

# CLOVER HILL RESTORATION

## WATER AND SEWER MAINS EXTENSION

### CAPITAL PROJECT No N-3049


### CONTRACT No 14-3777

### 1ST ELECTION DISTRICT

### HOWARD COUNTY, MARYLAND

#### GENERAL NOTES

##### PART I

- 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.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- 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 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 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 (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 

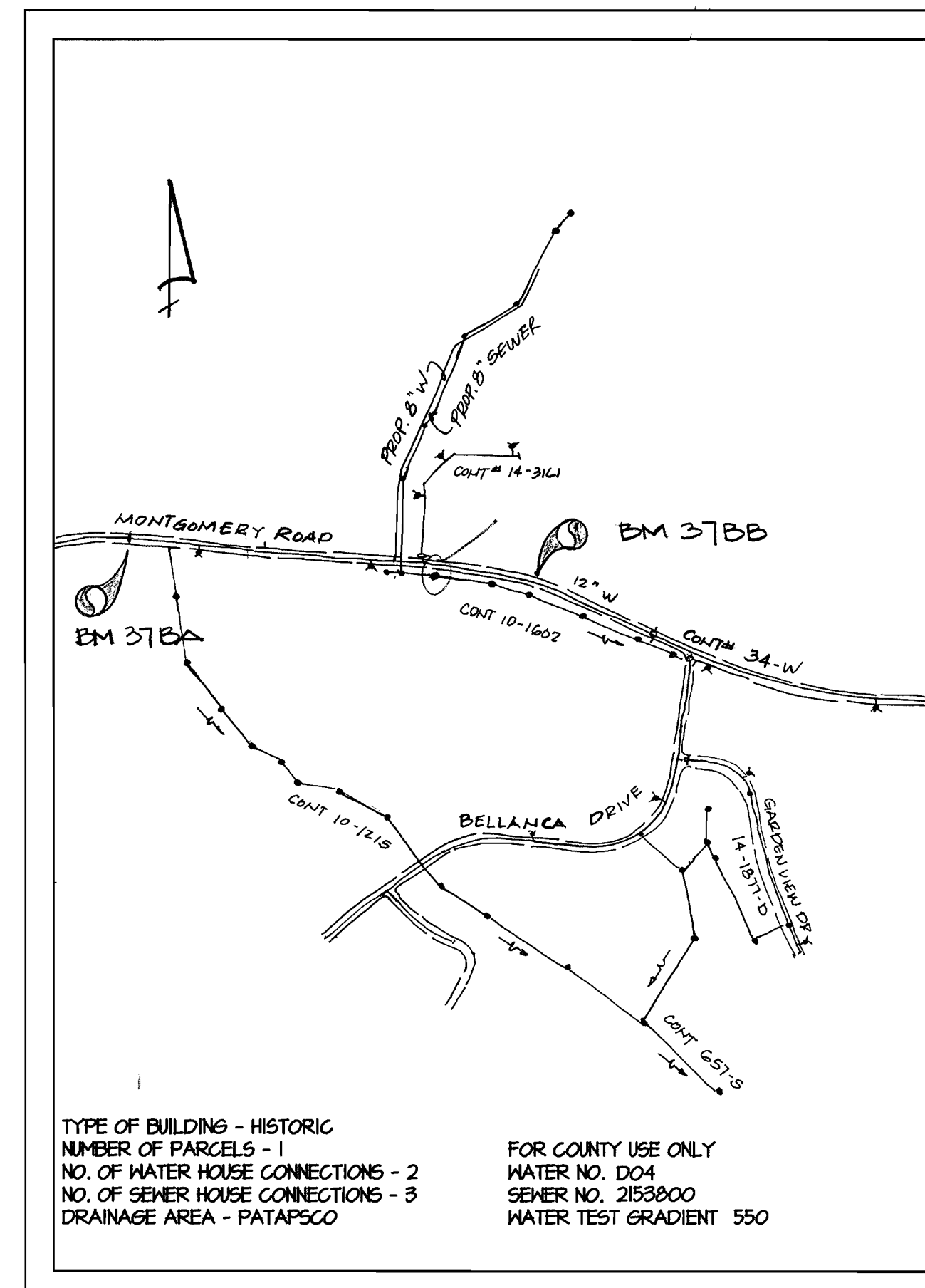
AT & T	410-865-3803
B& E CO. (CONTRACTOR SERVICES)	410-850-4620
B& E CO.-UNDERGROUND DAMAGE CONTROL	410-781-4068
BUREAU OF UTILITIES (DPW)	410-313-4400
BELL ATLANTIC - MARYLAND	410-541-8585
COLONIAL PIPELINE CO.	410-745-1910
MISS UTILITY	(800) 251-7771
STATE HIGHWAY ADMINISTRATION	410-531-5533
- TREES 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) 313-7450 AT LEAST FIVE (5) WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING 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 18.14(a) OF THE HOWARD COUNTY CODE.

##### PART II WATER

- ALL WATER MAINS SHALL BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-6" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.

