

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

AEP OHIO POWER COMPANY
ATTN: CLARKE SAUNDERS
38831 STATE ROUTE 7
REEDSVILLE, OHIO 45772
740-985-3054
CMSAUNDERS@AEP.COM

MARKWEST LIBERTY MIDSTREAM, LLC.
ATTN: RYAN ALDERSON
4600 J. BARRY CT., SUITE 500
CANONSBURG, PA 15317
724-338-2723
RDALDERSON@MARATHONPETROLEUM.COM

COLUMBIA GAS OF OHIO, INC.
ATTN: JONAH MOORE
300 LURAY DRIVE
WINTERSVILLE, OHIO 43953
740-457-3900
JMOORE@NISOURCE.COM

VILLAGE OF CADIZ
ATTN: THE HONORABLE R. KEVIN JONES
128 COURT ST.
CADIZ, OHIO 43907
740-942-8844
MAYOR@VILLAGEOFCADIZ.COM

WILLIAMS OPERATING
ATTN: SCOTT HRIVNAK
7235 WHIPPLE AVE. NW
NORTH CANTON, OHIO 44720
330-206-4901
SCOTT.HRIVNAK@WILLIAMS.COM

FIELD VERIFICATION OF QUANTITIES

DUE TO THE NATURE OF THE PROJECT BEING A SLIDE REPAIR, THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF QUANTITIES PRIOR TO BIDDING AND THEN PRIOR TO CONSTRUCTION. THE ACTUAL WORK LOCATIONS AND QUANTITIES PERFORMED SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

CONFORMITY TO EXISTING CONDITIONS

THE TYPICAL SECTION ON SHEET P.02 IS A GENERAL REPRESENTATION OF THE EXISTING ROADWAY. THE PROPOSED LANE WIDTH, GUARDRAIL OFFSET, AND PAVEMENT MARKING PLACEMENT SHALL MATCH THE ACTUAL EXISTING CONDITIONS AS CLOSELY AS POSSIBLE.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

ITEM 408 - PRIME COAT, AS PER PLAN

APPLY "MC-70" AT A RATE OF 0.40 GALLONS PER SQUARE YARD, OR AS DETERMINED BY THE ENGINEER, TO THE AGGREGATE SHOULDER.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 203 - GRANULAR EMBANKMENT, AS PER PLAN

ALL PROVISIONS OF ODOT C&MS 203 SHALL APPLY WITH THE FOLLOWING MODIFICATION: THE CONTRACTOR SHALL USE NUMBER 2 AGGREGATE PER C&MS 703.01.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR USE AS DIRECTED BY THE ENGINEER FOR REPAIRING THE SHOULDER BEYOND THE LIMITS OF THE WALL. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 203 - GRANULAR EMBANKMENT, AS PER PLAN 12 CU. YD.

[PROJECT LENGTH - WALL LENGTH] x 3' WIDTH x 12" THICK
[350' - 248'] x 3' WIDTH x 12" THICK / 12 / 27 = 11.33 CU. YD.

ITEM 659 - SEEDING AND MULCHING, AS PER PLAN

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS.

ITEM 659 - SEEDING AND MULCHING, AS PER PLAN 389 SQ. YD.

10' AVG. WIDTH X 350' PROJECT LENGTH / 9 = 389 SQ. YD.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS. SEEDING AND MULCHING, AS PER PLAN, SHALL INCLUDE THE NECESSARY AMOUNTS OF COMMERCIAL FERTILIZER, LIME AND WATER TO COMPLETE THIS WORK, AS SET FORTH IN 659. PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 659 - SEEDING AND MULCHING, AS PER PLAN.

ITEM 507 - STEEL PILES, MISC: W16x40 STEEL BEAM, FURNISHED

FURNISH STEEL BEAMS CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50 AND CMS 711.01.

