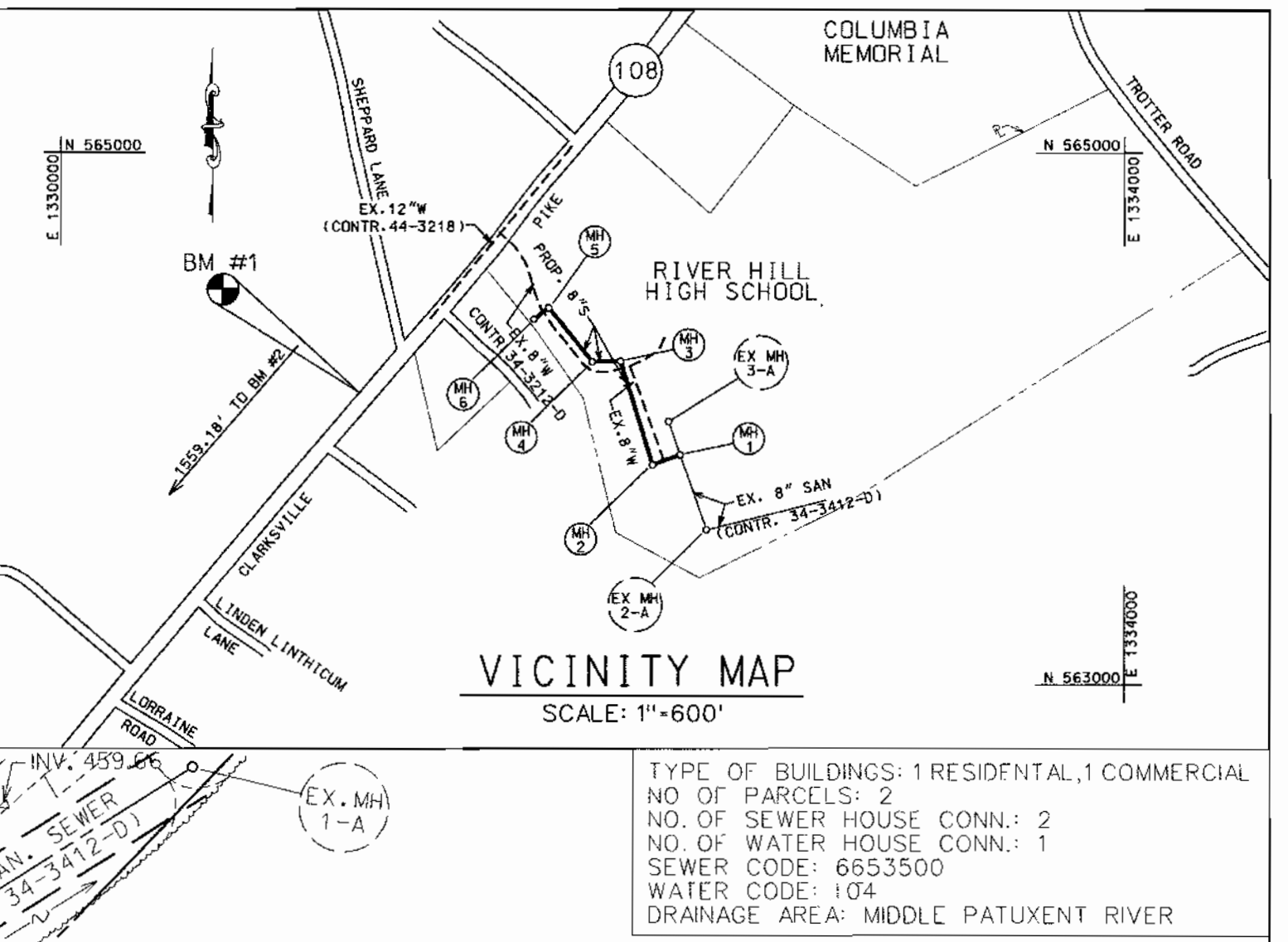
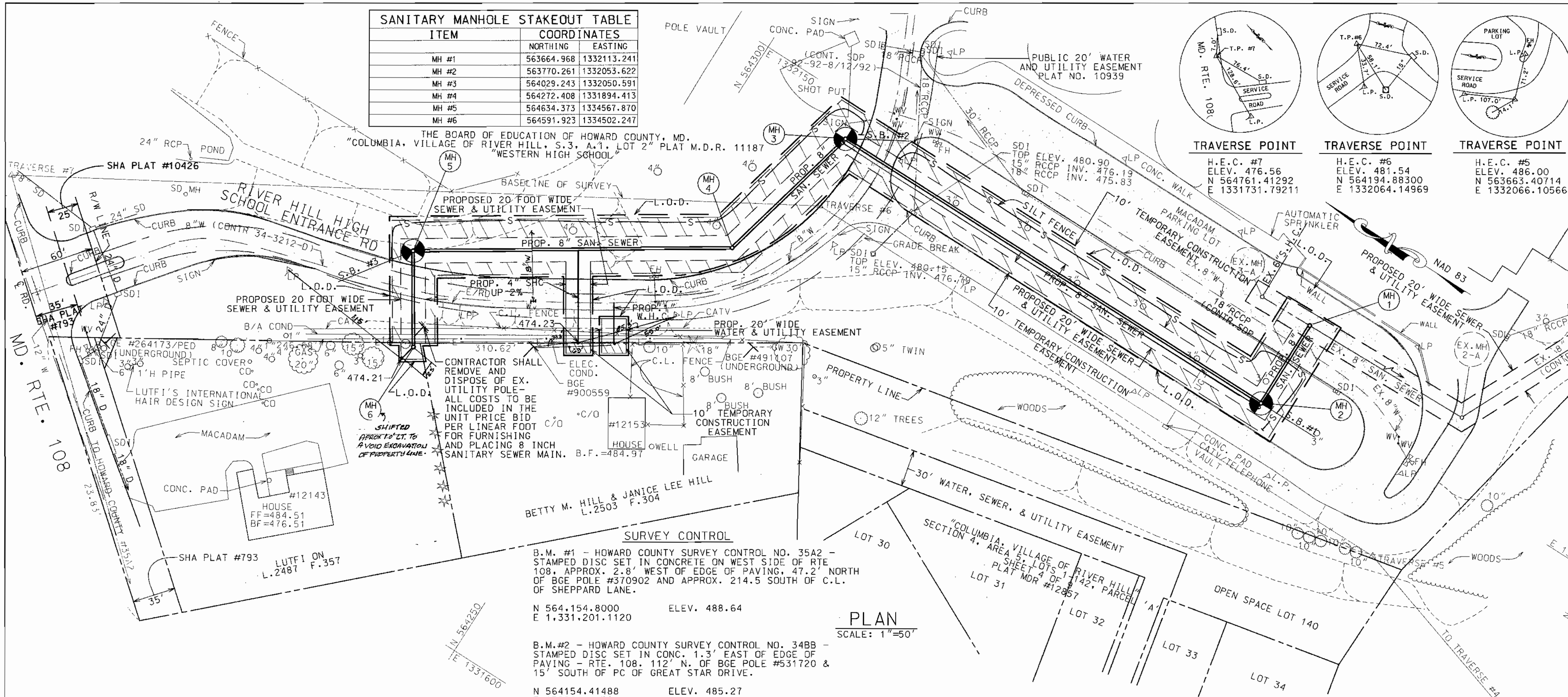


