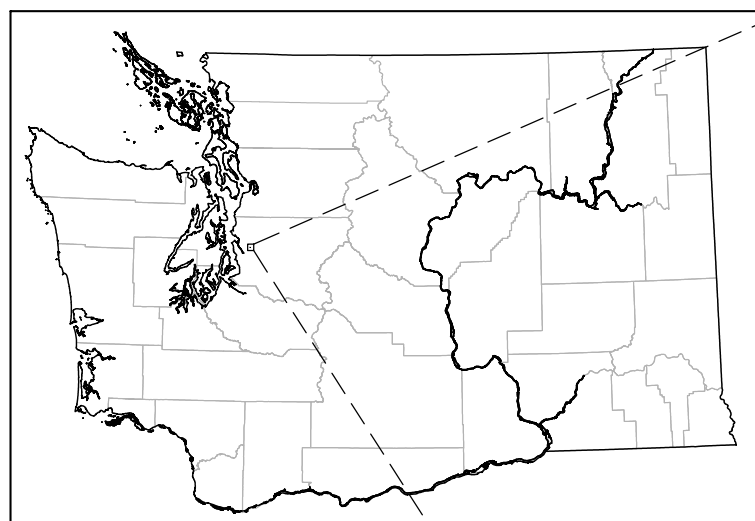


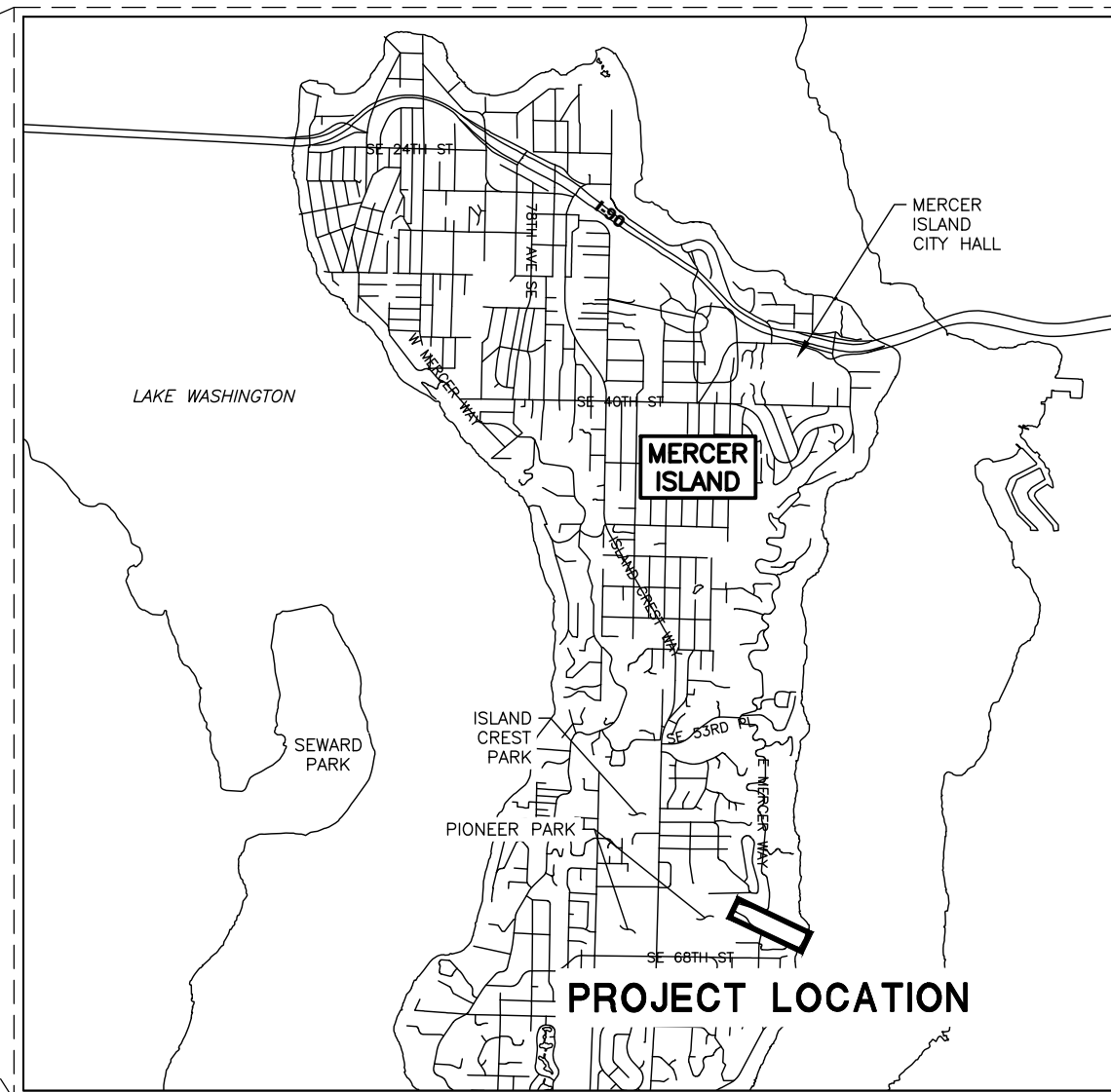
SUBBASIN 42

WATERCOURSE STABILIZATION PROJECT

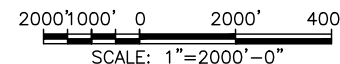
CITY OF MERCER ISLAND



WASHINGTON STATE
SCALE: 1" = 50 MILES



VICINITY MAP
SCALE: 1" = 2000'



SHEET LIST

SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	GENERAL NOTES
3	LEGEND
4	OVERALL SITE PLAN
5	ACCESS AND STAGING PLAN
6	SITE PLAN 1
7	SITE PLAN 2
8	PROFILE AND CROSS-SECTION
9	LOG STRUCTURE DETAILS 1
10	LOG STRUCTURE DETAILS 2
11	TESC DETAILS
12	SITE RESTORATION PLAN
13	PLANT SCHEDULES
14	SITE RESTORATION DETAILS

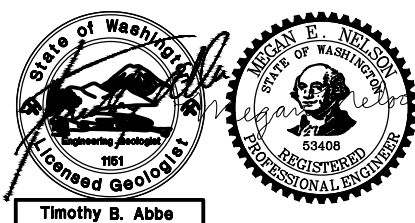
CONTACT INFORMATION

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SEATTLE, WA 98103
(206) 834-0175

CITY OF MERCER ISLAND

9611 SE 36TH
MERCER ISLAND, WA 98040
(206) 275-7803



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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED M. NELSON	LATITUDE 47°32'38"N
CHECKED TA	LONGITUDE 122°12'43"W
DRAWN G. MATSUMOTO	TN/SC/RG T24N/S30/R5E
CHECKED M. STEPP	DATE DECEMBER 21, 2020

SUBBASIN 42 WATERCOURSE STABILIZATION PROJECT

COVER SHEET

1
SHEET 1 OF 14

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DEC 18, 2020 FINAL DESIGN

GENERAL NOTES

1. THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF CITY OF MERCER ISLAND, HEREAFTER REFERRED TO AS "OWNER" AND THEIR AUTHORIZED AGENTS.
2. NATURAL SYSTEMS DESIGN HEREAFTER REFERRED TO AS "ENGINEER" IS RESPONSIBLE FOR THE PREPARATION OF THESE ORIGINAL PLANS AND ASSOCIATED SPECIFICATIONS; AND WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGE, OR USE, OF THESE PLANS WHICH INCLUDES ALTERATION, DELETION, OR EDITING OF THIS DOCUMENT WITHOUT EXPLICIT WRITTEN PERMISSION FROM THE ENGINEER. ANY OTHER UNAUTHORIZED USE OF THIS DOCUMENT IS PROHIBITED.
3. MINOR MODIFICATIONS ARE EXPECTED TO SUIT JOB SITE DIMENSIONS OR CONDITIONS. SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK. THE OWNER, ENGINEER AND APPROPRIATE REGULATORY AGENCIES SHALL BE NOTIFIED OF ANY OWNER-AUTHORIZED CHANGE RESULTING IN MORE THAN A 10% DESIGN CHANGE OF PROPOSED FOOTPRINT OR THAT SIGNIFICANTLY AFFECTS THE INTENDED BENEFIT OR FUNCTION OF A PROJECT ELEMENT.
4. THE LOCATION OF ALL FEATURES SHOWN IS APPROXIMATE.
5. THE CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; AND FURTHER AGREES THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS IN ACCORDANCE WITH THE PROVISIONS OUTLINED BY THE PROJECT CONTRACT AND SPECIFICATIONS.
6. ALL IMPROVEMENTS SHALL BE ACCOMPLISHED UNDER THE APPROVAL, INSPECTION, AND TO THE SATISFACTION OF THE OWNER. IMPROVEMENT CONSTRUCTION SHALL COMPLY WITH THESE PLANS AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD PLANS FOR CONSTRUCTION OF ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, CURRENT EDITION UNLESS NOTED OTHERWISE. ALL REFERENCES TO THE "STANDARD SPECIFICATIONS" SHALL MEAN THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION OF LOCAL STREETS AND ROADS, CURRENT EDITION. CONSTRUCTION NOT SPECIFIED ON THESE PLANS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR IS OBLIGATED TO BE FAMILIAR WITH APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS NOT DISCUSSED IN THE GENERAL NOTES. THE CONTRACT SPECIAL PROVISIONS SHALL SUPERSEDE THOSE OF THE STANDARD SPECIFICATIONS WHERE DISCREPANCIES OCCUR.
7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTOR(S) TO EXAMINE THE PROJECT SITE PRIOR TO THE OPENING OF BID PROPOSALS. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED, SUCH AS THE NATURE AND LOCATION OF THE WORK; AND THE GENERAL AND LOCAL CONDITIONS, PARTICULARLY THOSE AFFECTING THE AVAILABILITY OF TRANSPORTATION, THE DISPOSAL, HANDLING, AND STORAGE OF MATERIALS, AVAILABILITY OF LABOR, WATER, ELECTRICITY, ROADS, THE UNCERTAINTIES OF WEATHER, THE CONDITIONS OF THE GROUND, SURFACE AND SUBSURFACE MATERIALS, GROUNDWATER, THE EQUIPMENT AND FACILITIES NEEDED FOR AND DURING THE PERFORMANCE OF THE WORK, AND THE COSTS THEREOF. ANY FAILURE BY THE CONTRACTOR AND SUBCONTRACTOR(S) TO ACQUAINT THEMSELVES WITH ALL THE AVAILABLE INFORMATION WILL NOT RELIEVE THE CONTRACTOR AND SUBCONTRACTOR(S) FROM RESPONSIBILITY FOR PROPERLY ESTIMATING THE DIFFICULTY AND COST OF SUCCESSFULLY PERFORMING THE WORK.
8. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE CONTRACT DOCUMENTS AND FOR ALL SUBMITTALS REQUIRED TO THE OWNER FOR REVIEW AND ACCEPTANCE.

PERMIT NOTES

1. EVERY REASONABLE EFFORT SHALL BE MADE TO CONDUCT THE ACTIVITIES SHOWN IN THESE PLANS, IN A MANNER THAT MINIMIZES THE ADVERSE IMPACT ON WATER QUALITY, FISH AND WILDLIFE, AND THE NATURAL ENVIRONMENT.
2. ALL WORK WILL BE IN COMPLIANCE WITH PERMIT CONDITIONS ISSUED BY PERTINENT REGULATORY AGENCIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE COPIES OF ALL PERMITS ON THE JOB SITE, UNDERSTAND AND COMPLY WITH ALL PERMIT CONDITIONS.
3. ALL WORK THAT DISTURBS THE SUBSTRATE, BANK, OR SHORE OF A WATERS OF THE STATE THAT CONTAINS FISH LIFE SHALL BE CONDUCTED ONLY DURING THE WORK PERIOD FOR THAT WATERBODY AS ALLOWED BY RELEVANT HYDRAULIC WORK PERMITS. THOSE PORTIONS OF THE PROJECT WORK THAT OCCUR OUTSIDE OR ABOVE THE ORDINARY HIGH WATER MARK (ABOVE THE USACE JURISDICTIONAL LINE) ARE NOT SUBJECT TO THE WORK PERIODS DESCRIBED ABOVE UNLESS SPECIFIED IN THE RELEVANT PERMITS.
4. ALL ACTIVITIES THAT INVOLVE WORK ADJACENT TO, OR WITHIN THE WETTED CHANNEL SHALL, AT ALL TIMES, REMAIN CONSISTENT WITH ALL APPLICABLE WATER QUALITY STANDARDS; EFFLUENT LIMITATION; AND STANDARDS OF PERFORMANCE, PROHIBITIONS, PRETREATMENT STANDARDS, AND MANAGEMENT PRACTICES ESTABLISHED PURSUANT TO THE CLEAN WATER ACT OR PURSUANT TO APPLICABLE STATE AND LOCAL LAW.
5. IF AT ANY TIME, AS A RESULT OF PROJECT ACTIVITIES, FISH ARE OBSERVED IN DISTRESS, A FISH KILL OCCURS, OR WATER QUALITY PROBLEMS DEVELOP (INCLUDING EQUIPMENT LEAKS OR SPILLS), OPERATIONS SHALL CEASE AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY.

6. IF, DURING CONSTRUCTION, ARCHAEOLOGICAL REMAINS ARE ENCOUNTERED, CONSTRUCTION IN THE VICINITY SHALL BE HALTED, AND THE STATE OFFICE OF HISTORIC PRESERVATION AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY. DELAYS DURING CONSTRUCTION DUE TO ARCHAEOLOGICAL FINDS SHALL BE INCIDENTAL TO THE CONTRACTOR.

