

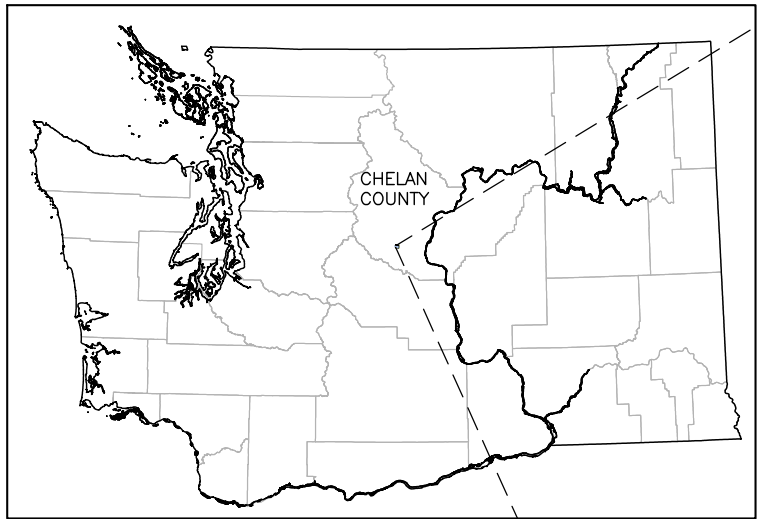
Appendix A

60% Design Drawings

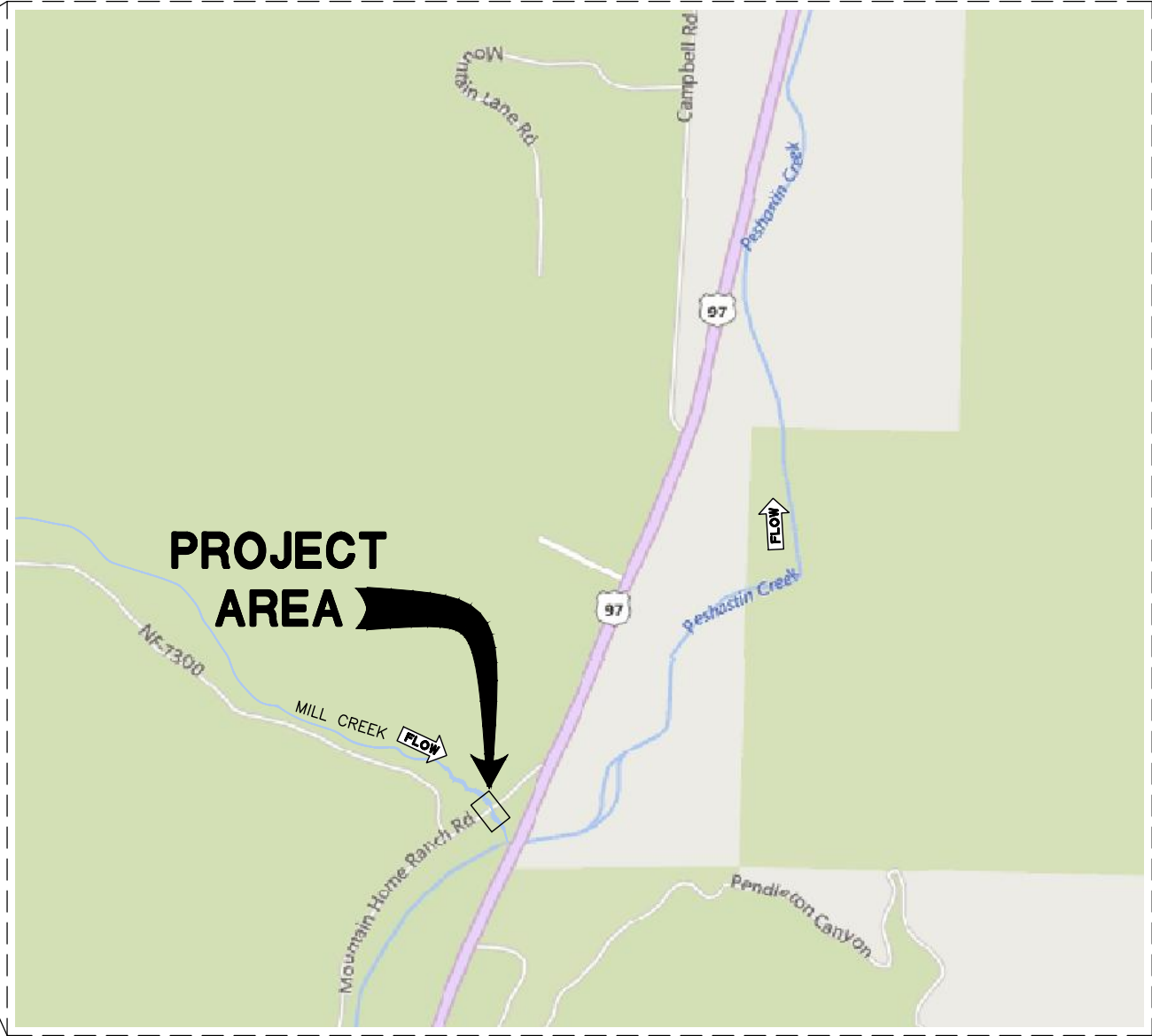
MILL CREEK

FISH PASSAGE PROJECT

CHELAN COUNTY NATURAL RESOURCES



WASHINGTON STATE
SCALE: 1"=50 MILES
50 25 0 50 100



VICINITY MAP
SCALE: 1" = 500'

DRAWING LIST	
SHEET NO.	SHEET TITLE
1	COVER SHEET
2	NOTES & SUMMARY OF QUANTITIES
3	SITE PREPARATION AND DEWATERING PLAN
4	TEMPORARY DETOUR DETAILS
5	GRADING PLAN & PROFILE
6	TYPICAL GRADING SECTIONS
7	EXCAVATION PAY ITEMS
8	HEADWALL & WINGWALL DETAILS
9	ROADWAY PAVING, STRIPING, AND GUARDRAIL PLAN
10	TRAFFIC CONTROL PLAN – SIGNAL OPTION
11	TRAFFIC CONTROL PLAN – FLAGGER OPTION
12	SITE RESTORATION PLAN

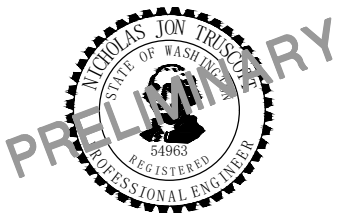
CONTACT INFORMATION

NATURAL SYSTEMS DESIGN, INC

305 FLORA STREET
BELLINGHAM, WA 98225
(360) 656-5207

CHELAN COUNTY NATURAL RESOURCES

411 WASHINGTON STREET, SUITE 201
WENATCHEE, WA 98801
(509) 667-6533



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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	NT	LATITUDE	47°30'40"N
CHECKED	RH	LONGITUDE	120°37'55"W
DRAWN	NT	TN/SC/RG	T23N/S6/R18E
CHECKED	JS	DATE	JULY 31, 2019

MILL CREEK FISH
PASSAGE PROJECT

COVER SHEET

1
SHEET 1 OF 12

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Aug 01, 2019 PRELIMINARY DESIGN 60% NOT FOR CONSTRUCTION

GENERAL NOTES

1. THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF CHELAN COUNTY NATURAL RESOURCES DEPARTMENT (CCNRD), HEREAFTER REFERRED TO AS "CONTRACTING AGENCY" AND THEIR AUTHORIZED AGENTS. THE CONTRACTING AGENCY WILL DESIGNATE A REPRESENTATIVE, HEREAFTER REFERRED TO AS "CONTRACTING OFFICER" TO REPRESENT THE CONTRACTING AGENCY AND TO INTERACT WITH THE CONTRACTOR ON THEIR BEHALF. THE CONTRACTING OFFICER WILL BE ON-SITE DURING CONSTRUCTION AND WILL BE RESPONSIBLE FOR ADMINISTRATION OF THE CONSTRUCTION CONTRACT BETWEEN THE CONTRACTING AGENCY AND THE CONTRACTOR.
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. 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.
4. ALL IMPROVEMENTS SHALL BE ACCOMPLISHED UNDER THE APPROVAL, INSPECTION, AND TO THE SATISFACTION OF THE CONTRACTING AGENCY. 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 WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, 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.
5. 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.
6. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE CONTRACT DOCUMENTS AND FOR ALL SUBMITTALS REQUIRED TO THE CONTRACTING AGENCY 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 CONTRACTING AGENCY 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 CONTRACTING AGENCY SHALL BE NOTIFIED IMMEDIATELY.

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.
3. ALL ALIGNMENTS SHOWN IN THESE DRAWINGS WILL BE MADE AVAILABLE TO THE CONTRACTOR IN ELECTRONIC FORMAT (.DWG, SHAPE FILE, LANDXML, ETC.) FOR THE CONTRACTOR TO USE IN SURVEYING AND STAKING OUT PROJECT ELEMENTS.
4. 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 CONTRACTING AGENCY A SET OF PLANS, MARKED UP TO THE SATISFACTION OF THE CONTRACTING AGENCY, REFLECTING THE AS-CONSTRUCTED MODIFICATIONS.
5. 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 CONTRACTING AGENCY OF ANY DISCREPANCIES, WHICH MIGHT AFFECT PROPER OPERATION OF THE NEW FACILITIES BEFORE BREAKING GROUND AND PRIOR TO FACILITY INSTALLATION. THE CONTRACTING AGENCY 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.
6. LIDAR FOR THIS PROJECT WAS COLLECTED IN 2015 AND IS REPRESENTATIVE OF CONDITIONS AT THE TIME OF COLLECTION. LIDAR DATA HAVE BEEN SUPPLEMENTED WITH LOCAL GROUND SURVEY TO BETTER DEFINE THE CHANNEL; GROUND SURVEY OCCURRED IN 2008. THE HORIZONTAL DATUM IS NAD83 WASHINGTON STATE PLANE NORTH (FT). THE VERTICAL DATUM IS NAVD88 (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 CONTRACTING AGENCY 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 CONTRACTING AGENCY.
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

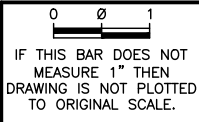
PROJECT MANAGEMENT STAFF. ALL TREES CONFLICTING WITH GRADING SHALL BE REMOVED. NO GRADING SHALL TAKE PLACE WITHIN THE DRIP LINE OF TREES NOT TO BE REMOVED UNLESS OTHERWISE APPROVED.

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. CONSTRUCTION HOURS SHALL BE WEEKDAYS BETWEEN 7:00 A.M. AND 6:30 P.M. UNLESS PRIOR APPROVAL IS RECEIVED FROM THE CONTRACTING AGENCY.
4. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE BY THE CONTRACTING AGENCY OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
5. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
6. 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.
7. 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.
8. 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.
9. NOTES AND DETAILS ON THE PLANS SHALL TAKE PRECEDENCE OVER GENERAL NOTES HEREIN.
10. DIMENSIONS CALLOUTS SHALL TAKE PRECEDENCE OVER SCALES SHOWN ON THE PLANS.
11. 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.
12. 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.