SANITARY MANHOLE STAKEOUT TABLE		
ITEM	COORDINATES	
	NORTHING	EASTING
MH #1	563664.968	1332113.241
MH #2	563770.261	1332053.622
MH #3	564029.243	1332050.591
MH #4	564272.408	1331894.413
MH #5	564634.373	1334567.870
MH #6	564591.923	1334502.247

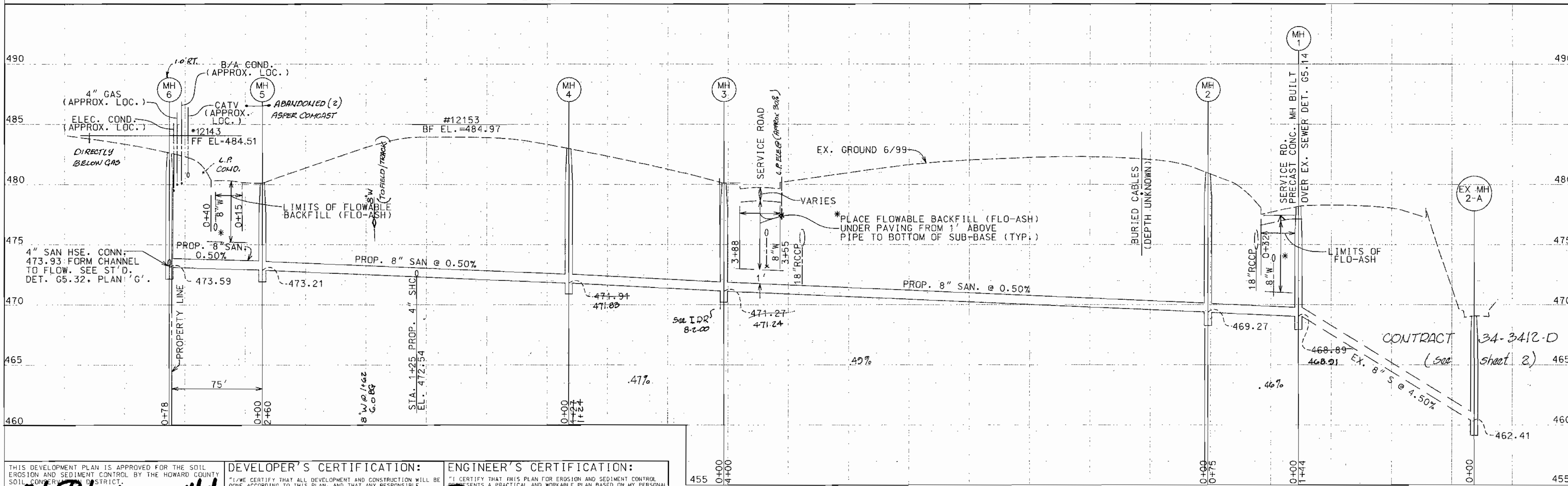


QUANTITIES				
ITEMS	QUANTITIES ESTIMATED	AS BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
A-1 8" SEWER MAIN	920 L.F.	924.0	SDR-35	IBRS
B-1 4" S.H.C.	94 L.F.	96.6	SDR-35	IBRS
A-2 4'-0" DIA. M.H.	5 EA.	5	PRECAST	ATLANTIC/ATLANTIC
A-3 DOORHOUSE MH-DET G5.14	1 EA.	1	PRECAST	ATLANTIC/ATLANTIC
A-4 4'-0" DIA. M.H. OVER 6' DEPTH	27 V.F.	20.65	PRECAST	ATLANTIC/ATLANTIC
B-2 1" W.H.C.	32 L.F.	32.0	TYPE K	HOWELL/IBRS
FLOWABLE TRENCH BACKFILL	95 C.Y.	191.0	T.F.	AMERICAN STONE FLO ASH

- 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 service. 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, NAD 83.
 - All vertical controls are based on U.S.G.S. data.
 - All pipe elevations shown are invert elevations unless otherwise noted on the plans.
 - Clear all utilities by a minimum of 6'. Clear all poles by 5'-0" minimum or tunnels 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 the 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 Details 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 \boxtimes 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.

