

# FINAL DESIGN

## HOWARD COUNTY, MARYLAND

### DEPARTMENT OF PUBLIC WORKS

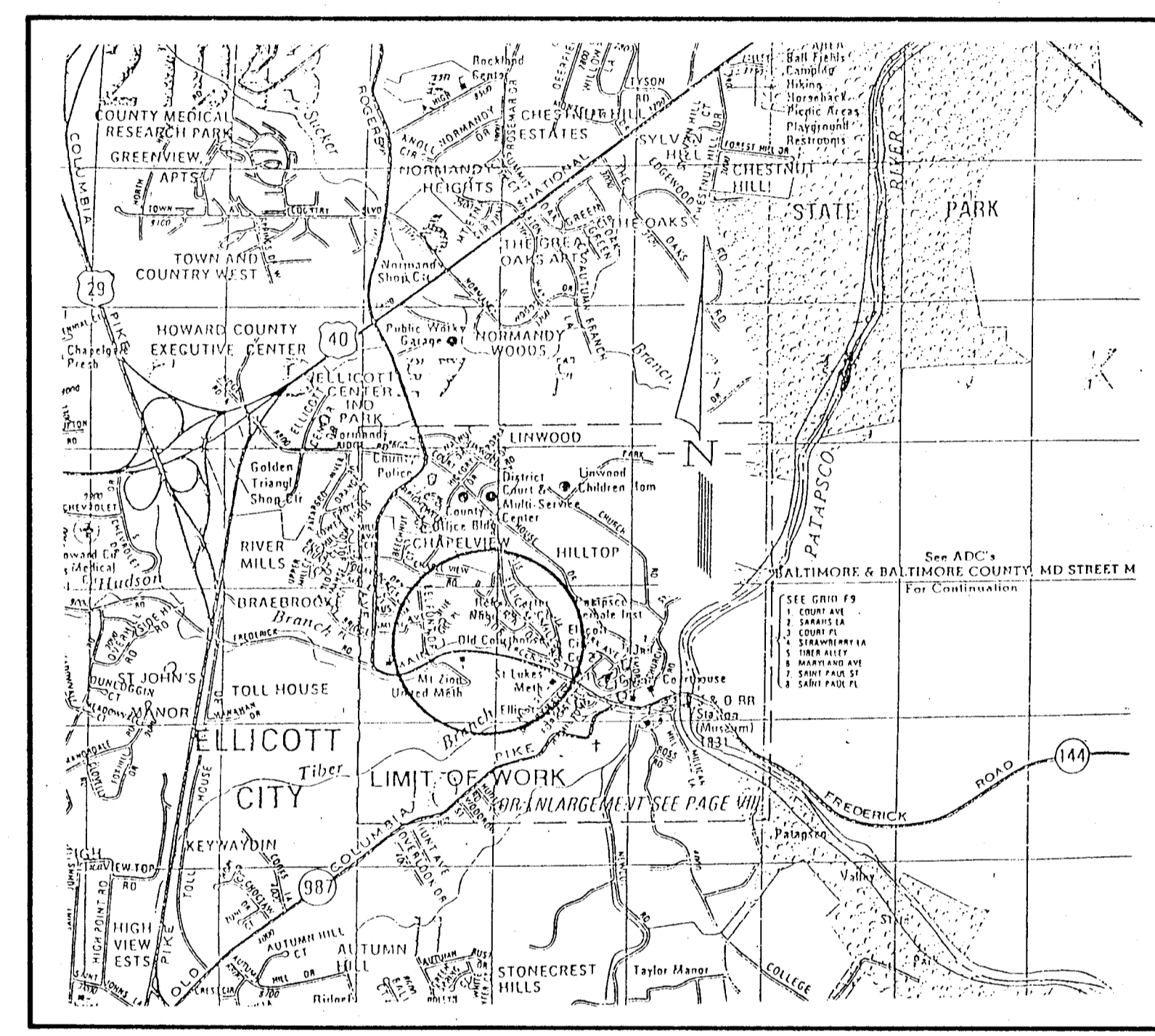
#### CAPITAL PROJECT NO D-1083

#### MAIN STREET DRAINAGE IMPROVEMENTS

GENERAL NOTES.

SHEET INDEX.

1. Cover Sheet
2. Storm Drain and Paving Plan Sheet #1
3. Storm Drain and Paving Plan Sheet #2
4. Storm Drain and Paving Plan Sheet #3
5. Storm Drain and Paving Plan Sheet #4
6. Storm Drain and Paving Plan Sheet #5
7. Storm Drain Profiles
8. Pavement Cross Sections-Sheet #1
9. Pavement Cross Sections-Sheet #2
10. Standard Details & Notes
11. Standard Details & Notes &  
Storm Drain Structure Schedule
13. Drainage Area Map, Sediment &  
Erosion Control Sheet
14. Erosion Control Details & Notes
15. Erosion Control Plan Sheet #1
16. Erosion Control Plan Sheet #2
17. Erosion Control Plan Sheet #3
18. Erosion Control Plan Sheet #4
19. Erosion Control Plan Sheet #5
20. Maintenance of Traffic Plan
21. Maintenance of Traffic Plan-Sheet #1
22. Maintenance of Traffic Plan-Sheet #2
23. Striping Plan-Sheet #1
24. Striping Plan-Sheet #2



VICINITY MAP  
SCALE 1"=2000'



Reviewed for: *Cheryl Sumner* 5/2/98  
USDA NATURAL RESOURCES CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED  
FOR SOIL EROSION AND SEDIMENT  
CONTROL BY THE HOWARD SOIL  
CONSERVATION DISTRICT.  
*John P. Roberts* 5/17/98

1. THE CONTRACTOR IS RESPONSIBLE FOR DAMAGES TO OR ADJUSTMENTS TO ANY RESIDENTIAL DRIVEWAYS, APRONS, DOWN SPOUTS, ROOF DRAIN LEADERS, OR UNDERDRAINS WHILE RECONSTRUCTING PROPOSED CURB AND DRIVEWAY APRONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE RELOCATION AND/OR REPLACEMENT OF ANY MAIL BOXES OR LETTER BOXES, FENCES, LANDSCAPING AND SIGNS REMOVED OR DAMAGED DURING THE COURSE OF CONSTRUCTION.
3. THE CONTRACTOR SHALL REPLACE OR REPAIR ANY ROAD PAVEMENT DAMAGED DURING THE COURSE OF CONSTRUCTION AS DIRECTED BY THE HOWARD COUNTY INSPECTOR.
4. ALL RESIDENTIAL DRIVEWAYS, APRONS, AND PUBLIC ROADWAYS SHALL BE KEPT CLEAN AND FREE OF ALL CONSTRUCTION RELATED DEBRIS.
5. AT NO TIME SHALL ANY RESIDENTIAL DRIVEWAYS BE BLOCKED BY CONSTRUCTION VEHICLES AND/OR MATERIALS.
6. UNDER THE DIRECTION OF HOWARD COUNTY INSPECTORS, ONE TRAVEL LANE MAY BE CLOSED DURING NON-RUSH HOUR PERIODS. THIS TEMPORARY CLOSURE MUST NOT INHIBIT EMERGENCY VEHICLE INGRESS/EGRESS.
7. AT NO TIME SHALL CONTRACTOR ENTER PRIVATE PROPERTY WITH CONSTRUCTION VEHICLES, EQUIPMENT, MATERIALS AND/OR WORK CREWS.
8. IN LOCATIONS WHERE EXISTING GRANITE CURB IS MISSING, CONCRETE CURB SHALL BE PLACED TO MATCH IN HEIGHT AND SHAPE OF THE ADJACENT GRANITE CURB AND SIDEWALK.
9. BENCHMARKS:  
#25 RAILROAD SPIKE IN BASE C&P POLE #430 SOUTH SIDE OF FREDERICK ROAD/MAIN STREET AT INTERSECTION OF ROGERS AVENUE AND FREDERICK ROAD ELEVATION = 262.76  
#26 RAILROAD SPIKE IN BASE C&P POLE #423 SOUTH SIDE OF FREDERICK ROAD STA. 9+66, 28' RIGHT ELEVATION = 248.43
10. THE CENTERLINE SHOWN DOES NOT REPRESENT THE CENTERLINE OF THE 60' PRESCRIPTIVE EASEMENT. CENTERLINE REPRESENTS PROPOSED CROWN OF ROADWAY EXCEPT WHERE NOTED. THE ROADWAY STATIONING IS BASED ON CENTERLINE GEOMETRY AND DOES NOT RELATE TO ANY EXISTING STATIONING. INFORMATION REGARDING THE LOCATION OF THE 60' PRESCRIPTIVE EASEMENT AND ANY UNDERLYING RIGHTS-OF-WAYS HAS NOT BEEN FURNISHED.
11. TOP ELEVATIONS FOR THE PROPOSED INLETS AND MANHOLES ARE PROVIDED ON THE PLANS AND/OR PROFILES. CONTRACTOR SHALL ADJUST FINAL ELEVATIONS TO FINISHED GRADE AS NECESSARY.
12. TREES ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES LOCATED OUTSIDE THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
13. CONTRACTOR TO ADJUST GRADES AS REQUIRED TO MEET FIELD CONDITIONS, TO ENSURE ADEQUATE DRAINAGE TO EXISTING AND PROPOSED STORM DRAIN STRUCTURES.
14. COORDINATES ARE BASED ON THE MARYLAND STATE GRID SYSTEM.
15. THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ON THE PLANS ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR BEFORE STARTING CONSTRUCTION. NEITHER THE ENGINEER NOR THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS WARRANT OR GUARANTEE THE COMPLETENESS OR CORRECTNESS OF THE INFORMATION SHOWN.
16. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES. ANY DAMAGE DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. IF CLEARANCES OF UTILITY CROSSINGS ARE LESS THAN SPECIFIED ON THIS PLAN OR LESS THAN 12" WHEN NOT SPECIFIED, THE CONTRACTOR MUST CONTACT THE COUNTY'S INSPECTOR AND THE APPROPRIATE UTILITY OWNER BEFORE PROCEEDING WITH CONSTRUCTION.
17. TEST PITS SHALL BE DUG AT ALL UTILITY CROSSINGS TO DETERMINE EXISTING HORIZONTAL AND VERTICAL ALIGNMENT OF UTILITIES. TEST PITS SHALL BE DUG A SUFFICIENT AMOUNT OF TIME IN ADVANCE OF THE CONSTRUCTION OR TRENCHING OPERATION, IN ORDER TO ALLOW FOR NECESSARY ADJUSTMENTS.
18. ALL UTILITY POLES MUST BE CLEARED BY 5 FEET. IF THE STORM DRAIN PIPING OR STRUCTURE WORK IS WITHIN FIVE FEET OF A UTILITY POLE, THE POLE MUST BE BRACED OR THE PROPOSED STORM DRAIN SHALL BE PLACED BY TUNNELING. ALL COSTS FOR TUNNELING AND/OR BRACING ARE TO BE INCLUDED IN THE UNIT PRICE BID FOR FURNISHING AND LAYING THE STORM DRAIN PIPE.
19. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
20. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION AS DIRECTED BY THE COUNTY INSPECTOR. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR FURNISHING AND LAYING STORM DRAIN PIPE.
21. PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS, AND THE LATEST EDITION OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND ALL SUBSEQUENT ADDENDUMS.
22. EXISTING WATER HOUSE SERVICES, THAT ARE IN CONFLICT WITH THE PROPOSED STORM DRAINAGE FACILITIES, SHALL BE ADJUSTED BY THE CONTRACTOR.
23. FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, THE CONTRACTOR SHALL ABIDE BY THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" AND THE SPECIAL PROVISIONS. IN THE EVENT OF ANY DISCREPANCY BETWEEN THESE TWO SOURCES, THE LATTER SHALL GOVERN.
24. ALL SLOPES AND/OR DISTURBED AREAS SHALL RECEIVE 2-INCH DEPTH OF TOPSOIL BEFORE SEEDING AND MULCHING.
25. LOCATION POINTS FOR INLETS, MANHOLES AND STRUCTURES:  
ITEM: HORIZONTAL LOC: VERTICAL LOC:  
CURB TYPE INLETS CENTER FACE OF CURB TOP OF CURB  
COMBINATION GRATE/CURB CENTER FACE OF CURB TOP OF CURB  
GRATE TYPE INLETS CENTER OF GRATE TOP OF GRATE  
MANHOLES CENTER OF COVER TOP OF COVER  
ENDWALLS CENTER OF WALL TOP OF WALL
26. THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN VICINITY OF UTILITIES. COST SHALL BE INCLUDED IN THE UNIT PRICES BID FOR STORM DRAIN ITEMS.
27. STANDARD DETAILS FOR THIS CONTRACT SHALL BE THE HOWARD COUNTY STANDARD DETAILS AS SUPPLEMENTED BY THE MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD DETAILS.
28. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN HEREON:  
MISS UTILITY 1-800-257-7777  
BALTIMORE GAS & ELECTRIC CO., UNDERGROUND ELECTRICAL DISTRIBUTION ENGINEERING DAMAGE CONTROL 234-6313  
BALTIMORE GAS & ELECTRIC CO., UNDERGROUND GAS DISTRIBUTION ENGINEERING 234-5533  
CHESAPEAKE AND POTOMAC TELEPHONE CO., 725-9976  
COLONIAL PIPELINE COMPANY 781-4641  
HOWARD COUNTY BUREAU OF UTILITIES 313-4900  
HOWARD COUNTY TRAFFIC DIVISION 313-2430  
HOWARD COUNTY SURVEYING AND DRAFTING DIVISION 313-2417  
HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION 792-7272
29. THE CONTRACTOR SHALL REPLACE ALL STEPS AND LEAD WALKS IN KIND DISTURBED IN CONSTRUCTION. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS REQUIRED BY THE HOWARD COUNTY INSPECTOR.
30. IF COBBLESTONES ARE ENCOUNTERED, CONTRACTOR SHALL TAKE THEM TO BUREAU OF HIGHWAYS MAINTENANCE YARD FOR STOCKPILING.
31. THE CONTRACTOR TO ADJUST ALL APPURTENANCES LOCATED IN THE PAVEMENT TO MATCH FINAL PAVEMENT ELEVATION.
32. THE CONTRACTOR SHALL RESTORE ALL SIDEWALKS AND CURBING DISTURBED IN CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE TEMPORARY ACCESS AS REQUIRED.
33. EXISTING RETAINING WALLS IMPACTED BY CONSTRUCTION OF STORM DRAIN OUTFALLS OR STORM DRAIN STRUCTURES AND CURBING ARE TO BE REPLACED OR REPAIRED IN KIND. PAYMENT FOR SUCH CONSTRUCTION SHALL BE INCLUDED IN THE UNIT PRICES FOR THE APPROPRIATE ITEMS.

C1017H01

Date: 5/18/98 2:11 CAD/REV/WORKER

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>Andrew M. Amels</i> 5/19/98 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>Cheryl Sumner</i> 5/2/98 USDA NATURAL RESOURCES CONSERVATION SERVICE</p> <p><i>John P. Roberts</i> 5/17/98</p>	 <p><b>CHESTER ENGINEERS</b></p>	 <p>STATE OF MARYLAND MICHAEL EDWARD HURLEY REGISTERED PROFESSIONAL ENGINEER</p>	<p>DES: E.U.A.</p> <p>DRN: E.B.</p> <p>CHK: P.E.H.</p> <p>DATE: 03/98</p>	<p>COVER SHEET</p>	<p>W. MAIN STREET-ELLCOTT CITY STORM DRAINAGE IMPROVEMENTS</p> <p style="text-align: center;">HOWARD COUNTY, MARYLAND CAPITAL PROJECT D-1083</p>	<p>SCALE AS SHOWN</p> <p>SHEET 1 OF 24</p>
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**LEGEND**

- EXISTING BUILDING/HOUSE NO.
- EXISTING SPOT ELEVATION
- EXISTING CONTOURS
- EXISTING GUARD RAIL
- EXISTING WALL
- EXISTING FENCE
- EXISTING WATER EDGE
- EXISTING TREE
- EXISTING TREELINE
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB
- EXISTING SIDEWALK
- EX. 30" RCP
- EX. 12" S.S. @ 1.20%
- EX. SHC/DROP SHC
- W
- 3/4" WMC
- EX. VALVE
- EX. GAS
- G
- CP.MH
- OHT
- OHE
- C&P #428
- EX. SIGN
- PROP. 15" RCP
- AO
- EX. 733
- EX. 733
- T.B.R.
- PC2
- SB3
- TP6
- TP6
- TP6
- TP6
- F/C
- F/C
- E/L
- E/P
- C

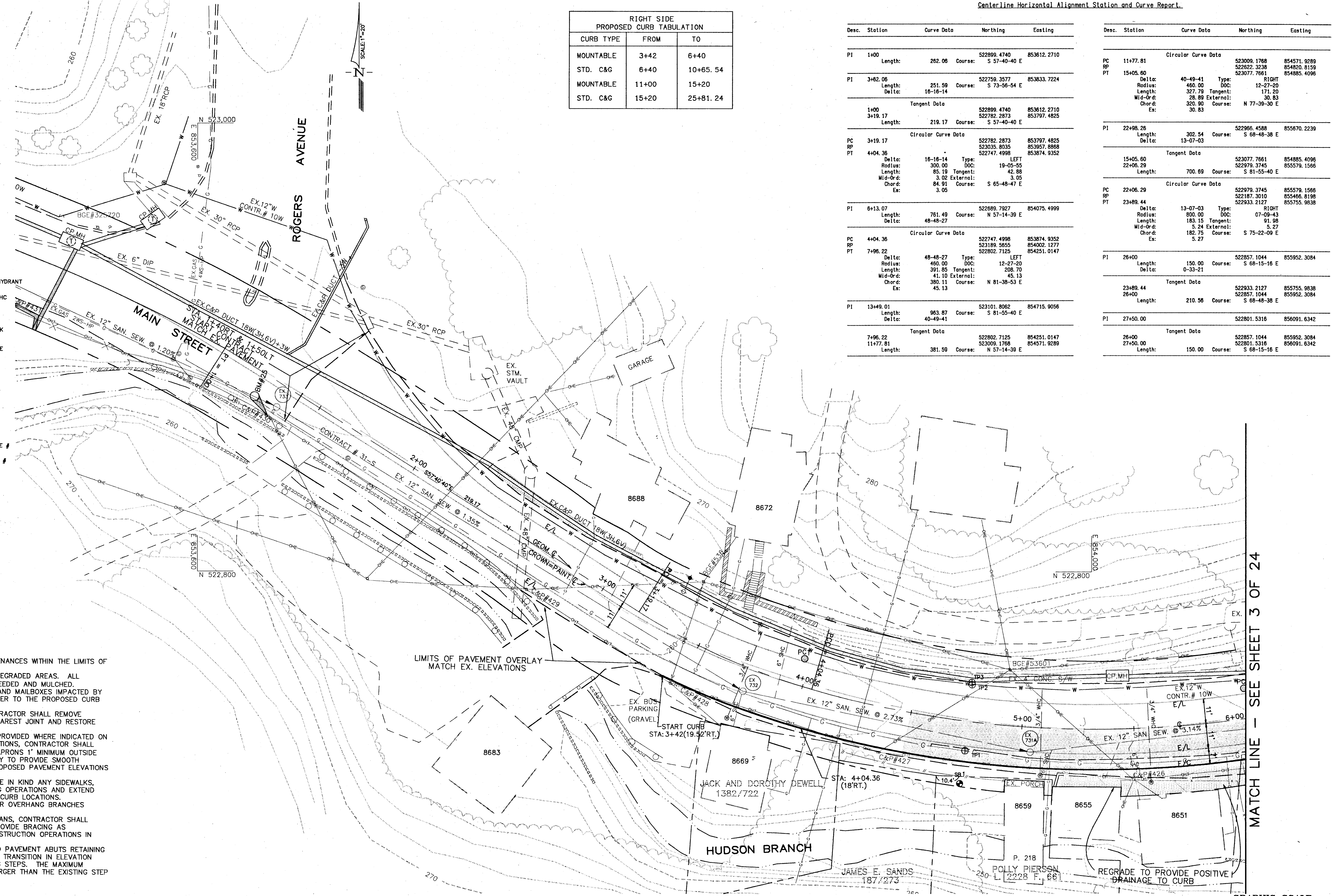
- CONSTRUCTION NOTES**
1. CONTRACTOR SHALL ADJUST ALL APPURTENANCES WITHIN THE LIMITS OF WORK TO FINAL GRADE.
  2. PROVIDE POSITIVE GRADE IN ALL NEWLY REGRADED AREAS. ALL REGRADED (NOT PAVED) AREAS SHALL BE SEEDED AND MULCHED.
  3. CONTRACTOR SHALL RESET ANY FENCES AND MAILBOXES IMPACTED BY REGRADED. NEW FENCE SHALL NOT BE CLOSER TO THE PROPOSED CURB THEN 3 FEET.
  4. FOR ALL NEW INLET INSTALLATIONS, CONTRACTOR SHALL REMOVE EXISTING CONCRETE SIDEWALK AT THE NEAREST JOINT AND RESTORE SIDEWALK IN KIND.
  5. CONCRETE DRIVEWAY APRONS SHALL BE PROVIDED WHERE INDICATED ON THE PLANS. AT ALL OTHER DRIVEWAY LOCATIONS, CONTRACTOR SHALL SAW CUT EXISTING CONCRETE OR ASPHALT APRONS 1' MINIMUM OUTSIDE OF NEW PAVEMENT LIMITS, OR AS NECESSARY TO PROVIDE SMOOTH BITUMINOUS PAVEMENT TRANSITION FROM PROPOSED PAVEMENT ELEVATIONS TO EXISTING DRIVEWAY.
  6. CONTRACTOR SHALL REMOVE AND REPLACE IN KIND ANY SIDEWALKS, LEADWALKS OR STEPS IMPACTED BY GRADING OPERATIONS AND EXTEND EXISTING LEADWALK TO THE NEW PROPOSED CURB LOCATIONS.
  7. CONTRACTOR SHALL CLEAR ANY BRUSH OR OVERHANG BRANCHES WITHIN 3 FEET OF PROPOSED CURB.
  8. UNLESS OTHERWISE INDICATED ON THE PLANS, CONTRACTOR SHALL MAINTAIN EXISTING RETAINING WALLS AND PROVIDE BRACING AS NECESSARY TO PROTECT WALLS DURING CONSTRUCTION OPERATIONS IN CLOSE VICINITY OF EXISTING WALLS.
  9. AT ALL LOCATIONS WHERE NEW PROPOSED PAVEMENT ABUTS RETAINING WALLS, CONTRACTOR SHALL ENSURE PROPER TRANSITION IN ELEVATION FROM PROPOSED PAVEMENT TO THE EXISTING STEPS. THE MAXIMUM DIFFERENCE IN ELEVATION SHALL NOT BE LARGER THAN THE EXISTING STEP RISER.

NOTIFY "MISS UTILITY" AT 1-800-257-7777 FOR UTILITY LOCATION 48 HOURS PRIOR TO ANY CONSTRUCTION OR EXCAVATION.

RIGHT SIDE PROPOSED CURB TABULATION		
CURB TYPE	FROM	TO
MOUNTABLE	3+42	6+40
STD. C&G	6+40	10+65.54
MOUNTABLE	11+00	15+20
STD. C&G	15+20	25+81.24

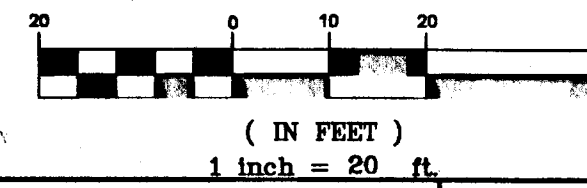
Centerline Horizontal Alignment Station and Curve Report.

