

LIST OF SHEETS

DESCRIPTION

TITLE SHEET PLAN & PROFILE

PROFILES & MISCELLANEOUS DETAILS

SEDIMENT CONTROL NOTES

SEDIMENT CONTROL PLAN

TRAFFIC CONTROL PLAN

SEDIMENT CONTROL DETAILS

Elkridge Heights Drainage Improvements D-1082

Bonnie View Lane Howard County, Maryland

DEPARTMENT OF PUBLIC WORKS

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND



Consulting Engineers 849 Fairmount Avenue Baltimore, Maryland 21286 WHITNEY, BAILEY, COX & MAGNANI, LLC

(410) 512-4500 (410) 324-4100 (FAX)



TITLE SHEET

100' SCALE MAP NO. 43 BLOCK NO. 10

STORM DRAIN IMPROVEMENT ELKRIDGE HEIGHTS HOWARD CO., MARYLAND

SHOWN

SHEET I OF 7

COORDINATE SYSTEM, NAD 83, AS DETERMINED FROM THE FOLLOWING HOWARD COUNTY HORIZONTAL SURVEY CONTROL MONUMENTS: 38AA N 561,158.784 E 1,389,726.391 DISK FOUND 38BA N 562,553.278 E 1,390,967.927 DISK FOUND

GENERAL NOTES

ELEVATIONS SHOWN HEREON ARE REFERRED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AS DETERMINED FROM THE ABOVE MENTIONED SURVEY MONUMENTS;

THIS PLAN IS BASED UPON A FIELD-RUN TOPOGRAPHIC SURVEY PERFORMED BY WHITNEY, BAILEY, COX & MAGNANI, LLC (WBCM) IN NOVEMBER & DECEMBER OF

COORDINATES SHOWN HEREON ARE REFERRED TO THE MARYLAND STATE PLANE

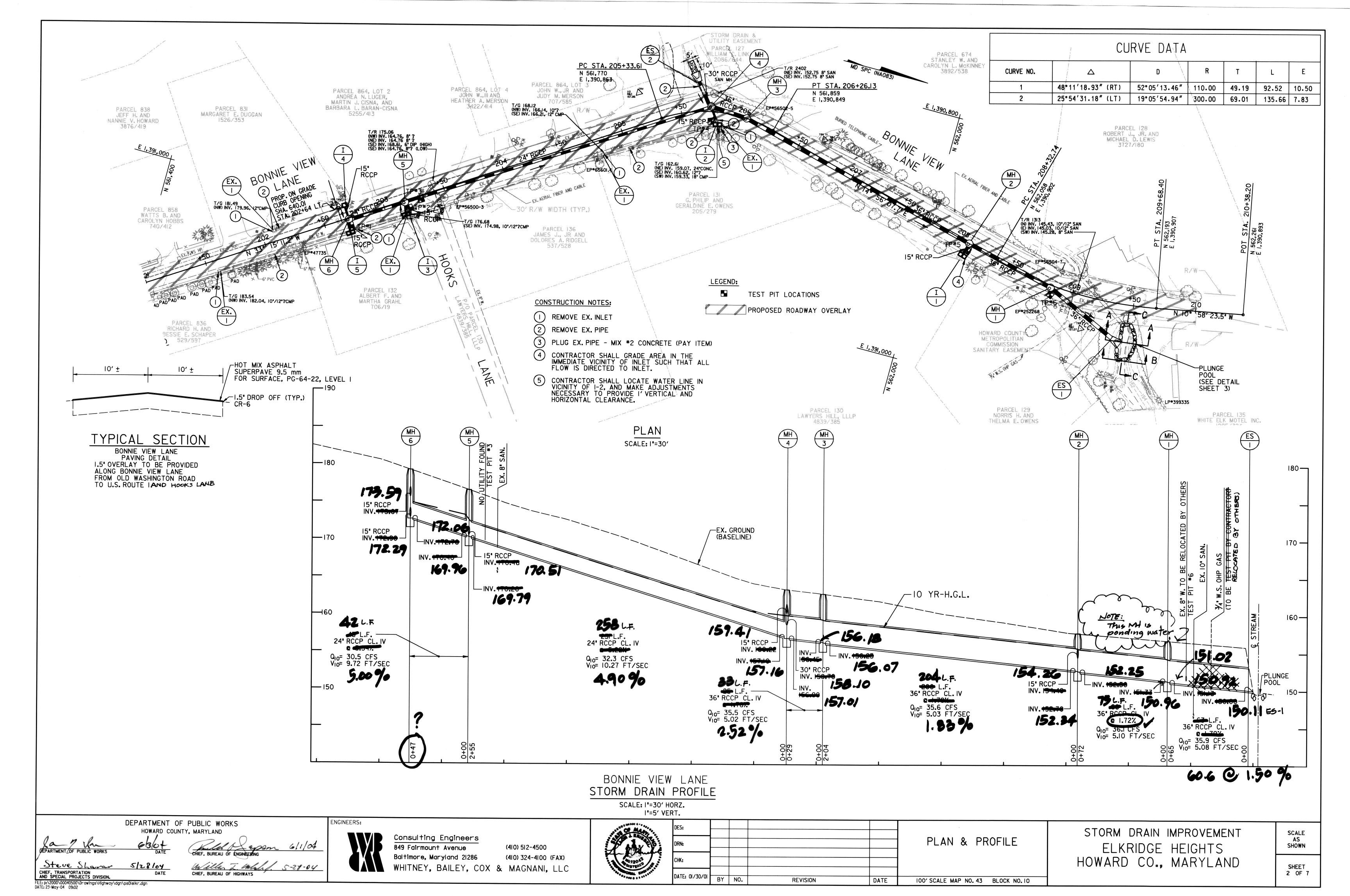
38AA ELEV. = 220.023 (FEET) DISK FOUND 38BA ELEV. = 166.177 (FEET) DISK FOUND