THE ESTIMATED LENGTH OF EACH BEAM IS APPROXIMATELY 31.5'. THE FURNISHED LENGTH SHALL BE 35'. SEE SHEETS P.06 - P.07 FOR ADDITIONAL INFORMATION.

WITH THE FURNISHED LENGTH GREATER THAN THE ESTIMATED LENGTH, BEAM TRIMMING IS EXPECTED AND SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

IF W16x40 BEAMS ARE UNAVAILABLE, THERE ARE ALTERNATE BEAM SIZES WHICH MAY BE SUBSTITUTED; HP-12x53, W-14x43, W-14x48, W-14x53, W-16x45, W-16x50. THESE BEAMS MAY BE SUBSTITUTED, AS APPROVED BY THE ENGINEER, AT NO ADDITIONAL COST TO THE DEPARTMENT.

MEASUREMENT FOR PAYMENT WILL BE THE FURNISHED LENGTH OR THE DISTANCE FROM THE TOP OF WALL TO THE BOTTOM OF THE DRILLED SHAFT (IF GREATER THAN THE FURNISHED LENGTH), AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT OF ITEM 507 - STEEL PILES, MISC: W16x40 STEEL BEAM, FURNISHED.

ITEM 524 - DRILLED SHAFTS, MISC.: PLUG PILE, 30" DIAMETER, UNREINFORCED

THESE SHAFTS ARE TO BE UNREINFORCED NON-STRUCTURAL "PLUG PILES" SERVING THE PURPOSE OF LAGGING.

THIS WORK SHALL BE AS PER ITEM 524 EXCEPT A REINFORCING CAGE WILL NOT BE USED IN THE SHAFT. EACH PLUG PILE SHALL BE DRILLED TO 10' AS INDICATED ON THE WALL DETAILS AND BACK FILLED WITH UNREINFORCED CLASS QC1 CONCRETE.

SEQUENCE OF INSTALLATION:
THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO PLUG PILE IS INSTALLED ADJACENT TO A DRILLED SHAFT IN WHICH THE CONCRETE HAS LESS THAN A 3 DAY CURE TIME.

ANY WORK REQUIRED TO CONSTRUCT THE TOPS OF THE PLUG PILES SHALL BE INCLUDED IN PAYMENT FOR THIS ITEM.

PAYMENT FOR LABOR, EQUIPMENT AND MATERIALS FOR THE ABOVE SHALL BE INCLUDED IN THE FOOT CONTRACT PRICE FOR ITEM 524, DRILLED SHAFTS, MISC.: PLUG PILE, 30" DIAMETER, UNREINFORCED.

ITEM 202 - REMOVAL MISC.: PILING AND LAGGING REMOVED

THERE IS AN EXISTING GUARDRAIL LAGGING RETAINING WALL CURRENTLY SUPPORTING THE DOWNHILL SLOPE.

THE CONTRACTOR SHALL REMOVE THE EXISTING WALL DURING CONSTRUCTION.

ALL MATERIALS AND LABOR NEEDED TO COMPLETE THE ABOVE WORK SHALL BE PAID FOR AT THE LUMP SUM BID PRICE FOR ITEM 202 - REMOVAL MISC.: PILING AND LAGGING REMOVED. THIS QUANTITY SHALL BE CARRIED TO THE GENERAL SUMMARY.

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 250 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. NOTIFY THE ODOT OFFICE OF AVIATION WHEN SUBMITTING FAA FORM 7460-1.

NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND THE ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

FEDERAL AVIATION ADMINISTRATION
SOUTHWEST REGIONAL OFFICE
OBSTRUCTION EVALUATION GROUP
10101 HILLWOOD PARKWAY
FORT WORTH, TX 76177
FAX: (817) 222-5920
HTTP://CEAAA.FAA.GOV

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF AVIATION
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235
OHIO.AIRPORT.PROTECTION@DOT.OHIO.GOV

ITEM 524 - DRILLED SHAFTS, 24" DIAMETER, ABOVE BEDROCK, AS PER PLAN

ITEM 524 - DRILLED SHAFTS, 24" DIAMETER, INTO BEDROCK, AS PER PLAN

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR SLOPE STABILIZATION. THE 24" DRILLED SHAFTS ARE REINFORCED WITH SOLDIER PILES INSTEAD OF REINFORCING STEEL CAGES. FURNISH AND INSTALL DRILLED SHAFTS IN ACCORDANCE WITH CMS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFTS WITHIN 3 INCHES OF THE PLAN LOCATION IN THE HORIZONTAL PLANE. IF FIELD CONDITIONS INDICATE GREATER DEPTH TO BEDROCK THAN THAT WHICH IS ESTIMATED IN THE PLANS, NOTIFY THE ENGINEER FOR FURTHER EVALUATION. PLACE THE SOLDIER PILE VERTICALLY WITHIN THE HOLE SO IT IS NOT INCLINED MORE THAN 1" BETWEEN THE TOP AND BOTTOM.

PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF CONSTRUCTION. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES. SUPPORT THE SOLDIER PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS QC1 CONCRETE ACCORDING TO CMS 511. PLACE CONCRETE TO ONE FOOT BELOW THE BOTTOM ELEVATION OF THE PRECAST LAGGING. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF GROUNDWATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

CHECK THE POSITION, THE VERTICAL ALIGNMENT AND ORIENTATION OF THE SOLDIER PILE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES. PLACE PRECAST LAGGING SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST 3 INCHES AT BOTH ENDS OF THE LAGGING.

SEQUENCE OF INSTALLATION:
THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO DRILLED SHAFT IS INSTALLED ADJACENT TO EITHER AN OPEN DRILLED SHAFT EXCAVATION OR A DRILLED SHAFT IN WHICH THE CONCRETE HAS LESS THAN A 24 HOUR CURE. INSTALLING THE SHAFTS IN AN ALTERNATING SEQUENCE OR ANY OTHER SEQUENCE THAT MEETS THIS CRITERIA IS PERMISSIBLE.

PROTECTION OF UNATTENDED OPEN SHAFTS:
CARE SHALL BE EXERCISED AS TO COVER UNATTENDED OPEN SHAFTS. TEMPORARY COVERS SHALL BE OF ADEQUATE STRENGTH TO PREVENT A PERSON OR ANIMAL FROM FALLING IN.