Desc.	Station	Curve Data	Northing	Easting
PI	1+00	Length: 262.06	522899.4740	853612.2710
PC	1+00	Course: S 57-40-40 E		
PT	3+62.06	Length: 251.59	522759.3577	853833.7224
PI	3+62.06	Delta: 16-16-14	Course: S 73-56-54 E	
PC	3+62.06	Length: 219.17	522899.4740	853612.2710
PT	3+19.17	Delta: 219.17	Course: S 57-40-40 E	853797.4825
PI	3+19.17	Length: 761.49	522899.7927	854075.4999
PC	3+19.17	Delta: 48-48-27	Course: N 57-14-39 E	
PT	4+04.36	Length: 48-48-27	522747.4998	853874.9352
PI	4+04.36	Delta: 48-48-27	Course: N 81-38-53 E	
PC	4+04.36	Length: 381.59	522802.7125	854251.0147
PT	7+96.22	Delta: 40-49-41	Course: S 81-55-40 E	
PI	13+49.01	Length: 963.87	523101.8062	854715.9056
PC	13+49.01	Delta: 40-49-41	Course: S 81-55-40 E	
PT	7+96.22	Length: 381.59	522802.7125	854251.0147
PI	11+77.81	Length: 150.00	522857.1044	855952.3084
PC	11+77.81	Delta: 0-33-21	Course: S 68-15-16 E	
PT	23+89.44	Length: 210.56	522933.2127	855755.9638
PI	27+50.00	Length: 150.00	522857.1044	855952.3084
PC	27+50.00	Delta: 0-33-21	Course: S 68-15-16 E	
PT	28+00.00	Length: 150.00	522857.1044	855952.3084



MATCH LINE - SEE SHEET 3 OF 24

GRAPHIC SCALE

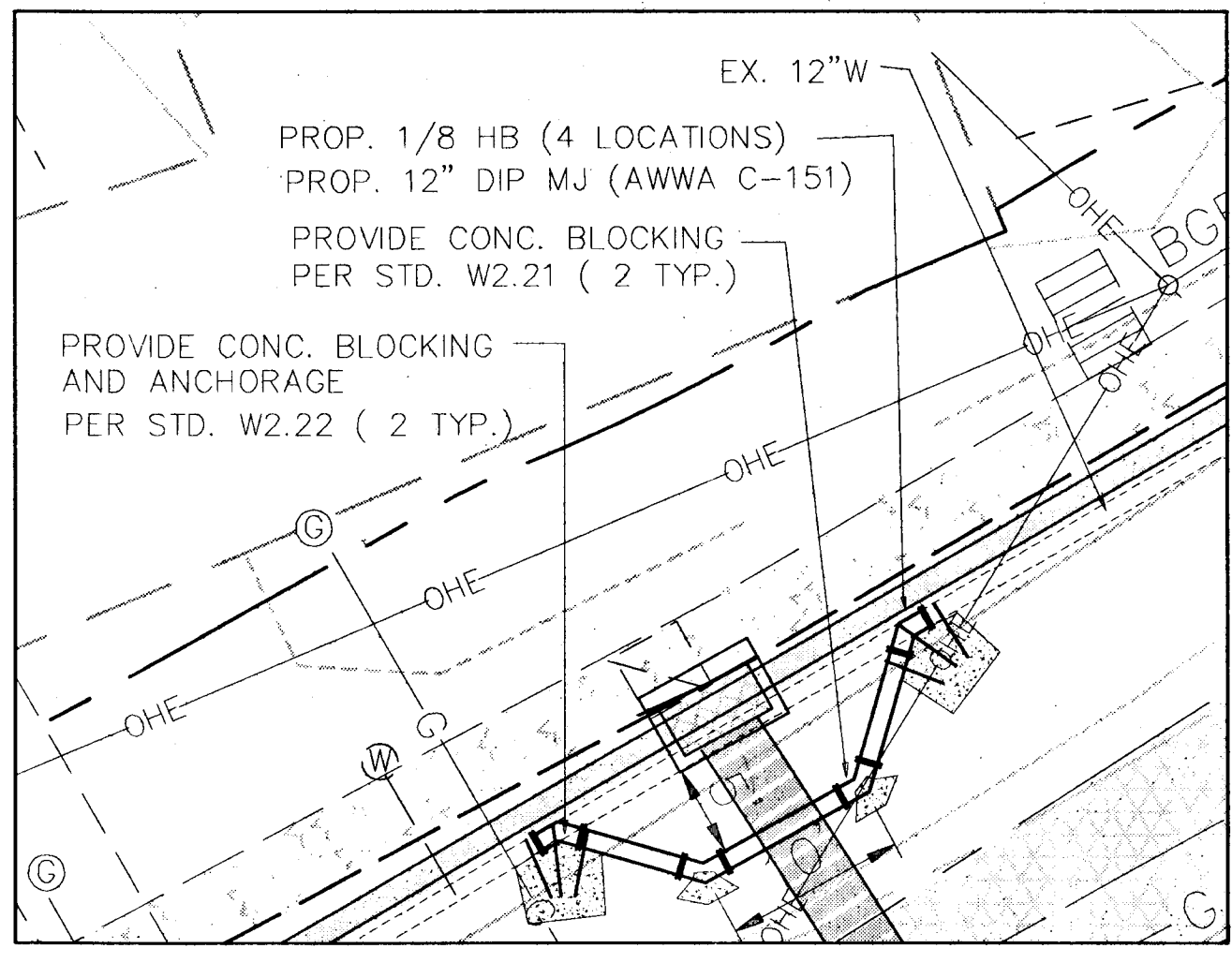


<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>James H. Lane</i> 8/30/99 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>Charles W. Decker</i> 8-30-99 CHIEF, BUREAU OF HIGHWAYS DATE</p>	<p> CHESTER ENGINEERS</p>	<p>DES: EUA</p> <p>DRN: EUA</p> <p>CHK: REH</p> <p>DATE: 07/97</p>	<p>2</p> <p>1</p> <p>NO.</p> <p>REVISION</p>	<p>ADDED CONSTRUCTION NOTES</p> <p>ELIMINATED SD SYSTEM B</p> <p>7.01.99</p> <p>12.18.98</p> <p>DATE</p>	<p>STORM DRAIN AND PAVING PLAN</p> <p>PLAN SHEET #1 OF 5</p> <p>600' SCALE MAP NO. _____</p> <p>BLOCK NO. _____</p>	<p>W. MAIN STREET-ELICOTT CITY STORM DRAINAGE IMPROVEMENTS</p> <p>HOWARD COUNTY, MARYLAND</p> <p>CAPITAL PROJECT D-1083</p> <p>SCALE 1"=20'</p> <p>SHEET 2 OF 24</p>
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**LEGEND**

- EXISTING BUILDING/HOUSE NO.
- EXISTING SPOT ELEVATION
- EXISTING CONTOURS
- EXISTING GUARD RAIL
- EXISTING WALL
- EXISTING FENCE
- EXISTING WATER EDGE
- EXISTING TREE
- EXISTING TREELINE
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB
- EXISTING SIDEWALK
- EX. 30" RCP
- EX. 12" S.S. @ 1.20%
- EXISTING STORM DRAIN
- EXISTING SANITARY SEWER
- EXISTING SHC/DROP SHC
- EXISTING WATER LINE
- EXISTING WATER METER/WMC
- EXISTING WATER VALVE/FIRE HYDRANT
- EXISTING GAS VALVE/METER/GHC
- EXISTING GAS LINE
- EXISTING TELEPHONE DUCTBANK
- EXISTING OVERHEAD TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING PHONE/POWER POLE
- EXISTING SIGN
- PROPOSED FACE-OF-CURB
- PROP. 15" RCP
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN STRUCTURE #
- EX. SANITARY SEW. STRUCTURE #
- RIGHT OF WAY LINE
- LOT LINE
- TO BE REMOVED
- PAVEMENT CORE LOCATION
- SOIL BORING LOCATION
- TEST PIT LOCATION
- PAVEMENT TO BE REMOVED
- AREA TO BE REGRADED
- F/C
- E/L
- E/P
- CENTER LINE



**NOTE:**  
 CONTRACTOR SHALL PREASSEMBLE PIPES AND BENDS FOR WATER LINE RELOCATION ALIGNMENT PRIOR TO RECONNECTION TO EXISTING MAIN.

CONTRACTOR SHALL EXERCISE CAUTION WHEN MILLING IN THIS LOCATION, BECAUSE OF SHALLOW UTILITY PIPES. ANY DAMAGED PIPE SHALL BE REPLACED IN KIND

CONTRACTOR SHALL BE AWARE AND EXERCISE EXTREME CAUTION WHEN WORKING IN THE VICINITY OF OVERHEAD WIRES.

CONTRACTOR SHALL BE AWARE AND EXERCISE EXTREME CAUTION WHEN WORKING IN THE VICINITY OF OVERHEAD WIRES.  
 CONTRACTOR SHALL PROVIDE SHORING FOR INLET EXCAVATION AND CONTACT BG&E IF EXCAVATION IS CLOSER TO THE POWER POLE THEN 5 FEET.

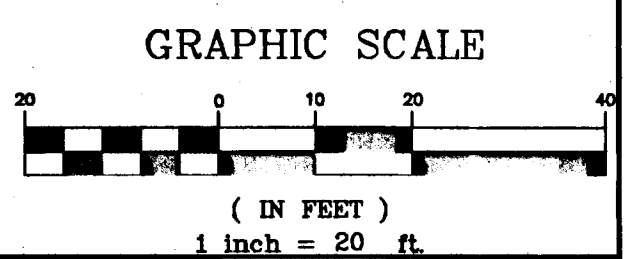
RELOCATE EXISTING WATER MAIN SEE DETAIL ABOVE

RE-GRADE EX. SWALE AS NECESSARY TO PROVIDE POSITIVE SLOPE TO THE PROPOSED INLET. RESET EX. FENCE, REPLACE AND EXTEND EXISTING LEAD WALK TO THE PROPOSED CURB. PROVIDE 12" RCP CULVERT UNDER WALKWAY. SEED AND MULCH

MATCH LINE - SEE SHEET 2 OF 24

MATCH LINE - SEE SHEET 4 OF 24

NOTIFY "MISS UTILITY" AT 1-800-257-7777 FOR UTILITY LOCATION 48 HOURS PRIOR TO ANY CONSTRUCTION OR EXCAVATION.



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James M. Clark* 8/30/99  
 DIRECTOR OF PUBLIC WORKS DATE

*Robert D. Latta* 8/27/99  
 CHIEF, BUREAU OF ENGINEERING DATE

*Edward M. Conner* 8/30/99  
 CHIEF, BUREAU OF HIGHWAYS DATE

*Edward M. Conner* 8/26/99  
 CHIEF, DIVISION OF ROADS, BRIDGES & STORM DRAINAGE DATE



DES:	EUA				
DRN:	EUA				
CHK:	REH	EUA	2	REVISED SD INLET "E-4" LOCATION, ADDED NOTES	7.01.99
DATE:	07/97	EUA	1	REVISED INLETS C1 & C2	12.18.98
BY:	NO.			REVISION	DATE

**STORM DRAIN AND PAVING PLAN**  
**PLAN SHEET #2 OF 5**

600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

W. MAIN STREET-ELLCOTT CITY STORM DRAINAGE IMPROVEMENTS

HOWARD COUNTY, MARYLAND  
 CAPITAL PROJECT D-1083

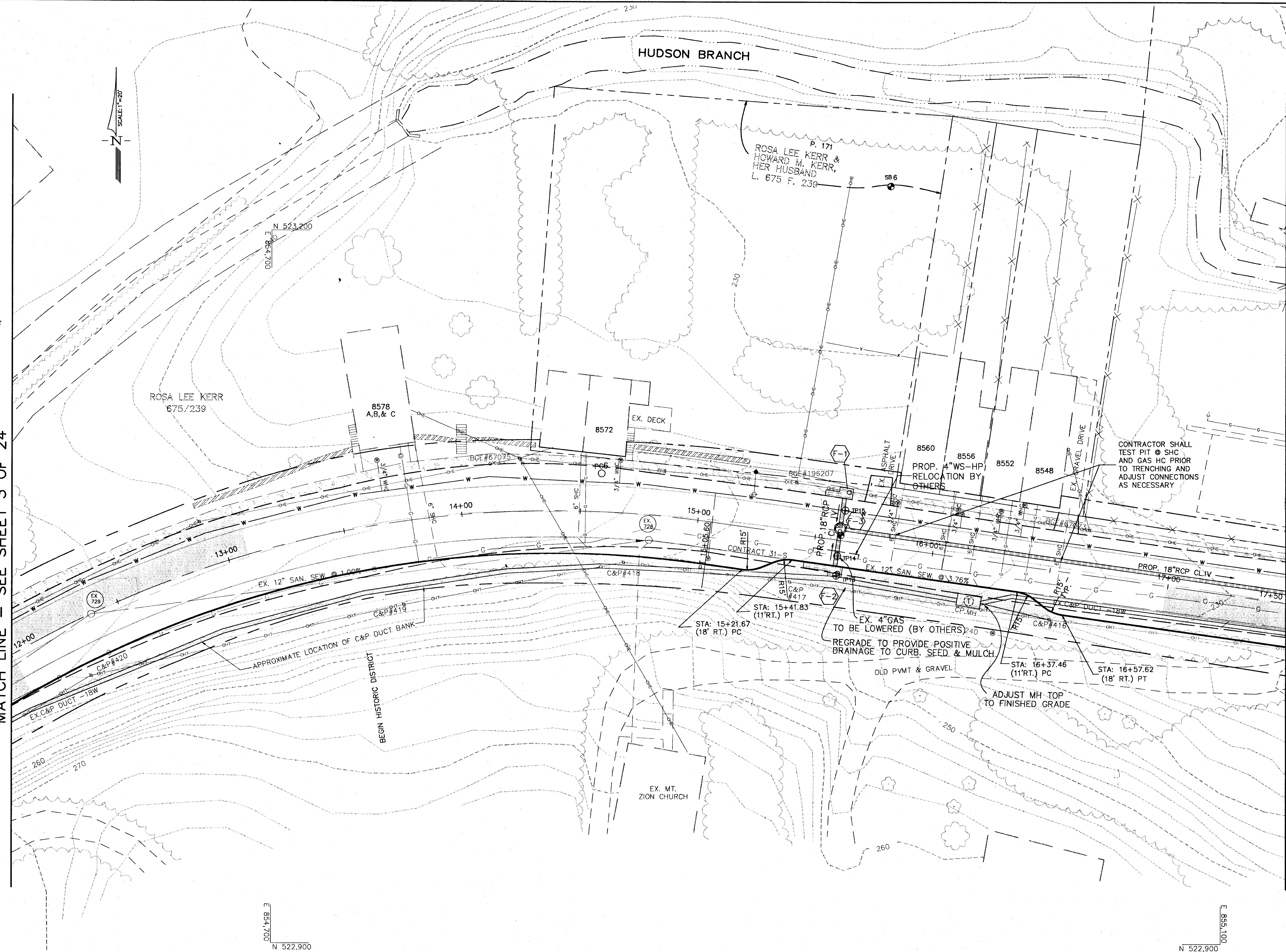
SCALE 1"=20'  
 SHEET 3 OF 24



**LEGEND**

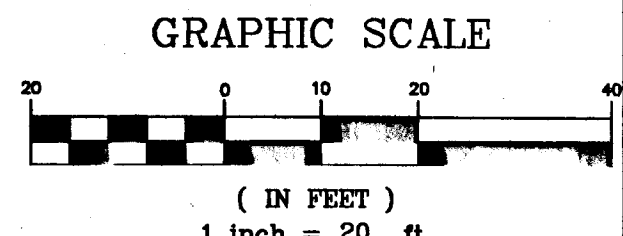
- 8683 EXISTING BUILDING/HOUSE NO.
- 263.24 EXISTING SPOT ELEVATION
- 260 EXISTING CONTOURS
- EXISTING GUARD RAIL
- EXISTING WALL
- EXISTING FENCE
- EXISTING WATER EDGE
- EXISTING TREE
- EXISTING TREELINE
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB
- EXISTING SIDEWALK
- EX. 30" RCP EXISTING STORM DRAIN
- EX. 12" S.S. @ 1.20% EXISTING SANITARY SEWER
- EXISTING SHC/DROP SHC
- W EXISTING WATER LINE
- 3/4" W/MC EXISTING WATER METER/W/MC
- EXISTING WATER VALVE/FIRE HYDRANT
- EXISTING GAS VALVE/METER/G/MC
- G EXISTING GAS LINE
- CP, MH 18+3W EXISTING TELEPHONE DUCTBANK
- OHT EXISTING OVERHEAD TELEPHONE
- OHE EXISTING OVERHEAD ELECTRIC
- C&P #428 BGE #536 EXISTING PHONE/POWER POLE
- EXISTING SIGN
- PROPOSED FACE-OF-CURB
- PROPOSED STORM DRAIN
- AD PROP. STORM DRAIN STRUCTURE #
- EX 733 EX. SANITARY SEW. STRUCTURE #
- RIGHT OF WAY LINE
- LOT LINE
- TO BE REMOVED
- PAVEMENT CORE LOCATION
- SOIL BORING LOCATION
- TEST PIT LOCATION
- PAVEMENT TO BE REMOVED
- AREA TO BE REGRADED
- F/C FACE OF CURB
- E/L EDGE OF LANE
- E/P EDGE OF PAVEMENT
- C CENTER LINE

MATCH LINE - SEE SHEET 3 OF 24



MATCH LINE - SEE SHEET 5 OF 24

NOTIFY "MISS UTILITY" AT 1-800-257-7777 FOR UTILITY LOCATION 48 HOURS PRIOR TO ANY CONSTRUCTION OR EXCAVATION.

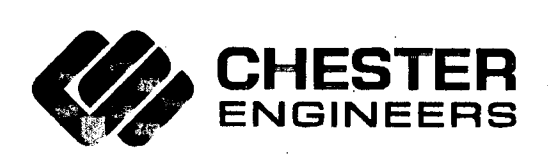


DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. Lewis* 8/27/99  
DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Sponner* 8/27/99  
CHIEF, BUREAU OF ENGINEERING DATE

*Charles A. Collins* 8/27/99  
CHIEF, DIVISION OF ROADS, BRIDGES & STORM DRAINAGE DATE



7-1-99  
*Elisabeth Salazar*

DES: EUA				
DRN: EUA				
CHK: REH	EUA	2	ADDED NOTES	7.01.99
	EUA	1	REVISED SD SYSTEM F	12.18.98
DATE: 07/97	BY	NO.	REVISION	DATE

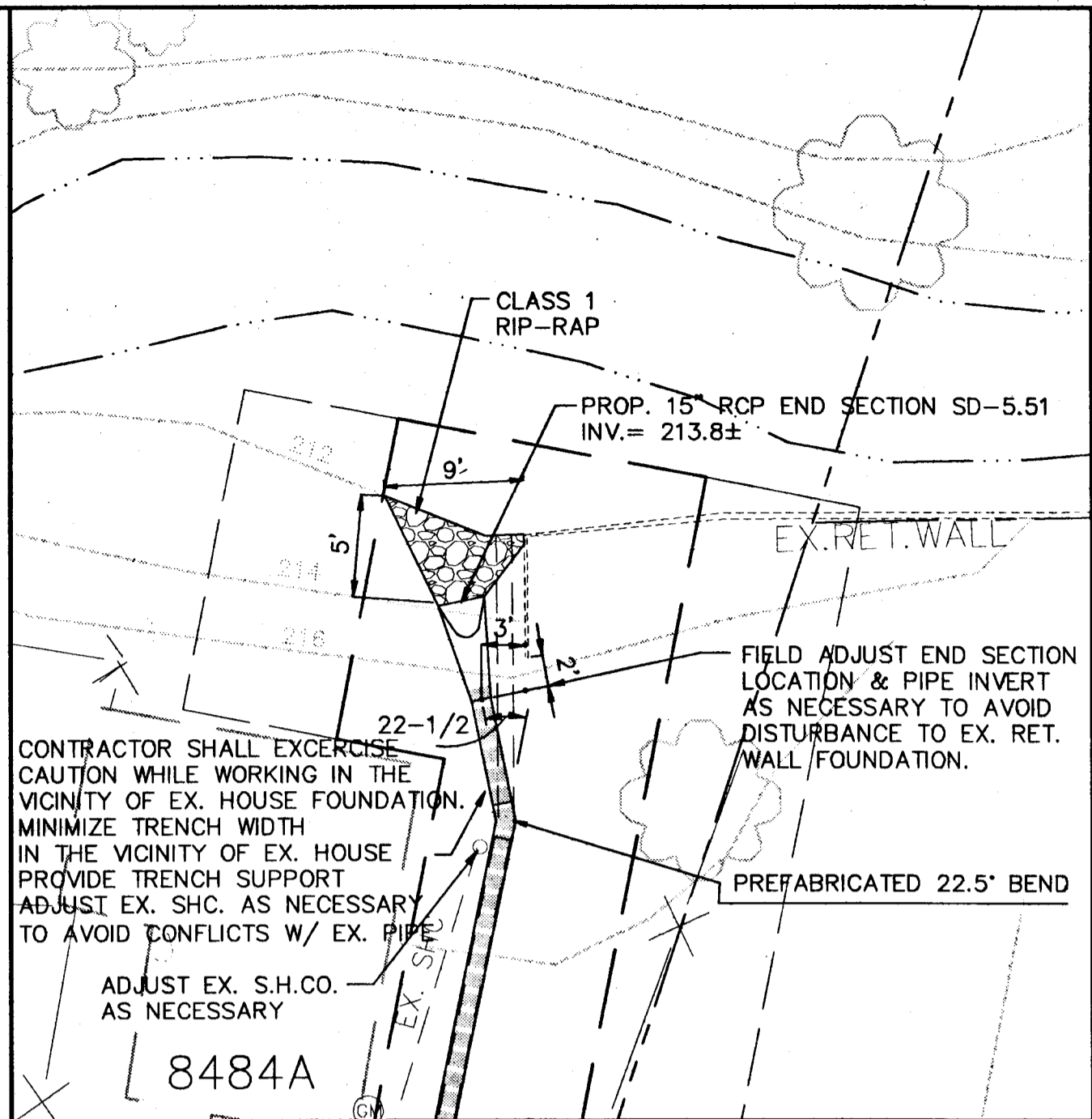
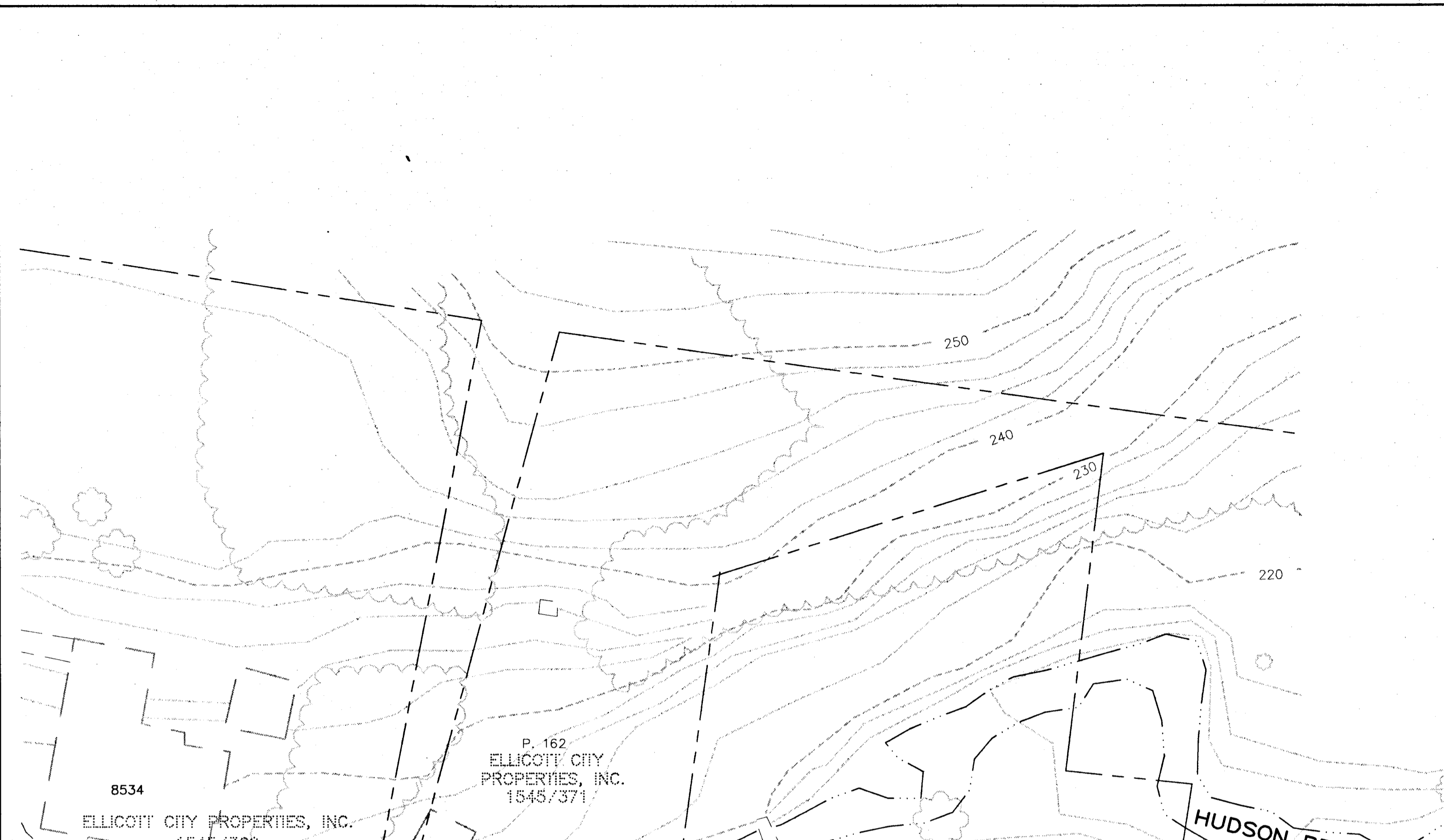
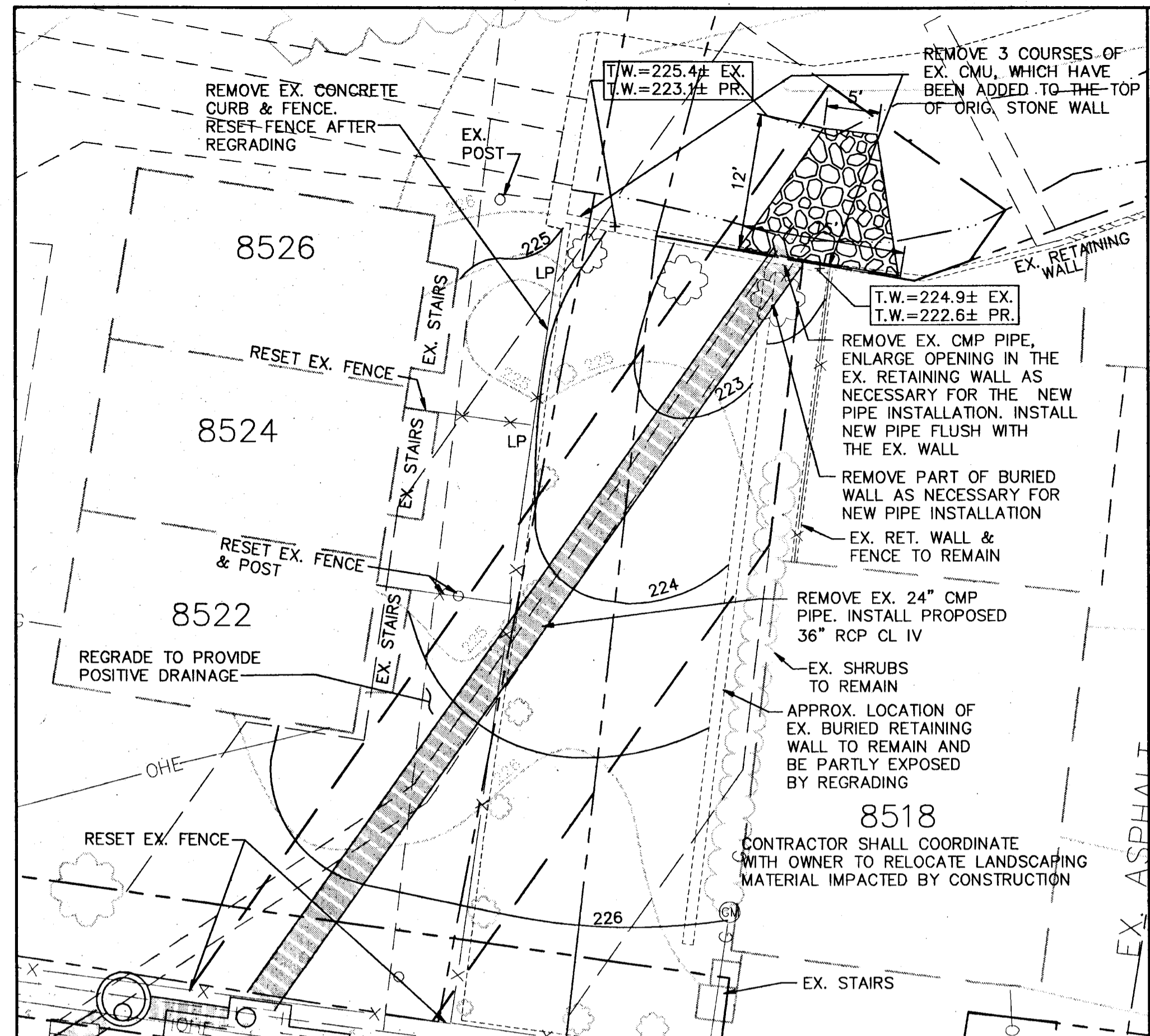
**STORM DRAIN AND PAVING PLAN  
PLAN SHEET #3 OF 5**