##### PART III SEWER

- ALL SEWER MAINS SHALL BE P.V.C. OR D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- FORCE MAINS SHALL BE D.I.P. ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL 62.52, WHERE WATERTIGHT MANHOLE FRAME AND COVER 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 THAT CELLAR CANNOT BE SERVED.
- ALL SEWER TRENCH BEDDING SHALL BE IN ACCORDANCE WITH STANDARD DETAIL 62.01 "TRENCH FOR PVC PIPE AND HDPE PIPE".



#### VICINITY MAP

SCALE 1" = 600'

TYPE OF BUILDING - HISTORIC  
 NUMBER OF PARCELS - 1  
 NO. OF WATER HOUSE CONNECTIONS - 2  
 NO. OF SEWER HOUSE CONNECTIONS - 3  
 DRAINAGE AREA - PATAPSCO

FOR COUNTY USE ONLY  
 WATER NO. D04  
 SEWER NO. 253800  
 WATER TEST GRADIENT 550

ITEM	QUANTITIES		AS-BUILT		
	ESTIMATED	QUANTITY	TYPE	SUPPLIER	
8" DIP WATER	1420 L.F.				
12" x 8" TS+V	55 L.F.				
8" 1/8 HOR. BEND & BUTTRESS	3				
8" 1/2 HOR. BEND & BUTTRESS	1				
8" x 6" F.H. TEE	5				
6" VALVE	5				
6" DIP FIRE HYDRANT LEAD	25 L.F.				
FIRE HYDRANT	5				
2" WHC	7 L.F.				
3/4" VALVE BDX	1				
4" WHC	5 L.F.				
4" VALVE	1				
4" METER & VAULT - STD. DETAIL W8.36	1				
4" CAP & BUTTRESS	1				
AIR RELEASE VALVE & VAULT	1				
8" PVC SEWER	1758 L.F.				
4" S.H.C.	33 L.F.				
6" S.H.C.	10 L.F.				
STANDARD MANHOLE	44 V.F.				
NAME OF UTILITY CONTRACTOR:					
SURVEY & DRAFTING DIVISION AS-BUILT DATE:					

NOTE:  
 SEDIMENT CONTROL SHALL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 214 OF THE STANDARDS AND SPECIFICATIONS (VOL. IV) OF THE HOWARD COUNTY COUNTY DESIGN MANUAL AND THESE PLANS

#### BENCHMARKS

TRAVERSE No	DESCRIPTION	NORTHING	EASTING	ELEVATION
37BA	STD SURVEY CONTROL	563785.632	1316343.274	344.753
37BB		563663.428	1318040.570	373.811

#### DEVELOPER'S CERTIFICATION

I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Ronald G. Lapson* 11/23/99  
 DEVELOPER'S SIGNATURE DATE  
 DEVELOPER'S NAME

#### ENGINEER'S CERTIFICATION

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Paula English* 8/20/99  
 ENGINEER'S SIGNATURE DATE  
*Paula English* PE# 10224  
 ENGINEER'S NAME

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
*Cheryl Strain/ps.* 12/17/99  
 U.S. Soil Conservation Service Date

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*D.R. Robinson* 12/17/99  
 Howard Soil Conservation District Date

INDEX OF DRAWINGS	
NO.	DESCRIPTION
1	TITLE SHEET & GENERAL NOTES
2	PLAN & PROFILE
3	PLAN & PROFILE
4	SEDIMENT CONTROL DETAILS & NOTES

PLAN REFERENCE NUMBER

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY MARYLAND

*James W. ...* 12/17/99  
 DIRECTOR OF PUBLIC WORKS DATE  
*Paula English* 11/22/99  
 CHIEF, BUREAU OF ENGINEERING DATE  
*Cheryl Strain* 12-15-99  
 CHIEF, BUREAU OF UTILITIES DATE  
*Paula English* 11-23-99  
 CHIEF, UTILITY DESIGN DIVISION DATE

