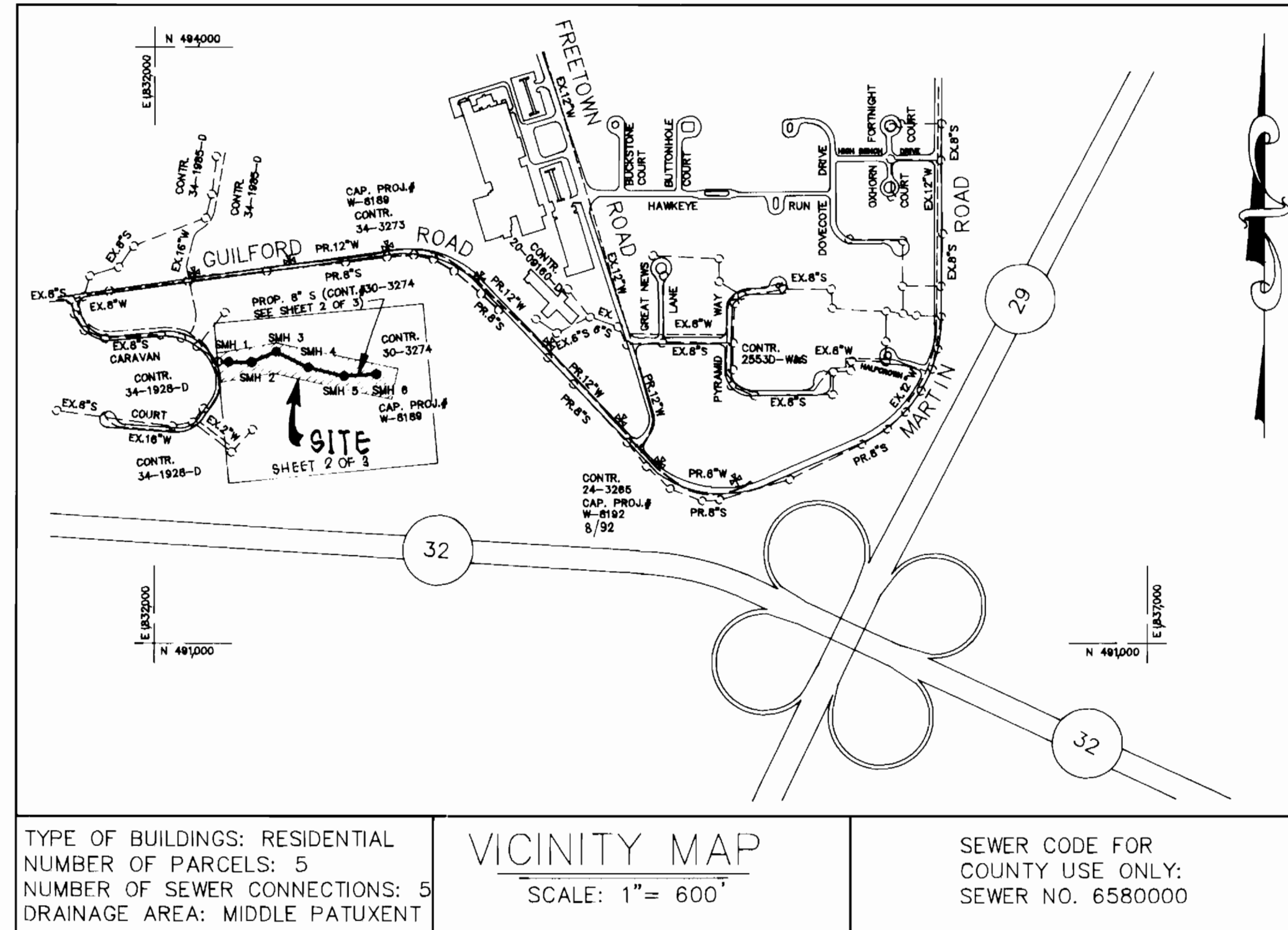


# CARAVAN COURT SEWER EXTENSION CAP. PROJ.# W-8189 CONT. # 30-3274 HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

QUANTITIES					
ITEM	UNIT	QUANTITIES		TYPE MATERIAL	SUPPLIER
		ESTIM.	AS BUILT		
PRECAST MANHOLE	EACH	6	6 EA.	CONC.	BAYSTAR PRECAST CORP
6" SEWER HOUSE CONNECTION	L.F.	72	65 L.F.	D.I.P.	
4" SEWER HOUSE CONNECTION	L.F.	40	40735 L.F.	P.V.C.	
8" SANITARY SEWER	L.F.	795	761.5 L.F.	D.I.P.	

NAME OF UTILITY CONTRACTOR: IACABONI SITE SPECIALIST INC.

CHECKBOX	
AS BUILT DATE	
SURVEY AND DRAFTING DIVISION	



GENERAL NOTES:

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS & 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 BASED ON MARYLAND STATE COORDINATES.
- ALL VERTICAL CONTROLS 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 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 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 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.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORK DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:  
STATE HIGHWAY ADMINISTRATION - 531-5533  
BALTO GAS & ELECTRIC CO. - CONTRACTOR SERVICES - 850-4620  
BALTO. GAS & ELECTRIC CO. - UNDERGROUND DAMAGE CONTROL - 787-9086  
MISS UTILITY - 1-800-257-7777  
BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 313-4900  
CHESAPEAKE AND POTOMAC TELEPHONE CO. - 597-8585  
COLONIAL PIPELINE CO. - 795-1390  
AT&T. - 865-3803
- 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 THE 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 BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH D.P.W. REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.
- ALL WATER MAINS SHALL BE DUCTILE IRON PIPE CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF 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 INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTIONS 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL SEWER MAINS SHALL BE D.I.P., UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- FORCE MAINS SHALL BE DUCTILE IRON PIPE ONLY.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLE DESIGNATED W. T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAME AND COVER, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.
- THE MONUMENTS USED TO ESTABLISH CONTROL FOR THIS PROJECT ARE 42A3, 41C2, 42E3 AND 42E4. FOR BENCHMARK INFORMATION SEE RECOVERY DATA FOR H016, H017, H018, H019, AND H020 ON SHEET 3.