W. MAIN STREET-ELLCOTT CITY STORM DRAINAGE IMPROVEMENTS

HOWARD COUNTY, MARYLAND  
CAPITAL PROJECT D-1083

SCALE  
1"=20'  
SHEET  
4 OF 24





**LEGEND**

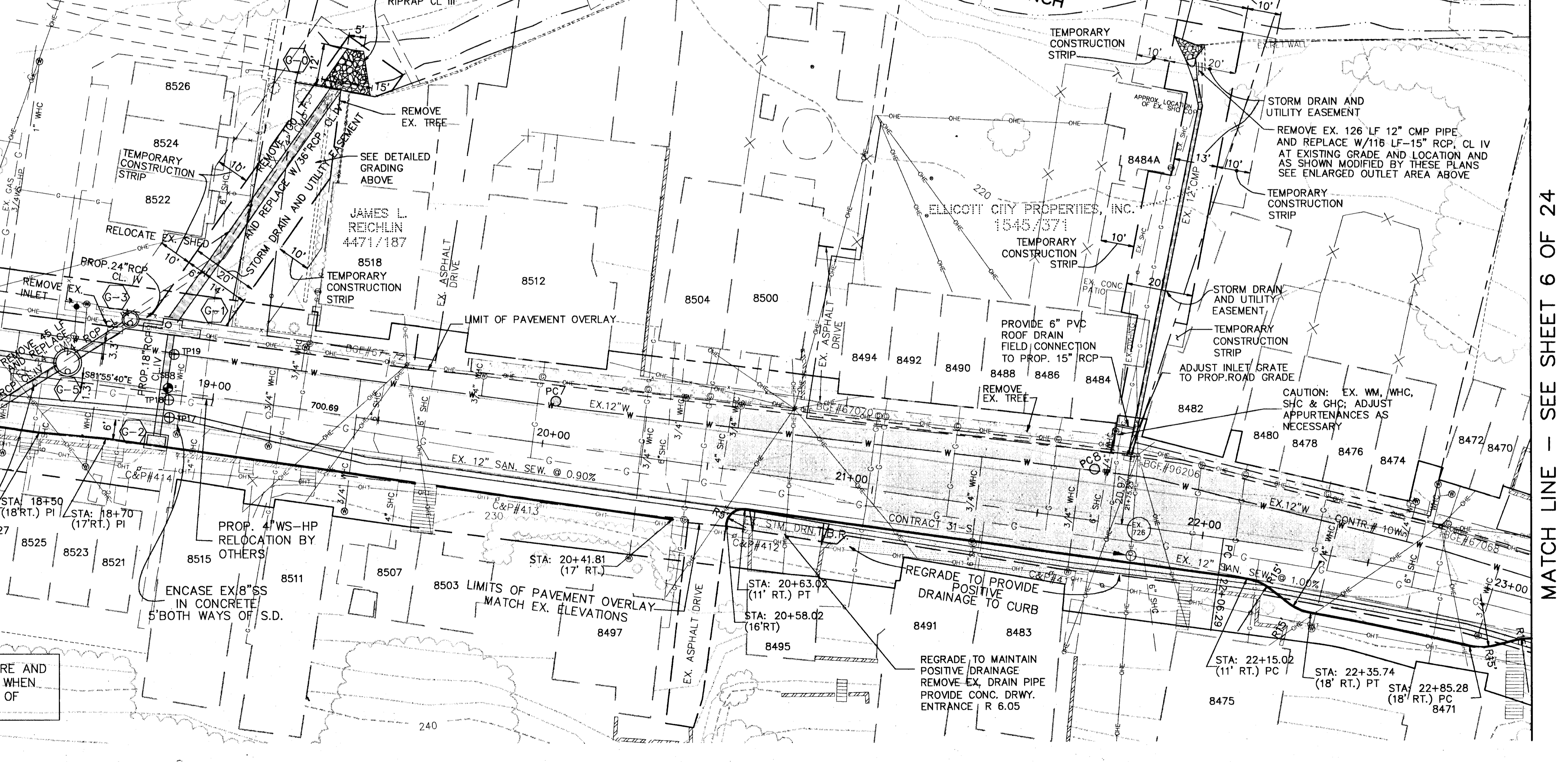
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- EXISTING SPOT ELEVATION
- EXISTING CONTOURS
- EXISTING GUARD RAIL
- EXISTING WALL
- EXISTING FENCE
- EXISTING WATER EDGE
- EXISTING TREE
- EXISTING TREE LINE
- EXISTING TREE LINE OF PAVEMENT
- EXISTING CURB
- EXISTING SIDEWALK
- EXISTING STORM DRAIN
- EXISTING SANITARY SEWER
- EXISTING SHC/DROP SHC
- EXISTING WATER LINE
- EXISTING WATER METER/WHC
- EXISTING WATER VALVE/FIRE HYDRANT
- EXISTING GAS VALVE/METER/GHC
- EXISTING GAS LINE
- EXISTING TELEPHONE DUCT/BANK
- EXISTING OVERHEAD TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING PHONE/POWER POLE
- EXISTING SIGN
- PROPOSED FACE-OF-CURB
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN STRUCTURE #
- EX. SANITARY SEW. STRUCTURE #
- RIGHT OF WAY LINE
- LOT LINE TO BE REMOVED
- PAVEMENT CORE LOCATION
- SOIL BORING LOCATION
- TEST PIT LOCATION
- PAVEMENT TO BE REMOVED
- AREA TO BE REGRADED
- FACE OF CURB
- EDGE OF LANE
- EDGE OF PAVEMENT
- CENTER LINE

**GRAPHIC SCALE**  
1 inch = 20 ft

**LOT GRADING DETAIL**  
SCALE: 1"=10'

NOTIFY "MISS UTILITY" AT 1-800-257-7777 FOR UTILITY LOCATION 48 HOURS PRIOR TO ANY CONSTRUCTION OR EXCAVATION.

MATCH LINE - SEE SHEET 4 OF 24



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James H. Chew* 8/30/99  
DIRECTOR OF PUBLIC WORKS DATE

*Robert J. Brown* 8/27/99  
CHIEF, BUREAU OF ENGINEERING DATE

*Richard M. Edwards* 8/30/99  
CHIEF, DIVISION OF ROADS DATE

*Erica Smith-Lucia* 8/20/99  
BRIDGES & STORM DRAINAGE DATE

**CHESTER ENGINEERS**

*E. L. Lohr* 7-11  
DATE: 07/97

DES:	EUA			
DRN:	EUA			
CHK:	REH	EUA	2	REVISED LOT REGRADING AND CMP SD REPLACEMENT
DATE:	07/97	EUA	1	REVISED SD SYSTEM G
		BY	NO.	REVISION
				DATE

**STORM DRAIN AND PAVING PLAN**  
PLAN SHEET #4 OF 5

600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

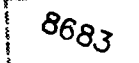
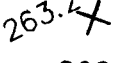
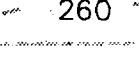
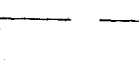
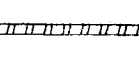
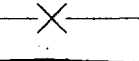


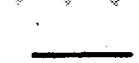
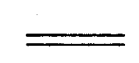
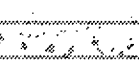
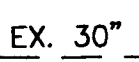
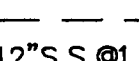
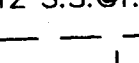
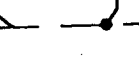
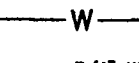
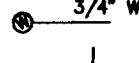
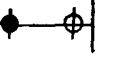
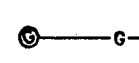
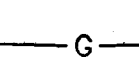
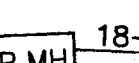
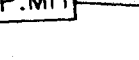
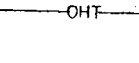
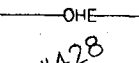



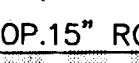



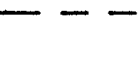
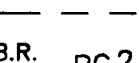
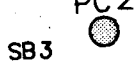




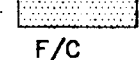
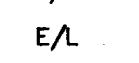
W. MAIN STREET-ELLICOTT CITY STORM DRAINAGE IMPROVEMENTS

HOWARD COUNTY, MARYLAND  
CAPITAL PROJECT D-1083

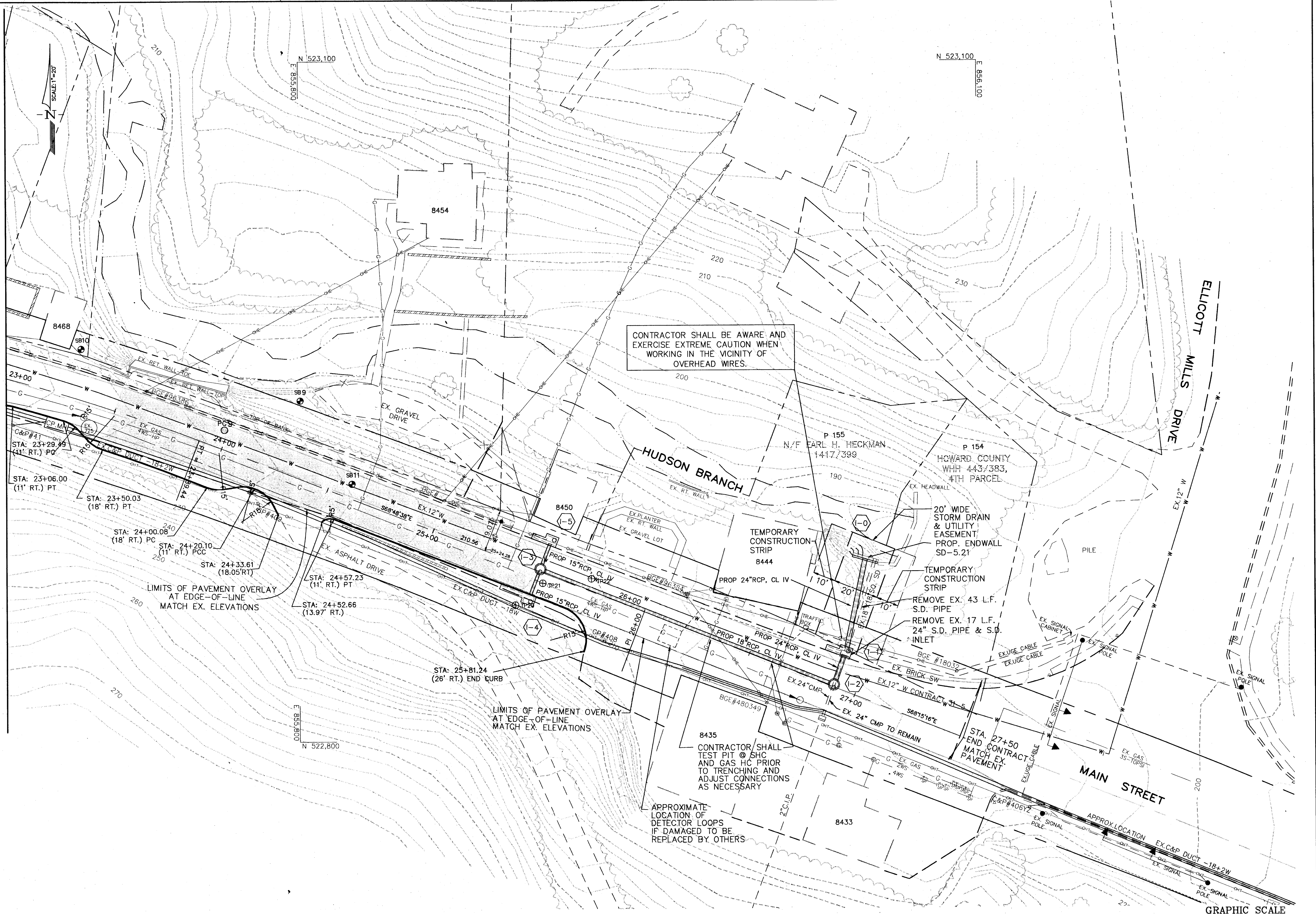
SCALE 1"=20'  
SHEET 5 OF 24



**LEGEND**

-  8683 EXISTING BUILDING/HOUSE NO.
-  263.74 EXISTING SPOT ELEVATION
-  260 EXISTING CONTOURS
-  EXISTING GUARD RAIL
-  EXISTING WALL
-  EXISTING FENCE
-  EXISTING WATER EDGE
-  EXISTING TREE
-  EXISTING TREELINE
-  EXISTING EDGE OF PAVEMENT
-  EXISTING CURB
-  EXISTING SIDEWALK
-  EX. 30" RCP
-  EX. 12" S.S. @ 1.20%
-  EXISTING WATER LINE
-  EXISTING WATER METER/WMC
-  EXISTING WATER VALVE/FIRE HYDRANT
-  EXISTING GAS VALVE/METER/GHC
-  EXISTING GAS LINE
-  EXISTING TELEPHONE DUCTBANK
-  EXISTING OVERHEAD TELEPHONE
-  EXISTING OVERHEAD ELECTRIC
-  EXISTING PHONE/POWER POLE
-  EXISTING SIGN
-  PROPOSED FACE-OF-CURB
-  PROPOSED STORM DRAIN
-  PROP. STORM DRAIN STRUCTURE #
-  EX. SANITARY SEW. STRUCTURE #
-  RIGHT OF WAY LINE
-  LOT LINE
-  TO BE REMOVED
-  PAVEMENT CORE LOCATION
-  SOIL BORING LOCATION
-  TEST PIT LOCATION
-  PAVEMENT TO BE REMOVED
-  AREA TO BE REGRADED
-  F/C
-  E/L
-  E/P
-  CENTER LINE

MATCH LINE - SEE SHEET 5 OF 24

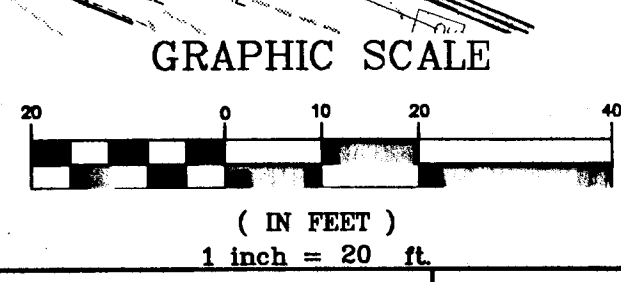



CONTRACTOR SHALL BE AWARE AND EXERCISE EXTREME CAUTION WHEN WORKING IN THE VICINITY OF OVERHEAD WIRES.

CONTRACTOR SHALL TEST PIT @ SHC AND GAS HC PRIOR TO TRENCHING AND ADJUST CONNECTIONS AS NECESSARY

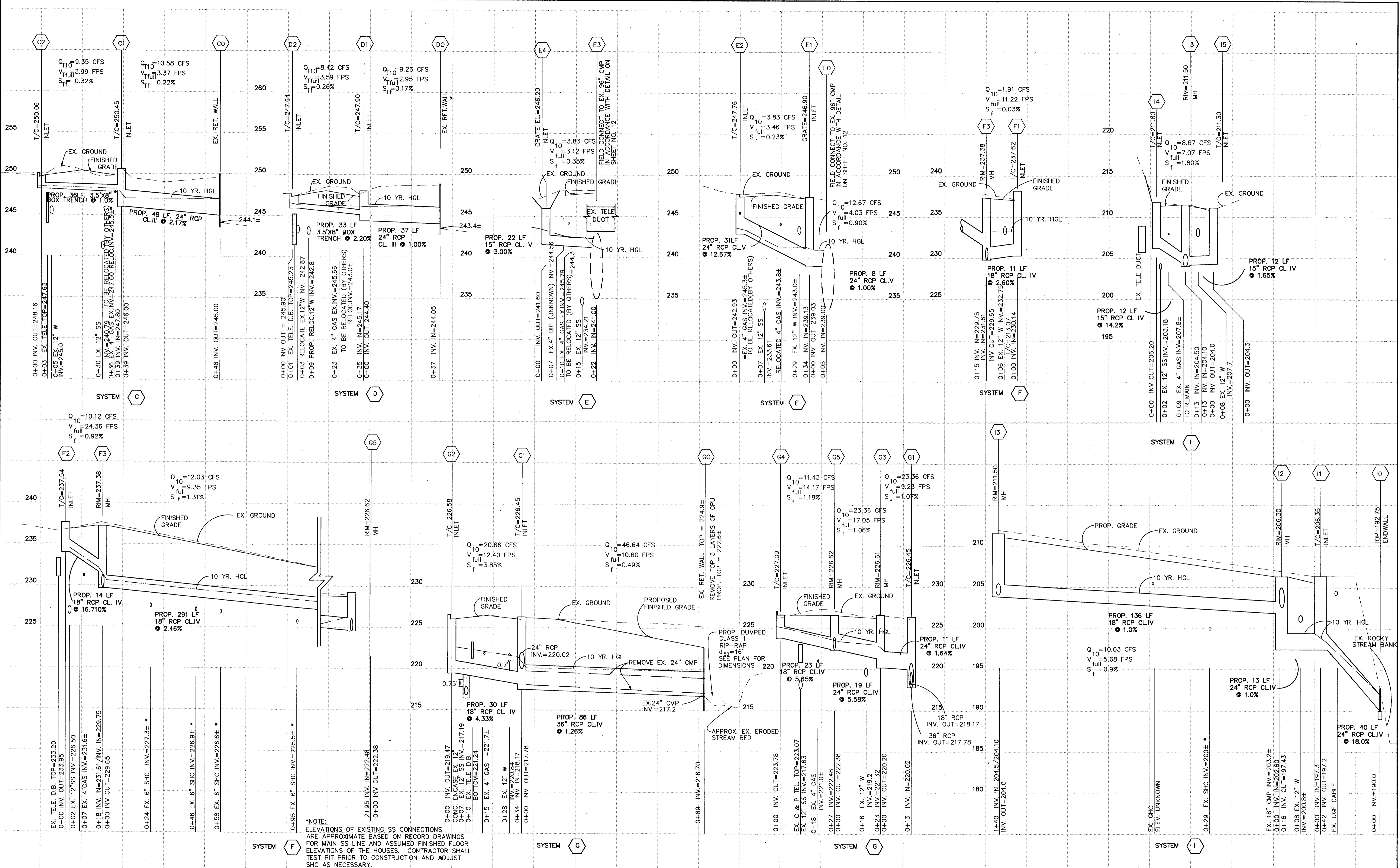
APPROXIMATE LOCATION OF DETECTOR LOOPS IF DAMAGED TO BE REPLACED BY OTHERS

NOTIFY "MISS UTILITY" AT 1-800-257-7777 FOR UTILITY LOCATION 48 HOURS PRIOR TO ANY CONSTRUCTION OR EXCAVATION.



<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>James M. DeLoe</i> 8/30/99 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>Barbara K. Galia</i> 8/26/99 CHIEF, BUREAU OF HIGHWAYS DATE</p>	<p> <b>CHESTER ENGINEERS</b></p>	<p><i>Elizabeth Adams</i> 7.1.99 DATE: 07/97</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DES: EUA</td> <td></td> <td></td> <td></td> </tr> <tr> <td>DRN: EUA</td> <td></td> <td></td> <td></td> </tr> <tr> <td>CHK: REH</td> <td></td> <td></td> <td></td> </tr> <tr> <td>EUA</td> <td>2</td> <td>REVISED SD SYSTEMS 1"</td> <td>7.01.99</td> </tr> <tr> <td>BY</td> <td>NO.</td> <td>REVISION</td> <td>DATE</td> </tr> </table>	DES: EUA				DRN: EUA				CHK: REH				EUA	2	REVISED SD SYSTEMS 1"	7.01.99	BY	NO.	REVISION	DATE	<p><b>STORM DRAIN AND PAVING PLAN</b> <b>PLAN SHEET #5 OF 5</b></p>	<p>W. MAIN STREET-ELlicOTT CITY STORM DRAINAGE IMPROVEMENTS</p> <p>HOWARD COUNTY, MARYLAND CAPITAL PROJECT D-1083</p>	<p>SCALE 1"=20'</p> <p>SHEET 6 OF 24</p>
DES: EUA																										
DRN: EUA																										
CHK: REH																										
EUA	2	REVISED SD SYSTEMS 1"	7.01.99																							
BY	NO.	REVISION	DATE																							





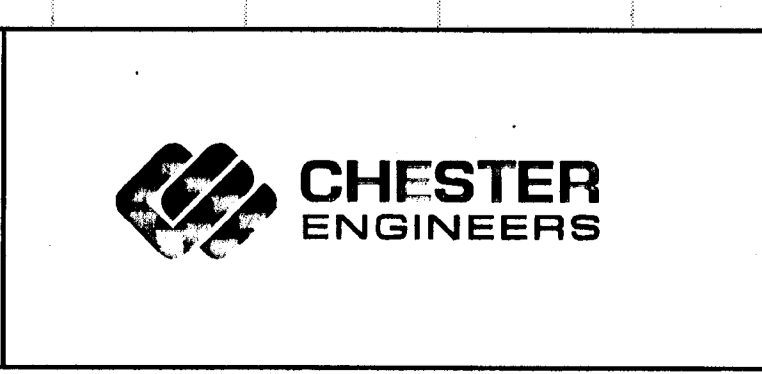
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James M. ...* 8/30/99  
DIRECTOR OF PUBLIC WORKS DATE

*Robert ...* 8/27/99  
CHIEF, BUREAU OF ENGINEERING DATE

*Shirley H. ...* 8/24/99  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION DATE

*Elizabeth ...* 7-1-99



DES:	KAB			
DRN:	OII			
CHK:	REH	EUA 2	REVISED SD SYSTEMS "I"	7.01.99
		EUA 1	REVISED SD SYSTEMS "B", "C", "F" & "G"	12.18.98
DATE:	03/98	BY	NO.	REVISION

STORM DRAIN PROFILES

600' SCALE MAP NO. 25 BLOCK NO. 7

W. MAIN STREET-ELLCOTT CITY STORM DRAINAGE IMPROVEMENTS

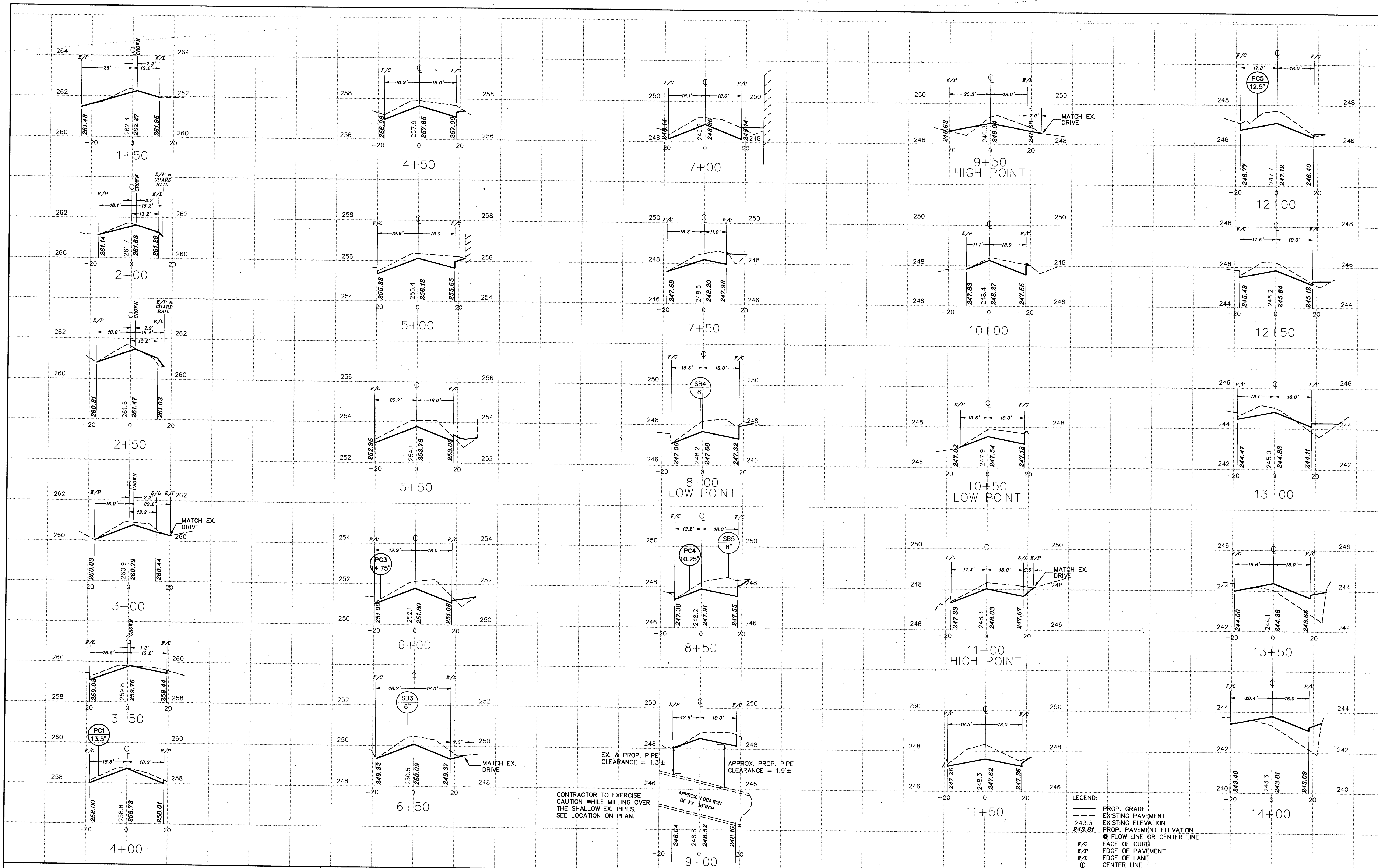
HOWARD COUNTY, MARYLAND  
CAPITAL PROJECT D-1083

SCALE  
1"=20'H  
1"=5'V

SHEET  
7 OF 24



Dep. A:\1984-01\CAD\SECTIONS



**LEGEND:**  
 — PROP. GRADE  
 - - - EXISTING PAVEMENT  
 243.3 EXISTING ELEVATION  
 243.81 PROP. PAVEMENT ELEVATION  
 ⊙ FLOW LINE OR CENTER LINE  
 ⊕ FACE OF CURB  
 E/P EDGE OF PAVEMENT  
 E/L EDGE OF LANE  
 C CENTER LINE

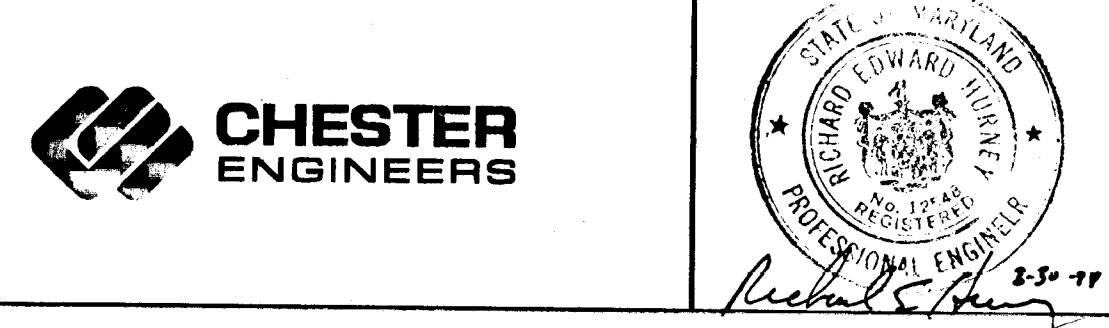
**DEPARTMENT OF PUBLIC WORKS**  
 HOWARD COUNTY, MARYLAND