**FARRAND & ENGLISH, INC**

416 LYMAN AVENUE  
 BALTIMORE, MARYLAND 21212

410-455-5000  
 FAX 410-455-8200



DESIGN	A.R.	DATE
DRAWN	A.R./B.E.	
CHECKED	B.E.	
PROJECT	93-28	
DATE	25 AUG 1999	
BY	No	REVISION

TITLE SHEET & GENERAL NOTES

600' SCALE MAP No. 32 BLOCK No. 3

**CLOVER HILL RESTORATION**  
 WATER AND SEWER MAINS EXTENSION

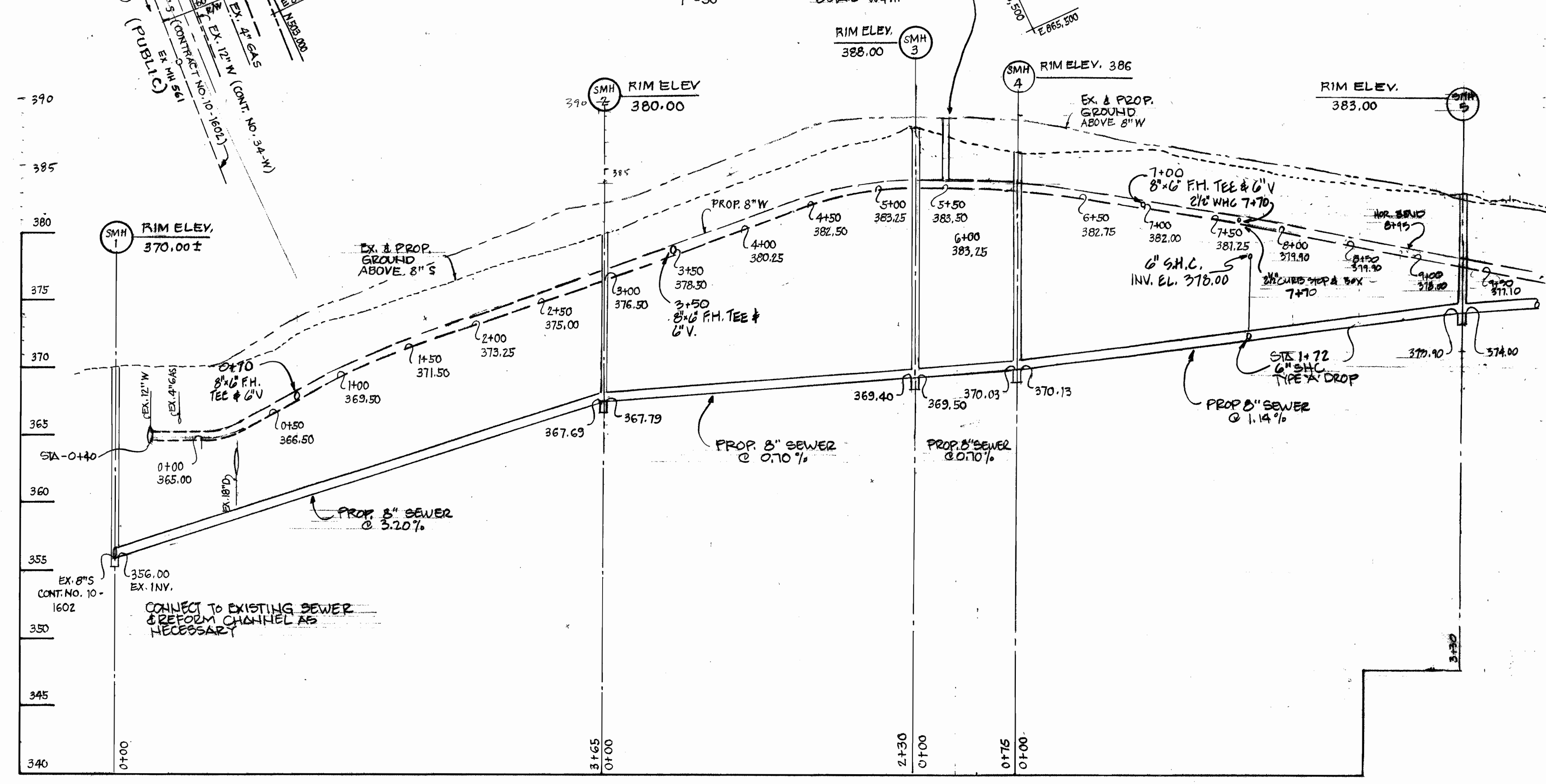
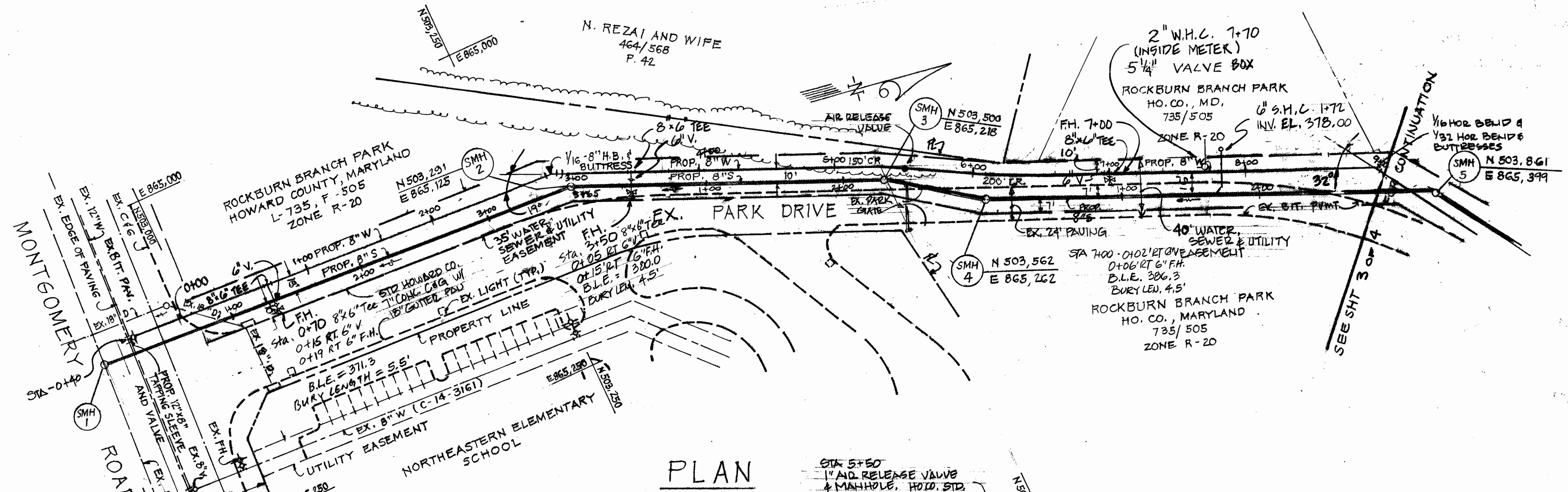
CAPITAL PROJECT No N-3049  
 CONTRACT No 14-3777  
 1ST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE:  
 AS SHOWN