NOTE:  
"SEDIMENT CONTROL TO BE IMPLEMENTED IN ACCORDANCE WITH VOLUME 4, SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL AND THESE PLANS."

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET INDEX OF DRAWINGS GENERAL NOTES
2	SEWER PLAN & PROFILE
3	SEDIMENT CONTROL MEASURES & TRAVERSE INFORMATION

SEWER HOUSE CONNECTIONS INVERT ELEVATIONS AT PROPERTY LINE		
STATION	LOT	ELEVATIONS

DEVELOPER'S CERTIFICATION

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

DATE: 2/14/04

SIGNATURE OF DEVELOPER: *Ronald G. Lapsan*  
PRINT NAME BELOW SIGNATURE: **Ronald G. Lapsan**

---

ENGINEER'S CERTIFICATE

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

REVIEWED FOR HOWARD COUNTY S.C.D. MEETS TECHNICAL REQUIREMENTS

DATE: 9-21-99

SIGNATURE: *Patricia Engle*  
U.S. SOIL CONSERVATION SERVICE

DATE: 9-21-99

SIGNATURE: *John K. Roberts*  
APPROVED HOWARD S.C.D.

DFI  
504 BALTIMORE/ANNAPOLIS BLVD.  
SEVERNA PARK, MD 21146  
TEL (410) 647-2727

ES: HOWARD COUNTY, MARYLAND, COUNTY MAP NO. 22, 1984

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DATE: 2/14/04

DATE: 9-21-99

DATE: 9-11-99

CONSULTING ENGINEERS, SURVEYORS AND LAND PLANNERS

DATE: 9-11-99

DES: D.D.S.				
DRN: D.D.S.				
CHK: M.a.M.				
DATE: 1/93				
BY	NO.	REVISION		

TITLE SHEET  
INDEX OF DRAWINGS  
GENERAL NOTES

600' SCALE MAP NO. 35&41 BLOCK NO. 24&6

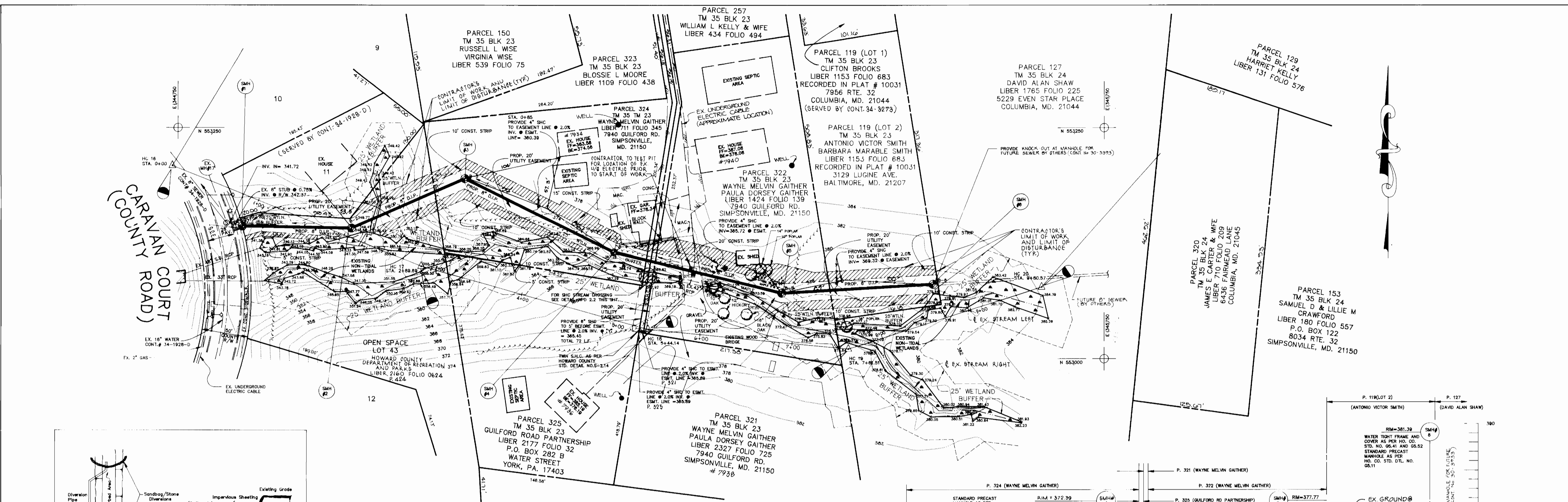
M.D.E. WATER QUALITY REVOLVING LOAN FUND NO. C-240994-06LE (14)

CARAVAN COURT SEWER EXTENSION  
CAPITAL PROJECT W-8189  
CONTRACT NO. 30-3274  
ELECTION DISTRICT NO. 5  
HOWARD COUNTY, MARYLAND

