

GENERAL NOTES

EROSION CONTROL

ITEM 670 - SLOPE EROSION PROTECTION, AS PER PLAN (ALTERNATE BID)

THIS ITEM SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL WHEN THE REHABILITATION OF THE SLOPE IS COMPLETED. A BONDED FIBER MATRIX (BFM) AS SPECIFIED ELSEWHERE MAY BE USED AS AN ALTERNATIVE TO THE MATERIALS LISTED IN THE CONSTRUCTION AND MATERIALS SPECIFICATION MANUAL.

SLOPE EROSION PROTECTION USING A BONDED FIBER MATRIX

A BONDED FIBER MATRIX (BFM) SHALL BE A MIXTURE OF AIRTROL GEOBINDER (GYPSUM PLASTER AS MANUFACTURED BY THE UNITED STATES GYPSUM COMPANY) AND NATURAL CELLULOSE OR WOOD FIBER MULCH. THE GEOBINDER SHALL CONSIST OF A NATURALLY OCCURRING HIGH PURITY PROCESSED GYPSUM PLASTER AND NECESSARY ADDITIVES, THAT WHEN COMBINED WITH WATER WILL FORM A CEMENTITIOUS BINDER THAT WILL PRODUCE A PROTECTIVE CRUST-LIKE BARRIER WITHIN 4 TO 8 HOURS AFTER APPLICATION. THE GYPSUM SHALL BE PROCESSED INTO A GROUND, DRY, CALCIUM SULFATE HEMIHYDRATE (CaSO4 1/2H2O). THE PLASTER PLUS NECESSARY ADDITIVES SHALL BE FURNISHED EITHER IN BAGS OR BULK AND BE ACCOMPANIED BY BILLS OF LADING AND SHIPPING INVOICES STATING THE GYPSUM DRY WEIGHT, SOURCE OF MANUFACTURE, AND WHERE NECESSARY, THE GYPSUM PURITY CONTENT. MATERIAL WHICH HAS BECOME PARTIALLY AIR SET, LUMPY OR CAKED PRIOR TO USE WILL BE REJECTED.

THE BONDED FIBER MATRIX SHALL BE DESIGNED FOR APPLICATION BY CONVENTIONAL HYDRO SEEDING EQUIPMENT. THE BFM SHALL BE SUCH THAT WHEN APPLIED THE MATERIAL SHALL FORM A UNIFORM PROTECTIVE CRUST-LIKE BARRIER THAT REDUCES WATER AND WIND INDUCED EROSION.

ONE STEP APPLICATION:

THE GEOBINDER (PLASTER) BASED BFM CONSISTING OF WATER, PLASTER, CELLULOSE OR WOOD FIBER SHALL BE THOROUGHLY MIXED IN ACCORDANCE WITH THE FOLLOWING INSTRUCTIONS AND PROPORTIONS. SEED AND FERTILIZER SHOULD BE MIXED FIRST INTO THE WATER FOLLOWED BY THE ADDITION OF THE MULCH. THE MULCH SHALL BE OF THE NON-TACKIFIED VARIETY. THESE SHOULD BE FIRST MIXED INTO A HOMOGENOUS SLURRY AND THEN THE PLASTER SHALL BE ADDED. THE PROPORTIONS PER SEEDED ACRE SHOULD BE:

WATER	4000 GALLONS
MULCH FIBERS (NON-TACKIFIED)	1600 POUNDS
PLASTER	6000 POUNDS

FOR EVERY 100 GALLONS OF WATER, ADD 150 POUNDS OF PLASTER, 40 POUNDS OF MULCH FOR AN AVERAGE RATE OF 0.025 ACRES/100 GALLONS OF SLURRY.