- working days before starting work shown on these plans:
- AT&T 410-865-3803
 - BGE - Contractor Services 410-850-4620
 - BGE - Underground Damage Control 410-787-9068
 - Bureau of Utilities (DPW) 410-313-4900
 - Bell Atlantic - MD, Inc. 410-597-8585
 - Colonial Pipeline Co. 410-795-1390
 - Miss Utility 1-800-257-7777
 - State Highway Administration 410-531-5533
- Trees and shrubs are to be protected from damage to the 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 (410) 313-2450 at least five working days before any open cut of any County road or trenchless installation operation in county roads for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPW requirements per Section 18.114(a) of the Howard County Code.

- SEWER NOTES**
- All sewer mains shall be D.I.P. or P.V.C. unless otherwise noted.
 - All manholes shall be 4'-0" inside diameter unless otherwise noted.
 - Force mains shall be D.I.P. only.
 - Manholes shown with 12" and 16" walls are for brick manholes only.
 - Manholes designated W.T. in plan and profile shall have watertight frame and cover, Standard Detail G5.52. Where watertight manhole frames and covers are used, set top of frame 1'-6" above finished grade unless otherwise noted on the drawings.
 - House(s) with the symbol "C.N.S." indicates cellar cannot be served.



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

Bob Robertson on 4/10/00
Cheryl K. Simmon on 4/12/00

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

ENGINEER'S CERTIFICATION:

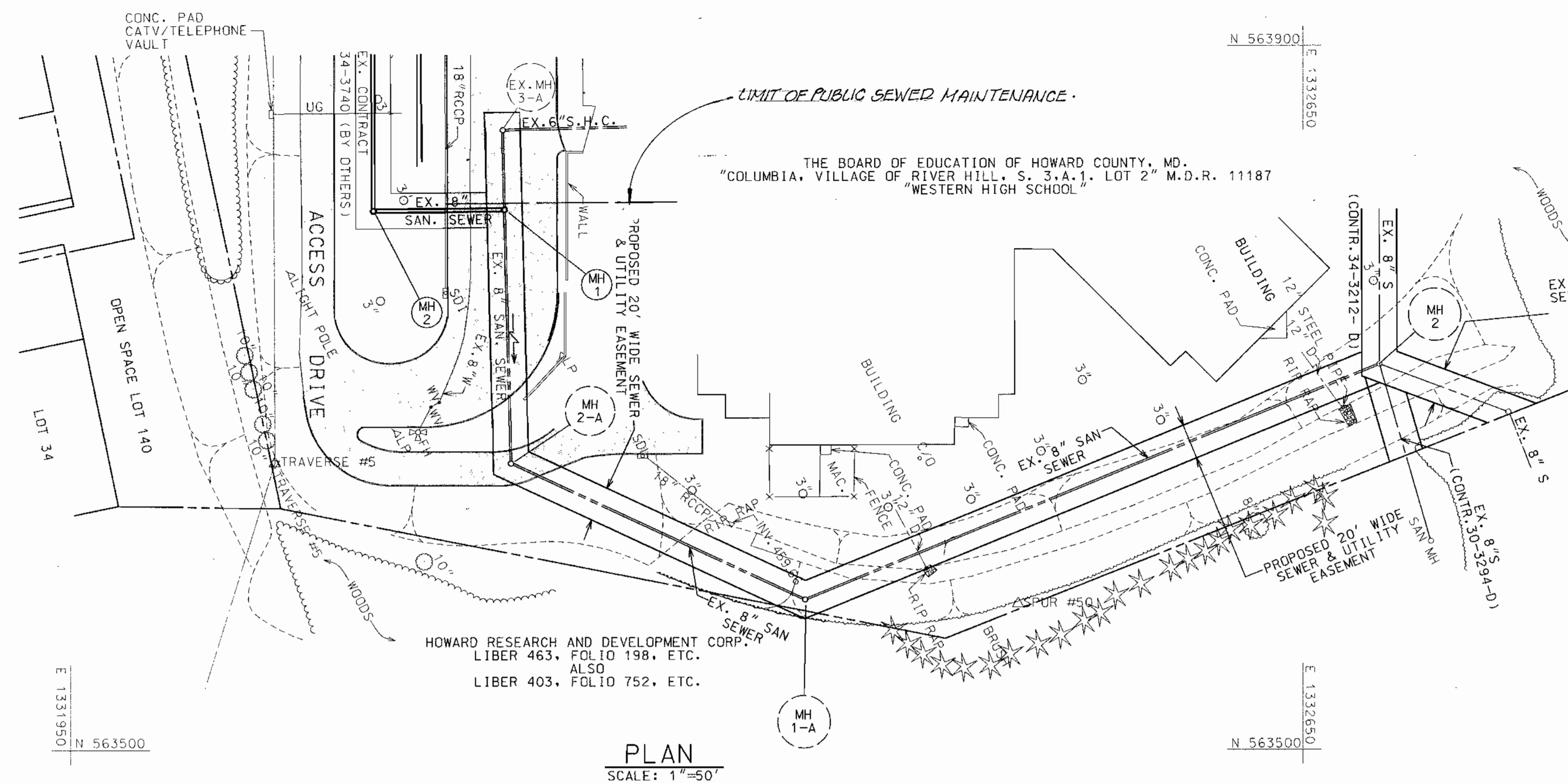
I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL CONFORMS TO THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT AND THAT I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MARYLAND.

