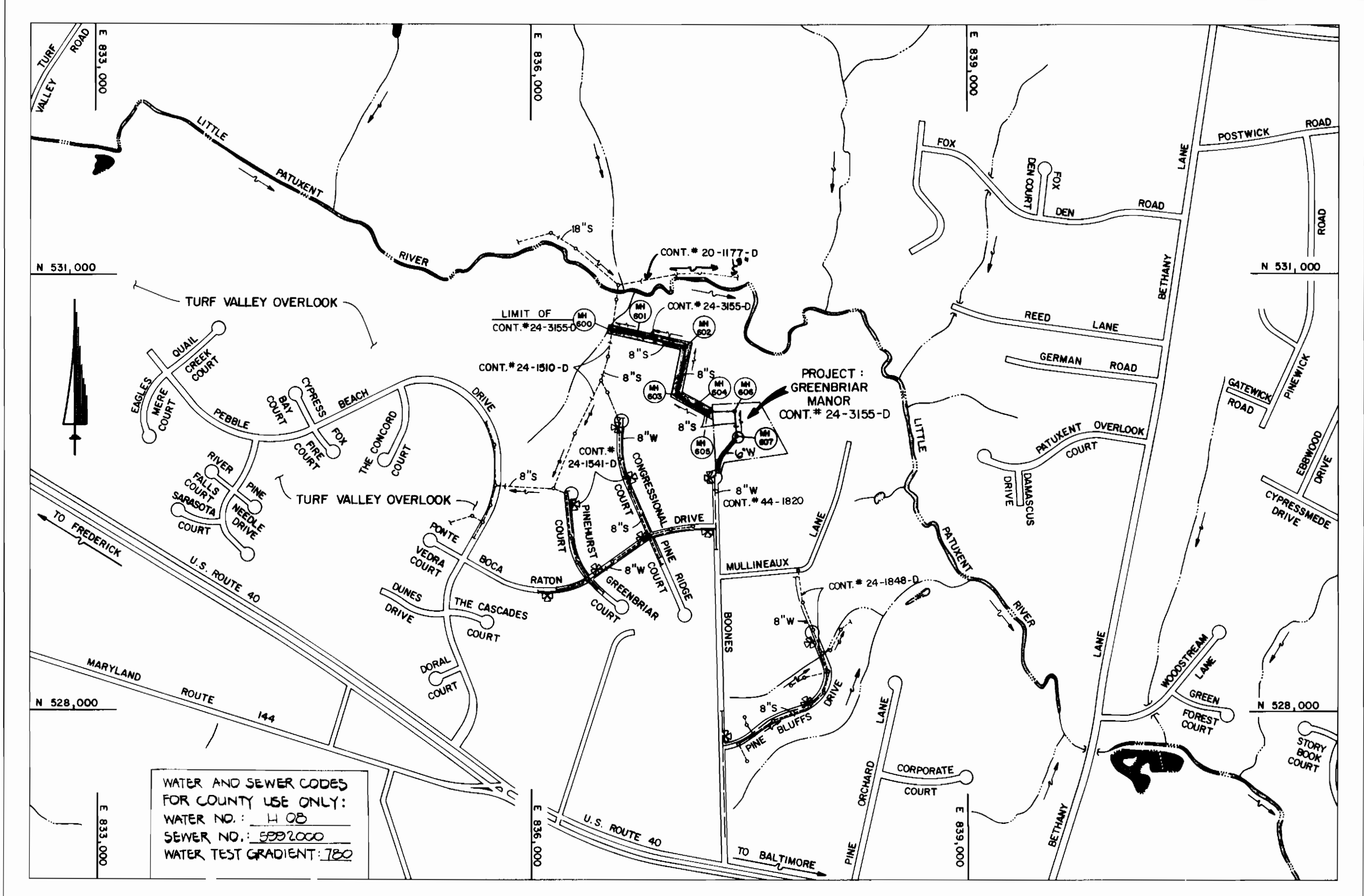


**GENERAL NOTES**

- 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 DAMAGED 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 ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6".
- 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 (1989 AMENDMENTS). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
- 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 VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
  - C. & P. TELEPHONE COMPANY - 1-800-257-7777
  - STATE HIGHWAY ADMINISTRATION - 531-5533
  - BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES - 850-4620
  - BALTIMORE GAS & ELECTRIC CO. - UNDERGROUND DAMAGE CONTROL - 859-9004
  - BALTIMORE GAS & ELECTRIC CO. - TROUBLE SHOOTING - 298-9001
  - MISS UTILITY - 1-800-559-0100
  - COLONIAL PIPELINE CO. - 795-1390
  - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 313-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREE 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.
- ALL SEWER MAINS SHALL BE C.S.P.X., R.C.S.P., V.C.P.X., OR P.V.C. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- T.B. DENOTES TEST BORING.
- 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 COVERS, STANDARD DETAIL G.5.2.
- WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTINGS, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CAN NOT BE SERVED.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN SPECIFICATIONS.
- MANHOLES LOCATED WITHIN THE PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLES, FRAMES AND COVERS STANDARD DETAIL G5.15.
- THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
- WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED SO AS TO HAVE ONE (1) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.
- ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-1/2" 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 ELEVATION SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH AWWA SPECIFICATIONS C-153; DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH 12-INCH FOR WATER AND OTHER LIQUIDS.

QUANTITIES			
ITEM	ESTIMATED	AS - BUILT	SUPPLIER
MANHOLES	8 EACH	9 EACH	ATLANTIC CONCRETE
8" SEWER	821 L.F.	819' L.F.	NATIONAL PIPE & SALES
4" SEWER	250 L.F.	221' L.F.	NATIONAL PIPE & SALES
6" WATER	265 L.F.	265' L.F.	GRIFFIN PIPE
1" WATER	50 L.F.	63' L.F.	CAMBRIDGE PIPE
3/4" WATER	160 L.F.	189' L.F.	CAMBRIDGE PIPE
4" WATER	20 L.F.	12' L.F.	GRIFFIN PIPE
4" VALVE	1 EACH	1 EACH	FRANKLIN
4"x3" REDUCER	1 EACH	1 EACH	GRIFFIN PIPE
3" DOWDFF	1 EACH	1 EACH	WAT. PERLE
8" SEWER (D.I.P.)	600 L.F.	440' L.F.	GRIFFIN PIPE
3" WATER		7' L.F.	GRIFFIN PIPE



WATER AND SEWER CODES FOR COUNTY USE ONLY:  
 WATER NO.: H 02  
 SEWER NO.: 2221000  
 WATER TEST GRADIENT: 1:80

**VICINITY MAP**  
 SCALE: 1" = 600'

TREATMENT PLANT: PATAPSCO TREATMENT PLANT; CITY OF BALTIMORE, VIA ROUTE 108 PUMPING STATION

# CONTRACT NO. 24-3155-D

# GREENBRIAR MANOR

## WATER AND SEWER MAIN EXTENSIONS

## HOWARD COUNTY, MARYLAND

## DEPARTMENT OF PUBLIC WORKS

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

APPROVED:  DATE: 11-14-91

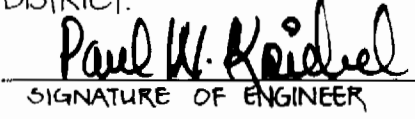
SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AND ALSO AS SHOWN ON THESE WATER AND SEWER CONTRACT DRAWINGS. REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

PLAN REFERENCE NUMBERS:  
 P - 91-16  
 F - 92-42

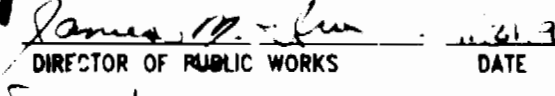
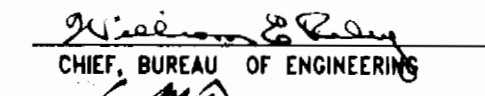
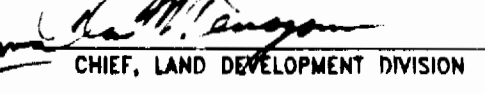
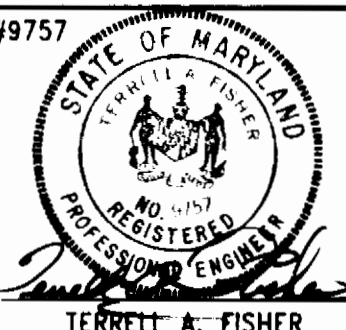
**DEVELOPER'S CERTIFICATE**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ONSITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY.