1 OF 4

EP.00.04

ACTIVE LAYER INDEX  
 X 0  
 X 101  
 X 102  
 X 1-1-92  
 X 103  
 X 104  
 X 105  
 X 106  
 X 107  
 X 108  
 X 109  
 X 110  
 X 111  
 X 112  
 X 113  
 X 114  
 X 115  
 X 116  
 X 117  
 X 118  
 X 119  
 X 120  
 X 121  
 X 122  
 X 123  
 X 124  
 X 125  
 X 126  
 X 127  
 X 128  
 X 129  
 X 130  
 X 131  
 X 132  
 X 133  
 X 134  
 X 135  
 X 136  
 X 137  
 X 138  
 X 139  
 X 140  
 X 141  
 X 142  
 X 143  
 X 144  
 X 145  
 X 146  
 X 147  
 X 148  
 X 149  
 X 150  
 X 151  
 X 152  
 X 153  
 X 154  
 X 155  
 X 156  
 X 157  
 X 158  
 X 159  
 X 160  
 X 161  
 X 162  
 X 163  
 X 164  
 X 165  
 X 166  
 X 167  
 X 168  
 X 169  
 X 170  
 X 171  
 X 172  
 X 173  
 X 174  
 X 175  
 X 176  
 X 177  
 X 178  
 X 179  
 X 180  
 X 181  
 X 182  
 X 183  
 X 184  
 X 185  
 X 186  
 X 187  
 X 188  
 X 189  
 X 190  
 X 191  
 X 192  
 X 193  
 X 194  
 X 195  
 X 196  
 X 197  
 X 198  
 X 199  
 X 200



**PROFILE**  
 HOR. 1"=50'; VERT. 1"=5'

STAKEOUT TABLE		
DESCRIPTION	NORTH	EAST
8" SEWER MAIN		
SMH 1	502,927	865,098
SMH 2	503,291	865,125
SMH 3	503,500	865,218
SMH 4	503,562	865,262
END OF 6" SHC	503,729	865,310
SMH 5	503,862	865,399
SMH 6	504,018	865,643
END OF 4" SHC	504,263	865,788
SMH 7	504,334	865,815
SMH 8	504,415	865,886
END OF 6" STUB	504,408	865,894
8" WATER MAIN		
HOR BEND STA 2+94	503,285	865,111
END OF 2 1/2" WHC	503,720	865,305
HOR BEND STA 8+95	503,829	865,366
F.H. STA 10+40 5' RT.	503,903	865,491
HOR. BEND STA 12+32	504,011	865,650
F.H. STA 14+00 RT.	504,132	865,779
8" CAP STA 14+20	504,176	865,740
Z.L. FIRE HYDRANT STA. 3+50-15' RT.	503,930	865,148
P.C. 150' R. CRIMP STA. 5+33	503,504	865,209
P.R.C. STA. 5+65	503,532	865,225
P.T. 200' R. CRIMP STA. 6+08	503,569	865,247
Z.L. FIRE HYDRANT STA 7+00-5.5' RT	503,650	865,290
Z.L. FIRE HYD. STA 0+10-19' RT	503,061	865,114

- MAINTENANCE OF TRAFFIC NOTES:**
1. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 107.10 OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
  2. MAINTAIN ONE LANE OF TRAFFIC ON EXISTING PARK DRIVE AT ALL TIMES WHEN PARK IS OPEN FOR PUBLIC USE.
  3. PLACE STEEL PLATING OVER ALL EXCAVATED TRENCHES IN ROADWAY WHEN CONSTRUCTION ACTIVITIES ARE NOT IN PROGRESS.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY MARYLAND  
 Director of Public Works: *[Signature]* 12/17/99  
 Chief, Bureau of Engineering: *[Signature]* 11/22/99  
 Chief, Bureau of Utilities: *[Signature]* 12-15-99  
 Chief, Utility Design Division: *[Signature]* 11-23-99