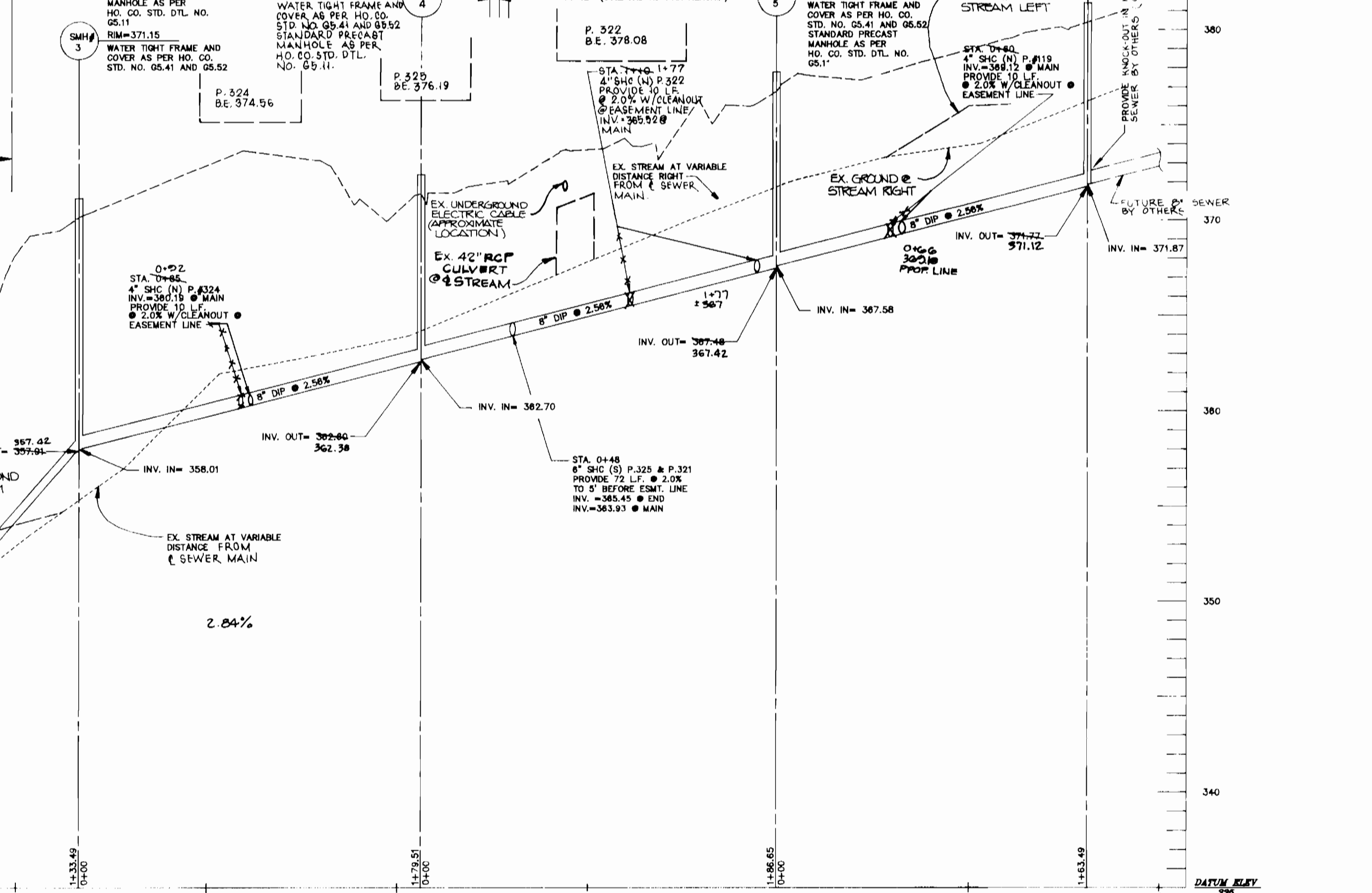
SCALE AS SHOWN

SHEET 1 OF 3



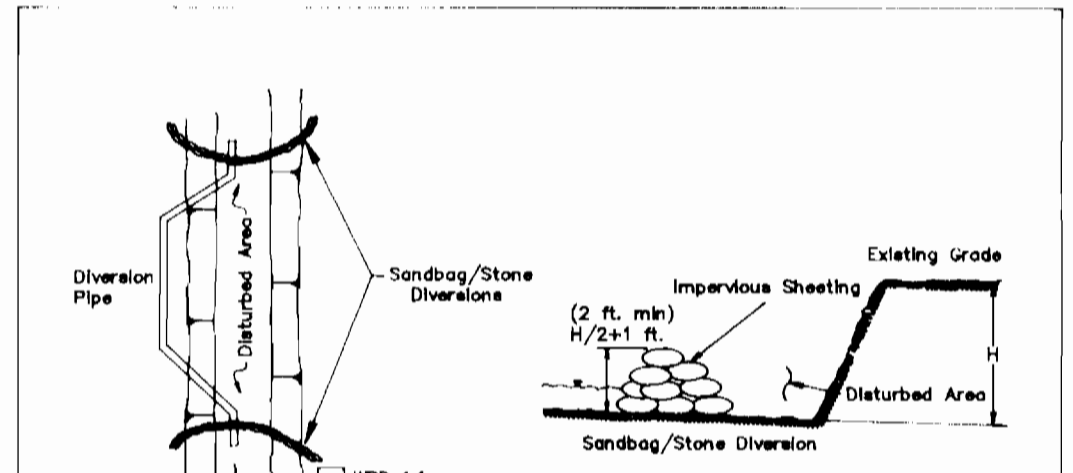


PLAN  
SCALE: 1"=50'



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

**NOTE:**  
CONTRACTOR'S ACCESS SHALL BE VIA PUBLIC RIGHT-OF-WAY (CARAVAN COURT) IF THE CONTRACTOR DESIRES TO MAKE PROVISIONS FOR AN ALTERNATE ACCESS THROUGH PRIVATE PROPERTY (IE) APPROVAL MAY BE REQUIRED OF THE HOWARD SOIL CONSERVATION DISTRICT.