 DATE: 11-4-91

**ENGINEER'S CERTIFICATE**  
 I HEREBY 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 SOIL CONSERVATION DISTRICT.

 DATE: 10/31/91

CONTRACT NO. 24-3155-D  
 GREENBRIAR MANOR  
 WATER AND SEWER EXTENSIONS  
 HOWARD COUNTY, MARYLAND

<p><b>DEPARTMENT OF PUBLIC WORKS</b>                  HOWARD COUNTY, MARYLAND</p> <p> DATE: 11-20-91                  DIRECTOR OF PUBLIC WORKS</p> <p> DATE: 11/20/91                  CHIEF, BUREAU OF ENGINEERING</p> <p> DATE: 11/20/91                  CHIEF, LAND DEVELOPMENT DIVISION</p>	<p><b>FISHER, COLLINS &amp; CARTER, INC.</b></p> <p>CIVIL ENGINEERING CONSULTANTS &amp; LAND SURVEYORS                  SUITE 100, 9171 BALTIMORE NATIONAL PIKE                  ELLICOTT CITY, MARYLAND 21043                  (301) 461-2855</p> <p></p>	<p>DES: MJM                  DRWN: SFH                  CHK: PWK                  DATE:</p>	<p style="text-align: center;"><b>TITLE SHEET</b></p>	<p style="text-align: center;"><b>GREENBRIAR MANOR</b></p> <p style="text-align: center;"><b>CONTRACT NO. 24-3155-D</b></p> <p style="text-align: center;"><b>SECOND ELECTION DISTRICT</b></p> <p style="text-align: center;"><b>HOWARD COUNTY, MARYLAND</b></p> <p style="text-align: center;"><b>AS-BUILT 11-24-91</b></p>	<p>SCALE AS SHOWN</p> <p>SHEET 1 OF 4</p>
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S.H.C. INVERT ELEVATIONS @ PROPERTY LINE		
STATION	LOT NUMBER	ELEVATION
MH# 605 TO MH# 606		
1+59	2	418.42
MH# 606	3	419.45
MH# 606 TO MH# 607		
MH# 607		425.69
MH# 607	4 (1.00%)	425.33
MH# 607	5	425.95
MH# 607	6 (DROP CONN.)	429.56

NOTE: FOLLOWING INSTALLATION OF THE SEWER MAIN BETWEEN MH# 604 TO MH# 605, THE CONTRACTOR SHALL REPLACE & RESTORE THE EX. WOODEN FENCE TO ITS ORIGINAL LOCATION & CONDITION.

**BENCH MARKS:**  
 BM#1 ELEV. 570.50  
 1' X 1' CUT ON RIM OF EXISTING MH#9 OF TURF VALLEY INTERCEPTOR  
 BM#2 ELEV. 420.54  
 LUB OF TRAVERSE POINT # 204 (APPROX. 30' FROM NORTHWEST CORNER OF PROPERTY).

NOTE: THE LENGTH OF OPEN SEWER MAIN TRENCH SHALL BE LIMITED TO THREE (3) PIPE LENGTHS OR TO THAT WHICH WILL BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY.

NOTE: SEE SHEET 4 OF 4 FOR SEQUENCE OF CONSTRUCTION, EROSION & SEDIMENT CONTROL NOTES AND PERMANENT SEEDING NOTES.