ITEM NO.	QUANTITY	UNITS	DESCRIPTION
1	LUMP SUM	L.S.	MOBILIZATION
2	0.32	ACRE	CLEARING
3	310	S.Y.	REMOVING BITUMINOUS PAVEMENT
4	1,285	L.F.	HIGH VISIBILITY FENCE
5	LUMP SUM	L.S.	TEMPORARY STREAM DIVERSION
6	LUMP SUM	L.S.	TEMPORARY DETOUR
7	LUMP SUM	C.Y.	TEMPORARY BRIDGE
8	1,100	L.S.	STRUCTURE EXCAVATION CLASS A INCL. HAUL
9	LUMP SUM	L.S.	SHORING OR EXTRA EXCAVATION CL. A
10	30	C.Y.	CULVERT BEDDING MATERIAL
11	LUMP SUM	L.S.	HIGH RADIUS ARCH STRUCTURAL PLATE CULVERT
12	410	C.Y.	GRAVEL BACKFILL FOR PIPE ZONE BEDDING
13	LUMP SUM	L.S.	CHANNEL GRADING
14	260	C.Y.	STREAMBED SEDIMENT
15	50	EACH	STREAMBED BOULDER TWO MAN
16	115	C.Y.	CRUSHED SURFACING BASE COURSE
17	55	C.Y.	CRUSHED SURFACING TOP COURSE
18	110	TON	HMA CL. 1/2 IN. PG 64-22
19	76	L.F.	BEAM GUARDRAIL TYPE 31
20	4	EACH	BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL
21	2	EACH	BEAM GUARDRAIL PLACEMENT - 25' SPAN
22	LUMP SUM	L.S.	SURVEYING
23	LUMP SUM	L.S.	PROJECT TEMPORARY TRAFFIC CONTROL
24	0.32	ACRE	SEEDING AND MULCHING
25	5,000	CALC	MINOR CHANGE



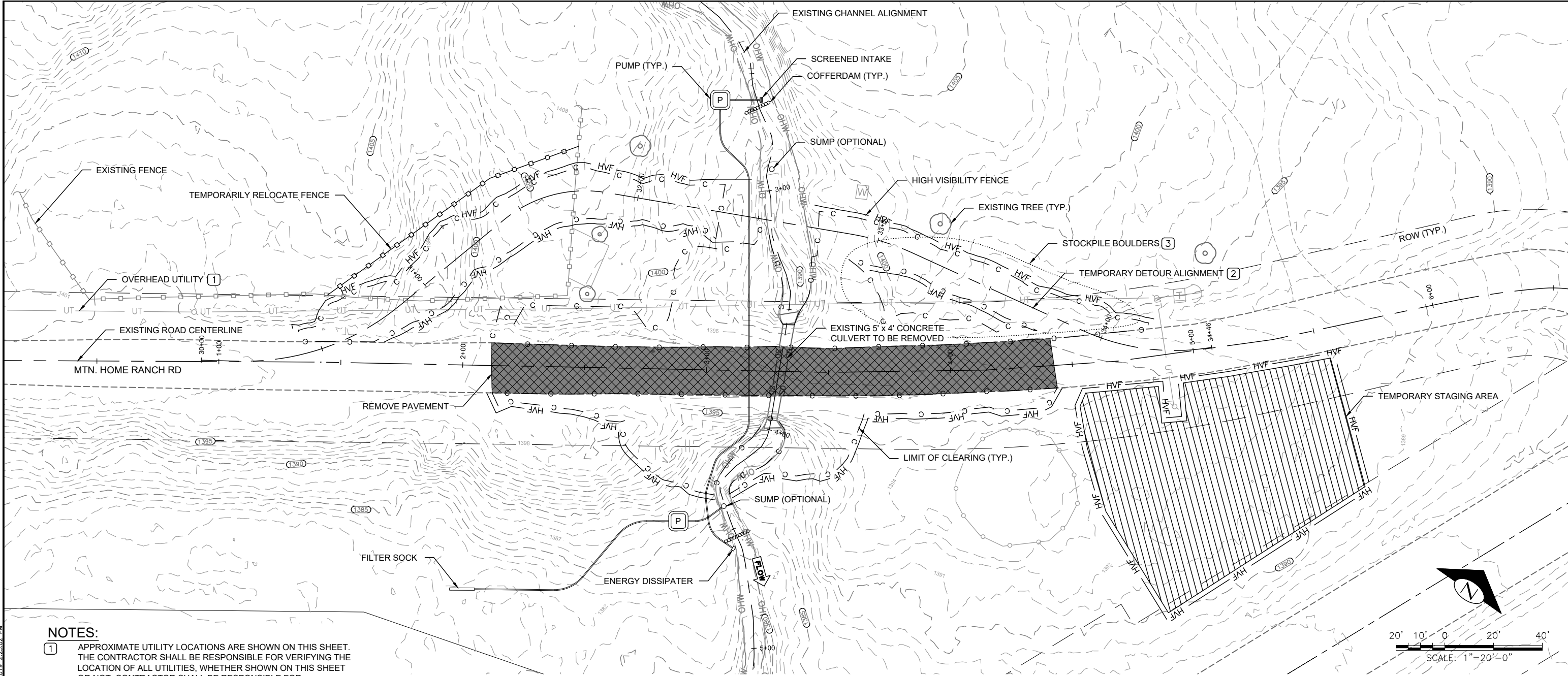
NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	NT	LATITUDE	47°30'40"N
CHECKED	RH	LONGITUDE	120°37'55"W
DRAWN	NT	TN/SC/RG	T23N/S6/R18E
CHECKED	JS	DATE	JULY 31, 2019

MILL CREEK FISH
PASSAGE PROJECT

NOTES & SUMMARY
OF QUANTITIES

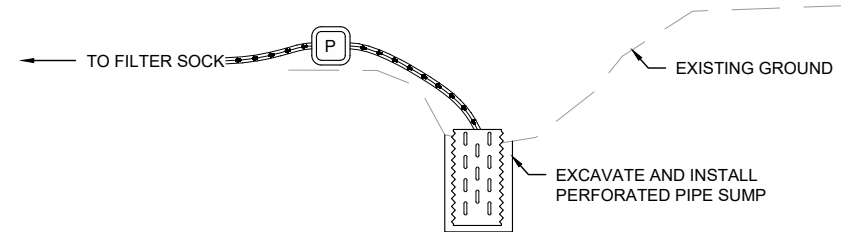
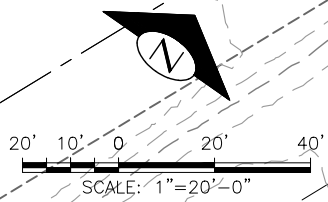
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SITE PREPARATION PLAN

- NOTES:**
- 1 APPROXIMATE UTILITY LOCATIONS ARE SHOWN ON THIS SHEET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES, WHETHER SHOWN ON THIS SHEET OR NOT. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES DURING CONSTRUCTION AS DESCRIBED IN SECTION 1-07.17 OF THE STANDARD SPECIFICATIONS.
 - 2 SEE SHEET 4 FOR TEMPORARY DETOUR DETAILS.
 - 3 LARGE BOULDERS REQUIRED TO BE REMOVED FOR CLEARING SHALL BE STOCKPILED AT A LOCATION IDENTIFIED BY THE CONTRACTING OFFICER.



SUMP DETAIL
NTS



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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	NT	LATITUDE	47°30'40"N
CHECKED	RH	LONGITUDE	120°37'55"W
DRAWN	NT	TN/SC/RG	T23N/S6/R18E
CHECKED	JS	DATE	JULY 31, 2019