SURVEY NOTES

1. UNLESS NOTED OTHERWISE ON THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND OTHER SURVEY MARKERS DURING CONSTRUCTION.
2. THE CONTRACTOR SHALL MAINTAIN A SET OF PLANS ON THE JOB SHOWING "AS-CONSTRUCTED" CHANGES MADE TO DATE. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUPPLY TO OWNER A SET OF PLANS, MARKED UP TO THE SATISFACTION OF THE OWNER, REFLECTING THE AS-CONSTRUCTED MODIFICATIONS.
3. ELEVATIONS SHOWN ON THE PLANS FOR PIPE INVERTS, TOPS OF BANKS, THALWEG, GRADE CONTROLS, ETC., ARE BASED UPON THE TOPOGRAPHIC INFORMATION SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY ALL NECESSARY SURFACE ELEVATIONS IN THE FIELD AND NOTIFY THE OWNER OF ANY DISCREPANCIES, WHICH MIGHT AFFECT PROPER OPERATION OF THE NEW FACILITIES BEFORE BREAKING GROUND AND PRIOR TO FACILITY INSTALLATION. THE OWNER SHALL BE CONTACTED IN THE EVENT ELEVATIONS ARE INCORRECT SO THAT THE PROPER ADJUSTMENTS CAN BE MADE BY ENGINEER PRIOR TO THE INSTALLATION OF THE FACILITIES, AS SET FORTH IN THE SPECIAL PROVISIONS.
4. TOPOGRAPHIC DATA FOR THIS PROJECT CONSISTS OF LIDAR AND TOPOGRAPHIC SURVEY DATA. LIDAR FOR THIS PROJECT WAS OBTAINED FROM KING COUNTY AND IS REPRESENTATIVE OF 2016 CONDITIONS. TOPOGRAPHIC BATHYMETRIC SURVEY DATA WAS COLLECTED BY NSD AND IS REPRESENTATIVE OF 2020 CONDITIONS. THE VERTICAL DATUM IS NAVD88(FT). THE HORIZONTAL DATUM IS NAD83 WASHINGTON STATE PLANE NORTH(FT).

EROSION, SEDIMENT CONTROL AND WATER MANAGEMENT NOTES

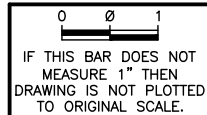
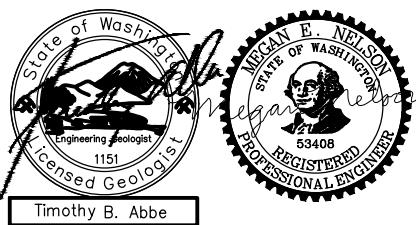
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING ALL TEMPORARY EROSION CONTROL MEASURES. THE EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND PERFORMANCE OF THE TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT.
2. A SEDIMENT AND EROSION CONTROL PLAN WILL BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED FOR APPROVAL BY OWNER AND/OR THE ENGINEER BEFORE ANY CONSTRUCTION MAY BEGIN. THE SEDIMENT AND EROSION CONTROL PLAN WILL IDENTIFY BEST MANAGEMENT PRACTICES TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.
3. ACTIVITIES SHALL BE DESIGNED AND CONSTRUCTED TO AVOID AND MINIMIZE ADVERSE IMPACTS TO WATERS OF THE UNITED STATES TO THE MAXIMUM EXTENT PRACTICAL THROUGH THE USE OF PRACTICAL ALTERNATIVES. ALTERNATIVES THAT SHALL BE CONSIDERED INCLUDE THOSE THAT MINIMIZE THE NUMBER AND EXTENT OF IN-WATER WORK AND EQUIPMENT CROSSINGS OF WETTED CHANNELS.
4. AT NO TIME SHALL SEDIMENT-LADEN WATER BE DISCHARGED OR PUMPED DIRECTLY INTO THE SUBJECT RIVER, STREAM, OR WETLAND. WATER SHALL BE DISCHARGED IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN THE PROJECT PERMITS AND / OR SPECIFICATIONS.
5. IF HIGH WATER LEVEL CONDITIONS THAT CAUSE SILTATION OR EROSION ARE ENCOUNTERED DURING CONSTRUCTION, WORK SHALL STOP UNTIL THE WATER LEVEL SUBSIDES.
6. PERMIT CONDITIONS CONTAIN SPECIFIC REQUIREMENTS FOR THE CONTROL OF EROSION AND TURBIDITY FROM PROJECT OPERATIONS. TURBIDITY WILL BE MONITORED ON A FREQUENT BASIS BY THE PROJECT MANAGEMENT AND INSPECTION STAFF ON-SITE. TURBIDITY AMOUNTS IN EXCESS OF THE PERMITTED CONCENTRATIONS AND/OR DURATIONS WILL CAUSE WORK TO BE STOPPED UNTIL IMPROVED PRACTICES ARE IN EFFECT AND THE PROBLEMS CONTROLLED. THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR ANY PROJECT DELAYS THAT OCCUR BY NATURE OF THIS FAILURE TO ADEQUATELY CONTAIN SEDIMENT ON-SITE.
7. CONTRACTOR SHALL LIMIT MACHINERY MOVEMENT TO CONSTRUCTION AREAS DEFINED ON SITE PLAN OR IDENTIFIED AS ACCEPTABLE BY THE ENGINEER OR OWNER.
8. ALL EXTERNAL GREASE AND OIL SHALL BE PRESSURE-WASHED OFF THE EQUIPMENT PRIOR TO TRANSPORT TO THE SITE.
9. ALL EQUIPMENT OPERATING BELOW OHWM SHALL UTILIZE READILY BIODEGRADABLE VEGETABLE-BASED HYDRAULIC FLUIDS.
10. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT NO PETROLEUM PRODUCTS, HYDRAULIC FLUID, SEDIMENTS, SEDIMENT-LADEN WATER, CHEMICALS, OR ANY OTHER TOXIC OR DELETERIOUS MATERIALS ARE ALLOWED TO ENTER OR LEACH INTO THE SUBJECT RIVER, STREAM, OR WETLAND.

11. THE CONTRACTOR SHALL HAVE AN EMERGENCY SPILL KIT ONSITE AT ALL TIMES.
12. NO TREES OR WETLAND VEGETATION SHALL BE REMOVED UNLESS THEY ARE SHOWN AND NOTED TO BE REMOVED ON THE PLANS OR AS DIRECTLY SPECIFIED ON-SITE BY THE ENGINEER. ALL TREES CONFLICTING WITH GRADING SHALL BE REMOVED. NO GRADING SHALL TAKE PLACE WITHIN THE DRIP LINE OF TREES NOT TO BE REMOVED UNLESS OTHERWISE APPROVED.
13. FOLLOWING CONSTRUCTION, SITE RESTORATION WILL INCLUDE ESTABLISHING LONG-TERM EROSION PROTECTION MEASURES. THESE MEASURES WILL INCLUDE PLANTINGS, EROSION CONTROL FABRIC, SEED, AND MULCH. EQUIPMENT AND EXCESS SUPPLIES WILL BE REMOVED AND THE WORK AREA WILL BE CLEANED. MAINTENANCE ACTIVITIES FOR THE NEWLY CONSTRUCTED RESTORATION PROJECTS ARE ANTICIPATED TO OCCUR PERIODICALLY.

CONSTRUCTION NOTES

1. CONTRACT DOCUMENTS REFER TO THESE PLANS.
2. CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO COMPLETE ALL WORK AS INDICATED IN THE CONTRACT DOCUMENTS.
3. SOILS AT THE SITE CONTAIN SOFT SILT, CLAY AND HIGH GROUNDWATER AND MAY REQUIRE EQUIPMENT MATS TO SUPPORT CONSTRUCTION EQUIPMENT. CONSOLIDATION OF THE GROUND SURFACE SHOULD BE EXPECTED. CONTRACTOR IS RESPONSIBLE FOR DETERMINING NEED FOR, DESIGNING, PROCURING, INSTALLING, USING AND REMOVING ANY EQUIPMENT MATS NEEDED TO ALLOW FOR EQUIPMENT OPERATION SUFFICIENT TO CONSTRUCT THE PROJECT.
4. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO PROCEEDING WITH THE WORK.
5. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE BY THE OWNER OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
6. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
7. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE BEST SKILLS AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THIS CONTRACT.
8. THE CONTRACTOR SHALL MAKE ALL NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, ROADWAY, DRAINAGE WAYS, PRIVATE BRIDGE, CULVERTS, AND VEGETATION UNTIL SUCH ITEMS ARE TO BE DISTURBED OR REMOVED AS INDICATED ON THE CONTRACT DOCUMENTS.
9. THE CONTRACTOR SHALL KEEP THE JOB SITE CLEAN AND HAZARD FREE. CONTRACTOR SHALL DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH FOR THE DURATION OF THE WORK. UPON COMPLETION OF WORK, CONTRACTOR SHALL REMOVE ALL MATERIAL AND EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY.
10. NOTES AND DETAILS ON THE PLANS SHALL TAKE PRECEDENCE OVER GENERAL NOTES HEREIN.
11. DIMENSIONS CALLOUTS SHALL TAKE PRECEDENCE OVER SCALES SHOWN ON THE PLANS.
12. THE PLANS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF ALL CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURES, WORKS, AND THE PUBLIC DURING CONSTRUCTION.
13. MATERIAL SHALL NOT BE STORED OUTSIDE OF IDENTIFIED STAGING AREAS. THE CONTRACTOR SHALL USE ONLY DESIGNATED SPECIFIC SITES FOR STORAGE OF EQUIPMENT AND MATERIALS AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY OF ALL EQUIPMENT AND MATERIALS.
14. MULCH WILL BE STOCKPILED ALONG ACCESS PATHS BY THE CONTRACTOR AS APPROVED/IDENTIFIED BY THE ENGINEER. THE STOCKPILING OF MULCH SHALL OCCUR AFTER CONSTRUCTION OF ALL THE IN-STREAM STRUCTURES BUT PRIOR TO RESTORATION OF THE ACCESS PATHS AND PROJECT CLOSE OUT.

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NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	M. NELSON	LATITUDE	47°32'38"N
CHECKED	TA	LONGITUDE	122°12'43"W
DRAWN	G. MATSUMOTO	TN/SC/RG	T24N/S30/R5E
CHECKED	M. STEPP	DATE	DECEMBER 21, 2020

SUBBASIN 42 WATERCOURSE STABILIZATION PROJECT

GENERAL NOTES

DEC 18, 2020 FINAL DESIGN

GENERAL LEGEND

- PROPERTY LINE
- EXISTING ROAD
- ACCESS ROAD
- PROJECT LIMIT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING OHWM
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WETLAND
- EXISTING WATER
- DEMOLITION/REMOVAL AREA
- EXISTING FENCE
- CONTROL POINT LOCATION
- EXISTING BUILDINGS
- EXISTING LANDSLIDE

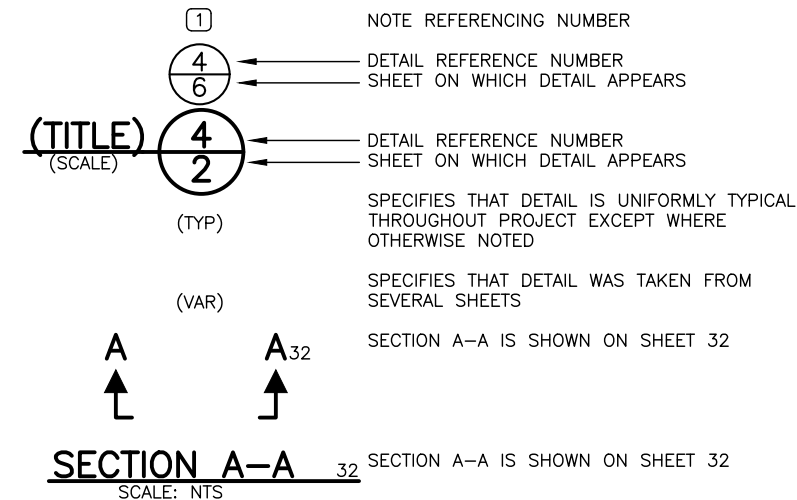
RESTORATION LEGEND

- TIMBER FRAME STRUCTURE
- BED CONTROL STRUCTURE
- EXISTING LARGE WOOD PIECE
- NATIVE ALLUVIUM
- STREAMBED COBBLE
- STRUCTURE ID

TEMPORARY EROSION CONTROL LEGEND

- SILT FENCE
- STRAW WATTLE
- DEWATERING LINE DISCHARGE
- PROPOSED STAGING AREA
- BULK BAG COFFERDAM
- TEMPORARY ACCESS PATH
- TEMPORARY ACCESS BRIDGE
- PUMP DISCHARGE OUTLET
- DEWATERING PUMP
- STABILIZED CONSTRUCTION ENTRANCE

DETAIL AND SECTION REFERENCING



ALIGNMENT CONTROL POINTS

Station	Elevation	Northing	Easting
13+50	71.534	201663.6388	1299597.2510
17+50	96.134	201853.6593	1299301.3089
17+00	89.221	201829.5912	1299344.8766
16+50	88.020	201803.0197	1299385.5121
16+00	83.421	201779.8747	1299426.7353
15+50	80.112	201752.8418	1299459.3227
15+00	77.072	201732.0535	1299502.8099
14+50	74.726	201726.8359	1299549.0722
14+00	73.126	201679.7136	1299557.3077
13+00	69.908	201635.2055	1299629.3618
12+50	67.291	201626.8548	1299672.0672
12+00	64.486	201588.8776	1299700.5227
11+50	61.483	201561.1784	1299739.2341
11+00	58.627	201535.9502	1299778.1657
10+50	55.820	201501.7045	1299813.3505
10+00	53.023	201486.3861	1299859.8108
9+50	50.274	201454.1868	1299897.2526
9+00	48.527	201457.8347	1299939.5451
8+50	46.411	201447.9703	1299986.0883
8+00	45.911	201423.7358	1300020.8179
7+50	45.029	201400.6194	1300063.9241
7+00	40.557	201415.5010	1300105.4911
6+50	37.751	201414.3094	1300151.5657
6+00	36.915	201400.6536	1300198.4735
5+50	35.792	201391.0124	1300246.5510
5+00	41.043	201386.8831	1300295.6651
4+50	39.587	201395.6625	1300344.8883
4+00	37.907	201404.4419	1300394.1115
3+50	35.936	201413.2214	1300443.3347
3+00	31.790	201422.0008	1300492.5579
2+50	30.803	201423.1521	1300542.3640
2+00	29.776	201421.9544	1300592.3497