NOTE: SET RIMS OF MANHOLES # 603, # 604 & # 605 1'-6" ABOVE EX. GROUND; STD. DETAIL G5 41

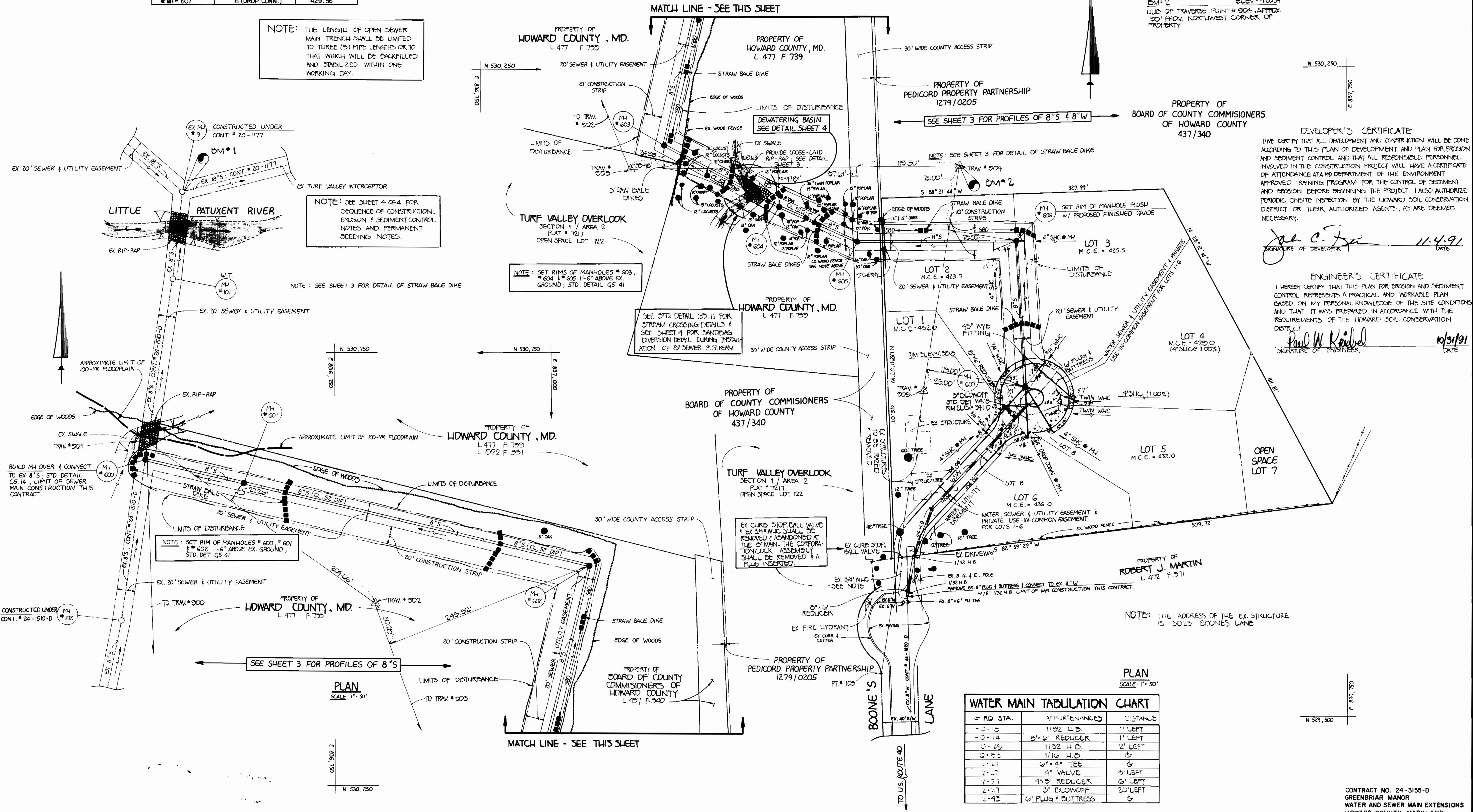
NOTE: SET RIM OF MANHOLES # 600, # 601 & # 602 1'-6" ABOVE EX. GROUND; STD. DET. G5 41

EX CURB STOP BALL VALVE & EX 3/4" W.H.C. SHALL BE REMOVED & ABANDONED AT THE 2" MAIN. THE CORPORATION LOCK ASSEMBLY SHALL BE REMOVED & A PLUG INSERTED.