UPON COMPLETION OF MIXING, THE BFM MIXTURE SHALL BE SPRAYED UNIFORMLY OVER THE AREAS SHOWN ON THE PLANS OR WHERE DIRECTED BY THE ENGINEER. THE EQUIPMENT USED TO APPLY THE BFM SHALL BE EQUIPPED TO EJECT THE MIXTURE AT A UNIFORM RATE TO PROVIDE THE COVERAGE SPECIFIED ABOVE. WHEN POSSIBLE, THE BFM SHOULD BE SPRAYED FROM THE TOP OF THE SLOPE TOWARDS THE BOTTOM OF THE SLOPE TO PROVIDE MORE UNIFORM COVERAGE. THE BFM SHALL BE PLACED AT LEAST 18 INCHES BEYOND THE TOP AND TOE OF BOTH CUT AND FILL SLOPES AND TOE OF FILL SLOPES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

SLOPE EROSION PROTECTION USING A BONDED FIBER MATRIX (CONT.)

OPTIONAL TWO-STEP APPLICATION (WHERE DIFFERENT SEED MIXTURES ARE REQUIRED):

THE SEED OR SEED MIXTURE AND FERTILIZER ARE TO BE DISTRIBUTED AS A WATER SLURRY (HYDRO SEEDING) ON THE SPECIFIED AREAS. THE SEED AND FERTILIZER MIXTURE SHALL BE APPLIED TO THE AREA TO BE SEEDED WITHIN 30 MINUTES AFTER ALL COMPONENTS ARE PLACED IN THE EQUIPMENT. UPON COMPLETION OF PLANTING THE SEED OR SEED MIXTURE, THE BFM CONSISTING OF WATER, CELLULOSE OR WOOD FIBER AND INORGANIC GEOBINDER SHALL BE THOROUGHLY MIXED IN ACCORDANCE WITH THE FOLLOWING PROPORTIONS PER ACRE OF SEEDED AREA:

WATER	4000 GALLONS
MULCH FIBERS (NON-TACKIFIED)	1600 POUNDS
PLASTER	6000 POUNDS

FOR EVERY 100 GALLONS OF WATER, ADD 150 POUNDS OF PLASTER, 40 POUNDS OF MULCH FOR AN AVERAGE RATE OF 0.025 ACRES/100 GALLONS OF SLURRY.

UPON COMPLETION OF MIXING, THE BFM MIXTURE SHALL BE SPRAYED UNIFORMLY OVER THE SEEDED AREA. THE EQUIPMENT USED TO APPLY THE BFM SHALL BE EQUIPPED TO EJECT THE MIXTURE AT A UNIFORM RATE TO PROVIDE THE BFM COVERAGE SPECIFIED ABOVE. WHEN POSSIBLE, THE BFM SHOULD BE SPRAYED FROM THE TOP OF THE SLOPE TOWARDS THE BOTTOM OF THE SLOPE TO PROVIDE MORE UNIFORM COVERAGE. THE BFM SHALL BE PLACED AT LEAST 18 INCHES BEYOND THE TOP AND TOE OF BOTH CUT AND FILL SLOPES AND TOE OF FILL SLOPES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

EQUIPMENT:

EQUIPMENT SHALL BE THE TYPE DESCRIBED AS A "HYDROSEEDER/HYDROMULCHER" MACHINE. TANK SHALL BE CLEAN, MIXING ACTION SHALL BE ADEQUATE TO PROVIDE FOR FULL DISPERSION OF MATERIALS. HOSES CAN BE USED TO EXTEND RANGE OF SPRAYING. THE TOP AND SIDES OF MACHINE MAY BE PRE-COATED WITH VEGETABLE OIL TO ENSURE EASY CLEAN-UP. TO PREVENT SET-UP AND EXCESS CLEANING, ALL EQUIPMENT MUST BE FLUSHED WITHIN 4 HOURS AFTER MIXING OF PLASTER.

ALL EQUIPMENT INCLUDING THE SUMP AND DRAIN SHALL BE THOROUGHLY FLUSHED AND CLEANED BETWEEN MIXES.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES SHALL BE USED AS DIRECTED BY THE ENGINEER FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM	DESCRIPTION	QUANTITY	UNIT
877	TEMPORARY PERIMETER FILTER FABRIC FENCE	1000	LIN. FT.