Imanold E. Hicks on 4/12/00
 HICKS ENGINEERING COMPANY, INC.
 ENGINEERS, SURVEYORS & PLANNERS
 200 EAST JOPPA ROAD, SUITE 402
 TOWSON, MARYLAND 21286-5177
 (410) 494-0001

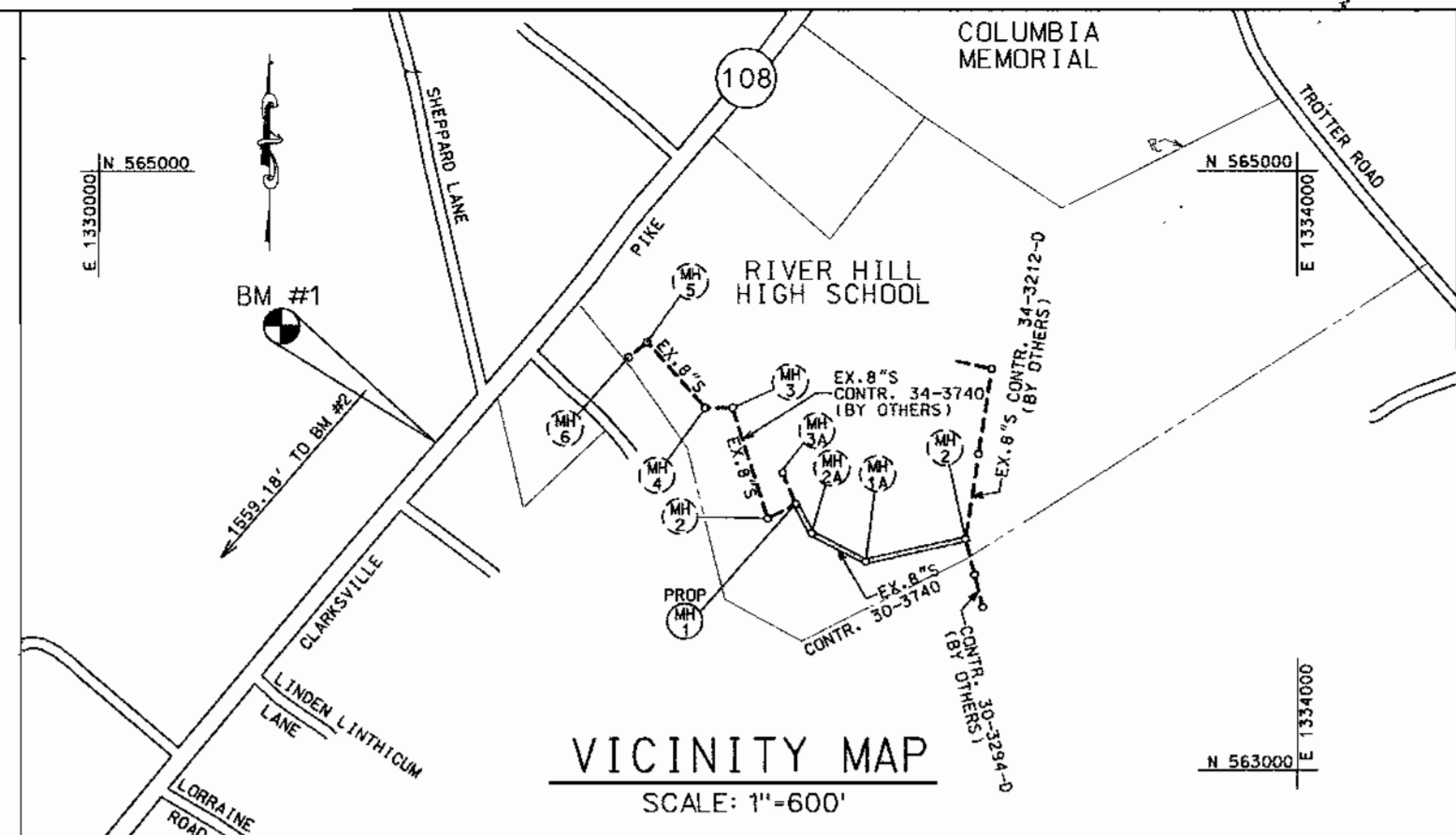
AS-BUILT

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director: Janet H. Hinkle 4/13/00 Chief, Bureau of Utilities		DEPARTMENT OF ENGINEERING Chief, Utility Design Division: Robert M. Beaman 4-12-00		HICKS ENGINEERING CO., INC. ENGINEERS, SURVEYORS & PLANNERS 200 EAST JOPPA ROAD, SUITE 402 TOWSON, MARYLAND 21286-5177 (410) 494-0001		DES: R.I/F.W. DRN: DAR CHK: DEH DATE: 4/11/00		PLAN & PROFILE 8" SANITARY SEWER		SHEPPARD LANE SEWER MAIN EXTENSION 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CAPITAL PROJECT NO. S-6218 CONTRACT NO. 30-3740		SCALE AS SHOWN SHEET 1 OF 3
H.E.C. JOB #98114		600' SCALE MAP NO. 35 BLOCK NO. 1		REVISIONS: K&I 2 ASBUILT CONDITIONS ADDED TO PLAN 5/11/01 K&I 1 ASBUILT CONDITIONS ADDED TO PLAN 12/21/01		REVISIONS: DATE: 600' SCALE MAP NO. 35 BLOCK NO. 1						

