

AS-BUILT 6/7/95

QUANTITIES

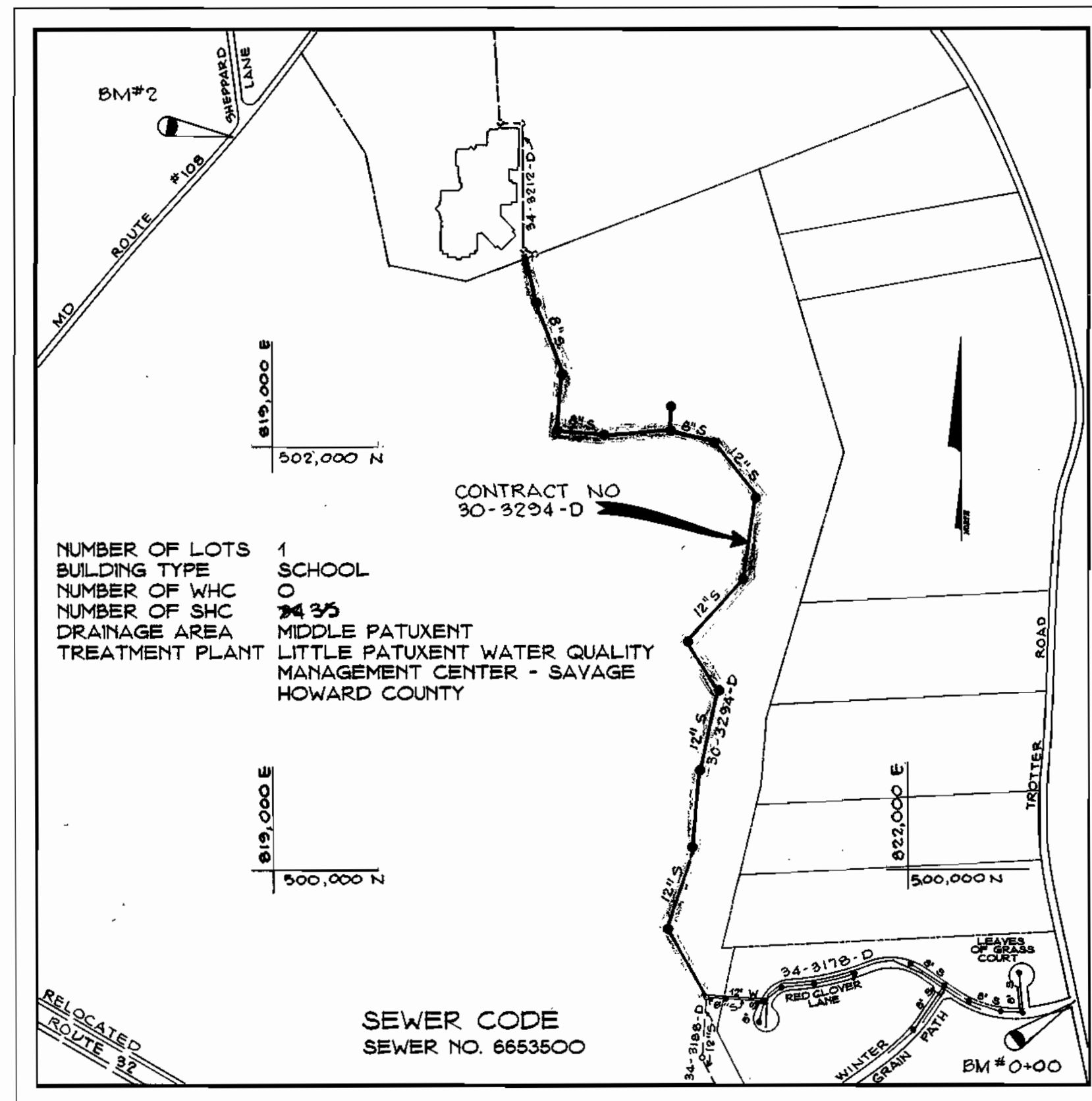
ITEM	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
12" DIP SEWER (class 52)	1,535 LF	1533 LF	CLASS 52	ATLANTIC STATES / A-1 PIPE INC.
12" SEWER SDR-35	1,420 LF	1421 L.F.	SDR-35	J.M.-MFG./WATERPRO
8" SEWER	1,593 LF	1593 L.F.	SDR-35	J.M.-MFG./WATERPRO
8" DIP SEWER (class 52)	125 LF	125 L.F.	CLASS 52	ATLANTIC STATES / A-1 PIPE INC.
MANHOLES-	213 VF	186 V.F.	PRECAST	ATLANTIC CONCRETE PROD
4" SHC	245 LF	240 L.F.	SDR-35	J.M.-MFG./WATERPRO
4" DHC	59 VF	65 V.F.	SDR-35	J.M.-MFG./WATERPRO
4" SHC (DIP)	90 LF	100 L.F.	CLASS 52	ATLANTIC STATES / A-1 PIPE

UTILITY CONTRACTOR: GAINES + CO.

SURVEY AND DRAFTING DIVISION AS-BUILT DATE

TRAVERSE COORDINATES

NO.	NORTH	EAST
69	499,307.9107	820,973.8412
70	499,505.5103	821,147.8467
71	499,702.7000	820,986.6047
72	500,243.0198	820,959.6747
73	500,510.9935	821,157.9271
74	500,655.2228	821,265.0152
75	500,731.0740	821,320.8133
76	501,027.3589	821,199.5792
77	501,221.3527	821,279.4805
78	501,433.0448	821,341.0751
79	501,678.2903	821,253.7065
80	501,809.7186	820,452.5831
81	502,076.9426	820,440.7692
82	502,927.7862	820,145.2807



VICINITY MAP

SCALE: 1" = 600'

GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA.
- 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. 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.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. 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 WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION 333-1100
 - BG&E CO. CONTRACTOR SERVICES 650-4620
 - BG&E CO. UNDER GROUND DAMAGE CONTROL 787-9088
 - MISS UTILITY 1-800-257-7777
 - COLONIAL PIPELINE COMPANY 795-1990
 - HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION 313-1880
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN 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.
- ALL SEWER MAINS SHALL BE DIP, RCP, VCPX, CSPX, RCCP AND P.V.C. UNLESS OTHERWISE NOTED.
- DELETED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- MANHOLES SHOWN WITH 12" x 20" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT MANHOLE FRAME AND COVERS, STANDARD DETAIL G5.82 WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- LETTER OF AUTHORIZATION ISSUED BY THE STATE OF MARYLAND, WATER RESOURCES ADMINISTRATION ON OCTOBER 6, 1993. FILE NO. 93-NT-0646/199367106.

BM # 2 ELEV. 484.671
 HO. CO. MONUMENT # 2037004. CONCRETE MONUMENT 0.8' BELOW SURFACE, 4.6' OFF NORTHWEST EDGE OF PAVING OF ROUTE 108, 42.2' SOUTHWEST OF CENTERLINE SHEPPARD LANE.

BM # 0+00 ELEV. 397.110
 PK. NAIL IN MACADAM IN TROTTER 5.9' FROM EDGE OF ROAD 53.1' SOUTH OF BG&E POLE #23749

NOTE:
 THE CONTRACTOR SHALL ONLY OPEN THAT PORTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED BY DAYS END. DURING CONSTRUCTION ALL EXCAVATED MATERIAL SHALL BE PILED ON THE UPHILL SIDE OF THE TRENCH AND PROTECTED FROM EROSION UNTIL BACKFILLED.

CONTRACT NO. 30-3294 D

VILLAGE OF RIVER HILL

SECTION 4

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

Patricia Engler 1/3/94
 U.S. SOIL CONSERVATION SERVICE DATE

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

John R. Polutson 1/3/94
 HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James P. Lewis 1/5/94 *Paul W. Reason* 1/4/94
 DIRECTOR OF PUBLIC WORKS DATE CHIEF-BUREAU OF ENGINEERING DATE

Michael A. ... 12/23/93 *...* 1/1/94
 CHIEF-BUREAU OF UTILITIES DATE CHIEF-LAND DEVELOPMENT DIVISION DATE

PREPARED BY: *Phoenix Engineering, Inc.*
 CONSULTING ENGINEERS
 817 MAIDEN CHOICE LANE, SUITE 300
 BALTIMORE, MARYLAND 21228
 PHONE: (410) 247-8833 FAX: (410) 247-9397

DES: R.J.W.			
DRN: A.J.R.			
CHK: J.R.H.			
DATE: 9/93			
BY NO.		REVISION	DATE

VICINITY MAP AND GENERAL NOTES

600' SCALE MAP NO. 35 BLOCK NO. 1 & 7

COLUMBIA VILLAGE OF RIVER HILL SECT. 4
 CRICKET CREEK EXTENSION TO WESTERN HS.
 ELECTION DISTRICT 5
 CONTRACT NO. 30-3294 D

RIVER HILL SECT. 4
 CONTRACT #30-3294 D

SCALE: AS SHOWN

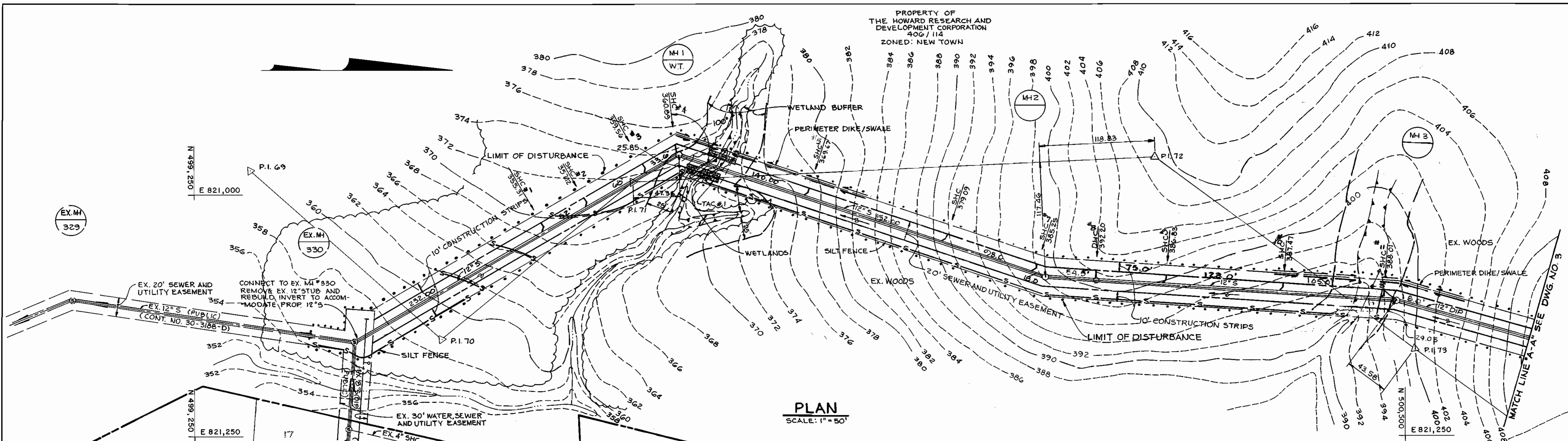
DRAWING NO. 1 OF 6

AS-BUILT 6/7/95

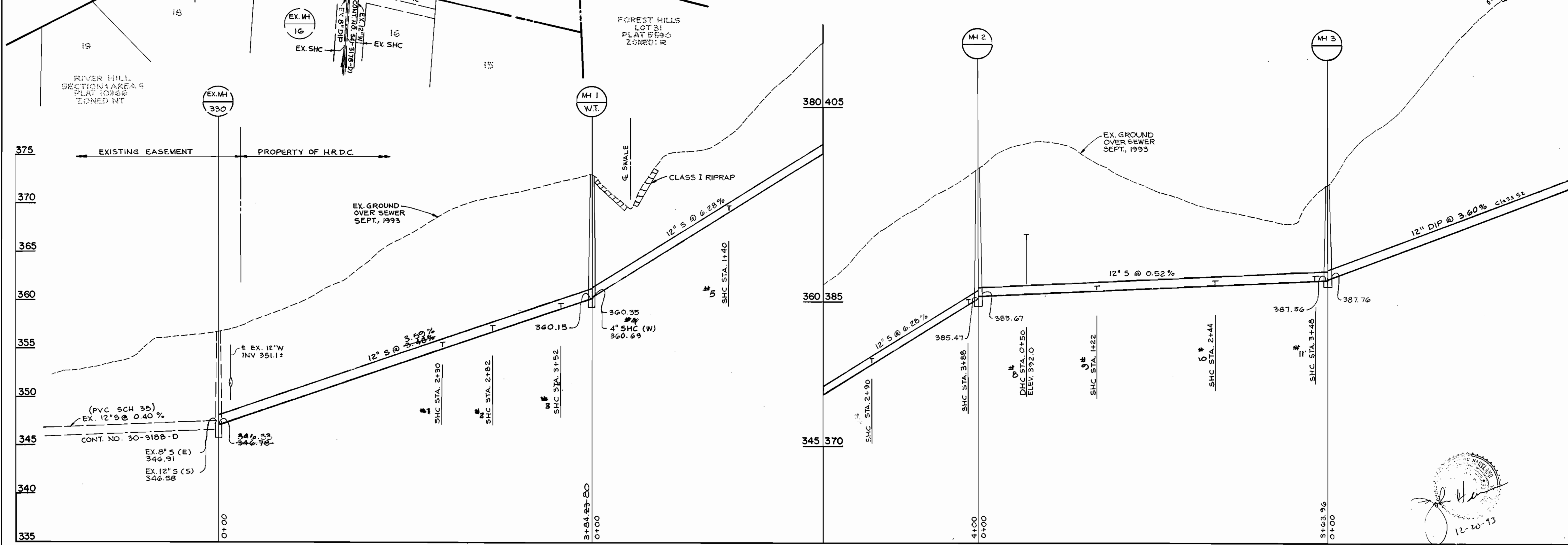
WS/1 VRH

3294

AS-BUILT 6/7/95



PLAN
SCALE: 1" = 50'