NOTE: THE ADDRESS OF THE EX. STRUCTURE IS 3023 BOONES LANE

**DEVELOPER'S CERTIFICATE**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MD DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ONSITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.  
 Signature of Developer: *John C. Fox* 11/4/91  
 DATE

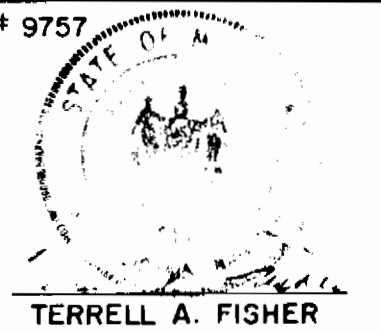
**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 Signature of Engineer: *Paul W. Keibel* 10/31/91  
 DATE



RD. STA.	APPURTENANCES	DISTANCE
0+15	1/2" H.B.	1' LEFT
0+14	2" 6" REDUCER	1' LEFT
0+25	1/2" H.B.	2' LEFT
0+25	1/16" H.B.	5'
0+27	6" 4" TEE	6'
2+27	4" VALVE	3' LEFT
2+27	4" 3" REDUCER	6' LEFT
2+27	3" BLOWOFF	20' LEFT
2+43	6" PLUG & BUTTRISS	6'

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: *[Signature]* DATE: 11/2/91  
 Chief, Bureau of Engineering: *[Signature]* DATE: 11/2/91  
 Chief, Bureau of Utilities: *[Signature]* DATE: 11/2/91  
 Chief, Land Development Division: *[Signature]* DATE: 11/2/91

FISHER, COLLINS, AND CARTER, INC.  
 CONSULTING ENGINEERS AND LAND SURVEYORS  
 9171 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21042  
 (301) 461-2855



DES: MJM	BY NO.	REVISION	DATE
DRN: SFH			
CHK: PWK			
DATE:			

WATER AND SEWER MAINS  
 PLAN  
 600' SCALE MAP NO. 17 BLOCK NO.

GREENBRIAR MANOR  
 CONTRACT NO. 24-3155-D  
 SECOND ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 SCALE AS SHOWN  
 SHEET 2 OF 4

CONTRACT NO. 24-3155-D  
 GREENBRIAR MANOR  
 WATER AND SEWER MAIN EXTENSIONS  
 HOWARD COUNTY, MARYLAND





**EROSION AND SEDIMENT CONTROL NOTES:**

- ALL SEDIMENT CONTROL OPERATIONS ARE TO BE DONE IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL AND THE STANDARDS AND SPECIFICATIONS FOR SEDIMENT CONTROL IN DEVELOPING AREAS.
- ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF BUSINESS.
- ALL EXCAVATED MATERIALS SHALL BE STOCKPILED ON THE UPGRADE SIDE OF THE SEWER MAIN TRENCH.
- 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.
- 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.
- ALL SEDIMENT CONTROL FACILITIES SHALL REMAIN IN PLACE UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

**SEDIMENT CONTROL NOTES**

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (992-2437).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 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, PERIMETER SLOPES AND ALL 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 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.
- 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.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE (GREENBRIAR MANOR)	2.803 ACRES
AREA DISTURBED	1.3 ACRES
AREA TO BE ROOFED OR PAVED	0.00 ACRES
AREA TO BE VEGETATIVELY STABILIZED	1.3 ACRES
TOTAL CUT	1,715 CU. YDS. *
TOTAL FILL	1,648 CU. YDS. *
OFFSITE WASTE/BORROW AREA LOCATION	N/A CU. YDS.
- 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.

**NOTE:** THE LENGTH OF OPEN SEWER MAIN TRENCH SHALL BE LIMITED TO THREE (3) PIPE LENGTHS OR TO THAT WHICH WILL BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY.

\* TOTAL CUT IS TRENCH EXCAVATION FOR SEWER MAIN INSTALLATION & TOTAL FILL IS REFILL / BACKFILL OF SEWER MAIN TRENCH.