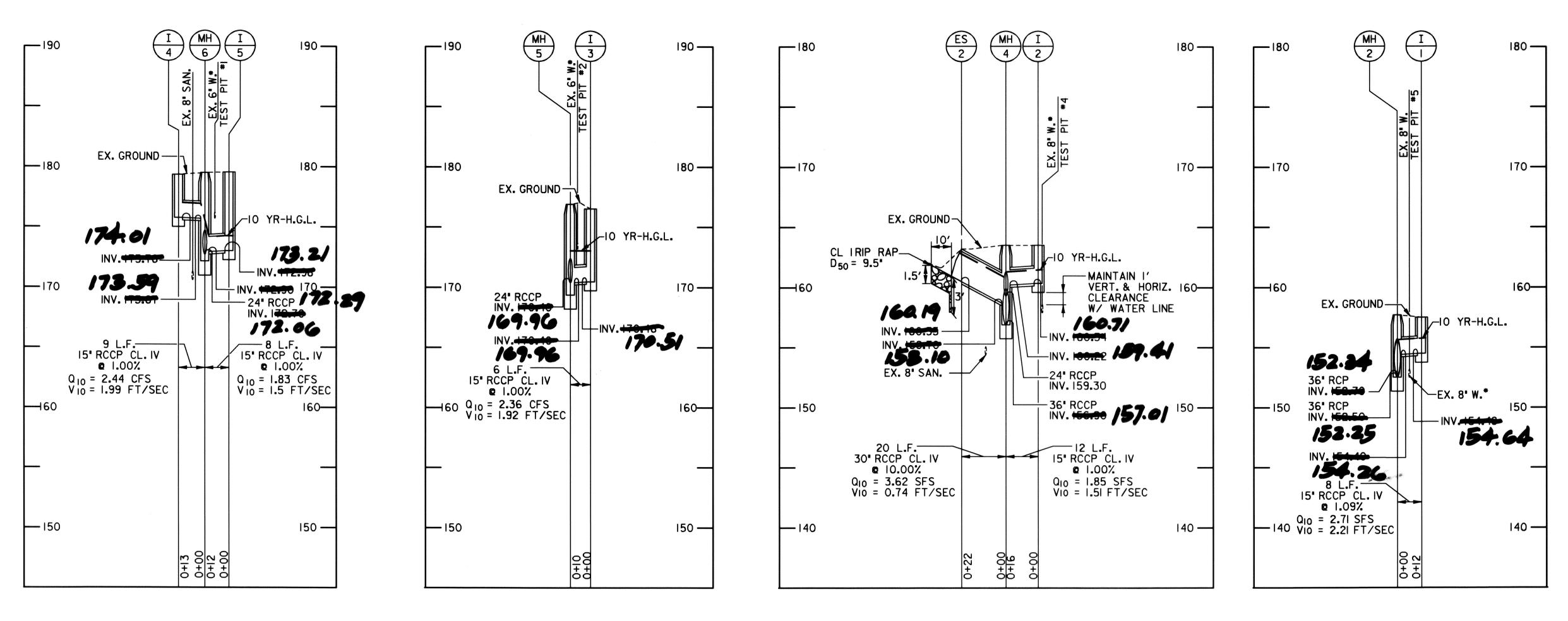
2000 AND REFLECTS SITE CONDITIONS AS OF THAT DATE.

- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED IF APPLICABLE. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAIL FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

(410) 865-3803 BGE (CONTRACTOR SERVICES) (410) 850-4620 BGE (UNDERGROUND DAMAGE CONTROL) (410) 787-9068 BUREAU OF UTILITIES (DPW) (410) 313-4900 VERIZON TELEPHONE CO. (410) 597-8585 MISS UTILITY (800) 257-7777 CONSTRUCTION INPECTION (410) 313-1880

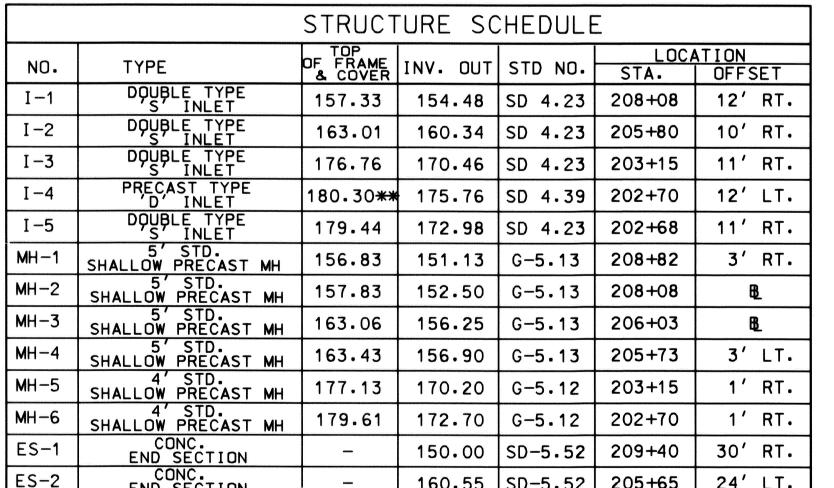
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENT PER SECTION 18.114(A) OF THE HOWARD COUNTY CODE.
- BACKFILL TO TOP OF WATER AND SEWER PIPING SHALL BE COMPACTED TO 95% OF ASTM D 698 MAXIMUM DENSITY.
- ALL WATER CONNECTIONS IN CONFLICT WITH THE PROPOSED STORM DRAIN WORK SHALL BE RELOCATED USING TYPE K COPPER AND FLARE FITTINGS ONLY IN CONFORMANCE WITH DESIGN MANUAL IV SPECIFICATIONS.
- A STAGING AND STOCKPILE AREA WITH SEDIMENT CONTROL WILL BE DETERMINED THE CONTRACTOR AND APPROVED BY HOWARD COUNTY.
- CONTRACTOR SHALL USE HOWARD CO. DETAIL 64.01 FOR TRENCH REPAIR.

