

GENERAL NOTES

ITEM 504 - STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN

A. DESCRIPTION

THIS WORK SHALL CONSIST OF FURNISHING AND DRIVING THE STEEL SHEET PILE BULKHEAD, FURNISHING AND INSTALLING THE WALER AND CAP ASSEMBLIES AND PROVIDING 1"Ø WEEPHOLES ALONG THE BULKHEAD.

B. MATERIALS

THE STEEL SHEET PILING, WALER AND MISCELLANEOUS PLATES AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A572, GRADE 50. THE ANGLES AND PLATES FOR THE BULKHEAD CAP ASSEMBLY SHALL CONFORM TO ASTM A36. ALL HIGH STRENGTH BOLTS AND NUTS SHALL BE ASTM A325. WELDED CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE D1.1-79, AND ANY APPLICABLE REVISIONS OF ODOT SUPPLEMENTAL 1027. ALL STEEL UTILIZED IN THIS PROJECT SHALL BE MANUFACTURED IN THE UNITED STATES. ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL ITEMS SHALL ALSO MEET THE REQUIREMENTS OF ITEM 513.

C. PILING PROPERTIES

THE SHEET PILING SHALL BE Z PILES SIMILAR TO AND/OR APPROVED EQUAL TO BETHLEHEM STEEL CORPORATION SECTION PLZ-23.

D. WEEPHOLES

1"Ø WEEPHOLES SHALL BE MADE BY EITHER CUTTING OR BURNING, AND SHALL BE LOCATED AT THE ELEVATIONS AND SPACING SHOWN ON THE PLANS.

E. CORROSION PROTECTION

THE WALER AND ALL THE HARDWARE NECESSARY FOR ITS ASSEMBLY SHALL BE COATED WITH COAL TAR EPOXY AS SPECIFIED IN THE PLANS. THE COST OF THIS COATING SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 504 - STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN.

F. UTILITY PROTECTION

THE CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO PREVENT DAMAGE TO ELECTRIC, TELEPHONE, CABLE TV, GAS AND WATER LINES ON "STATE ROUTE 174" (AKA RIVER ROAD) DURING CONSTRUCTION OF THE SHEET PILING AND DEADMAN ANCHORS. THE COST OF PROTECTION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 504-SHEET PILING LEFT IN PLACE, AS PER PLAN.

G. MEASUREMENT AND PAYMENT

(ITEM 504 - SHEET PILING LEFT IN PLACE, AS PER PLAN)

THE QUANTITY SHALL BE MEASURED BY SQUARE FEET OF SHEET PILING COMPLETED AND IN PLACE AS REQUIRED BY THE PLANS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 504 - SHEET PILING LEFT IN PLACE, AS PER PLAN. THIS PRICE SHALL BE PAYMENT IN FULL FOR FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND INCIDENTALS TO COMPLETE THE WORK AS SPECIFIED INCLUDING THE WALER ASSEMBLY, CAP ASSEMBLY AND 1"Ø WEEPHOLES.

ITEM 518 - POROUS BACKFILL WITH FILTER FABRIC

POROUS BACKFILL SHALL MEET THE REQUIREMENTS OF ITEM 518. GEOTEXTILE FABRIC SHALL CONFORM TO 712.09, TYPE A AND BE INCLUDED WITH POROUS BACKFILL FOR PAYMENT.

EXCAVATION REQUIRED TO PLACE POROUS BACKFILL BEHIND THE SHEET PILING WALL SHALL BE INCLUDED FOR PAYMENT WITH ITEM 518 - POROUS BACKFILL WITH FILTER FABRIC.

BULKHEAD ANCHORAGE SYSTEM

A. DESCRIPTION

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING THE TIE ROD ANCHORS, CAST-IN-PLACE REINFORCED CONCRETE DEADMAN ANCHORS AND THE STEEL "H" PILES AS DETAILED ON THE PLANS.

B. MATERIAL

THE TIE RODS AND MISCELLANEOUS PLATES AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A572, GRADE 50. THE PLATES AT THE REINFORCED CONCRETE DEADMAN SHALL CONFORM TO ASTM A36. ALL HIGH STRENGTH BOLTS AND NUTS SHALL BE ASTM A325. TURNBUCKLES SHALL CONFORM TO ASTM A235 WHICH PROVIDES THE SAME STRENGTH AS ASTM A572, GRADE 50. WELDED CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE D1.1-79, AND ANY APPLICABLE REVISIONS OF ODOT SUPPLEMENT 1027. STEEL PILE POINTS SHALL BE USED TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. THE STEEL POINTS SHALL BE FURNISHED BY ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BOULEVARD, CLIFTON, NEW JERSEY 07014; INTERNATIONAL CONSTRUCTION EQUIPMENT, INC. 301 WAREHOUSE DRIVE, MATTHEWS, NORTH CAROLINA 28015; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLYN LAKES, NEW JERSEY 07417; VERSA STEEL, INC., 3601 N.W. YEON AVENUE, P.O. BOX 10559, PORTLAND, OREGON 97210 OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO THE ENGINEER. THE PILE POINTS SHALL SATISFY OR EXCEED THE REQUIREMENTS OF ASTM A27 (GRADE 65/30) OR ASTM A148 (GRADE 90/60). REINFORCING STEEL SHALL CONFORM TO ODOT CMS 509. CONCRETE SHALL BE CLASS C AND CONFORM TO ODOT CMS 511.

