

COLUMBIA GATEWAY PARCELS T-7-10 8-INCH WATER AND 8-INCH SEWER EXTENSIONS

COLUMBIA GATEWAY DRIVE

F-99-91

CONTRACT NO. 24-3748-D

GENERAL NOTES:

PART I

- APPROXIMATE LOCATIONS 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 NAVD 29.
- 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 UNLESS OTHERWISE NOTED. 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 MONIES OWED TO 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 LOCATIONS OF THE TEST PITS. 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 WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - AT&T.....1-800-526-2000
 - BCE(CONTRACTOR SERVICES).....410-850-4620
 - BCE(UNDERGROUND DAMAGE CONTROL).....410-787-9068
 - BUREAU OF UTILITIES.....410-313-4900
 - BELL ATLANTIC MARYLAND, INC.....1-800-621-9900
 - 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 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)313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD 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.
- ALL TRENCH BEDDING SHALL BE IN ACCORDANCE WITH STANDARD DETAIL G2.01: "TRENCH IN EARTH" FOR DIP AND "TRENCH FOR PVC PIPE AND HDPE PIPE".

PART II WATER

- ALL WATER MAINS SHALL BE D.I.P. CLASS 52 WITH RESTRAINED JOINTS UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 4'-0" 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. THE 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.

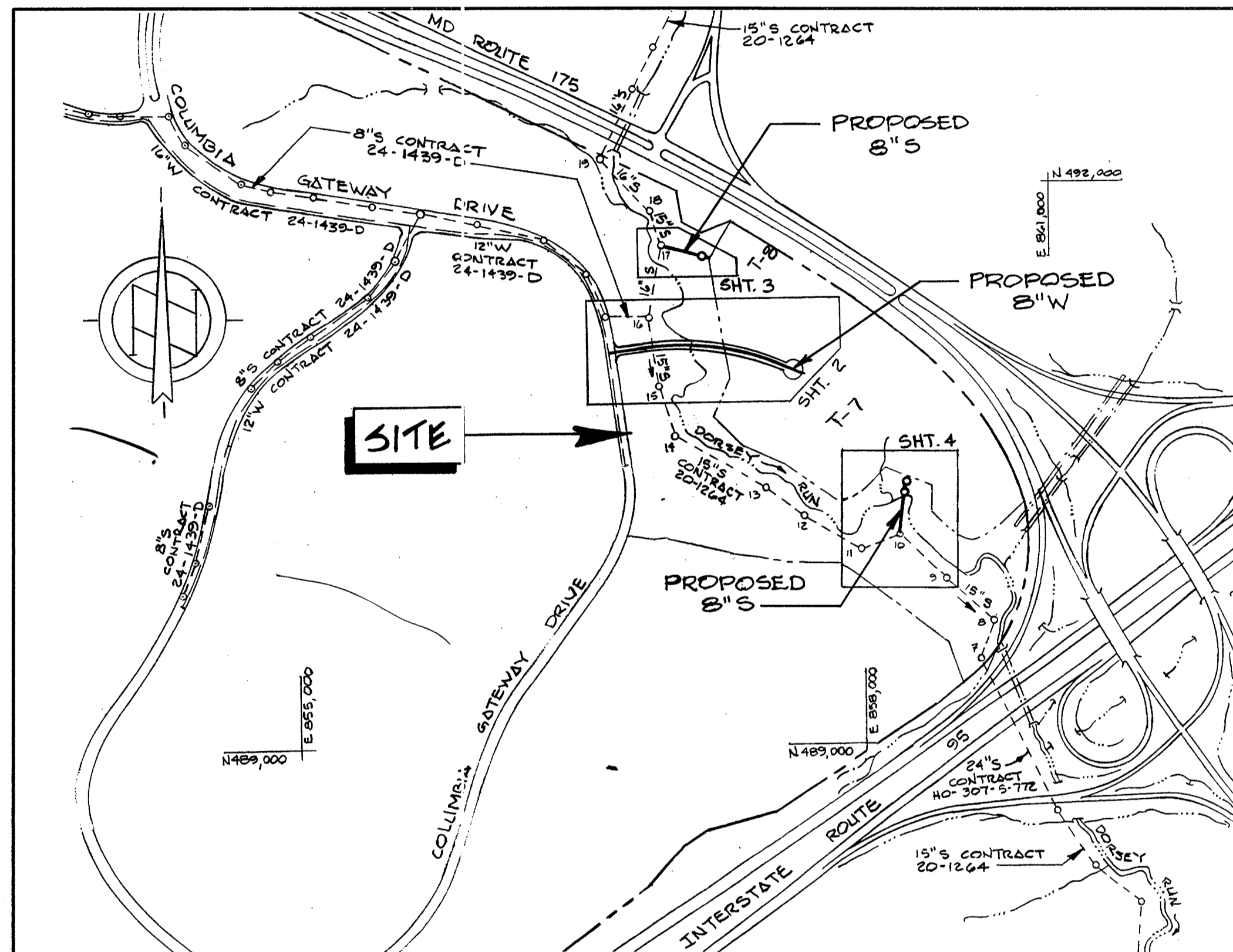
PART III SEWER

- 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. (N.A.)
- 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 THAT THE CELLAR CANNOT BE SERVED. (N.A.)

| WATER QUANTITIES | | | | |
|--|------------|----------|---------------------------|---------------|
| ITEM | QUANTITIES | | TYPE MATERIAL | SUPPLIER |
| | ESTIMATED | AS BUILT | | |
| 8" WATER | 802 LF | 802 | DIP 52 | GRIFFIN PIPE |
| 8" WATER W/ 6" INSULATION | 70 LF | 70 LF | DIP | " " |
| 6" WATER | 144 LF | 144 | DIP | GRIFFIN PIPE |
| 12"x8" TAPPING SLEEVE AND VALVE ASSEMBLY | 1 EACH | 1 | AWWA C-509 | MUELLER COMP. |
| 8" VALVE | 1 EACH | 1 | RESILIENT SEAT GATE VALVE | " " |
| 6" VALVE | 4 EACH | 4 | RESILIENT SEAT GATE VALVE | " " |
| FIRE HYDRANTS | 2 EACH | 2 | AWWA C-502 | " " |

| SEWER QUANTITIES | | | | |
|-----------------------|------------|----------|---------------|---------------------|
| ITEM | QUANTITIES | | TYPE MATERIAL | SUPPLIER |
| | ESTIMATED | AS BUILT | | |
| 8" SEWER | 218 LF | 218 LF | P.V.C. (SD35) | U.S. FILTER |
| 8" SEWER | 290 LF | 290 | DIP 52 | GRIFFIN PIPE |
| MANHOLES | 2 EACH | 2 EA | CONC. | ATLANTIC CONC. PIPE |
| MANHOLES - DEPTH > 6' | 14 VF | 14 VF | CONC. | " " " |

NAME OF UTILITY CONTRACTOR: W.F. WILSON



| | | |
|--|---|---|
| TYPE OF BUILDING: NUMBER OF BUILDABLE LOTS: 3 NO. OF NONBUILDABLE LOTS: 2 WATER HOUSE CONNECTIONS: 2 SEWER HOUSE CONNECTIONS: 2 DRAINAGE AREA: DORSEY RUN TREATMENT PLANT: LITTLE PATUXENT WWTP | VICINITY MAP SCALE: 1" = 600' | WATER AND SEWER CODES FOR COUNTY USE ONLY: WATER NO.: E-06 SEWER NO. 3390000/3380000 TEST GRADIENT: 700 ZONE: 550 |
|--|---|---|

| INDEX OF SHEETS | |
|-----------------|----------------------------------|
| SHEET NO. | DESCRIPTION |
| 1 | TITLE SHEET |
| 2 | PLAN AND PROFILE - WATER |
| 3 | PLAN AND PROFILE - SEWER |
| 4 | PLAN AND PROFILE - SEWER |
| 5 | STREAM CROSSING DETAILS |
| 6 | SEDIMENT CONTROL NOTES & DETAILS |

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND AS SHOWN ON F-99-52.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

Cheryl Simmons 4/16/99
NATURAL RESOURCES CONSERVATION SERVICE DATE

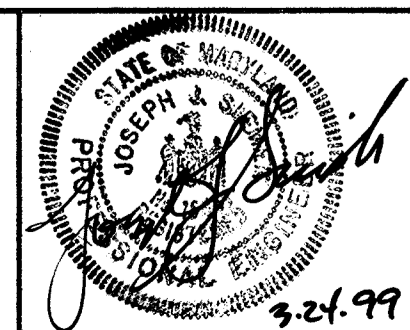
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Roberts 4/16/99
HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

WALLACE, MONTGOMERY & ASSOCIATES
CIVIL AND STRUCTURAL ENGINEERS
110 WEST ROAD
TOWSON, MARYLAND 21284



| | | | | |
|------------|--------|---|--------------------|----------|
| DES: LAF | | | | |
| DRN: MEK | | | | |
| CHK: JJS | | | | |
| DATE: 2/99 | KCI | 1 | ASBUILT CONDITIONS | 10/25/02 |
| | BY NO. | | REVISION | DATE |

TITLE SHEET

COLUMBIA GATEWAY PARCELS T-7-10
COLUMBIA GATEWAY DRIVE
F-99-91
CONTRACT NO. 24-3748-D
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
DWG.
SHEET 1 OF 6

DRAWING NOTE:

- FOR ROADWAY CONSTRUCTION REFER TO COLUMBIA GATEWAY JOHN McADAM DRIVE CONTRACT DRAWINGS.