- DESCRIPTION**  
THE WORK SHALL CONSIST OF INSTALLING A FLOW DIVERSION STRUCTURE WHEN CONSTRUCTION ACTIVITIES TAKE PLACE WITHIN THE STREAM CHANNEL SUCH AS CONDUIT CONSTRUCTION OR CULVERT REPLACEMENT.
- MATERIAL SPECIFICATIONS**
  - SANDBAG: SANDBAGS SHALL CONSIST OF MATERIALS WHICH ARE RESISTANT TO 1. ULTRA-VIOLET RADIATION, TEARING AND PUNCTURE AND WORK TOGETHER ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL (i.e., SAND, FINE GRAVEL, ETC.).
  - STONE: STONE SHALL BE WASHED AND HAVE A MINIMUM DIAMETER OF 6 INCHES.
  - SHEETING: SHEETING SHALL CONSIST OF POLYETHYLENE OR OTHER MATERIAL WHICH IS IMPROVED AND RESISTANT TO PUNCTURE AND TEARING.
- CONSTRUCTION REQUIREMENTS**
  - ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF WORK.
  - THE HEIGHT OF THE SANDBAG/STONE DIVERSION STRUCTURE SHALL BE ONE HALF THE DISTANCE FROM THE STREAM BED TO THE BANK PLUS ONE FOOT, AS INDICATED IN SECTION 01. THE SANDBAGS SHALL BE PLACED ON A SMOOTH, PREPARED SURFACE.
  - ALL EXCAVATED MATERIALS SHALL BE DISPOSED OF IN A SOO APPROVED DISPOSAL AREA OUTSIDE THE 100-YEAR FLOODPLAIN UNLESS OTHERWISE APPROVED ON THE PLANS BY THE MPA.
  - ALL DEWATERING OF THE CONSTRUCTION AREA SHALL BE PUMPED TO A DEWATERING BASIN (PLATE WPD.1.1) OR OTHERWISE APPROVED ON THE PLANS BY THE MPA.
  - SHEETING SHALL BE OVERLAPPED A MINIMUM OF 18 INCHES.
  - THE DIVERSION PIPE SHALL HAVE A MINIMUM DIAMETER OF SUFFICIENT SIZE TO CONVEY THE NORMAL STREAM FLOW.
  - IF NECESSARY, BELT PONS OR STRAINERS SHALL BE INSTALLED AROUND THE PERIMETER OF THE WORK AREA.
  - SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED AND THE INSPECTING AUTHORITY APPROVES THEIR REMOVAL.

Approved On \_\_\_\_\_  
Chief, Waterway Permits

**CONDITIONS AND MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS**

- STOCKPILE AND MAINTAIN SEPARATELY THE TOP 6" - 12" OF TOPSOIL 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.
- 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 DETERIOROUS SUBSTANCE. USE CLEAN BORROW MATERIAL WHEN EXCAVATED MATERIAL IS NOT SUITABLE FOR USE AS BACKFILL.
- ALL STABILIZATION IN THE WETLAND AND BUFFER SHALL BE OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (Lolium multiflorum), WHEAT (Triticum aestivum), BARLY (Hordeum sp.), ORTS (Juncus sp.) AND/OR RYE (Secale cereale). THESE SPECIES ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE DIVISION. **IDENTIFY TO PERIOD SHALL NOT BE UTILIZED IN THE WETLAND OR BUFFER AREAS.** THE AREA SHOULD BE SEEDS AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- 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.

SEWER MAIN STAKEOUT	
TRAVERSE STATION & OFFSET	DESCRIPTION
STA: 0+94.45 OFFSET: 32.37 R	SMH #1
STA: 2+04.39 OFFSET: 9.77 L	SMH #2
STA: 3+09.85 OFFSET: 103.75 L	SMH #3
STA: 4+46.07 OFFSET: 70.06 L	SMH #4
STA: 6+83.84 OFFSET: 53.32 L	SMH #5
STA: 8+69.84 OFFSET: 38.83 L	SMH #6

E.E. HOWARD, CARAVAN COURT, HOWARD COUNTY, MARYLAND, JUNE 21, 1994

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *James J. ...* DATE: 9-14-94  
 Chief, Bureau of Engineering: *Paul ...* DATE: 9-14-94  
 Chief, Bureau of Utilities: *Robert ...* DATE: 9-14-94  
 Chief, Water & Sewer Design Division: *...* DATE: 9-14-94

**dfi** CONSULTING ENGINEERS, SURVEYORS AND LAND PLANNERS  
504 BALTIMORE/ANNAPOLIS BLVD.  
SEVERNA PARK MD 21146 647-2727