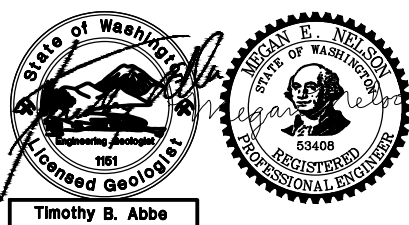
STRUCTURE CONTROL POINTS

Elevation	Northing	Easting	Structure ID	Station
36.992	201406.8038	1300185.1445	B-1	6+16
37.610	201409.8822	1300159.4069	R-1	6+38
39.018	201422.6053	1300114.3061	B-2	6+91
43.705	201425.8093	1300110.4545	T-1	6+92
42.482	201404.4911	1300063.3671	B-3	7+52
45.391	201417.3287	1300032.1312	B-4	7+87
45.423	201446.5062	1300009.3181	B-5	8+27
45.700	201449.0523	1300000.2993	R-2	8+33
49.560	201440.4390	1299921.1451	T-2	9+25
52.679	201445.4995	1299902.4135	T-3	9+41
52.217	201482.7284	1299868.8083	B-6	9+90
52.811	201484.6162	1299862.9626	R-3	9+94
55.127	201505.3571	1299811.3332	B-7	10+53
58.697	201546.1069	1299774.4973	B-8	11+10
59.368	201543.7346	1299767.8377	R-4	11+11
64.492	201602.3008	1299698.3599	B-9	12+13
70.735	201610.1161	1299679.6116	T-4 (MDD)	12+32
67.678	201630.3037	1299657.4686	B-10	12+65
73.175	201650.2863	1299625.0824	B-11	13+16
71.814	201667.6441	1299580.4359	B-12	13+67
72.563	201678.5342	1299560.6258	B-13	13+97
80.507	201722.9106	1299559.7330	T-5	14+41
76.946	201734.1424	1299502.5764	B-14	15+01
88.965	201746.3887	1299438.0748	T-6	15+69
82.624	201765.5689	1299433.5386	B-15	15+84
89.417	201759.5578	1299423.9950	T-7	15+85

NOTES

- "B-#" TYPE STRUCTURE ID'S REFER TO BED CONTROL MATRIX STRUCTURE LOCATIONS. "T-#" TYPE STRUCTURE ID'S REFER TO TIMBER FRAME STRUCTURE LOCATIONS. "RW-#" ID'S REPRESENTS WHERE EXISTING LARGE ROOTWADS/LOGS THAT SPAN THE CHANNEL ARE IDENTIFIED TO BE CUT/DROPPED INTO THE CHANNEL. SEE DETAIL SHEETS 9 AND 10 FOR STRUCTURE CONTROL POINT LOCATIONS.
- SEE SITE PLANS, SHEETS 6 AND 7, FOR STRUCTURE ID NUMBERS AND LOCATIONS.

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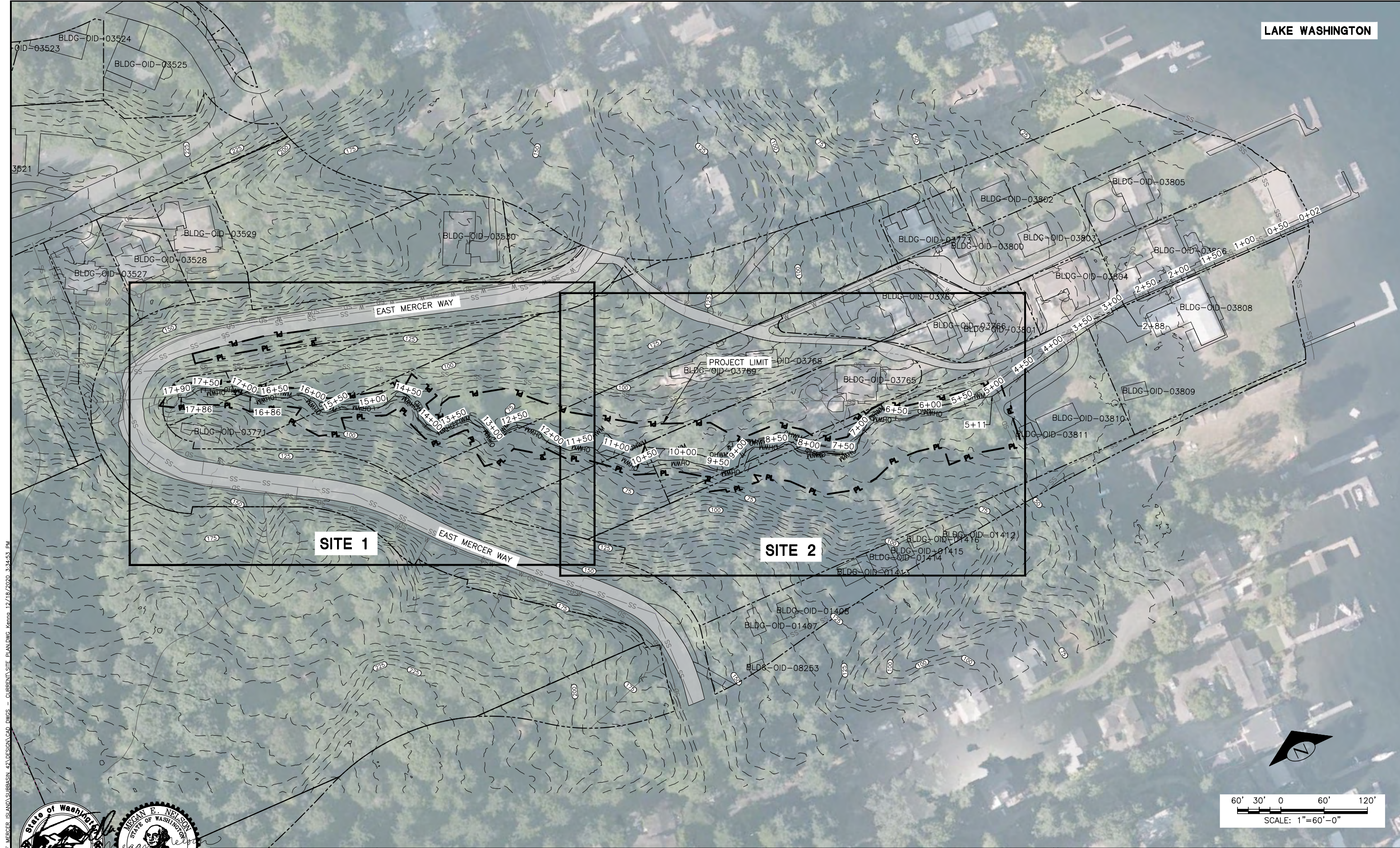


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DRAWN G. MATSUMOTO	TN/SC/RG T24N/S30/R5E
CHECKED M. STEPP	DATE DECEMBER 21, 2020

SUBBASIN 42 WATERCOURSE STABILIZATION PROJECT

LEGEND

DEC 18, 2020 FINAL DESIGN



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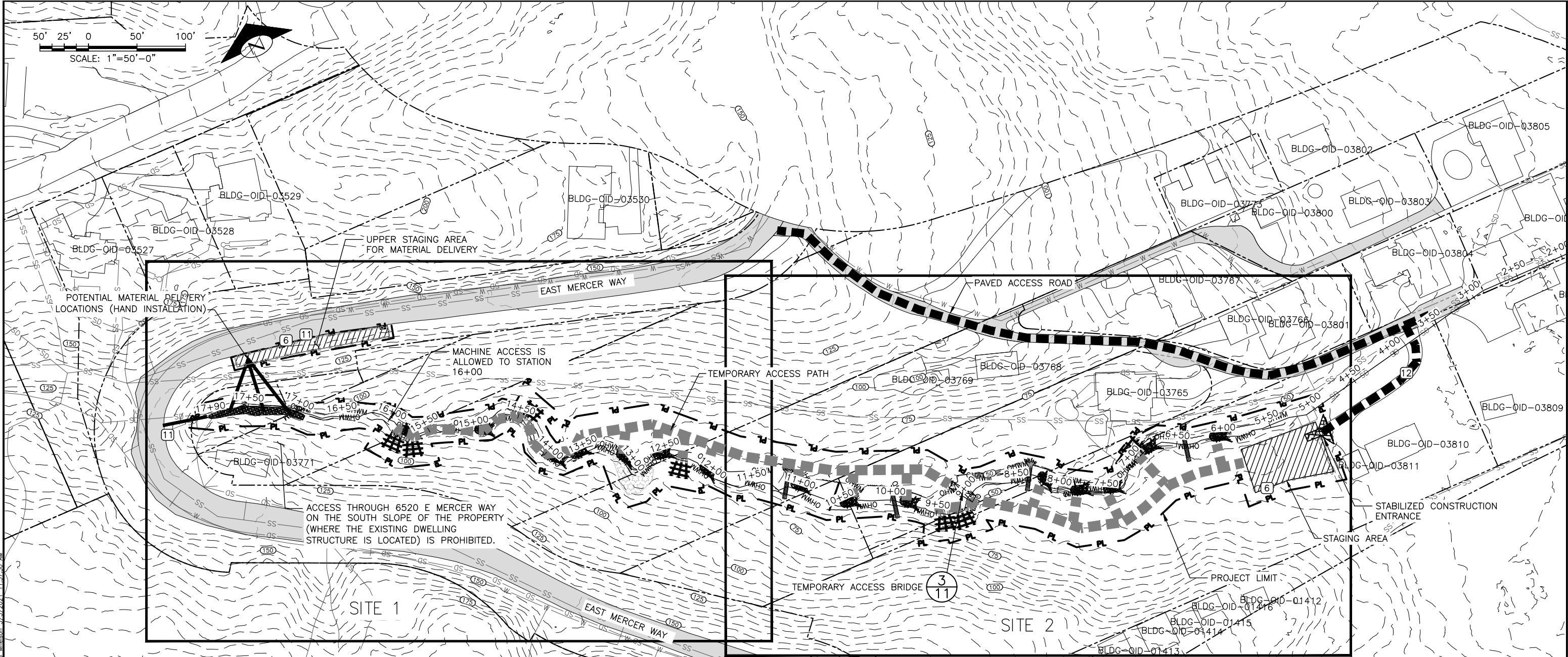
NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED M. NELSON	LATITUDE 47°32'38"N
CHECKED TA	LONGITUDE 122°12'43"W
DRAWN G. MATSUMOTO	TN/SC/RG T24N/S30/R5E
CHECKED M. STEPP	DATE DECEMBER 21, 2020

SUBBASIN 42 WATERCOURSE STABILIZATION PROJECT

OVERALL SITE PLAN

DEC 18, 2020 FINAL DESIGN

50' 25' 0 50' 100'
SCALE: 1"=50'-0"

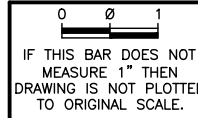
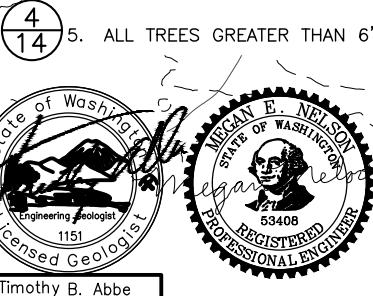


NOTES

1. EQUIPMENT IN SUBBASIN 42 SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
 - 1.1. OPERATING WEIGHT WITH FULL FUEL & LINES NO MORE THAN 45,000 LBS
 - 1.2. DOUBLE GROUSER TRACKS WITH SHOE WIDTH MIN 24" OR RUBBER TRACKS
 - 1.3. OUTSIDE TRACK WIDTH MAXIMUM 10 FT
 - 1.4. MAXIMUM GROUND PRESSURE 5 PSI
 - 1.5. UTILIZE READILY DEGRADABLE VEGETABLE-BASED HYDRAULIC FLUIDS
2. THERE SHALL BE NO MORE THAN THREE PIECES OF EQUIPMENT IN CHANNEL AT ANY ONE TIME UNLESS APPROVED BY THE ENGINEER.
3. 2 FEET LAYER OF SLASH SHALL BE INSTALLED ON ALL TEMPORARY ACCESS ROADS WITHIN THE CHANNEL PRIOR TO STRUCTURE INSTALLATION.
4. STABILIZED CONSTRUCTION ENTRANCES SHALL COMPLY WITH WSDOT STANDARD PLAN 1-90.10-02 WITH 50 FT LENGTH AND INCORPORATE DRAINAGE CULVERT IN SWALE MIN 12" DIAM AND 50' LONG. EXACT LOCATION TO BE DETERMINED BY CONTRACTOR.
5. ALL TREES GREATER THAN 6" DBH IN THE STAGING AREA OR AS SPECIFIED BY ENGINEER