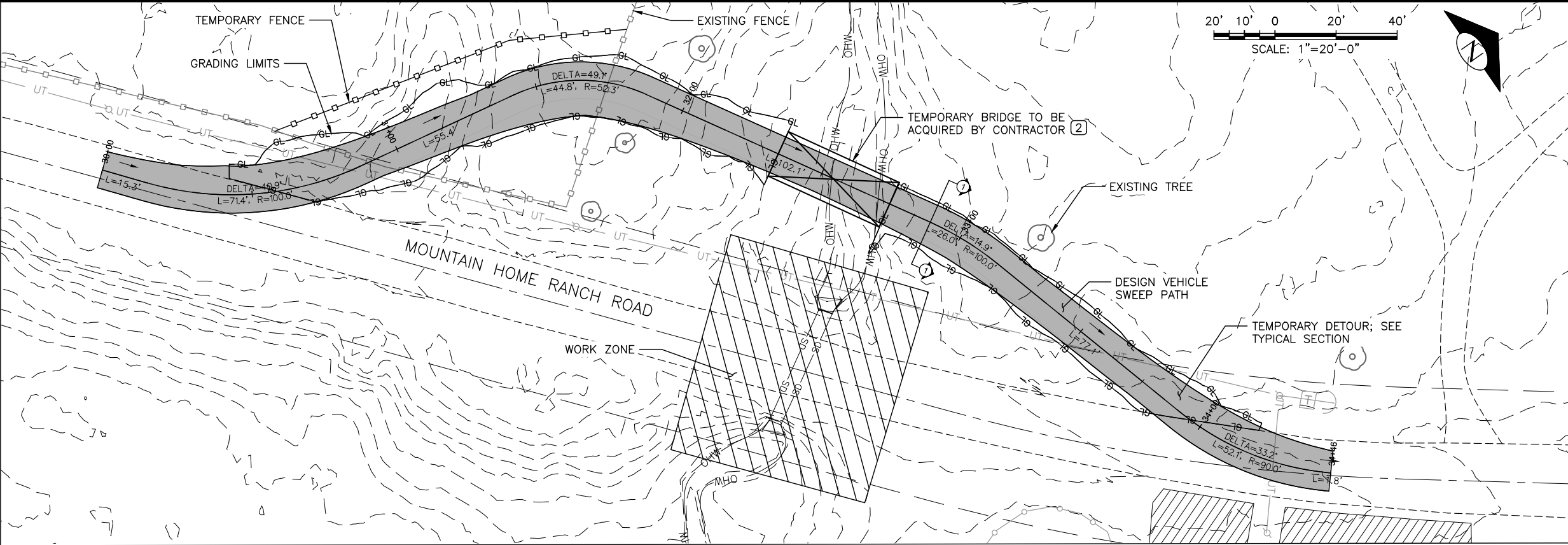
MILL CREEK FISH PASSAGE PROJECT

SITE PREPARATION AND DEWATERING PLAN

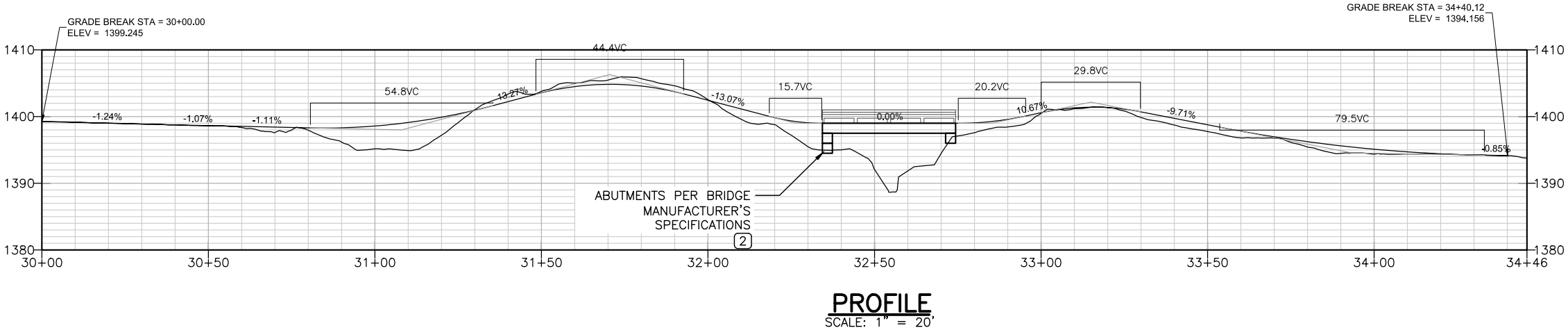
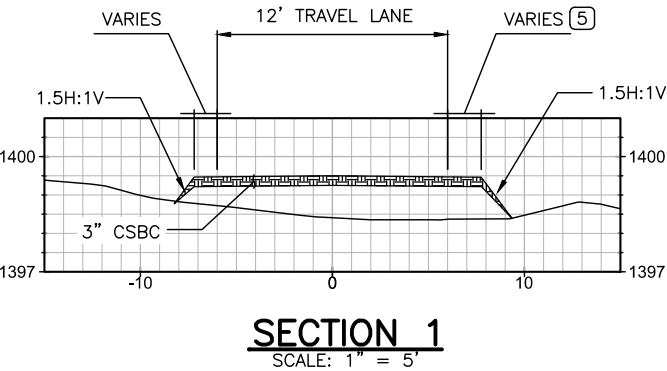


Aug 01, 2019 PRELIMINARY DESIGN 60% NOT FOR CONSTRUCTION

- NOTES:
1. TRAFFIC FROM MOUNTAIN HOME RANCH ROAD SHALL BE TEMPORARILY DETOURED WHILE WORK PROCEEDS. THE DETOUR SHALL INCLUDE A TEMPORARY BRIDGE OVER MILL CREEK. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING A TEMPORARY BRIDGE IN ACCORDANCE WITH THESE DRAWINGS AND THE SPECIAL PROVISIONS.
 2. TEMPORARY BRIDGE SHALL BE RATED FOR HL-93 OR HS 20-44 LOADING. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF BRIDGE FOR REVIEW AND APPROVAL; SEE SPECIFICATIONS FOR ADDITIONAL DETAILS.
 3. TEMPORARY BRIDGE SHALL INCLUDE LONGITUDINAL TRAFFIC BARRIER WHICH SATISFIES THE REQUIREMENTS FOR NCHRP TL-1 RATED BARRIER.
 4. TEMPORARY BRIDGE SHALL BE NO LESS THAN 16 FEET WIDE TO ACCOMMODATE A 12 FOOT TRAVEL LANE AND TWO FEET OF SKY DISTANCE ON EITHER SIDE OF THE TRAVEL LANE.
 5. ROAD WIDTH SHALL BE ADJUSTED TO ACCOMMODATE SWEEP PATH SHOWN ON THIS SHEET.



PLAN
SCALE: 1" = 20'



PROFILE
SCALE: 1" = 20'

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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
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CHECKED RH	LONGITUDE 120°37'55"W
DRAWN JJ	TN/SC/RG T23N/S6/R18E
CHECKED JS	DATE JULY 31, 2019

MILL CREEK FISH
PASSAGE PROJECT

TEMPORARY DETOUR DETAILS

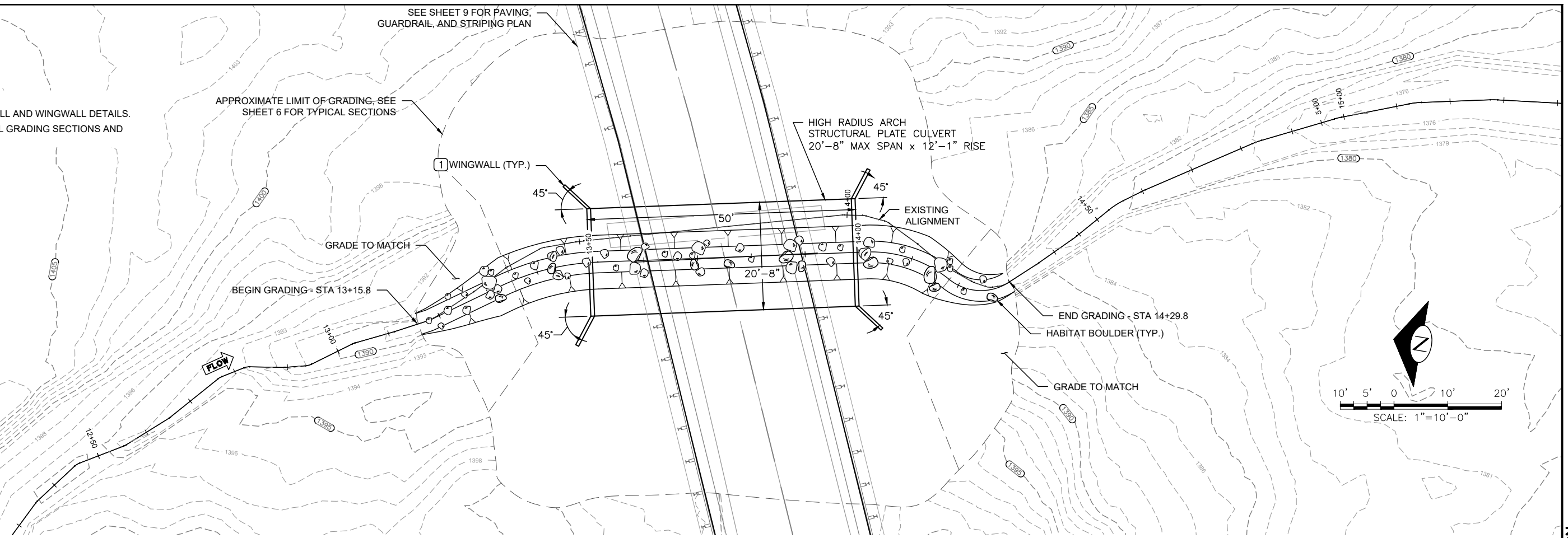


Aug 01, 2019 PRELIMINARY DESIGN 60% NOT FOR CONSTRUCTION

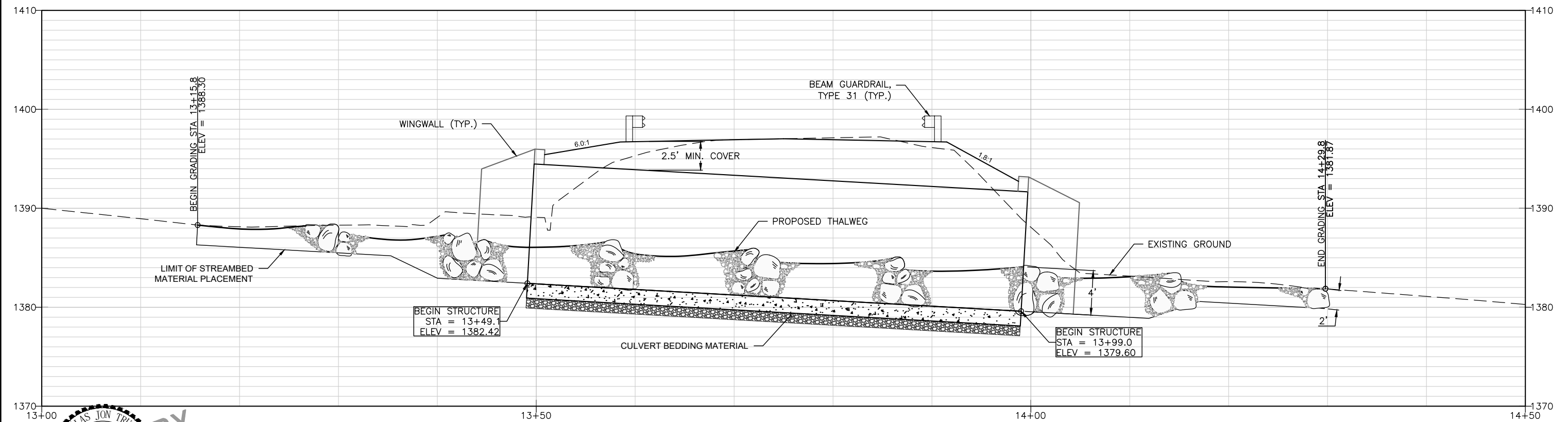
1. SEE SHEET 8 FOR HEADWALL AND WINGWALL DETAILS.
2. SEE SHEET 9 FOR CHANNEL GRADING SECTIONS AND DETAILS.