*James P. ...* 5/5/98  
 DIRECTOR OF PUBLIC WORKS DATE

*Robert ...* 4/21/98  
 CHIEF, BUREAU OF ENGINEERING DATE

*...* 4-27-98  
 CHIEF, BUREAU OF HIGHWAYS DATE

*...* 4/21/98  
 CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION DATE



DES:	EUA
DRN:	EUA
CHK:	REH
DATE:	03/98
BY:	NO.
REVISION:	
DATE:	600' SCALE MAP NO. 25 BLOCK NO. 7

**PAVEMENT CROSS-SECTIONS**  
 SHEET #1 OF 2

**W. MAIN STREET-ELLCOTT CITY STORM DRAINAGE IMPROVEMENTS**

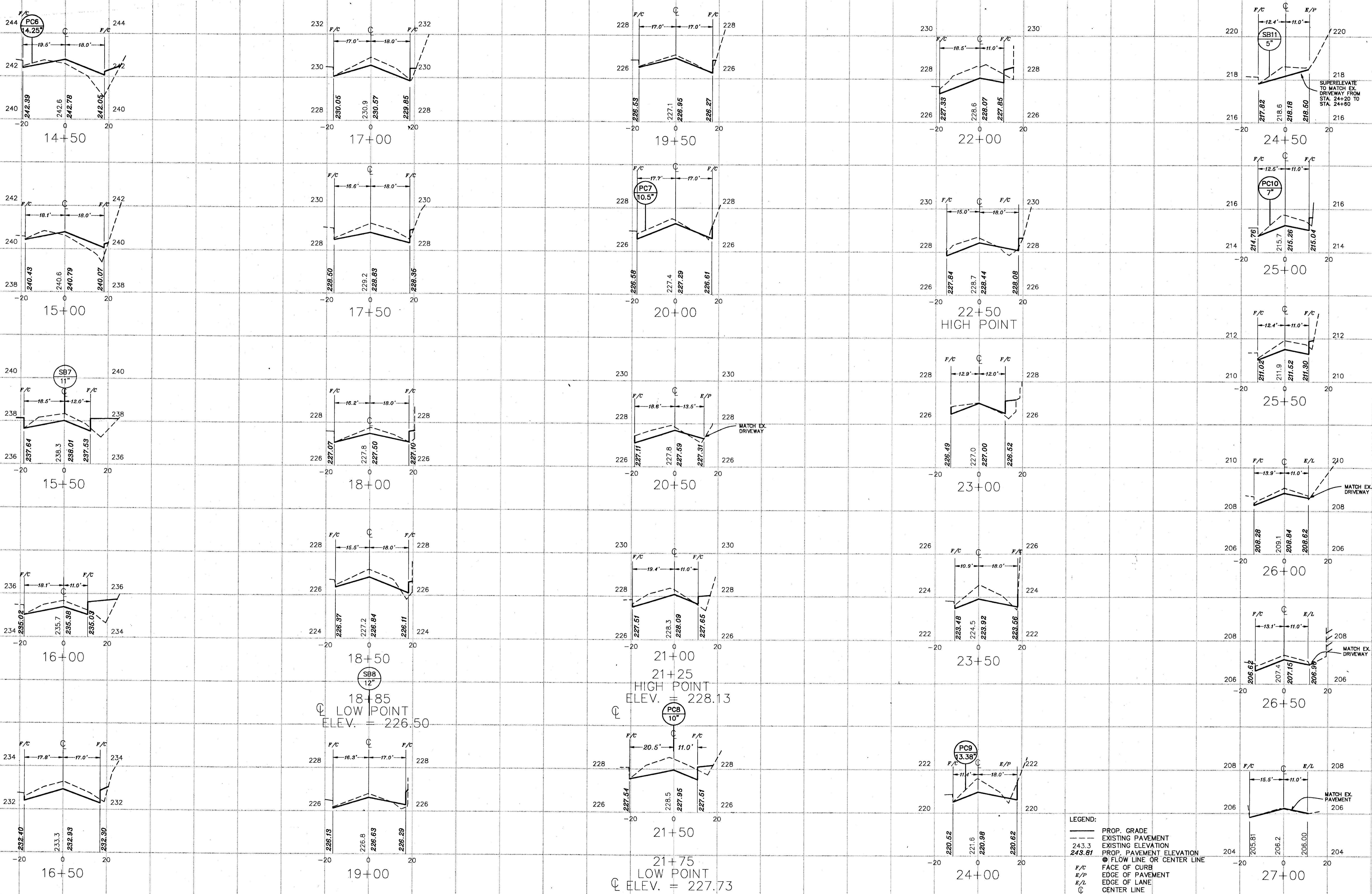
HOWARD COUNTY, MARYLAND  
 CAPITAL PROJECT D-1083

SCALE  
 1"=20'H  
 1"=2'V

SHEET  
 8 OF 24



DWP-AV-1182-D11-CROSS SECTIONS



**LEGEND:**  
 — PROP. GRADE  
 - - - EXISTING PAVEMENT  
 - - - EXISTING ELEVATION  
 - - - PROP. PAVEMENT ELEVATION  
 ○ FLOW LINE OR CENTER LINE  
 F/C FACE OF CURB  
 E/P EDGE OF PAVEMENT  
 E/L EDGE OF LANE  
 C CENTER LINE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James P. Slon* 5/5/98  
 DIRECTOR OF PUBLIC WORKS DATE

*Richard A. Deppa* 4/21/98  
 CHIEF, BUREAU OF ENGINEERING DATE

*Richard M. Conner* 4/21/98  
 CHIEF, BUREAU OF HIGHWAYS DATE

*Richard A. Deppa* 4/21/98  
 CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION DATE



DES:	EUA
DRN:	EUA
CHK:	REH
DATE:	03/98
BY:	NO.
REVISION:	
DATE:	

PAVEMENT CROSS-SECTIONS  
 SHEET #2 OF 2

600' SCALE MAP NO. 25 BLOCK NO. 7

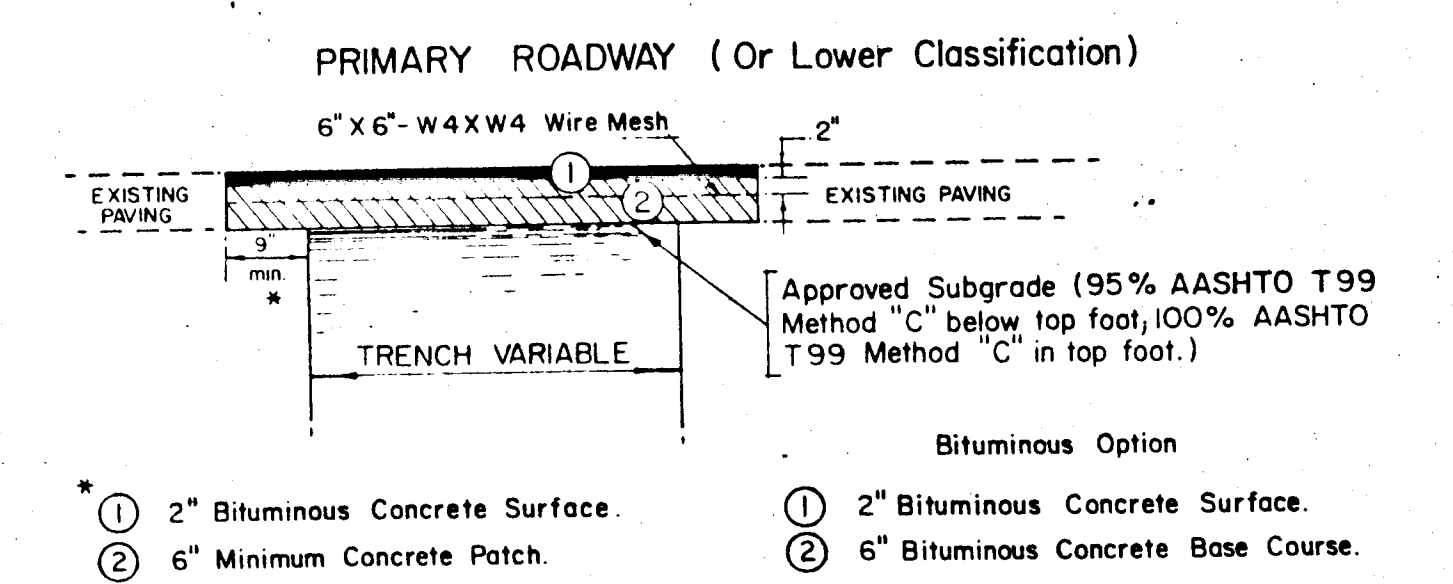
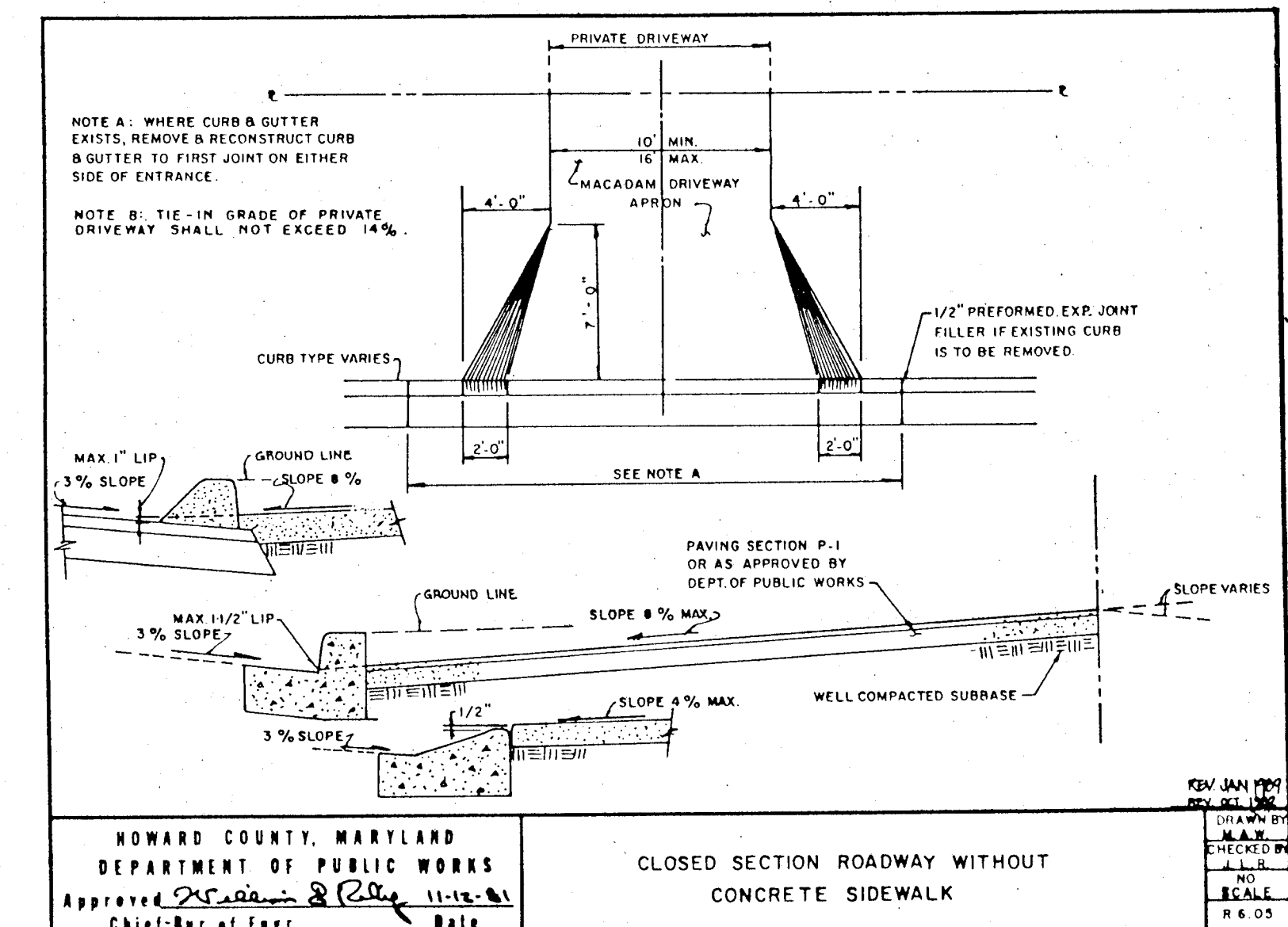
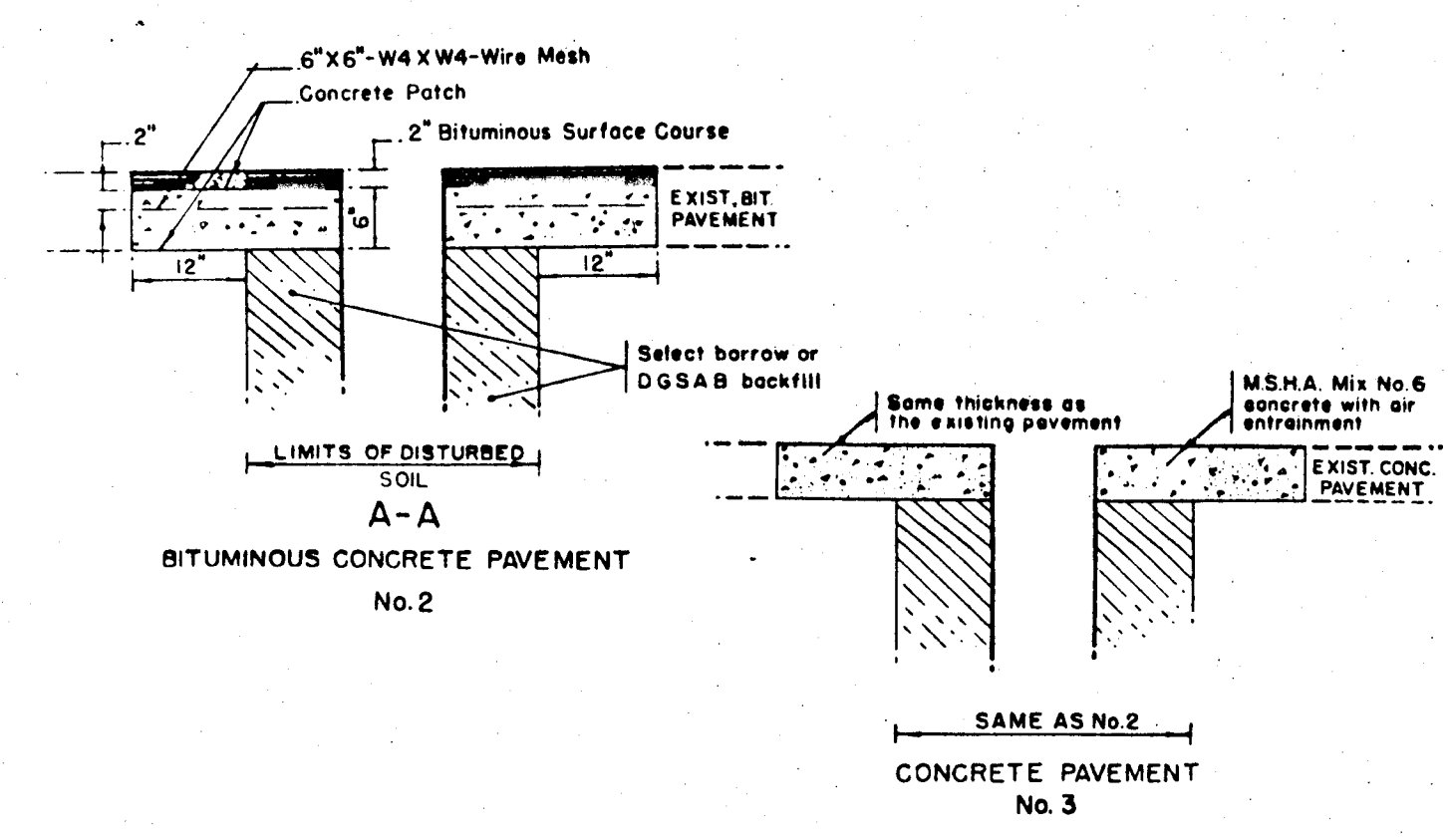
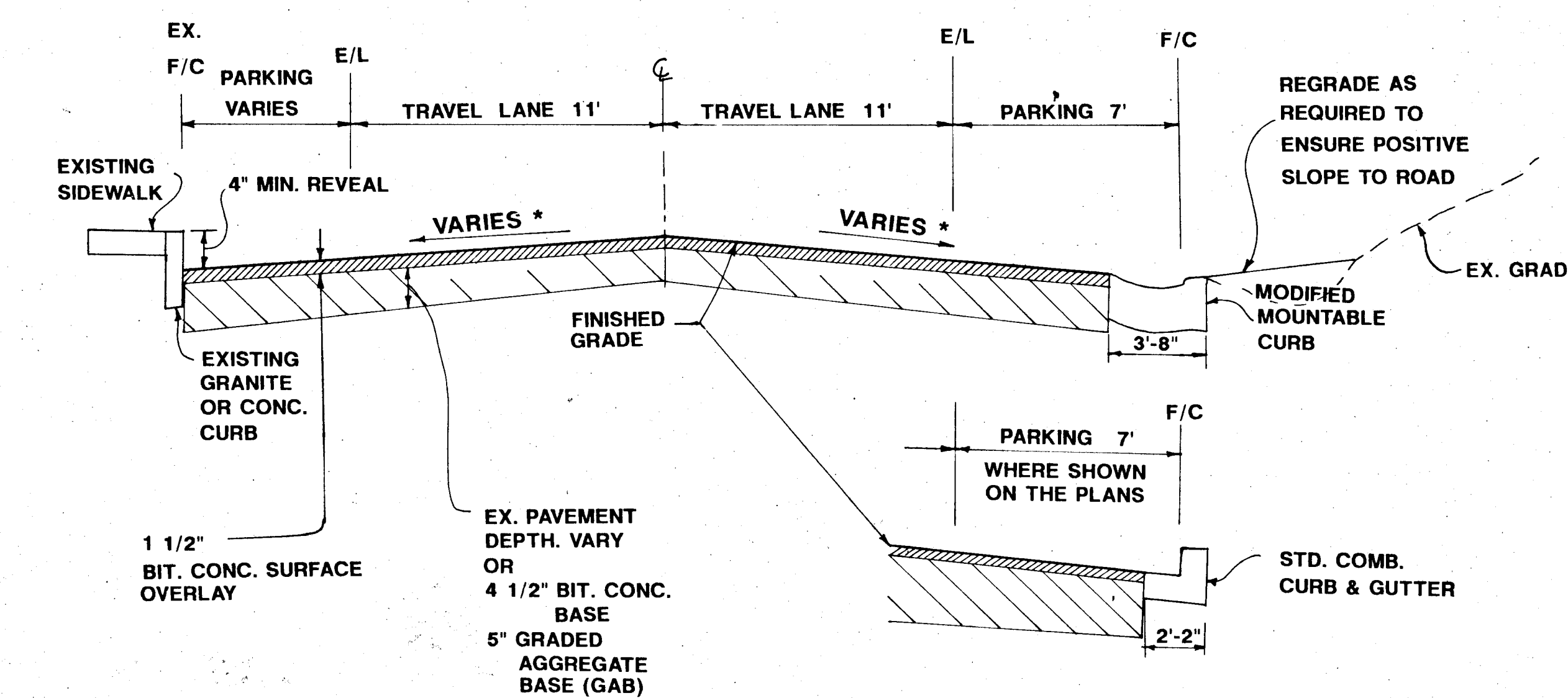
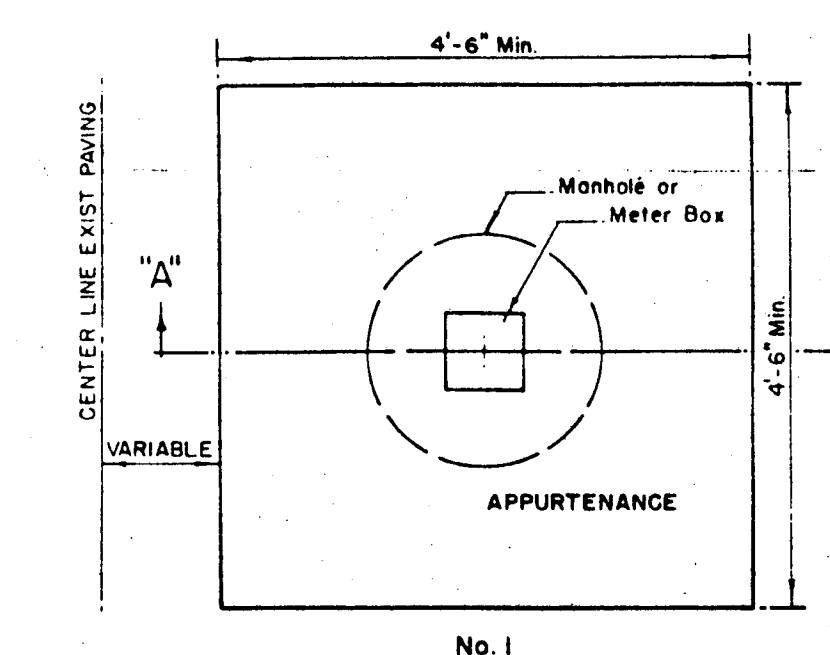
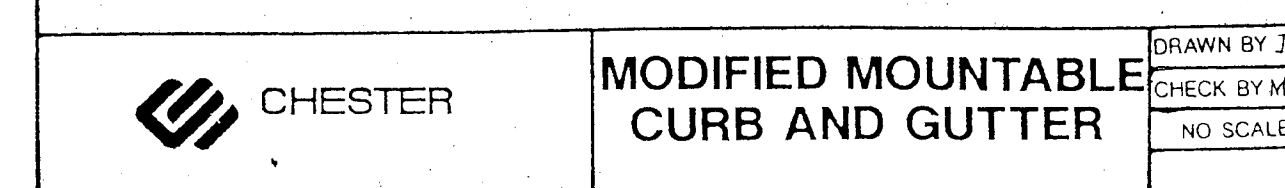
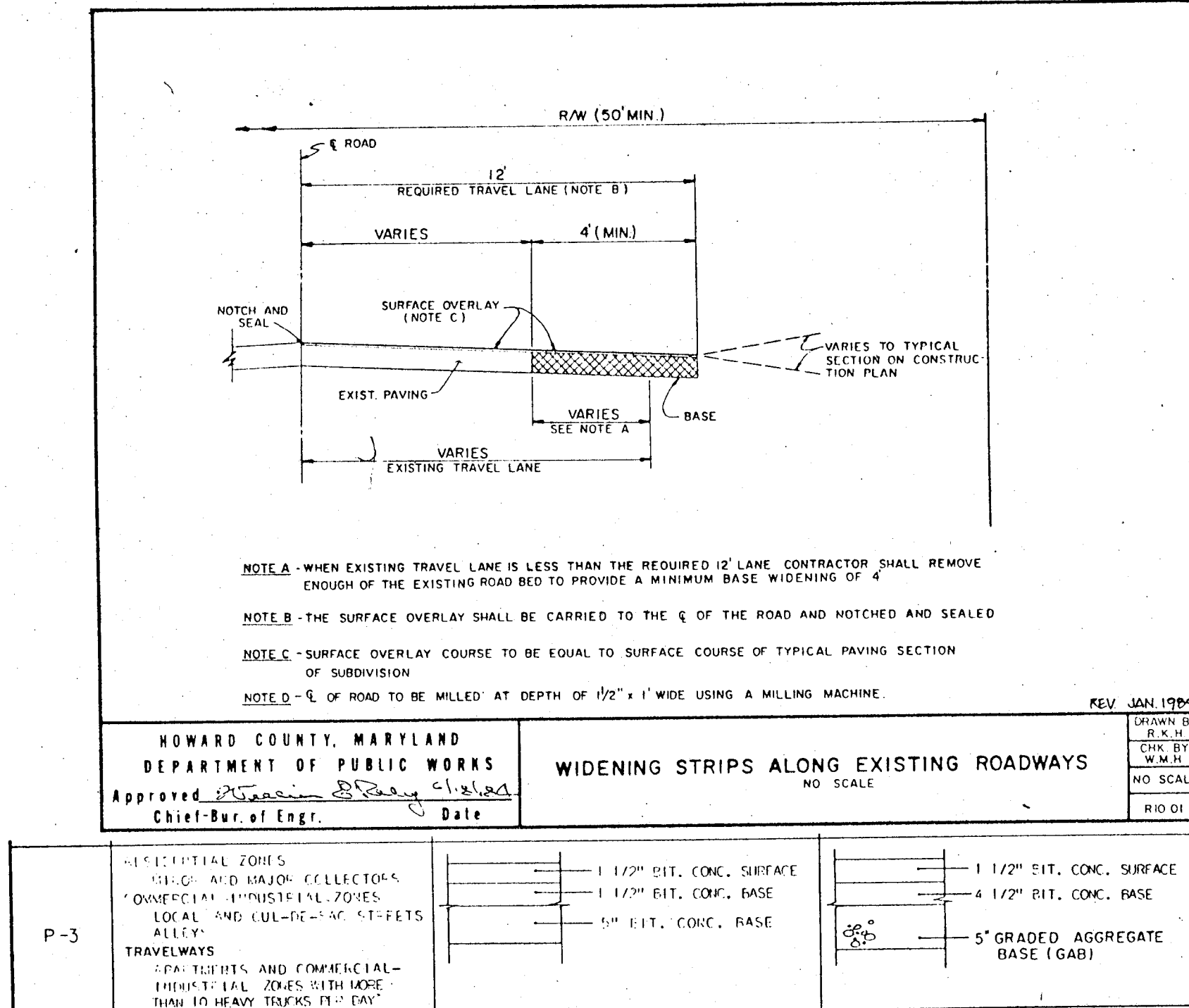
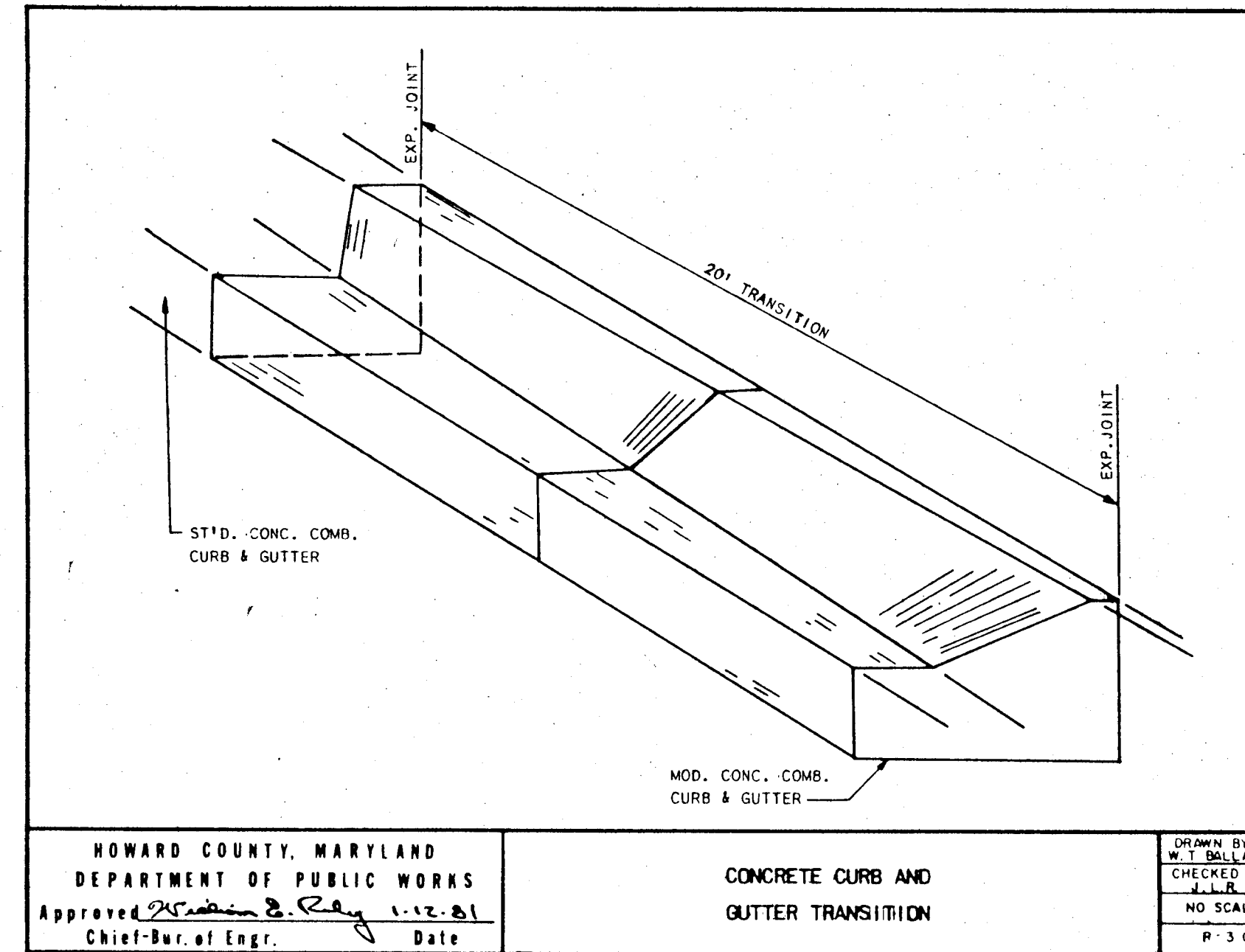
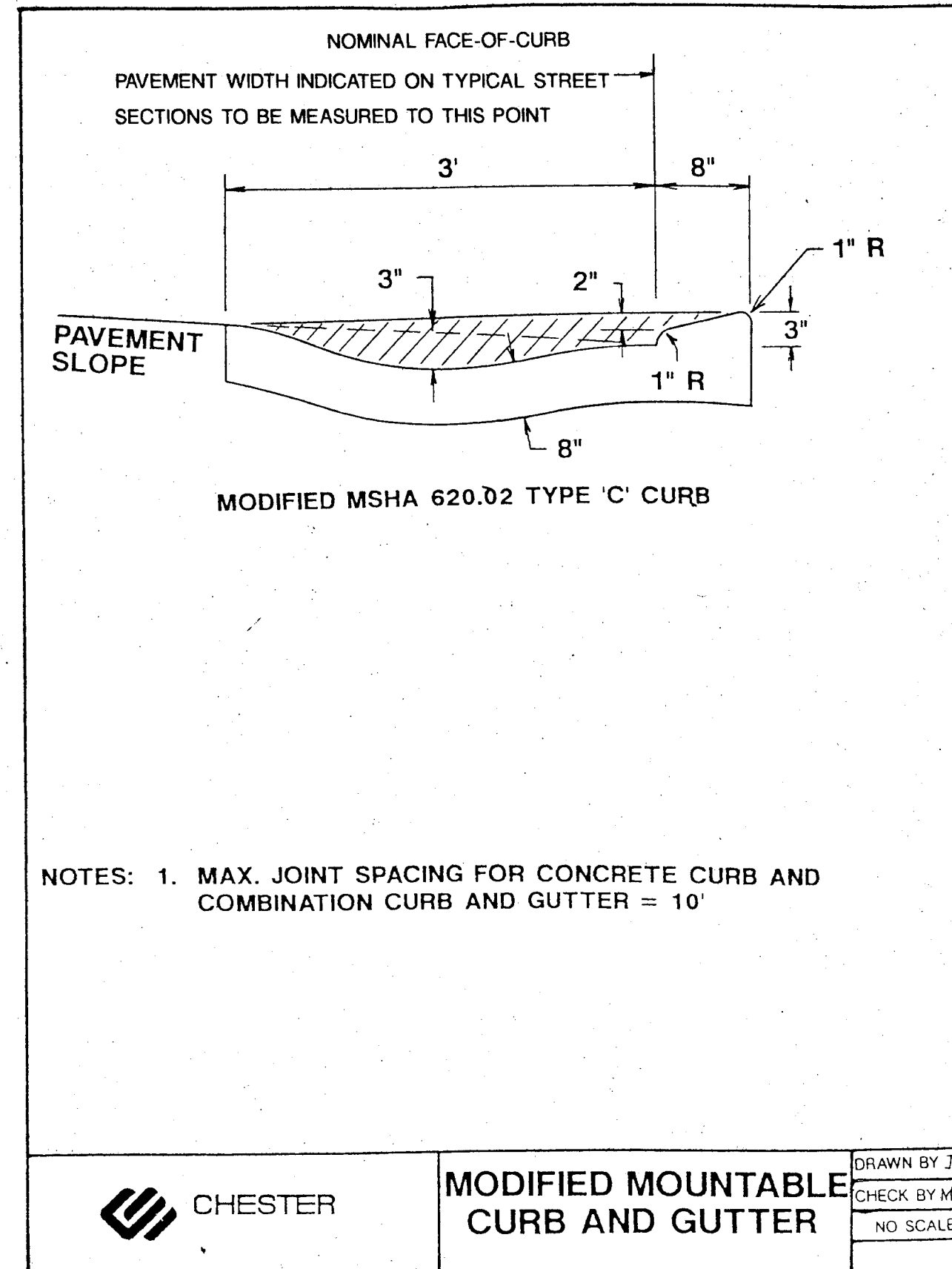
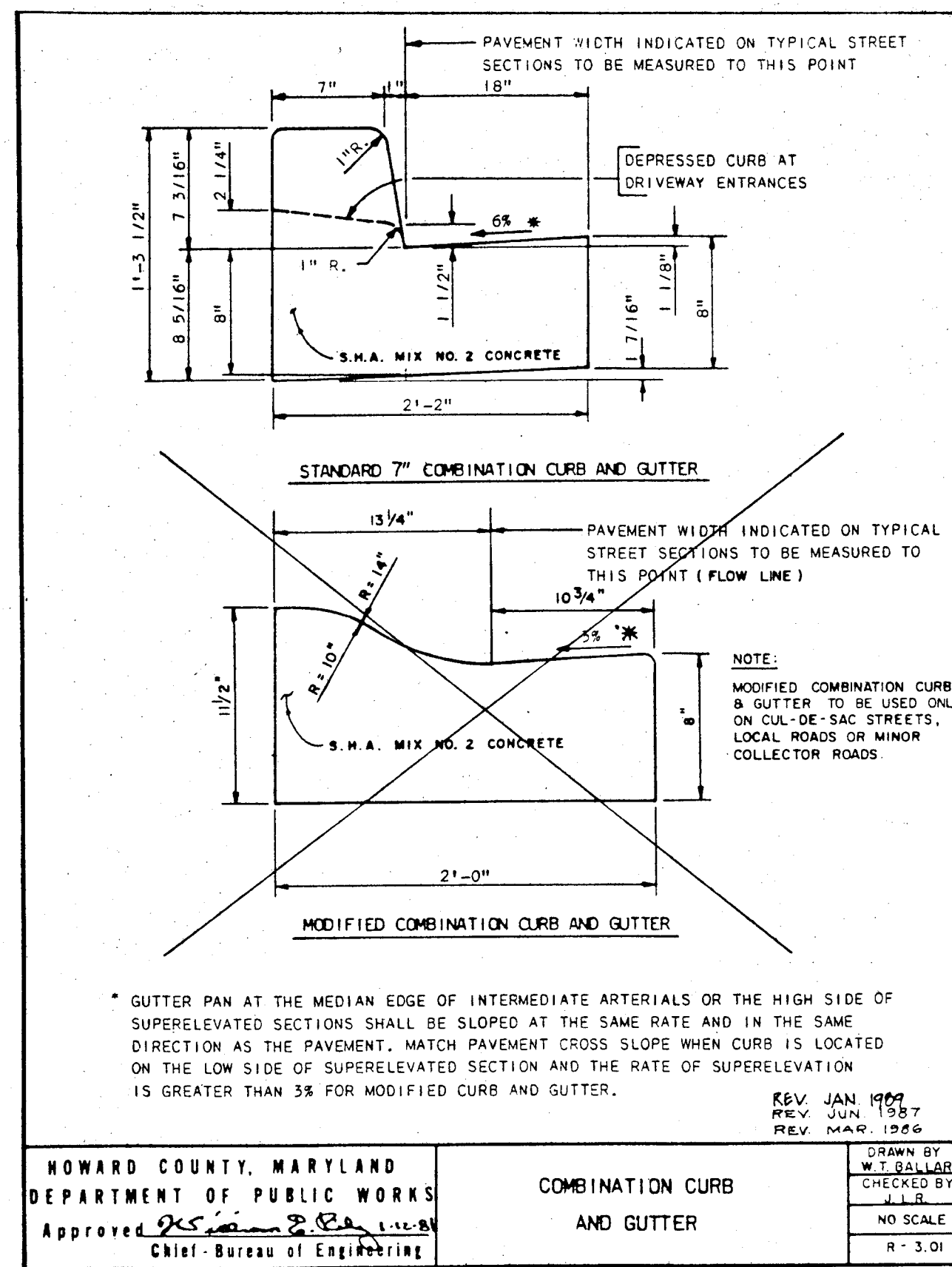
W. MAIN STREET-ELLCOTT CITY STORM DRAINAGE IMPROVEMENTS