6. 610 LF HIGH VISIBILITY FENCE SHOWN ON PLANS SHALL BE THE MINIMUM AMOUNT INSTALLED. CONTRACTOR SHALL INSTALL ADDITIONAL HIGH VISIBILITY FENCE AS NEEDED TO PROTECT PUBLIC SAFETY. SEE SPECIAL PROVISION 2-01.3(5).
7. ALL EFFORTS SHALL BE TAKEN TO MINIMIZE DISTURBANCES WITHIN THE CONSTRUCTION LIMITS. SEE SPECIAL PROVISIONS FOR LIMITATIONS ON CLEARING AND REQUIREMENTS FOR TREE PROTECTION. NO DISTURBANCE OUTSIDE THE CONSTRUCTION LIMITS SHALL BE PERMITTED UNLESS APPROVED BY THE ENGINEER.
8. CLEARED TREES AND FALLEN WOOD SHALL BE INCORPORATED INTO LOG STRUCTURES OR CHANNEL CONSTRUCTION OR USED AS NURSE LOGS AS APPROVED BY ENGINEER. SEE SPECIAL PROVISION 2-01.3(1) FOR REQUIREMENTS FOR CLEARED TREES AND FALLEN WOOD.
9. NO CONSTRUCTION OR ACCESS WITHIN THE STREAM CORRIDOR SHALL OCCUR UNTIL THE ACTIVE WORK AREA IS FULLY DEWATERED AND DRY CONDITIONS EXIST THROUGHOUT THE ACTIVE WORK AREA. STREAM BYPASS AND DEWATERING SHALL BE MAINTAINED ON A 24/7 BASIS DURING CONSTRUCTION IN ACTIVE WORK AREAS WHERE THERE ARE

10. PROTECT ALL EXISTING INFRASTRUCTURE DURING CONSTRUCTION. THERE IS AN EXPOSED PRIVATE PIPELINE THAT CROSSES THE WATERCOURSE MID-WAY THROUGH THE PROJECT EXTENTS.
11. TEMPORARY LANE SHIFTING OR CLOSURE MAY BE NECESSARY FOR MATERIAL DELIVERY DURING CONSTRUCTION, HOWEVER, FULL CLOSURE OF EAST MERCER WAY IS NOT ALLOWED. MINIMIZE ALL DISRUPTIONS AND IMPACTS TO EAST MERCER WAY TRAFFIC AND BICYCLE USE. MATERIAL DELIVERY FROM THE UPHILL/ADJACENT LANE WILL BE ALLOWED ALONG THE LENGTH OF THE ROW WHERE DIRECT ACCESS TO THE CREEK IS POSSIBLE. APPROPRIATE TRAFFIC CONTROL MEASURES WILL BE REQUIRED. ALL LANES MUST RE-OPEN TO TRAFFIC AT THE END OF EACH WORKING DAY.
12. PROTECT TREES AT DRIVEWAY ENTRANCE. ENSURE DRIVEWAY CONDITION IS STABILIZED DURING CONSTRUCTION ACTIVITIES AND RETURNED TO ORIGINAL CONDITION AFTER CONSTRUCTION IS COMPLETED.



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DRAWN	G. MATSUMOTO	TN/SC/RG	T24N/S30/R5E
CHECKED	M. STEPP	DATE	DECEMBER 21, 2020

SUBBASIN 42 WATERCOURSE STABILIZATION PROJECT

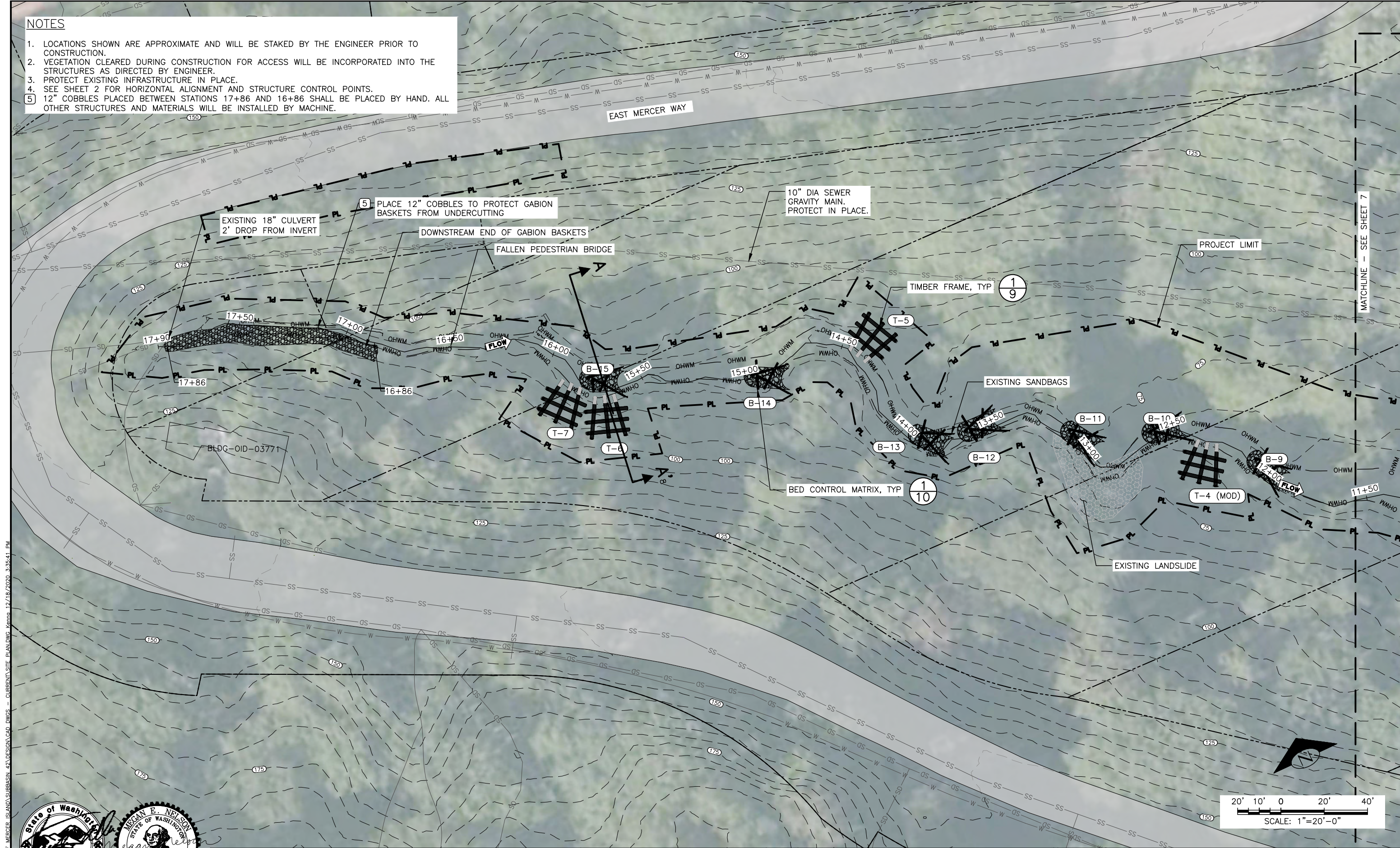
ACCESS AND STAGING PLAN

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DEC 18, 2020 FINAL DESIGN

NOTES

1. LOCATIONS SHOWN ARE APPROXIMATE AND WILL BE STAKED BY THE ENGINEER PRIOR TO CONSTRUCTION.
2. VEGETATION CLEARED DURING CONSTRUCTION FOR ACCESS WILL BE INCORPORATED INTO THE STRUCTURES AS DIRECTED BY ENGINEER.
3. PROTECT EXISTING INFRASTRUCTURE IN PLACE.
4. SEE SHEET 2 FOR HORIZONTAL ALIGNMENT AND STRUCTURE CONTROL POINTS.
5. 12" COBBLES PLACED BETWEEN STATIONS 17+86 AND 16+86 SHALL BE PLACED BY HAND. ALL OTHER STRUCTURES AND MATERIALS WILL BE INSTALLED BY MACHINE.



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DEC 18, 2020 FINAL DESIGN

Timothy B. Abbe
Licensed Geologist

Megan E. Nelson
Professional Engineer

0 10 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



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CHECKED M. STEPP	DATE DECEMBER 21, 2020

SUBBASIN 42 WATERCOURSE STABILIZATION PROJECT

SITE PLAN 1

NOTES

1. LOCATIONS SHOWN ARE APPROXIMATE AND WILL BE STAKED BY THE ENGINEER PRIOR TO CONSTRUCTION.
2. VEGETATION CLEARED DURING CONSTRUCTION FOR ACCESS WILL BE INCORPORATED INTO THE STRUCTURES AS DIRECTED BY ENGINEER.
3. PROTECT EXISTING INFRASTRUCTURE IN PLACE.
4. SEE SHEET 2 FOR HORIZONTAL ALIGNMENT AND STRUCTURE CONTROL POINTS.
5. THERE IS A 4" DUCTILE IRON PIPE LOCATED AT APPROXIMATELY STA. 10+60. BC-7 IS POSITIONED DIRECTLY DOWNSTREAM IN ORDER TO BUILD UP THE BED AT THAT LOCATION. THE PIPE WILL REMAIN AS IT IS IN THE CURRENT LOCATION. SEE PHOTO 1.

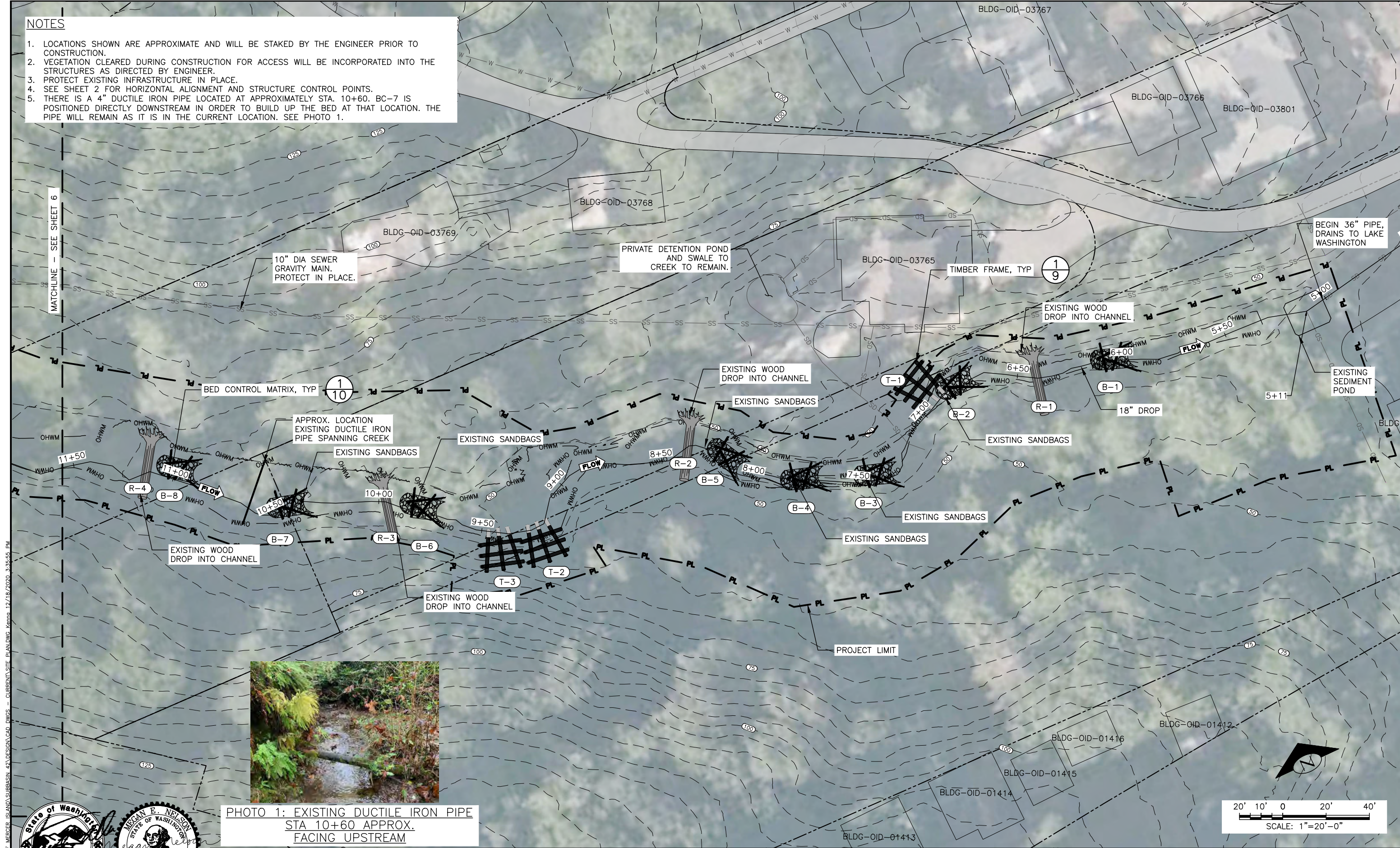


PHOTO 1: EXISTING DUCTILE IRON PIPE STA 10+60 APPROX. FACING UPSTREAM

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Timothy B. Abbe

Merckan E. Nelson

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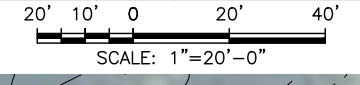
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SUBBASIN 42 WATERCOURSE STABILIZATION PROJECT