**FARRAND & ENGLISH, INC**  
 416 LYMAN AVENUE  
 BALTIMORE, MARYLAND 21212  
 410-555-5500  
 FAX 410-555-9200



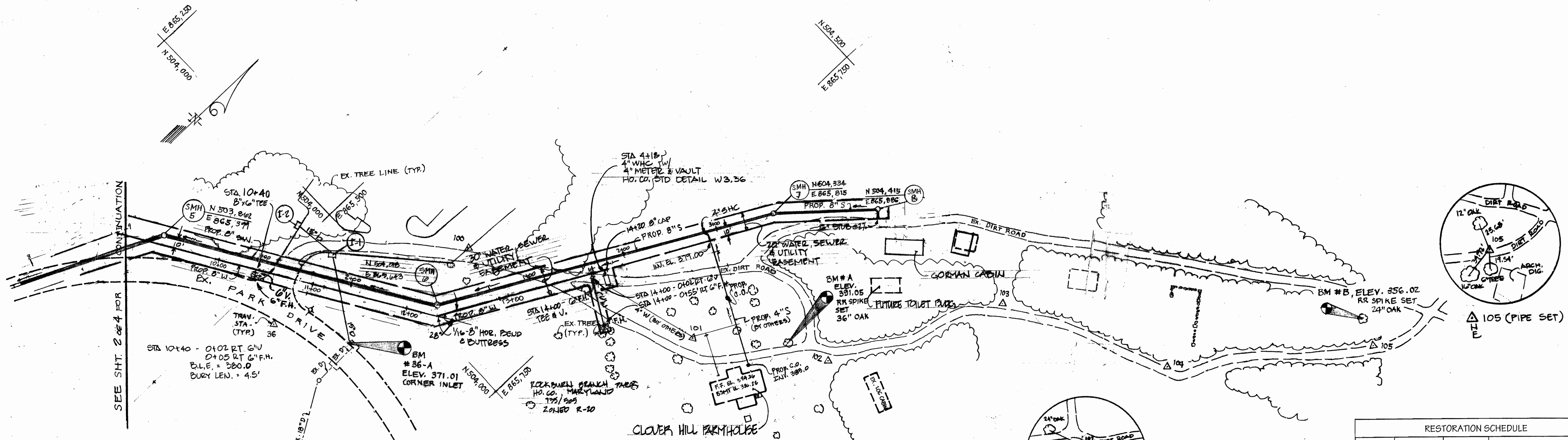
DESIGN	A.R.				
DRAWN	A.R./B.E.				
CHECKED	B.E.				
PROJECT	93-28				
DATE	25 AUG 1999				
BY	No	REVISION		DATE	

**PLAN & PROFILE**  
 600' SCALE MAP No. 37  
 BLOCK No. 3

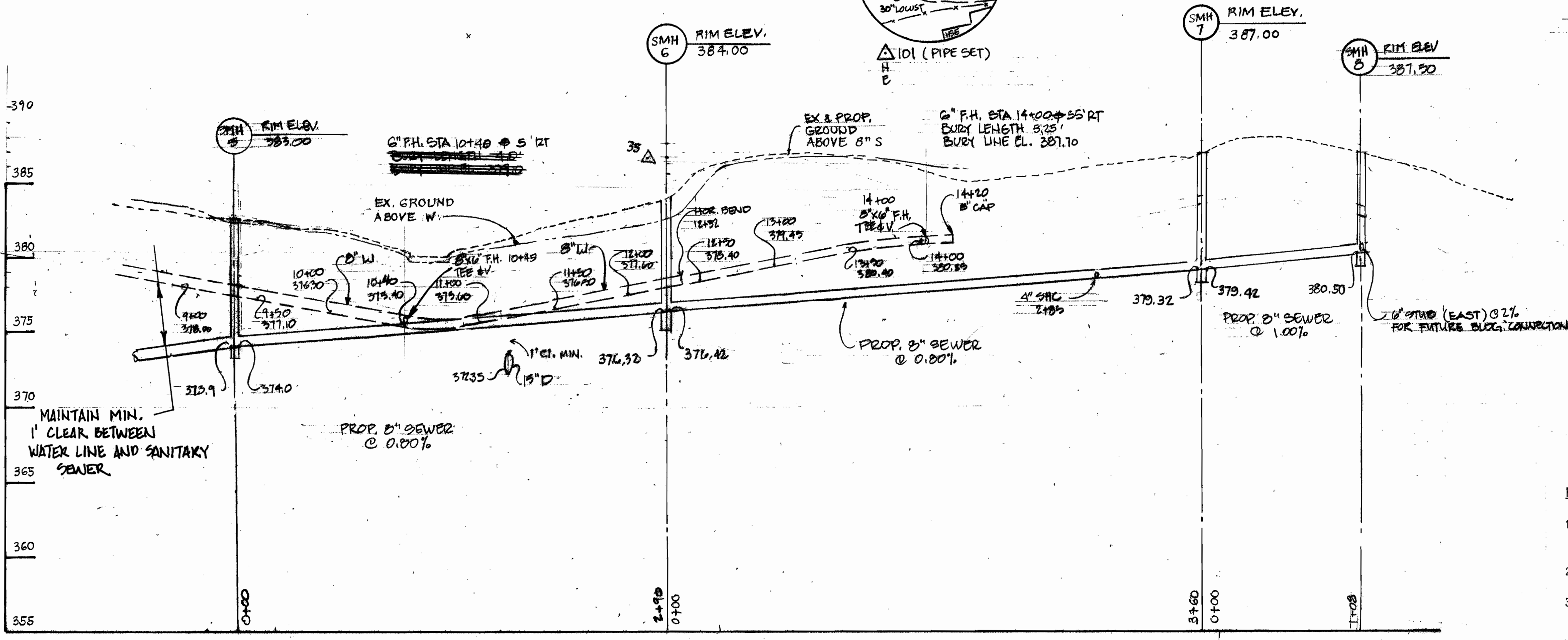
**CLOVER HILL RESTORATION**  
 WATER AND SEWER MAINS EXTENSION  
 CAPITAL PROJECT No N-3049  
 CONTRACT No 14-3777  
 1ST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN  
 2 of 4