PROFILE
H: 1" = 50'
V: 1" = 5'

3294 ws/z YRH

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. Schum 1/1/94 *Paul J. Spon* 1/1/94
DIRECTOR OF PUBLIC WORKS DATE CHIEF-BUREAU OF ENGINEERING DATE

Michael A. ... 1/1/94 *...* 1/1/94
CHIEF-BUREAU OF UTILITIES DATE CHIEF-LAND DEVELOPMENT DIVISION DATE

PREPARED BY:
PHOENIX ENGINEERING, INC.
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PHONE: (410) 247-8833 FAX: (410) 247-9397

DES: R.J.W.	
DRN: A.J.R.	
CHK: J.R.H.	
DATE: 9/93	
BY NO.	REVISION

PLAN AND PROFILE
OF SEWER MAINS

600' SCALE MAP NO. 35 BLOCK NO. 1 & 7

COLUMBIA VILLAGE OF
RIVER HILL SECT 4
CRICKET CREEK EXTENSION
ELECTION DISTRICT 5
CONTRACT NO. 30-3294 D

SCALE: AS SHOWN

DRAWING NO. 2 OF 6

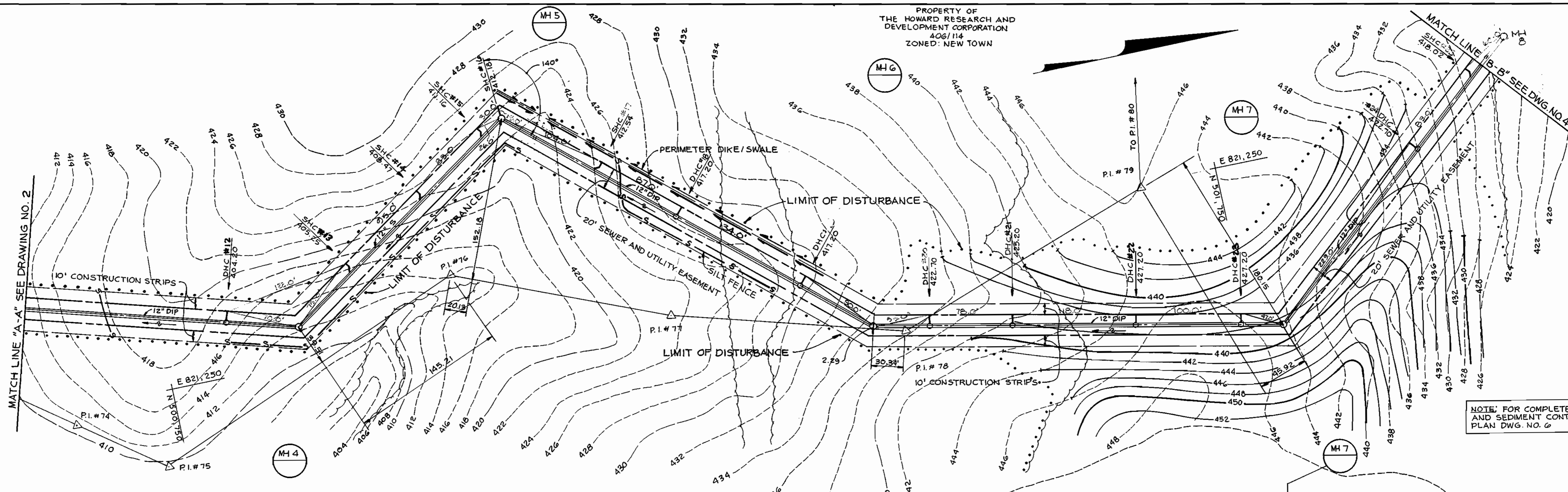


AS-BUILT 6/7/95

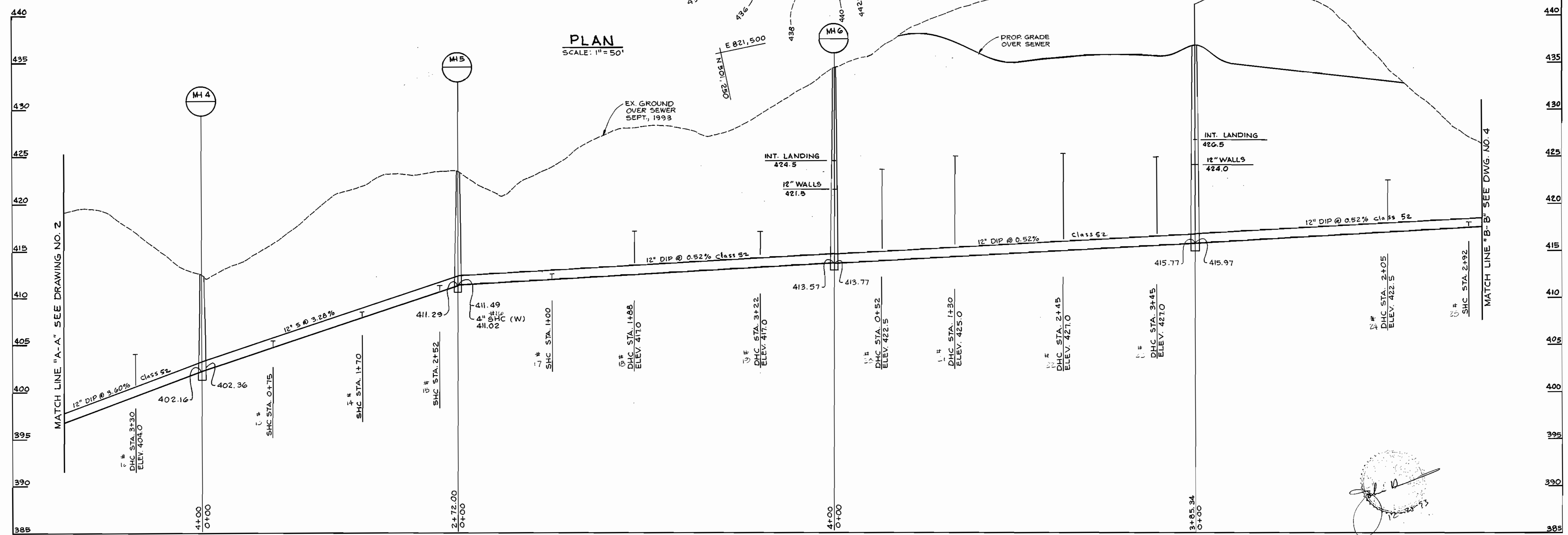
3294 WS/3 VRH

AS-BUILT 11/17/93

PROPERTY OF THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
406/114
ZONED: NEW TOWN



NOTE: FOR COMPLETE GRADING AND SEDIMENT CONTROL SEE PLAN DWG. NO. 6



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

1/19/94
1/19/94

12/23/93
1/14/94

PREPARED BY:
PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
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DES:	R.J.W.
DRN:	A.J.R.
CHK:	J.R.H.
DATE:	9/93
BY:	NO.
REVISION:	
DATE:	

PLAN AND PROFILE OF SEWER MAINS

600' SCALE MAP NO. 35 BLOCK NO. 1 & 7

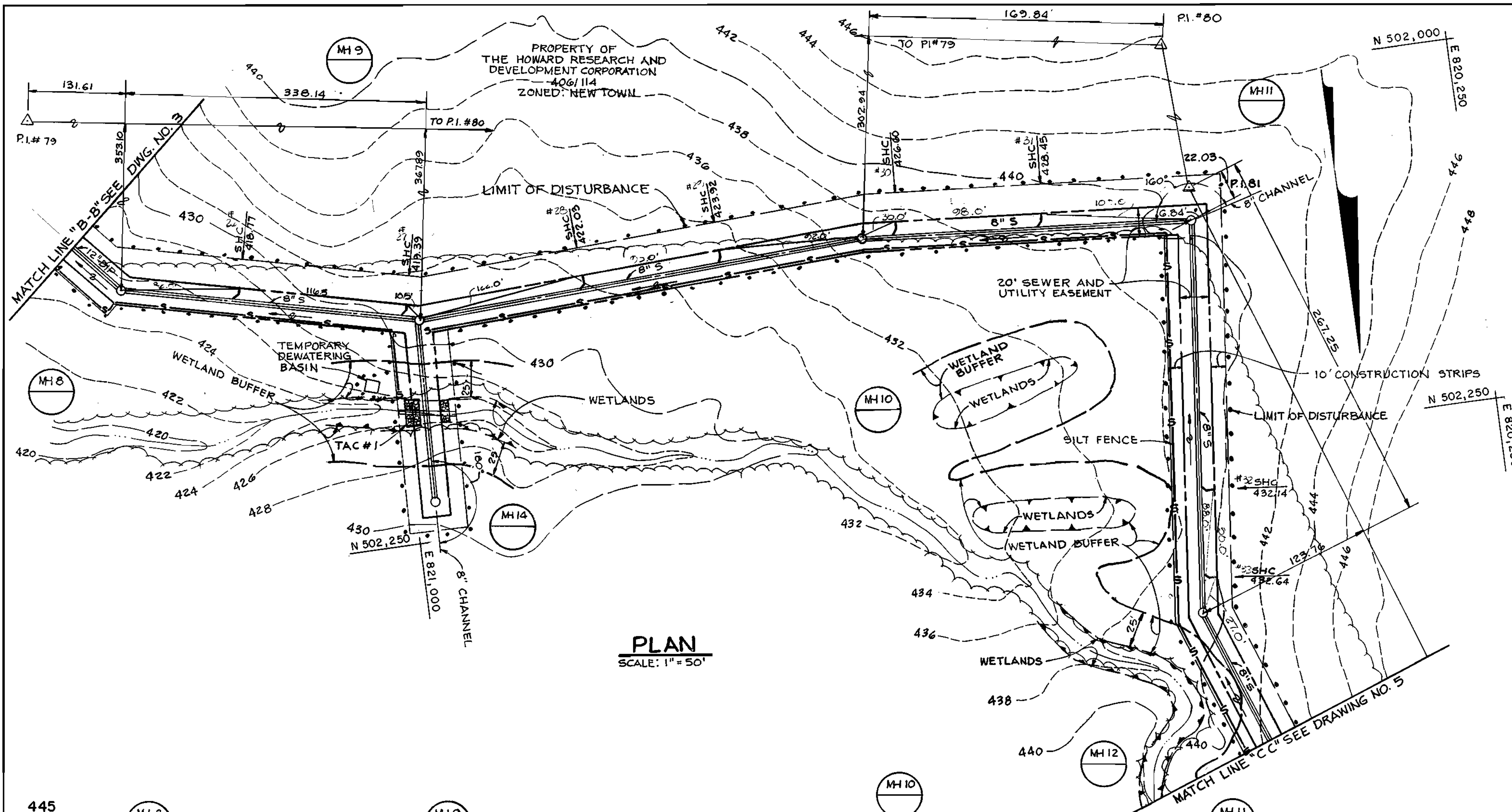
COLUMBIA VILLAGE OF RIVER HILL
CRICKET CREEK EXTENSION
ELECTION DISTRICT 5
CONTRACT NO. 30-3294 D

