1659.76 CP-6
RIGHT-OF-WAY
PROPERTY LINE, DESIGNATED AS CENTER OF CREEK
1658.70 CP-8
1658.63 CP-9
1655
1656
1657
1658
1659
1660
1661
A
B
C/F
N

GRADING PLAN

SCALE IN FEET
5 0 5 10

NOTES

1. CONTRACTOR SHALL AVOID DAMAGE TO EXISTING WOODY VEGETATION, INCLUDING TREES AND SHRUBS, EXCEPT AS INDICATED ON THESE PLANS AS A TREE TO BE REMOVED, OR APPROVED BY THE CONTRACTING OFFICER AS VEGETATION TO BE REMOVED.
2. EXCAVATION AND/OR FILL WILL BE REQUIRED TO SHAPE THE CHANNEL AS SHOWN; CHANNEL SHAPING SHALL BE LIMITED TO APPROXIMATELY 15' UPSTREAM AND DOWNSTREAM OF THE BRIDGE.
3. SIDE SLOPES OF DRIVEWAY CONSTRUCTED BETWEEN EXISTING DRIVEWAY AND THE BRIDGE DECK SHALL NOT EXCEED 1.5:1.
4. TREES REMOVED BY THE CONTRACTOR TO PERFORM THE WORK SHOWN ON THESE PLANS SHALL BE PLACED IN THE PROJECT AREA ON THE BANKS OF CHUMSTICK CREEK AS DIRECTED BY THE CONTRACTING OFFICER. NO ANCHORING WILL BE REQUIRED, ONLY PLACEMENT AT THE LOCATION IDENTIFIED BY THE CONTRACTING OFFICER.
5. FLEXIBLE GUIDEPOSTS SHALL BE INSTALLED AT ALL FOUR CORNERS OF THE BRIDGE DECK. FLEXIBLE GUIDEPOSTS SHALL BE AS SHOWN IN STANDARD PLAN M-40.10-02.

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GRADING PLAN

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GRADING PLAN

SHEET C-1
SHEET 4 OF 6

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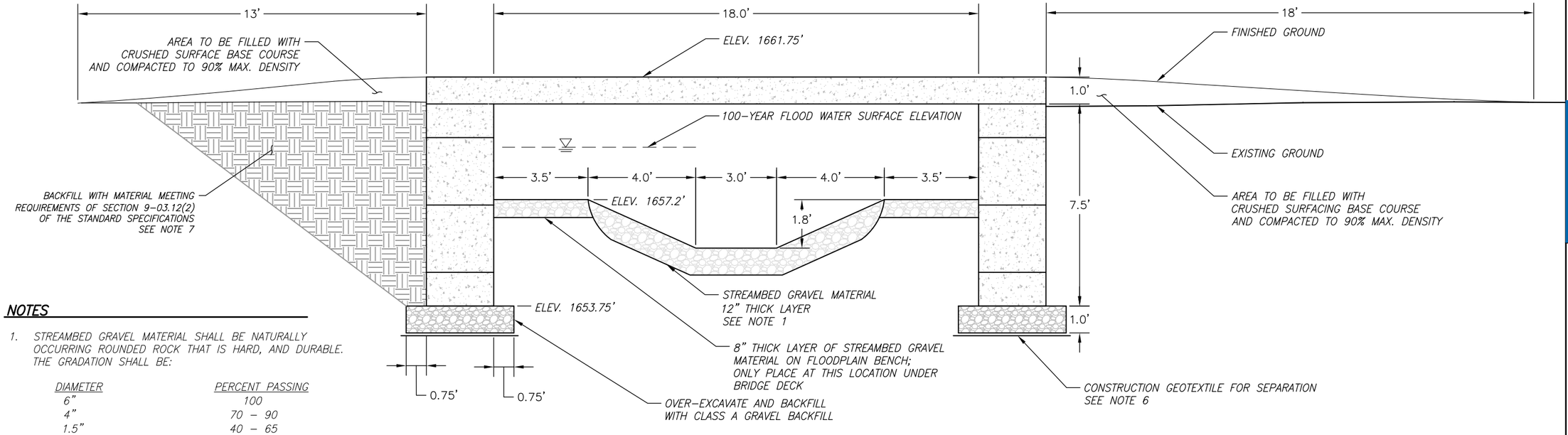


SECTION A-A

NOTES

1. STREAMBED GRAVEL MATERIAL SHALL BE NATURALLY OCCURRING ROUNDED ROCK THAT IS HARD, AND DURABLE. THE GRADATION SHALL BE:

DIAMETER	PERCENT PASSING
6"	100
4"	70 – 90
1.5"	40 – 65
0.5"	15 – 35
US #200 SIEVE	0 – 5

2. CRUSHED ROCK PLACED BELOW BRIDGE ABUTMENTS SHALL CONFORM TO WSDOT STANDARD SPECIFICATION 9-03.12, CLASS A GRAVEL BACKFILL AND SHALL BE COMPACTED TO 90% MAXIMUM DENSITY.