PAVEMENT

ITEM 304 - AGGREGATE BASE, AS PER PLAN

THE ONLY SLAG MATERIALS PERMITTED FOR THIS ITEM SHALL BE CRUSHED AIR-COOLED BLAST FURNACE SLAG, A MIXTURE OF CRUSHED AND GRANULATED SLAGS, OR OPEN HEARTH SLAG FROM APPROVED SOURCES ON FILE AT THE LABORATORY.

ALL MATERIALS OR BLENDED MATERIALS SHALL MEET THE GRADATION REQUIREMENTS OF 304.02.

ANY GRANULATED SLAG MATERIAL USED SHALL MEET THESE GRADATION REQUIREMENTS IN LIEU OF 703.08.

DRAINAGE

ITEM 603 - 6" CONDUIT, TYPE F, NON-PERFORATED, 707.33 OR 707.42 ITEM 606 - 6" SHALLOW PIPE UNDERDRAIN

THE EXISTING UNDERDRAIN UNDER THE OUTSIDE SHOULDER ALONG IR - 90, AS DETAILED ON THE TYPICAL SECTIONS, SHALL BE REPLACED WITH ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN. THE PROPOSED UNDERDRAIN SHALL BE CONNECTED TO THE EXISTING UNDERDRAIN AT THE LIMITS OF REPLACEMENT. THE EXISTING OUTLET DOWN THE SLOPE SHALL BE REMOVED AND REPLACED WITH ITEM 605 - 6" CONDUIT, TYPE F, NON-PERFORATED, 707.33 OR 707.42, AS SHOWN ON THE PLAN.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR THE PERTINENT ITEMS AND SHALL INCLUDE TEES, BENDS, ELBOWS, ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO PERFORM THESE ITEMS OF WORK.

TRAFFIC CONTROL

ITEM 630 - SIGN ERECTED, EXTRUSHEET

THIS WORK SHALL INCLUDE ERECTING AN EXISTING SIGN AND ARM ON THE REERECTED SIGN SUPPORT AT STA. 172+60. THE CONTRACTOR SHALL PICK UP THE SIGN, ALL ASSOCIATED HARDWARE, AND ARM AT THE LAKE COUNTY YARD LOCATED AT 10 BLACKBROOK RD., PAINESVILLE, OHIO. THE ENGINEER SHALL GIVE THE YARD SUPERVISOR 48 HOURS NOTICE PRIOR TO PICKING UP THE SIGN, ARM, AND ASSOCIATED HARDWARE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 630 - SIGN ERECTED, EXTRUSHEET AND SHALL INCLUDE ALL LABOR, TRANSPORTATION OF SIGN, ARM, AND ASSOCIATED HARDWARE, TOOLS, EQUIPMENT AND MATERIALS TO ERECT THE EXISTING SIGN ON THE REERECTED SIGN SUPPORT.

ITEM 630 - REMOVAL OF OVERHEAD SIGN SUPPORT AND REERECTION, TYPE TC-12.30, AS PER PLAN

THIS WORK SHALL INCLUDE REMOVING THE EXISTING SIGN SUPPORT AT STA 175+76, STORING ON SITE AND REERECTING THE EXISTING SIGN SUPPORT AT STA. 172+60 AS DETAILED ON THE PLAN SHEETS.

THE CONTRACTOR SHALL VERIFY THAT THE PROPOSED ELEVATIONS FOR THE SIGN SUPPORT FOUNDATION ARE SUFFICIENT TO ENSURE A 17 FOOT MINIMUM CLEARANCE ABOVE THE ROADWAY AS SHOWN ON THE SIGN ELEVATION, SHEET 16.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 630 - REMOVAL OF OVERHEAD SIGN SUPPORT AND REERECTION, TYPE TC-12.30, AS PER PLAN AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS TO ERECT THE EXISTING SIGN SUPPORT ON THE PROPOSED SIGN SUPPORT FOUNDATION.

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GENERAL NOTES

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