**PERMANENT SEEDING NOTES:**

APPLY TO GRADED OR CLEARED AREA 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. IF NOT PREVIOUSLY LOOSENED, SOIL AMENDMENTS IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULE:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (32 LBS/1000 SQ. FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.) BEFORE SEEDING.
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (32 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 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 WILL 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 HIGHTER, 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, DISCING 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.)

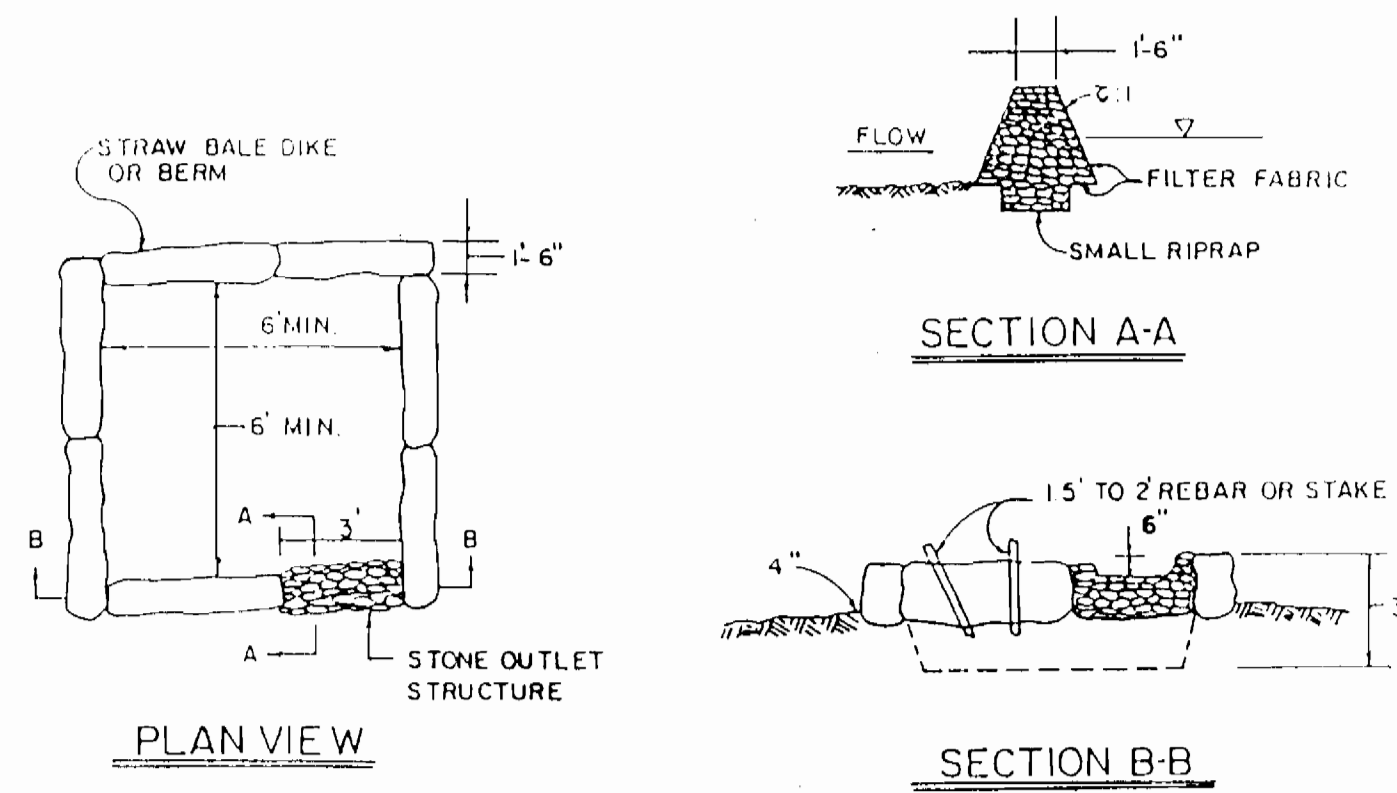
SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ. FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ. FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, 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 HIGHTER, 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.