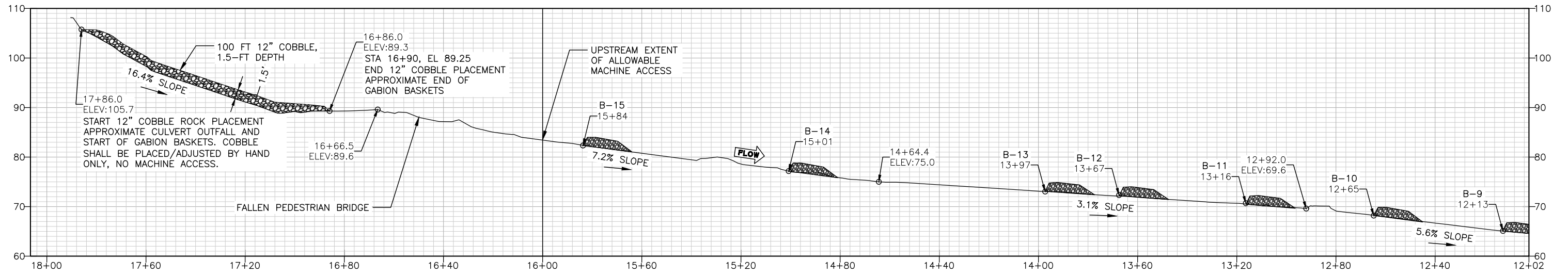
SITE PLAN 2

7

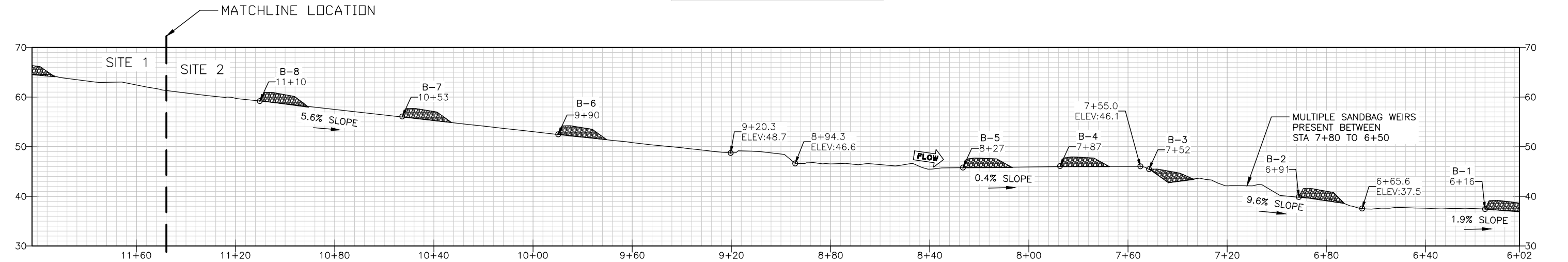
SHEET 7 OF 14



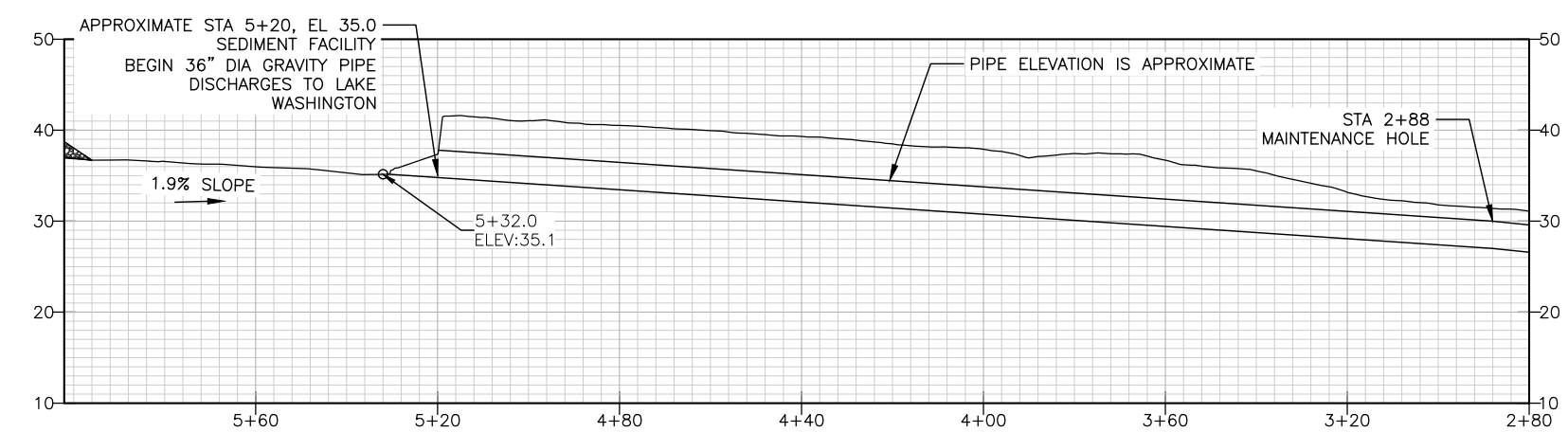
DEC 18, 2020 FINAL DESIGN



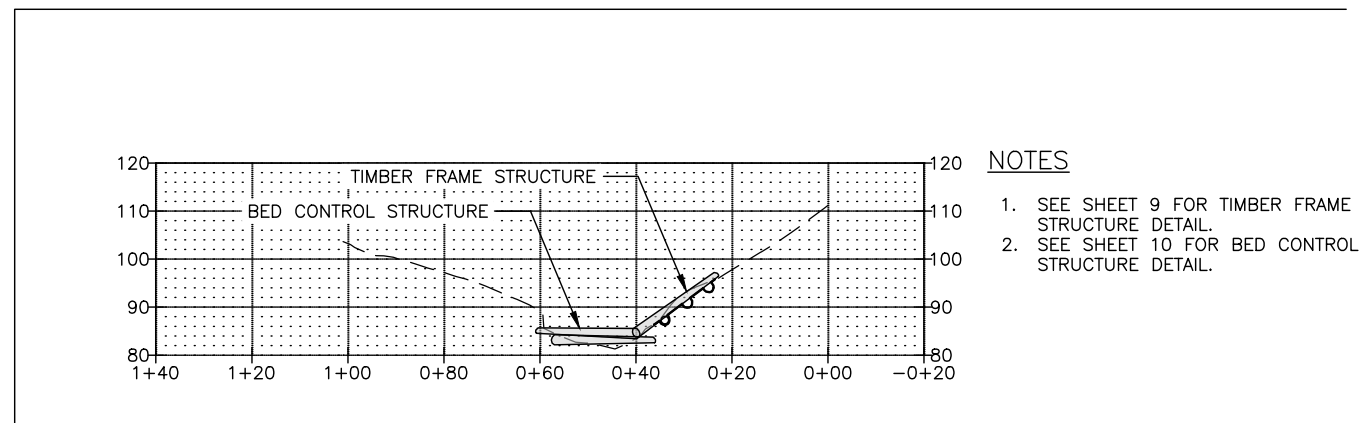
SUBBASIN 42 PROFILE



SUBBASIN 42 PROFILE

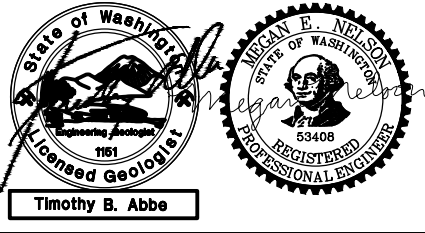
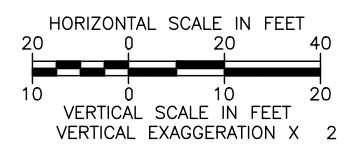


SUBBASIN 42 PROFILE



CROSS-SECTION A-A' (STA 15+67)
SCALE: 1"=20'

- NOTES**
1. SEE SHEET 9 FOR TIMBER FRAME STRUCTURE DETAIL.
 2. SEE SHEET 10 FOR BED CONTROL STRUCTURE DETAIL.



IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



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CHECKED: TA	LONGITUDE: 122°12'43"W
DRAWN: G. MATSUMOTO	TN/SC/RG: T24N/S30/R5E
CHECKED: M. STEPP	DATE: DECEMBER 21, 2020

SUBBASIN 42 WATERCOURSE STABILIZATION PROJECT

PROFILE AND CROSS-SECTION

8
SHEET **8** OF **14**

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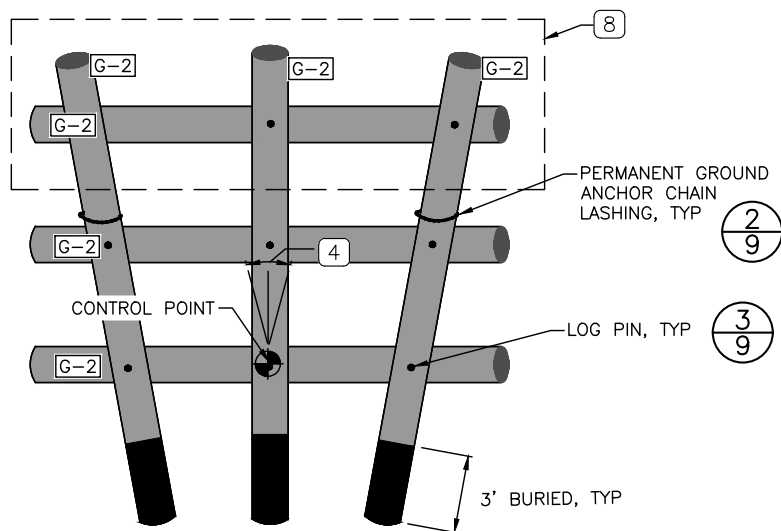
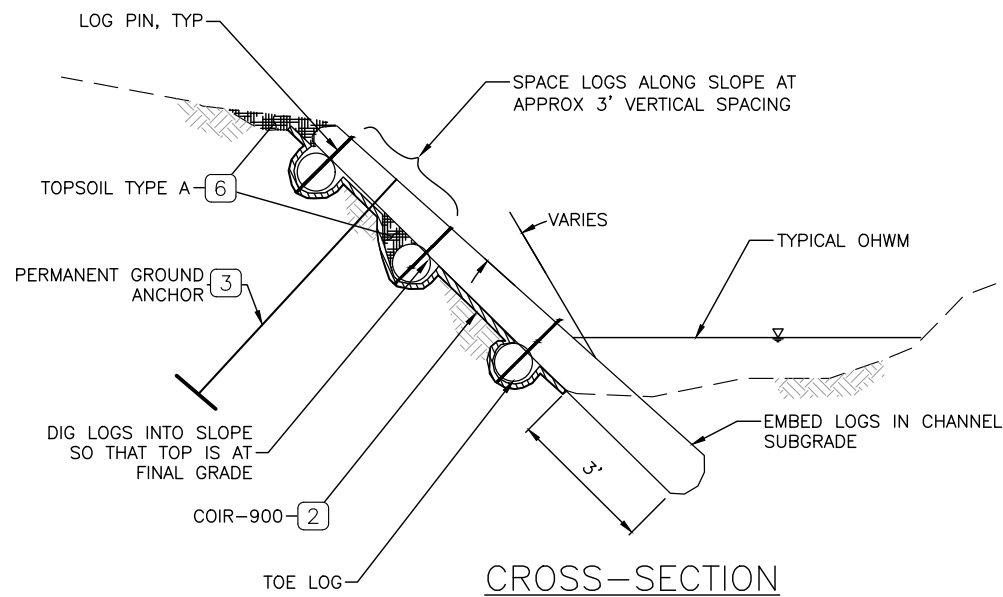


PHOTO EXAMPLE OF FINISHED
TIMBER FRAME



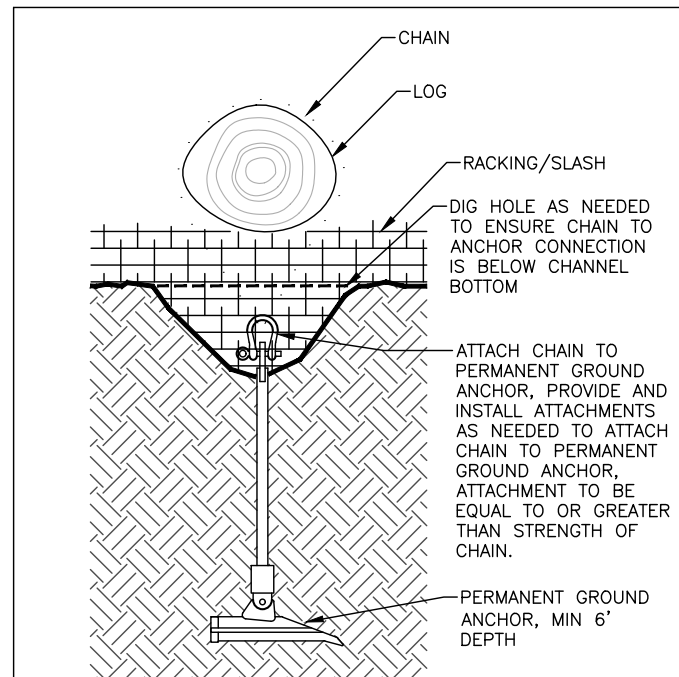
TIMBER FRAME STRUCTURE
NOT TO SCALE

1/9

TIMBER FRAME STRUCTURE SCHEDULE			
LOG ID	MATERIAL	QUANTITY	UNITS
G-2	12" DIAM x20' LOG	6	EA
	COIR-900	71	SY
	PERMANENT GROUND ANCHOR	2	EA
LOG PIN	#5 REBAR, 3.5'	9	EA
	ARBORIST WOOD CHIP MULCH	2.0	CY
	TOPSOIL TYPE A	3	Y

NOTES

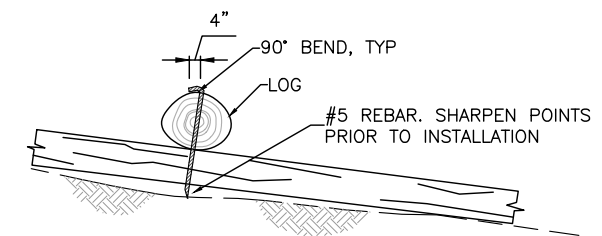
1. PLACEMENT OF ALL ELEMENTS ARE APPROXIMATE AND WILL VARY AS APPROVED BY ENGINEER.
2. COVER BARE SOILS WITH 2 LAYERS OF COIR-900 FABRIC.
3. PERMANENT GROUND ANCHOR DEPTH IS MINIMUM 6' BELOW GROUND SURFACE. LOGS SHALL BE LASHED TO ANCHOR AS SHOWN IN DETAIL.
4. LOGS CAN BE STAGGERED 5'-15' FROM VERTICAL AS APPROVED BY ENGINEER.
5. TIMBER FRAME STRUCTURES THAT ARE INSTALLED ADJACENT TO EACH OTHER SHALL HAVE HORIZONTAL LOGS OVERLAP 6" MIN.
6. TOPSOIL TYPE A SHALL BE PACKED INTO GAPS AND VOID SPACES ABOVE AND AROUND HORIZONTAL LOG MEMBERS TO CREATE A MORE EVEN SURFACE FOR PLANTING.
7. SPREAD ARBORIST WOOD CHIP MULCH OVER COIR CLOTH AND 3-WAY TOPSOIL.
8. EXCAVATION SPOILS TO BE INCORPORATED INTO STRUCTURES OR PLACED ON-SITE AT DIRECTION OF ENGINEER.
9. FOR THE MODIFIED TIMBER FRAME, T-4 (MOD), REMOVE TOP LOG AND TOP 1/3 OF VERTICAL LOGS. DISTRIBUTE IN RIPARIAN UPLAND OR WHERE DIRECTED BY ENGINEER. MOVE PERMANENT GROUND ANCHORS TO BE POSITIONED BETWEEN THE TWO REMAINING HORIZONTAL LOGS.