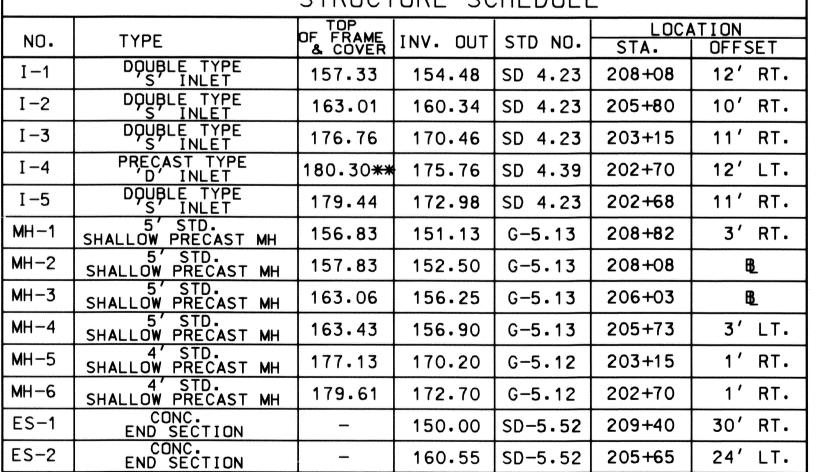


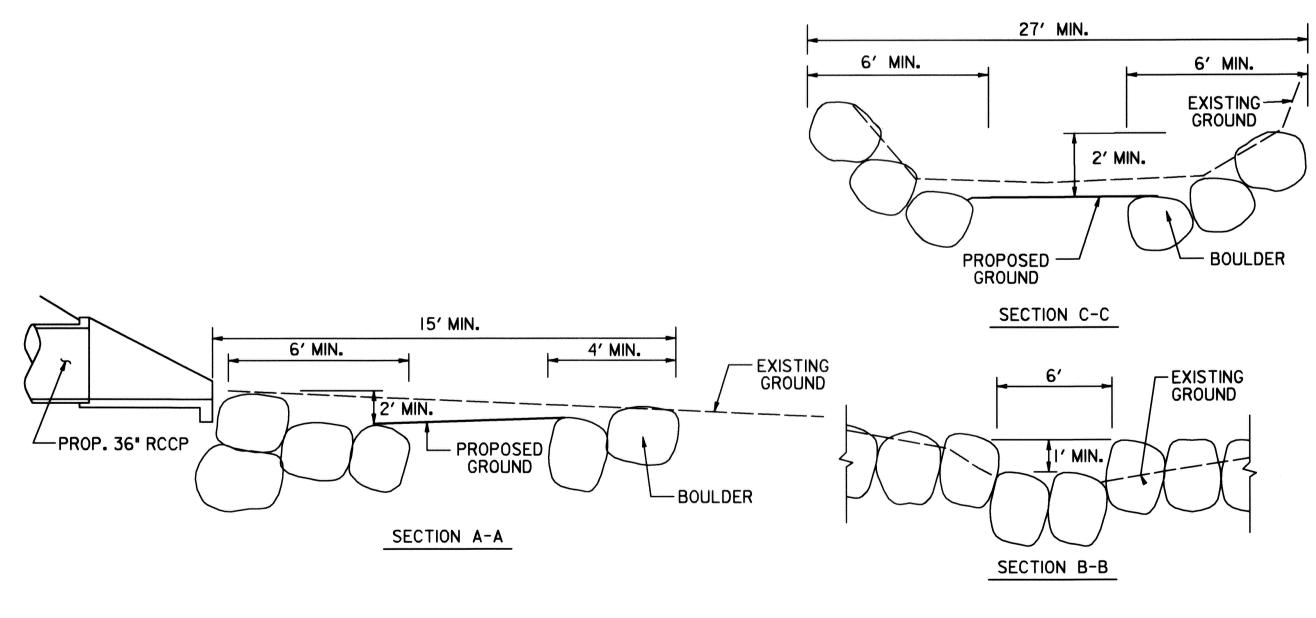


*NOTE: PROVIDE I FOOT MINIMUM CLEARANCE WITH PROPOSED STORM DRAIN

STORM DRAIN PROFILES SCALE: I"=30' HORZ. I"=5' VERT.

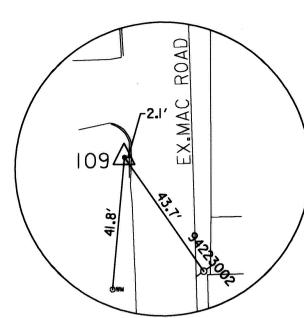




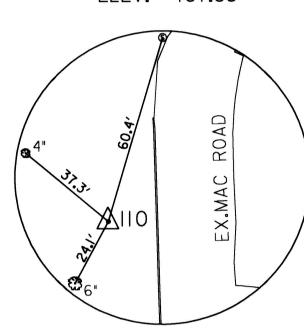


PLUNGE POOL NOT TO SCALE

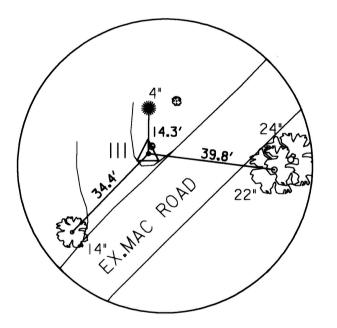
TRAVERSE 109 REBAR & CAP SET N 561,539.72 E 1,391,000.50 ELEV. = 179.73



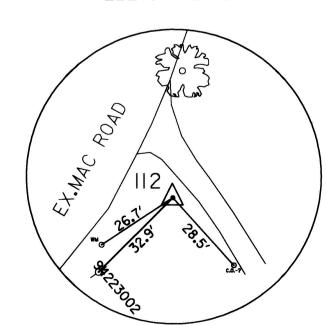
TRAVERSE 110 REBAR & CAP SET N 561,747.19 E 1,390,848.21 ELEV. = 167.86



<u>TRAVERSE III</u> REBAR & CAP SET N 561,900.62 E 1,390,845.13 ELEV. = 162.51



TRAVERSE 112 REBAR & CAP SET N 562,138.51 E 1,390,938.29 ELEV. = 157.07



DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

** ELEV. OF THROAT OPENING INVERT 179.47

Steve Sharar 5/28/04

CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

FiLE: p:\2000\00040500\Drawings\Highway\dgn\pp0ielkr.dgn DATE: 23-May-04 09:02

CHIEF, BUREAU OF HIGHWAYS

ENGINEERS:

Consulting Engineers 849 Fairmount Avenue Baltimore, Maryland 21286 WHITNEY, BAILEY, COX & MAGNANI, LLC

(410) 512-4500

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DES:					
5201					MICCELL ANEOLIC DOCELLES
DRN:					MISCELLANEOUS. PROFILES
					& DETAILS
CHK:					
O IIV.					
DATE: 01/30/01	BY	NO.	REVISION	DATE	100' SCALE MAP NO. 43 BLOCK NO. 10

STORM DRAIN IMPROVEMENT ELKRIDGE HEIGHTS HOWARD CO., MARYLAND

SCALE AS SHOWN

SHEET 3 OF 7

STANDARD SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.

3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be c

ompleted within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes, and all slopes steeper than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.

4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol 1, Chapter 7 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.

5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding, sod, temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.

6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

7. Site Analysis: Total Area of Site = 0.425 Acres Area Disturbed = 0.153 Acres Area to be roofed or paved = 0 Acres Area to be vegetatively stabilized = 0 Acres Total Cut = N∕A Cu. Yds. Total Fill = N/A Cu. Yds. Offsite waste/borrow area location = N/A

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

9. Additional sediment control must provided, if deemed necessary by the Howard County Sediment Control Inspector.

10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

Trenches for the construction of utilities is limited to three pipe lengths or that which shall be backfilled and stabilized within one working day, whichever is

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

<u>Seedbed Preparation</u> Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules: 1. Preferred - Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At times of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)

2. Acceptable - Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding. Harrow or disk into upper three inches of soil.

Seeding - For the periods March 1 - April 30, August 1 - October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 - August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft). For the period November 16 - February 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching - Apply 1½ to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted, weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. Per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft. or higher, use 348 gal. per acre (8 gal/1000 sq. ft.)

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods for covered.

TEMPORARY SEEDING SUMMARY

		URE (HARDIN (FROM TABLE	FERTILIZER RATE	LIME RATE		
NO.	SPECIES	APPLICATION RATE (Ib/de)	DATES	SEEDING DEPTHS	(10-10-10)	
	RYE	140	2/I-4/30 8/I5-II/30	I"-2"	600 lb/gc	2 tons/ac
	RYE PLUS FOXTAIL MILLET	150	2/I-4/30 5/I-8/I4 8/I5-II/30	l.	(15 lb/1000 st)	(100 lb/1000 st)

PERMANENT SEEDING SUMMARY

	SEED MIXTUR	FE	FERTILIZER RATE (10-20-20-)					
NO.	SPECIES	APPLICATION RATE (Ib/gc)	DATES	SEEDING DEPTHS	N	P205	K20	RATE
3	TALL FESCUE (85%) 125 3/1-5/15 1/4"		90 lb/ac	175 lb/ac	175 lb/ac	2 tons/ac		
8	REED CANARYGRASS (75%) REDTOP (6%) PLUS BIRDSFOOT TREEFOIL (19%)	40 3 10	3/I-5/I5 8/I5-II/I5	1/4"	(2.0 lb/	(4 lb/	(4 lb/ 1000 st)	(100 lb/ 1000 st)

VEGETATIVE STABILIZATION

PERMANENT AND TEMPORARY SEEDING, SODDING AND MULCHING

I. SITE PREPARATION PERMANENT OR TEMPORARY VEGETATION SHALL BE ESTABLISHED WITHIN SEVEN (7) DAYS ON THE SURFACE OF ALL SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, WATERWAYS, SEDIMENT CONTROL BASINS, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND WITHIN 14 DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. MULCHING MAY ONLY BE USED ON DISTURBED AREAS AS TEMPORARY COVER WHERE VEGETATION IS NOT FEASIBLE OR WHERE SEEDING CANNOT BE COMPLETED BECAUSE OF WEATHER.