SEQUENCE OF CONSTRUCTION:

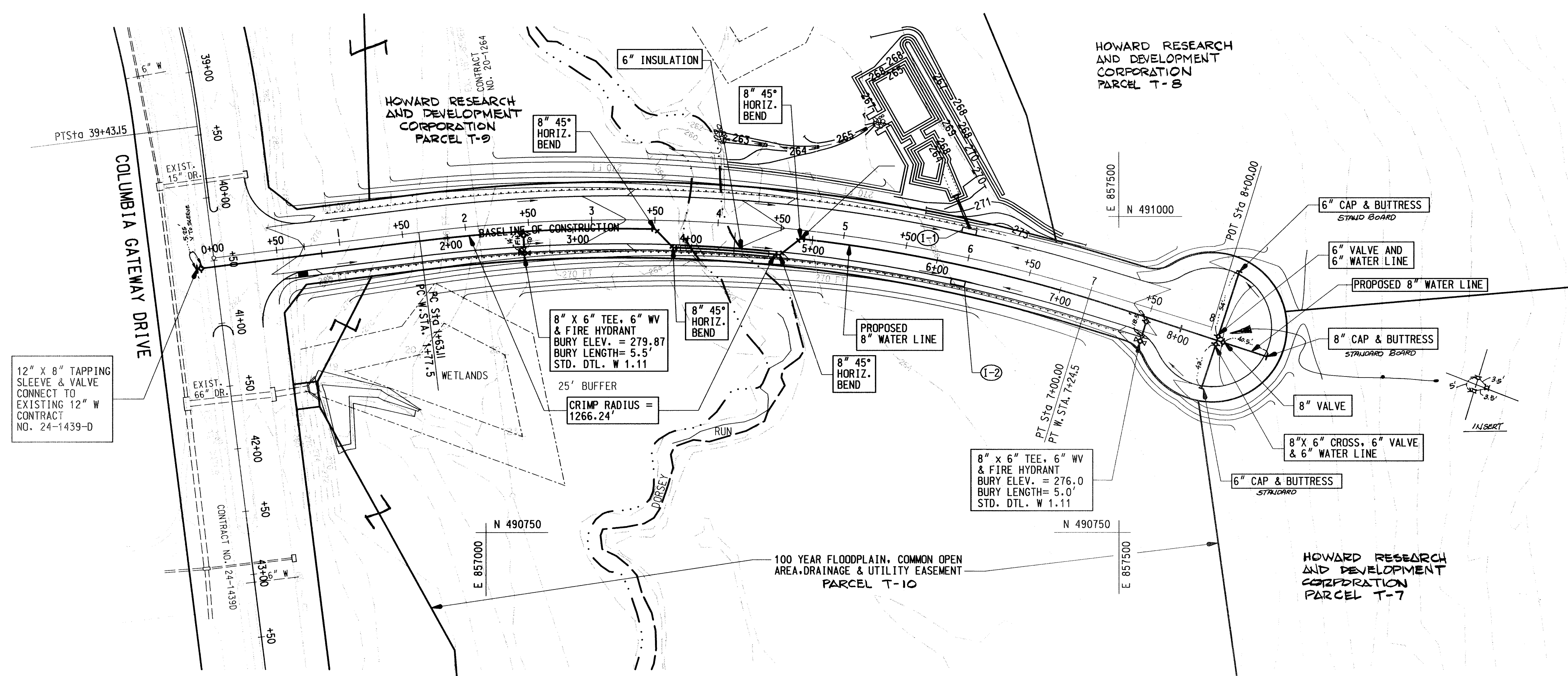
- OBTAIN A GRADING PERMIT.
- CONTACT HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION DIVISION (410-313-1870) PRIOR TO STARTING DATE. (4 DAYS)
- INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS PER SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL VOL. IV. (2 DAYS)
- EXCAVATE AND INSTALL PROPOSED 8" WATER. (21 DAYS)
- RESTORE TRENCHES TO THEIR ORIGINAL CONDITION AS PER HOWARD COUNTY STANDARDS WITH TEMPORARY PAVING HOWARD COUNTY STANDARD SPECIFICATION. (1 DAY)
- STABILIZE TRENCHES BEYOND ROADWAY WITH TEMPORARY SEEDING. (2 DAYS)
- UPON PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTION, REMOVE SEDIMENT CONTROL DEVICES. (1 DAY)
- INSTALL PERMANENT PAVING PATCH OVER TRENCH. (1 DAY)

| WATER MAIN STAKE-OUT TABLE | | | |
|----------------------------|---------------------------------|--------------|--------------|
| 8" WATER | | | |
| STATION | DESCRIPTION | NORTH | EAST |
| 0+00 | 12" X 8" TAPPING SLEEVE & VALVE | 490,958.6600 | 856,772.2550 |
| 1+77.5 | PC | 490,987.6060 | 856,947.0970 |
| 3+65 | 8" 45° HORIZ. BEND | 490,990.1120 | 857,133.7000 |
| 3+85 | 8" 45° HORIZ. BEND | 490,975.3810 | 857,147.7920 |
| 4+70 | 8" 45° HORIZ. BEND | 490,969.6270 | 857,232.2360 |
| 4+90 | 8" 45° HORIZ. BEND | 490,982.1690 | 857,248.2990 |
| 7+24.5 | PT | 490,934.9241 | 857,476.8252 |
| 8+72 | 8" CAP | 490,888.8232 | 857,617.5716 |

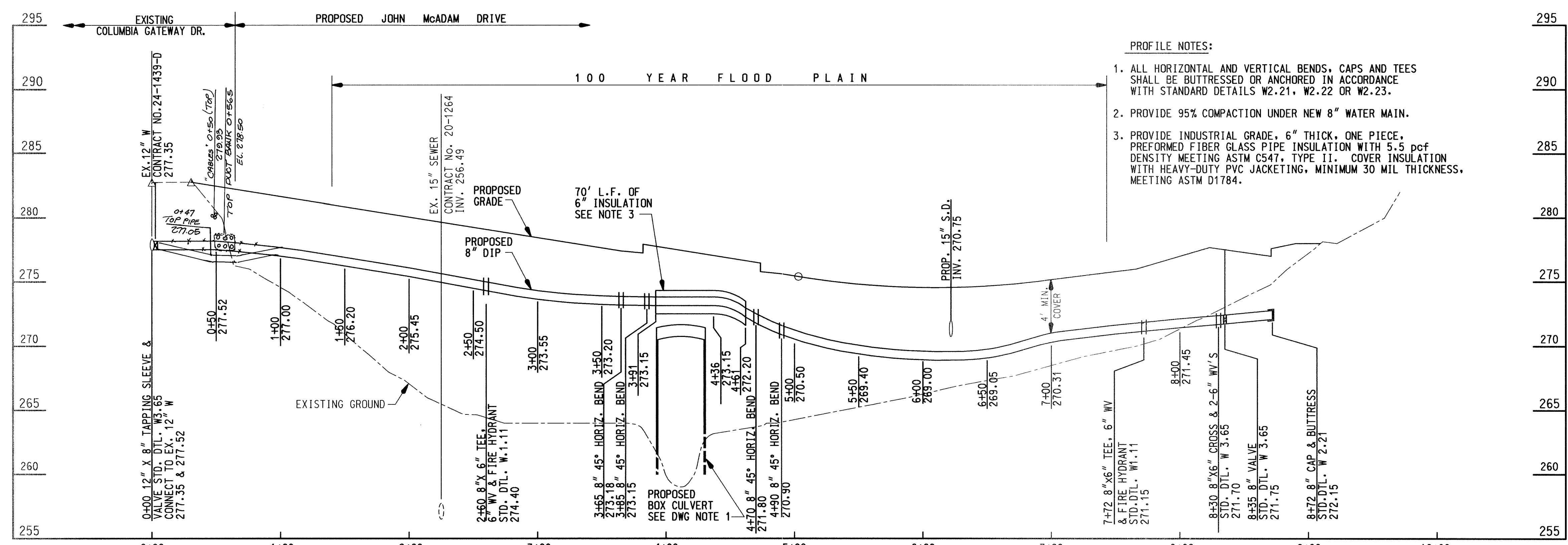
| RESTORATION SCHEDULE | | | |
|----------------------|---------|----------|-------------------|
| STA. | TO STA. | LENGTH | MATERIAL |
| 0+00 | 0+47 | 47 FEET | BITUMINOUS PAVING |
| 0+47 | 8+72 | 825 FEET | TEMPORARY SEEDING |

RESTORATION NOTES :

- SAW CUT THE EXISTING BITUMINOUS PAVING AND CURB AND GUTTER.
- REPAIR BITUMINOUS PAVING IN ACCORDANCE WITH STANDARD DETAIL 64-01.