HOWARD COUNTY, MARYLAND  
 CAPITAL PROJECT D-1083

SCALE  
 1"=20'H  
 1"=2'V

SHEET  
 9 OF 24.



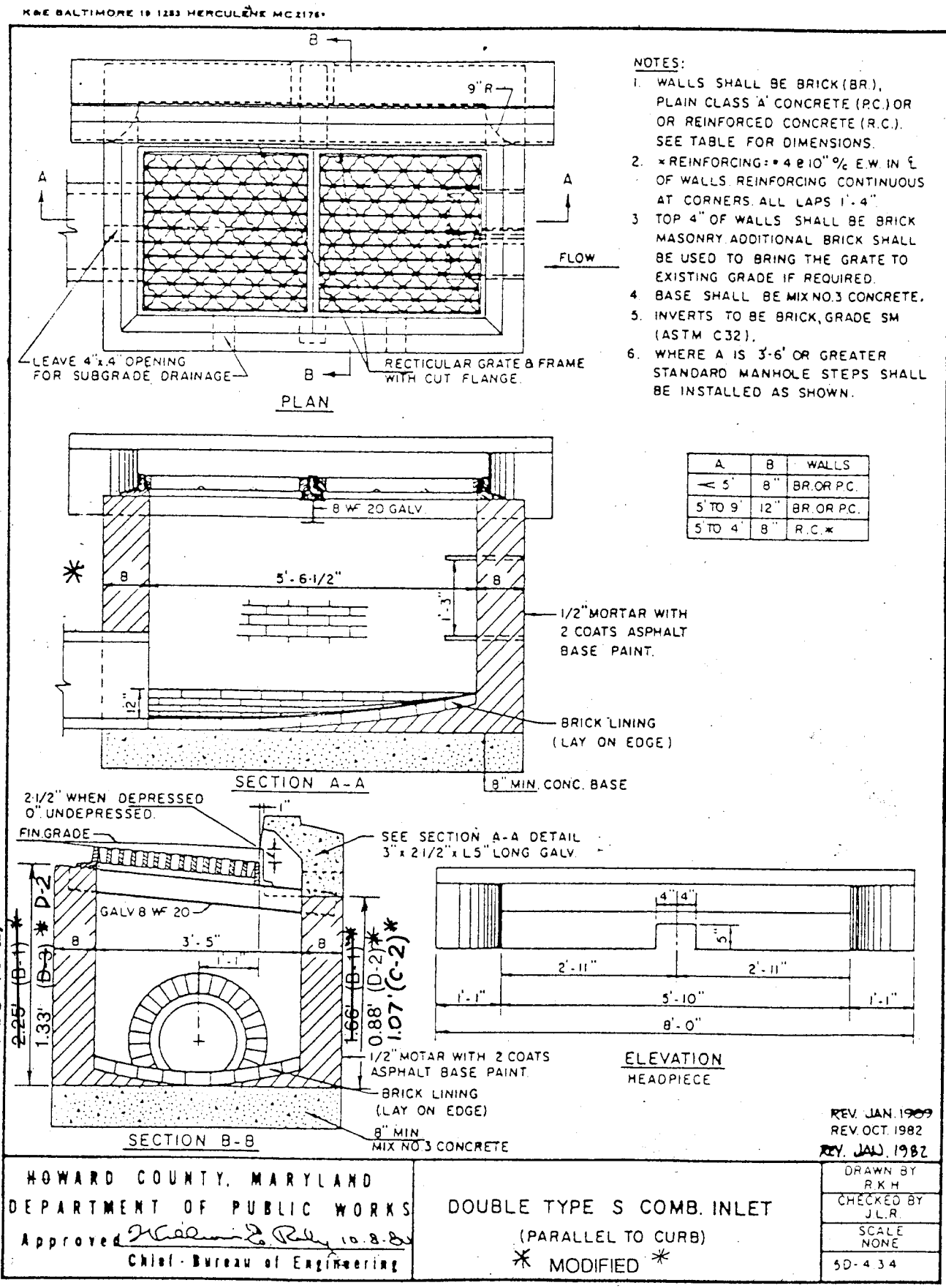
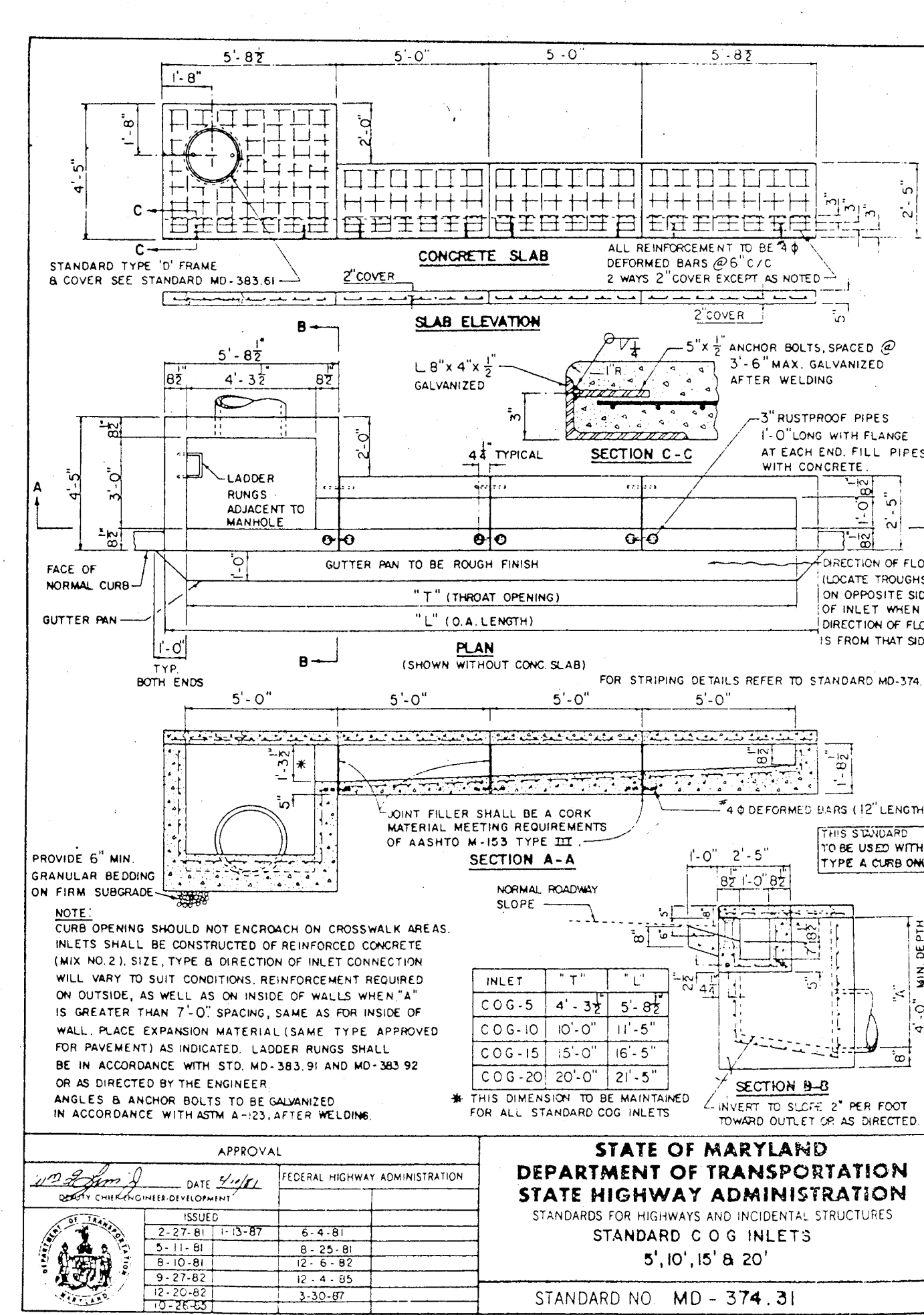
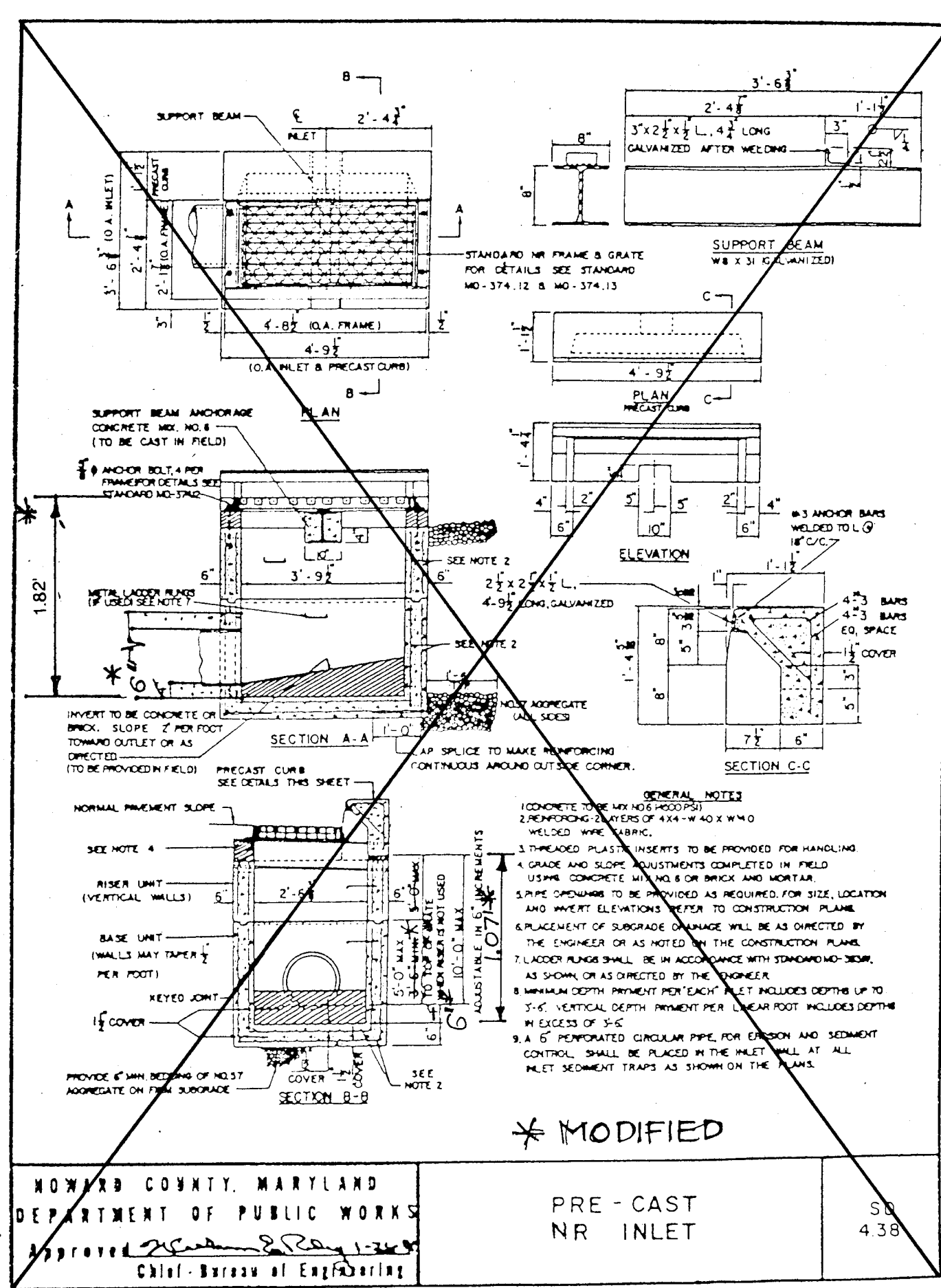
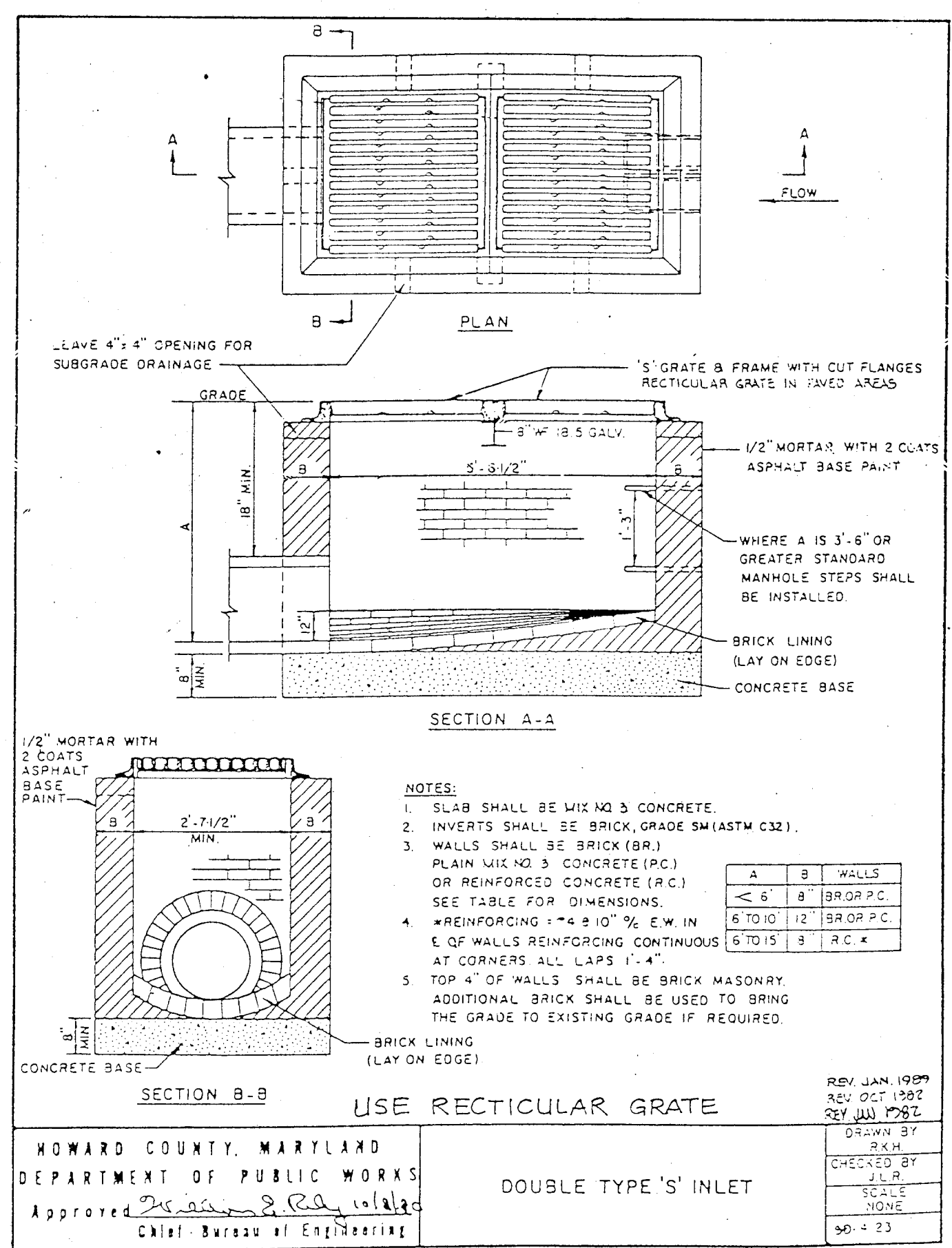
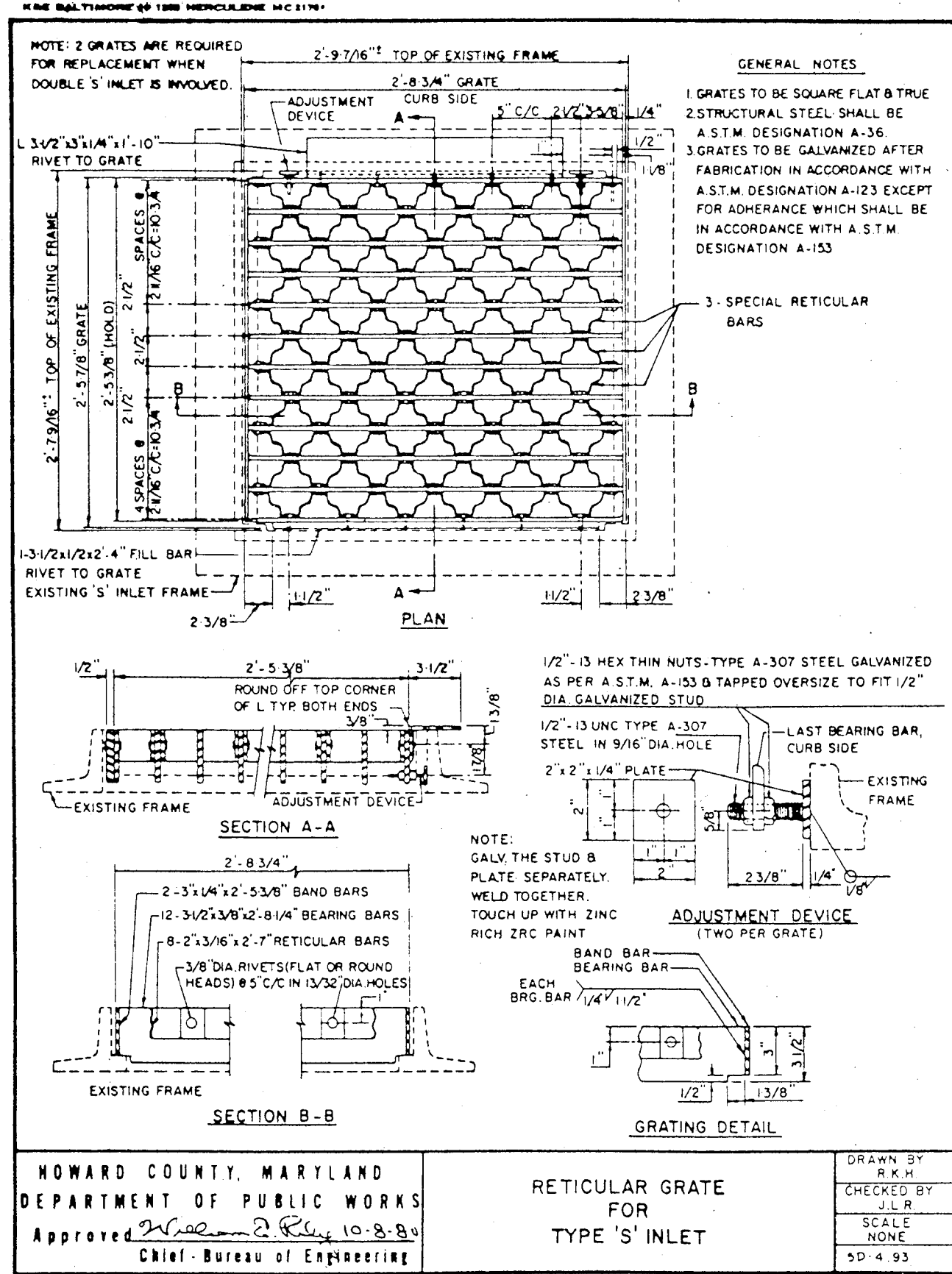