II. <u>SEEDBED PREPARATION AND SEEDING APPLICATION</u>
LOOSEN THE TOP LAYER OF THE SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT SUCH AS DISC HARROWS, CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. INCORPORATE THE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF THE SOIL BY DISCING OR BY OTHER SUITABLE MEANS. ROUGH AREAS SHOULD NOT BE ROLLED OR DRAGGED SMOOTH, BUT LEFT IN A ROUGHENED CONDITION. STEEP SLOPES GREATER THAN 3:1 SHOULD BE TRACKED BY A DOZER, LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. THE TOP 1 TO 3 INCHES OF SOIL SHOULD BE LOOSE AND FRIABLE. PERMANENT COVER MAY REQUIRE AN APPLICATION OF TOPSOIL IF SO IT MUST MEET THE REQUIREMENTS SET FORTH IN SECTION 21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL FROM THE 1994 STANDARDS AND SPECIFICATIONS.

SOIL TESTS SHALL BE MADE ON SITES OVER FIVE ACRES TO DETERMINE THE EXACT REQUIREMENTS FOR BOTH LIME AND FERTILIZER. FOR SITES UNDER 5 ACRES, IN LIEU OF A SOIL TEST, APPLY THE FOLLOWING:

FERTILIZER NITROGEN 2 LBS/1000 SQ. FT. (90 LBS/AC.) 4 LBS/1000 SQ. FT. (175 LBS:/AC.) 4 LBS/1000 SQ. FT. (175 LBS/AC.) FOR LOW MAINTENANCE AREAS APPLY 150 LBS/AC UREAFORM

FERTILIZER (38-0-0) AT 3.5 LBS/1000 SQ. FT. IN ADDITION

TO THE ABOVE FERTILIZER AT THE TIME OF SEEDING.

GROUND LIMESTONE 2 TONS/AC.

IV. <u>SEDIMENT CONTROL PRACTICE SEEDING</u>
SELECT A SEEDING MIXTURE FROM TABLES 25 OR 26. NOTE: IF SEDIMENT CONTROL

PRACTICES ARE IN FOR LONGER THAN 12 MONTHS, PERMANENT SEEDING IS REQUIRED.

V. <u>TEMPORARY/PERMANENT SEEDING MIXTURES AND RATES</u>
SELECT A SEEDING MIXTURE FROM APPROPRIATE TABLE 25 OR 26.

VI. <u>TURFGRASS ESTABLISHMENT</u>
THIS INCLUDES LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE. AREAS TO RECEIVE SEED SHALL BE TILLED BY DISCING OR BY OTHER APPROVED METHODS TO A DEPTH OF 3 TO 5 INCHES LEVELED AND RAKED TO PREPARE A PROPER SEEDBED. STONES AND DEBRIS OVER 1 1/2" INCHES IN DIAMETER SHALL BE REMOVED. THE RESULTING SEEDBED SHALL BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY. USE CERTIFIED MATERIAL AND CHOOSE A TURFGRASS MIXTURE FROM PAGE G-20 OF THE 1994 STANDARDS AND SPECIFICATIONS OR SELECT FROM THE LIST IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MIMEO #77," TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND". SEE MIMEO AT END OF THIS SECTION.

VII. MULCHING
ALL SEEDINGS REQUIRE MULCHING. ALSO MULCH DURING NON-SEEDING DATES UNTIL SEEDING CAN BE DONE.

MULCH SHALL BE UNROTTED, UNCHOPPED, SMALL GRAIN STRAW APPLIED AT A RATE OF 2 TONS/ACRE OR 90 LBS/1000 SQ. FT. (2 BALES). IF A MULCH ANCHORING TOOL IS USED, APPLY 2.5 TONS/ACRE. MULCH MATERIALS SHALL BE RELATIVELY FREE OF ALL KINDS OF WEEDS AND SHALL BE COMPLETELY FREE OF PROHIBITED NOXIOUS WEEDS. SPREAD MULCH UNIFORMLY, MECHANICALLY OR BY HAND, TO A DEPTH OF 1-2 INCHES. MULCH ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER MULCH PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY MULCH NETTINGS, MULCH ANCHORING TOOL, WOOD CELLULOSE FIBER OR LIQUID MULCH

APPLY WOOD CELLULOSE FIBER AT A DRY WEIGHT OF 1,500 LBS/ACRE. IF MIXED WITH WATER, USE 50 LBS. OF WOOD CELLULOSE FIBER PER 100

LIQUID BINDER SHOULD BE APPLIED HEAVIER AT THE EDGE. WHERE WIND CATCHES MULCH IN VALLEYS, AND ON CREST OF BANKS. THE REMAINDER OF THE AREA SHOULD APPEAR UNIFORM AFTER BINDER APPLICATION. APPLY RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR AND MULCH. STAPLE LIGHT WEIGHT, PLASTIC NETTING OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

VIII. SODDING
CLASS OF TURFGRASS SOD SHALL BE MARYLAND OR VIRGINIA STATE CERTIFIED, OR MARYLAND OR VIRGINIA STATE APPROVED SOD, SOD SHALL BE HARVESTED, DELIVERED, AND INSTALLED, WITHIN A PERIOD OF 36 HOURS, SQL IS TO BE LAID WITH THE LONG EDGES PARALLEL TO THE CONTOUR USING STAGGERED JOINTS WITH ALL ENDS TIGHTLY ABUTTED AND NOT OVER LAPPING SOD SHALL BE ROLLED AND THOROUGHLY WATERED AFTER INSTALLATION. DAILY WATERING TO MAINTAIN 4 INCH DEPTH OF MOISTURE FOR THE FIRST WEEK IS REQUIRED IN THE ABSENCE OF RAINFALL SOD IS NOT TO BE APPLIED ON FROZEN GROUND.

IX. <u>MAINTENANCE</u> A. IRRIGATE - APPLY MINIMUM 1" OF WATER EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE, WHEN SOIL MOISTURE BECOMES DEFICIENT TO PREVENT LOSS OF

STAND OF PROTECTIVE VEGETATION. B. REPAIRS - IF STAND PROVIDES BETWEEN 40% AND 94% GROUND COVERAGE. OVERSEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY APPLIED. IF STAND PROVIDES LESS THAN 40% COVERAGE, REESTABLISH STAND FOLLOWING ORIGINAL RATES AND PROCEDURES.

NOTE: USE OF THIS INFORMATION DOES NOT PRECLUDE MEETING ALL OF THE REQUIREMENTS OF THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL VEGETATIVE PRACTICES.

SECTION III: PERMANENT SEEDING

SEEDING GRASS AND LEGUMES TO ESTABLISH GROUND COVER FOR A MINIMUM PERIOD OF ONE YEAR ON DISTURBED AREAS GENERALLY RECEIVING LOW MAINTENANCE.