PLAN
SCALE: 1" = 50'



PROFILE NOTES:

- ALL HORIZONTAL AND VERTICAL BENDS, CAPS AND TEES SHALL BE BUTTRESSED OR ANCHORED IN ACCORDANCE WITH STANDARD DETAILS W2.21, W2.22 OR W2.23.
- PROVIDE 95% COMPACTION UNDER NEW 8" WATER MAIN.
- PROVIDE INDUSTRIAL GRADE, 6" THICK, ONE PIECE, PREFORMED FIBER GLASS PIPE INSULATION WITH 5.5 pcf DENSITY MEETING ASTM C547, TYPE II. COVER INSULATION WITH HEAVY-DUTY PVC JACKETING, MINIMUM 30 MIL THICKNESS, MEETING ASTM D1784.

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

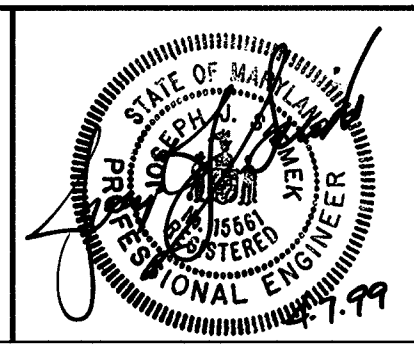
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert M. Beisinger 4-9-99
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Allen Dammer 4/17/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION

WALLACE, MONTGOMERY & ASSOCIATES
CIVIL AND STRUCTURAL ENGINEERS
110 WEST ROAD
TOWSON, MARYLAND 21204



| | | | | | |
|------------|---------|-------|--|----------------|--|
| DES: LAF | | | | | |
| DRN: CCF | | | | | |
| CHK: JJS | | | | | |
| DATE: 2/99 | BY: JCI | NO. 1 | REVISION: ASBUILT CONDITIONS ADDED TO PLAN | DATE: 10/24/00 | |

PLAN AND PROFILE

COLUMBIA GATEWAY PARCELS T-7-10
COLUMBIA GATEWAY DRIVE
F-99-91
CONTRACT NO. 24-3748-D
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
DWG.
SHEET 2 OF 6

DRAWING NOTES:

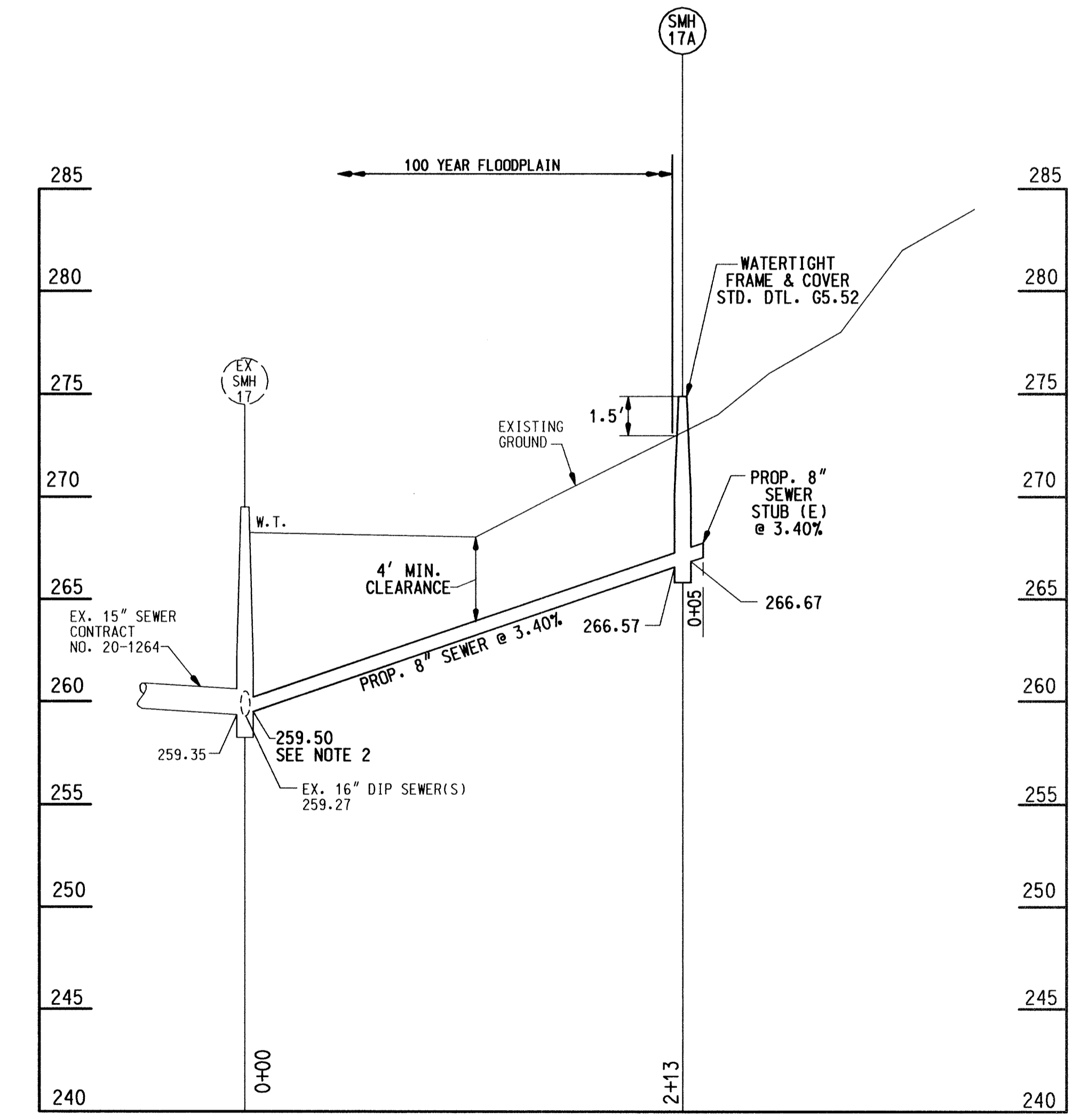
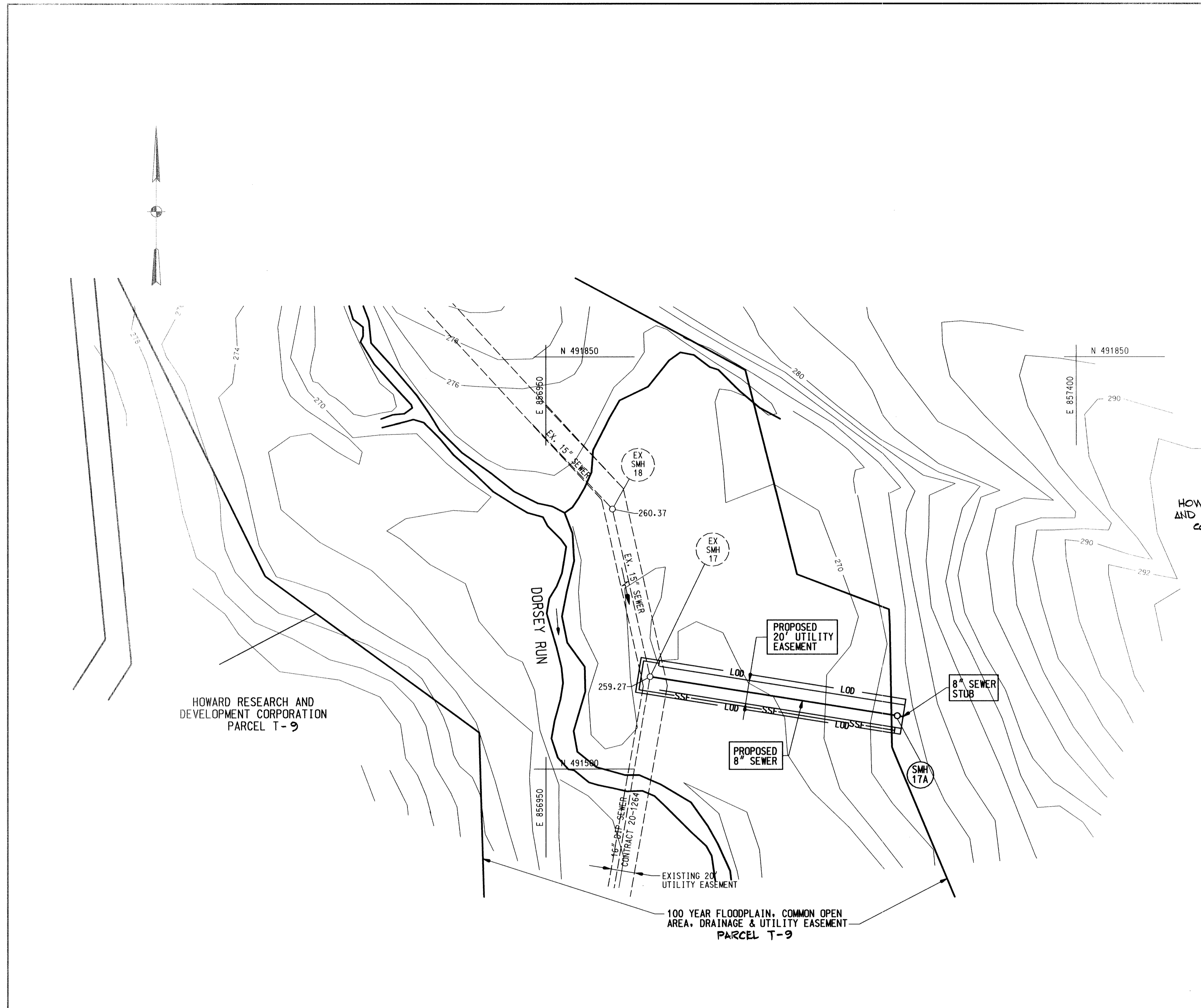
1. FOR ACCESS ROAD TO SITE, REFER TO MASS GRADING PLAN OF COLUMBIA GATEWAY JOHN McADAM DRIVE CONTRACT DRAWINGS.
2. RECONFIGURE EXISTING MANHOLE CHANNEL IN ACCORDANCE WITH STANDARD DETAIL 65.31.