SCALE: AS SHOWN
DRAWING NO. 3 OF 6

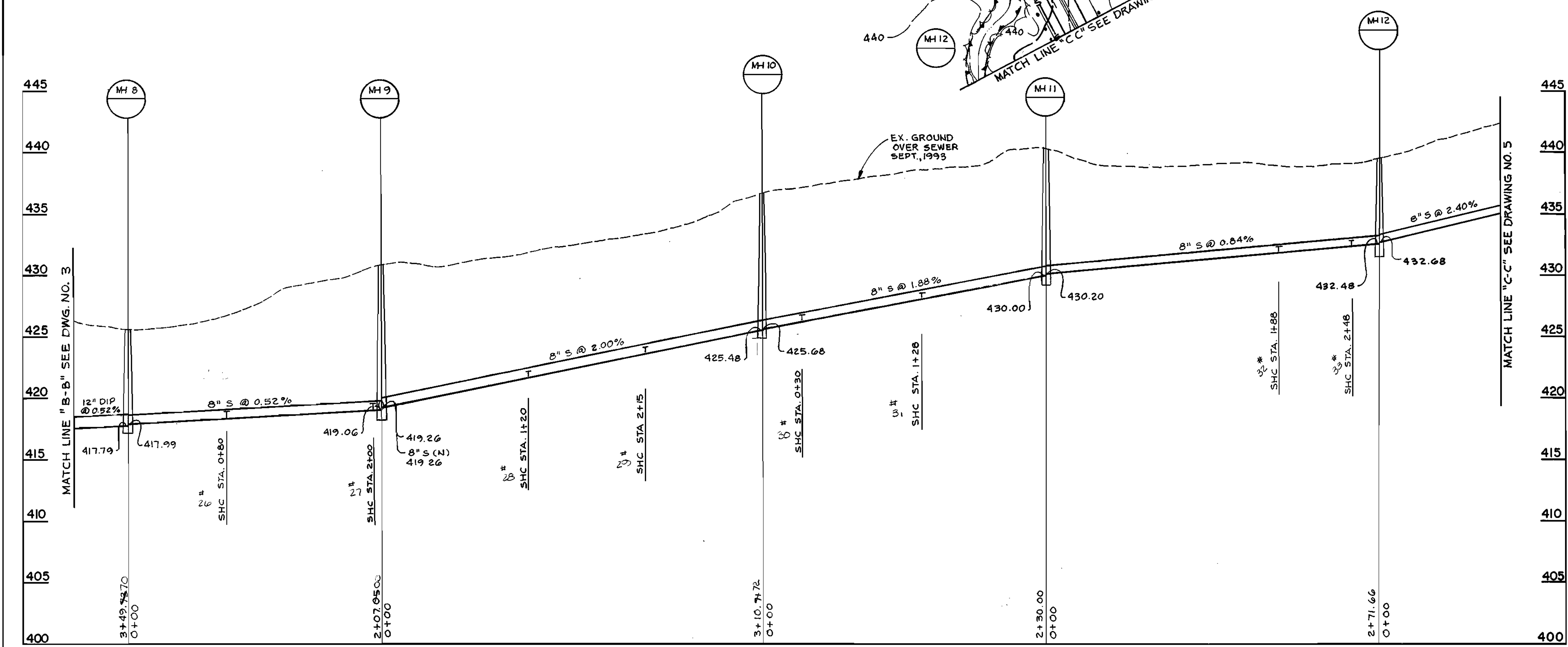
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12/23/93

AS-BUILT 11/17/93

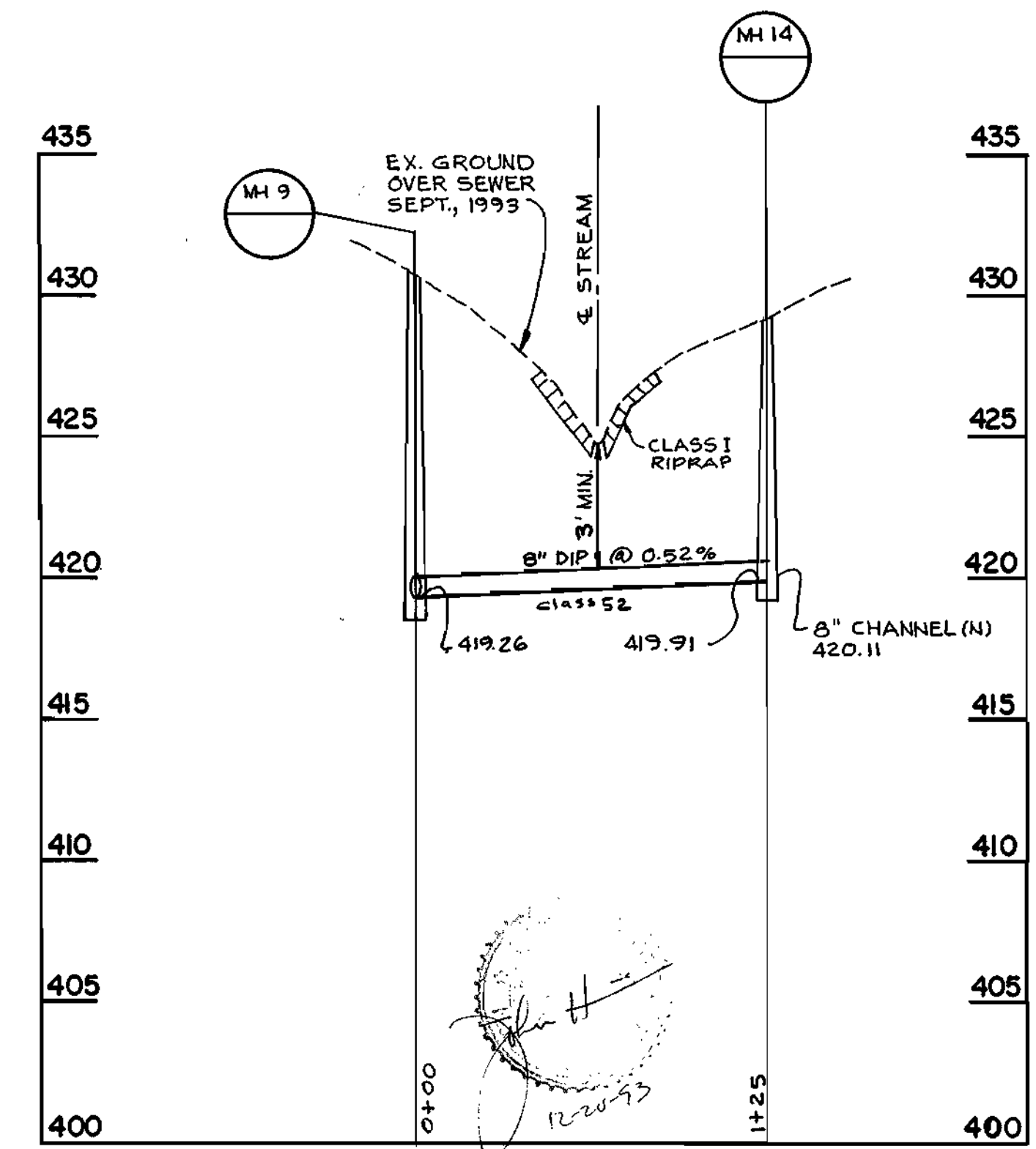
AS-BUILT 6/7/95



PLAN
SCALE: 1" = 50'



PROFILE
SCALE: H: 1" = 50'
V: 1" = 5'



RIVER HILL
SECT. 4
CONTRACT #30-3294 D

ws/4 WRH
3294

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. Lewis 11/5/94 DIRECTOR OF PUBLIC WORKS
Paul J. Ryan 11/4/94 CHIEF-BUREAU OF ENGINEERING

Michael J. ... 12/27/93 CHIEF-BUREAU OF UTILITIES
... 11/4/94 CHIEF-LAND DEVELOPMENT DIVISION

PREPARED BY:
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DES: R.J.W.	
DRN: A.J.R.	
CHK: J.R.H.	
DATE: 9/93	
BY NO.	REVISION

PLAN AND PROFILE
OF SEWER MAINS

800' SCALE MAP NO. 35 BLOCK NO. 1 & 7

COLUMBIA VILLAGE OF
RIVER HILL SECT. 4
CRICKET CREEK EXTENSION
ELECTION DISTRICT 5
CONTRACT NO. 30-3294 D

SCALE: AS SHOWN
DRAWING NO. 4 OF 6

AS-BUILT 6/7/95

Melching may be used on disturbed areas as temporary cover where vegetation is not feasible or where seeding is not practical because of weather conditions (see Section III on melching).

- 1. Site Preparation
 - a. Install needed erosion and sediment control structures (either temporary or permanent) such as diversion, grade stabilization structures, berms, waterways, or sediment control basins.
 - b. Perform all grading operations at right angles to the slope.
 - c. Final grading and staking is not usually necessary for temporary seedings.

- 2. Soil amendments
 - a. Soil tests shall be made to determine the exact requirements for both lime and fertilizer. Soil analysis may be conducted by the University of Maryland or a recognized commercial laboratory. Soil sample values for engineering purposes may also be used for chemical analysis.
 - b. Fertilizer application rates shall be based on soil tests.
 - c. Ground agricultural limestone shall be applied according to soil test recommendations. The optimum pH range for plant growth is 6.0-7.0. In situations where there is insufficient time for a soil test, apply a minimum rate of 100 lbs/1000 sq. ft. (2 tons/acre) of limestone.
 - d. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.

- 3. Seeding preparation
 - a. Seeding preparation in rough areas shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment. A few examples of this equipment are disc harrows, chain plows or ripper mounted on the soil if loosened it should be rolled or dragged smooth but left in the rough condition. Sloped areas (greater than 3:1) should be treated by a laser leveling method in a regular condition with ridges running parallel to the contour of the slope. This will avoid disturbing the microenvironment created by the tillage equipment.
 - b. Seeding mixtures
 - 1. Select one of the species or mixtures listed in Table 23. Grass seed shall be covered with no more than 1/4 inch of soil by use of a mulcher or other suitable equipment, if possible. Cover small grass seed with a 1/2" of soil.
 - 2. Melching

When seeding is done on disturbed areas, mulch material will be applied immediately after seeding. Melching shall be required where, for example, during winter when the ground is frozen. Follow Melching Recommendations in Section III.

Seeding grass and legumes to establish ground cover for a minimum period of one year on disturbed areas generally receiving low maintenance.

- 1. Site Preparation
 - a. Install needed erosion and sediment control structures such as diversion, grade stabilization structures, berms, waterways, or sediment control basins.
 - b. Perform all grading operations at right angles to the slope, if possible.
 - c. Obtain soil tests to determine the need for soil amendments.
- 2. Minimum Soil Conditions Required for Permanent Vegetation Establishment
 - a. Soil pH shall be greater than 5.5.
 - b. Soluble salts shall be less than 500 parts per million (ppm).
 - c. The soil shall contain less than 40% clay but enough fine-grained materials (over 30% silt plus clay) to provide the capacity to hold at least a moderate amount of available moisture. An exception would be planting legumes and certain lupines which can be planted on a sandy soil (less than 40% silt plus clay).
 - d. If the above conditions cannot be met, adding topsoil will provide a more adequate environment for plant establishment and growth.
- 3. Seeding Preparation
 - a. Application of topsoil material if needed.