TOPSOILING SPECIFICATIONS

SECTION I - SITE PREPARATION (WHERE TOPSOIL IS TO BE ADDED)

- A. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, DIKES, WATERWAYS AND SEDIMENT BASINS.
- B. GRADING: GRADES ON THE AREAS TO BE TOPSOILED WHICH HAVE BEEN PREVIOUSLY ESTABLISHED SHALL BE MAINTAINED
- C. LIMING: WHERE THE SUBSOIL IS EITHER HIGHLY ACID OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET). LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
- D. TILLING: AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO DUMPING AND SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENED BY DISCING OR BY SCARIFYING TO A DEPTH OF AT LEAST 3 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SUBSOIL PACK BY PASSING A BULLDOZER UP AND DOWN OVER THE ENTIRE SURFACE AREA OF THE SLOPE TO CREATE HORIZONTAL EROSION CHECK SLOTS TO PREVENT TOPSOIL FORM SLIDING DOWN THE

SECTION II - TOPSOIL MATERIAL AND APPLICATION

NOTE: TOPSOIL SALVAGED FROM THE EXISTING SITE MAY OFTEN BE USED BUT IT SHOULD MEET THE SAME STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. THE DEPTH OF TOPSOIL TO BE SALVAGED SHALL BE NO MORE THAN THE DEPTH DESCRIBED AS A REPRESENTATIVE PROFILE FOR THAT PARTICULAR SOIL TYPE AS DESCRIBED IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

A. MATERIALS: TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND OR OTHER SOIL AS APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST, IT SHALL NOT HAVE A MIXTURE OF CONTRASTING TEXTURED SUBSOIL AND CONTAIN NO MORE THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENT, GRAVEL, STICKS, ROOTS, TRASH OR OTHER EXTRANEOUS MATERIALS LARGER THAN 1-1/2 INCHES IN DIAMETER. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, NUTSEDGE, POISON IVY, THISTLES, OR OTHERS AS SPECIFIED. ALL TOPSOIL SHALL BE TESTED BY A RECOGNIZED LABORATORY FOR ORGANIC MATTER CONTENT, PH AND SOLUBLE SALTS, A PH OF 6.0 TO 7.5 AND AN ORGANIC CONTENT OF NOT LESS THAN 1.5 PERCENT BY WEIGHT IS REQUIRED. IF PH VALUE IS LESS THAN 6.0, LIME SHALL BE APPLIED AND INCORPORATED WITH THE TOPSOIL TO ADJUST THE PH TO 6.5 OR HIGHER. TOPSOIL CONTAINING SOLUBLE SALTS GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.

NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED TO PERMIT DISSIPATION OF TOXIC MATERIALS.

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS AS APPROVED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST MAY BE USED IN LIEU OF NATURAL TOPSOIL.

B. GRADING: THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED AND COMPACTED TO A MINIMUM OF FOUR (4) INCHES. SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION. ALTERNATIVE FOR PERMANENT SEEDING

AS AN OPTION TO APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, APPLY COMPOSTED SLUDGE AS SPECIFIED BELOW, A POTASSIUM FERTILIZER AT THE RATE OF 4 POUNDS PER 1,000 SQUARE FOOT AND 13 THE NORMAL LIME APPLICATION RATE.

COMPOSTED SLUDGE FOR USE AS A SOIL AMENDMENT OR CONDITIONER SHALL CONFORM THE FOLLOWING REQUIREMENTS:

- 1. BE SUPPLIED BY OR ORIGINATE FROM A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF HEALTH AND MENTAL HYGIENE UNDER REGULATION 10.17.10.
- 2. SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS AND .2% POTASSIUM AND HAVE A PH OF 7.0 AND 8.0.

IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED SO THAT THE REQUIREMENTS ARE MET PRIOR TO USE OF THE COMPOST.

3. BE APPLIED AT A RATE OF 2,000 POUNDS PER 1,000 SQUARE FEET.

REFERENCES

COMPOSED SLUDGE MATERIAL

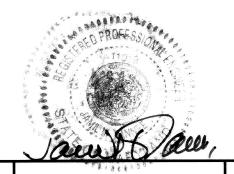
1. GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING. MD-VA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973. GENERAL NOTES

A. THE DEVELOPER IS RESPONSIBLE FOR THE ACQUISITION OF ALL REQUIRED EASEMENT, RIGHT AND/OR RIGHTS-OF-WAY PURSUANT TO THE DISCHARGE FROM THE SEDIMENT AND

- EROSION CONTROL PRACTICES, STORMWATER MANAGEMENT PRACTICES AND THE DISCHARGE OF STORMWATER ONTO OR ACROSS AND GRADING OR OTHER WORK TO BE PERFORMED ON ADJACENT OR DOWNSTREAM PROPERTIES AFFECTED BY THIS PLAN. B. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORAR STABILIZATION SHALL BE COMPLETED WITHIN: A) SEVEN CALENDAR DAYS AS TO THE
- SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITECHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN THREE HORIZONTAL TO ONE VERTICAL (3:1) AND B) FOURTEEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. THE IN- PLACE SEDIMENT CONTROL MEASURES WILL BE MAINTAINED ON A CONTINUING BASIS UNTIL THE SITE IS PERMANENTLY STABILIZED AND ALL PERMIT REQUIREMENTS C. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF TWO ACRES, APPROVAL OF THE
- INSPECTION AGENCY IS REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER FROSION AND SEDIMENT CONTROLS BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS WILL NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS
- D. APPROVAL SHALL BE REQUESTED UPON FINAL STABILIZATION OF ALL SITES WITH DISTURBED AREAS IN EXCESS OF TWO ACRES BEFORE REMOVAL OF CONTROLS. E. DISTURBED SURFACE AREA: VOLUME OF SPOIL MATERIAL
- VOLUME OF BORROW MATERIAL F. LIST PREDOMINANT SOIL TYPES AND GENERAL DESCRIPTION PER U.S.D.A.S.C.D. SOIL
- ScB SANDY AND CLAYEY LAND, GENTLY SLOPING
- ScD SANDY AND CLAYEY LAND, MODERATELY SLOPING
- C1E2 CHILLUM GRAVELLY LOAM, 15 TO 30 PERCENT SLOPES, MODERATELY ERODED Lub Luka Loam, Local Alluvium, 1 TO 5 PERCENT SLOPES
- SCE SANDY AND CLAYEY LAND, MODERATELY STEEP

DURATION (DAYS)	STEP	ACTION
	1.	THE CONTRACTOR SHALL OBTAIN A GRADING PERMIT BEFORE ANY TYPE OF CONSTRUCTION IS TO START.
	2.	THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS AT LEAST SEVEN (7) DAYS PRIOR TO INITIATION OF THE PROJECT AND FIVE (5) DAYS AFTER WORK ENDS.
	3.	UTILITIES AND STORM DRAINS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS ARE FOR THE GUIDANCE OF THE CONTRACTOR ONLY. ALL UTILITIES SHALL BE CONSTRUCTED AS SHOWN ON THE ROADWAY PLANS.
	4.	MAINTAIN ALL SEDIMENT CONTROL PRACTICES ACCORDING TO THE MARYLAND 1994 STANDARDS AND COUNTY REGULATIONS UNTIL THE ENTIRE SITE IS STABILIZED.
	5.	THE EROSION AND SEDIMENT CONTROL MEASURES MUST BE IN PLACE AND FUNCTIONING PRIOR TO THE CLEARING. CLEAR AND GRUB FOR EROSION AND SEDIMENT CONTROL MEASURES OR DEVICES ONLY.
7	6.	INSTALL PERIMETER CONTROLS AS REQUIRED FOR CONSTRUCTION.
	7.	INSTALL TEMPORARY FLEXIBLE PIPE AND CONSTRUCT PLUNGE POOL
15	8.	DIVERT FLOW TO FLEXIBLE PIPE AND CONSTRUCT STAGE I
7	9.	GRADE ALL DISTURBED SLOPES TO DRAIN AS INDICATED ON THE PLANS. INSTALL INLET PROTECTIONS AS REQUIRED.
30	10.	CONSTRUCT PROPOSED STORM DRAIN SYSTEM AS SHOWN ON PLANS STARTING AT DOWNSTREAM END.
5	11.	REMOVE THE FLEXIBLE PIPE AND COMPLETE THE CONSTRUCTION STAGE II OF PLUNGE POOL, AND STABILIZE IT ON THE SAME WORKING DAY.
15	12	RECONSTRUCT THE DISTURBED PAVED AREA AND MILL & RESURFACE UNDISTURBED PAVED AREA WITHIN THE LIMITS OF WORK. PLACE TOPSOIL, SEED AND MULCH ON ALL UNPAVED AREAS CONSTRUCTED AS DIRECTED BY THE ENGINEER.
	13	SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED WITH GROWTH AND HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS APPROVES THEIR REMOVAL.
	14	REMOVE EROSION AND SEDIMENT CONTROL DEVICES. STABILIZE ALL REMAINING DISTURBED AREAS.
<u> </u>		