AS BUILT AUG. 1999



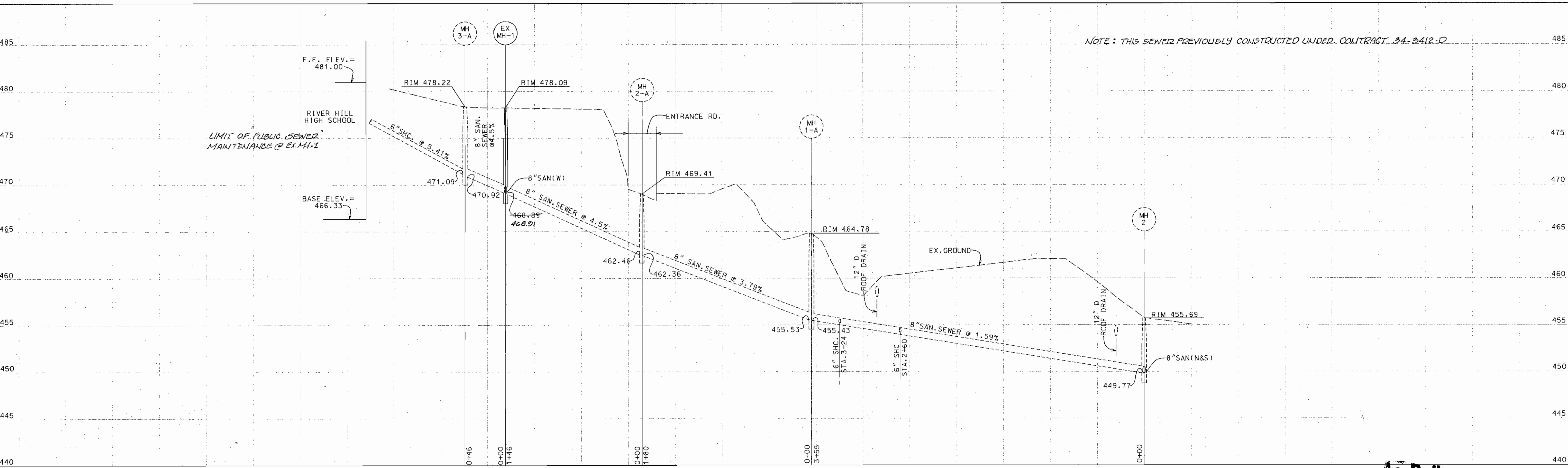
SURVEY CONTROL
 B.M. #1 - HOWARD COUNTY SURVEY CONTROL NO. 35A2 - STAMPED DISC SET IN CONCRETE ON WEST SIDE OF RTE 108, APPROX. 2.8' WEST OF EDGE OF PAVING, 47.2' NORTH OF BGE POLE #370902 AND APPROX. 214.5 SOUTH OF C.L. OF SHEPPARD LANE.
 N 564.154.8000 ELEV. 488.64
 E 1.331.201.1120
 B.M. #2 - HOWARD COUNTY SURVEY CONTROL NO. 348B - STAMPED DISC SET IN CONCRETE 1.3' EAST OF EDGE OF PAVING - RTE. 108. 112' N. OF BGE POLE #531720 & 15' SOUTH OF PC OF GREAT STAR DRIVE.
 N 564154.41488 ELEV. 485.27
 E 1329641.93214



VICINITY MAP
 SCALE: 1"=600'
 TYPE OF BUILDINGS: INSTITUTIONAL
 NO. OF PARCELS: 2
 NO. OF SEWER HOUSE CONN.: 3
 NO. OF WATER HOUSE CONN.: 0
 SEWER CODE: 6653500
 WATER CODE: 104
 DRAINAGE AREA: MIDDLE PATUXENT RIVER

QUANTITIES

ITEMS	QUANTITIES ESTIMATED	AS BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
8" SEWER MAIN		727 L.F.		
6" S.H.C.		380 L.F.		
4'-0" DIA. M.H.		3 EA.		
4'-0" DIA. M.H. OVER 6' DEPTH		5.5 L.F.		