PERMANENT GROUND ANCHOR
NOT TO SCALE

2/9

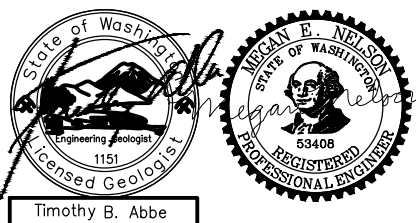
NOTE: ONLY STAINLESS STEEL SHALL BE ALLOWED. NO GALVANIZED METALS ARE ALLOWED.



LOG PIN
NOT TO SCALE

3/9

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.

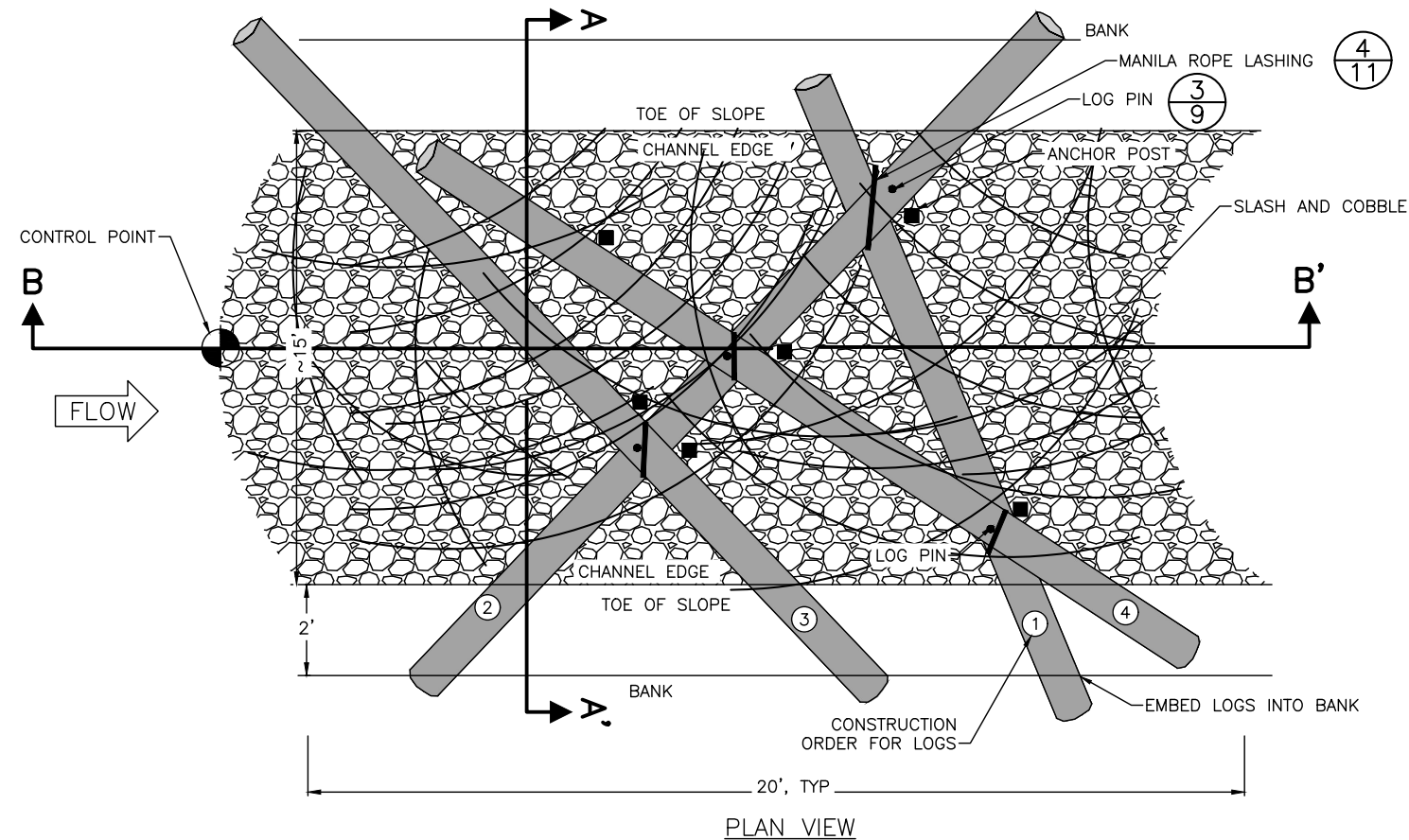


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DESIGNED M. NELSON	LATITUDE 47°32'38"N
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CHECKED M. STEPP	DATE DECEMBER 21, 2020

SUBBASIN 42 WATERCOURSE STABILIZATION PROJECT

LOG STRUCTURE DETAILS 1

DEC 18, 2020 FINAL DESIGN



NOTES

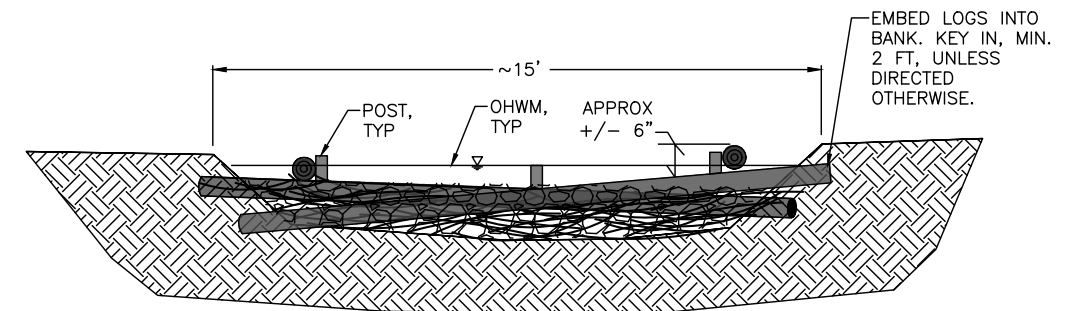
1. CONSTRUCTION SEQUENCE
 - LAY 1' COBBLE AND SLASH LAYER ON CHANNEL BED (20' X 15' NOM.)
 - INSTALL LOGS IN SEQUENCE (1-4) ADJUSTING ORIENTATION AS DIRECTED BY ENGINEER TO ACCOMMODATE SITE CONDITIONS.
 - INSTALL LOG POSTS AND LASH TO LOGS
 - FILL VOID SPACE WITH SLASH AND COBBLE
 - INSTALL LOG PINS TO TIGHTLY ANCHOR LOGS AND BOUGHS.
2. PLACEMENT AND NUMBER OF ALL ELEMENTS ARE APPROXIMATE AND MAY VARY AS DIRECTED BY ENGINEER.
3. FINAL STRUCTURE LENGTH WILL VARY.
4. DOUGLAS FIR 4" X 4" X 72" STAKE EMBEDDED MIN 5' IN BED.
5. EXCAVATION SPOILS TO BE INCORPORATED INTO STRUCTURES OR PLACED ON-SITE AT DIRECTION OF ENGINEER.
6. MATCH EXISTING CHANNEL SLOPE (VARIES).
7. FINISH BED ELEVATION VARIES +/- 4" FROM NOMINAL 2' DEPTH OF FILL THROUGH CENTER OF CHANNEL.
8. EDGE OF FILL TO EXTEND APPROX 12" ABOVE THALWEG.
9. DO NOT REMOVE EXISTING LOGS, WOODY MATERIAL, GEO TEXTILES, OR SANDBAGS.

BED CONTROL MATRIX STRUCTURE SCHEDULE			
LOG ID	MATERIAL	QUANTITY	UNITS
E-2	18"x20' LOG	4	EA
	STREAMBED COBBLE	22	TN
	SLASH	6	TN
	4" X 4" X 6' ANCHOR POST	6	EA
LOG PIN	#5 REBAR, 3.5'	4	EA
	1" MANILA ROPE LASHING	4	EA



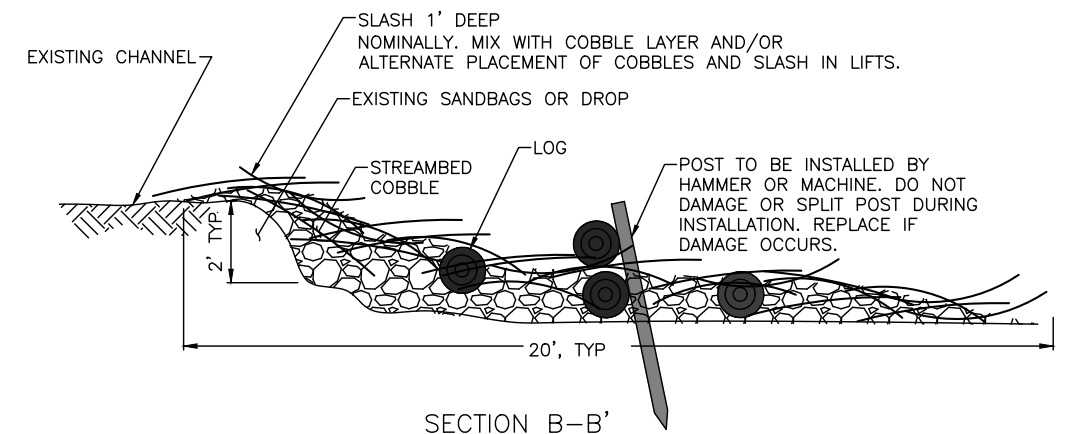
PHOTO EXAMPLE OF BED CONTROL MATRIX

NOTE: POSTS, LASHING, AND SLASH NOT YET INSTALLED/SHOWN.



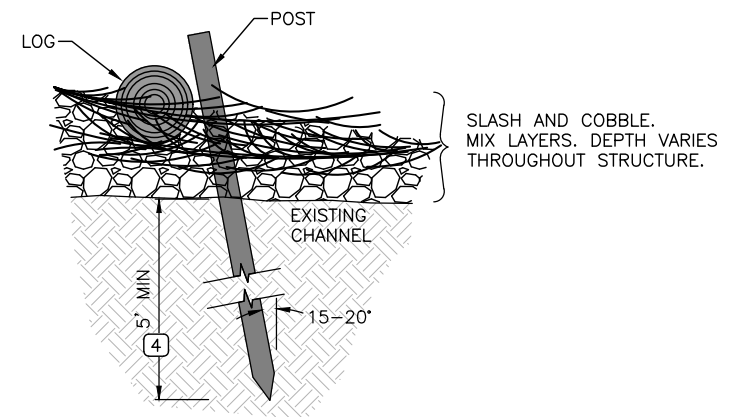
SECTION A-A'

NOTE: LOGS AND POSTS ARE NOT TO SCALE, AND NOT ALL ARE SHOWN.



SECTION B-B'

NOTE: LOGS AND POSTS ARE NOT TO SCALE, AND NOT ALL ARE SHOWN.