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS. THIS DEVELOPMENT IS APP FOR EROSION AND SEDIMENT CONTROLABY HOWARD SOIL



ENGINEERS:

Consulting Engineers 849 Fairmount Avenue Baltimore, Maryland 21286

(410) 512-4500 (410) 324-4100 (FAX) WHITNEY, BAILEY, COX & MAGNANI, LLC

RJM ENGINEERING, INC. CONSULTING ENGINEERS COLUMBIA, MARYLAND

LE:(410)730-1001

BY NO. REVISION FAX:(410)730-5403

EROSION & SEDIMENT CONTROL NOTES EP-1

100' SCALE MAP NO. 43 BLOCK NO. 10

STORM DRAIN IMPROVEMENT ELKRIDGE HEIGHTS HOWARD CO., MARYLAND

AS SHOWN

SCALE

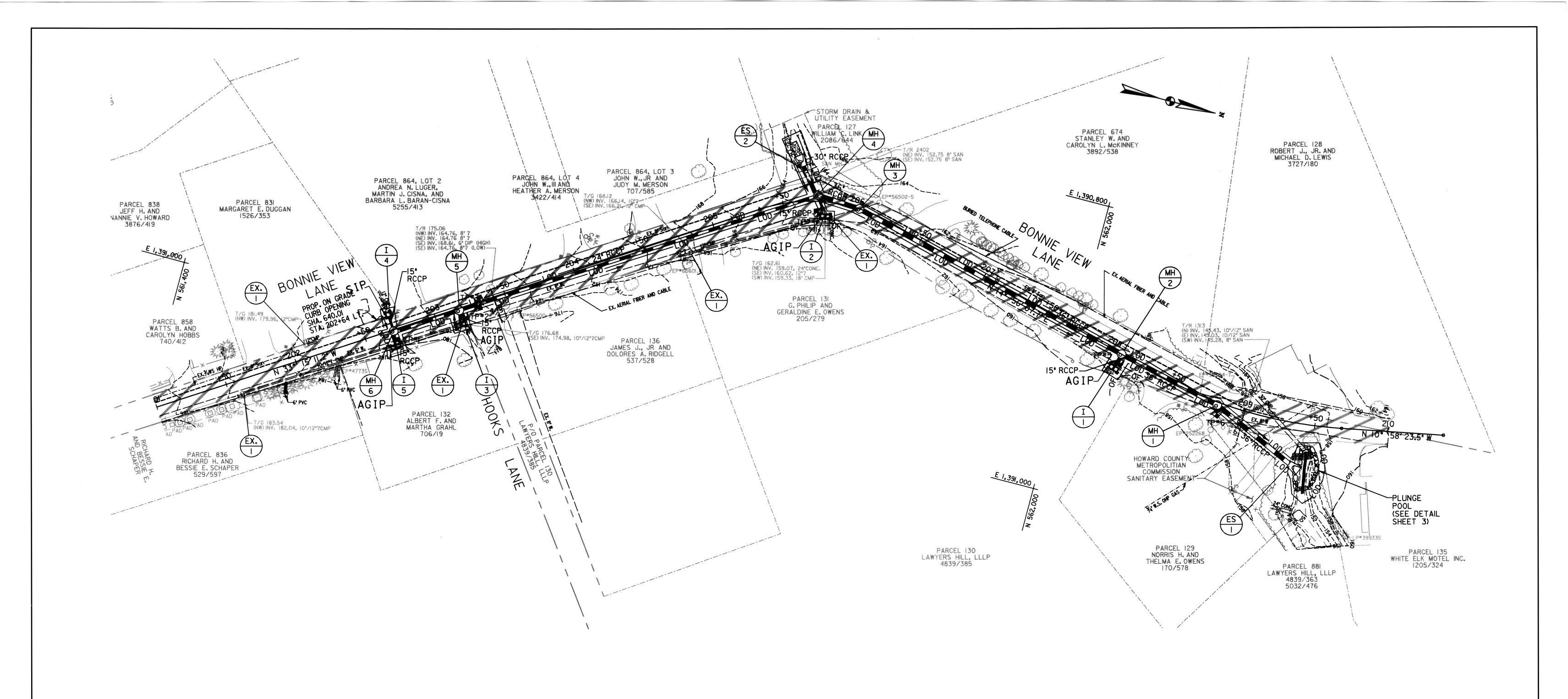
4 OF 7

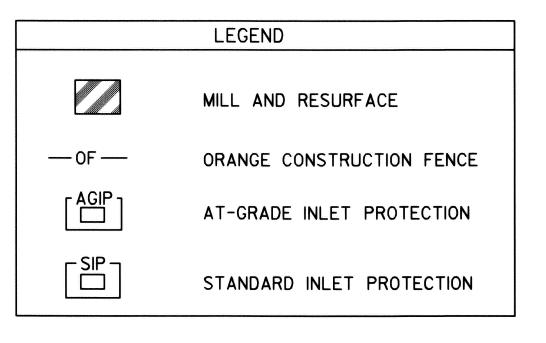
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DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

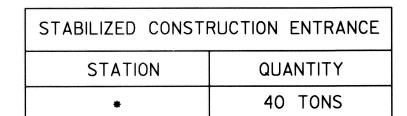
CHIEF, BUREAU OF HIGHWAYS





	INLET PR	OTECTION	
	STATION	OFFSET(FT)	TYPE
I-5	202+68 RT	12	AGIP
1-4	202+70 LT	II	SIP
I-3	203+15 RT	ll ll	AGIP
I-2	205+79 RT	10	AGIP
1-1	208+08 RT	II	AGIP

ORANGE CONSTRUCTION FENCE					
FROM STATION	TO STATION	LENGTH (LF)			
205+30 RT.	206+00 RT.	60			
208+10 RT.	208+30 RT.	30			



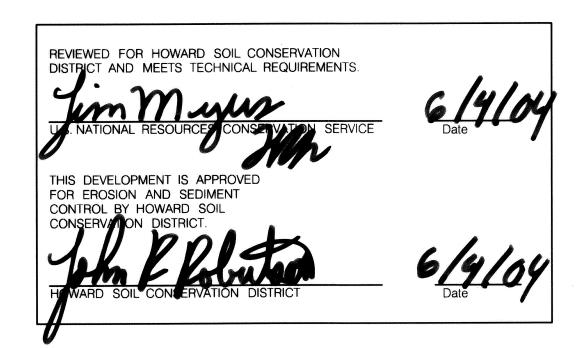
REVISION

* QUANTITY FOR TWO STABILIZED CONSTRUCTION ENTRANCE HAS BEEN PROVIDED AND SHALL BE PLACED AS DIRECTED BY INSPECTOR.