PROFILE
 SCALE: HOR. 1"=50'
 VERT. 1"=5'

As-Built
 AS BUILT AUG. 1999

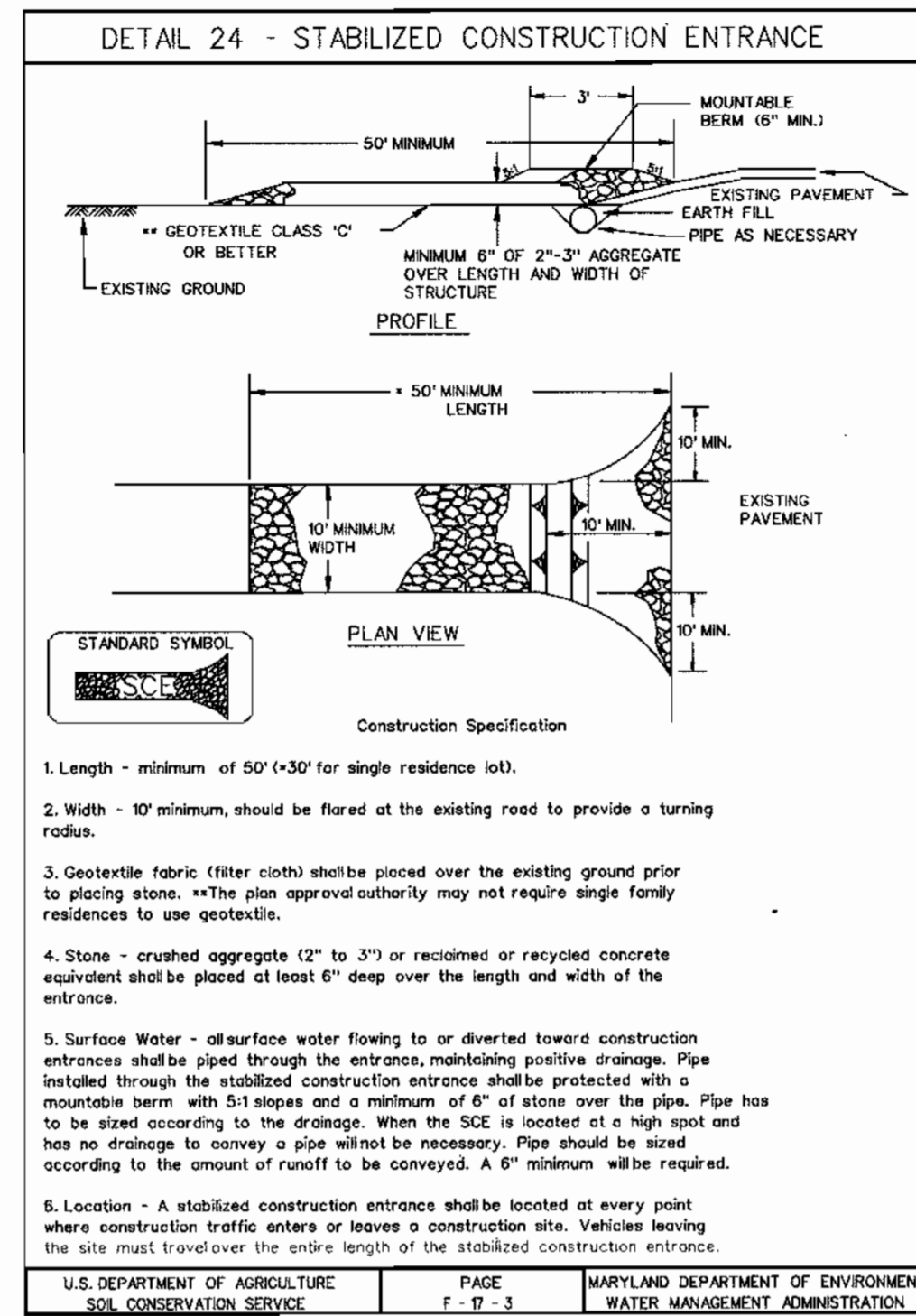
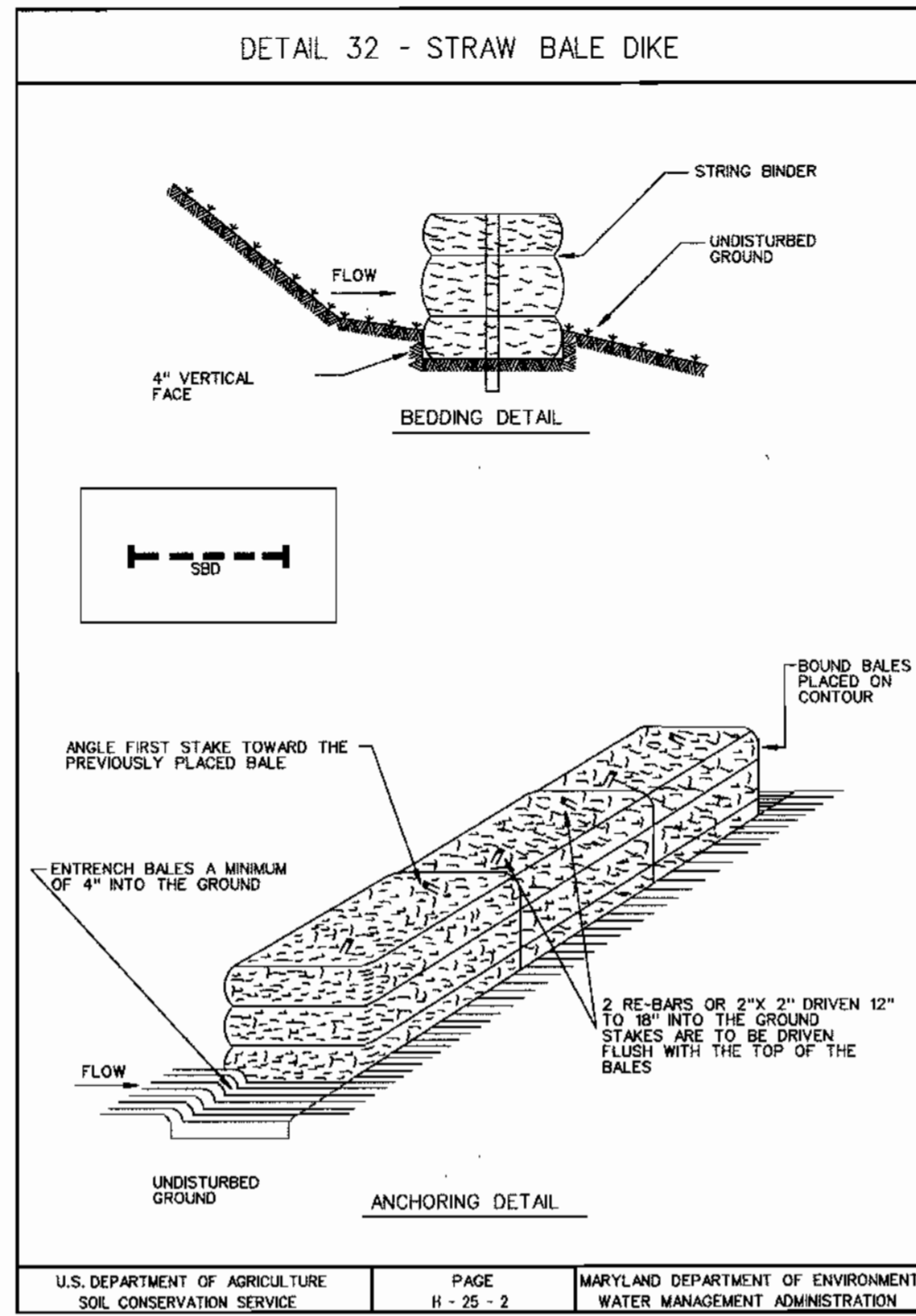
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: James N. Lee (10/21/01)
 Chief, Bureau of Engineering: Robert Johnson (10/26/01)
 Chief, Bureau of Utilities: Robert Johnson (10-29-01)
 Chief, Utility Design Division: Robert Johnson (10-26-01)