FILENAME SCRIPT  
 X B  
 X 100  
 X 200  
 X 300  
 X 400  
 X 500  
 X 600  
 X 700  
 X 800  
 X 900  
 X 1000  
 X 1100  
 X 1200  
 X 1300  
 X 1400  
 X 1500  
 X 1600  
 X 1700  
 X 1800  
 X 1900  
 X 2000  
 X 2100  
 X 2200  
 X 2300  
 X 2400  
 X 2500  
 X 2600  
 X 2700  
 X 2800  
 X 2900  
 X 3000  
 X 3100  
 X 3200  
 X 3300  
 X 3400  
 X 3500  
 X 3600  
 X 3700  
 X 3800  
 X 3900  
 X 4000  
 X 4100  
 X 4200  
 X 4300  
 X 4400  
 X 4500  
 X 4600  
 X 4700  
 X 4800  
 X 4900  
 X 5000  
 X 5100  
 X 5200  
 X 5300  
 X 5400  
 X 5500  
 X 5600  
 X 5700  
 X 5800  
 X 5900  
 X 6000  
 X 6100  
 X 6200  
 X 6300  
 X 6400  
 X 6500  
 X 6600  
 X 6700  
 X 6800  
 X 6900  
 X 7000  
 X 7100  
 X 7200  
 X 7300  
 X 7400  
 X 7500  
 X 7600  
 X 7700  
 X 7800  
 X 7900  
 X 8000  
 X 8100  
 X 8200  
 X 8300  
 X 8400  
 X 8500  
 X 8600  
 X 8700  
 X 8800  
 X 8900  
 X 9000  
 X 9100  
 X 9200  
 X 9300  
 X 9400  
 X 9500  
 X 9600  
 X 9700  
 X 9800  
 X 9900  
 X 10000



**PLAN**  
 1" = 50'



**PROFILE**  
 HOR. 1" = 50'; VER. 1" = 5'

RESTORATION SCHEDULE			
STATION	TO STATION	DISTANCE	MATERIAL
<b>8" SEWER MAIN</b>			
SMH 1	0+24	24	SEEDING
0+24	0+75	51	BITUMINOUS PAVING
0+75	0+76	1	CURB & GUTTER
0+76	SMH 2	289	SEEDING
SMH 2	SMH 3	230	SEEDING
SMH 3	0+33	33	SEEDING
0+33	0+35	2	CURB & GUTTER
0+35	SMH 4	40	BITUMINOUS PAVING
SMH 4	0+48	48	BITUMINOUS PAVING
0+48	0+50	2	CURB & GUTTER
0+50	SMH 5	280	SEEDING
SMH 5	1+18	118	SEEDING
1+18	1+19	1	CURB & GUTTER
1+19	1+43	24	BITUMINOUS PAVING
1+43	1+44	1	CURB & GUTTER
1+44	SMH 6	146	SEEDING
SMH 6	1+03	103	SEEDING
1+03	1+35	32	UNPAVED ROADWAY
1+35	SMH 7	225	SEEDING
SMH 7	SMH 8	108	SEEDING
<b>8" WATER MAIN</b>			
0+40	0+02	42	BITUMINOUS PAVING
0+02	0+03	1	CURB & GUTTER
0+03	10+58	1055	SEEDING
10+58	10+59	1	CURB & GUTTER
10+59	10+86	27	BITUMINOUS PAVING
10+86	10+87	1	CURB & GUTTER
10+87	13+58	271	SEEDING
13+58	14+02	44	UNPAVED ROADWAY
14+02	14+20	18	SEEDING

- RESTORATION NOTES:**
1. SAW CUT EXISTING BITUMINOUS PAVEMENT AND CURB & GUTTER FULL WIDTH OF TRENCH.
  2. REPAIR PAVING IN ACCORDANCE WITH STANDARD DETAIL G4.01
  3. REPAIR CURB & GUTTER IN ACCORDANCE WITH STANDARD DETAIL R3.01 AND MATCH EXISTING.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY MARYLAND  
 12/17/99  
 12-15-99

**FARRAND & ENGLISH, INC.**  
 418 LYMAN AVENUE  
 BALTIMORE, MARYLAND 21212  
 410-452-2000  
 FAX 410-452-2200



DESIGN	A.R.	
DRAWN	A.R./B.E.	
CHECKED	B.E.	
PROJECT	93-28	
DATE	25 AUG 1999	
BY	No	
REVISION		
DATE		

**PLAN & PROFILE**  
 800' SCALE MAP No. 37  
 BLOCK No. 3

**CLOVER HILL RESTORATION**  
 WATER AND SEWER MAINS EXTENSION  
 CAPITAL PROJECT No N-3049  
 CONTRACT No 14-3777  
 1ST ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE:  
 AS SHOWN  
 3 of 4

**HOWARD SOIL CONSERVATION DISTRICT PERMANENT SEEDING NOTES**

Apply to graded or cleared areas not subject to immediate further disturbance where a short term vegetative cover is needed.

Seedbed 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 dolomitic limestone (42 lbs/1000 sq. ft.) and 600 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 ureaform fertilizer (4 lbs/1000 sq. ft.).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (42 lbs/1000 sq. ft.) and 1000 lbs. per 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 thru April 31, 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 and 2 lbs. 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 1-1/2 to 2 tons per acre (10 to 40 lbs/1000 sq. ft.) of unrattled small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance - Inspect all seeding areas and make needed repairs, replacements and reseeded.