DATE

GRAPHIC SCALE 30 SCALE: I"=30'-0"

GENERAL NOTE: CONSTRUCTION IS LIMITED TO THE AREA THAT CAN BE BACKFILLED AND STABILIZED AT THE END OF EACH WORKING DAY.







DATE: 01/30/01

BY NO.

	EROSION & SEDIMENT CONTROL PLAN EP-2

100' SCALE MAP NO. 43 BLOCK NO. 10

STORM DRAIN IMPROVEMENT ELKRIDGE HEIGHTS HOWARD CO., MARYLAND

SCALE AS SHOWN SHEET 5 OF 7

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

CHIEF, TRANSPORTATION DATE AND SPECIAL PROJECTS DIVISION.

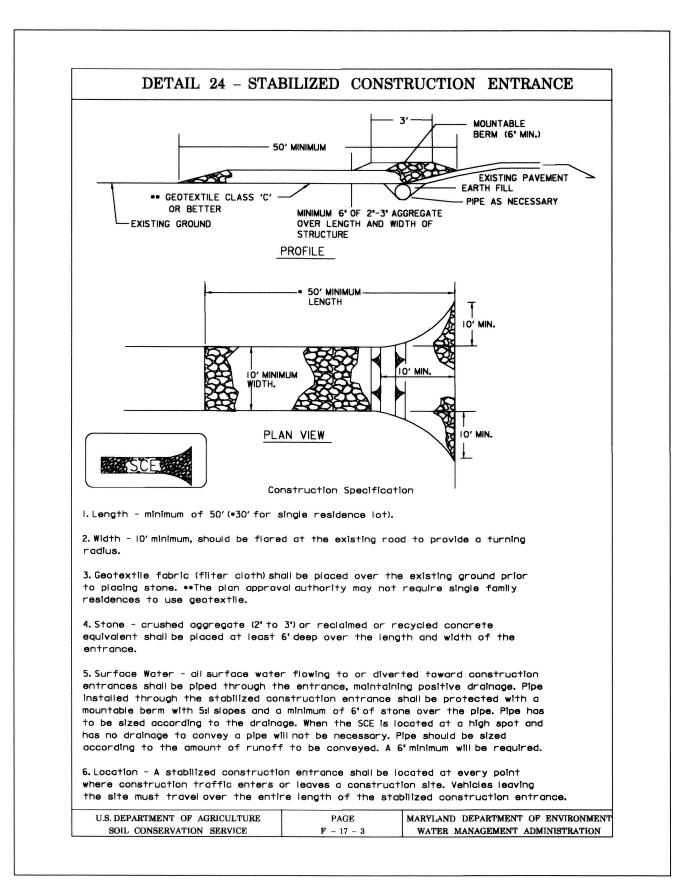
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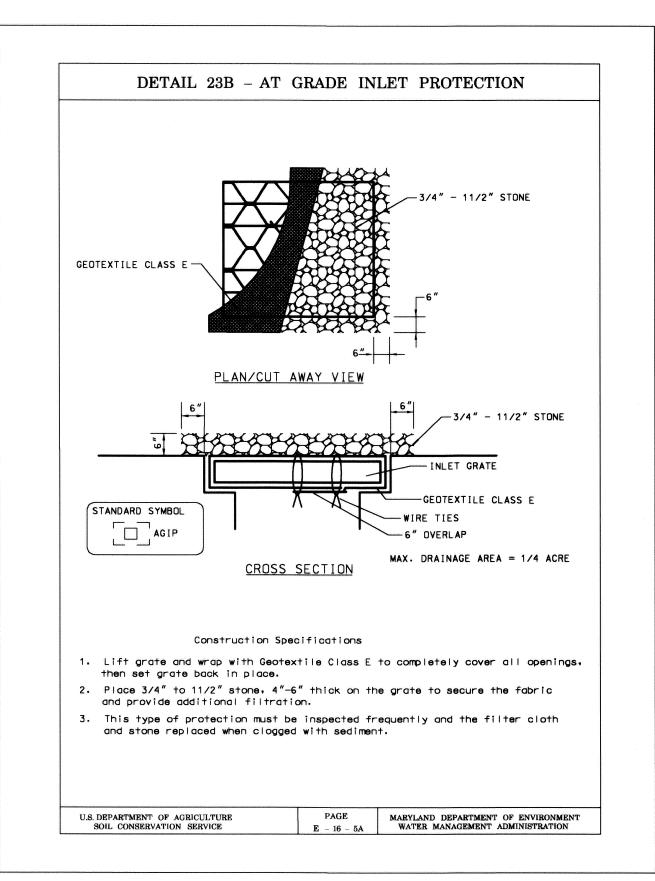
ENGINEERS:

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(410) 512-4500 (410) 324-4100 (FAX) WHITNEY, BAILEY, COX & MAGNANI, LLC

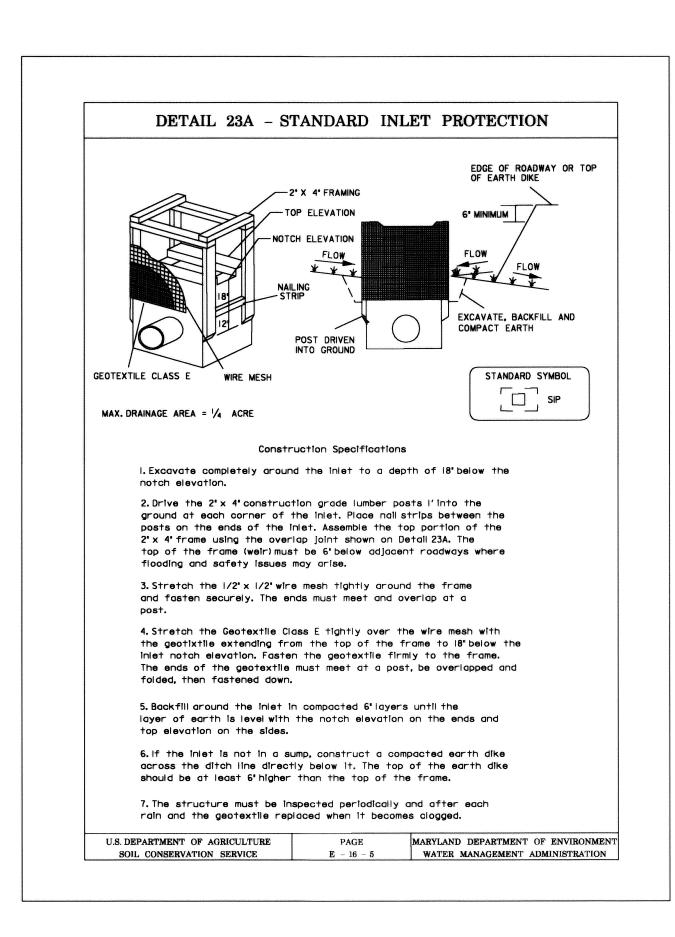
ijiii RJM ENGINEERING, INC. CONSULTING ENGINEERS COLUMBIA, MARYLAND