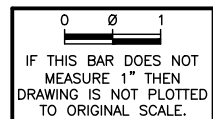
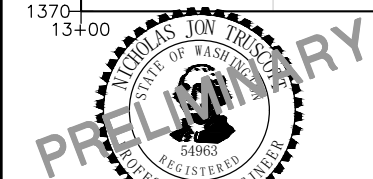
**Know what's below.
Call before you dig.**



GRADING PLAN



MILL CREEK PROPOSED PROFILE



NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	NT	LATITUDE	47°30'40"N
CHECKED	RH	LONGITUDE	120°37'55"W
DRAWN	NT	TN/SC/RG	T23N/S6/R18E
CHECKED	JS	DATE	JULY 31, 2019

MILL CREEK FISH PASSAGE PROJECT

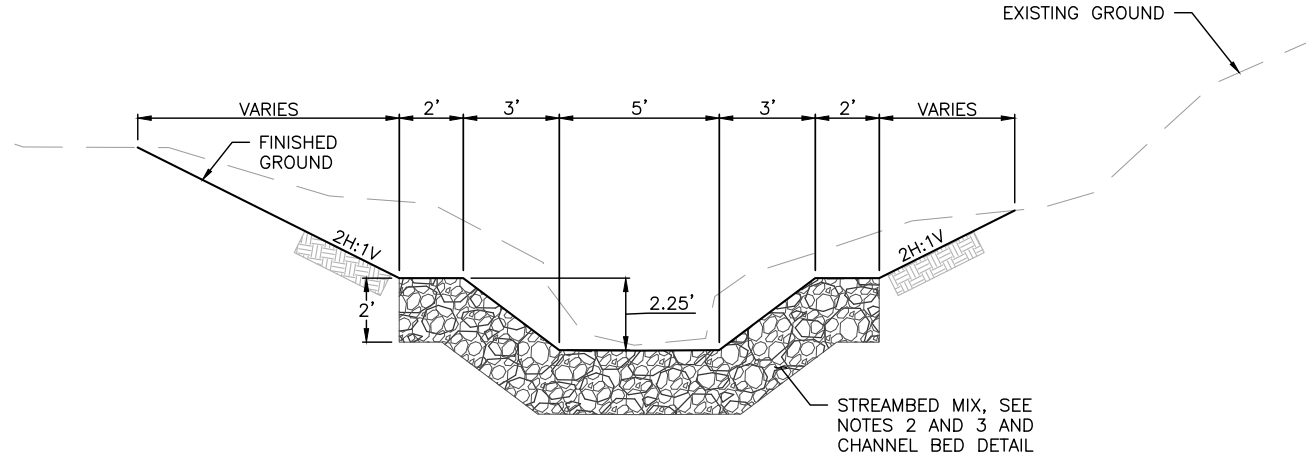
GRADING PLAN & PROFILE

5

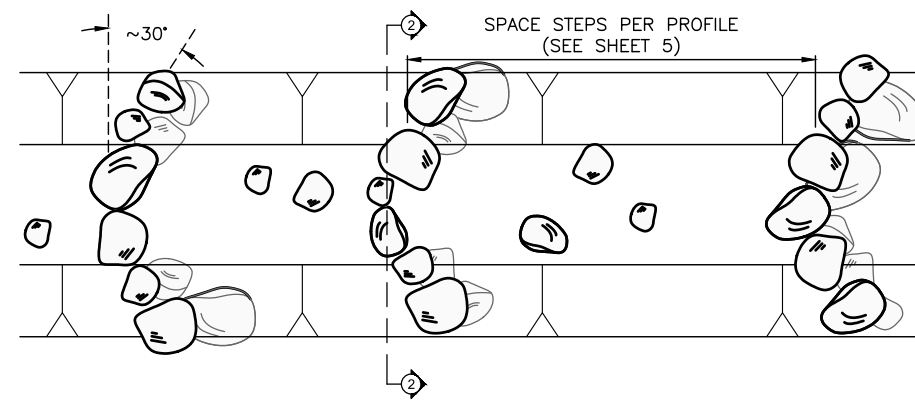
SHEET 5 OF 12

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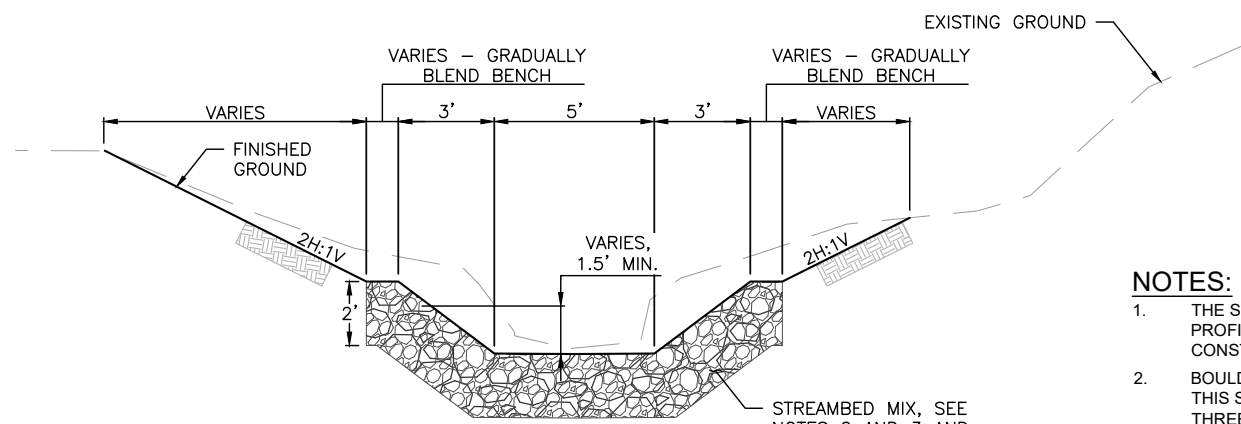
Aug 01, 2019 PRELIMINARY DESIGN 60% NOT FOR CONSTRUCTION



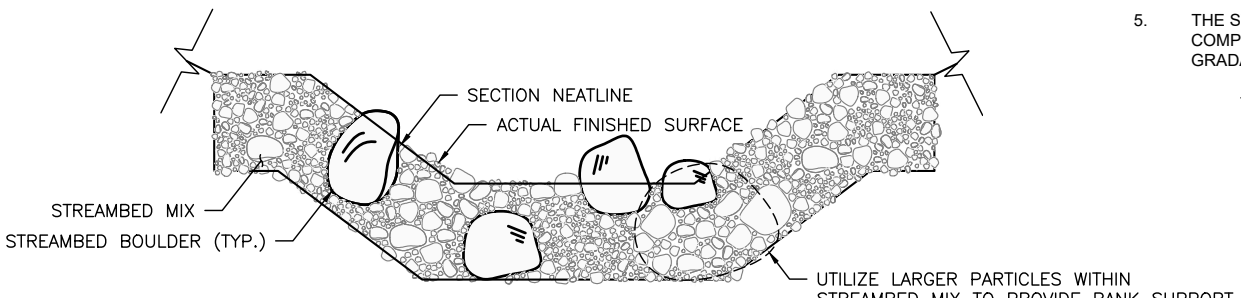
TYPICAL CHANNEL SECTION
 SCALE: 1" = 3'
 STA 13+35.0 TO 13+49.1
 STA 13+99.0 TO 14+18.0



TYPICAL BOULDER STEP PLAN
 SCALE: 1" = 4'



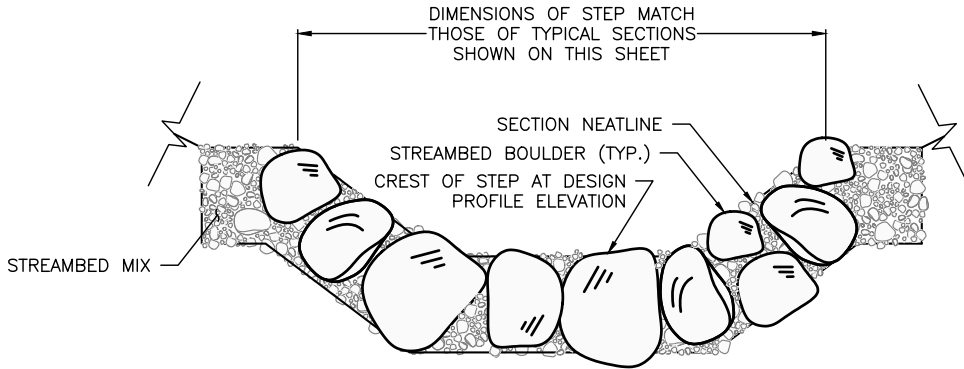
TYPICAL TRANSITION SECTION
 SCALE: 1" = 3'
 STA 13+15.8 TO 13+35.0
 STA 14+18.0 TO 14+29.8



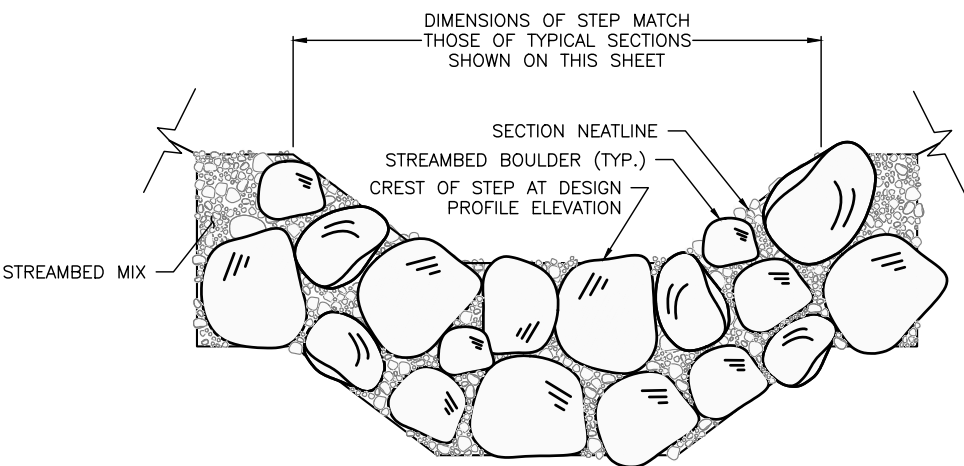
CHANNEL BED DETAIL
 SCALE: 1" = 2'

- NOTES:**
1. THE STREAMBED SHALL BE CONSTRUCTED FOLLOWING THE PROFILE SHOWN ON SHEET 5 WITH BOULDER STEPS CONSTRUCTED AT IDENTIFIED LOCATIONS.
 2. BOULDER STEPS SHALL BE CONSTRUCTED AS SHOWN ON THIS SHEET USING A COMBINATION OF TWO MAN AND THREE MAN STREAMBED BOULDERS. THREE MAN BOULDERS SHALL COMPRISE A MINIMUM OF 30% (BY NUMBER OF BOULDERS) INCLUDED IN EACH BOULDER STEP. COSTS FOR BOULDER STEPS SHALL BE MADE INCIDENTAL TO THE BID ITEM FOR CHANNEL GRADING.
 3. BOULDER STEP THICKNESS SHALL MATCH THE DEPTH OF SHOWN ON SHEET 5.
 4. INCORPORATE A MINIMUM OF TWO AND A MAXIMUM OF FOUR STREAMBED BOULDERS (TWO MAN OR THREE MAN) INTO THE STREAMBED BETWEEN EACH BOULDER STEP. BOULDERS PLACED BETWEEN STEPS SHALL BE MADE INCIDENTAL TO THE BID ITEM FOR STREAMBED MATERIAL.
 5. THE STREAMBED BETWEEN BOULDER STEPS SHALL BE COMPRISED OF STREAMBED MIX MEETING THE FOLLOWING GRADATION:

% PASSING	DIAMETER (INCHES)
100	18
84	9-12
50	3-5
16	0.25-0.75
10 MIN.	#40 SIEVE
5 MIN.	#200 SIEVE



BOULDER STEP DETAIL - TWO FOOT DEPTH
 SCALE: 1" = 2'



BOULDER STEP DETAIL - FOUR FOOT DEPTH
 SCALE: 1" = 2'