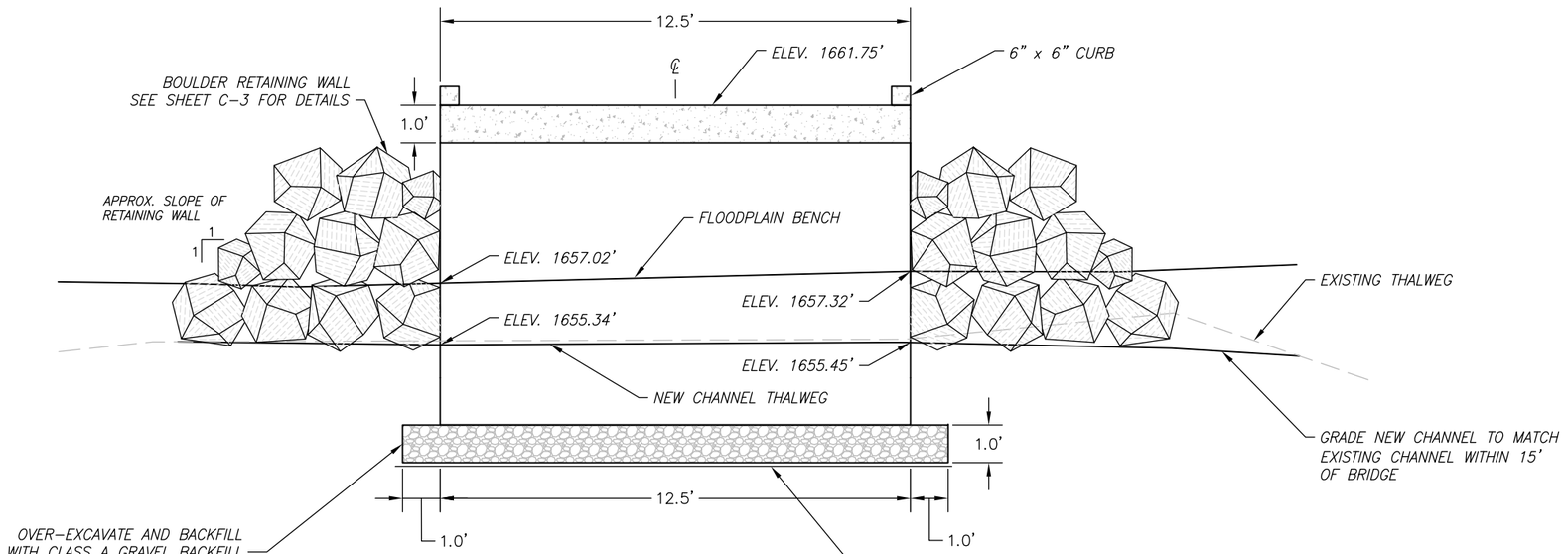
3. BRIDGE SHALL BE DESIGNED TO WITHSTAND HS20-44 LOADING. DESIGN SHALL BE BY A REGISTERED STRUCTURAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF WASHINGTON. DESIGN SHALL BE SUBMITTED AT LEAST 30 DAYS PRIOR TO CONSTRUCTION TO ALLOW FOR REVIEW AND APPROVAL BY THE CONTRACTING AGENCY.

4. MANUFACTURE OF CONCRETE BRIDGE SHALL CONFORM TO ASTM C1433. EXACT CONFIGURATION OF BRIDGE MAY VARY FROM THAT SHOWN ON THESE PLANS. BRIDGE DESIGN AND SHOP DRAWINGS ARE SUBJECT TO APPROVAL BY THE CONTRACTING AGENCY.

5. BRIDGE DECK SHALL INCLUDE CONDUIT, OR RACEWAY TO ACCOMMODATE UTILITY LINES.

6. GEOTEXTILE FABRIC SHALL CONFORM TO WSDOT STANDARD SPECIFICATION 9-33, CONSTRUCTION GEOTEXTILE FOR SEPARATION.

7. BACKFILL BEHIND ABUTMENTS SHALL BE GRAVEL BACKFILL FOR WALLS THAT CONFORMS TO SECTION 9-03.12(2) OF THE STANDARD SPECIFICATIONS. BACKFILL SHALL BE PLACED IN 12" (MAX.) LIFTS AND COMPACTED TO 90% MAXIMUM DENSITY USING HAND-OPERATED COMPACTION EQUIPMENT. MATERIAL EXCAVATED TO CONSTRUCT ABUTMENTS MAY BE USED AS BACKFILL IF SIEVE ANALYSIS RESULTS INDICATE THE MATERIAL CONFORMS TO SECTION 9-03.12(2) AND THE CONTRACTING OFFICER PROVIDES WRITTEN APPROVAL.