C. CONSTRUCTION REQUIREMENTS AND CONSIDERATIONS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SLOPE STABILITY OF THE ROADWAY.
2. PILES SHALL BE DRIVEN TO SPECIFIED DEPTH OR TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS ATTAINED BY PENETRATING SOFT BEDROCK WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH, OR REFUSAL SHALL BE CONSIDERED AS ATTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS BEEN RECEIVED AT LEAST 20 BLOWS. THE DESIGN LOAD IS 35 TONS PER PILE FOR THE TENSION PILES AND 66 TONS PER PILE FOR THE COMPRESSION PILES. AN ESTIMATED AVERAGE PAY LENGTH FOR THE TENSION PILES IS 21 FEET AND FOR THE COMPRESSION PILES IS 29 FEET.
3. THE TIE ROD CONNECTIONS SHALL BE SNUG TIGHTENED PRIOR TO ANY PLACEMENT OF POROUS BACKFILL AND EMBANKMENT AGAINST THE BULKHEAD.

D. CORROSION PROTECTION

THE BULKHEAD ANCHORAGE SYSTEM SHALL BE COATED WITH COAL TAR EPOXY AS SPECIFIED IN THE PLANS. THE COST OF THIS COATING SHALL BE INCLUDED IN THE PRICE BID FOR THE INDIVIDUAL ITEMS. THE STEEL "H" PILES HP10X42 SHALL NOT BE COATED WITH COAL TAR EPOXY.

E. MEASUREMENT AND PAYMENT

THE BULKHEAD ANCHORAGE SYSTEM WILL BE PAID AS FOLLOWS:

- (ITEM 507 - STEEL PILES HP10X42)
1. STEEL "H" PILES AND PILE POINTS ARE INCLUDED FOR PAYMENT WITH ITEM 507.
- (ITEM 509 - REINFORCING STEEL, GRADE 60)
2. REINFORCING STEEL IN THE CONCRETE DEADMAN IS INCLUDED FOR PAYMENT WITH ITEM 509.

- (ITEM 511 - CLASS C CONCRETE, MISC: DEADMAN ANCHOR)
3. CONCRETE FOR THE DEADMEN IS INCLUDED FOR PAYMENT WITH ITEM 511.
- (ITEM 513 - STRUCTURAL STEEL, AISC CATEGORY I, AS PER PLAN)
4. TIE RODS, TURNBUCKLES, MISCELLANEOUS PLATES, NUTS AND WASHERS ARE INCLUDED FOR PAYMENT WITH ITEM 513. ADDITIONALLY, COATING THESE PIECES WITH COAL TAR EPOXY IS ALSO INCLUDED WITH ITEM 513 FOR PAYMENT.
- (ITEM 503 - UNCLASSIFIED EXCAVATION)
5. ALL EXCAVATION REQUIRED FOR CONSTRUCTING THE BULKHEAD ANCHORAGE SYSTEM IS INCLUDED FOR PAYMENT WITH ITEM 503.

THIS PRICE SHALL BE PAYMENT IN FULL FOR FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND INCIDENTALS TO COMPLETE THE WORK AS SPECIFIED OR APPROVED.

ITEM 503 - UNCLASSIFIED EXCAVATION

THE ESTIMATED QUANTITY FOR ITEM 503-UNCLASSIFIED EXCAVATION IS BASED ON THE FOLLOWING EXCAVATION LIMITS:

- A) FOR DEADMEN, 1 FOOT OUTSIDE THE OUTER EDGES OF CONCRETE.
- B) FOR TIE RODS, 6 INCHES ON EITHER SIDE OF THE ROD'S CENTERLINE.
- C) FOR BOTH DEADMEN AND THE TIE RODS, VERTICALLY FROM EXISTING PAVEMENT OR GROUND TO REQUIRED BOTTOM ELEVATION. ALL OTHER EXCAVATION REQUIRED FOR THIS PROJECT SHALL BE INCLUDED WITH ITEM 203-EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION, FOR PAYMENT.

SEE SHEET 19 FOR QUANTITY.

REMOVAL OF TREES OR STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM BID PRICE FOR ITEM 201, CLEARING AND GRUBBING, EXCEPT THAT THOSE TREES FOR WHICH PROTECTION AND PRESERVATION WORK IS INDICATED ELSEWHERE IN THESE PLANS SHALL NOT BE REMOVED. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZES	No. TREES	No. STUMPS	TOTAL
18"	7	0	7
30"	0	0	0
48"	0	0	0
60"	0	0	0

THE ABOVE ESTIMATE IS APPROXIMATE AND THE STATE OF OHIO RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES OR STUMPS OUTSIDE THE LIMITS OF CONSTRUCTION BUT WITHIN THE RIGHT-OF-WAY AND/OR EASEMENT LINES. PAYMENT FOR THE REMOVAL OF THESE ADDITIONAL TREES OR STUMPS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 201, CLEARING AND GRUBBING.