**TEMPORARY SEEDING NOTES**

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

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

Soil Amendments: Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.)

Seeding: For periods March 1 thru April 30 and from August 15 thru October 15, seed with 2-7 bushels per acre of annual rye (32 lbs/1000 sq. ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 thru November 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: Apply 1-7 to 2 tons per acre (10 to 40 lbs/1000 sq. ft.) of unrattled weed free small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (8 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gal per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

**STANDARD SEDIMENT CONTROL NOTES**

- 1) A minimum of 48 hours must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction, (313-1955).
- 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 most current "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", and revisions thereto.
- 3) 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, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded area on the project site.
- 4) All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with VOLL, Chapter 12, 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 1981 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for the permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can 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 Howard County Sediment Control Inspector.
- 7) Site Analysis:  
Total Area of Site: 2.83 acres  
Area Disturbed: 0.30 acres  
Area to be rooted or paved: 0.16 acres  
Area to be vegetatively stabilized: 0.14 acres  
Total cut: 4,364 yards  
Total fill: 5,666 yards  
Total wash/borrow area location
- 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 be 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.
- 11) Trenches for the construction of utilities is limited to three pipe lengths or that which can be filled and stabilized within one working day, whichever is shorter.

**EROSION AND SEDIMENT CONTROL NOTES**

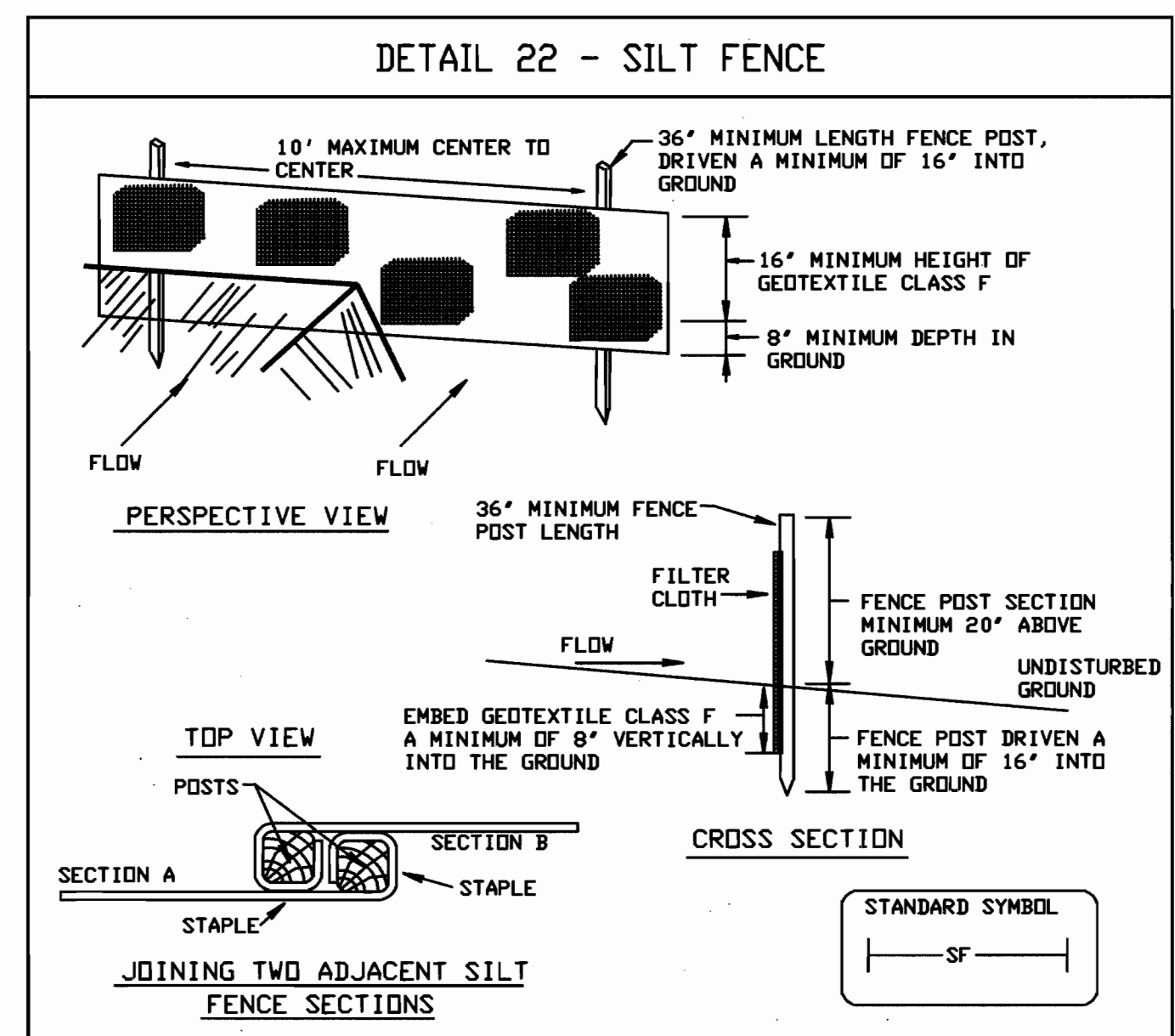
- 1) ALL SEDIMENT CONTROL OPERATIONS ARE TO BE DONE IN ACCORDANCE WITH SECTION 214 OF THE HOWARD COUNTY VOLUME IV DESIGN MANUAL AND THE STANDARDS AND SPECIFICATIONS FOR THE SEDIMENT CONTROL IN DEVELOPING AREAS.
- 2) ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF BUSINESS.
- 3) ALL EXCAVATED MATERIALS SHALL BE STOCKPILED ON THE UPGRADE SIDE OF THE MAIN TRENCH.
- 4) IMMEDIATELY FOLLOWING BACKFILL OF THE SEWER MAIN TRENCH, ALL DISTURBED AREAS ARE TO BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION AND SEEDING NOTES SHOWN ON THIS SHEET.
- 5) THROUGHOUT THE PROJECT, THE CONTRACTOR SHALL REGULARLY INSPECT ALL SEDIMENT CONTROL DEVICES AND PROVIDE ALL NECESSARY MAINTENANCE TO INSURE THAT ALL DEVICES ARE IN OPERATIVE CONDITION.
- 6) ALL SEDIMENT CONTROL FACILITIES SHALL REMAIN IN PLACE UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