**W. MAIN STREET TYPICAL SECTIONS**  
NO SCALE

Dwg: A15182-01 (A)000 SUBMITTEND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>[Signature]</i> 5/5/98 DIRECTOR OF PUBLIC WORKS <i>[Signature]</i> 4/21/98 CHIEF, BUREAU OF ENGINEERING <i>[Signature]</i> 4/21/98 CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION		CHESTER ENGINEERS	DES: EUA DRN: EUA CHK: REH DATE: 03/98	STANDARD DETAILS & NOTES	W. MAIN STREET-ELICOTT CITY STORM DRAINAGE IMPROVEMENTS HOWARD COUNTY, MARYLAND CAPITAL PROJECT D-1083	SCALE AS SHOWN SHEET 10 OF 24
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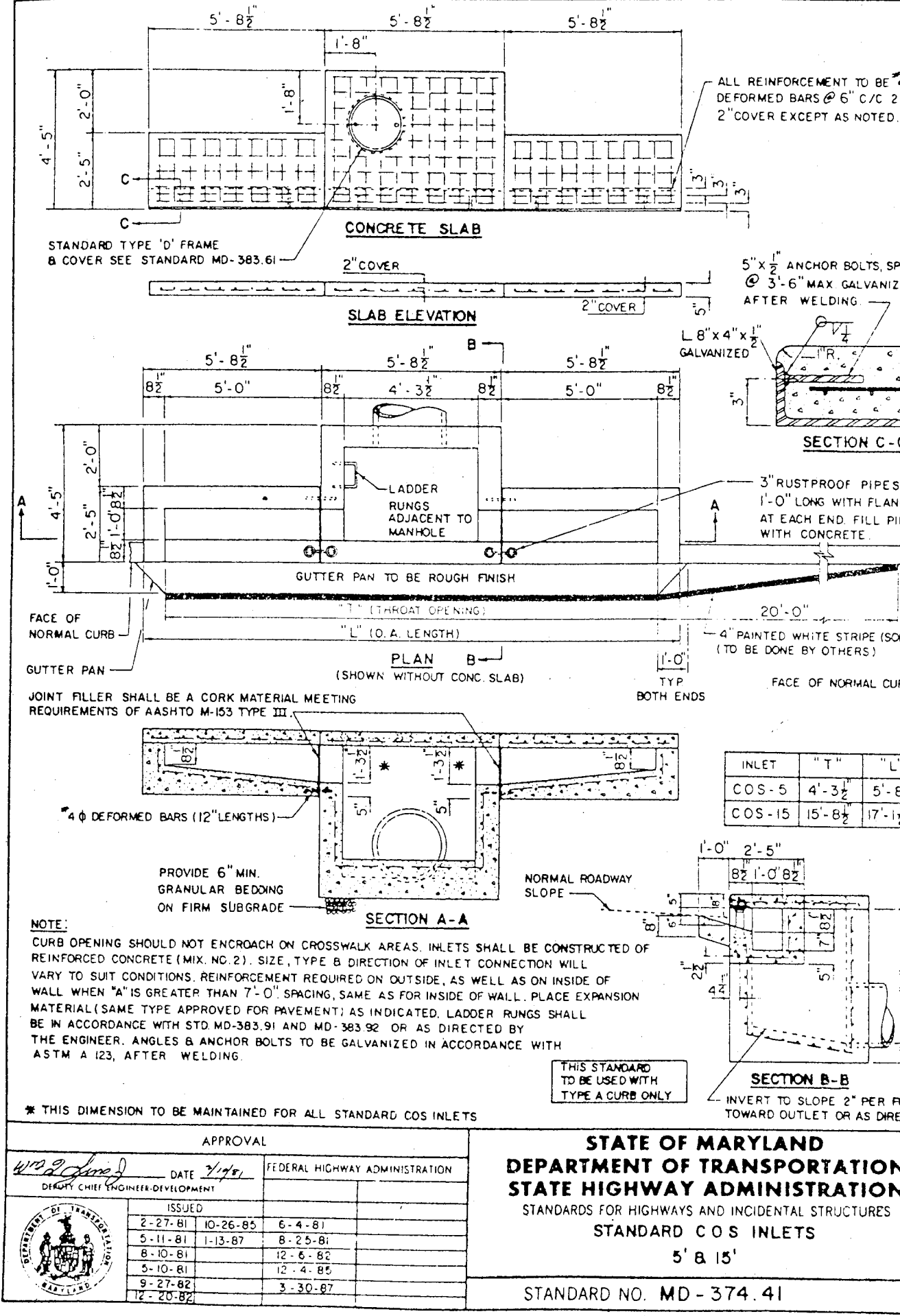
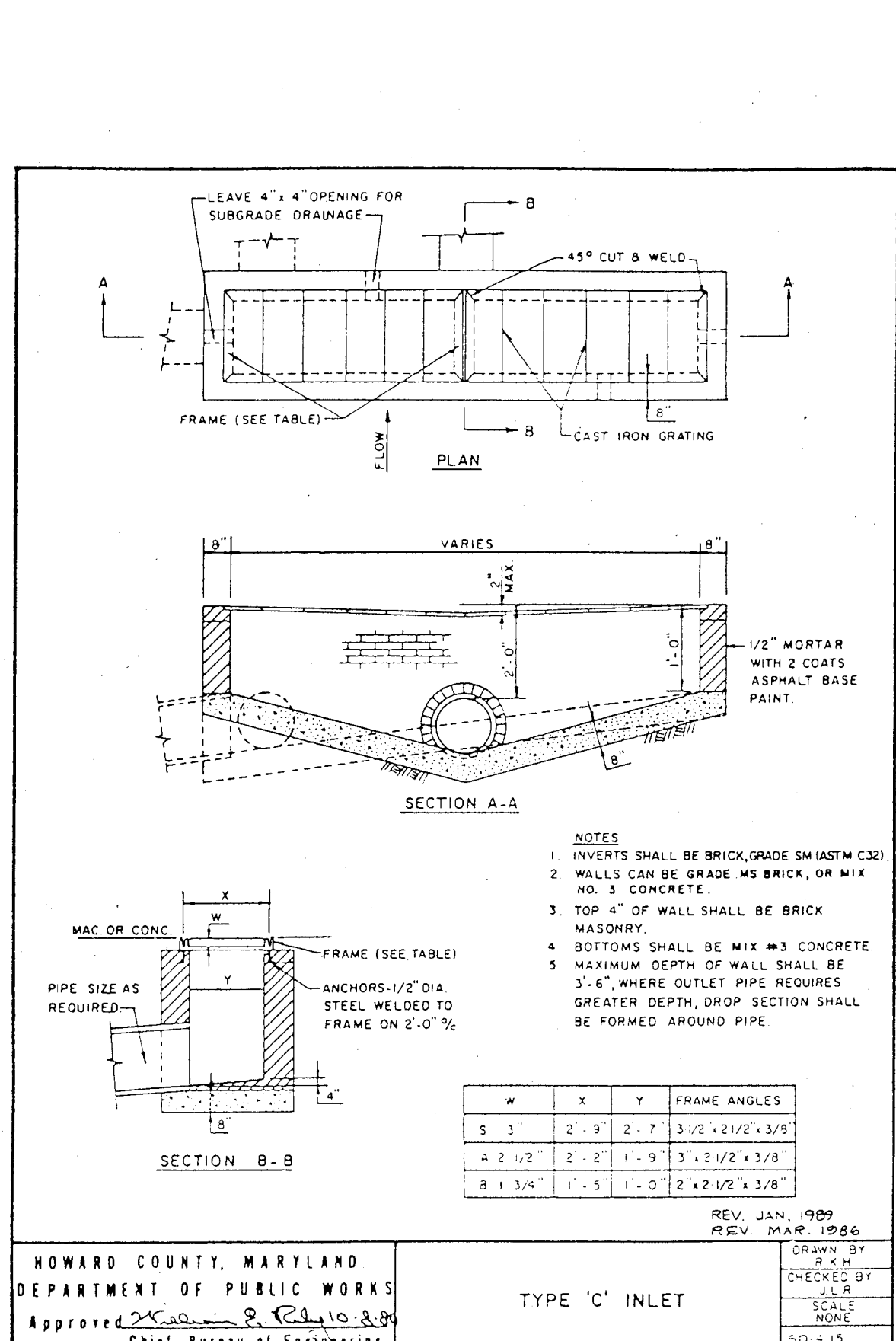
FIGURES SHOWN IN TABLE ARE MEASURED FROM INVERT OF PIPE TO GRADE

Pipe Dia.	REINFORCED CONCRETE PIPE ASTM C-76				ASBESTOS CEMENT PIPE				CLASS 1500 ASBESTOS CEMENT PIPE SHALL NOT BE USED.			
	Class I	Class II	Class III	Class IV	Class 2400	Class 3300	Class 4000	Class 5000	Class 2400	Class 3300	Class 4000	Class 5000
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
12"			4	7	3	14	3		4	9	3	28
14"			4	11	3	22	3		4	9	3	30
16"			4	12	3	23	3		5	8	4	23
18"			4	12	3	23	3		6	7	4	18
20"			4	12	3	23	3		5	12	4	15
21"			4	12	3	24	3		6	9	5	13
24"			5	13	4	25	4		6	9	5	13
27"			5	13	4	20	4		6	9	5	13
30"			5	13	4	21	4		6	9	5	13
36"	6	9	5	14	5	22	5		6	9	5	13
42"	6	9	5	14	5	21	5		6	9	5	13
48"	6	10	6	15	6	22	6		6	9	5	13
54"	6	11	6	16	6	23	6		6	9	5	13
60"	7	12	7	17	7	23	7		6	9	5	13
66"	7	13	7	17	7	24	7		6	9	5	13
72"	8	14	8	18	8	25	8		6	9	5	13

HOWARD COUNTY, MARYLAND  
 DEPARTMENT OF PUBLIC WORKS  
 Approved: *[Signature]* 10-8-92  
 Chief, Bureau of Engineering

STANDARD STORM DRAIN DETAIL PERMISSIBLE DEPTH TABLE CONCRETE AND ASBESTOS CEMENT PIPE

DRAWN BY: R.K.H.  
 CHECKED BY: J.L.B.  
 SCALE: NONE  
 SD-4-94



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*[Signature]* 5/5/98  
 DIRECTOR OF PUBLIC WORKS

*[Signature]* 4/21/98  
 CHIEF, BUREAU OF ENGINEERING

*[Signature]* 4/21/98  
 CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION

CHESTER ENGINEERS

STATE OF MARYLAND  
 RICHARD EDWARD TURLEY  
 PROFESSIONAL ENGINEER

DES: EUA  
 DRN: EUA  
 CHK: REH  
 DATE: 03/98

STANDARD DETAILS & NOTES

W. MAIN STREET-ELLCOTT CITY STORM DRAINAGE IMPROVEMENTS

HOWARD COUNTY, MARYLAND  
 CAPITAL PROJECT D-1083

SCALE AS SHOWN

SHEET 11 OF 24

REVISION

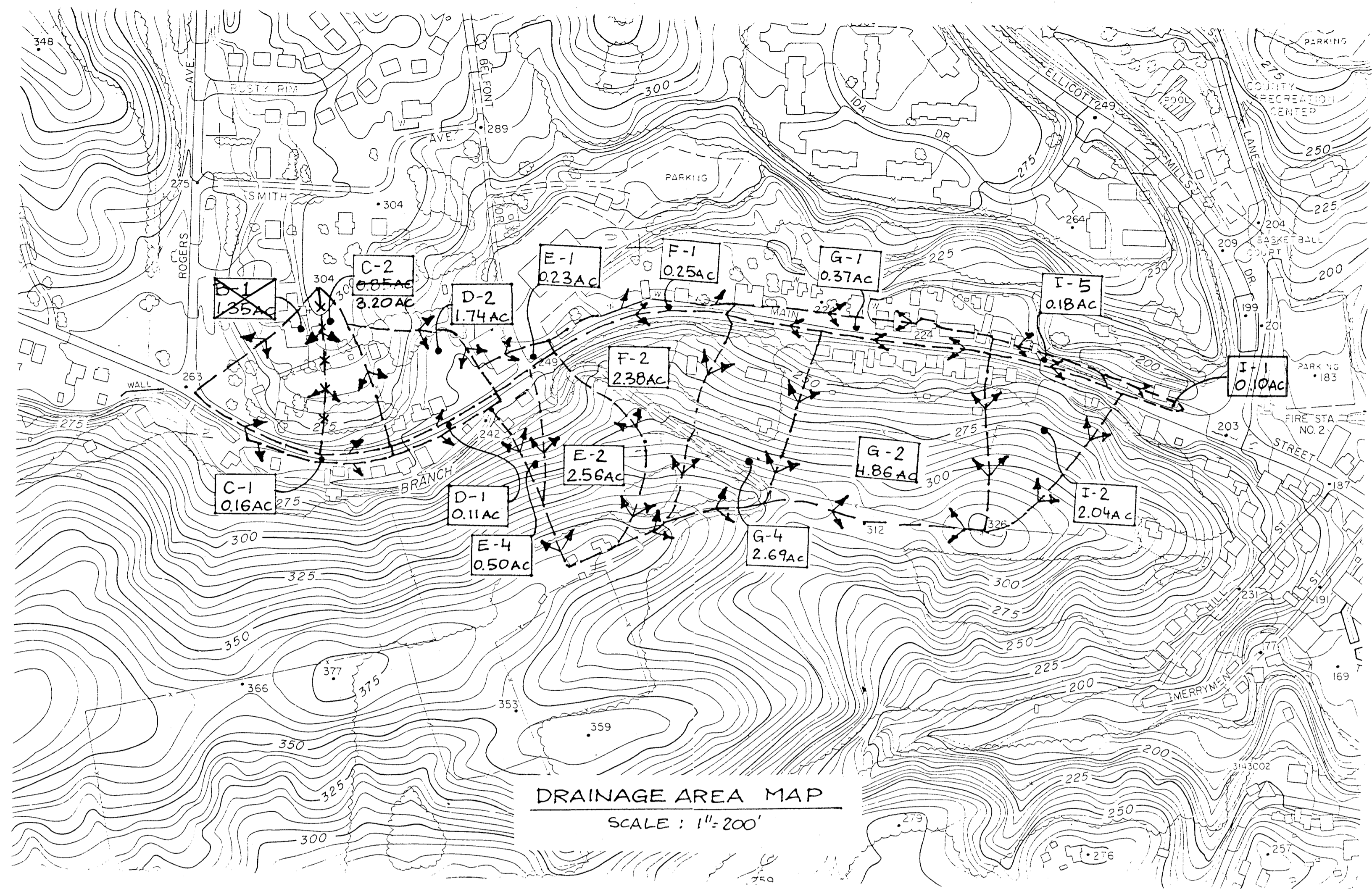
DATE: 12/21/98

600' SCALE MAP NO. 25 BLOCK NO. 7









DRAINAGE AREA MAP  
SCALE: 1" = 200'

**HOWARD SOIL CONSERVATION DISTRICT  
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/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/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/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)
2. Acceptable -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/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 -- April 30, and August 1 -- October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 -- July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 -- February 28, protect site by: Option 1 -- Two 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 30 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 slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

**Maintenance:** Inspect all seeding areas and make needed repairs, replacements and reseedings.

**TEMPORARY SEEDING NOTES**

Apply to graded or cleared areas likely to be re-disturbed 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/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.)

**Seeding:** -- For periods March 1 -- April 30 and from August 15 -- October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 -- August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 -- February 28, protect site by applying 2 tons/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/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, 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 slope 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 addition rates and methods not covered.

**HOWARD SOIL CONSERVATION DISTRICT  
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 (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 most current 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 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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for 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 the Howard County Sediment Control Inspector.
7. Site Analysis:
 

Total Area of Site	3.60 Acres
Area Disturbed	2.80 Acres
Area to be roofed or paved	2.15 Acres
Area to be vegetatively stabilized	0.80 Acres
Total Cut	600 Cu. Yds.
Total Fill	500 Cu. Yds.
Offsite waste/borrow area location	LANDFILL
* ALL PAVED AREAS ARE EXISTING PAVEMENT OVERLAY.	
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 shall be back-filled and stabilized within one working day, whichever is shorter.

REV 6/94

**SEQUENCE OF CONSTRUCTION**

1. Prior to commencement of any site work, contractor to conduct a preconstruction meeting with the Department of Inspections, Licenses and Permits inspector to review sediment and erosion control procedures.
2. Install silt fence and inlet protection at existing inlets, where shown on the plan.
3. Install Maintenance of Traffic Control devices and detour signs.
4. Install storm drain system. Trench excavation must be in accordance with Standard Sediment Control Note #11 for trench length limits. Place excavated material on the upgrade side of trench. Place inlet protection around inlets indicated on the plans as they are constructed. Install riprap outlet protection at outlets. The individual storm drain system shall be constructed as units unless prevented by Traffic Control Plan phasing.
5. Mill existing pavement to the elevations of 1.5" minimum below proposed finished grade, as shown on the sections.
6. Remove existing pavement to elevation 11-inches below proposed finished grade in the locations indicated on the plans and sections. Stabilize any disturbed earth areas within pavement with subbase stone material to prevent sediment runoff to unprotected inlets.
7. Install curb and gutter and mounted curb as per plans.
8. Place graded aggregate base course and bituminous base course in the location of pavement removal. Top elevations of the course to match with milled elevations of adjoining pavement. Adjust inlet protection as necessary.
9. Place bituminous surface course as continuous overlay.
10. Install pavement markings and permanent parking signs.

Stabilized and permission is granted from the Sediment Control Inspector, to proceed with construction of the remaining disturbed areas.

**CERTIFICATIONS**

By the Developer:  
"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."

Signature of Developer \_\_\_\_\_ Date \_\_\_\_\_  
Print name below signature

By the Engineer:  
"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 Soil Conservation District."

Signature of Engineer \_\_\_\_\_ Date \_\_\_\_\_  
Print name below signature

Reviewed for HOWARD SCD and meets Technical Requirements.  
*Clayton Simmons* 5/17/98  
USDA-Natural Resources Conservation Service Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT  
*John R. Robertson* 5/17/98  
Howard SCD Date

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. Blum* 5/5/98  
DIRECTOR OF PUBLIC WORKS DATE

*Richard J. Brown* 4/21/98  
CHIEF, BUREAU OF ENGINEERING DATE

*Stephen M. ...* 4/21/98  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION DATE



DES: EUA			
DRN: EUA			
CHK: REH			
DATE: 03/98	EUA	1	ELIMINATED INLET 'B-1'
	BY	NO.	REVISION
			DATE: 12/21/98

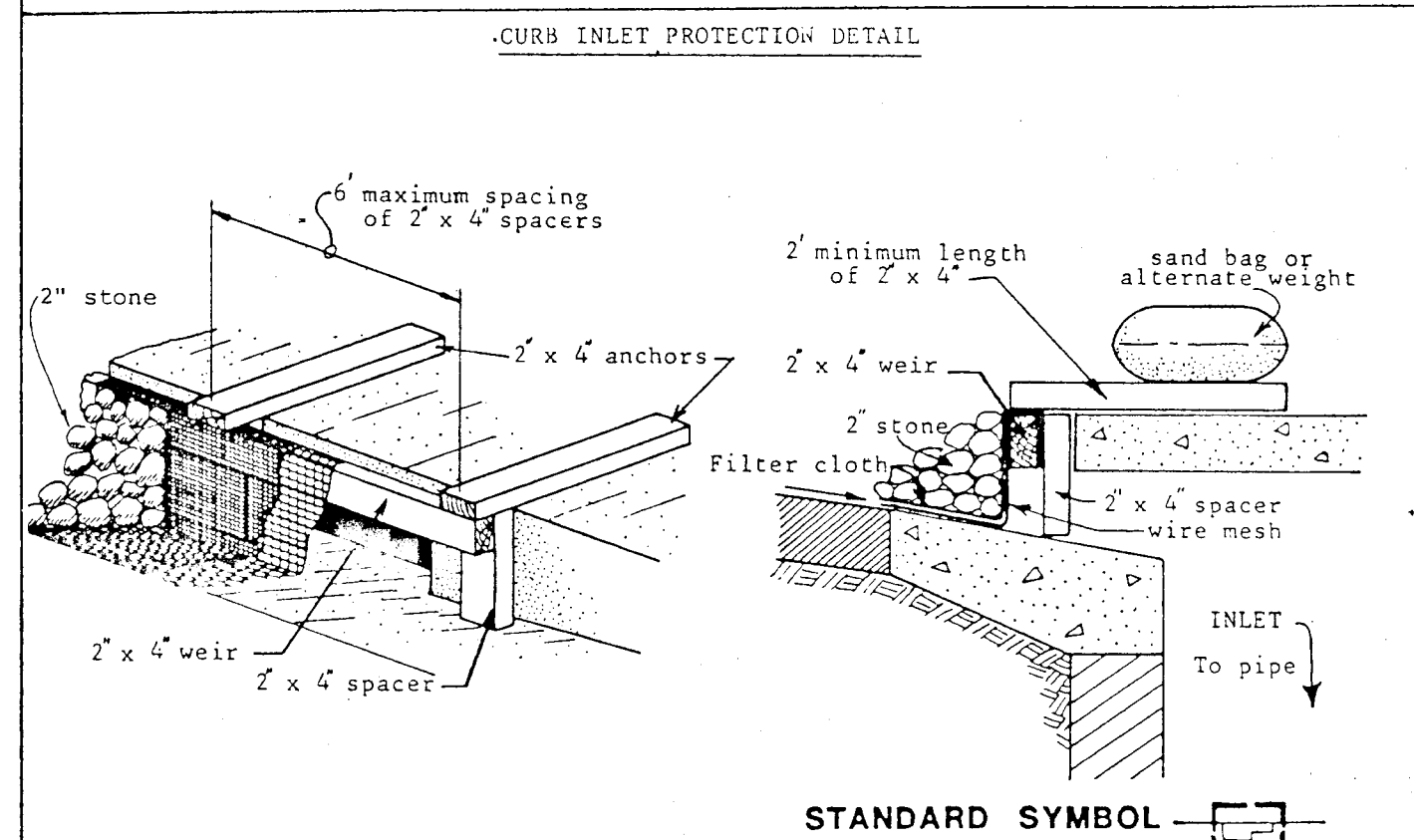
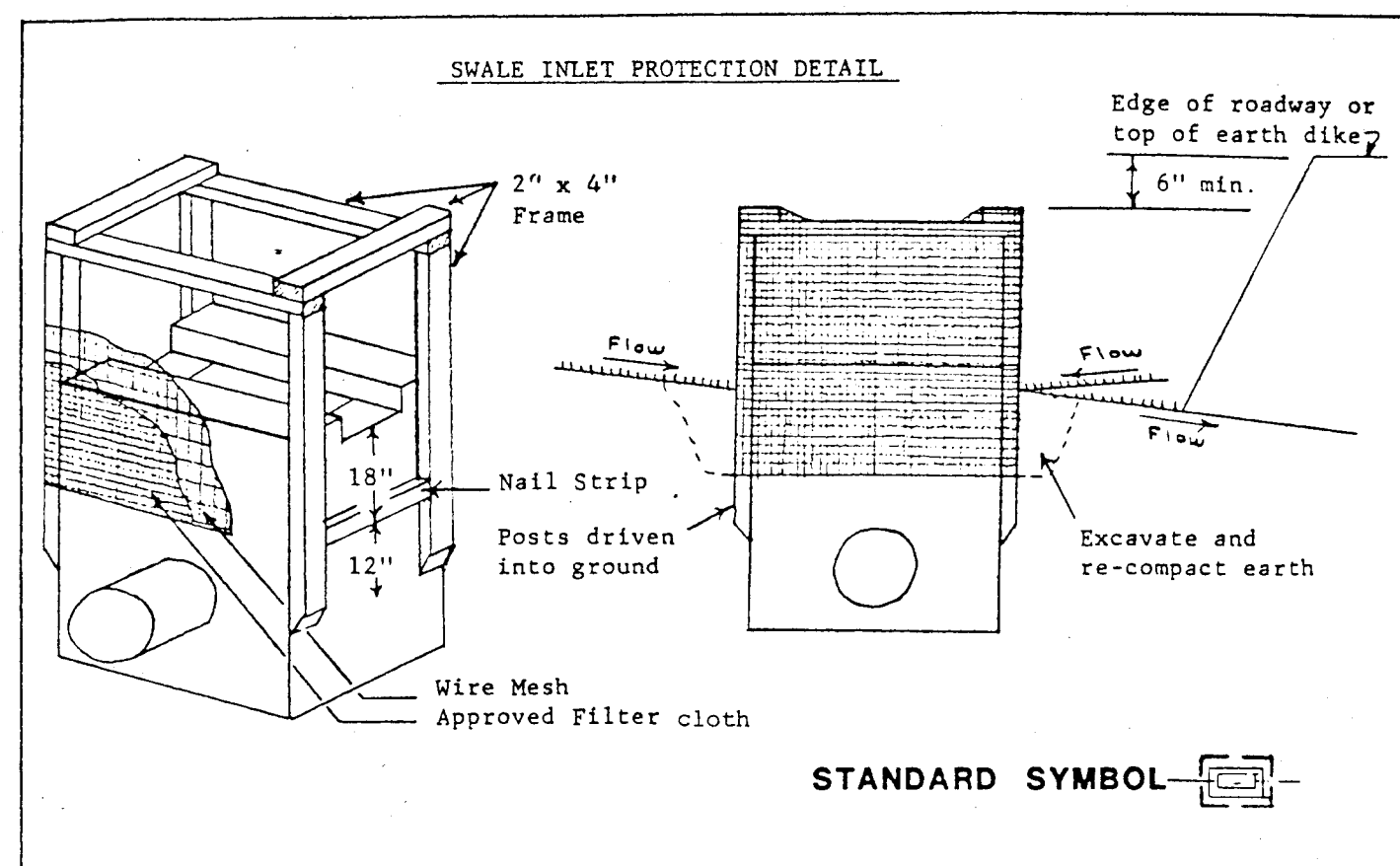
**DRAINAGE AREA MAP &  
EROSION CONTROL NOTES**

W. MAIN STREET-ELLCOTT CITY STORM DRAINAGE IMPROVEMENTS

HOWARD COUNTY, MARYLAND  
CAPITAL PROJECT D-1083

SCALE AS SHOWN  
SHEET 13 OF 24





U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
COLLEGE PARK, MARYLAND

INLET PROTECTION  
DETAIL

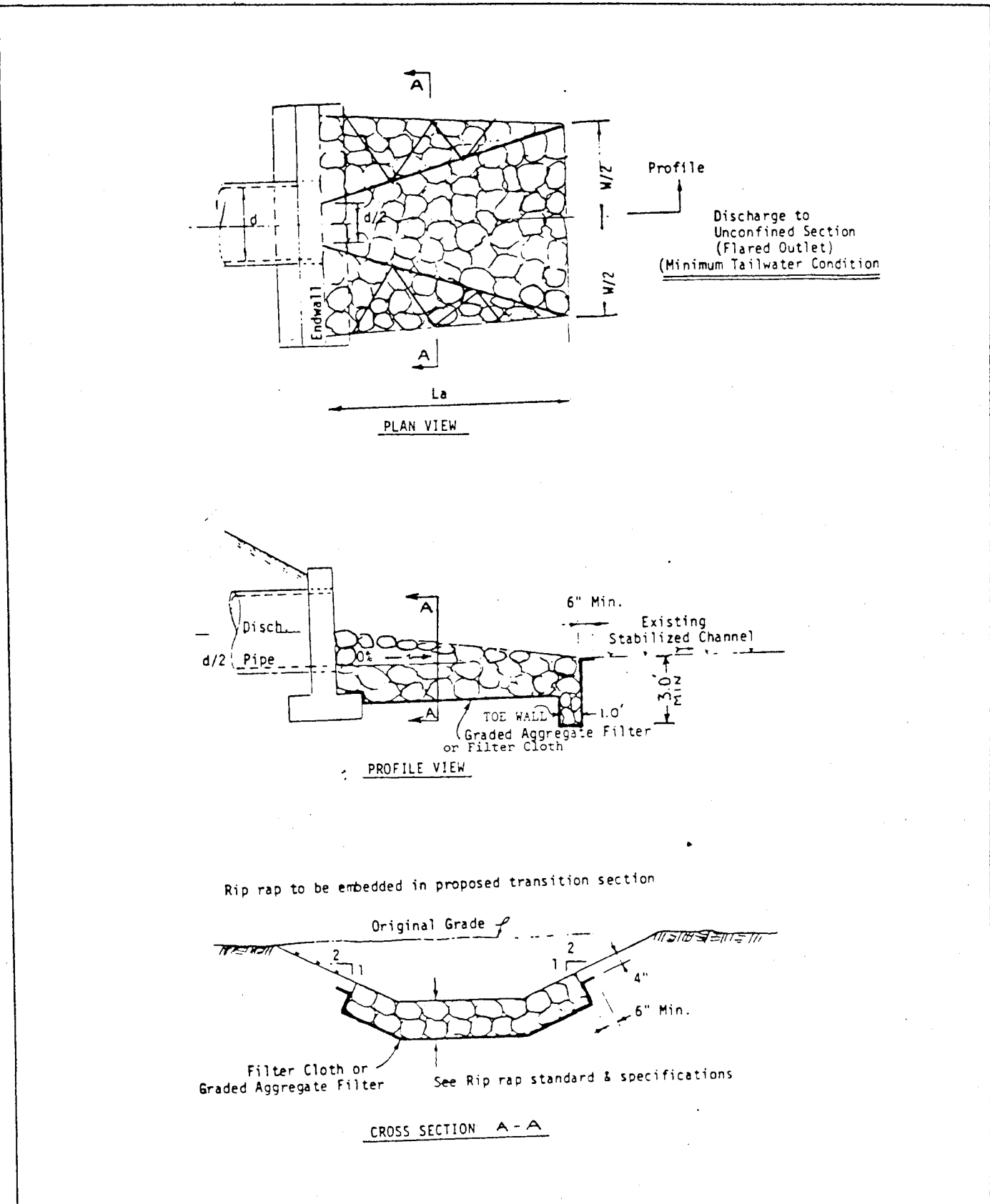
STANDARD DRAWING  
IPD-1

**Construction Specifications**

- I. Materials**
- Wooden frame is to be constructed of 2" x 4" construction grade lumber.
  - Wire mesh must be of sufficient strength to support filter fabric, and stone for curb inlets, with water fully impounded against it.
  - Filter cloth must be of a type approved for this purpose; resistant to sunlight with sieve size, EOS, 40-85, to allow sufficient passage of water and removal of sediment.
  - Stone is to be 2" in size and clean, since fines would clog the cloth.