SEQUENCE OF CONSTRUCTION:

1. OBTAIN A GRADING PERMIT.
2. CONTACT HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION DIVISION (410-313-1870) PRIOR TO STARTING DATE. (4 DAYS)
3. INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS PER SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL VOL. IV. (2 DAYS)
4. PERFORM CLEARING AND GRUBBING OPERATIONS (2 DAYS).
5. EXCAVATE AND INSTALL PROPOSED 8" SEWER (4 DAYS).
6. RESTORE TRENCHES TO THEIR ORIGINAL CONDITION WITH SEEDING AS PER HOWARD COUNTY STANDARDS AND SPECIFICATION. (2 DAY)
7. UPON PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTION, REMOVE SEDIMENT CONTROL DEVICES. (1 DAY)

| SEWER STAKE-OUT TABLE | | |
|-----------------------|--------------|--------------|
| STRUCTURE | NORTH | EAST |
| 17 A | 491.544.9180 | 857.247.9710 |

| RESTORATION SCHEDULE | | | |
|----------------------|------------|----------|----------|
| STA. | TO STA. | LENGTH | MATERIAL |
| EX. MH 17 | EX. MH 17A | 213 FEET | SEEDING |
| MH 17A | 0+05 | 5 FEET | SEEDING |



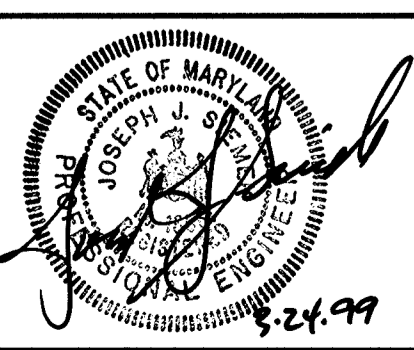
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert Benjamin 4.9.99
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

John Dammann 4/19/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION

WALLACE, MONTGOMERY & ASSOCIATES
CIVIL AND STRUCTURAL ENGINEERS
110 WEST ROAD
TOWSON, MARYLAND 21204



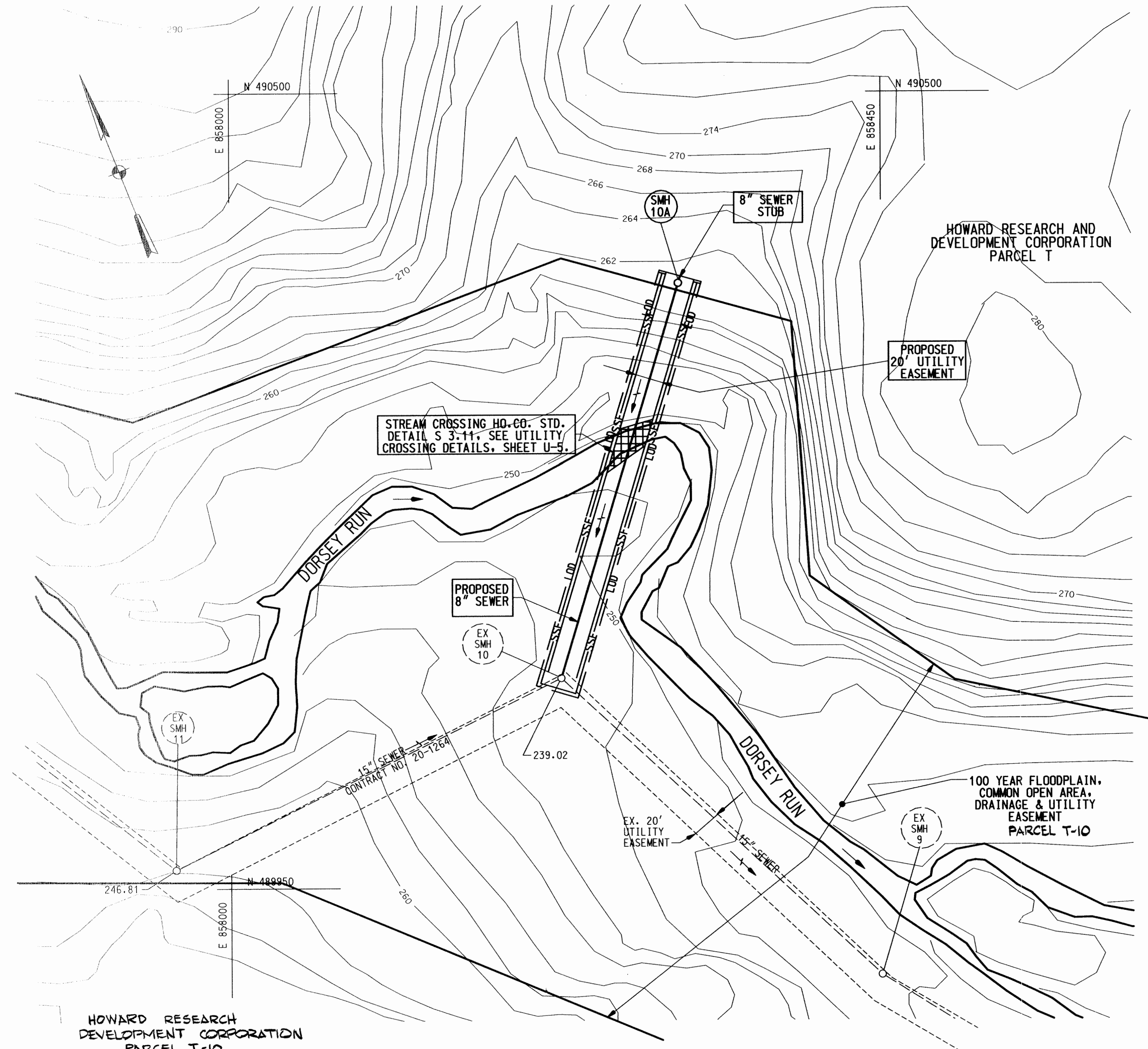
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|------------|-----|-----|----------|------|--|
| DES: LAF | | | | | |
| DRN: CCF | | | | | |
| CHK: JJS | | | | | |
| DATE: 2/99 | BY: | NO. | REVISION | DATE | |

PLAN AND PROFILE
SEWER

600' SCALE MAP NO. _____ BLOCK NO. _____

COLUMBIA GATEWAY PARCELS T-7-10
COLUMBIA GATEWAY DRIVE
F-99-91
CONTRACT NO. 24-3748-D
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
DWG.
SHEET 3 OF 6



DRAWING NOTE:

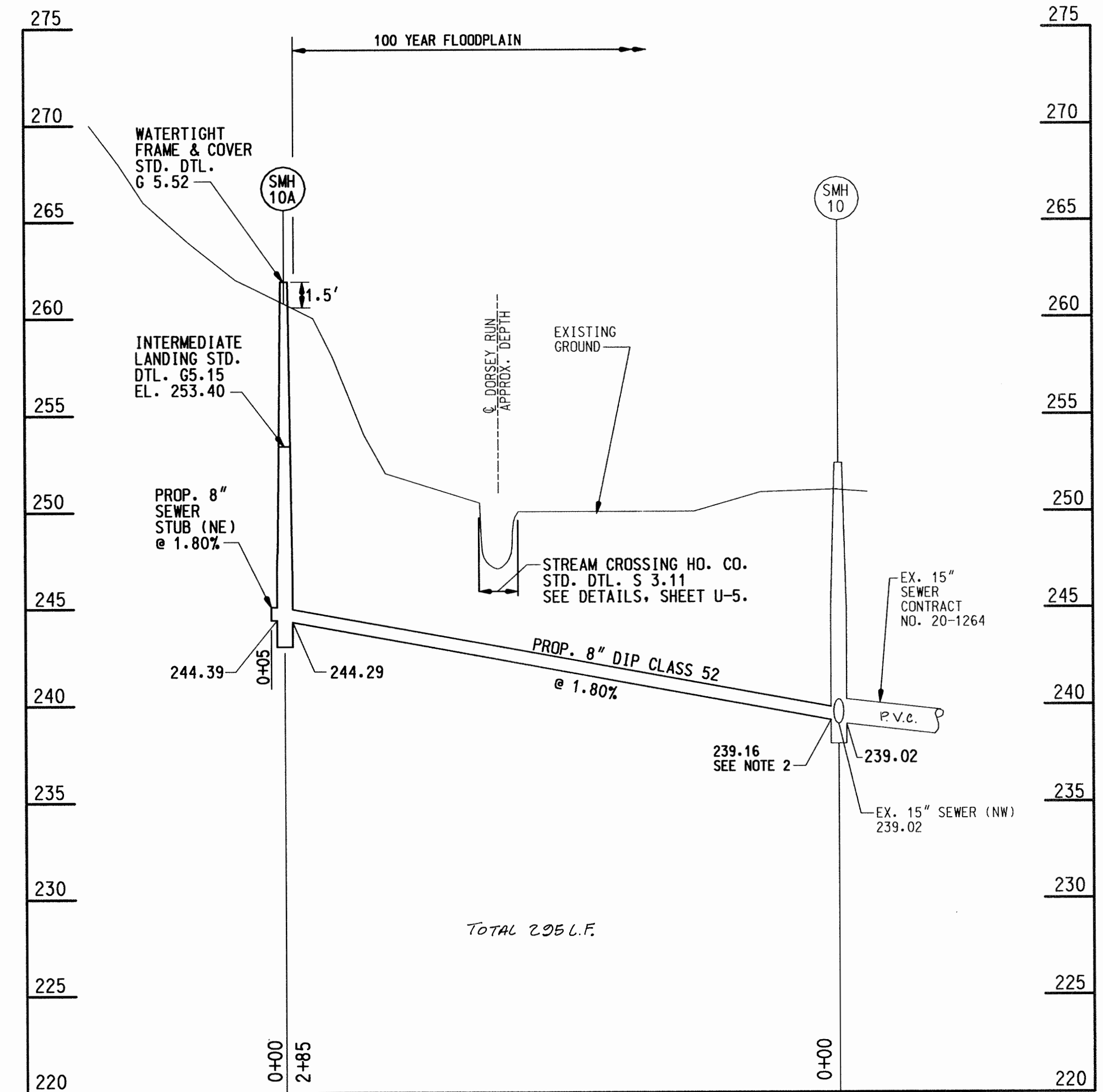
- FOR ACCESS ROAD TO SITE, REFER TO MASS GRADING PLAN OF COLUMBIA GATEWAY JOHN McADAM DRIVE CONTRACT DRAWINGS.
- RECONFIGURE EXISTING MANHOLE CHANNEL IN ACCORDANCE WITH STANDARD DETAIL G5.31.

SEQUENCE OF CONSTRUCTION:

- OBTAIN A GRADING PERMIT.
- CONTACT HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION DIVISION (410-313-1870) PRIOR TO STARTING DATE. (4 DAYS)
- INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS PER SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL VOL. IV. (2 DAYS)
- PERFORM CLEARING AND GRUBBING OPERATIONS (2 DAYS).
- EXCAVATE AND INSTALL PROPOSED 8" SEWER (6 DAYS).
- RESTORE TRENCHES TO THEIR ORIGINAL CONDITION WITH SEEDING AS PER HOWARD COUNTY STANDARDS AND SPECIFICATION. (2 DAYS)
- UPON PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTION, REMOVE SEDIMENT CONTROL DEVICES. (1 DAY)

| SEWER STAKE-OUT TABLE | | |
|-----------------------|-------------|-------------|
| STRUCTURE | NORTH | EAST |
| 10A | 490367.8090 | 858309.8750 |

| RESTORATION SCHEDULE | | | |
|----------------------|---------|----------|-----------------|
| STA. | TO STA. | LENGTH | MATERIAL |
| EX. MH 10 | 1+65 | 165 FEET | SEEDING |
| 1+65 | 1+85 | 20 FEET | CLASS II RIPRAP |
| 1+85 | MH 10A | 100 FEET | SEEDING |
| MH 10A | 0+05 | 5 FEET | SEEDING |



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

WALLACE, MONTGOMERY & ASSOCIATES
CIVIL AND STRUCTURAL ENGINEERS
110 WEST ROAD
TOWSON, MARYLAND 21204



DES: LAF

DRN: CCF

CHK: JJS

DATE: 2/99

BY NO.

REVISION

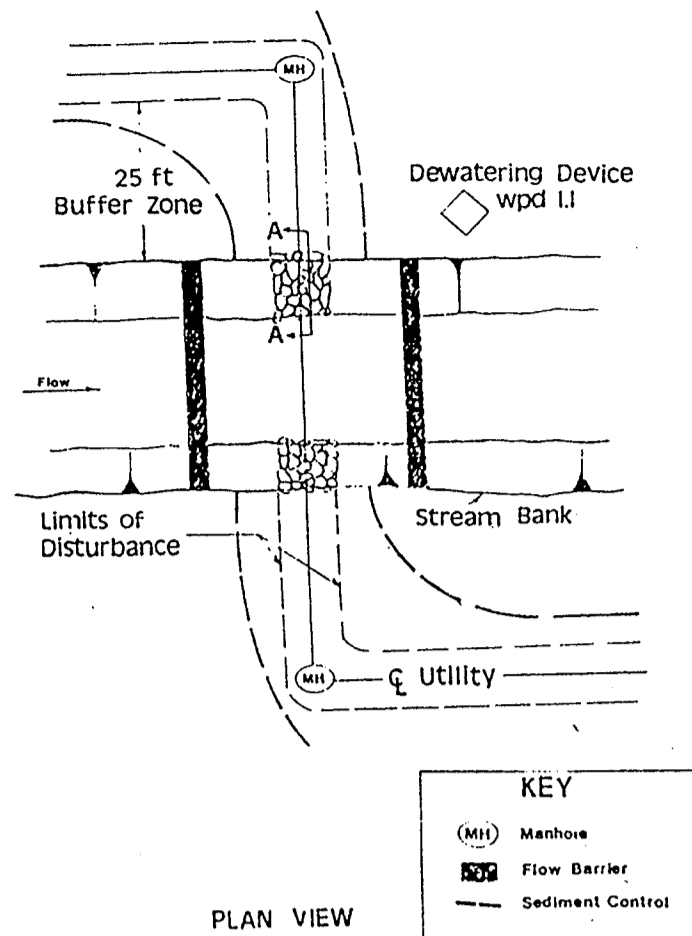
PLAN AND PROFILE
SEWER

DATE 600' SCALE MAP NO.

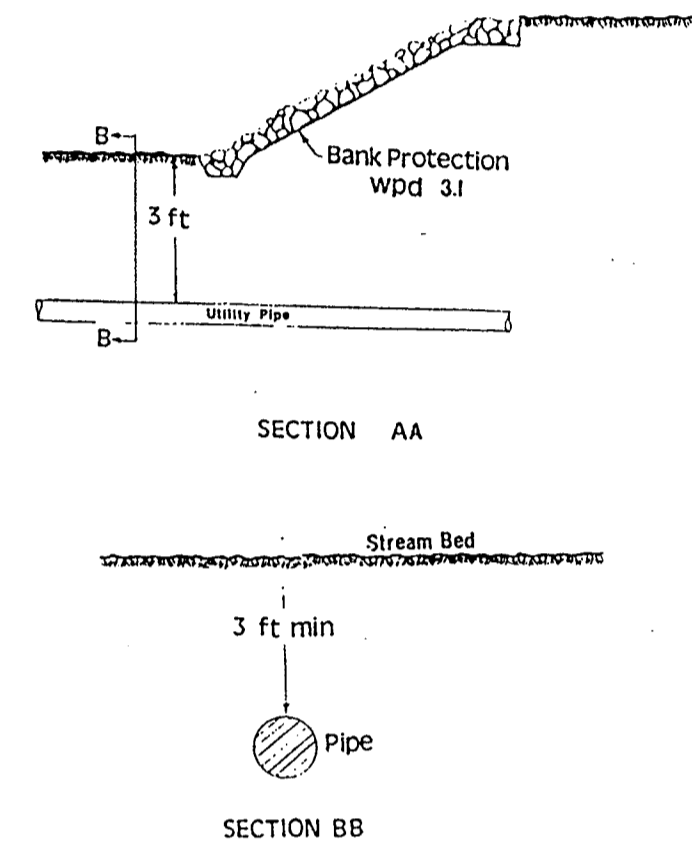
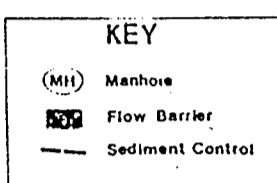
BLOCK NO.