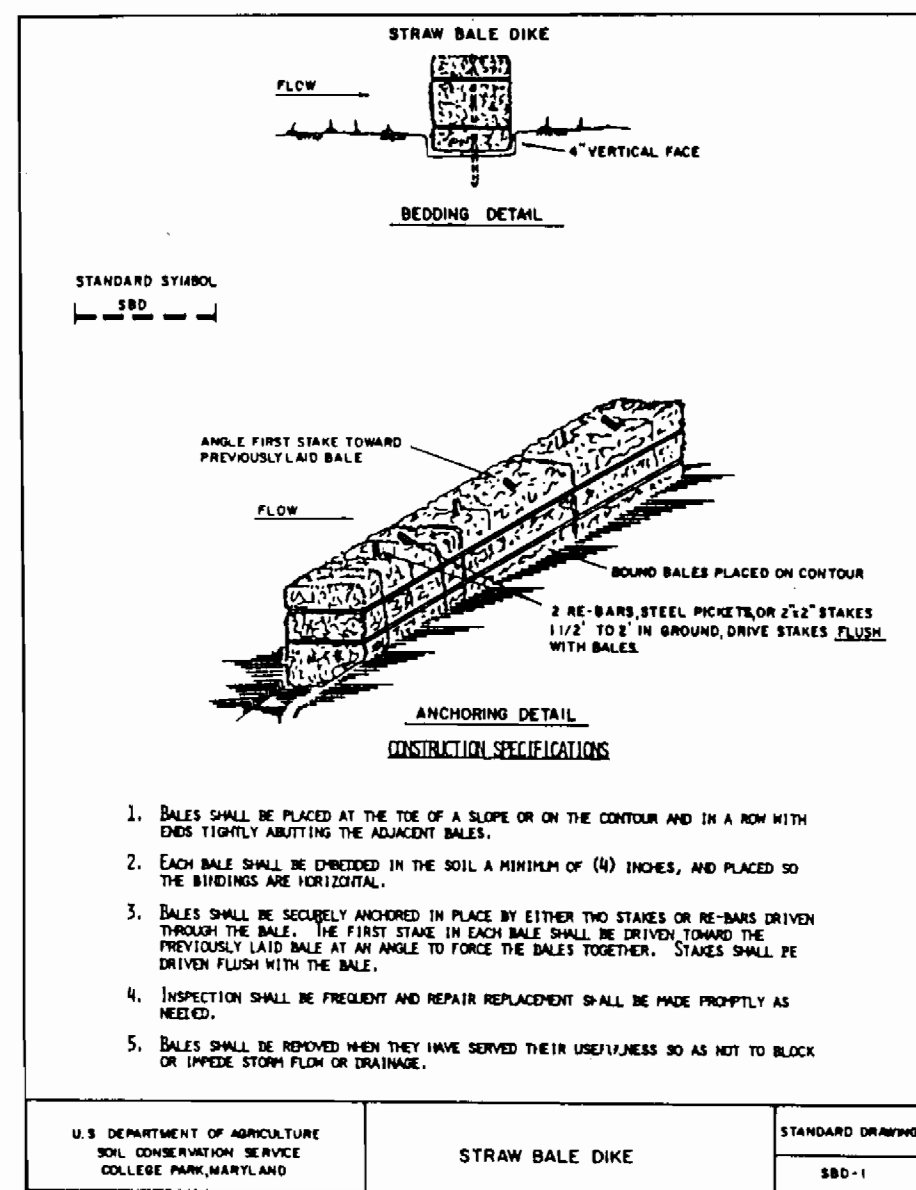
DES: D.D.S.					
DRN: D.D.S.					
CHK: M.a.M.					
DATE: 1/93					
BY	NO.	REVISION			

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**PLAN & PROFILE**  
**8" SEWER MAIN**  
600' SCALE MAP NO. 35&41 BLOCK NO. 24&6

M.D.E. WATER QUALITY REVOLVING LOAN FUND NO. C-240994-06LE (14)  
**CARAVAN COURT SEWER EXTENSION**  
CAPITAL PROJECT W-8189  
CONTRACT NO. 30-3274  
ELECTION DISTRICT NO. 5  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 2 OF 3





TRAVERSE DESCRIPTION				
POINT NO.	NORTH	EAST	BEARING	DISTANCE
HC 16	553,208.8590	1,344,744.0260	S 67 59'32"E	289.69'
HC 17	553,100.3010	1,345,012.6100	S 74 27'59"E	254.44'
HC 18	553,032.1540	1,345,257.7580	S 84 20'27"E	217.38'
HC 19	553,010.7190	1,345,474.0740	N 72 07'42"E	219.06'
HC 20	553,077.9440	1,345,682.5590		

### 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,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 ACRES 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 DISK 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.)
- 2) 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 DISK 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 AND 2 LBS PER ACRE (0.05 LBS/1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, 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 (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.