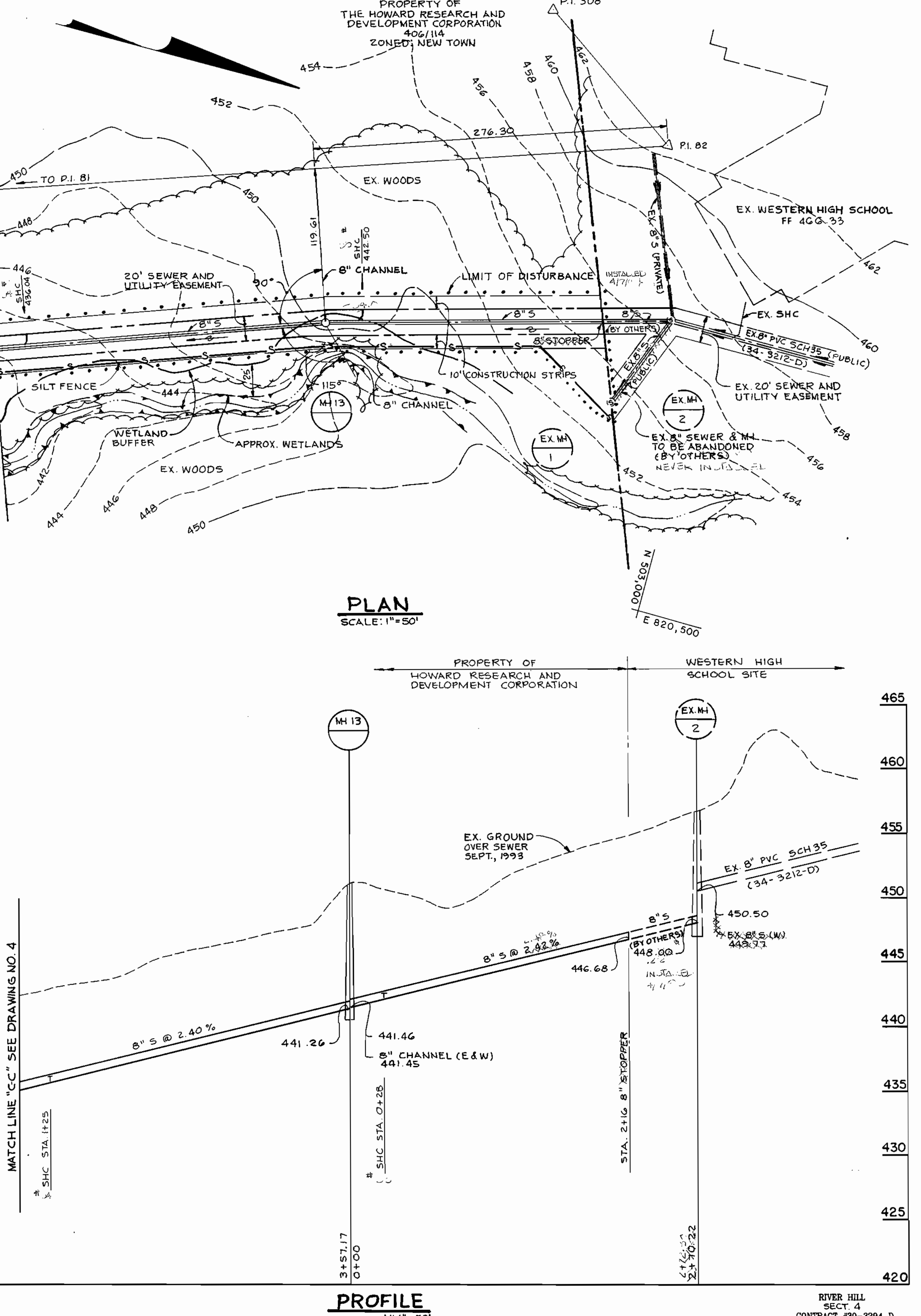
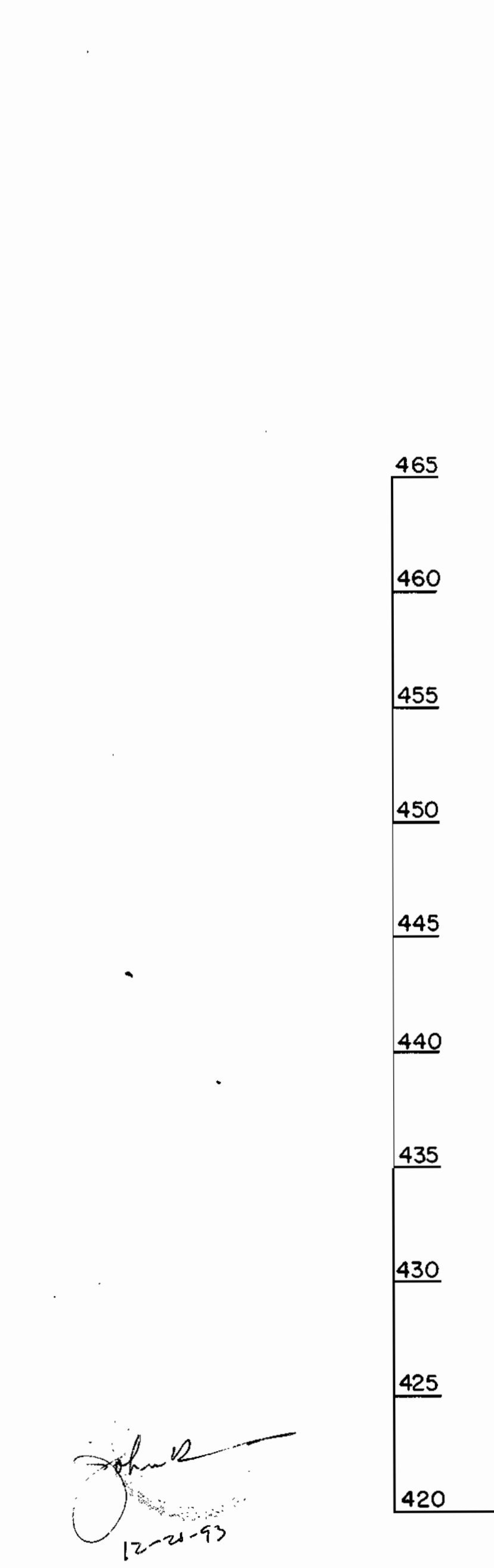
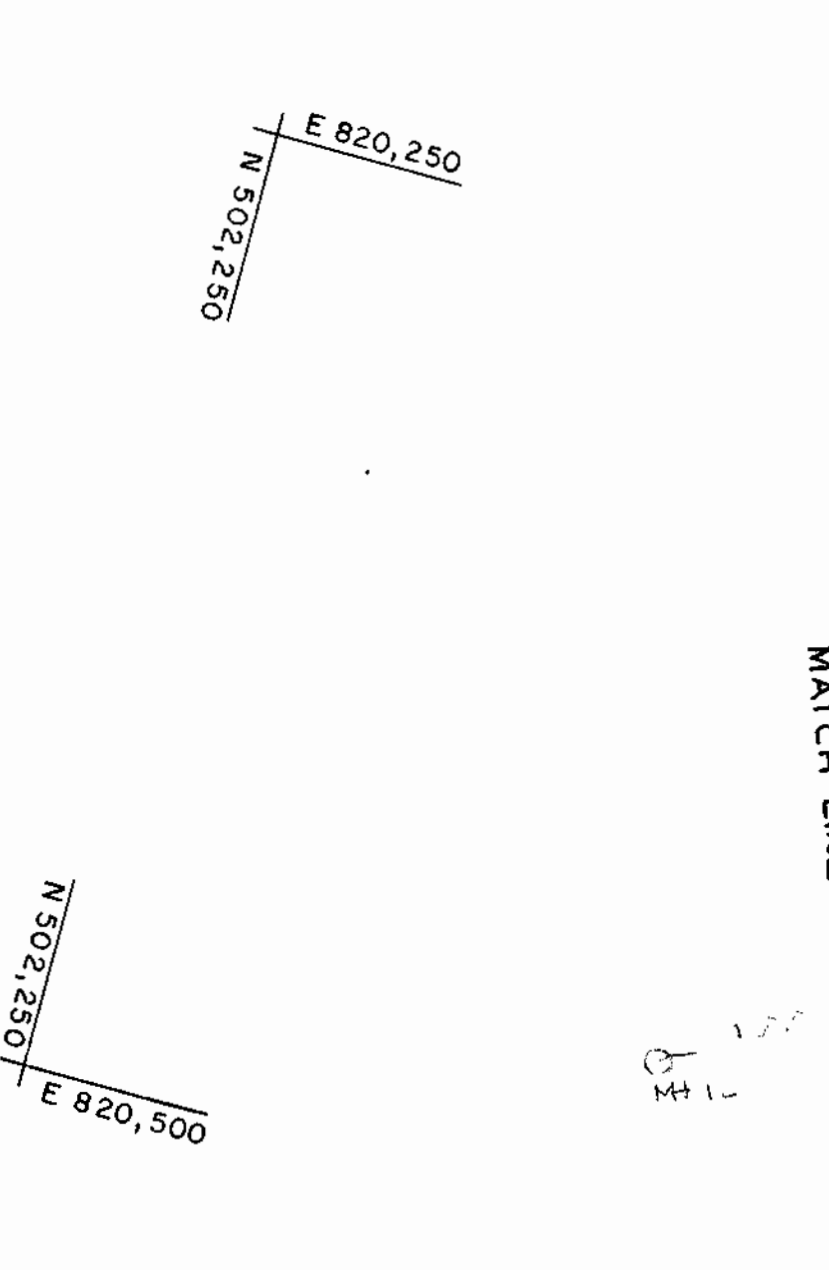
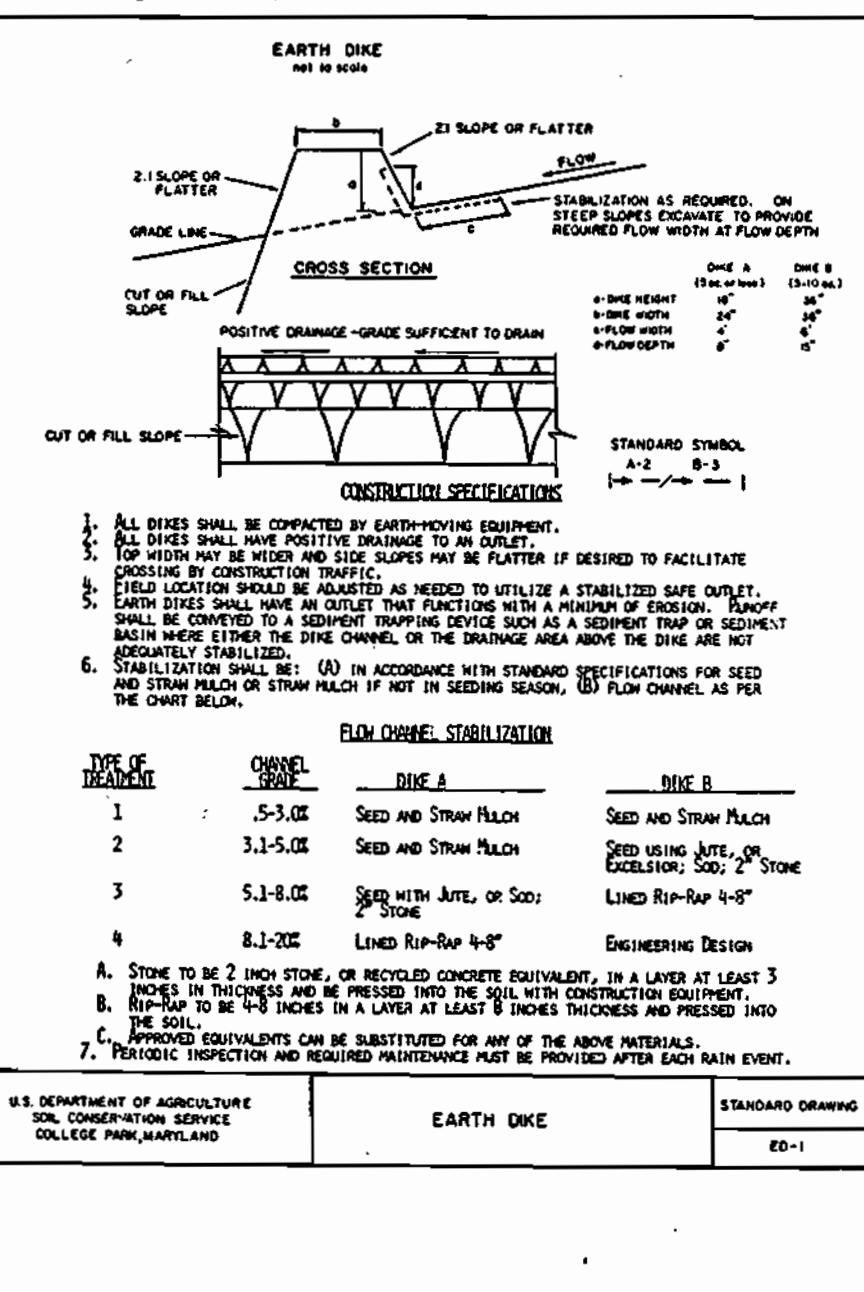
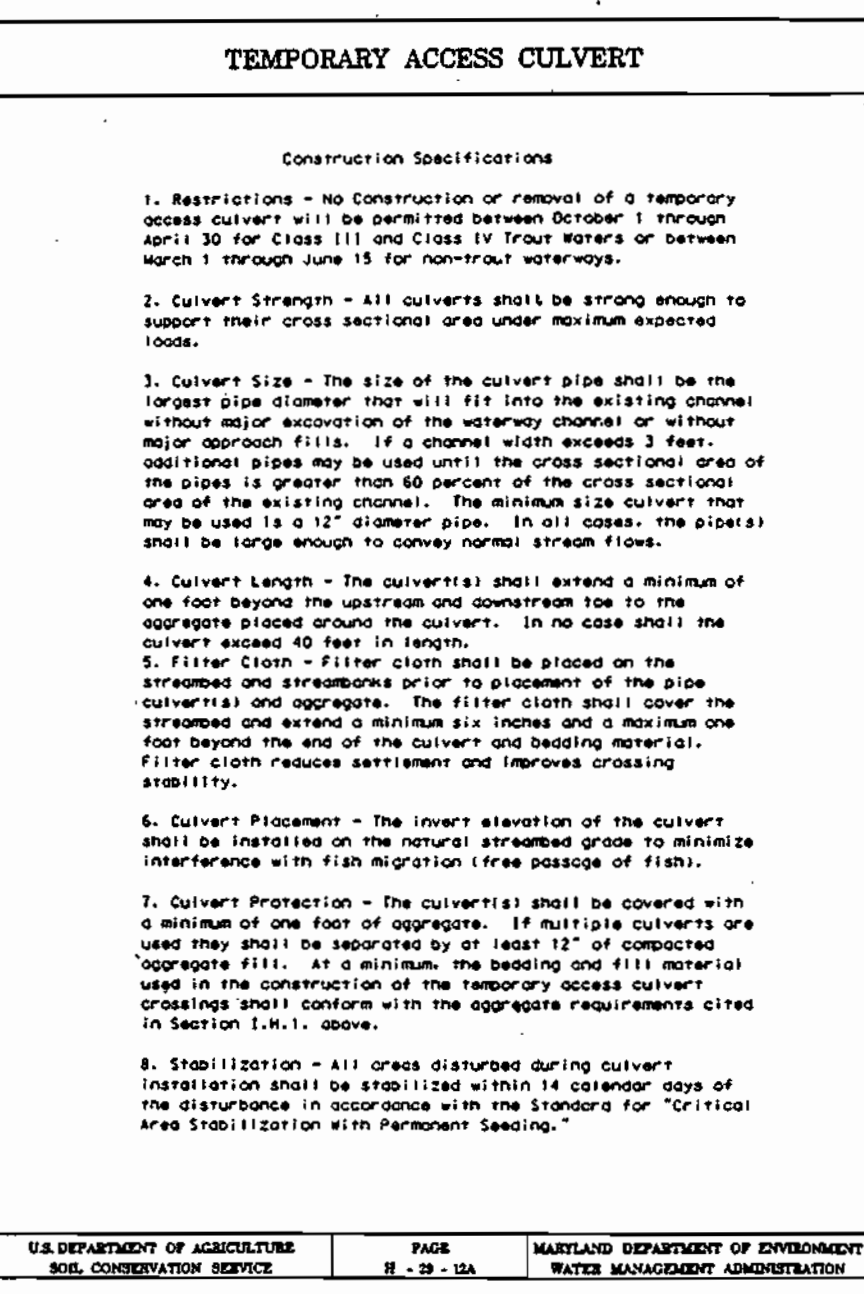
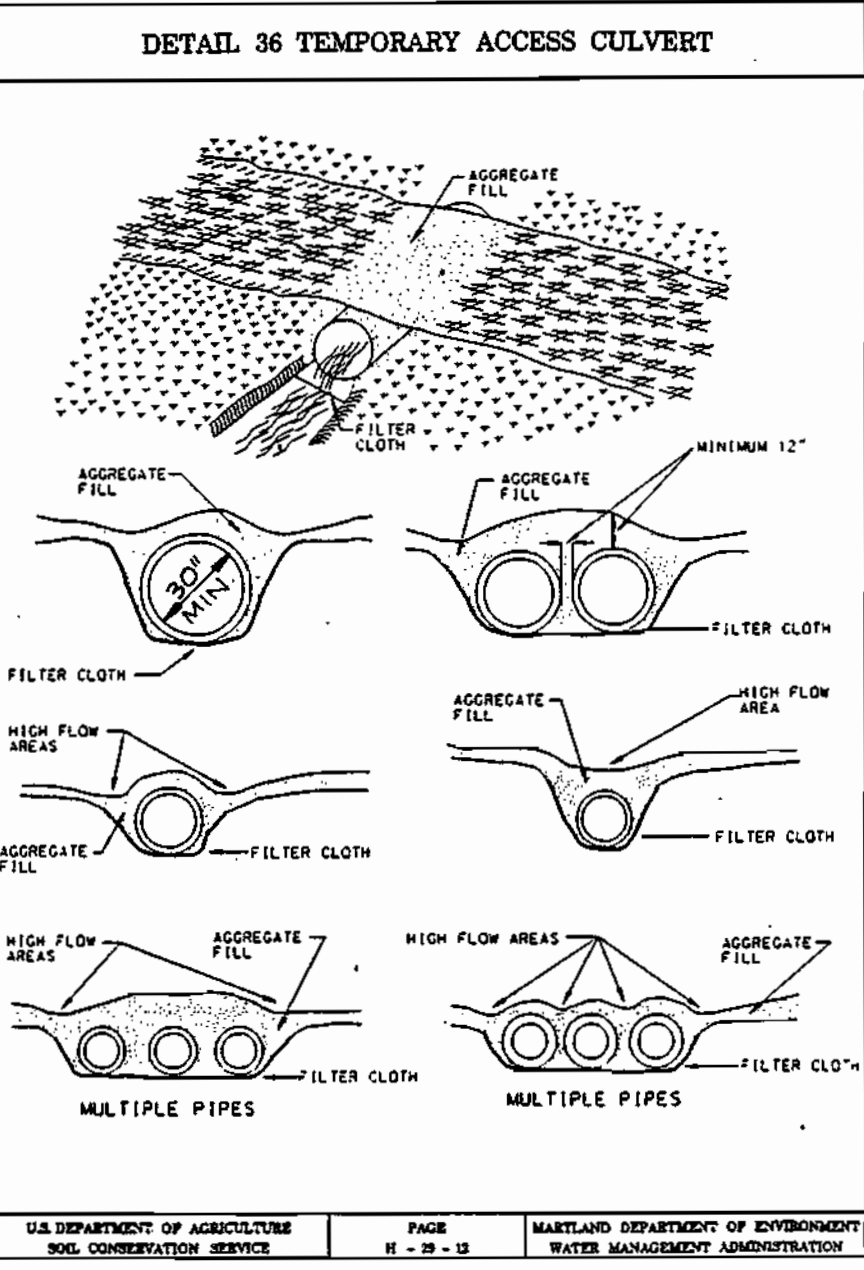
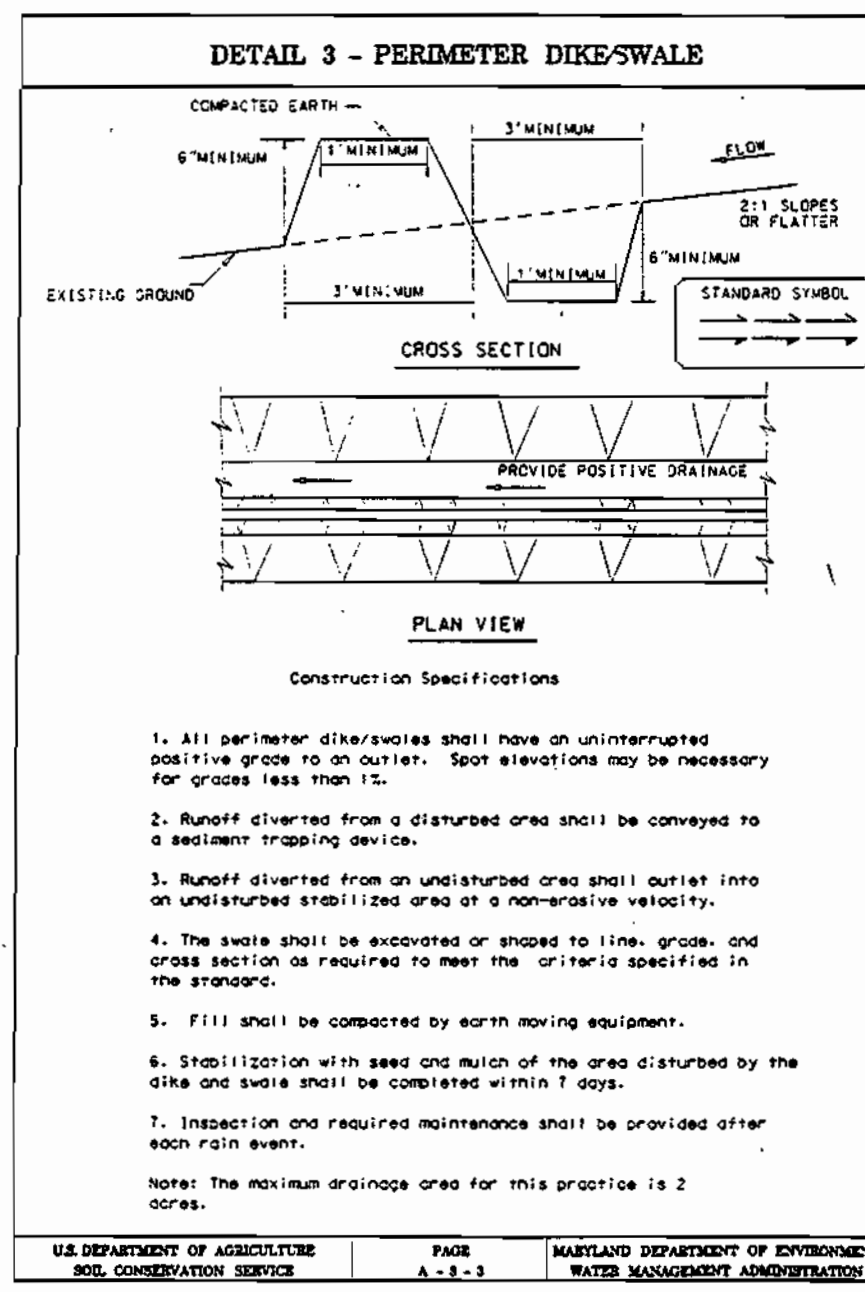
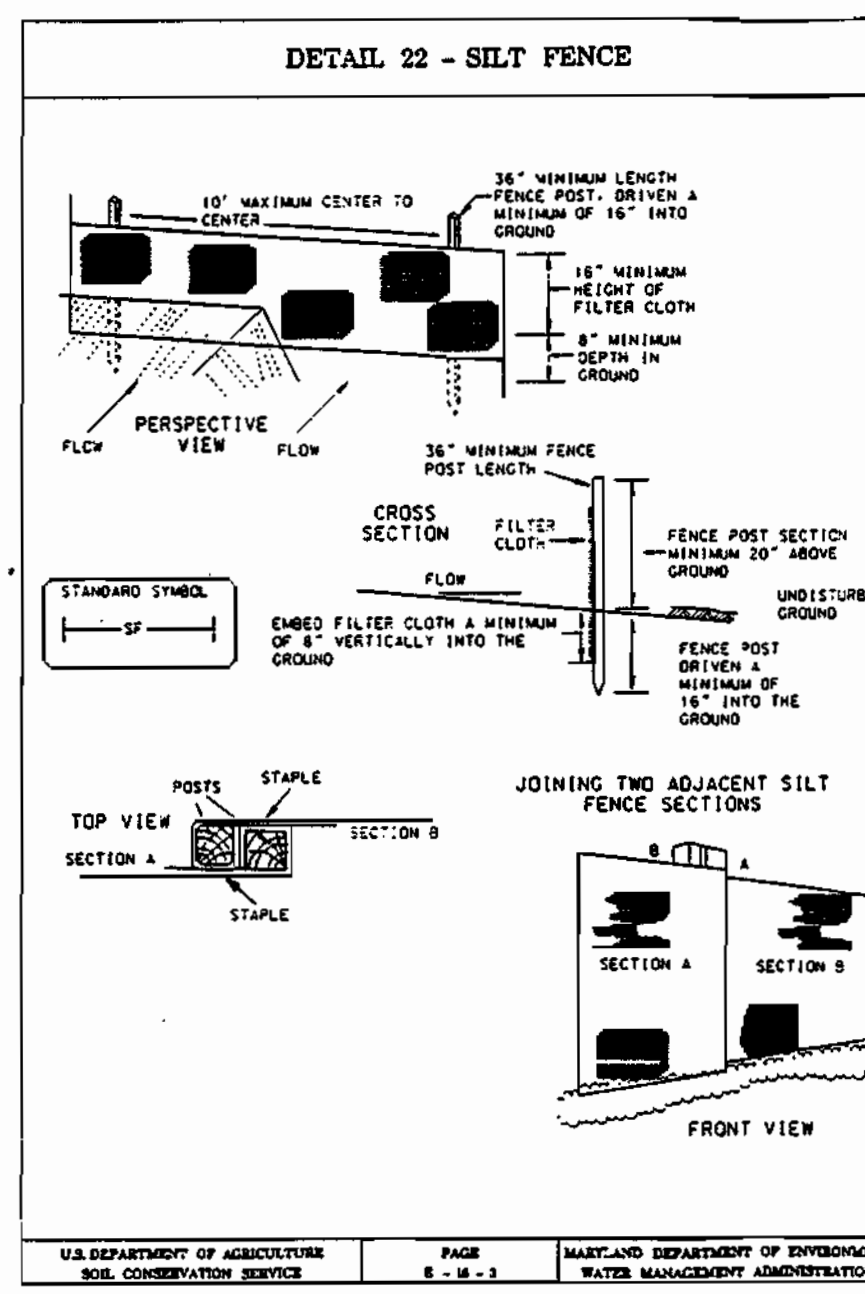
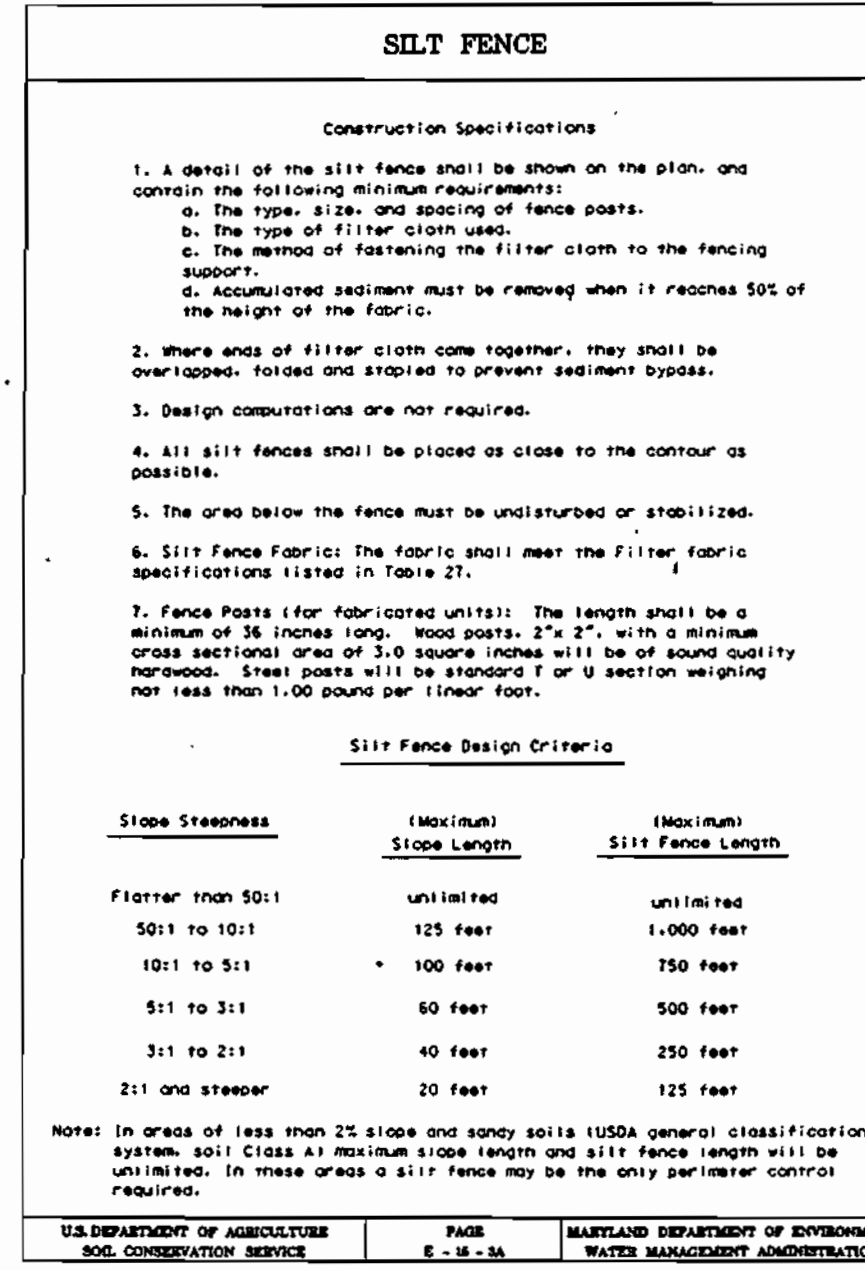
- NOTE: Soil on the existing site may be used. If used it must meet the same standards as set forth in these specifications.
- I. Material: Topsoil shall be a sandy loam, clay loam, loess, silty loam, sandy clay loam, or other soil. It shall not have a minimum of subsoil and shall not contain any slag, cinders, stones, lumps of soil, sticks, roots, trash or other extraneous materials larger than one and one-half inches in diameter. Topsoil must also be free of plant parts of bromegrass, quackgrass, johnsongrass, nutgrass, poison ivy, Canada thistle, horseweed, or others as specified. All topsoil shall be tested by a recognized laboratory for pH, soluble salts and nutrients. A pH of 6.0 to 7.0 is required. Soluble salts shall not be higher than 500 parts per million.
- II. Grading: The topsoil shall be uniformly distributed on the designated area and it shall be a minimum depth of three inches after tamping. Spreading shall be performed in such a manner that seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from spreading or other operations shall be corrected in order to prevent the formation of depressions or water pockets. Topsoil shall be placed while in a moist or sticky condition, when the subgrade is excessively wet, or in a condition that may otherwise be detrimental to proper grading or proper seeding.
- III. Clean Up: After the topsoil has been spread and the final grade approved, it shall be cleaned of all grade stakes, surface trash and other objects which would hinder matting of sodded and seeded areas. Paved areas over which hauling operations are conducted shall be kept clean, and any soil which may be brought upon the surface shall be promptly removed.