- II. Procedure**
- A swale, ditchline or yard inlet protection.
    - Excavate completely around inlet to a depth of 18" below notch elevation.
    - Drive 2 x 4 post 1' into ground at four corners of inlet. Place nail strips between posts on ends of inlet. Assemble top portion of 2 x 4 frame using overlap joint shown. Top of frame (weir) must be 6" below edge of roadway adjacent to inlet.
    - Stretch wire mesh tightly around frame and fasten securely. Ends must meet at post.
    - Stretch filter cloth tightly over wire mesh, the cloth must extend from top of frame to 18" below inlet notch elev. Fasten securely to frame. Ends must meet at post, be overlapped and folded, then fastened down.
    - Backfill around inlet in compacted 6" layers until layer of earth is even with notch elevation on ends and top elevation on sides.
    - If the inlet is not in a low point, construct a compacted earth dike in the ditchline below it. The top of this dike is to be at least 6" higher than the top of frame (weir).
    - This structure must be inspected frequently and the filter fabric replaced when clogged.

- Curb Inlet Protection.**
  - Attach a continuous piece of wire mesh (30" min. width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
  - Place a piece of approved filter cloth (40-85 sieve) of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2" x 4" weir.
  - Securely nail the 2" x 4" weir to 9" long vertical spacers to be located between the weir and inlet face (max. 6' apart).
  - Place the assembly against the inlet throat and nail (minimum 2" lengths of 2" x 4" to the top of the weir at spacer locations. These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
  - The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
  - Form the wire mesh and filter cloth to the concrete gutter and against the face of curb on both sides of the inlet. Place clean 2" stone over the wire mesh and filter fabric in such a manner as to prevent water from entering the inlet under or around the filter cloth.
  - This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
  - Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.



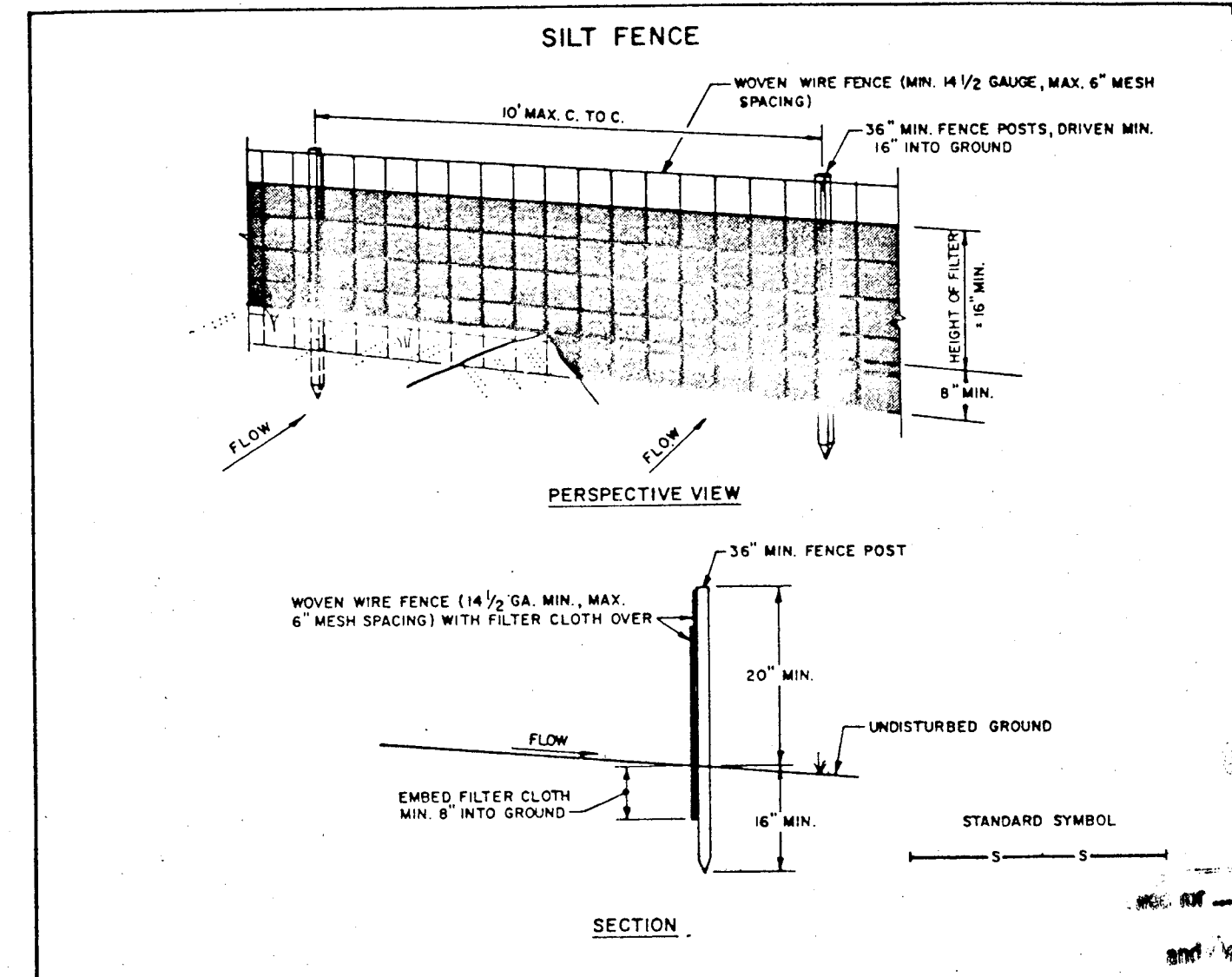
U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
COLLEGE PARK, MARYLAND

RIPRAP OUTLET  
PROTECTION-I

STANDARD DRAWING  
ROP-1

**CONSTRUCTION SPECIFICATIONS**

- The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
- Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
- Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.



**CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**

- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD

FENCE: WOVEN WIRE, 1/2 GA. 6" MAX. MESH OPENING

FILTER CLOTH: FILTER X (MIRAFIL 1000), STABILIZED LINK LINON OR APPROVED EQUAL

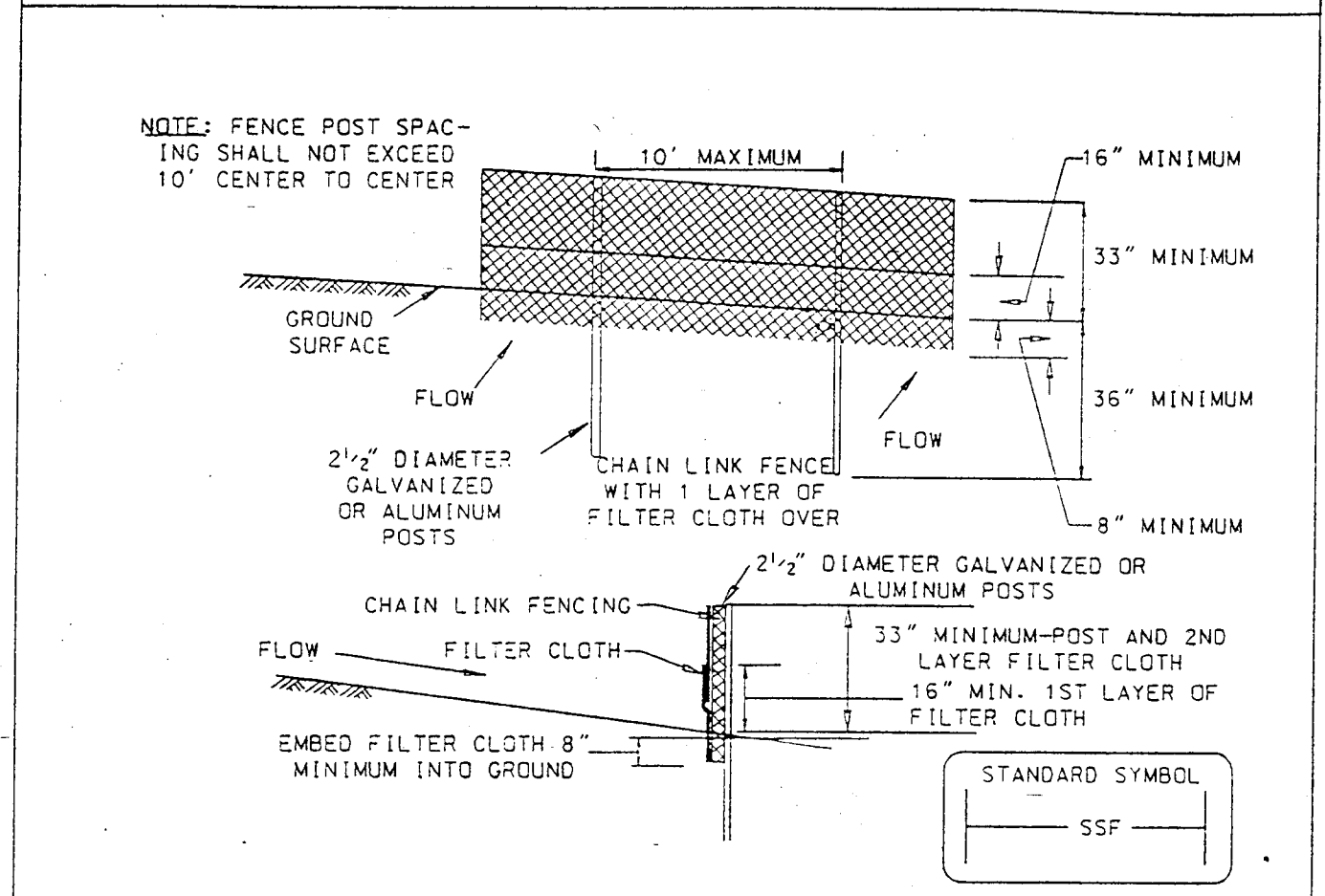
PREFABRICATED UNIT: GEOPAB, ANTIROFENCE, OR APPROVED EQUAL.

U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
COLLEGE PARK, MARYLAND

SILT FENCE

STANDARD DRAWING  
SF-1

**DETAIL 33 - SUPER SILT FENCE**



- Construction Specifications**
- Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6 foot fence shall be used, substituting 42 inch fabric and 6 foot length posts.
- The poles do not need to set in concrete.
  - Chain link fence shall be fastened securely to the fence posts with wire ties or staples.
  - Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
  - Filter cloth shall be embedded a minimum of 6" into the ground.
  - When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
  - Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence.

U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

PAGE  
H - 36 - 3

MARYLAND DEPARTMENT OF ENVIRONMENT  
WATER MANAGEMENT ADMINISTRATION

Printed Aug. 14, 1995

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>Ramon A. Shaw</i> 5/15/98 Chief, Bureau of Engineering: <i>Paul Sisson</i> 4/21/98 Chief, Bureau of Highways: <i>Charles M. ...</i> 4-27-98 Chief, Transportation Projects and Watershed Management Division: <i>Elizabeth A. ...</i> 4/21/98				DES: E.U.A. DRN: E.U.A. CHK: R.E.H. DATE: 03/98	EROSION CONTROL DETAILS AND NOTES	W. MAIN STREET-ELLCOTT CITY STORM DRAINAGE IMPROVEMENTS HOWARD COUNTY, MARYLAND CAPITAL PROJECT D-1083	SCALE AS SHOWN SHEET 14 OF 24
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Erosion Control

**LEGEND**

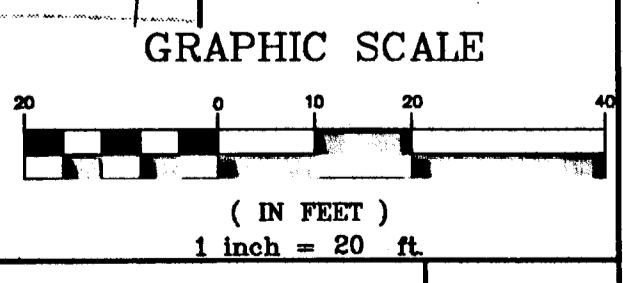
- EXISTING SPOT ELEVATION
- EXISTING CONTOURS
- EXISTING GUARD RAIL
- EXISTING WALL
- EXISTING FENCE
- EXISTING TREE
- EXISTING TREELINE
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB
- EXISTING SIDEWALK
- EX. 30" RCP
- EX. 12" S.S. @ 1.20%
- EXISTING SHC/DROP SHC
- EXISTING WATER LINE
- EXISTING WATER METER/WHC
- EXISTING WATER VALVE/FIRE HYDRANT
- EXISTING GAS VALVE/METER/GHC
- EXISTING GAS LINE
- EXISTING TELEPHONE DUCTBANK
- EXISTING OVERHEAD TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING PHONE/POWER POLE
- EXISTING SIGN
- PROPOSED FACE-OF-CURB
- PROP. 15" RCP
- PROP. STORM DRAIN STRUCTURE #
- EX. SANITARY SEW. STRUCTURE #
- RIGHT OF WAY
- TO BE REMOVED PAVEMENT CORE LOCATION
- SOIL BORING LOCATION
- TEST PIT LOCATION
- PAVEMENT TO BE REMOVED
- AREA TO BE REGRADED
- F/C
- E/L
- E/P
- CENTER LINE
- SILT FENCE / SUPER SILT FENCE
- INLET PROTECTION
- LIMIT OF DISTURBANCE

NOTIFY "MISS UTILITY" AT 1-800-257-7777 FOR UTILITY LOCATION 48 HOURS PRIOR TO ANY CONSTRUCTION OR EXCAVATION.

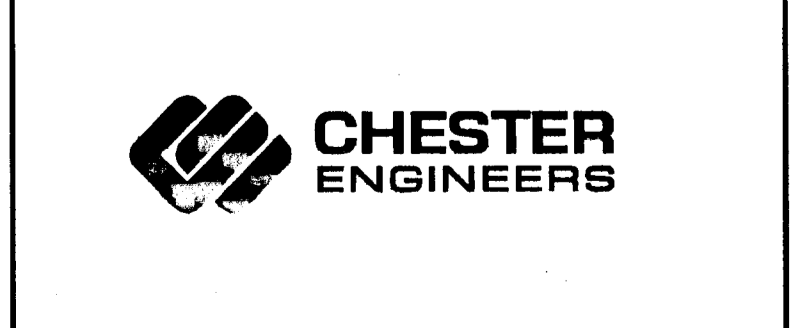


THIS DOCUMENT IS UNCONTROLLED  
 FOR THE PURPOSES OF THE PROJECT  
 DATE: 9/3/99  
 [Signature]  
 [Stamp: 9/3/99]

MATCH LINE - SEE SHEET 16 OF 24



**DEPARTMENT OF PUBLIC WORKS**  
 HOWARD COUNTY, MARYLAND  
 [Signatures and Dates]  
 DIRECTOR OF PUBLIC WORKS DATE 8/27/99  
 CHIEF, BUREAU OF ENGINEERING DATE 8/27/99  
 CHIEF, BUREAU OF HIGHWAYS DATE 8/27/99  
 CHIEF, DIVISION OF ROADS DATE 8/26/99  
 BRIDGES & STORM DRAINAGE



DES:	EUA			
DRN:	EUA			
CHK:	REH			
DATE:	07/97			
EUA	1	ELIMINATED SD OUTFALL	12.18.98	
BY	NO.	REVISION	DATE	

**EROSION CONTROL**  
**PLAN SHEET #1 OF 5**  
 600' SCALE MAP NO. 25 BLOCK NO. 7

W. MAIN STREET-ELLCOTT CITY STORM DRAINAGE IMPROVEMENTS  
 HOWARD COUNTY, MARYLAND  
 CAPITAL PROJECT D-1083

SCALE 1"=20'  
 SHEET 15 OF 24

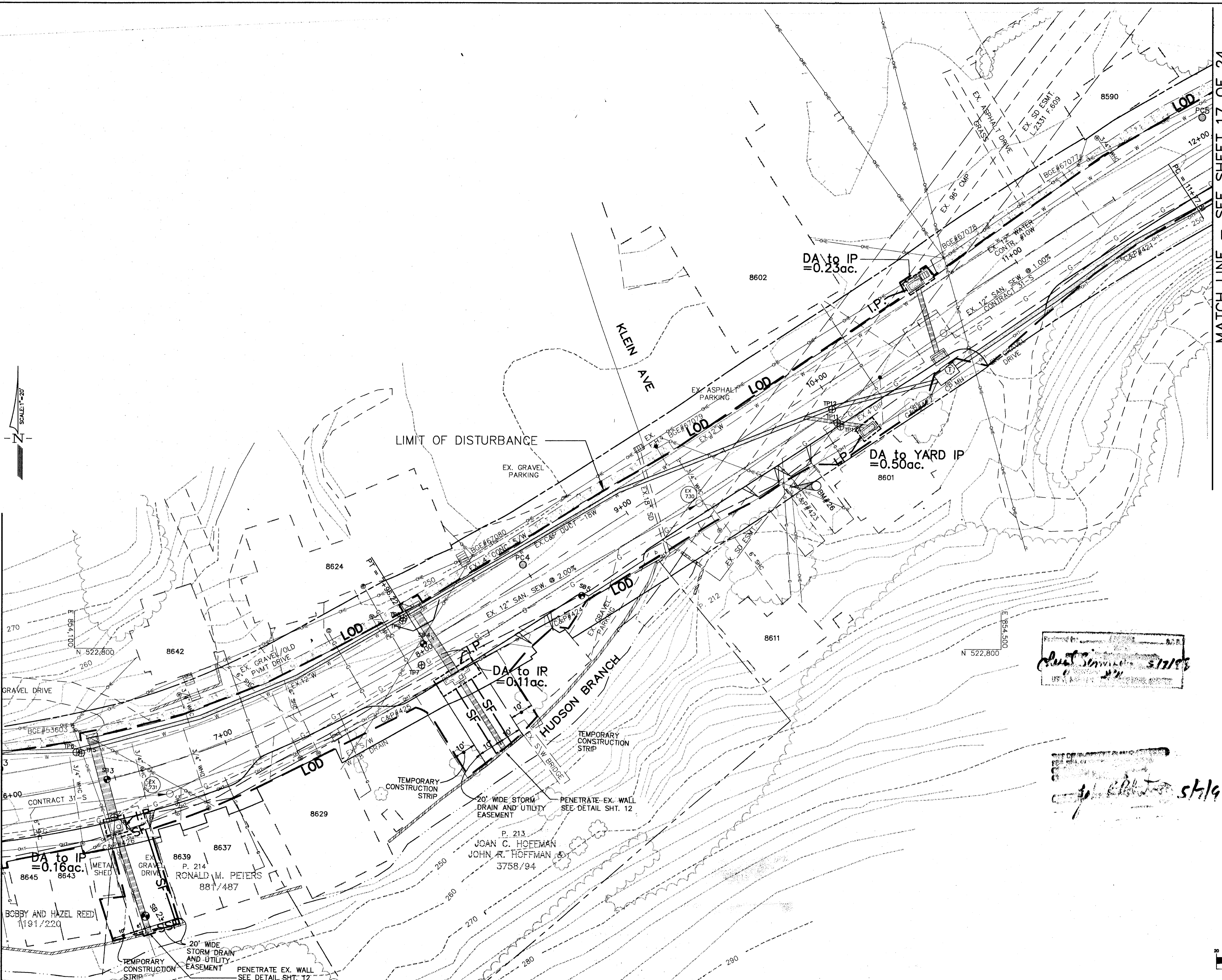


**LEGEND**

- EXISTING SPOT ELEVATION
- EXISTING CONTOURS
- EXISTING GUARD RAIL
- EXISTING WALL
- EXISTING FENCE
- EXISTING TREE
- EXISTING TREELINE
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB
- EXISTING SIDEWALK
- EX. 30" RCP
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- EXISTING SHC/DROP SHC
- EXISTING WATER LINE
- EXISTING WATER METER/WHC
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- EXISTING OVERHEAD TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING PHONE/POWER POLE
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- PROPOSED FACE-OF-CURB
- PROPOSED STORM DRAIN
- PROP. STORM DRAIN STRUCTURE #
- EX. SANITARY SEW. STRUCTURE #
- T.B.R. PC 2 TO BE REMOVED
- SB 3 PAVEMENT CORE LOCATION
- TP 6 SOIL BORING LOCATION
- TP 6 TEST PIT LOCATION
- PAVEMENT TO BE REMOVED
- AREA TO BE REGRADED
- F/C FACE OF CURB
- E/L EDGE OF LANE
- E/P EDGE OF PAVEMENT
- C CENTER LINE
- SF SSF SILT FENCE / SUPER SILT FENCE
- IP INLET PROTECTION
- LOD LIMIT OF DISTURBANCE

NOTIFY "MISS UTILITY" AT 1-800-257-7777 FOR UTILITY LOCATION 48 HOURS PRIOR TO ANY CONSTRUCTION OR EXCAVATION.