COLUMBIA GATEWAY PARCELS-7-10
COLUMBIA GATEWAY DRIVE
F-99-91
CONTRACT NO. 24-3748-D
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

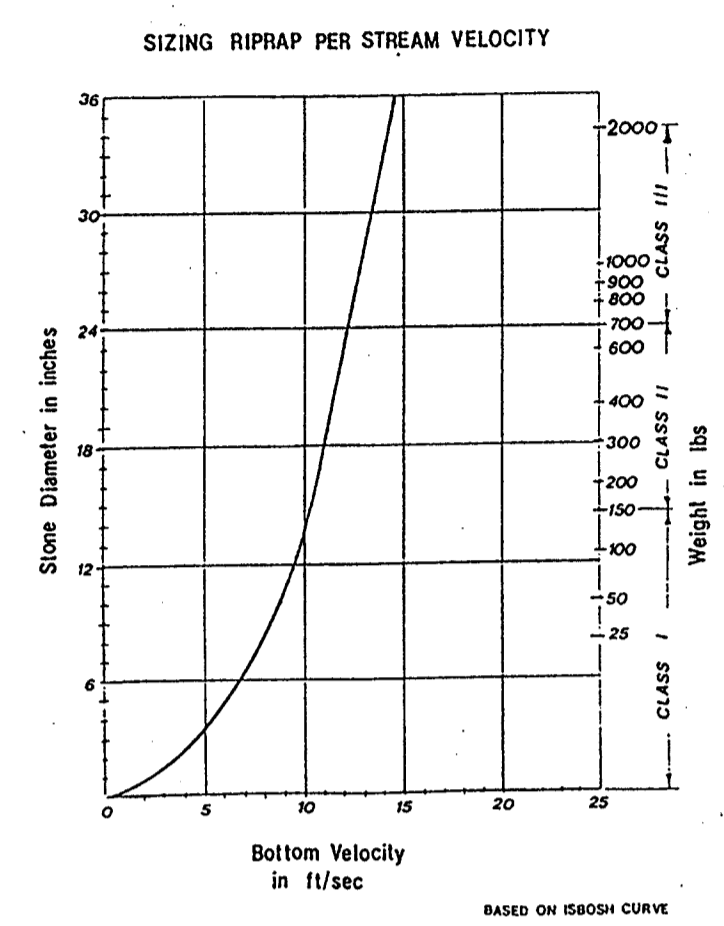
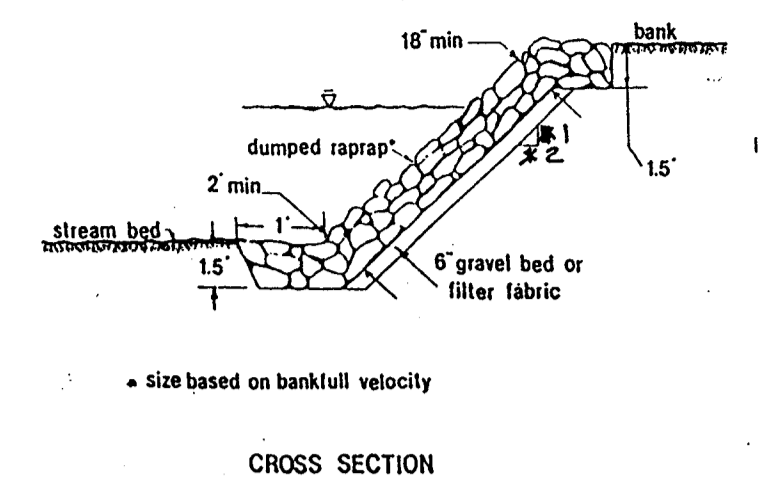
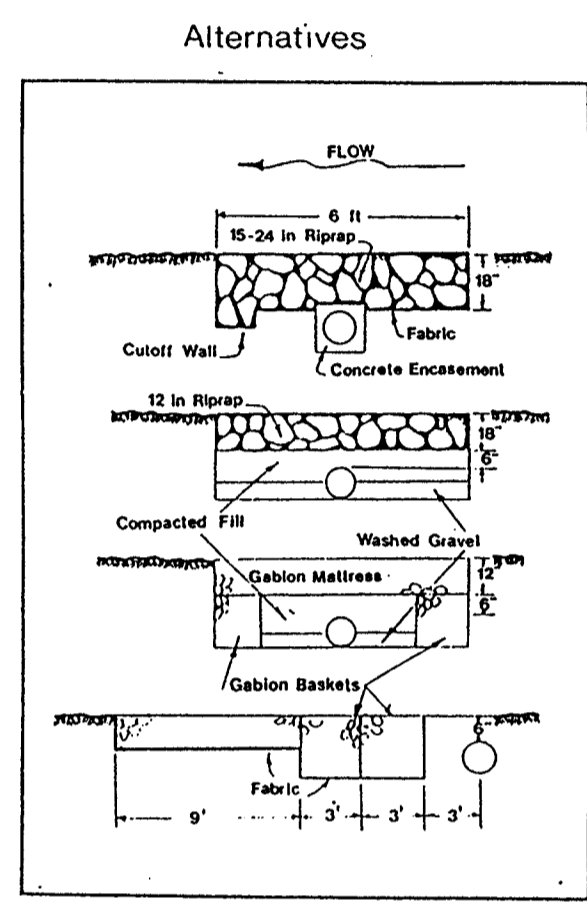
SCALE AS SHOWN
DWG.
SHEET 4 OF 6



- I. Description**
This work shall consist of installing erosion control devices in and adjacent to temporary stream construction such as utility crossings.
- II. Construction Requirements**
- All erosion and sediment control devices shall be installed as the first order of work.
 - The contractor shall insure that a continuous perimeter control barrier is in place so as to minimize pollutants entering the water.
 - Excavated topsoil and subsoil shall be kept separate and replaced in their natural order.
 - All excavated materials shall be placed on the upland side of the excavation.
 - All construction shall take place during stream low flows. The length of construction time shall be limited to a maximum of 5 days for each crossing.
 - All utility crossings shall be placed at least three feet beneath the stream bed unless an alternative section is specifically approved by the Administration.
 - The contractor may elect to construct the utility crossing in two stages. In this case, a WRA approved flow barrier may be constructed to keep the construction area dry.
 - 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 inspection authority approves their removal.