- b. Subsoil preparation prior to topsoil application
 - i. Areas which have been previously graded in accordance with the drawings shall be maintained in a true and even grade.
 - ii. Where the subsoil is highly acid or composed of heavy clays, ground agricultural limestone may be spread. The rate should be determined by a soil test. Lime should be distributed uniformly over the designated area.
 - iii. After the area to be topsoiled has been brought to grade and immediately prior to dumping and spreading topsoil, the subgrade shall be loosened by disking or scarifying to a depth of at least 2 inches to permit bonding of the topsoil to the subsoil and to incorporate lime.

- c. Subsoil preparation for seeding where topsoil is added.
 - Where the conditions permit, prepare seedbed by loosening the soil to a depth of three to five inches with suitable equipment. Where site conditions will not permit normal seedbed preparation, loose surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (greater than 3:1) should be treated by a laser leveling method in a regular condition with ridges running parallel to the contour of the slope. The top 3" of soil should be loose and friable. Seeded loosening may not be necessary on newly disturbed areas.
- d. Fertilizer and lime amendments
 - i. Fertilizers: All fertilizers shall be uniform in composition, free flowing, and suitable for application by approved equipment. Fertilizers shall be delivered to the site fully labeled according to applicable state regulations and shall bear the name, trade name, or trademark, and warranty of the producer. Fertilizer application rates shall be determined by soil tests. Fertilizers of grade 15-10-10 to 10-20-20 are suitable. A slow release urea-form fertilizer (18-0-0) may also be used to provide nitrogen over a longer period of time.
 - ii. Lime: Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contain at least 90% calcium oxide (calcium oxide plus magnesium oxide). Limestone shall be ground to mesh finer than a 100 mesh sieve and 98 to 100% will pass through a 20 mesh sieve. Application rates for liming material shall be determined by soil tests. (Optimum pH range is 6.0 to 7.0).

- e. Fertilizer and Lime Application
 - i. Soil tests must be conducted for sites over 5 acres. For sites under 5 acres, apply 1.5 lbs. actual nitrogen/1000 sq. ft. (1.5 lbs. actual) and 1 lb. actual P₂O₅ and K₂O/1000 sq. ft. (1.5 lbs. actual). A slow release urea-form fertilizer (18-0-0) may be applied to areas receiving low maintenance or provide nitrogen over a longer period of time. For site treatment, apply 150 lbs/acre of urea-form fertilizer in addition to the above fertilizer application at time of seeding. Ground agricultural limestone shall be applied at two bushels/acre. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
- f. Seed

Refer to Table 23 for seeding mixtures. Additional planting specifications for exceptional site such as shrubbery, ornamentals, or trees or for special purposes such as wildlife or aesthetic enhancement may be found in USDA-SCS Technical Field Office Guide, Section 142 - Critical Area Planting.



3294

WS/5 VRH

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS: [Signature] DATE: 11/16/93
CHIEF-BUREAU OF UTILITIES: [Signature] DATE: 11/16/93

PREPARED BY:
PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
817 MAIDEN CHOICE LANE, SUITE 300
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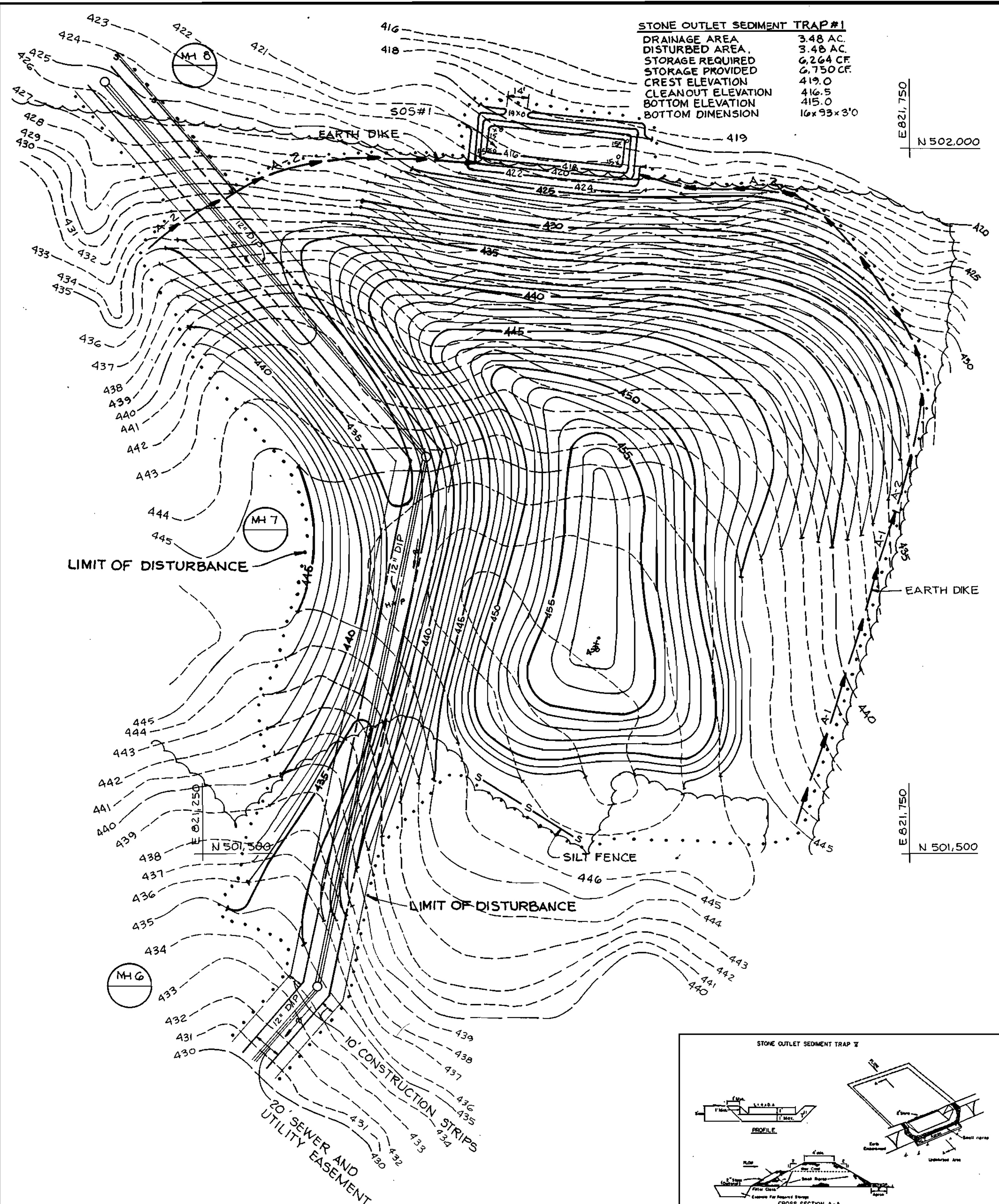
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DRN:	A.J.R.
CHK:	J.R.H.
DATE:	9/93
BY NO.	
REVISION	
DATE	
800' SCALE MAP NO.	35
BLOCK NO.	1 & 7

PLAN AND PROFILE
OF SEWER MAINS
AND SEDIMENT CONTROL DETAILS

COLUMBIA VILLAGE OF
RIVER HILL SECT. 4
CRICKET CREEK EXTENSION
ELECTION DISTRICT 5
CONTRACT NO. 30-3294 D

SCALE: AS SHOWN
DRAWING No. 5 of 6

45-BUILT 6/7/95



STONE OUTLET SEDIMENT TRAP #1
 DRAINAGE AREA 3.48 AC.
 DISTURBED AREA 3.48 AC.
 STORAGE REQUIRED 6,264 CF.
 STORAGE PROVIDED 6,750 CF.
 CREST ELEVATION 419.0
 CLEANOUT ELEVATION 416.5
 BOTTOM ELEVATION 415.0
 BOTTOM DIMENSION 16x93x3'0"