### 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 60 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.)

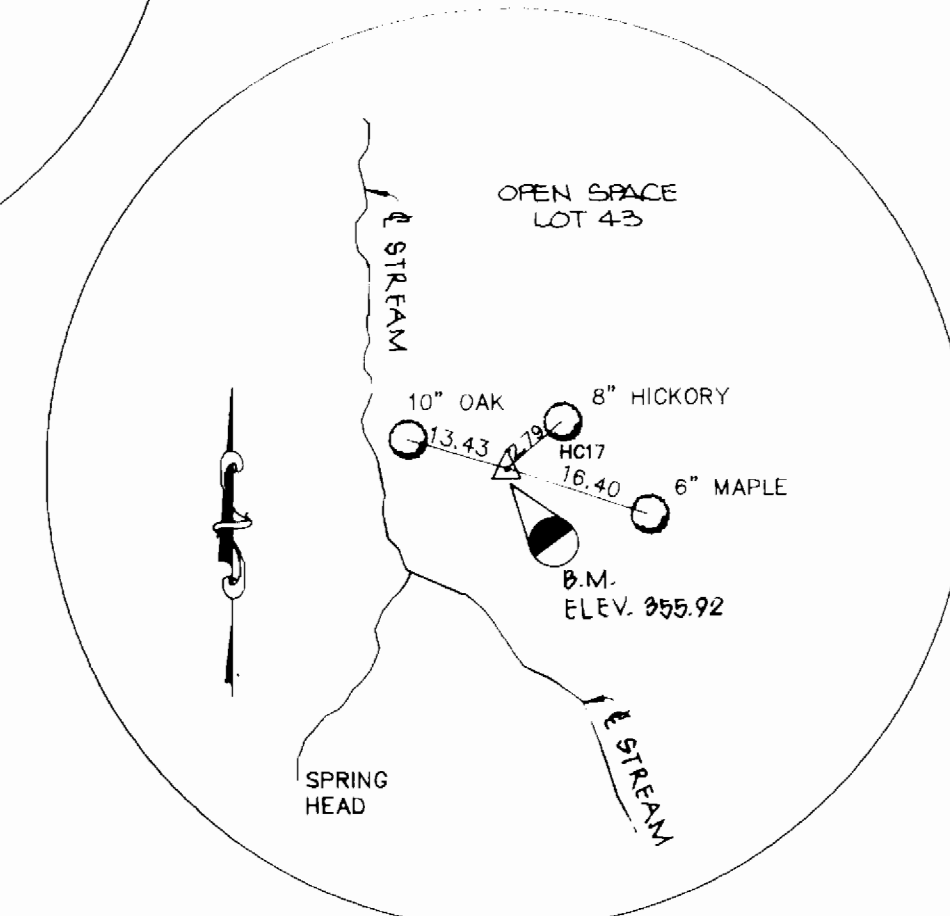
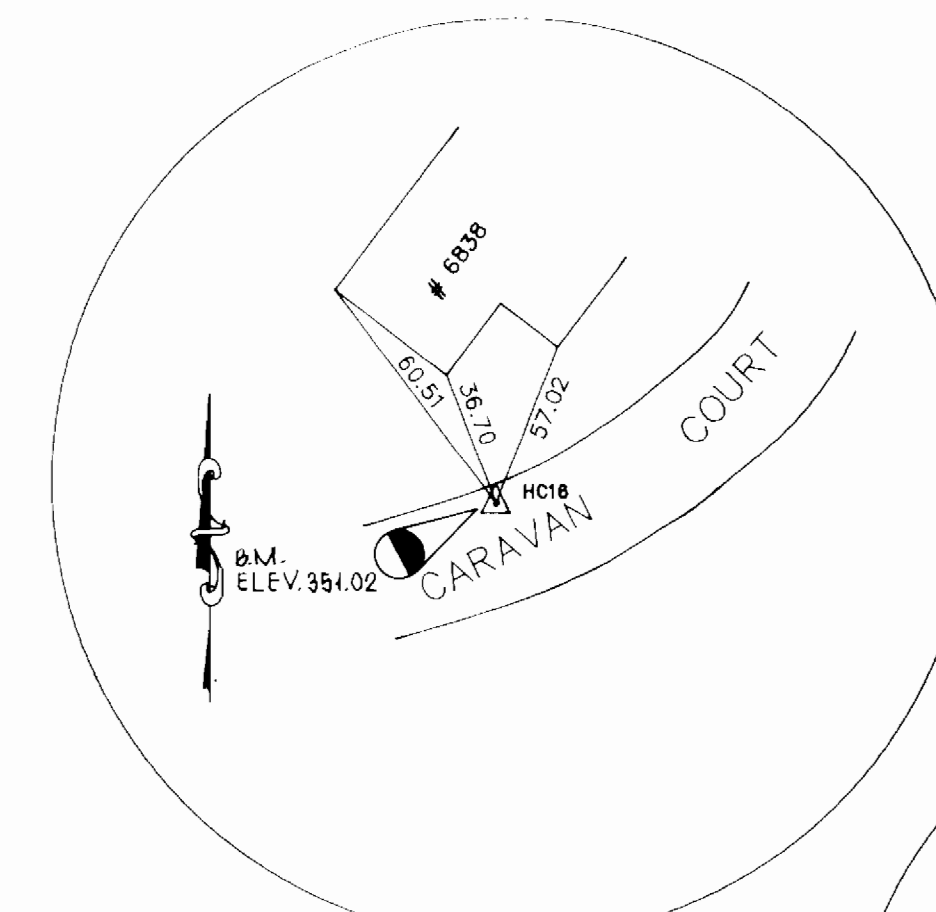
SEEDING - FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE ( 3.2 LBS/1000 SQ.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (0.07 LBS/1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, 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 1-1/2 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 GAL PER ACRE(5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT 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 RATE AND METHODS NOT COVERED.