HICKS ENGINEERING CO., INC.
 ENGINEERS, SURVEYORS & PLANNERS
 200 EAST JOPPA ROAD SUITE 402
 TOWSON, MARYLAND 21286-3160
 (410) 494-0001

DES: R. I/F.W.
 DRN: DAR
 CHK: DEH
 DATE: 4/11/00
 REVISION: 1 AS-BUILT CONDITIONS ADDED TO PLAN 5/21/01

PLAN & PROFILE
8" SANITARY SEWER

SHEPPARD LANE
 SEWER MAIN EXTENSION
 5TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO. S-6218
 CONTRACT NO. 30-3740
 SCALE AS SHOWN
 SHEET 2 OF 3



UTILITY NOTES

- OPEN DAILY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY.
- PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
- ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF CONSTRUCTION INSPECTION PRIOR TO THE START OF ANY CONSTRUCTION. (313-1855).
- 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.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES OR PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1; B) 14 DAYS AS TO 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 VOL. 1, 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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS. SOD, TEMPORARY SEEDING AND MULCHING. TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES 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 PERMISSON FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE	N/A ACRES
AREA DISTURBED	0.11 ACRES
AREA TO BE ROOFED OR PAVED	0.01 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.10 ACRES
TOTAL CUT-TRENCH	1,900 CU. YDS.
TOTAL FILL	_____ CU. YDS.

 OFFSITE WASTE/BORROW AREA LOCATION-TO BE DETERMINED BY THE CONTRACTOR.
- 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 DPW 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.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ. FT.)
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE (.05 LBS/1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1.5 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.