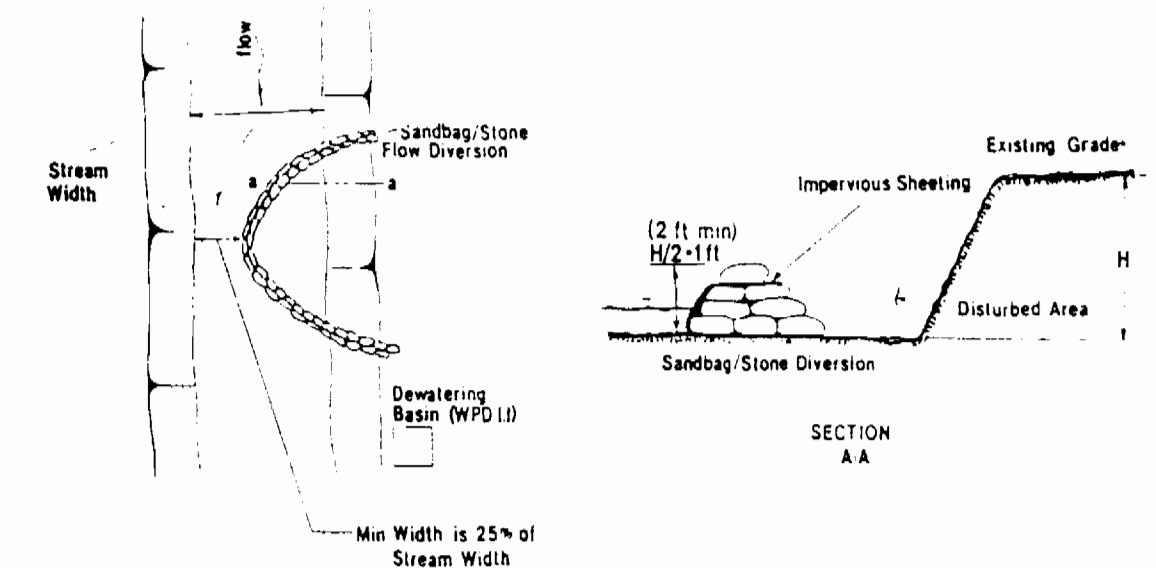
**SEQUENCE OF CONSTRUCTION**

- OBTAIN THE REQUIRED GRADING PERMIT.
- INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES; AS INDICATED ON SHEET 2 OF 4.
- CLEAR AND GRUB AS NECESSARY; ONLY AS REQUIRED FOR EXCAVATION AND INSTALLATION OF THE 8" SEWER MAIN AND ONLY WITHIN THE DESIGNATED SEWER AND UTILITY EASEMENTS.
- NOTE: THE LENGTH OF OPEN SEWER MAIN TRENCH SHALL BE LIMITED TO THREE (3) PIPE LENGTHS OR TO THAT WHICH WILL BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY.
- BEGINNING AT MANHOLE NO. 600, EXCAVATE TRENCH AND INSTALL 8" SEWER MAIN & APPURTENANCES AND BACKFILL SEWER MAIN TRENCH; UP TO A POINT 100' BEYOND MANHOLE NO. 603 AT BANK OF EXISTING STREAM. PLACE EXCAVATED MATERIAL ON THE UPGRADE SIDE OF THE SEWER MAIN TRENCH.
- EXCAVATE AND CONSTRUCT DEWATERING BASIN - SEE DETAILS THIS SHEET.
- INSTALL SANDBAGS AS NECESSARY TO DIVERT ONE-HALF OF THE STREAM FLOW - SEE DETAILS THIS SHEET.
- EXCAVATE SEWER MAIN TRENCH WITHIN STREAMBED AND INSTALL 8" SEWER MAIN TO CENTER-LINE OF STREAM. ALL STREAM WATER PUMPED OUT DURING CONSTRUCTION ACTIVITIES SHALL BE PUMPED TO THE DEWATERING BASIN.
- REMOVE SANDBAGS AND REINSTALL AS NECESSARY TO DIVERT SECOND HALF OF STREAM FLOW. SEE DETAILS THIS SHEET.
- EXCAVATE SEWER MAIN TRENCH AND INSTALL 8" SEWER MAIN TO COMPLETE INSTALLATION OF 8" SEWER MAIN ACROSS STREAM. ALL STREAM WATER PUMPED OUT DURING CONSTRUCTION ACTIVITIES SHALL BE PUMPED TO THE DEWATERING BASIN.
- PLACE LOOSE-LAID RIP-RAP ACROSS STREAM AND ALONG STREAM BANKS. SEE DETAIL SHEET 3 OF 4. RIP-RAP SHALL BE PLACED THE FULL WIDTH OF THE PREVIOUSLY EXCAVATED TRENCH ACROSS THE STREAM.
- REMOVE THE DEWATERING BASIN AND RESTORE AREA DISTURBED BY BASIN CONSTRUCTION.
- CONTINUING FROM MANHOLE NO. 604, UPGRADE OF THE STREAM CROSSING, EXCAVATE TRENCH AND INSTALL 8" SEWER MAIN AND APPURTENANCES AND BACKFILL SEWER MAIN TRENCH; UP TO MANHOLE NO. 607 AT LIMIT OF SEWER MAIN CONSTRUCTION.
- STABILIZE, SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET.
- FOLLOWING SUCCESSFUL STABILIZATION OF ALL DISTURBED AREAS, AND AFTER PERMISSION HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES.