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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 NT	LATITUDE 47°30'40"N
CHECKED RH	LONGITUDE 120°37'55"W
DRAWN NT	TN/SC/RG T23N/S6/R18E
CHECKED JS	DATE JULY 31, 2019

MILL CREEK FISH PASSAGE PROJECT

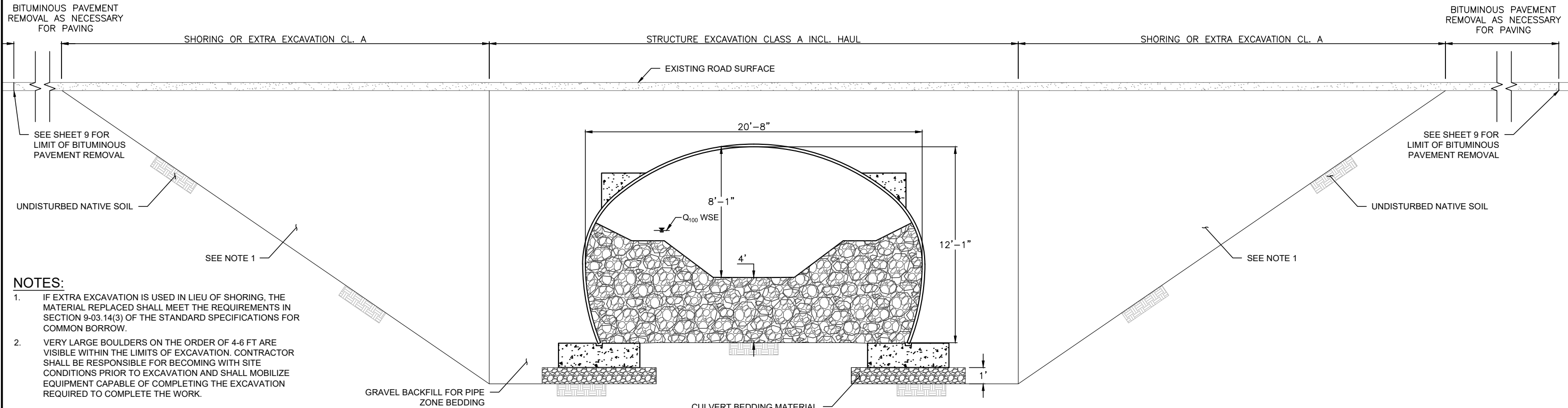
TYPICAL GRADING SECTIONS



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- NOTES:**
1. IF EXTRA EXCAVATION IS USED IN LIEU OF SHORING, THE MATERIAL REPLACED SHALL MEET THE REQUIREMENTS IN SECTION 9-03.14(3) OF THE STANDARD SPECIFICATIONS FOR COMMON BORROW.
 2. VERY LARGE BOULDERS ON THE ORDER OF 4-6 FT ARE VISIBLE WITHIN THE LIMITS OF EXCAVATION. CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING WITH SITE CONDITIONS PRIOR TO EXCAVATION AND SHALL MOBILIZE EQUIPMENT CAPABLE OF COMPLETING THE EXCAVATION REQUIRED TO COMPLETE THE WORK.

EXCAVATION PAY ITEMS
SCALE: 1" = 3'



0 1
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CHECKED JS	DATE JULY 31, 2019