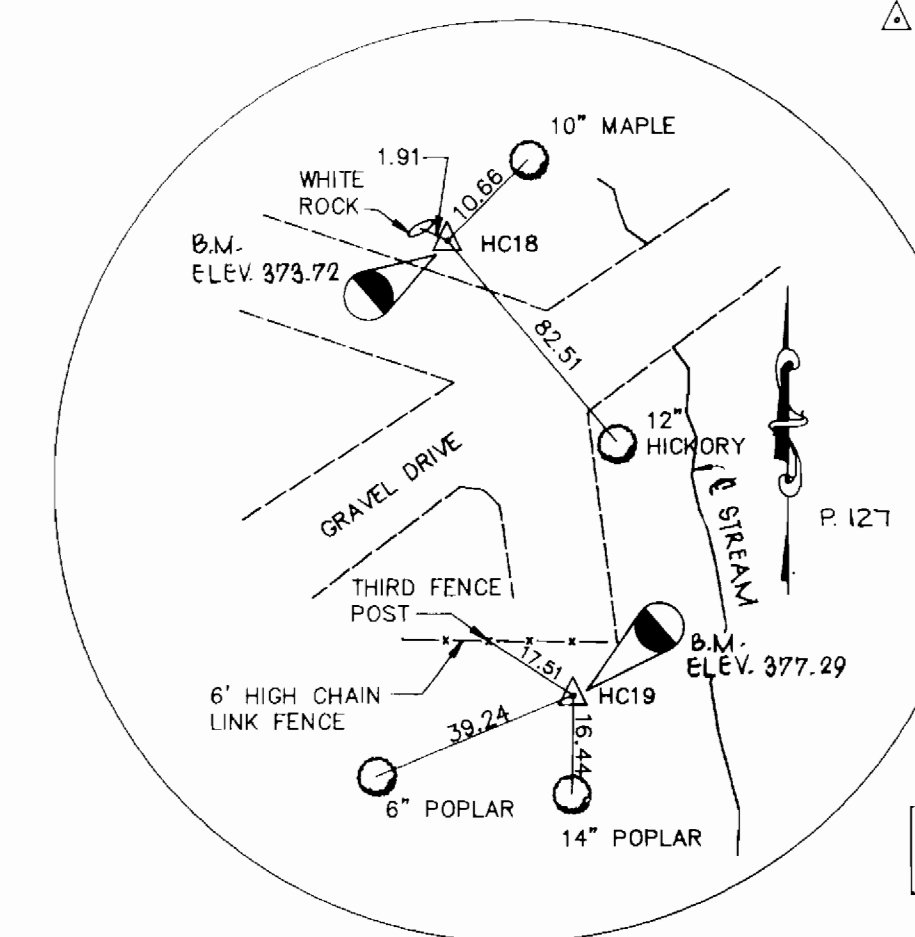
### SEDIMENT CONTROL NOTES

1. 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. (880-3450)
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH SEC. 219 OF VOL. IV OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS.
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 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 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 "1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR PERMANENT SEEDINGS (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 THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:  
TOTAL AREA OF SITE ---0.31--- ACRES  
AREA DISTURBED ---0.31--- ACRES  
AREA TO BE ROOFED OR PAVED ---0--- ACRES  
AREA TO BE VEGETATIVELY STABILIZED ---0.31--- ACRES  
TOTAL CUT ---300--- CU.YDS.  
TOTAL FILL ---300--- CU.YDS.  
OFFSITE WASTE/BORROW AREA LOCATION ---NONE---
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 CONTROLS MUST BE PROVIDED,IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW 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. ALL TRENCH MATERIAL SHOULD BE PLACED ON THE UP HILL SIDE OF THE TRENCH. ALL SPOIL MATERIAL IS TO BE PLACED ON UP HILL SIDE OF THE TRENCH.



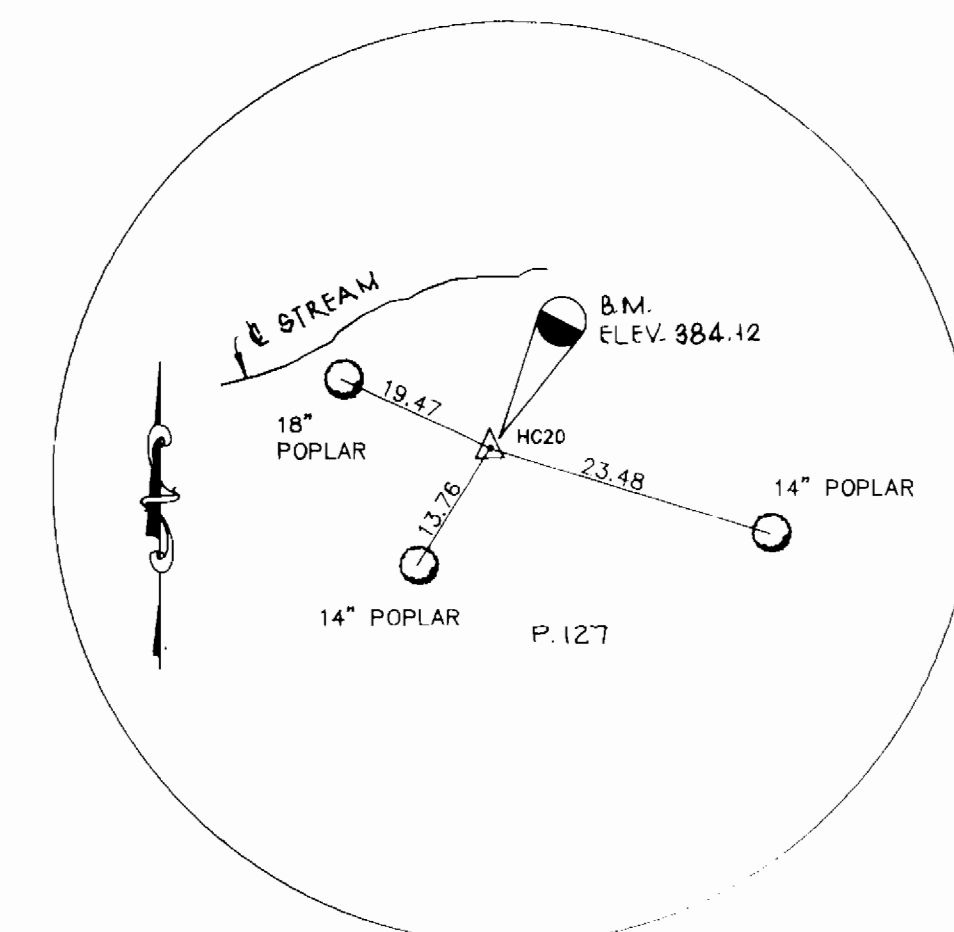
TRAVERSE POINT HC16  
△ HC16 IS A 3/4" RB W/CAP