**NOTE:** ALL DEWATERING OF THE CONSTRUCTION AREA DURING THE SEWER MAIN INSTALLATION RIP-RAP INSTALLATION SHALL BE PUMPED TO A DEWATERING BASIN (WPD I.1 - AS SHOWN ABOVE) PRIOR TO RE-ENTERING THE STREAM.

**DEWATERING BASIN DETAIL; WPD I.1**



- Description**  
The work shall consist of installing flow diversions for the purpose of erosion control when construction activities take place within the stream channel such as bank stabilization or bridge abutment construction.
- Material Specifications**
  - Sandbags: Sandbags shall consist of materials which are resistant to ultraviolet radiation, tearing and puncture and woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).
  - Stone: Stone shall be washed and have a minimum diameter of 5 inches.
  - Sheeting: Sheeting shall consist of polyethylene or other material which is impervious and resistant to puncture and tearing.
- Construction Requirements**
  - All erosion and sediment control devices shall be installed as the first order of work.
  - The diversion structure shall be installed from upstream to downstream.
  - The height of the diversion structure shall be one-half the distance from stream bed to stream bank plus one foot, as indicated on the cross-section view.
  - All excavated materials shall be disposed of in a 500' approach disposal area outside the 100-year floodplain unless otherwise approved on the plans by the WRA.
  - All dewatering of the construction area shall be pumped to a dewatering basin prior to re-entering the stream.
  - Sheeting shall be overlapped such that the upstream portion covers the downstream portion with at least an 18-inch overlap.
  - Sediment control devices are to remain in place until all disturbed areas are stabilized in accordance with an approved sediment and erosion control plan and the inspecting authority approves final removal.

**SANDBAG/STONE DIVERSION @ STREAM**

**DEVELOPER'S CERTIFICATE**

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MD 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 OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

Signature of Developer: *Joe C. Ren* DATE: 11-4-91

**ENGINEER'S CERTIFICATE**

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

Signature of Engineer: *Paul W. Keighly* DATE: 10/31/91

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *James J. ...* DATE: 11-20-91  
Chief Bureau of Engineering: *...* DATE: 11/21/91  
Chief Land Development Division: *...* DATE: 11/21/91

FISHER, COLLINS, AND CARTER, INC.  
CONSULTING ENGINEERS AND LAND SURVEYORS  
8388 COURT AVENUE  
ELLICOTT CITY, MARYLAND 21043

Professional Engineer Seal: *Terrell A. Fisher*

DES: PWK	
DRN: SFH	
CHK: PWK	
DATE:	
BY: NO.	
REVISION	
DATE	

SEDIMENT & EROSION CONTROL  
DETAILS & NOTES

600 SCALE MAP NO. 17 BLOCK NO.

GREENBRIAR MANOR  
CONTRACT NO. 24-3155-D  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 4 OF 4

AS-BUILT