**SEQUENCE OF OPERATIONS:**

- 1) CONTACT HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION 48 HOURS PRIOR TO COMMENCING WORK AT 742 - 1212
- 2) OBTAIN THE REQUIRED GRADING PERMIT.
- 3) CLEAR AND GRUB AS NECESSARY. ONLY AS REQUIRED FOR EXCAVATION AND INSTALLATION OF THE WATER AND SEWER MAINS. ONLY WITHIN THE DESIGNATED WATER, SEWER AND UTILITY EASEMENTS OR WITHIN THE LIMIT OF DISTURBANCE.
- 4) INSTALL SEDIMENT CONTROL DEVICE PERPENDICULAR TO THE CURB ON THE DOWN-SLOPE SIDE OF CONSTRUCTION.
- 5) SAW CUT AND EXCAVATE DITCH TO THE GRADE SPECIFIED ON THE PROFILE.
- 6) INSTALL SEWER AND WATER LINES.
- 7) STABILIZE, SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET.
- 8) INSPECT ALL SEDIMENT CONTROL DEVICES DAILY AND AFTER EACH RAINFALL, REPAIR AS NECESSARY.
- 9) BACKFILL TRENCH AND RESURFACE WITH TEMPORARY BITUMINOUS PAVING.
- 10) CLEAN UP CONSTRUCTION SITE.
- 11) WHEN ALL CONTRIBUTING AREAS TO SEDIMENT CONTROL DEVICE HAVE BEEN PERMANENTLY STABILIZED, AND AFTER PERMISSION HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES.
- 12) FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
  - A) 7 CALENDAR DAYS FOR ALL PERIMETER SLOPES GREATER THAN 3:1
  - B) 14 CALENDAR DAYS FOR ALL OTHER DISTURBED GRADED AREAS ON THE PROJECT SITE.

**APPROXIMATE TIME**

- 1 DAY
- 
- 3 DAYS
- 2 DAYS
- 21 DAYS
- 21 DAYS
- 21 DAYS
- 2 DAYS
- 2 DAYS
- 2 DAYS
- 1 DAY
- 
- 21 DAYS
- 2 DAYS
- 1 DAY



**Construction Specifications**

1. Fence posts shall be a minimum of 36' long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:
 

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft <sup>2</sup> /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322
3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE      PAGE E-15-3      MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**SILT FENCE**

**Silt Fence Design Criteria**

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE      PAGE E-15-3A      MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
*Clay S. Stinson* / *GS* 12/17/99  
S.S. Soil Conservation Service      Date

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT  
*J. R. Robinson* / *GS* 12/17/99  
Howard Soil Conservation District      Date

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY MARYLAND  
*James J. ...* 12/17/99      DATE  
DIRECTOR OF PUBLIC WORKS  
*Richard ...* 11/22/99      DATE  
CHIEF, BUREAU OF ENGINEERING  
*Robert ...* 12-15-99      DATE  
CHIEF, BUREAU OF UTILITIES  
*...* 11-23-99      DATE  
CHIEF, UTILITY DESIGN DIVISION

**FARRAND & ENGLISH, INC**  
416 LYMAN AVENUE  
BALTIMORE, MARYLAND 21212  
410-425-2400  
FAX 410-425-0200  
CONTEMPORARY DESIGN      LANDSCAPE ARCHITECTURE



DESIGN	A.R.				
DRAWN	A.R./B.E.				
CHECKED	B.E.				
PROJECT	93-28				
DATE	25 AUG 1999				
BY	No				
REVISION					

**SEDIMENT CONTROL  
DETAILS & NOTES**

600' SCALE MAP No. 32      BLOCK No. 3

**CLOVER HILL RESTORATION  
WATER AND SEWER MAINS EXTENSION**  
CAPITAL PROJECT No N-3049  
CONTRACT No 14-3777  
1ST ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
AS SHOWN  
4 of 4