CONDITIONS AND MAINTENANCE PRACTICES FOR WORKING IN NONTIDAL WETLANDS AND BUFFERS

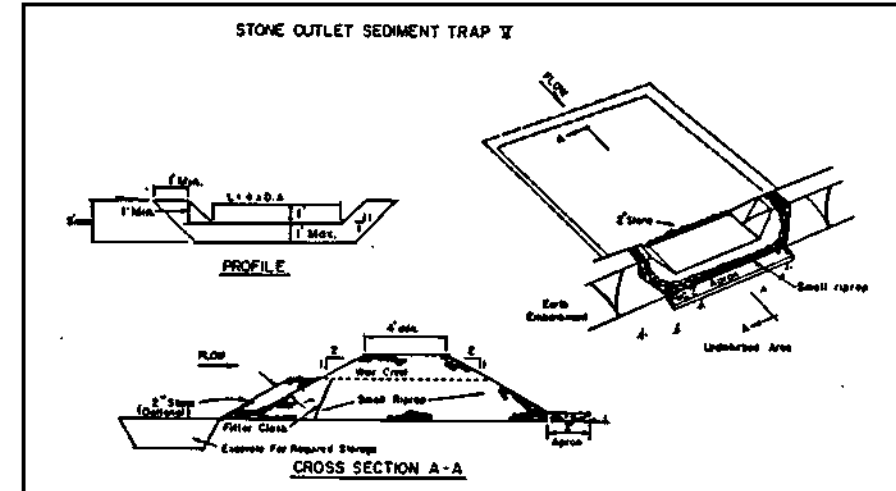
- FOR UTILITY LINE INSTALLATION, STRIP, STOCKPILE AND MAINTAIN SEPARATELY THE TOP 6" OF SOIL MATERIAL, TO BE REPLACED AS THE TOP LAYER OF THE BACKFILLED MATERIAL.
- REMOVE EXCESS FILL OR CONSTRUCTION MATERIAL OR DEBRIS TO AN UPLAND DISPOSAL AREA, OUTSIDE OF ANY FLOODPLAIN, WATERWAY, WETLAND OR BUFFER.
- PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE NONTIDAL WETLAND.
- USE PREVIOUSLY EXCAVATED MATERIAL AS BACKFILL, UNLESS IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE. USE CLEAN BORROW MATERIAL WHEN EXCAVATED MATERIAL IS NOT SUITABLE FOR USE AS BACKFILL.
- RECTIFY ANY NONTIDAL WETLANDS AND BUFFERS TEMPORARILY IMPACTED BY ANY PROPOSED REPAIR AND MAINTENANCE ACTIVITY OR INSTALLATION OF THE UTILITY LINE. ALL STABILIZATION IN THE WETLAND AND BUFFER SHALL BE OF THE FOLLOWING RECOMMENDED SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), OATS (Avena sp.) AND/OR RYE (SECALE CEREALE). OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS DIVISION, KENTUCKY 34 FISCUSE. SHALL NOT BE UTILIZED IN THE WETLAND OR BUFFER, ALL TEMPORARY FILLS SHALL BE REMOVED IN THEIR ENTIRETY ON OR BEFORE THE COMPLETION OF CONSTRUCTION.
- AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS OF NONTIDAL WETLANDS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS.
- TO PROTECT IMPORTANT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM AS FOLLOWS:
 - CLASS 1 WATERS, IN-STREAM WORK MAY NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
- PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO THE NONTIDAL WETLANDS.
- NO REMOVAL OF VEGETATION, GRADING, FILLING, DRAINING OR OTHER ALTERATION OF THE NONTIDAL WETLANDS OR BUFFER OUTSIDE THE LIMITS OF DISTURBANCE SHALL OCCUR EITHER DURING CONSTRUCTION OR AFTER COMPLETION, WITHOUT WRITTEN AUTHORIZATION FROM THE WATER RESOURCES ADMINISTRATION.

SEQUENCE OF CONSTRUCTION

- OBTAIN ALL NECESSARY PERMITS.
- NOTIFY HOWARD COUNTY CONSTRUCTION AND INSPECTION DIVISION @ 313-1880 AT LEAST FIVE DAYS PRIOR TO BEGINNING CONSTRUCTION.
- INSTALL ALL SEDIMENT CONTROL DEVICES. USE EXISTING S.C.E. PROVIDED UNDER WESTERN HILL SCHOOL SITE (SDP 92-92) TO GAIN ACCESS TO THIS SITE. GET APPROVAL FROM SEDIMENT CONTROL INSPECTOR BEFORE COMMENCING WITH CONSTRUCTION.
- BEGIN INSTALLING SEWER MAINS AT LOW MANHOLE. SEE NOTES "CONDITIONS AND MANAGEMENT PRACTICES FOR WORKING IN NON - TIDAL WETLANDS AND BUFFERS" ON THIS SHEET. REPAIR ALL WETLAND AND BUFFER DISTURBANCES IN ACCORDANCE WITH THESE CONDITIONS BEFORE PROCEEDING TO NEXT MANHOLE RUN.
- INSTALL REMAINDER OF SEWER AS OUTLINED IN PRECEDING NOTE.
- STABILIZE ALL DISTURBED AREAS.
- AFTER ALL AREAS HAVE BEEN STABILIZED AND WITH APPROVAL FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR AND DNR, REMOVE ALL SEDIMENT CONTROL DEVICES.

SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (313-2407)
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE WETLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REINTERURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 7 CALENDAR DAYS FOR ALL PERMITS. SEDIMENT CONTROL STRUCTURES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1 IN DAYS 15 AND ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH V.C. CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 WETLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 3) 500 (SEC. 54), TEMPORARY SEEDING (SEC. 30) AND MULCHING (SEC. 25). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING QUANTITIES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
 TOTAL AREA OF SITE 4.40 ACRES
 AREA DISTURBED 3.29 ACRES
 AREA TO BE REEDED OR PAVED 0 ACRES
 TOTAL FILL 21,146 CU. YDS.
 TOTAL CUT 2,220 CU. YDS.
 OFFSITE WASTE/BORROW AREA LOCATION ON SITE
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPM SEDIMENT CONTROL INSPECTOR.
- 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.

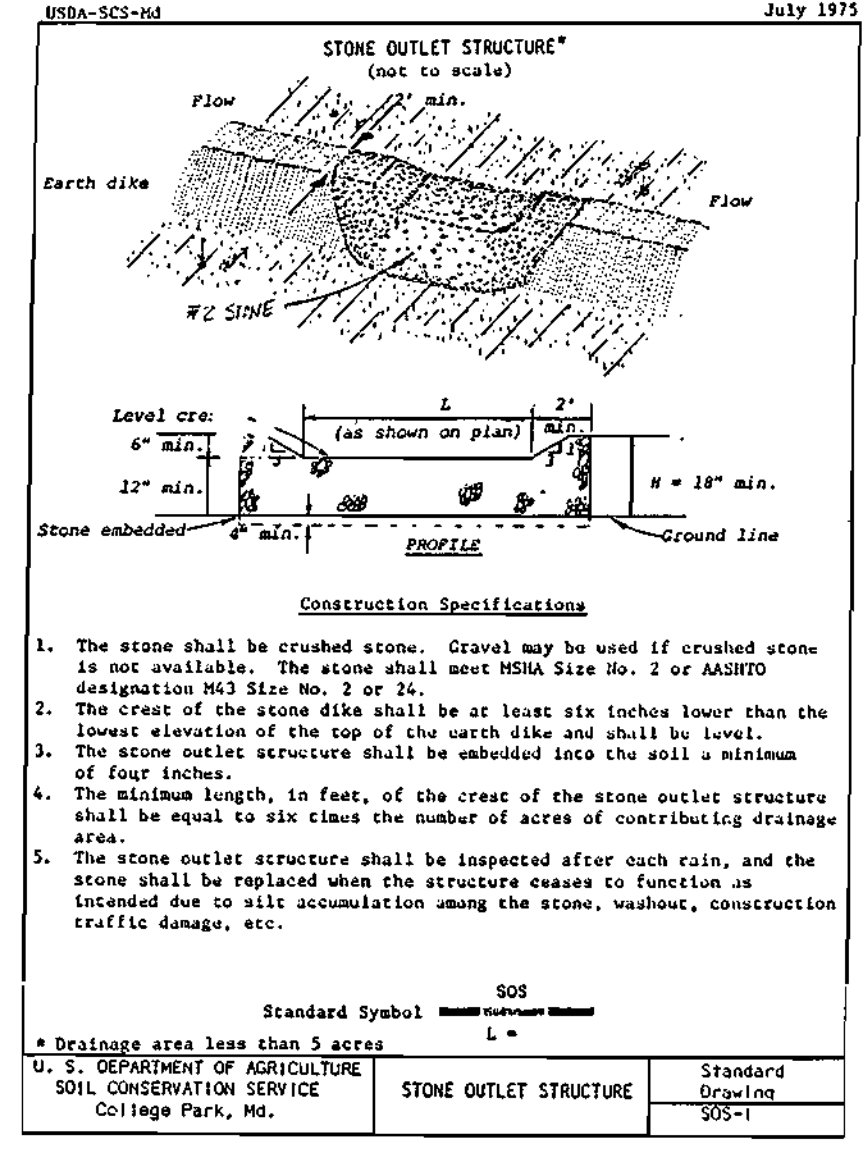


Minimum Drainage Area: 5 Acres

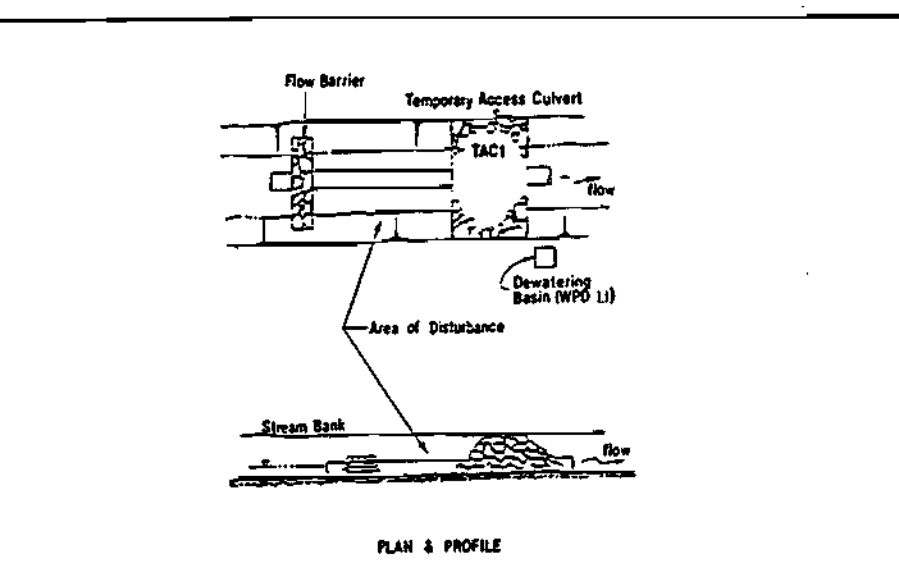
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	STONE OUTLET SEDIMENT TRAP	STANDARD DRAWING ST-X
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TEMPORARY SEEDING NOTES

- APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RESTORED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.
- SEEDING PREPARATION:** 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 PER ACRE COLCLOMITE LIMESTONE (92 LBS/1000 SQ FT) AND 800 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREA-FORM FERTILIZER (5 LBS/1000 SQ FT).
 2) ACCEPTABLE --- APPLY 2 TONS PER ACRE DOLOMITE LIMESTONE (92 LBS/1000 SQ FT) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.
- SEEDING:** FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 BU/AC. FOR PERIODS APRIL 30 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE (30 LBS/1000 SQ FT) OF TALL FESCUE. FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF MIXED LOWGROSS (30 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 15 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELLS ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOIL.
 MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 80 LBS/1000 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 2 1/2 GAL PER ACRE (3 GAL/1000 SQ FT) OF DENSIFIED ASPHALT ON FLAT AREAS, OR 3 GAL PER ACRE (3 GAL/1000 SQ FT) OF MULCH ON SLOPES 4 FT OR HIGHER. USE 2 1/2 GAL PER ACRE (3 GAL/1000 SQ FT) FOR ANCHORING.
 REFER TO THE 1983 WETLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