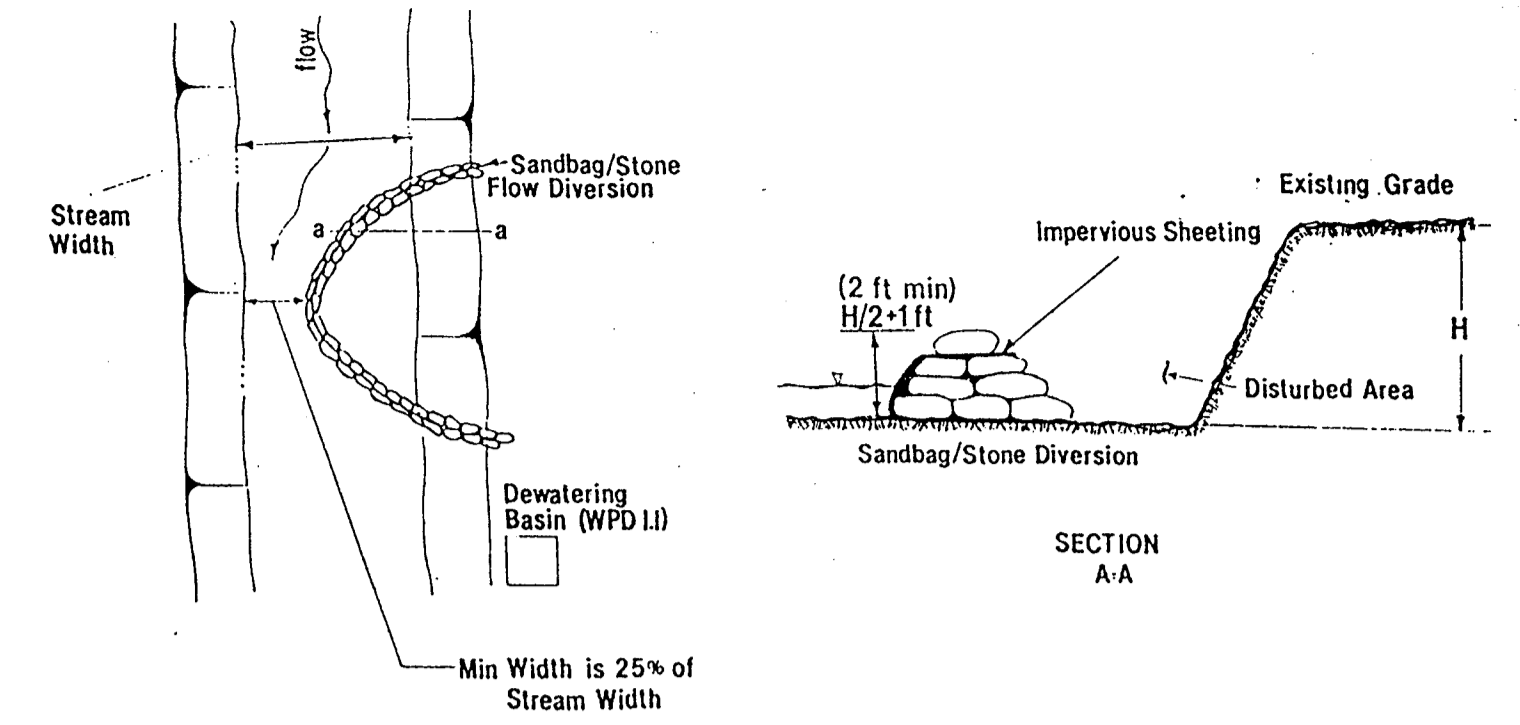


UTILITY CROSSING
NOT TO SCALE



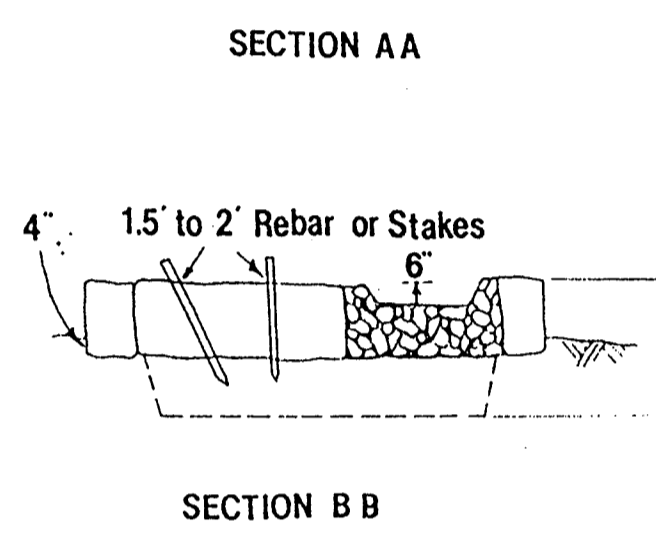
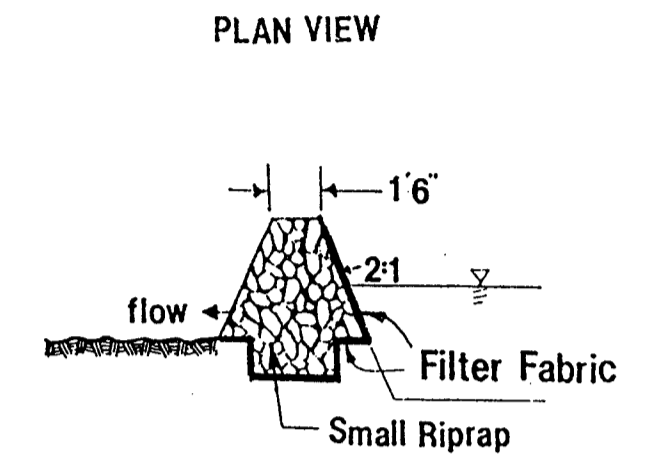
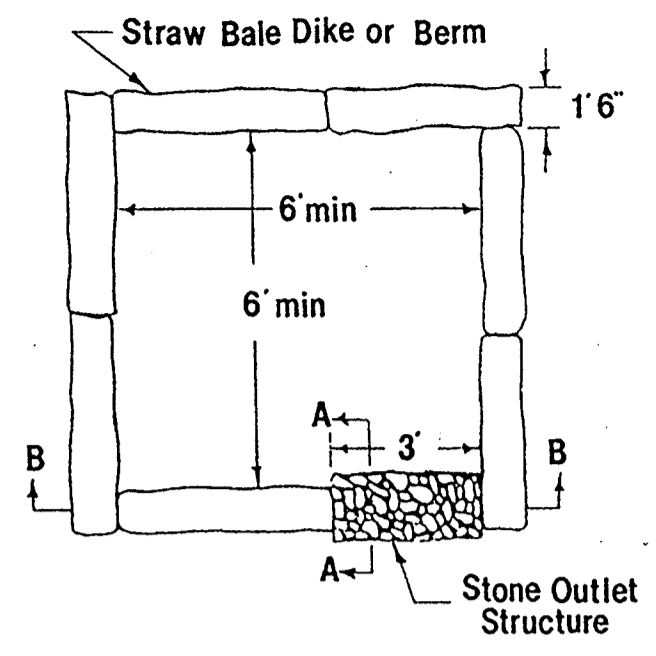
RIPRAP
NOT TO SCALE

- I. Description**
This work shall consist of protecting slopes and channels from erosion with coverings of stone in accordance with the plans and specifications shown on this drawing.
- II. Material Specifications**
- A. Bedding:**
1. Bank run gravel shall meet the following requirements:
- | U.S. Standard sieve size | % less than |
|--------------------------|-------------|
| 2 1/2 in | 100 |
| 1 in | 85 - 100 |
| 1/2 in | 60 - 100 |
| No. 10 | 35 - 70 |
| No. 40 | 20 - 50 |
| No. 100 | 3 - 20 |
- B. Geotextile filter fabric shall meet the following requirements:**
- | | |
|-----------------------|------------|
| Tensile Strength | 200 lbs. |
| Burst Strength | 350 lbs. |
| Puncture Strength | 70 lbs. |
| Permeability | .02 cm/sec |
| Elongation at Failure | 30% |
| Minimum Lap Length | 24 in |
- III. Construction Requirements**
- The contractor shall install all sediment and erosion control devices as a first order of business.
 - Provisions must be made to anchor the riprap at the stream bed so as to provide protection against undermining. If this cannot be accomplished by extending the toe trench as indicated in Cross Section, an alternative method of protection must receive prior written approval of the Administration.
 - Excavation for riprap shall be made in reasonably close conformity with the existing stream slope and bed.
 - A filter bedding is required under all riprap. Bedding material shall consist of either a bank run gravel or a geotextile filter fabric meeting the specifications of II. B above.
 - The placement of riprap shall begin with the toe. The larger stones shall be placed in the toe and along the outside edges of the limits of the slope and channel protection. The riprap shall be placed with suitable equipment in such a manner as to produce a reasonably graded mass of stones with zero drop height. The placing of stones that cause extensive segregation is not allowed.
 - Any excavation voids existing along the edges of the completed slope and channel protection shall be backfilled.
 - All disturbed areas shall be permanently stabilized in accordance with an approved sediment and erosion control plan.



- I. 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.
- II. Material Specifications**
- A. Sandbags:** Sandbags shall consist of materials which are resistant to ultra-violet radiation, tearing and puncture and woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).
- B. Stone:** Stone shall be washed and have a minimum diameter of 6 inches.
- C. Sheeting:** Sheeting shall consist of polyethylene or other material which is impervious and resistant to puncture and tearing.
- III. 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 SCD approved 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 their removal.

SANDBAG/STONE DIVERSION
NOT TO SCALE



- I. Description**
The work shall consist of the construction of a dewatering basin for the purpose of receiving sediment-laden water pumped from a construction site to allow filtration before the water re-enters the waterway.
- II. Material Specifications**
- Riprap: Riprap shall consist of 4-8 inch washed stone or gravel.
 - Filter Fabric: The filter cloth shall be a woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric shall be inert to commonly encountered chemicals, hydro-carbons, mildew, and rot resistant. No. 5 stone (AASHTO 57) may be used on the inner-face for filtering instead of fabric.
 - Strawbales: Strawbales shall meet the criteria as specified in the Maryland Standards and Specifications for Soil Erosion and Sediment Control.
- III. Construction Requirements**
- The contractor shall install all sediment and erosion control devices as the first order of business.
 - Excavated materials shall be stored such that sediments are prevented from entering the waterway; i.e., sediment perimeter controls may be necessary.
 - Excavated subsoil and topsoil shall be kept separate and replaced in their natural order.
 - Any dewatering of the construction area shall be filtered through a dewatering basin prior to entering the waterway.
 - The dewatering basin shall be excavated to a minimum depth of 3 feet.
 - Once the dewatering basin becomes filled to 1/2 of the excavated depth, accumulated sediment shall be removed and disposed of in a SCD approved disposal area outside the 100-year floodplain unless otherwise approved on the plans by the WRA.
 - Sediment control devices are to remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal. All ground contours shall be returned to their original condition unless specifically approved otherwise by the Administration.