POST DETAIL

BED CONTROL MATRIX STRUCTURE

SCALE: 1" = 2'

1/10

0 1
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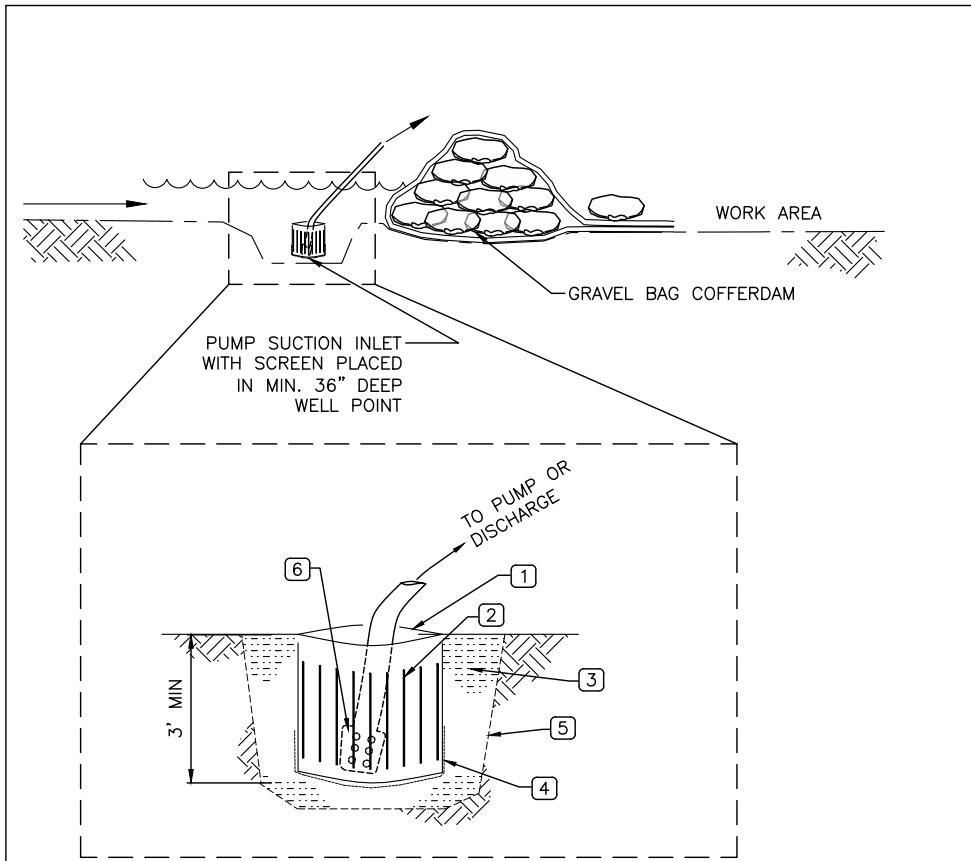
SUBBASIN 42 WATERCOURSE STABILIZATION PROJECT

LOG STRUCTURE DETAILS 2

10
SHEET 10 OF 14

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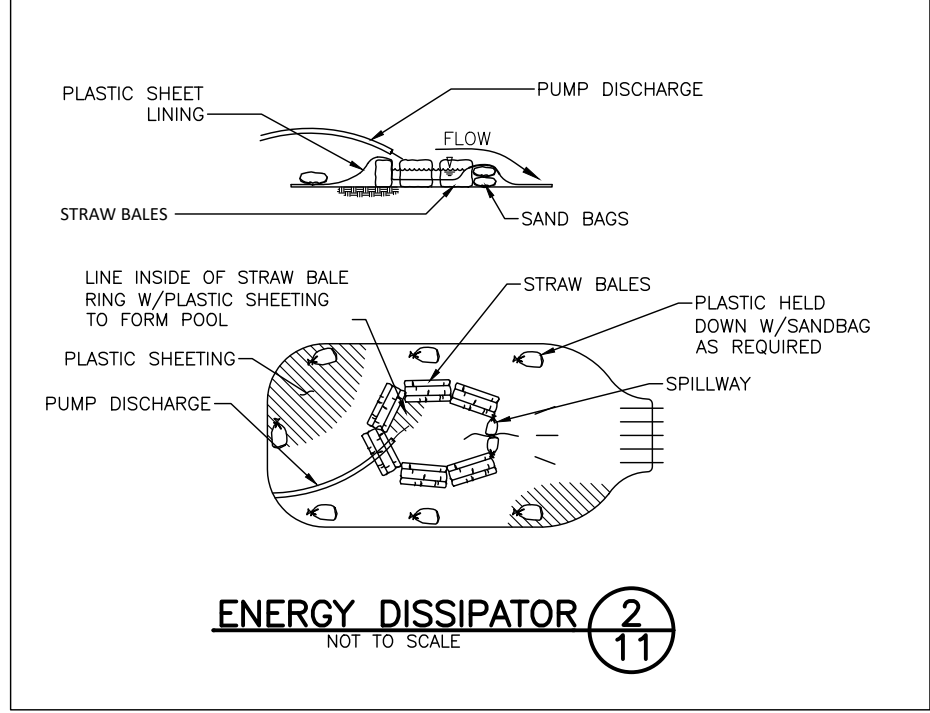
DEC 18, 2020 FINAL DESIGN



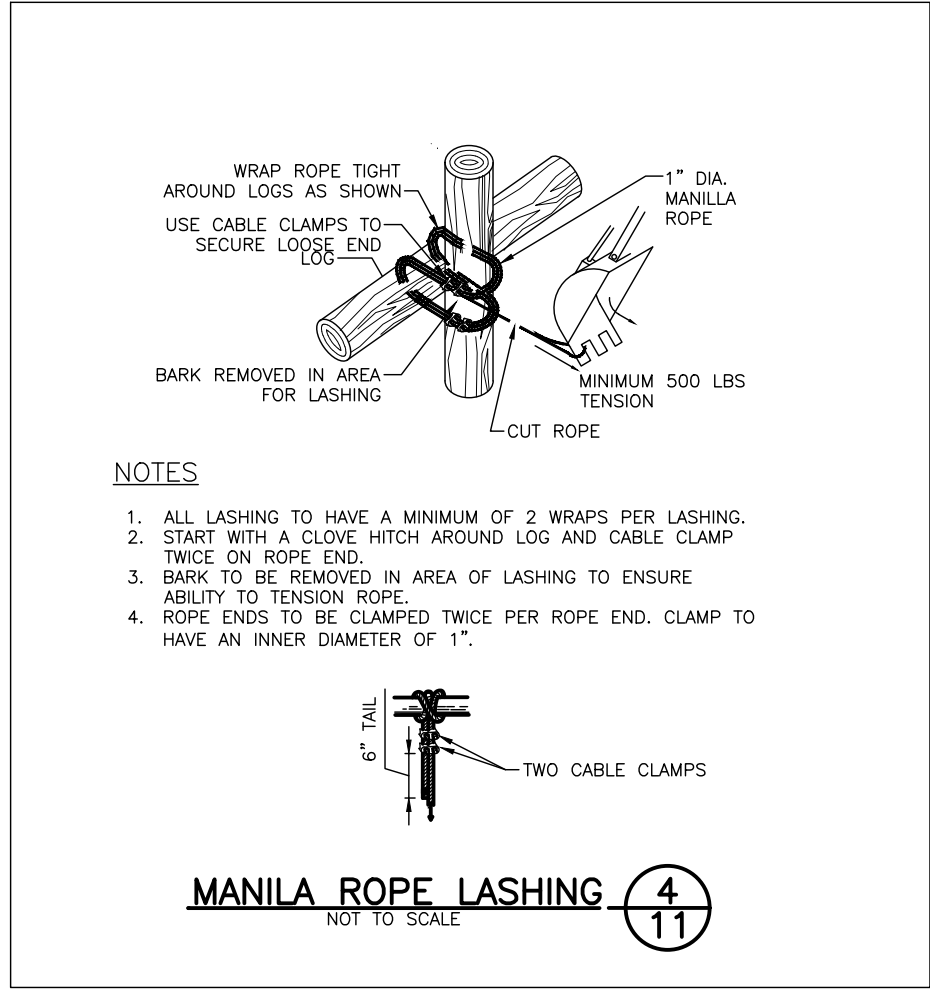
NOTES

- 1 CORRUGATED PLASTIC OR METAL PIPE 36" MIN DIAMETER, ONE PER EACH PUMP.
- 2 ¼" SLOTS 24" LONG AT 4" SPACING ALL THE WAY AROUND PIPE.
- 3 STREAMBED SEDIMENT
- 4 WIRE SCREEN ½" MESH COVERING PIPE BOTTOM, ANCHORED TO PIPE.
- 5 LIMIT OF EXCAVATION. INSTALL PIPE AND BACKFILL WITH STREAMBED SEDIMENT.
- 6 PUMP SUCTION INLET OR ELECTRIC SUBMERSIBLE PUMP WITH 1" SCREEN INSTALLED AT INLET OR PUMP SUCTION FACE, OR OTHER SIZE RECOMMENDED BY PUMP SUPPLIER.

DEWATERING SUMP 1
11
NOT TO SCALE



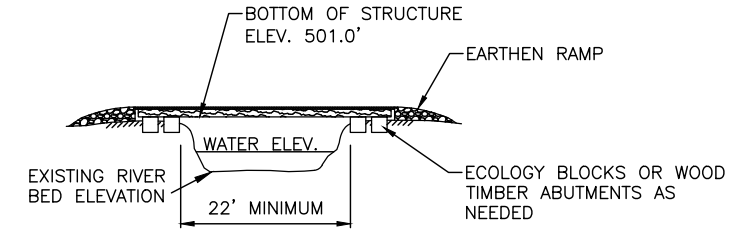
ENERGY DISSIPATOR 2
11
NOT TO SCALE



NOTES

- 1. ALL LASHING TO HAVE A MINIMUM OF 2 WRAPS PER LASHING.
- 2. START WITH A CLOVE HITCH AROUND LOG AND CABLE CLAMP TWICE ON ROPE END.
- 3. BARK TO BE REMOVED IN AREA OF LASHING TO ENSURE ABILITY TO TENSION ROPE.
- 4. ROPE ENDS TO BE CLAMPED TWICE PER ROPE END. CLAMP TO HAVE AN INNER DIAMETER OF 1".

MANILA ROPE LASHING 4
11
NOT TO SCALE



NOTES

- 1. CONTRACTOR TO DESIGN TEMPORARY BRIDGE.
- 2. BRIDGE SHALL BE LOCATED SUCH THAT ONLY ONE SPAN IS USED TO ELIMINATE IMPACTS TO SUBSTRATE OF SIDE CHANNEL.
- 3. END OF BRIDGE SHALL BEAR ON HIGH BANKS WITH SUFFICIENT BEARING CAPACITY TO PREVENT SLOUGHING OR COLLAPSE OF SIDE CHANNEL BANKS.
- 4. CONCRETE ECOLOGY BLOCKS OR WOOD ABUTMENTS MAY BE USED TO SUPPORT ENDS OF TEMPORARY BRIDGE AS NEEDED.
- 5. BRIDGES MAY BE CONSTRUCTED FROM LOGS, RAIL CAR BEDS OR APPROVED EQUAL AND DECKED WITH STEEL SHEET, WOOD LAGGING OR APPROVED EQUAL.

TEMPORARY BRIDGE 3
11
NOT TO SCALE

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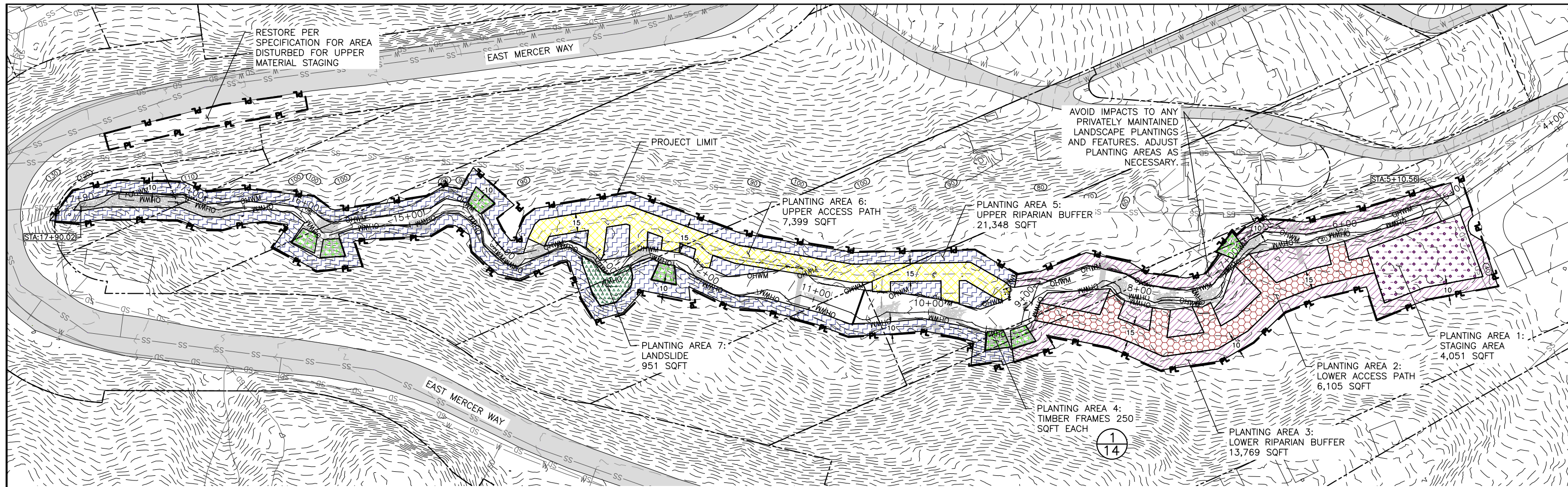


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SUBBASIN 42 WATERCOURSE STABILIZATION PROJECT

TESC DETAILS

DEC 18, 2020 FINAL DESIGN



NOTES

- MULCH WILL BE STOCKPILED ALONG ACCESS PATHS BY THE CONTRACTOR AS APPROVED/IDENTIFIED BY THE ENGINEER. THE STOCKPIILING OF MULCH SHALL OCCUR AFTER CONSTRUCTION OF ALL THE INSTREAM STRUCTURES BUT PRIOR TO RESTORATION/PLANTING OF THE ACCESS PATHS AND PROJECT CLOSE OUT.
- ALL NON-NATIVE VEGETATION (WEED AND PEST SPECIES) WITHIN THE PROJECT LIMIT (APPROX. 0.8 ACRE) SHALL BE REMOVED PRIOR TO PLANTING PER SPECIFICATION 8-02.3(3). ADJUST PLANT LAYOUT TO ACCOMMODATE EXISTING NATIVE VEGETATION AND THE SITE CONDITIONS PRESENT AT THE TIME OF PLANTING AS APPROVED BY THE ENGINEER.
- ALL PLANTS, WITH THE EXCEPTION OF LADY FERN AND SLOUGH SEDGE, SHALL RECEIVE MULCH PER DETAILS ON SHEET 14.
- REFER TO SHEET 13 FOR PLANT SCHEDULES FOR EACH OF THE PLANTING AREAS LISTED BELOW.