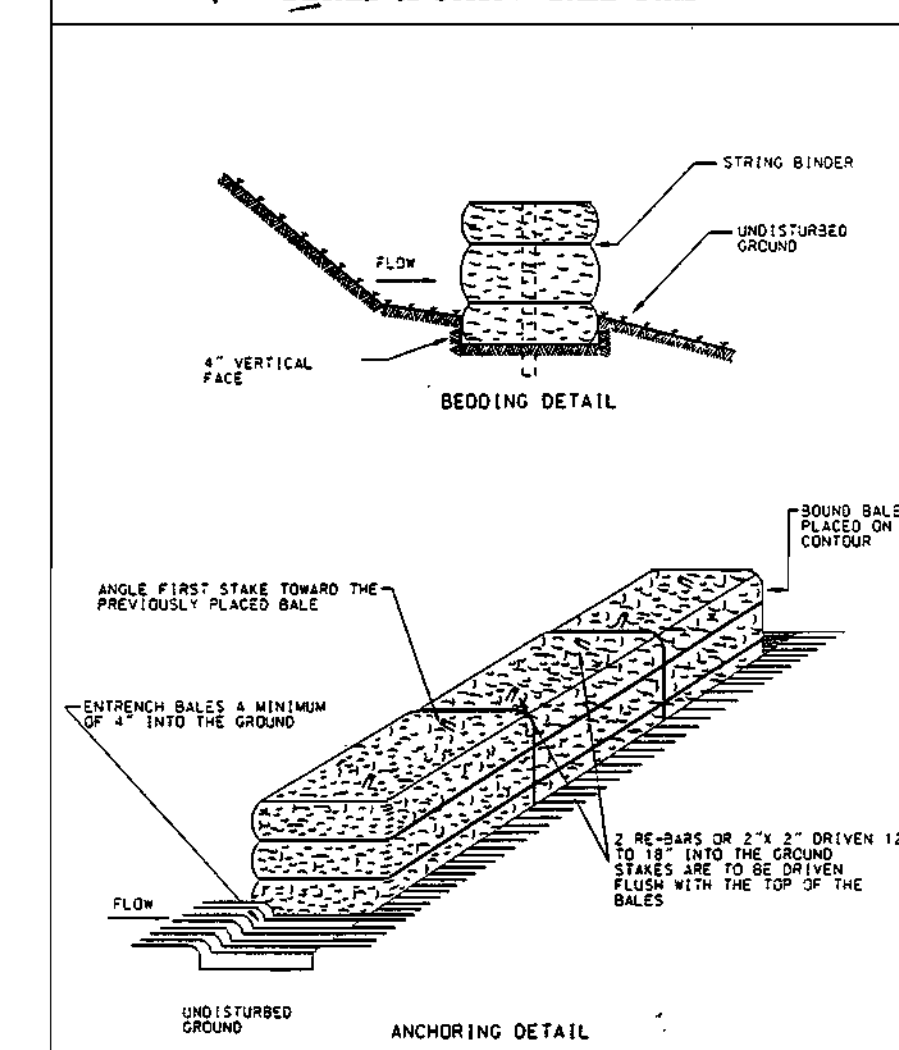


Standard Symbol	SOB
Drainage area less than 5 acres	L =
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE College Park, Md.	STONE OUTLET STRUCTURE
	Original 09-71



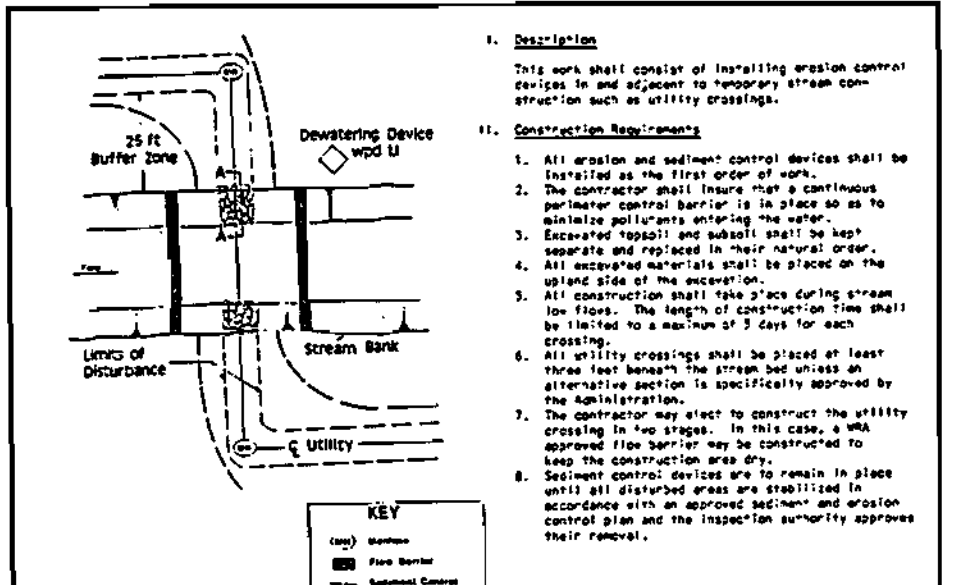
- PLAN & PROFILE**
- Description**
 The work shall consist of installing a flow diversion structure in conjunction with a temporary access crossing during in-stream construction such as utility crossings.
- Construction Requirements**
- All erosion and sediment control devices shall be installed as the first order of business.
 - Pipes must be sized to accommodate normal stream flow.
 - The flow barrier shall be constructed of sandbags, washed silt/sand, or other approved material as per notes. The materials shall be sized to withstand normal stream flow velocities.
 - All diverting of the construction area shall be pumped to a dewatering basin (WDB) prior to reentering the stream.
 - The temporary access crossing shall be constructed in accordance with Standard Detail (SD-1), 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control.
 - Sediment control devices shall remain in place until all disturbed areas have been stabilized in accordance with an approved sediment and erosion control plan and the inspecting authority approves their removal.

WATER RESOURCES ADMINISTRATION Culvert Pipe with Access Road Approved On 10/26/94 By: [Signature] WPD 2.1



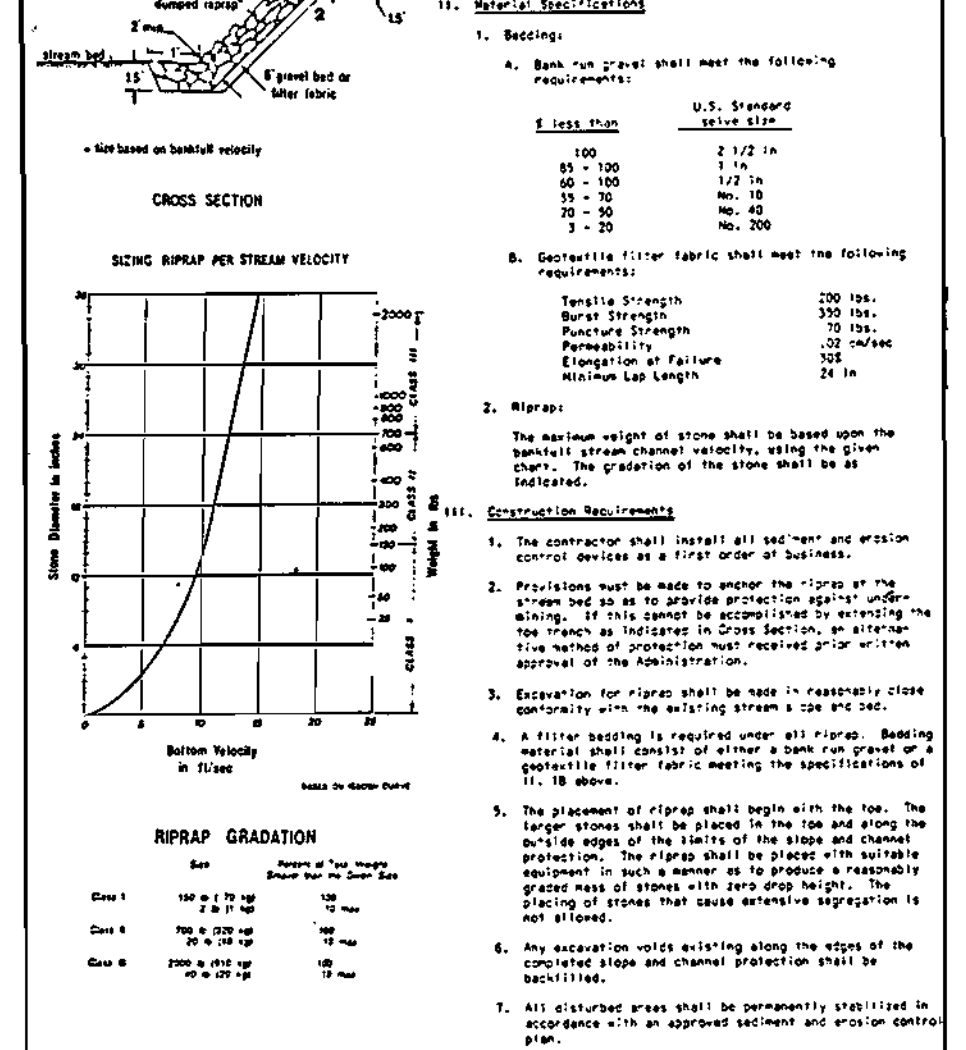
- CONSTRUCTION SPECIFICATIONS**
- Bales shall be placed at the top of a slope, on the contour, and in a row with the ends of each bale tightly abutting the adjacent bales.
 - Each bale shall be entrenched in the soil a minimum of 4 inches and placed so the stringers are horizontal.
 - Bales shall be securely anchored in place by either two stakes or rebar driven through the bale 12 to 18 inches into the ground. The first stake or rebar shall be driven toward the previously laid bale at an angle to force the bales together. Stakes shall be driven thru with the top of the bale.
 - The minimum length, in feet, of the crease of the stone outlet structure shall be equal to six times the number of acres of construction drainage area.
 - The stone outlet structure shall be inspected after each rain, and the stone shall be replaced when the structure ceases to function as intended due to silt accumulation among the stone, washout, construction traffic damage, etc.
- PERMANENT SEEDING NOTES**
- APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-TERM VEGETATIVE COVER IS NEEDED.

WATER RESOURCES ADMINISTRATION	Straw Bale Dike or Berm	Approved On 10/26/94 By: [Signature] WPD 3.1
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- UTILITY CROSSING**
- Description**
 This work shall consist of installing a utility crossing over a stream in conjunction with a temporary access crossing during in-stream construction such as utility crossings.
- Construction Requirements**
- All erosion and sediment control devices shall be installed as the first order of business.
 - The crossing shall be constructed of sandbags, washed silt/sand, or other approved material as per notes. The materials shall be sized to withstand normal stream flow velocities.
 - All diverting of the construction area shall be pumped to a dewatering basin (WDB) prior to reentering the stream.
 - The temporary access crossing shall be constructed in accordance with Standard Detail (SD-1), 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control.
 - Sediment control devices shall remain in place until all disturbed areas have been stabilized in accordance with an approved sediment and erosion control plan and the inspecting authority approves their removal.

WATER RESOURCES ADMINISTRATION Utility Crossing Approved On 10/26/94 By: [Signature] WPD 5.1



- RIPRAP**
- Description**
 This work shall consist of installing riprap aprap and channel protection along the edges of the construction area.
- Construction Requirements**
- The contractor shall install all sediment and erosion control devices as the first order of business.
 - Riprap shall be installed in accordance with the specifications for riprap in the 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control.
 - The riprap shall be placed in a continuous chain of bales with a minimum of 4 inches between bales. The riprap shall be placed in a continuous chain of bales with a minimum of 4 inches between bales. The riprap shall be placed in a continuous chain of bales with a minimum of 4 inches between bales.
 - The riprap shall be placed in a continuous chain of bales with a minimum of 4 inches between bales. The riprap shall be placed in a continuous chain of bales with a minimum of 4 inches between bales.

WATER RESOURCES ADMINISTRATION	Riprap	Approved On 10/26/94 By: [Signature] WPD 3.1
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RIVER HILL SECT. 4 CONTRACT 30-3294 D

WATER RESOURCES ADMINISTRATION Dewatering Basins Approved On 10/26/94 By: [Signature] WPD 1.1

VRH WS/G 3294

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works: [Signature] 1/15/94
 Chief-Bureau of Engineering: [Signature] 1/14/94
 Chief-Bureau of Utilities: [Signature] 12/23/93
 Chief-Land Development Division: [Signature] 1/14/94

PREPARED BY:
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DES: R.J.W.	DRN: A.J.R.	CHK: J.R.H.	DATE: 9/93
BY NO.	REVISION	DATE	800' SCALE MAP NO. 35

SEDIMENT CONTROL NOTES AND DETAILS

800' SCALE MAP NO. 35 BLOCK NO. 1 & 7

COLUMBIA VILLAGE OF RIVER HILL SECT. 4
 CRICKET CREEK EXTENSION
 ELECTION DISTRICT 5
 CONTRACT NO. 30-3294 D

SCALE: AS SHOWN
 DRAWING NO. 6 OF 6