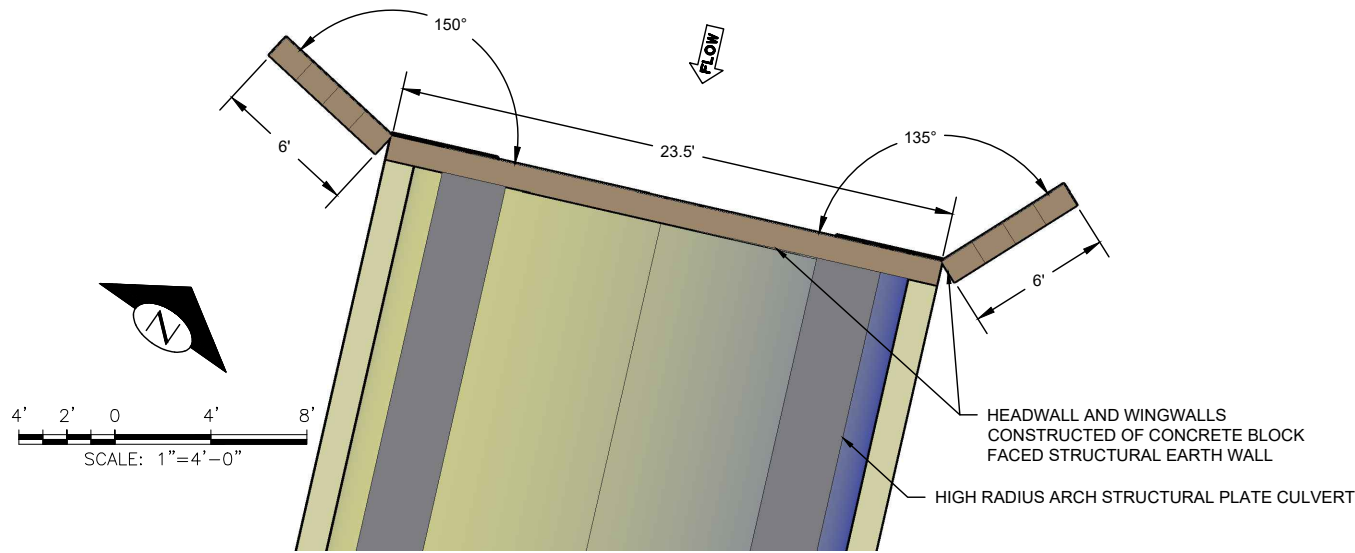
**MILL CREEK FISH
PASSAGE PROJECT**

EXCAVATION PAY ITEMS

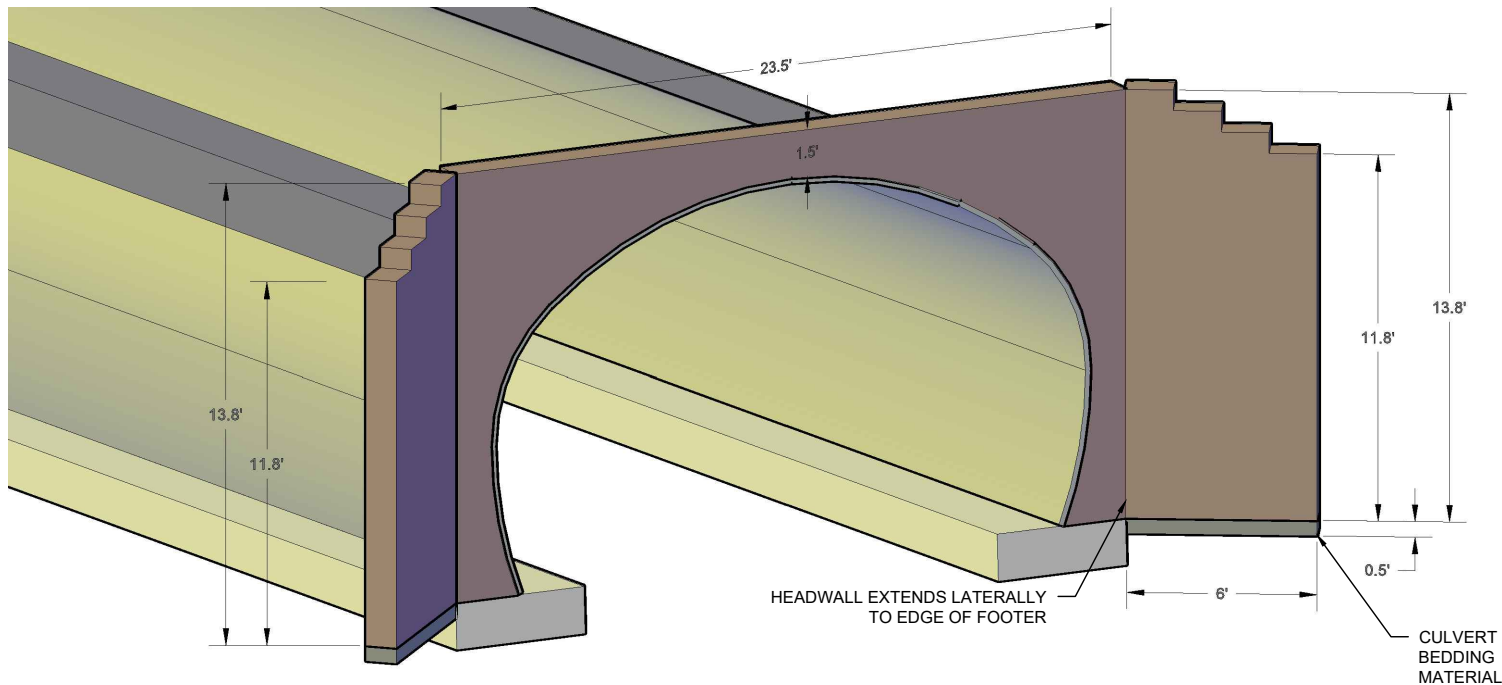


7
SHEET **7** OF **12**

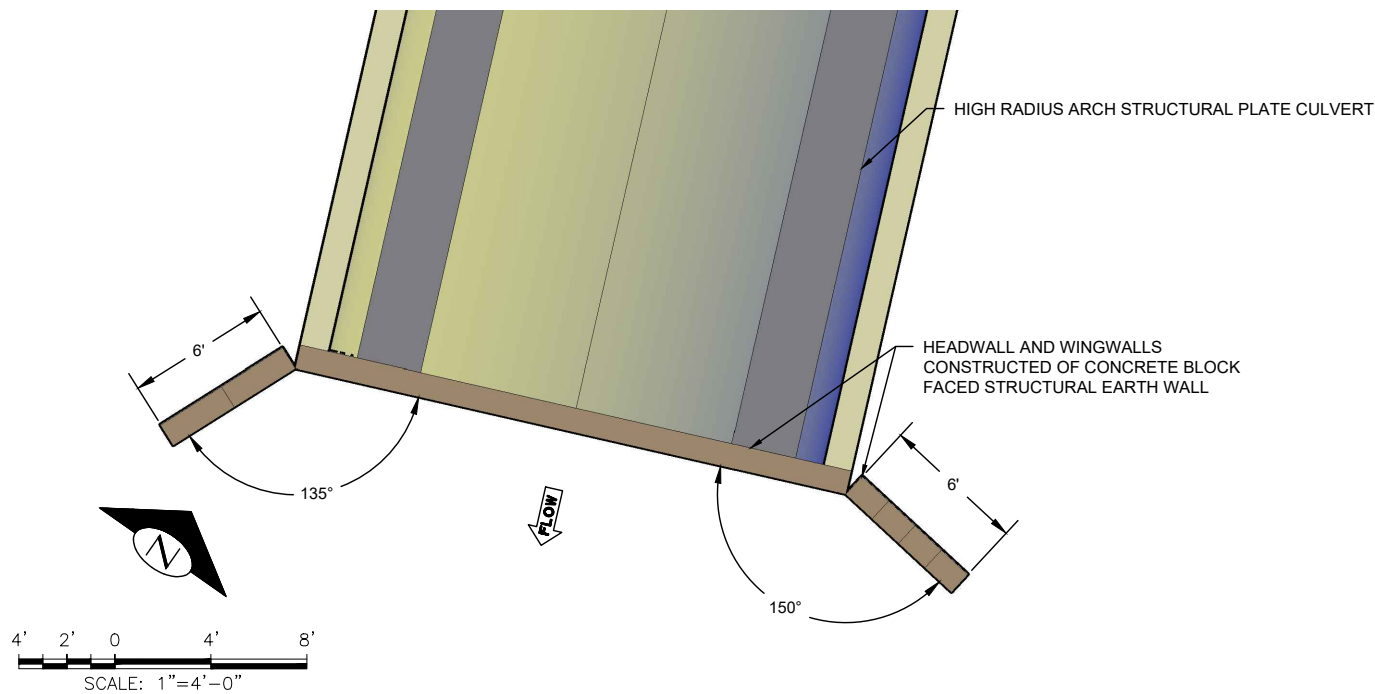
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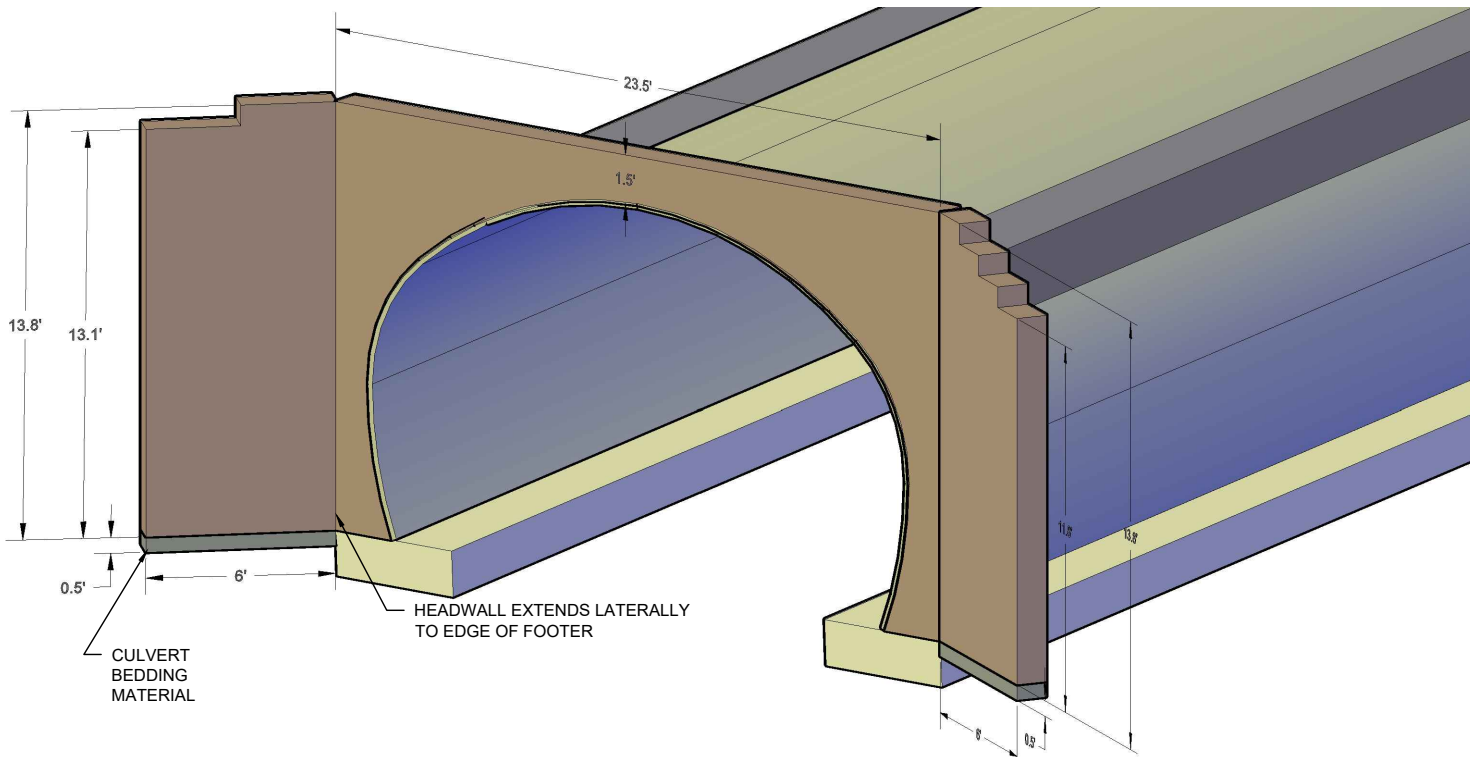
UPSTREAM HEADWALL & WINGWALL PLAN VIEW



UPSTREAM HEADWALL & WINGWALL ISOMETRIC VIEW



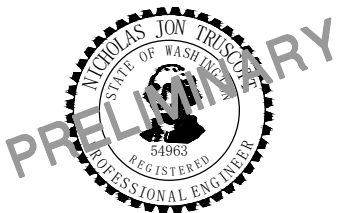
UPSTREAM HEADWALL & WINGWALL PLAN VIEW



DOWNSTREAM HEADWALL & WINGWALL ISOMETRIC VIEW

NOTES:

- HEADWALLS AND WINGWALLS SHALL BE STRUCTURAL EARTH WALLS CONSTRUCTED PER SECTION 6-13 OF THE STANDARD SPECIFICATIONS.
- CONTRACTOR SHALL UTILIZE PRECAST CONCRETE BLOCK OPTION FOR STRUCTURAL EARTH WALL CONSTRUCTION.



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

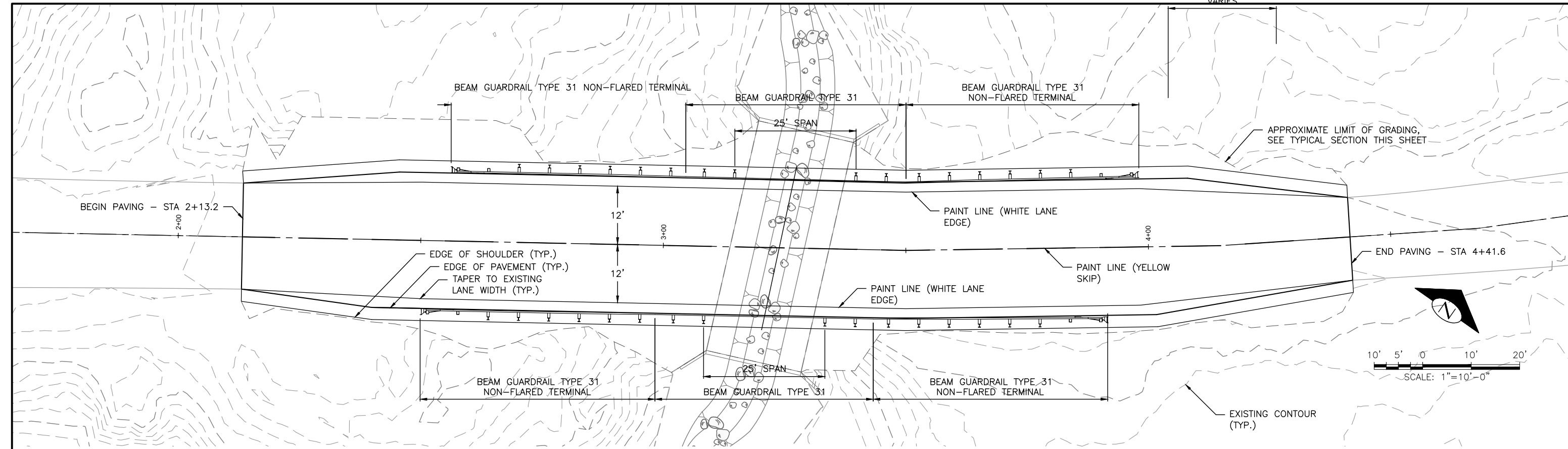


NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED NT	LATITUDE 47°30'40"N
CHECKED RH	LONGITUDE 120°37'55"W
DRAWN NT	TN/SC/RG T23N/S6/R18E
CHECKED JS	DATE JULY 31, 2019