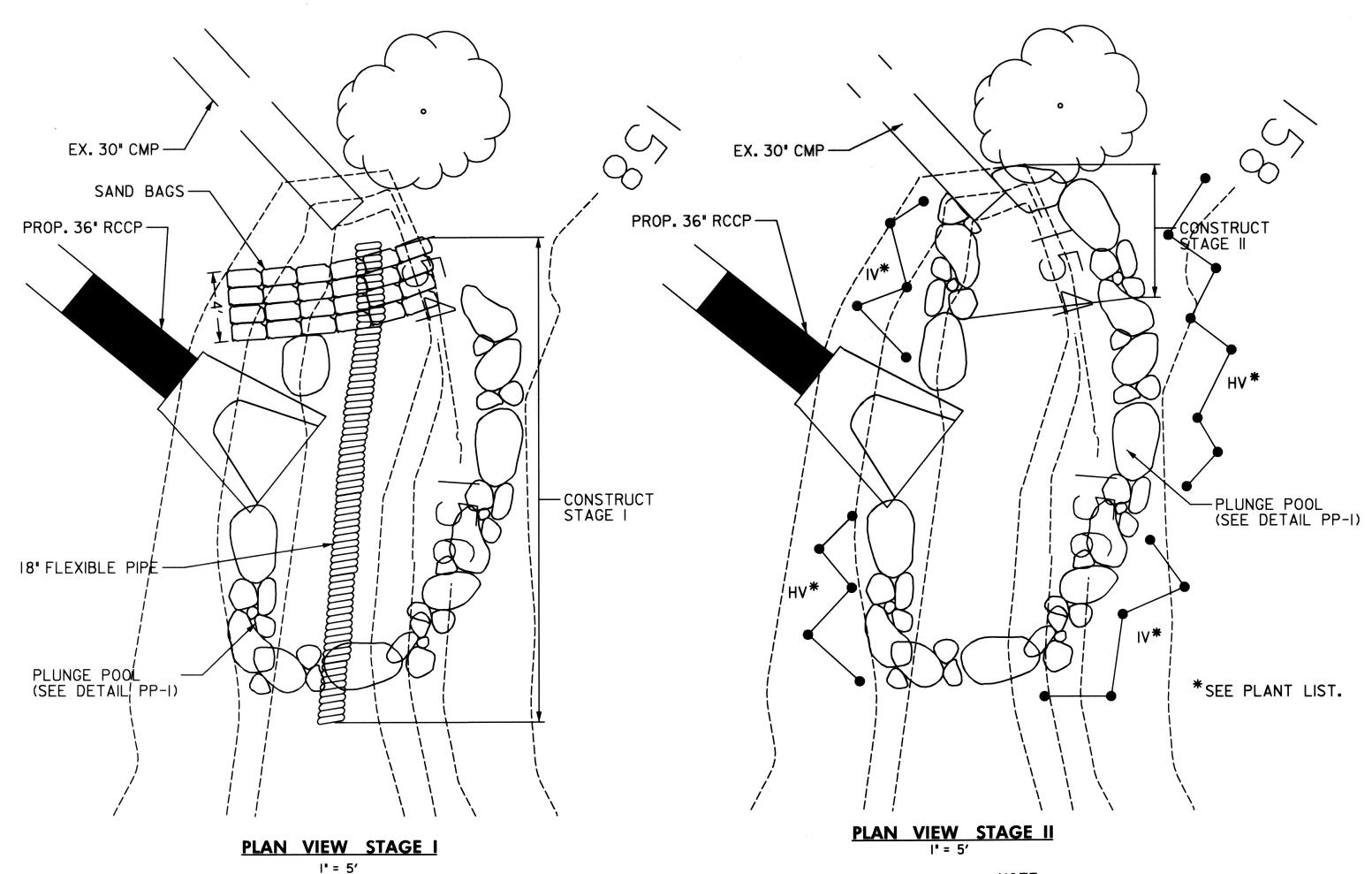




HOWARD COUNTY, MARYLAND

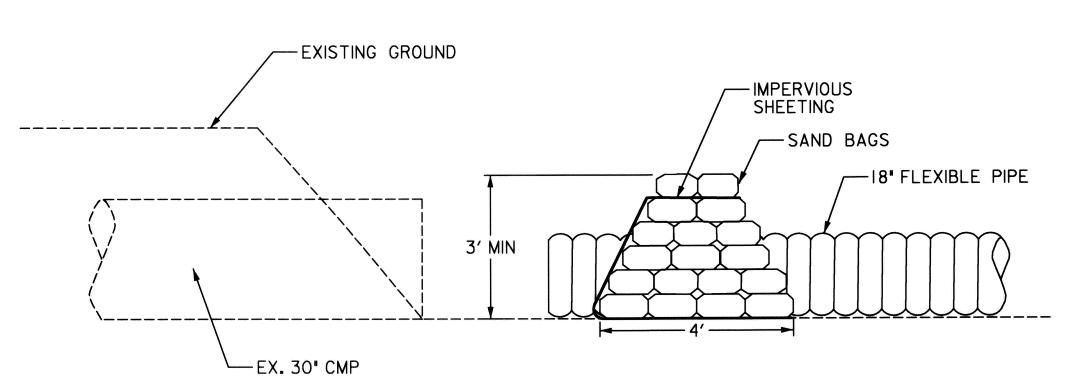
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION.





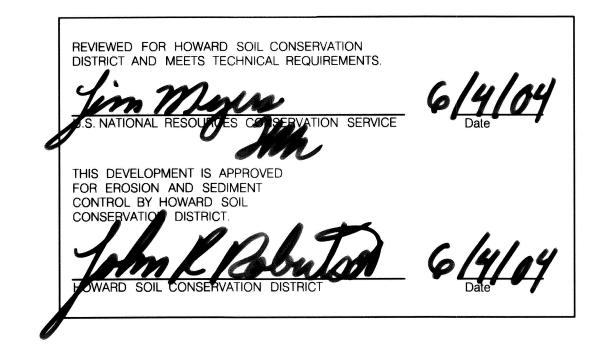
PLUNGE POOL CONSTRUCTION DETAILS

I. STAGE II SHALL BE CONSTRUCTED AFTER PROPOSED DRAINAGE SYSTEM IS COMPLETE AND IN OPERATION.



PROFILE VIEW FLEXIBLE PIPE CONNECTION DETAIL

		PLANT LIST	
KEY	QUANTITY	BOTANICAL NAME	SIZE
HV.	13	HAMMELIS VIRGINIANA/ WWITCHAZEL	18"-24"
IV.	10	KEX VERTICALLATA WINTERBERRY.	18"-24"



		DES:
Consulting Engineers 849 Fairmount Avenue (410) 512-4500		DRN:
Baltimore, Maryland 21286 (410) 324-4100 (FAX)	RJM ENGINEERING, INC. CONSULTING ENGINEERS	CHK:
WHITNEY, BAILEY, COX & MAGNANI, LLC	COLUMBIA, MARYLAND	

	DES:					EROSION & SEDIMENT
	DRN:					CONTROL DETAILS
3	CHK:					EP-3
103	DATE: 01/30/01	BY	NO.	REVISION	DATE	100' SCALE MAP NO. 43 BLOCK NO. 10

STORM DRAIN IMPROVEMENT ELKRIDGE HEIGHTS HOWARD CO., MARYLAND

SCALE AS SHOWN
SHEET 6 OF 7