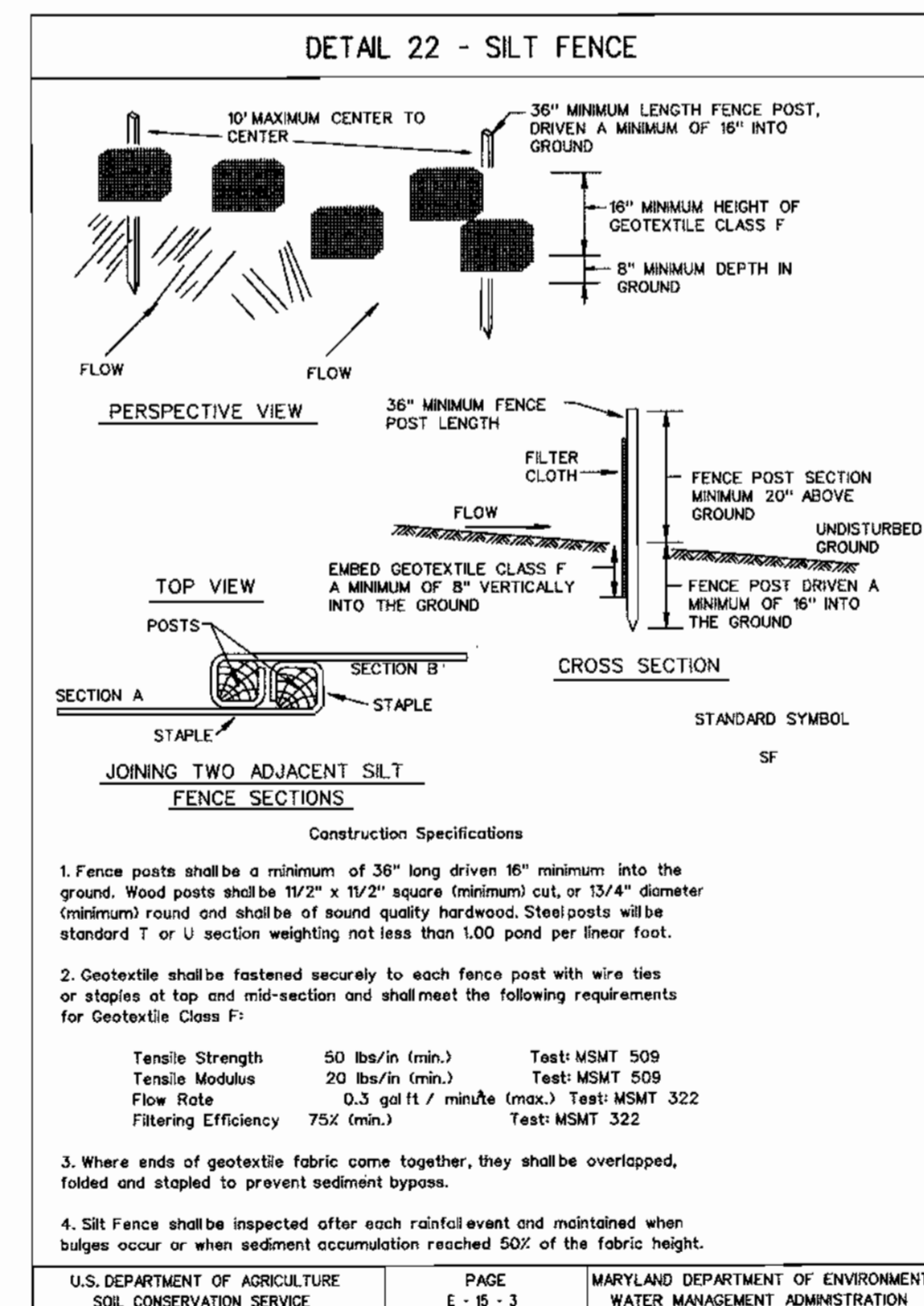
MAINTENANCE - INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

SEQUENCE OF CONSTRUCTION

	TIME OF COMPLETE
1. OBTAIN A GRADING PERMIT FROM HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES, AND PERMITS.	0.5 WEEKS
2. CONTACT HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION (313-1880) PRIOR TO STARTING DATE.	0.5 WEEKS
3. INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS PER SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL VOL. IV.	0.5 WEEKS
4. EXCAVATE AND INSTALL PROPOSED 8" SEWER MAIN.	3.0 WEEKS
5. RESTORE PAVING AND EARTH TRENCHES TO THEIR ORIGINAL CONDITION AS PER HOWARD COUNTY STANDARDS.	2.0 WEEKS
6. UPON PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES.	0.5 WEEKS
7. FINE GRADE ALL DISTURBED AREAS AND STABILIZE WITH PERMANENT SEEDING.	0.5 WEEKS

RESTORATION SCHEDULE - 8" SANITARY & 1" W.H.C.

LOCATION	LENGTH	TYPE
MH 1 TO MH 2		
STA 0+00 TO STA 0+32	32'	PAVING
STA 0+32 TO STA 0+75	43'	SEED & MULCH
MH 2 TO MH 3		
STA 0+00 TO STA 3+55	355'	SEED & MULCH
STA 3+55 TO STA 3+85	30'	PAVING
STA 3+85 TO STA 4+00	15'	SEED & MULCH
MH 3 TO MH 4		
STA 0+00 TO STA 1+27	127'	SEED & MULCH
MH 4 TO MH 5		
STA 0+00 TO STA 2+55	260'	SEED & MULCH
MH 5 TO MH 6		
STA 0+00 TO STA 0+12	12'	SEED & MULCH
STA 0+12 TO STA 40+00	28'	PAVING
STA 0+40 TO STA 0+75	35'	SEED & MULCH
4" S.H.C.		
STA 0+00 TO STA 0+65	65'	SEED & MULCH
STA 0+65 TO STA 0+90	25'	PAVING
1" W.H.C.		
STA 0+00 TO STA 0+05	5'	PAVING
STA 0+05 TO STA 0+33	28'	SEED & MULCH
4" S.H.C.		
MH 6 TO STA 0+14	12'	SEED & MULCH



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *John M. ...* 4/12/00
Chief, Bureau of Engineering: *Robert ...* 4/12/00
Chief, Bureau of Utilities: *Robert ...* 4-12-00
Chief, Utility Design Division: *Robert ...* 4-12-00

HICKS ENGINEERING CO., INC.
ENGINEERS, SURVEYORS & PLANNERS
200 EAST JOPPA ROAD, SUITE 300
TOWSON, MARYLAND 21286-5111
(410) 494-0001

DES: R. I. F. W.
DRN: DAR
CHK: DEH
DATE: 4/11/00

DETAIL SHEET

600' SCALE MAP NO. 35 BLOCK NO. 1

SHEPPARD LANE
SEWER MAIN EXTENSION
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. S-6218
CONTRACT NO. 30-3740

SCALE AS SHOWN
SHEET 3 OF 3