SECTION B-B

BRIDGE PLAN AND PROFILE

2 0 2 4
SCALE IN FEET

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BRIDGE PLAN AND PROFILE

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BRIDGE PLAN AND PROFILE

SHEET C-2

SHEET 5 OF 6

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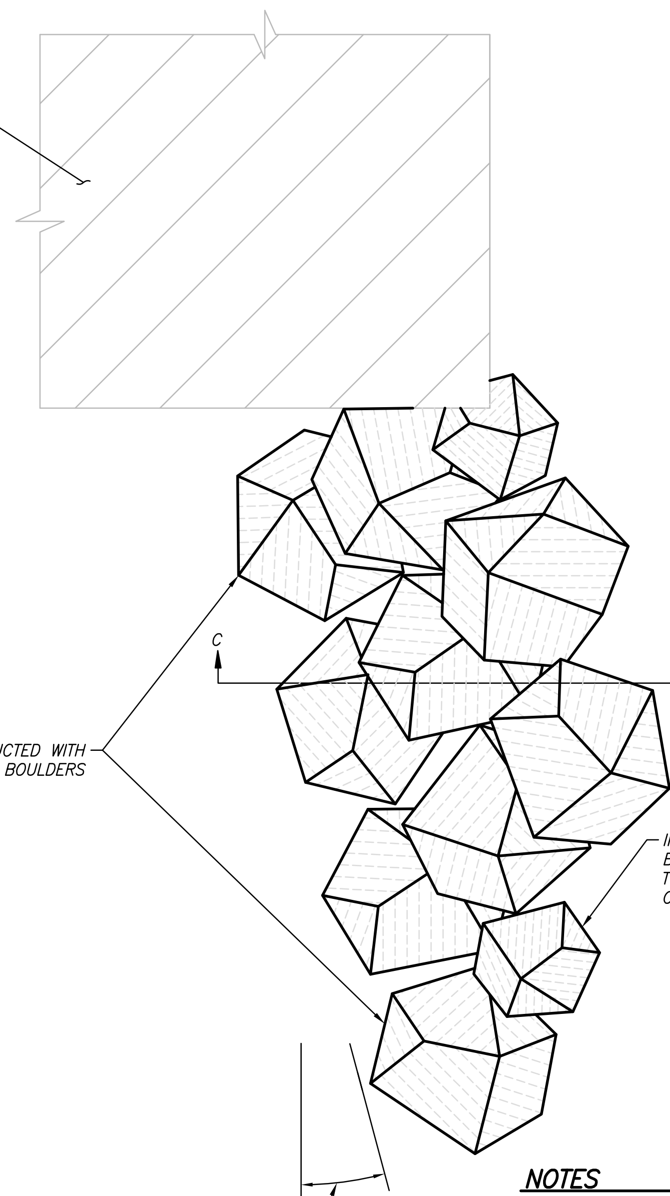
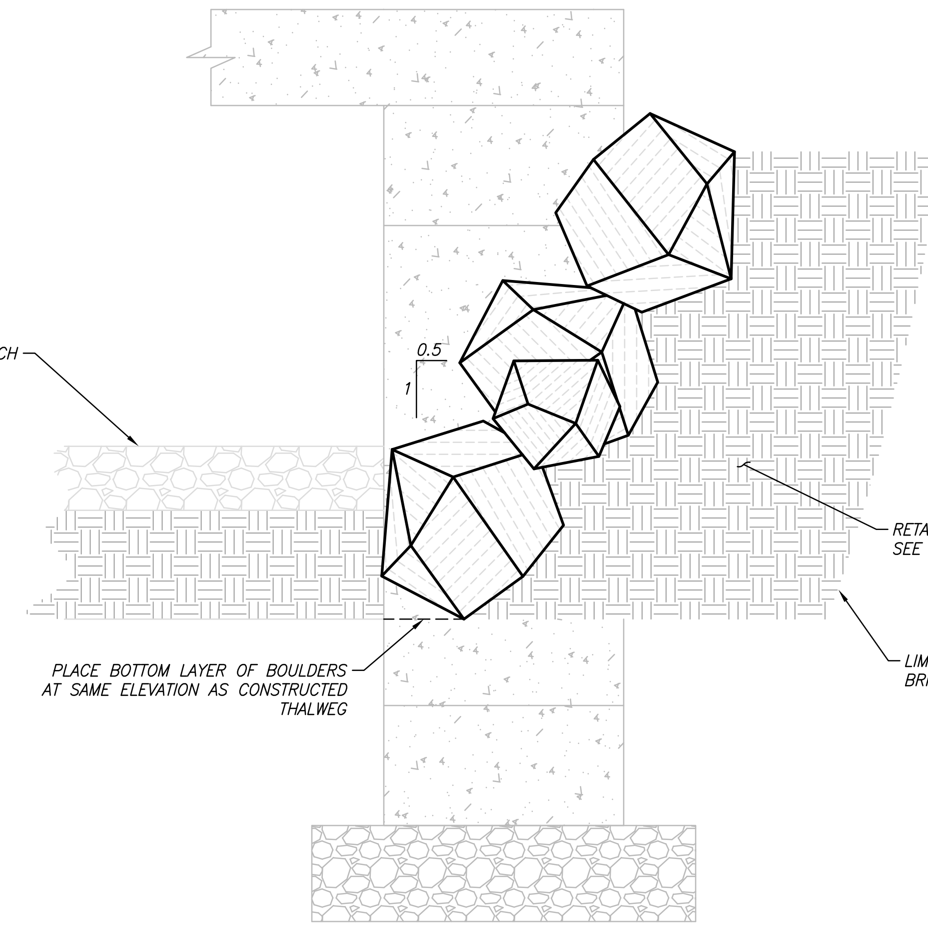