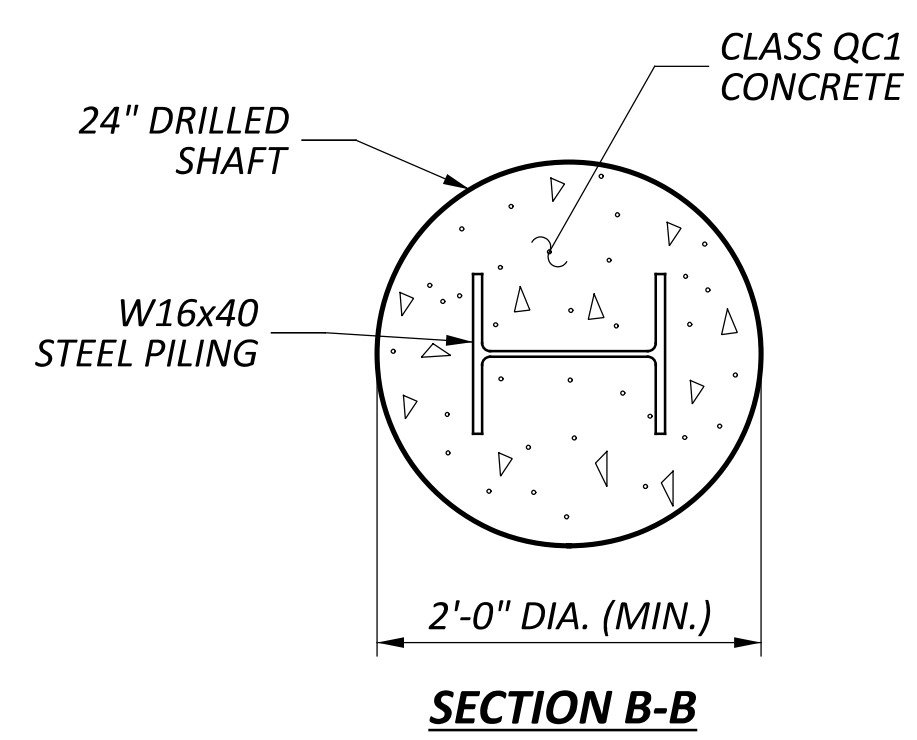
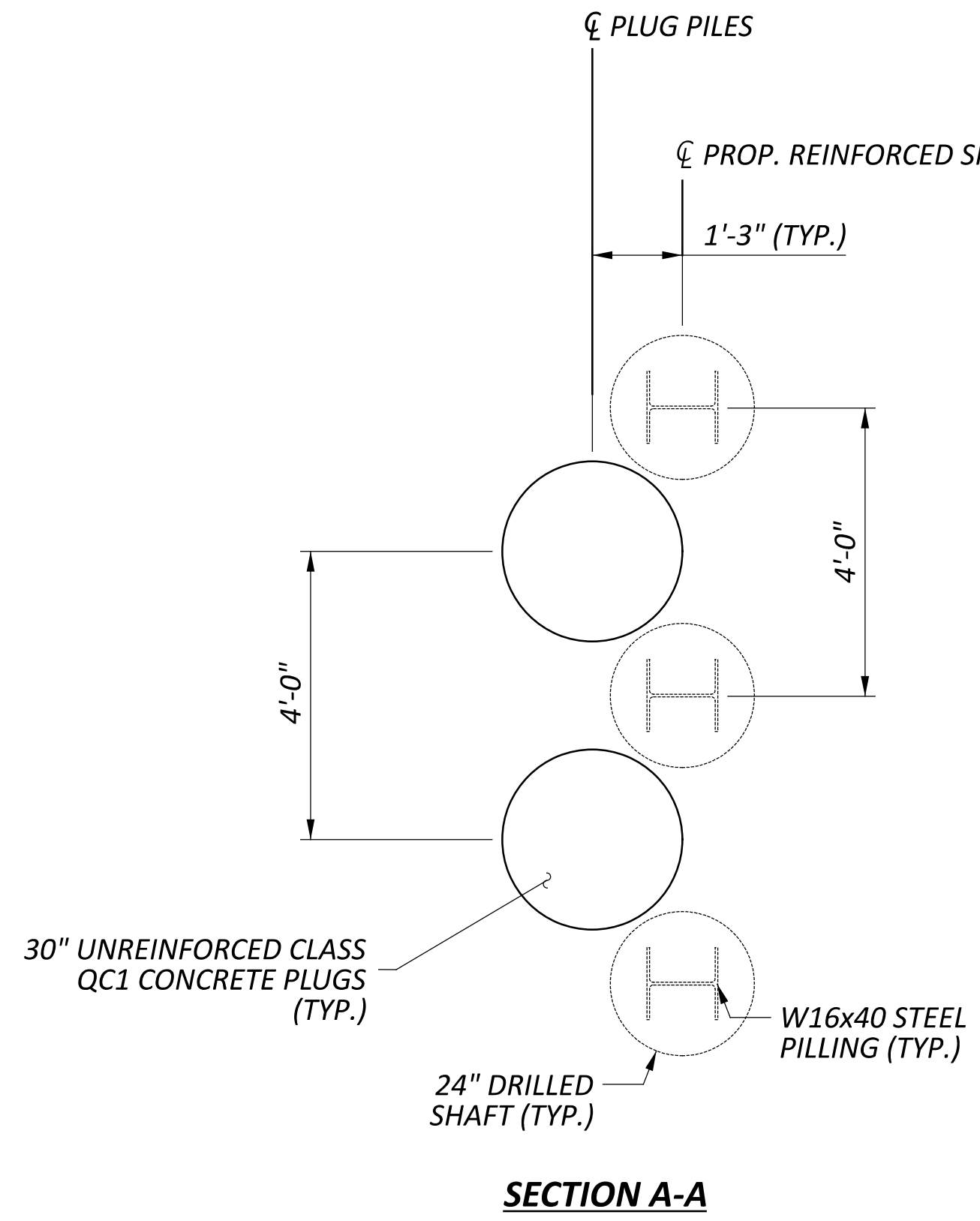
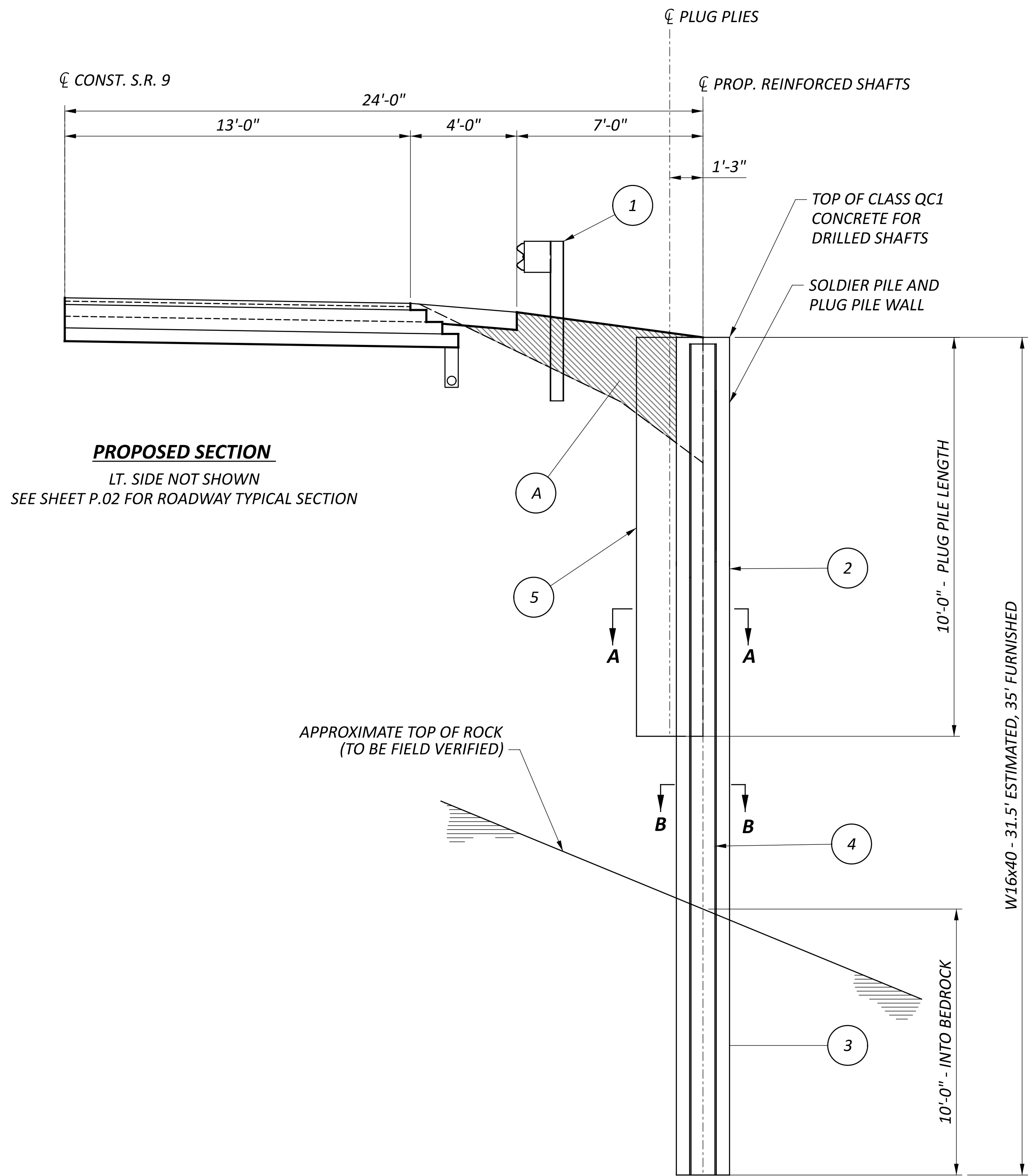
ACCESS:
ANY TEMPORARY GRADING, CRANE MATS, AGGREGATE, DRAINAGE, ECT. NEEDED FOR ACCESS TO THE WORK AREA SHALL BE INCLUDED IN THE BID PRICE FOR DRILLED SHAFTS. ANY FORM WORK REQUIRED TO CONSTRUCT THE TOPS OF THE DRILLED SHAFTS SHALL BE INCLUDED IN PAYMENT FOR THIS ITEM.