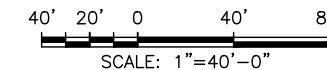
PLANTING AREAS LEGEND

- AREA 1 - 4,051 SQFT (0.09 ACRE)
- AREA 2 - 6,105 SQFT (0.14 ACRE)
- AREA 3 - 13,769 SQFT (0.32 ACRE)
- AREA 4 - (7) TIMBER FRAMES, 1,750 SQFT (0.04 ACRES)
- AREA 5 - 21,348 SQFT (0.49 ACRE)
- AREA 6 - 7,399 SQFT (0.17 ACRE)
- AREA 7 - 951 SQFT (0.02 ACRE)

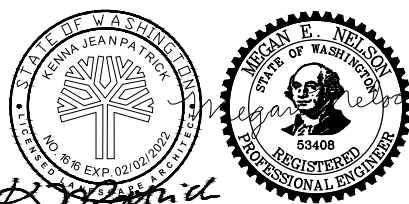
TOTAL - 55,373 SQFT (1.27 ACRES)

PLANT LIST

SPECIES	COMMON NAME	SIZE & MATERIAL	TOTAL QTY.
ATHYRIUM FILIX-FEMINA	COMMON LADYFERN	10 IN ³ PLUG	63
CAREX OBNUPTA	SLOUGH SEDGE	10 IN ³ PLUG	133
POLYSTICHUM MUNITUM	WESTERN SWORDFERN	10 IN ³ PLUG	868
ACER CIRCINATUM	VINE MAPLE	12-18" BARE ROOT	28
OEMLERIA CERASIFORMIS	INDIAN PLUM	12-18" BARE ROOT	28
RIBES BRACTEOSUM	STINK CURRANT	12-18" BARE ROOT	101
RUBUS SPECTABILIS	SALMONBERRY	12-18" BARE ROOT	28
ACER CIRCINATUM	VINE MAPLE	18-36" BARE ROOT	234
ACER MACROPHYLLUM	BIGLEAF MAPLE	18-36" BARE ROOT	41
ALNUS RUBRA	RED ALDER	18-36" BARE ROOT	98
CORNUS SERICEA	REDOSIER DOGWOOD	18-36" BARE ROOT	46
CORYLUS CORNUTA	BEAKED HAZELNUT	18-36" BARE ROOT	93
FRANGULA PURSHIANA	CASCARA BUCKTHORN	18-36" BARE ROOT	26
OEMLERIA CERASIFORMIS	INDIAN PLUM	18-36" BARE ROOT	130
RUBUS PARVIFLORUS	THIMBLEBERRY	18-36" BARE ROOT	284
RUBUS SPECTABILIS	SALMONBERRY	18-36" BARE ROOT	927
SAMBUCUS RACEMOSA	RED ELDERBERRY	18-36" BARE ROOT	12
ABIES GRANDIS	GRAND FIR	D-40 (40 IN ³ PLUG)	15
PSEUDOTSUGA MENZIESII	DOUGLAS-FIR	D-40 (40 IN ³ PLUG)	53
THUJA PLICATA	WESTERN RED CEDAR	D-40 (40 IN ³ PLUG)	234
TSUGA HETEROPHYLLA	WESTERN HEMLOCK	D-40 (40 IN ³ PLUG)	115
PSEUDOTSUGA MENZIESII	DOUGLAS-FIR	TP4 (14"X4" TREEPOT)	7
THUJA PLICATA	WESTERN RED CEDAR	TP4 (14"X4" TREEPOT)	13
TSUGA HETEROPHYLLA	WESTERN HEMLOCK	TP4 (14"X4" TREEPOT)	4
TOTAL			3,581



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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



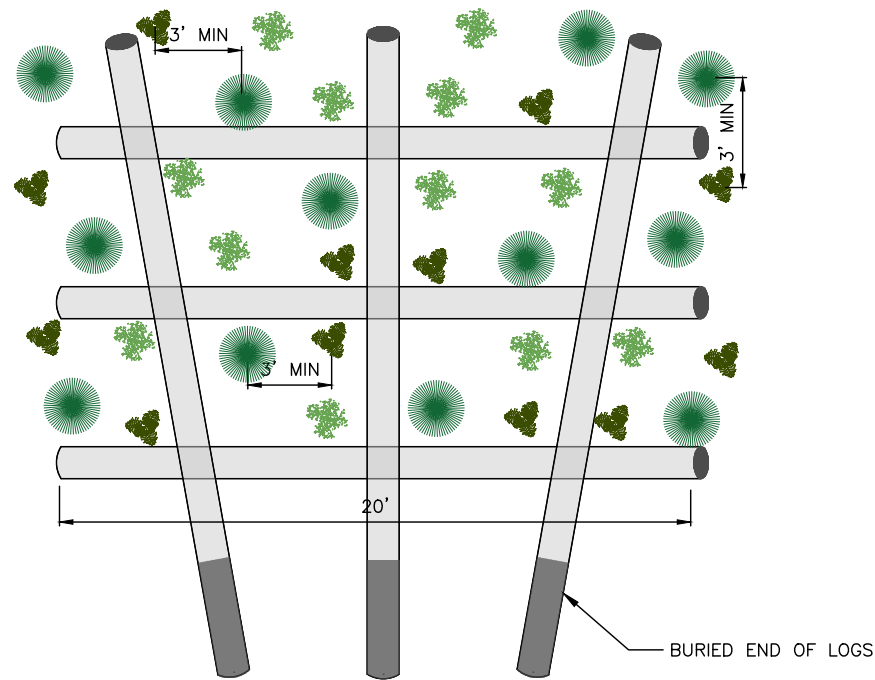
NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED K. PATRICK, M. FISCHER	LATITUDE 47°32'38"N
CHECKED MF, DD	LONGITUDE 122°12'43"W
DRAWN K. PATRICK	TN/SC/RG T24N/S30/R5E
CHECKED MN, DD	DATE DECEMBER 21, 2020

SUBBASIN 42 WATERCOURSE STABILIZATION PROJECT

SITE RESTORATION PLAN

DEC 18, 2020 FINAL DESIGN

PROJECTS/CITY OF MERCER ISLAND/SUBBASIN 42A/DESIGN/CAD_DWG6 - CURRENT/PLANTING PLAN.DWG_Kenno_12/18/2020_3:39:15 PM



KEY

- TREE LAYER
12 (QTY)
- SHRUB LAYER
12 (QTY)
- GROUND LAYER
12 (QTY)

TOTAL = 36 PLANTS PER
TIMBER FRAME

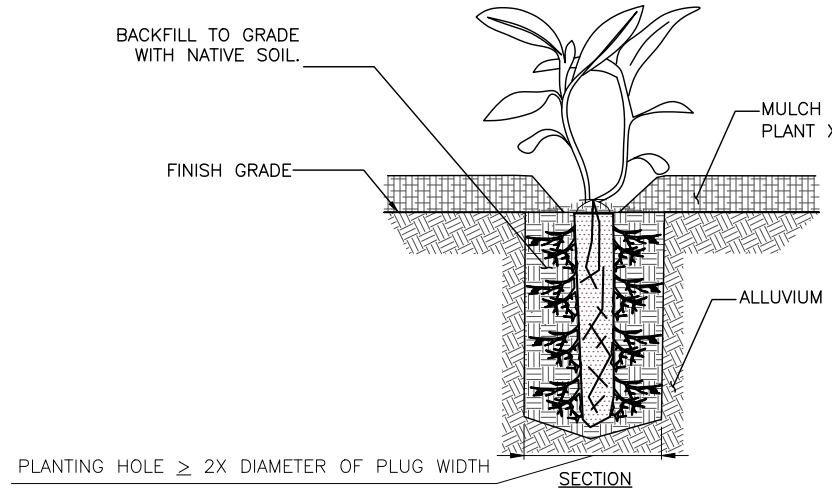
NOTES

1. PLANT LAYOUT SHALL BE ADJUSTED TO ACCOMMODATE EXISTING SITE CONDITIONS.
2. PLANTS SHALL HAVE A MINIMUM 3 FT OF DISTANCE BETWEEN EACH.
3. MOVE MULCH TO THE SIDE WHEN PLANTING AND PLANT DIRECTLY INTO SOIL.
4. CUT THROUGH COIR CLOTH AS NEEDED TO REACH SOIL AND PLANT ACCORDING TO DETAIL 2 AND DETAIL 3 SHOWN ON THIS SHEET.
5. REPLACE MULCH AROUND PLANT AFTER PLANTING, KEEPING MULCH AWAY FROM THE STEM.
6. IF TIMBER FRAME MODIFICATION IS CONSTRUCTED (SEE SHEET 9) OR CONDITIONS ARE UNFAVORABLE FOR PLANTING, PLANT LEFTOVER PLANTS IN IMMEDIATE VICINITY OF TIMBER FRAME AS DIRECTED BY ENGINEER.

TIMBER FRAME PLANTING DETAIL

SCALE: NOT TO SCALE

1
14



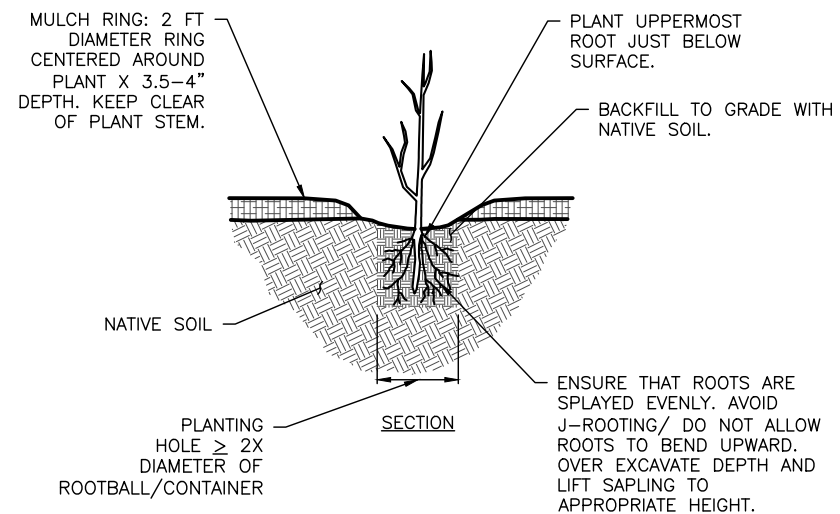
NOTES

1. STORE PLUGS IN TRAYS ONSITE IN SHADE AND INSTALL AS SOON AS POSSIBLE AFTER DELIVERY, WATERING AS NECESSARY. DO NOT ALLOW ROOTS TO DRY OUT DURING HANDLING.
1. REMOVE PLUG FROM TRAY OR CONTAINER BY PUSHING UP THROUGH BOTTOM OF LINER. DO NOT PULL THE PLANT BY VEGETATIVE MATERIAL.
2. DO NOT PULL ROOT SYSTEM APART.
3. MATCH TOP OF BACKFILLED NATIVE SOIL WITH SOIL LEVEL AT TOP OF PLUG.
4. TAMP IN BACKFILLED SOIL GENTLY AND WATER PLUG IN TO ENSURE SOIL-ROOT CONTACT.
5. THE SPECIES LADY FERN AND SLOUGH SEDGE SHALL NOT RECEIVE A MULCH RING.

PLUG PLANTING DETAIL

SCALE: NOT TO SCALE

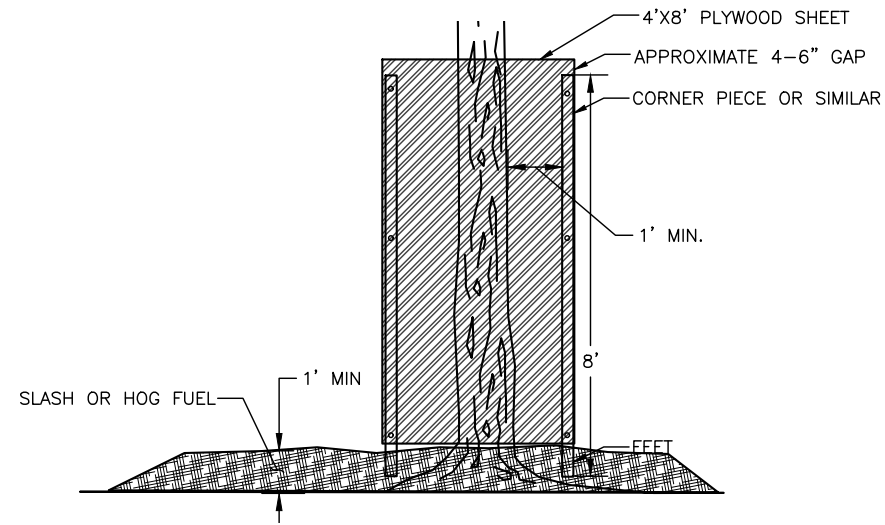
2
14



BAREROOT AND TREEPOT PLANTING DETAIL

SCALE: NOT TO SCALE

3
14



NOTES

1. ALL TREES GREATER THAN 6" DBH IN THE STAGING AREAS AND AS SPECIFIED BY ENGINEER WITHIN THE CONSTRUCTION LIMITS SHALL BE PROTECTED BY TREE PROTECTION.
2. PLACE 1' OF SLASH OVER SOILS WITHIN DRIP LINE TO PROTECT ROOTS.
3. SECURE 4 OR MORE PLYWOOD SHEETS AROUND BASE OF TREE TO CREATE A BOX BY SECURING WITH CORNER PIECES. CORNER PIECES SHALL EXTEND BELOW BASE OF PLYWOOD TO CREATE "FEET" THAT CAN BE TRIMMED AS NECESSARY TO KEEP BOX LEVEL.
4. FOR LARGER TRUNKS OR MULTI-STEMMED TREES, >4 SHEETS OF PLYWOOD MAY BE REQUIRED.

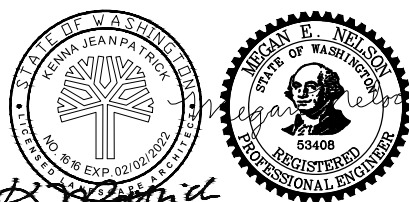
TREE PROTECTION DETAIL

SCALE: NOT TO SCALE



PHOTO EXAMPLE OF SIMILAR TREE PROTECTION DESIGN
NOTE: FEET DESIGN IN PHOTO EXAMPLE DIFFERS FROM DETAIL. THIS ALTERNATIVE IS ACCEPTABLE.

4
14



0 1
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