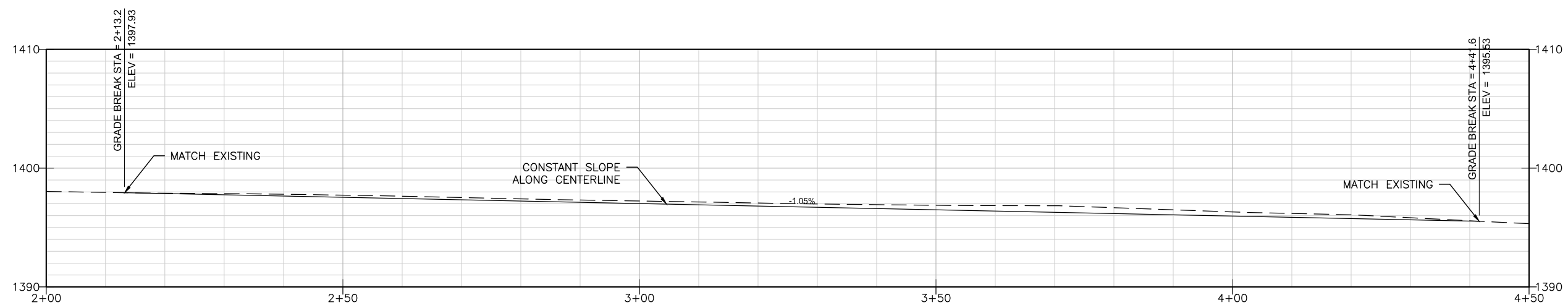
MILL CREEK FISH
PASSAGE PROJECT

HEADWALL & WINGWALL
DETAILS

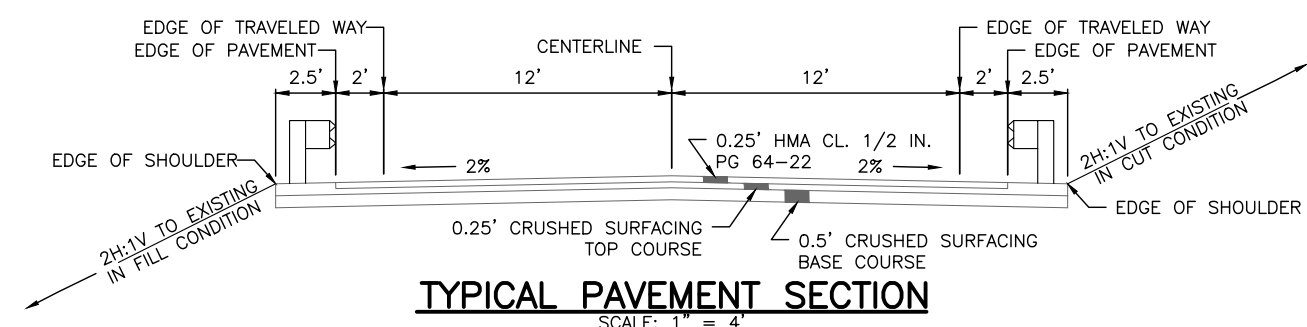
8
SHEET 8 OF 12



PAVING, STRIPING, AND GUARDRAIL PLAN

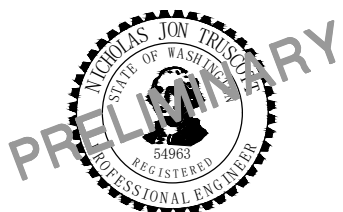


ROAD CENTERLINE PROFILE



TYPICAL PAVEMENT SECTION

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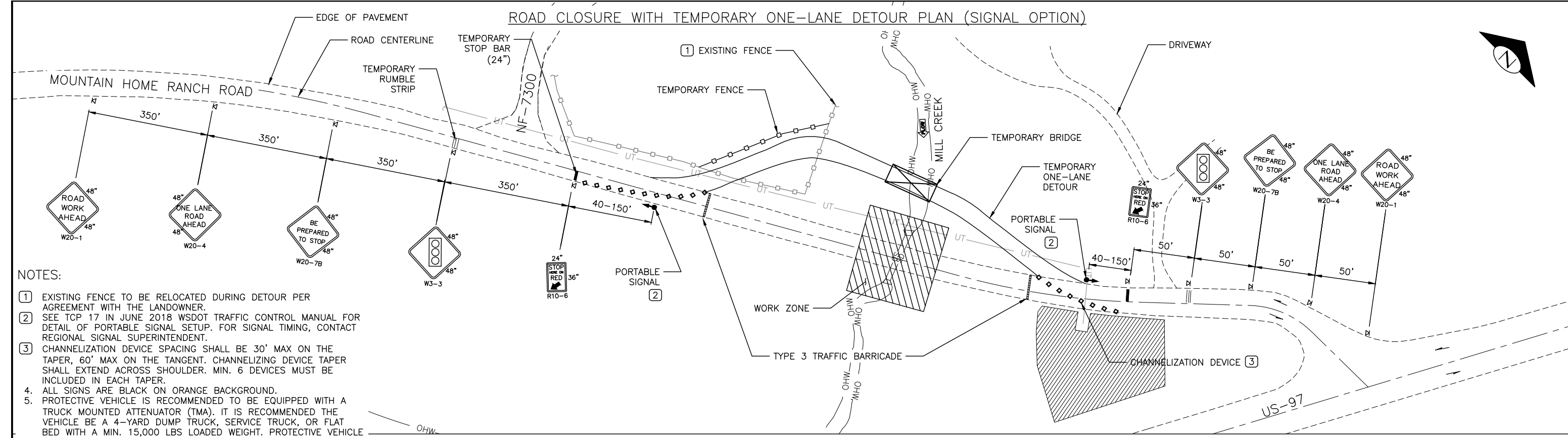


NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	NT	LATITUDE	47°30'40"N
CHECKED	RH	LONGITUDE	120°37'55"W
DRAWN	NT	TN/SC/RG	T23N/S6/R18E
CHECKED	JS	DATE	JULY 31, 2019

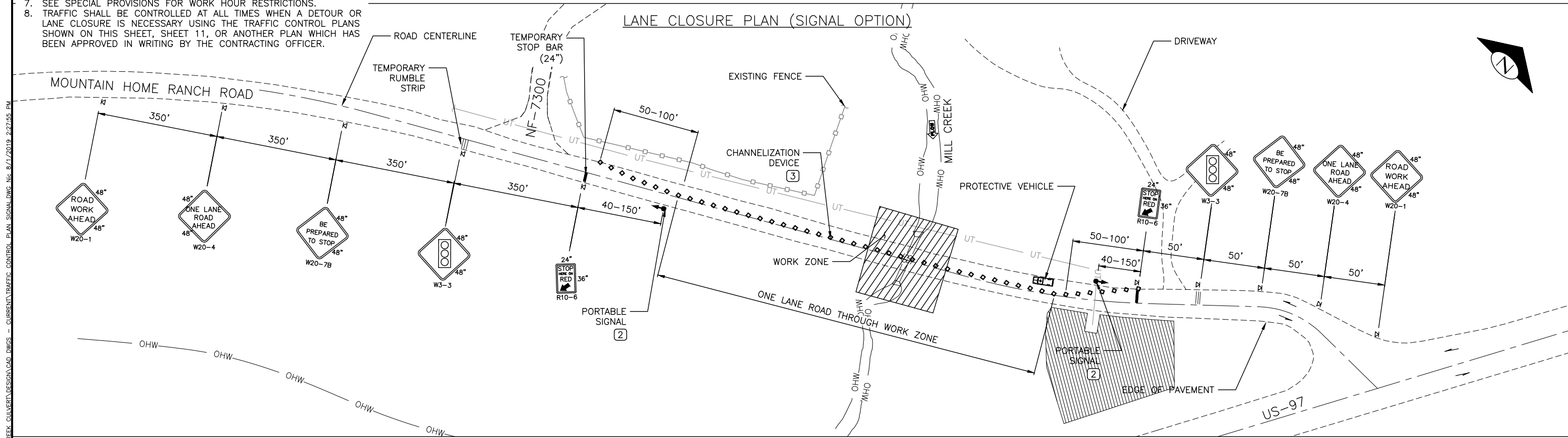
MILL CREEK FISH
PASSAGE PROJECT

ROADWAY PAVING, STRIPING,
AND GUARDRAIL PLAN

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- NOTES:
- EXISTING FENCE TO BE RELOCATED DURING DETOUR PER AGREEMENT WITH THE LANDOWNER.
 - SEE TCP 17 IN JUNE 2018 WSDOT TRAFFIC CONTROL MANUAL FOR DETAIL OF PORTABLE SIGNAL SETUP. FOR SIGNAL TIMING, CONTACT REGIONAL SIGNAL SUPERINTENDENT.
 - CHANNELIZATION DEVICE SPACING SHALL BE 30' MAX ON THE TAPER, 60' MAX ON THE TANGENT. CHANNELIZING DEVICE TAPER SHALL EXTEND ACROSS SHOULDER. MIN. 6 DEVICES MUST BE INCLUDED IN EACH TAPER.
 - ALL SIGNS ARE BLACK ON ORANGE BACKGROUND.
 - PROTECTIVE VEHICLE IS RECOMMENDED TO BE EQUIPPED WITH A TRUCK MOUNTED ATTENUATOR (TMA). IT IS RECOMMENDED THE VEHICLE BE A 4-YARD DUMP TRUCK, SERVICE TRUCK, OR FLAT BED WITH A MIN. 15,000 LBS LOADED WEIGHT. PROTECTIVE VEHICLE MAY BE A WORK VEHICLE.
 - NIGHT WORK REQUIRES TEMPORARY LIGHTING AT STOP BARS.
 - SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
 - TRAFFIC SHALL BE CONTROLLED AT ALL TIMES WHEN A DETOUR OR LANE CLOSURE IS NECESSARY USING THE TRAFFIC CONTROL PLANS SHOWN ON THIS SHEET, SHEET 11, OR ANOTHER PLAN WHICH HAS BEEN APPROVED IN WRITING BY THE CONTRACTING OFFICER.



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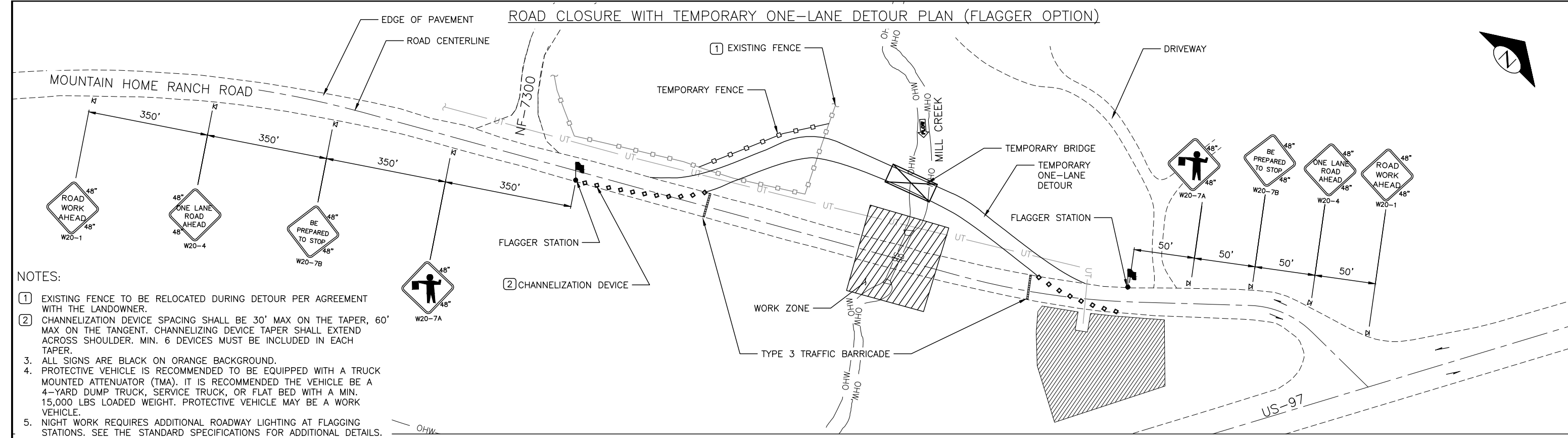


NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED JJ	LATITUDE 47°30'40"N
CHECKED RH	LONGITUDE 120°37'55"W
DRAWN JJ	TN/SC/RG T23N/S6/R18E
CHECKED JS	DATE JULY 31, 2019