DEWATERING BASINS
NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert A. Bennett 4-9-99
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
W. J. Drummond 4/9/99
CHIEF, DEVELOPMENT ENGINEERING

WALLACE, MONTGOMERY & ASSOCIATES
CIVIL AND STRUCTURAL ENGINEERS
110 WEST ROAD
TOWSON, MARYLAND 21284



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| DES: LAF | | | | | |
| DRN: MEK | | | | | |
| CHK: JJS | | | | | |
| DATE: 2/99 | BY: NO. | REVISION | | DATE | |

STREAM CROSSING DETAILS
600' SCALE MAP NO. _____ BLOCK NO. _____

COLUMBIA GATEWAY PARCELS T-7-10
COLUMBIA GATEWAY DRIVE
F-99-91
CONTRACT NO. 24-3748-D
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
DWG.
SHEET 5 OF 6

STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410-313-1855).
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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITH: A.) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEPPER 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 7 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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING AND MULCHING (SEC. G). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL 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 | = | 133.4 | ACRES |
| AREA DISTURBED | = | 5.8 | ACRES |
| AREA TO BE ROOFED OR PAVED | = | 1.2 | ACRES |
| AREA TO BE VEGETATIVELY STABILIZED | = | 4.6 | ACRES |
| TOTAL CUT | = | 24,500 | CU./YDS. |
| TOTAL FILL | = | 24,300 | CU./YDS. |

OFF SITE WASTE/BORROW AREA LOCATION: AT A LOCATION DETERMINED BY THE CONTRACTOR WITH AN ACTIVE GRADING PERMIT.

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.

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.

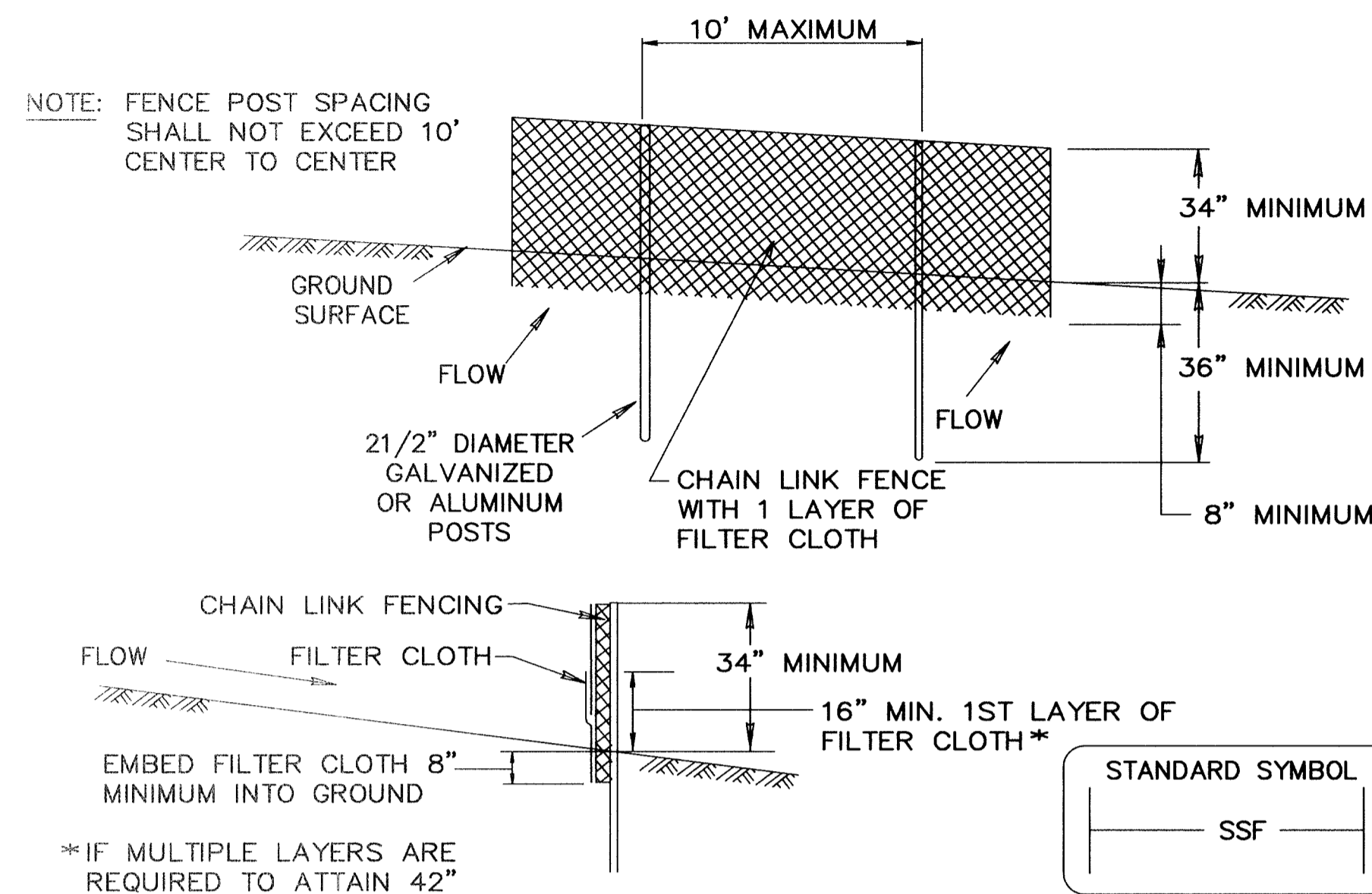
SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- 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.



CONSTRUCTION SPECIFICATIONS

1. FENCING SHALL BE 42" IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY DETAILS FOR CHAIN LINK FENCING. THE SPECIFICATION FOR A 6' FENCE SHALL BE USED, SUBSTITUTING 42" FABRIC AND 6' LENGTH POSTS.
2. CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE.
3. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
4. FILTER CLOTH SHALL BE EMBEDDED A MINIMUM OF 8" INTO THE GROUND.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT BUILDUPS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES 50% OF FENCE HEIGHT
7. FILTER CLOTH 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 ² /MINUTE (MAX.) | TEST: MSMT 322 |
| FILTERING EFFICIENCY | 75% (MIN.) | TEST: MSMT 322 |

SUPER SILT FENCE

NOT TO SCALE

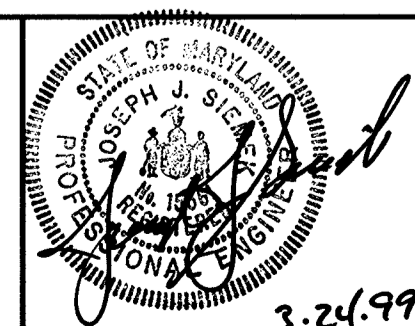
SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT.
2. CONTACT HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION DIVISION (410-313-1870) PRIOR TO STARTING DATE. (4 DAYS)
3. INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS PER SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL VOL. IV. (2 DAYS)
4. EXCAVATE AND INSTALL PROPOSED 8" WATER & 8" SEWER (61 DAYS)
5. EXCAVATE AND INSTALL PROPOSED WATER CONNECTIONS (2 DAYS)
6. RESTORE TRENCHES TO THEIR ORIGINAL CONDITION AS PER HOWARD COUNTY STANDARDS WITH TEMPORARY PAVING HOWARD COUNTY STANDARD SPECIFICATION. (2 DAYS)
7. UPON PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTION, REMOVE SEDIMENT CONTROL DEVICES. (1 DAY)
8. INSTALL PERMANENT PAVING PATCH OVER TRENCH. (2 DAYS)

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

WALLACE, MONTGOMERY & ASSOCIATES
CIVIL AND STRUCTURAL ENGINEERS
110 WEST ROAD
TOWSON, MARYLAND 21204



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| DES: LAF | | | | | |
| DRN: MEK | | | | | |
| CHK: JJS | | | | | |
| DATE: 2/99 | BY | NO. | REVISION | DATE | 600' SCALE MAP NO. - - - - - BLOCK NO. - - - - - |

SEDIMENT CONTROL NOTES & DETAILS

COLUMBIA GATEWAY PARCELS T-7-10
COLUMBIA GATEWAY DRIVE
F-99-91
CONTRACT NO. 24-3748-D
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
DWG.
SHEET 6 OF 6