TRAVERSE POINT HC17  
△ HC17 IS A 3/4" RB W/CAP

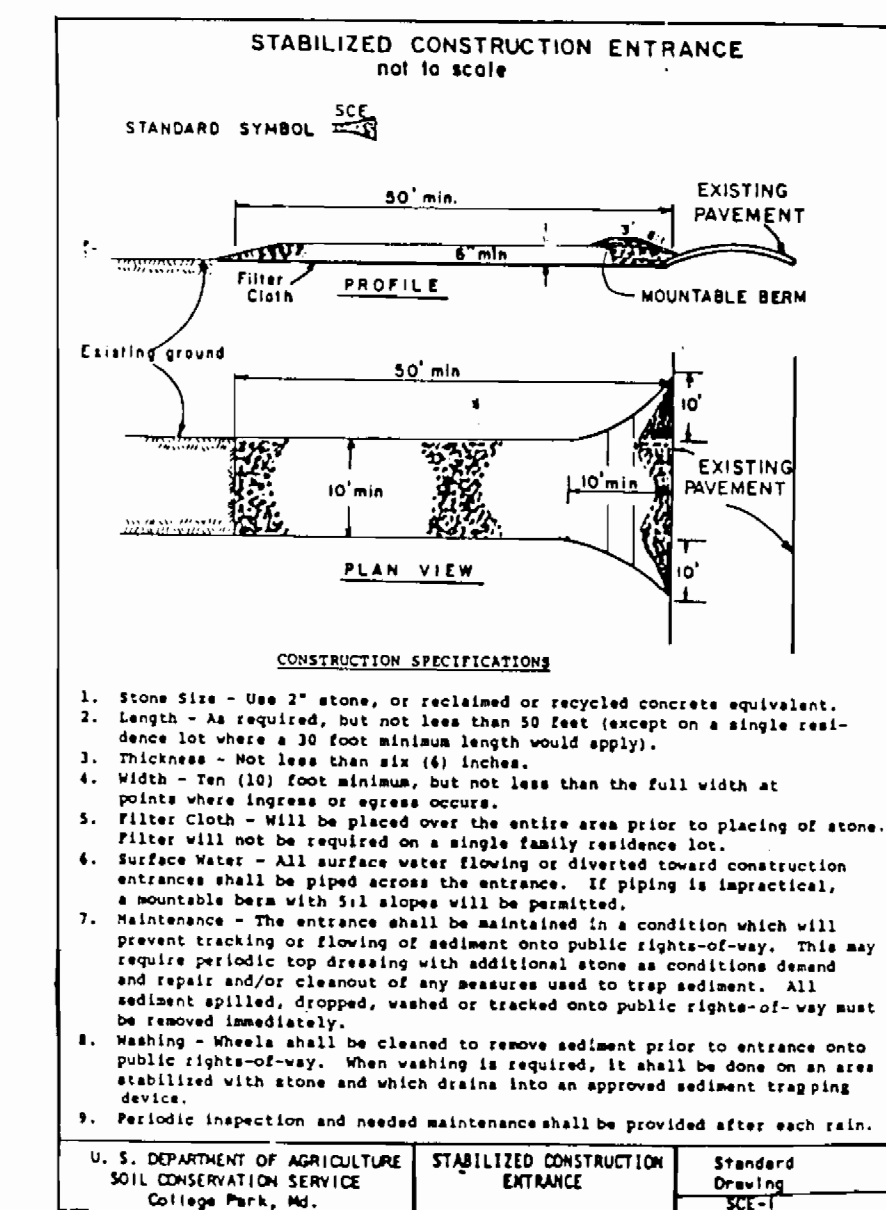


TRAVERSE POINT HC18 & HC19  
△ HC18 IS A 3/4" RB W/CAP  
△ HC19 IS A 3/4" RB W/CAP

NOTE: FOR TRAVERSE LOCATIONS SEE SHEET 2



TRAVERSE POINT HC20  
△ HC20 IS A 3/4" RB W/CAP



### SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. LAYOUT ALIGNMENT AT SITE.
3. INSTALL SEDIMENT CONTROL DEVICE(STRAW BALES) ON THE DOWN-SLOPE SIDE OF CONSTRUCTION. CLEAR FOR AND INSTALL STABILIZED CONSTRUCTION ENTRANCE.
4. EXCAVATE TRENCH TO THE GRADE SPECIFIED ON THE PROFILE. LENGTH OF TRENCH SHALL BE LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED IN ONE WORKDAY, WHICHEVER IS SHORTER.
5. INSTALL WATER MAIN AND SEWER MAIN.
6. BACKFILL TRENCH AND RESURFACE WITH TEMPORARY BITUMINOUS PAVING WHERE NEEDED.
7. CLEAN UP CONSTRUCTION SITE.
8. REMOVE SEDIMENT CONTROL DEVICES AFTER PERMISSION IS GRANTED BY THE SEDIMENT CONTROL INSPECTOR.

RESTORATION SCHEDULE			
LOCATION	LENGTH	MATERIAL	
SEWER			
MH1 STA. 0+94.45 TO MH2 STA. 2+04.39	117.94'	GROUND	(TO BE RESTORED AS PER CONDITION AND MANAGEMENT PRACTICES FOR WORKING IN HORIZONTAL TRENCHES) (SEE SHEET 2 OF 3)
MH2 STA. 2+04.39 TO MH3 STA. 3+09.65	133.49'	GROUND	"
MH3 STA. 3+09.65 TO MH4 STA. 4+86.07	179.51'	GROUND	"
*MH4 STA. 4+86.07 TO MH5 STA. 6+83.84	186.85'	GROUND	"
MH5 STA. 6+83.84 TO MH6 STA. 8+69.84	163.49'	GROUND	"
* EXCEPT STA. 5+63 TO STA. 5+83	20.00'±	MACADAM DRIVEWAY	(TO BE RESTORED AS PER HOWARD CO. STD. DETAIL 0-4-01)

### FINAL SUBMITTAL

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
DIRECTOR OF PUBLIC WORKS DATE 7-30-94  
CHIEF, BUREAU OF UTILITIES DATE 9-14-94

CONSULTING ENGINEERS, SURVEYORS AND LAND PLANNERS  
dfi  
504 BALTIMORE/ANNAPOLIS BLVD.  
SEVERNA PARK, MD 21146 647-2727

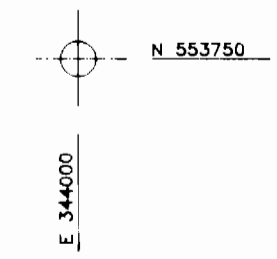
DES: D.D.S.			
DRN: D.D.S.			
CHK: M.G.M.			
DATE: 1/93	BY	NO.	REVISION

C:\DRAWINGS\HOWARD\SED CAR.DWG  
SEDIMENT CONTROL MEASURES  
& TRAVERSE INFORMATION  
600' SCALE MAP NO. 35&41 BLOCK NO. 24&6

M.D.E. WATER QUALITY REVOLVING LOAN FUND No. 0-240994-06LE (14)  
CARAVAN COURT SEWER EXTENSION  
CAPITAL PROJECT W-8189  
CONTRACT NO. 30-3274  
ELECTION DISTRICT NO. 5  
HOWARD COUNTY, MARYLAND  
SCALE AS SHOWN  
SHEET 3 OF 3



3274 topo / pos. skt. C.P. # W-8189



TOPOGRAPHIC & BOUNDARY SURVEY  
CARAVAN COURT & GUILFORD ROAD  
SCALE: 1"=50' DATE: 02-02-96  
CAPITAL PROJECT #W-8189  
SHEET 1 OF 2

**dfi** CONSULTING ENGINEERS, SURVEYORS,  
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