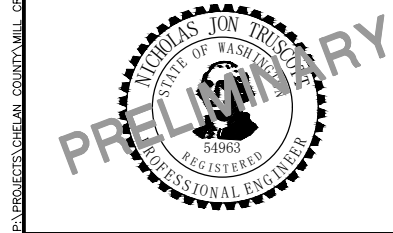
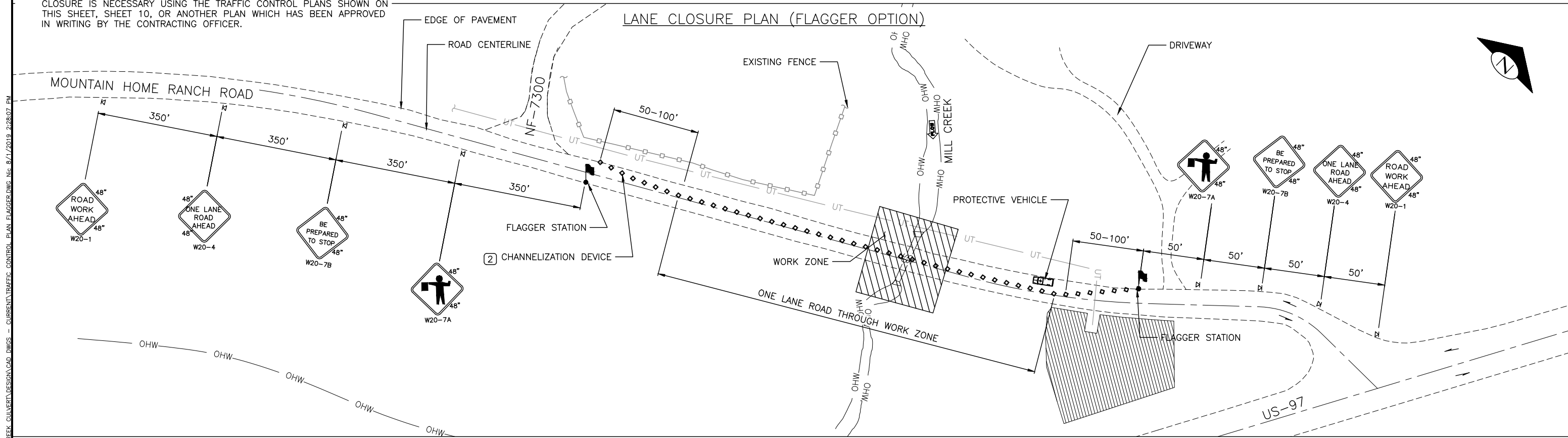
MILL CREEK FISH PASSAGE PROJECT

TRAFFIC CONTROL PLAN – SIGNAL OPTION

Aug 01, 2019 PRELIMINARY DESIGN 60% NOT FOR CONSTRUCTION



- NOTES:
- EXISTING FENCE TO BE RELOCATED DURING DETOUR PER AGREEMENT WITH THE LANDOWNER.
 - CHANNELIZATION DEVICE SPACING SHALL BE 30' MAX ON THE TAPER, 60' MAX ON THE TANGENT. CHANNELIZING DEVICE TAPER SHALL EXTEND ACROSS SHOULDER. MIN. 6 DEVICES MUST BE INCLUDED IN EACH TAPER.
 - ALL SIGNS ARE BLACK ON ORANGE BACKGROUND.
 - PROTECTIVE VEHICLE IS RECOMMENDED TO BE EQUIPPED WITH A TRUCK MOUNTED ATTENUATOR (TMA). IT IS RECOMMENDED THE VEHICLE BE A 4-YARD DUMP TRUCK, SERVICE TRUCK, OR FLAT BED WITH A MIN. 15,000 LBS LOADED WEIGHT. PROTECTIVE VEHICLE MAY BE A WORK VEHICLE.
 - NIGHT WORK REQUIRES ADDITIONAL ROADWAY LIGHTING AT FLAGGING STATIONS. SEE THE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
 - SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
 - TRAFFIC SHALL BE CONTROLLED AT ALL TIMES WHEN A DETOUR OR LANE CLOSURE IS NECESSARY USING THE TRAFFIC CONTROL PLANS SHOWN ON THIS SHEET, SHEET 10, OR ANOTHER PLAN WHICH HAS BEEN APPROVED IN WRITING BY THE CONTRACTING OFFICER.



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



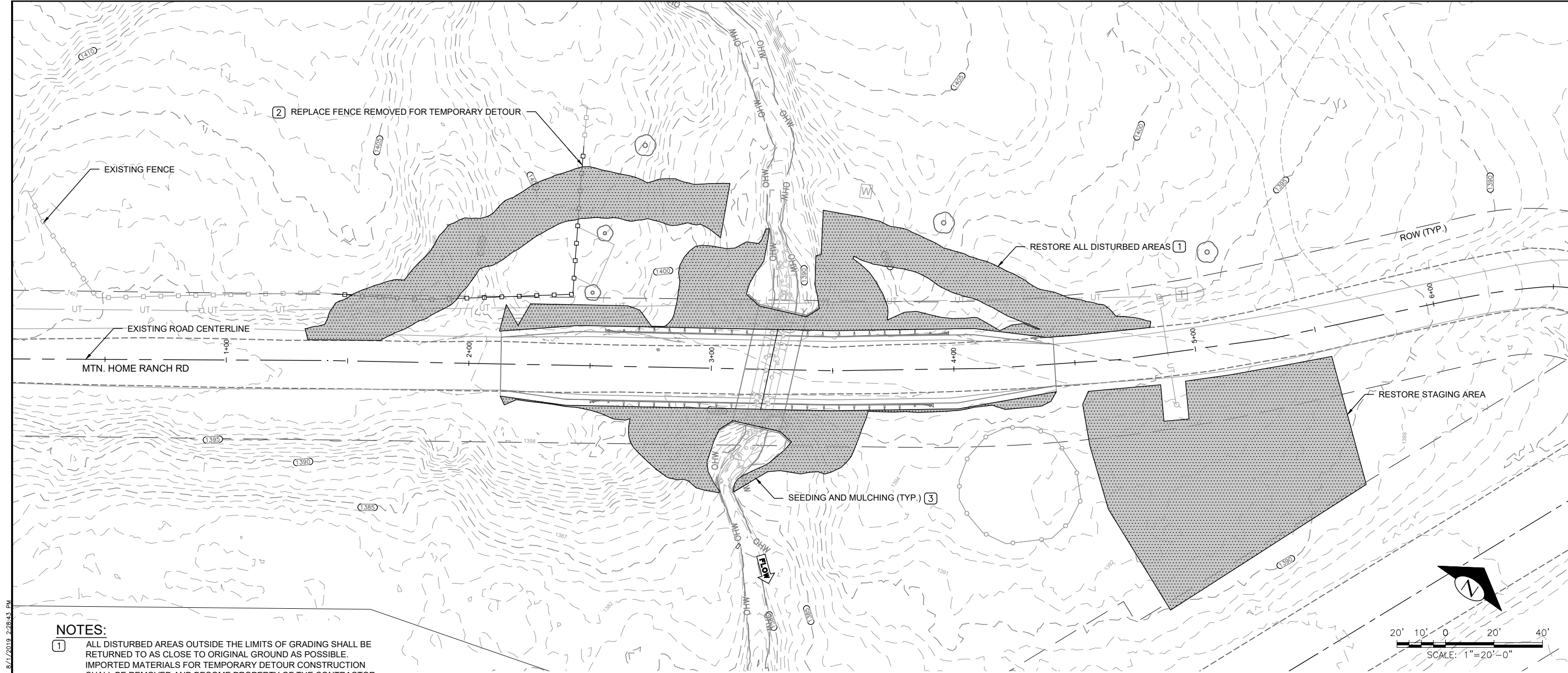
NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED JJ	LATITUDE 47°30'40"N
CHECKED RH	LONGITUDE 120°37'55"W
DRAWN JJ	TN/SC/RG T23N/S6/R18E
CHECKED JS	DATE JULY 31, 2019

MILL CREEK FISH PASSAGE PROJECT

TRAFFIC CONTROL PLAN –
FLAGGER OPTION

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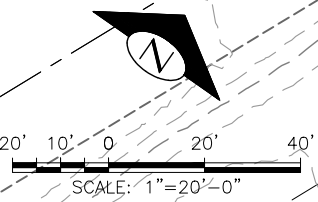
Aug 01, 2019 PRELIMINARY DESIGN 60% NOT FOR CONSTRUCTION



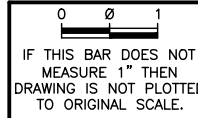
- NOTES:**
- 1 ALL DISTURBED AREAS OUTSIDE THE LIMITS OF GRADING SHALL BE RETURNED TO AS CLOSE TO ORIGINAL GROUND AS POSSIBLE. IMPORTED MATERIALS FOR TEMPORARY DETOUR CONSTRUCTION SHALL BE REMOVED AND BECOME PROPERTY OF THE CONTRACTOR. ANTICIPATED LIMITS OF DISTURBANCE ARE ILLUSTRATED ON THIS SHEET, HOWEVER THE CONTRACTOR SHALL ADJUST SEEDING AND MULCHING LIMITS TO MATCH SITE CONDITIONS FOLLOWING CULVERT INSTALLATION AND ROAD CONSTRUCTION.
 - 2 CONTRACTOR SHALL REPLACE THE SECTION OF FENCE WHICH IS REQUIRED TO BE REMOVED FOR TEMPORARY DETOUR CONSTRUCTION. CONTRACTOR SHALL MATCH EXISTING FENCE TYPE AS CLOSELY AS POSSIBLE AND SHALL WORK WITH CONTRACTING OFFICER TO IDENTIFY A FENCE TYPE AND CONSTRUCTION METHOD WHICH WILL BE ACCEPTABLE TO THE OWNERS OF THE FENCE.
 - 3 ALL DISTURBED AREAS OUTSIDE THE LIMITS OF CHANNEL CONSTRUCTION (COMPOSED OF STREAMBED MIX AND BOULDERS) SHALL BE SEEDED WITH THE SEED MIX SHOWN ON THIS SHEET. ALL SEEDED AREAS SHALL BE TREATED WITH STRAW MULCH AT A RATE OF 2 TONS PER ACRE.
 - 4. CONTRACTOR SHALL NOT DEMOBILIZE FROM THE PROJECT SITE UNTIL A FINAL WALKTHROUGH HAS BEEN COMPLETED WITH THE CONTRACTING OFFICER AND ALL ITEMS IDENTIFIED ON THE PROJECT COMPLETION PUNCH LIST HAVE BEEN COMPLETED.

SITE RESTORATION PLAN

RESTORATION SEED MIX		
COMMON NAME	SPECIES NAME	LBS OF PLS/ACRE
INDIAN RICEGRASS	ACHNATHERUM HYMENOIDES	7
BLUEBUNCH WHEATGRASS	AGROPYRON SPICATUM	13
SLENDER WHEATGRASS	ELYMUS TRACHYCAULUS	6
IDAHO FESCUE	FESTUCA IDAHOENSIS	7
SANDBERG BLUEGRASS	POA SECUNDA	4
TOTAL		37



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NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	NT	LATITUDE	47°30'40"N
CHECKED	RH	LONGITUDE	120°37'55"W
DRAWN	NT	TN/SC/RG	T23N/S6/R18E
CHECKED	JS	DATE	JULY 31, 2019

**MILL CREEK FISH
PASSAGE PROJECT**

SITE RESTORATION PLAN

12
SHEET **12 OF 12**

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