RETAINING WALL PLAN VIEW

1 0 1 2
SCALE IN FEET



RETAINING WALL SECTION C–C

NOTES

1. THE EXACT DIMENSIONS OF RETAINING WALLS WILL BE DETERMINED ON-SITE BY THE CONTRACTING OFFICER FOLLOWING CONSTRUCTION OF BRIDGE AND MAY VARY SLIGHTLY FROM THOSE SHOWN ON THESE PLANS DUE TO SITE CONDITIONS AND/OR THE SHAPE OF BOULDERS USED TO CONSTRUCT WALLS.
2. BOULDERS USED FOR RETAINING WALLS SHALL MEET THE REQUIREMENTS IN SECTION 9-13.7 OF THE STANDARD SPECIFICATIONS FOR ONE-MAN AND TWO-MAN BOULDERS.
3. THE MAJORITY OF BOULDERS USED TO CONSTRUCT WALLS SHOULD BE TWO-MAN BOULDERS. ONE-MAN BOULDERS ARE PERMISSIBLE FOR USE IN ALL LAYERS EXCEPT THE BOTTOM LAYER PROVIDED NOT MORE THAN 33% OF ANY SINGLE LAYER IS COMPOSED OF ONE-MAN BOULDERS. PLACEMENT OF BOULDERS SHOULD BE SUCH THAT BOULDERS FIT SNUGLY TOGETHER AND ARE UNLIKELY TO SHIFT.
4. CONTRACTOR MAY REPLACE ENTIRE BOULDER RETAINING WALL WITH PRECAST CONCRETE BLOCKS. CONTRACTOR SHALL SUBMIT RETAINING WALL MATERIALS LIST AND STRUCTURAL DESIGN FOR REVIEW AND APPROVAL BY CONTRACTING OFFICER AS DESCRIBED IN THE SPECIAL PROVISIONS.
5. RETAINING WALLS SHALL BE CONSTRUCTED BY PLACING THREE SUCCESSIVE LAYERS OF BOULDERS/BLOCKS AND BACKFILL. FOLLOWING PLACEMENT OF BOULDERS/BLOCKS FOR A SINGLE LAYER, BACKFILL SHALL BE PLACED AND COMPACTED. CONTRACTOR IS ONLY REQUIRED TO REPLACE AND COMPACT THE MATERIAL EXCAVATED FOR PLACEMENT OF THE BRIDGE; NO ADDITIONAL EXCAVATION IS REQUIRED FOR CONSTRUCTION OF THE RETAINING WALLS.
6. BACKFILL FOR RETAINING WALLS SHALL BE NATIVE MATERIAL EXCAVATED TO CONSTRUCT BRIDGE. BACKFILL SHALL BE PLACED IN 12" (MAX.) LIFTS AND COMPACTED TO 85% MAXIMUM DENSITY USING MECHANICAL EQUIPMENT SUCH AS THE BUCKET OF AN EXCAVATOR.

RETAINING WALL DETAILS

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