MEASUREMENT FOR PAYMENT FOR ITEM 524 - DRILLED SHAFTS 24" DIAMETER, ABOVE BEDROCK, AS PER PLAN, WILL BE MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE TOP OF WALL TO THE TOP OF BEDROCK, AS DETERMINED BY THE ENGINEER. MEASUREMENT FOR PAYMENT FOR DRILLED SHAFTS INTO BEDROCK, AS PER PLAN, WILL BE LIMITED TO THE DISTANCE BETWEEN THE TOP OF BEDROCK AND THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER.

ITEM 611 - PRECAST REINFORCED CONCRETE OUTLET, AS PER PLAN

THE PRECAST REINFORCED CONCRETE OUTLET AS SHOWN IN DM-1.1 SHALL BE INSTALLED WITHOUT THE TIED CONCRETE BLOCK MAT, TYPE 1.





NOTES:

1. DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.
2. DESIGN DATA:
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (DRILLED SHAFT)
STRUCTURAL STEEL - A572 GRADE 50 - YIELD STRENGTH 50,000 PSI
3. W16x40 BEAMS ARE SHOWN, FOR ACCEPTABLE SUBSTITUTIONS, SEE NOTE ON SHEET P.03.

PROPOSED RETAINING WALL	
TYPE: PLUG PILE WALL	
RWFN: 1015030	
LEGEND	
①	ITEM 606, GUARDRAIL, TYPE MGS HALF POST SPACING
②	ITEM 524, DRILLED SHAFTS, 24" DIAMETER, ABOVE BEDROCK, AS PER PLAN
③	ITEM 524, DRILLED SHAFTS, 24" DIAMETER, INTO BEDROCK, AS PER PLAN
④	ITEM 507, STEEL PILES MISC.: W16x40 STEEL BEAM, FURNISHED
⑤	ITEM 524, DRILLED SHAFTS, MISC.: PLUG PILE, 30" DIAMETER, UNREINFORCED
(A)	ITEM 203, EMBANKMENT
AVERAGE END AREA = 16.6 SQ. FT 16.6 SQ. FT. x 248' ÷ 27 = 152.5 CU. YD. (USE 153 CU. YD.)	

FOR CALCULATIONS, SEE SHEET P.06.
 FOR TYPICAL SECTION DETAILS, SEE SHEET P.02.
 QUANTITIES FOR (A) CARRIED TO THE GENERAL SUMMARY.

DESIGN AGENCY	
DESIGNER	
REVIEWER	KEH
PROJECT ID	BSH 12-16-25
SHEET	122032
TOTAL	8
P.07	