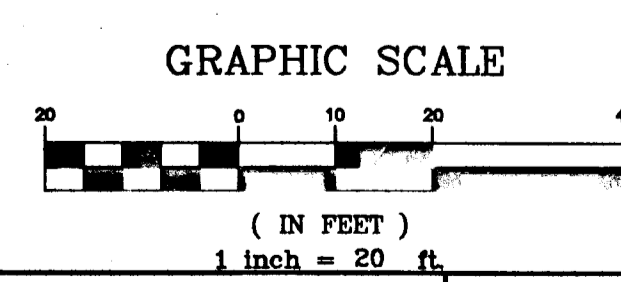
MATCH LINE - SEE SHEET 15 OF 24



MATCH LINE - SEE SHEET 17 OF 24

Checked by: *[Signature]* 5/17/98  
 US & MARYLAND ENGINEERS

*[Handwritten signature]* 5/17/98



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*[Signature]* 5.5.98  
 DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 4/21/98  
 CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 4-27-98  
 CHIEF, BUREAU OF HIGHWAYS DATE

*[Signature]* 4/21/98  
 CHIEF, DIVISION OF ROADS  
 BRIDGES & STORM DRAINAGE DATE



DES: EUA					
DRN: EUA					
CHK: REH					
DATE: 07/97					
BY	NO.	REVISION	DATE	600' SCALE MAP NO.	25
				BLOCK NO.	7

**EROSION CONTROL**  
**PLAN SHEET #2 OF 5**

W. MAIN STREET-ELLICOTT CITY STORM DRAINAGE IMPROVEMENTS

HOWARD COUNTY, MARYLAND  
 CAPITAL PROJECT D-1083

SCALE 1"=20'  
 SHEET 16 OF 24



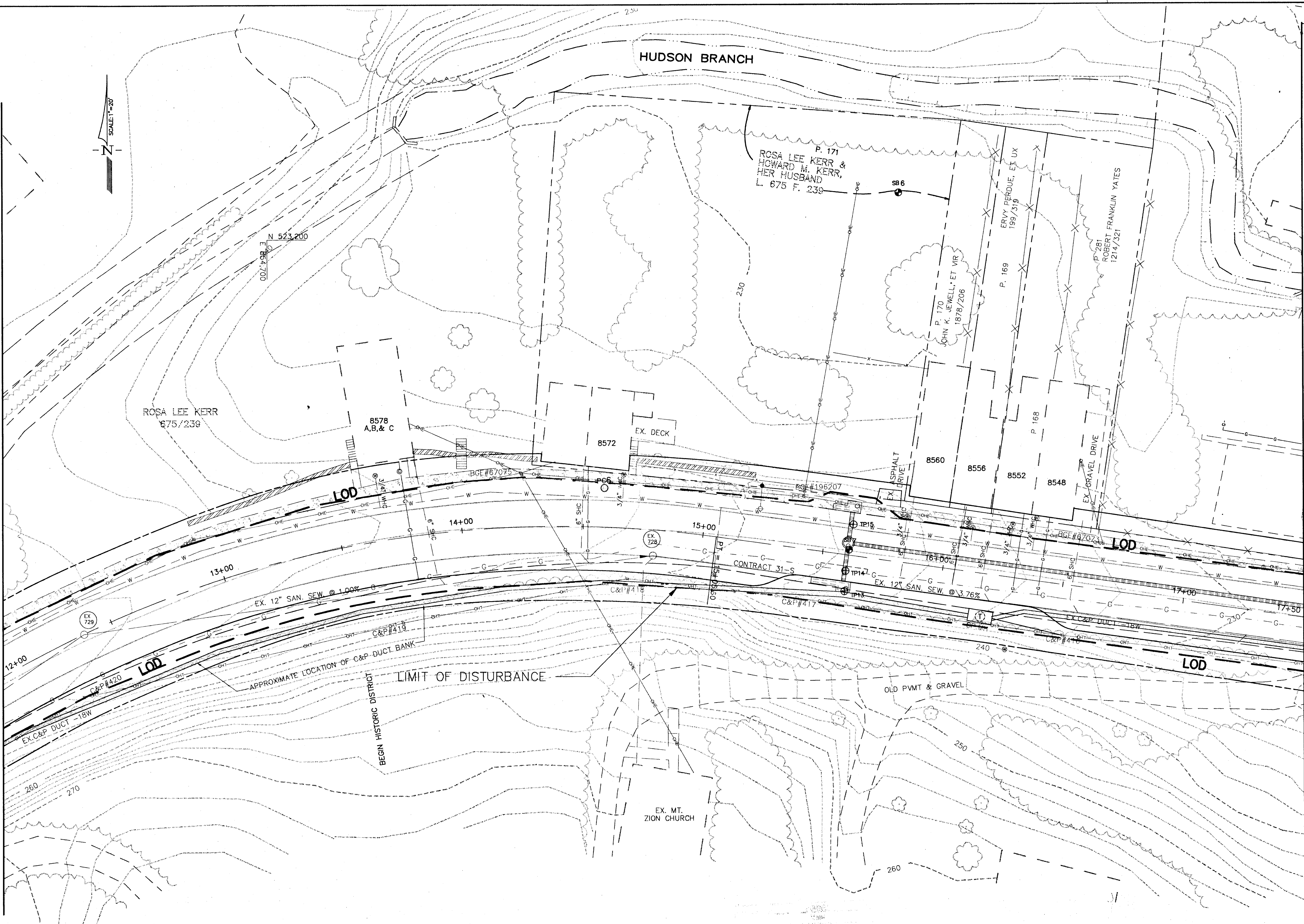
17/24  
Erasmus Control

# LEGEND

- EXISTING SPOT ELEVATION
- EXISTING CONTOURS
- EXISTING GUARD RAIL
- EXISTING WALL
- EXISTING FENCE
- EXISTING TREE
- EXISTING TREELINE
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB
- EXISTING SIDEWALK
- EX. 30" RCP EXISTING STORM DRAIN
- EX. 12" S.S. @ 1.20% EXISTING SANITARY SEWER
- EXISTING SHC/DROP SHC
- EXISTING WATER LINE
- EXISTING WATER METER/WHC
- EXISTING WATER VALVE/FIRE HYDRANT
- EXISTING GAS VALVE/METER/GHC
- EXISTING GAS LINE
- EXISTING TELEPHONE DUCTBANK
- EXISTING OVERHEAD TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING PHONE/POWER POLE
- EXISTING SIGN
- PROPOSED FACE-OF-CURB
- PROP. 15" RCP PROPOSED STORM DRAIN
- PROP. STORM DRAIN STRUCTURE #
- EX. SANITARY SEW. STRUCTURE #
- RIGHT OF WAY
- TO BE REMOVED
- PAVEMENT CORE LOCATION
- SOIL BORING LOCATION
- TEST PIT LOCATION
- PAVEMENT TO BE REMOVED
- AREA TO BE REGRADED
- FACE OF CURB
- EDGE OF LANE
- EDGE OF PAVEMENT
- CENTER LINE
- SILT FENCE / SUPER SILT FENCE
- INLET PROTECTION
- LIMIT OF DISTURBANCE

NOTIFY "MISS UTILITY" AT 1-800-257-7777 FOR UTILITY LOCATION 48 HOURS PRIOR TO ANY CONSTRUCTION OR EXCAVATION.

MATCH LINE - SEE SHEET 16 OF 24

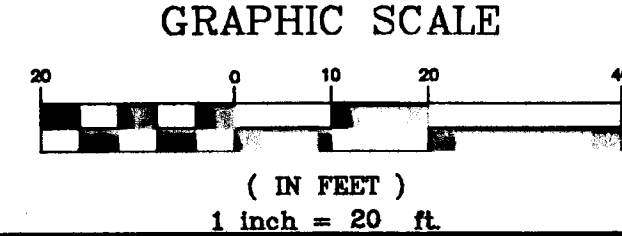


MATCH LINE - SEE SHEET 18 OF 24

THIS DEVELOPMENT PLAN IS APPROVED FOR THE EROSION CONTROL AND STORM DRAINAGE IMPROVEMENTS BY THE BOARD AND LOCAL ENGINEERS ASSOCIATION.

*J. R. R. R. 9/13/99*

*Chief Engineer 9/13/99*

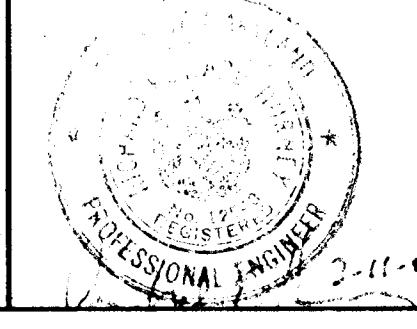


DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Com. H. H. H. 8/27/99*  
DIRECTOR OF PUBLIC WORKS DATE

*Robert D. Brown 8/27/99*  
CHIEF, BUREAU OF ENGINEERING DATE

*Edward H. H. H. 8/26/99*  
CHIEF, DIVISION OF ROADS, BRIDGES & STORM DRAINAGE DATE



DES:	EUA			
DRN:	EUA			
CHK:	REH			
DATE:	07/97			
EUA BY NO.	1	REVISED SD SYSTEMS "1" ; ELIMINATED SD OUTFALL	12.18.98	
REVISION				
DATE				

EROSION CONTROL  
PLAN SHEET #3 OF 5

600' SCALE MAP NO. 25 BLOCK NO. 7

W. MAIN STREET-ELLCOTT CITY STORM DRAINAGE IMPROVEMENTS

HOWARD COUNTY, MARYLAND  
CAPITAL PROJECT D-1083

SCALE 1"=20'  
SHEET 17 OF 24

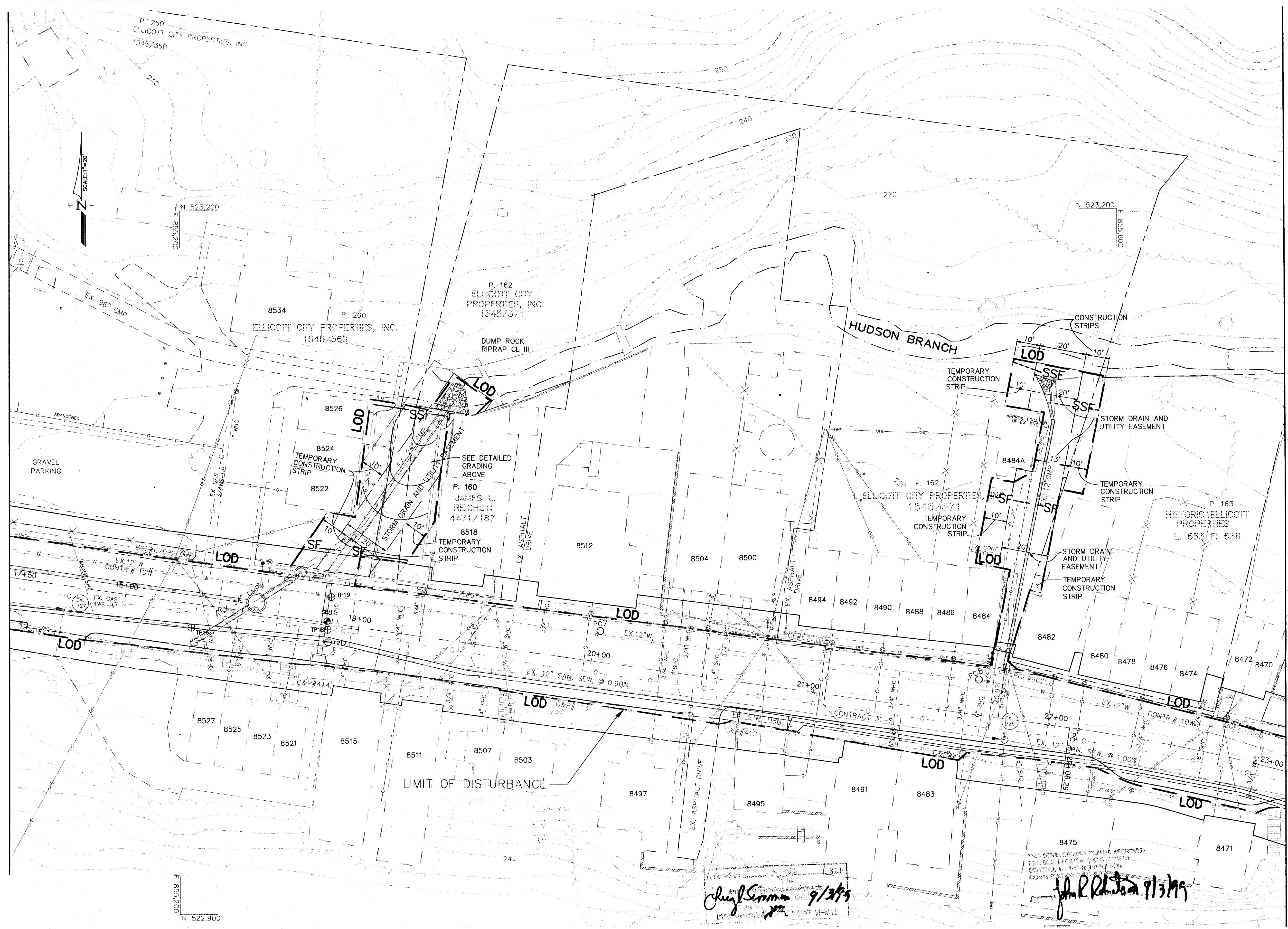


**LEGEND**

- EXISTING SPOT ELEVATION
- EXISTING CONTOURS
- EXISTING GUARD RAIL
- EXISTING WALL
- EXISTING FENCE
- EXISTING TREE
- EXISTING TREELINE
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB
- EXISTING SIDEWALK
- EX. 30" RCP
- EX. 12" S.S. @ 1.20%
- EXISTING SHC/DROP SHC
- EXISTING WATER LINE
- EXISTING WATER METER/WHC
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- EXISTING GAS VALVE/METER/GHC
- EXISTING GAS LINE
- EXISTING TELEPHONE DUCTBANK
- EXISTING OVERHEAD TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING PHONE/POWER POLE
- EXISTING SIGN
- PROPOSED FACE-OF-CURB
- PROPOSED STORM DRAIN
- PROP. STORM DRAIN STRUCTURE #
- EX. SANITARY SEW. STRUCTURE #
- RIGHT OF WAY
- TO BE REMOVED
- PAVEMENT CORE LOCATION
- SOIL BORING LOCATION
- TEST PIT LOCATION
- PAVEMENT TO BE REMOVED
- AREA TO BE REGRADED
- F/C
- E/L
- E/P
- CENTER LINE
- SILT FENCE / SUPER SILT FENCE
- INLET PROTECTION
- LIMIT OF DISTURBANCE

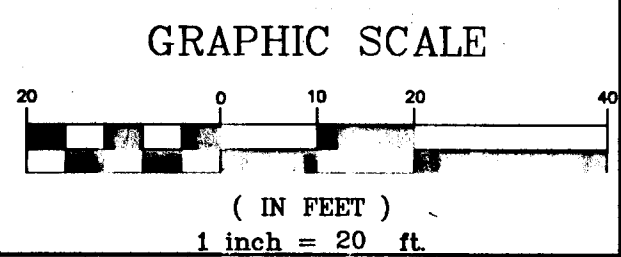
NOTIFY "MISS UTILITY" AT 1-800-257-7777 FOR UTILITY LOCATION 48 HOURS PRIOR TO ANY CONSTRUCTION OR EXCAVATION.

MATCH LINE - SEE SHEET 17 OF 24



MATCH LINE - SEE SHEET 19 OF 24

*Handwritten signatures and dates:*  
 [Signature] 9/27/99  
 [Signature] 9/13/99



<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>James J. Lewis</i> 8/27/99 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>Richard M. Dwyer</i> 8/29/99 CHIEF, BUREAU OF HIGHWAYS DATE</p>	<p> <b>CHESTER ENGINEERS</b></p> <p><i>Richard M. Dwyer</i> 8/27/99 CHIEF, BUREAU OF ENGINEERING DATE</p> <p><i>Richard M. Dwyer</i> 8/26/99 CHIEF, DIVISION OF ROADS BRIDGES &amp; STORM DRAINAGE DATE</p>	<p>DES: EUA</p> <p>DRN: EUA</p> <p>CHK: REH</p> <p>DATE: 07/97</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>NO.</td> <td>REVISION</td> <td>DATE</td> </tr> <tr> <td>2</td> <td>REVISED YARD GRADING</td> <td>7.01.99</td> </tr> <tr> <td>1</td> <td>REVISED SD SYSTEMS 'B', 'C', 'F' &amp; 'G'</td> <td>12.18.98</td> </tr> <tr> <td>BY NO.</td> <td>REVISION</td> <td>DATE</td> </tr> </table>	NO.	REVISION	DATE	2	REVISED YARD GRADING	7.01.99	1	REVISED SD SYSTEMS 'B', 'C', 'F' & 'G'	12.18.98	BY NO.	REVISION	DATE	<p><b>EROSION CONTROL PLAN SHEET #4 OF 5</b></p> <p>600' SCALE MAP NO. 25 BLOCK NO. 7</p>	<p>W. MAIN STREET-ELLCOTT CITY STORM DRAINAGE IMPROVEMENTS</p> <p>HOWARD COUNTY, MARYLAND CAPITAL PROJECT D-1083</p>	<p>SCALE 1"=20'</p> <p>SHEET 18 OF 24</p>
NO.	REVISION	DATE																
2	REVISED YARD GRADING	7.01.99																
1	REVISED SD SYSTEMS 'B', 'C', 'F' & 'G'	12.18.98																
BY NO.	REVISION	DATE																

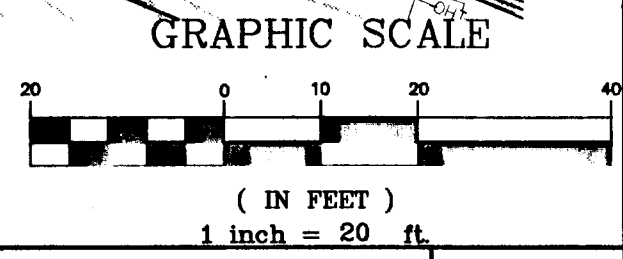
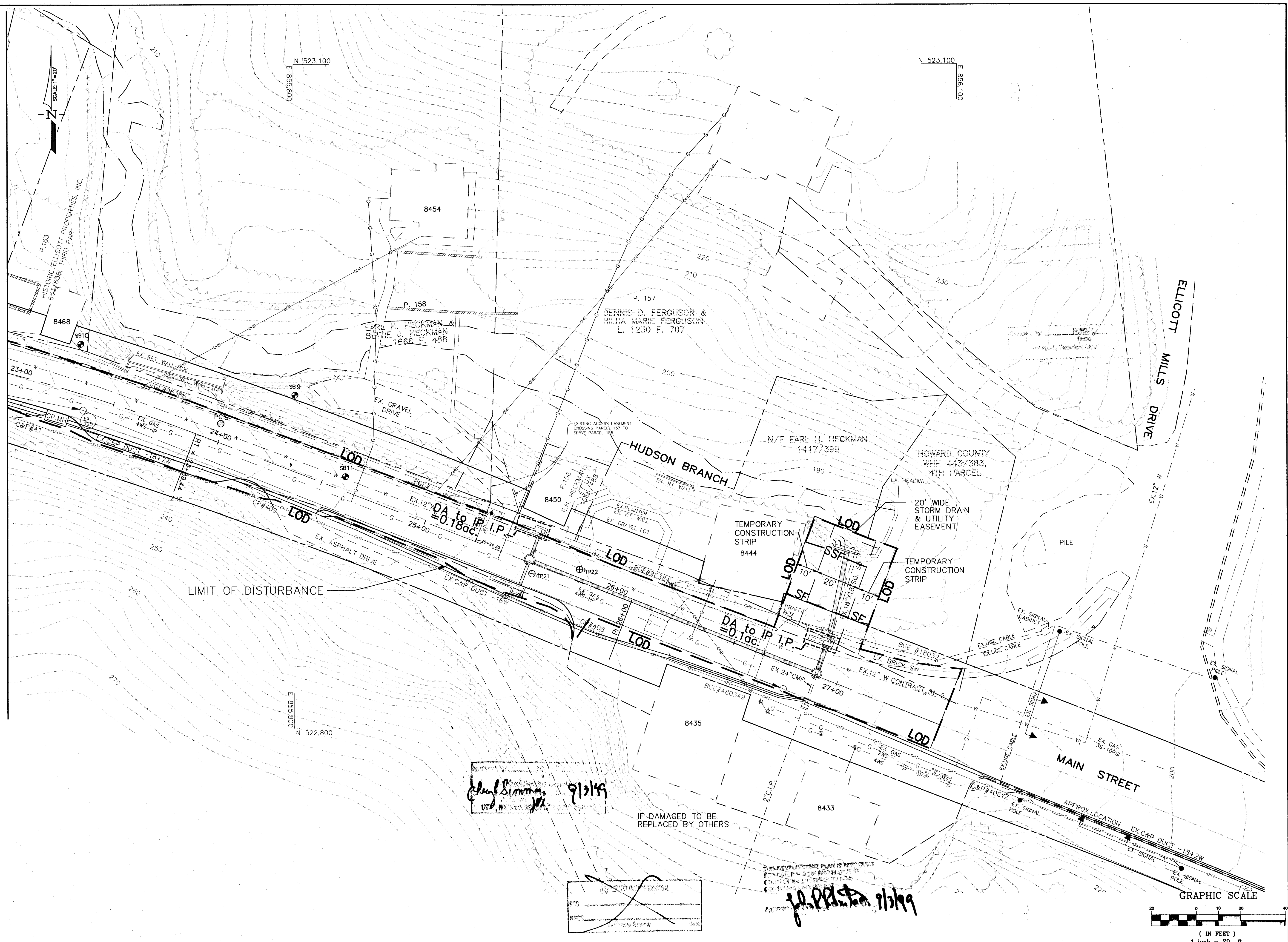


**LEGEND**

- EXISTING SPOT ELEVATION
- EXISTING CONTOURS
- EXISTING GUARD RAIL
- EXISTING WALL
- EXISTING FENCE
- EXISTING TREE
- EXISTING TREELINE
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NOTIFY "MISS UTILITY" AT 1-800-257-7777 FOR UTILITY LOCATION 48 HOURS PRIOR TO ANY CONSTRUCTION OR EXCAVATION.

MATCH LINE - SEE SHEET 18 OF 24



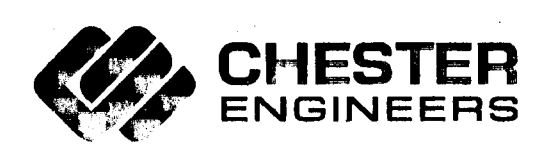
DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James J. Law* 8/26/99  
 DIRECTOR OF PUBLIC WORKS DATE

*John Simms* 8/27/99  
 CHIEF, BUREAU OF ENGINEERING DATE

*Robert M. Conner* 9/22/99  
 CHIEF, BUREAU OF HIGHWAYS DATE

*Samuel L. Calver* 9/26/99  
 CHIEF, DIVISION OF ROADS  
 BRIDGES & STORM DRAINAGE DATE



*Elodie Armas* 7-11

DES: EJA					
DRN: EJA					
CHK: REH					
EUA	1	REVISED SD SYSTEMS '1"		7.01.99	
DATE: 07/97	BY: NO.	REVISION		DATE	

**EROSION CONTROL  
 PLAN SHEET #5 OF 5**

600' SCALE MAP NO. 25 BLOCK NO. 7

W. MAIN STREET-ELLCOTT CITY STORM DRAINAGE IMPROVEMENTS

HOWARD COUNTY, MARYLAND  
 CAPITAL PROJECT D-1083

SCALE  
 1"=20'

SHEET  
 19 OF 24



**NOTICE**  
8" CAPITAL LETTERS  
BLACK ON YELLOW  
MAIN STREET TRAFFIC  
WEST OF  
ELLCOTT MILLS DRIVE  
USE ROGERS AVENUE.

**NOTICE**  
8" CAPITAL LETTERS  
BLACK ON YELLOW  
WEST BOUND  
MAIN STREET  
WILL BE CLOSED  
ON OR ABOUT  
(DATE)

NOTE: INSTALL 2 ADVANCE NOTICE SIGNS  
(AS SHOWN ABOVE) 2 WEEKS PRIOR  
TO IMPLEMENTING DETOUR IN THE  
DESIGNATED AS "SP-1".

30"  
8" MAIN ST. 4" CAPITAL LETTERS  
BLACK ON WHITE

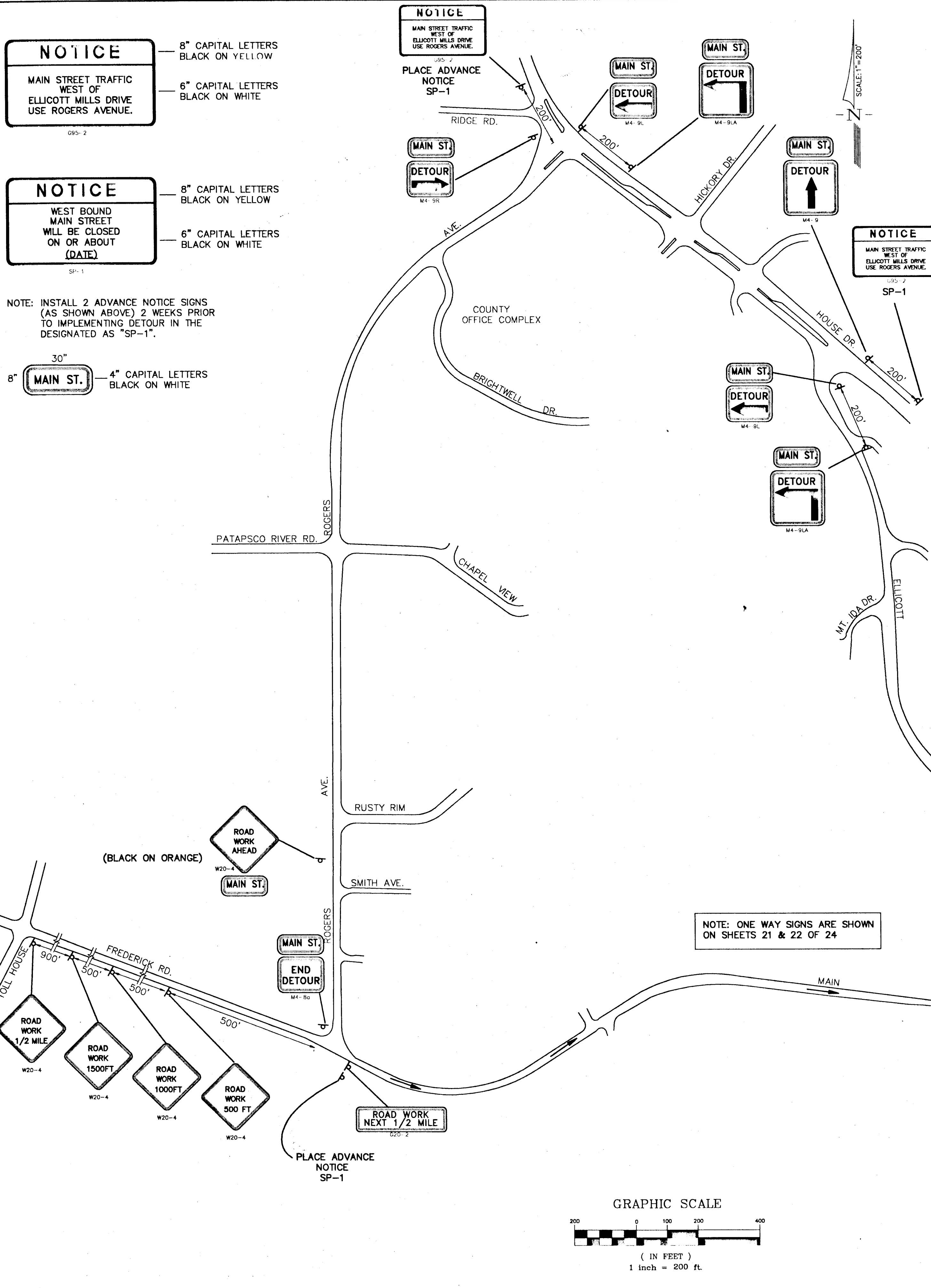
**NOTICE**  
MAIN STREET TRAFFIC  
WEST OF  
ELLCOTT MILLS DRIVE  
USE ROGERS AVENUE.

PLACE ADVANCE  
NOTICE  
SP-1

MAIN ST.  
DETOUR

**NOTICE**  
MAIN STREET TRAFFIC  
WEST OF  
ELLCOTT MILLS DRIVE  
USE ROGERS AVENUE.

PLACE ADVANCE  
NOTICE  
SP-1



**4.0 SIGNS:**

- Signs should be spaced at the distances shown on the typical application diagrams.
- See the "Sign And Buffer Spacing Charts/ Standard Temporary Traffic Control Operations" for the appropriate spacing of the advance warning signs for lower speed highway facilities.
- The advance warning area may need to be lengthened with additional signs in order to provide sufficient warning to upstream motorists, especially if traffic is expected to backup past any of the warning signs near the work site.
- When bus and/or truck volumes are high, as determined by the Engineer, an initial advance warning sign may be placed on the left side of a multilane undivided roadway.
- Fluorescent Orange High Performance Wide Angle Retroreflective Sign Sheeting material shall be used on all warning signs erected in construction zones along freeways, and major expressways with an Average Daily Traffic of 50,000 vehicles or more. These signs shall also be used on the highway ramps leading to these roadways.
- POHPWA Retroreflective Sign Sheeting material may be used for maintenance work along freeways and major expressways at the discretion of the Engineer.
- Approved temporary roll up signs may be used for maintenance work along all roadways.

APPROVED	DATE	SECTION NO.	REVISIONS

Maryland Department of Transportation  
STATE HIGHWAY ADMINISTRATION  
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

GENERAL NOTES

STANDARD NO. MD 10400-07

- On 60 mph and 65 mph highways, special temporary traffic control regulatory speed signing shall be required for work activities of one hour duration or longer, unless otherwise directed by the Engineer. These signs are to be placed as directed in the General Notes. See Specification 104.08.03 for information on other temporary traffic signs.
- Sign designations and messages for the most common signs used in work zones are shown within these General Notes. See Specification 104.08.03 for information on other temporary traffic signs.
- Har and Shovel signs shall be used for projects lasting greater than two months in duration, unless otherwise specified by the Engineer.
- In urban areas along streets where the prevailing speed is 35 mph or less, and along secondary roads where the Average Daily Traffic (ADT) is less than 1,000 vehicles, the minimum sign size of 36" x 36" may be used.
- For utility operations, advance warning signs may include the word "AHEAD" in lieu of distances up to and including 1500 feet. At greater distances, such as 1/2 mile or 1 mile, however, the correct distance value is to be used on such warning signs. ALSO THE UTILITY WORK AHEAD sign may be used in lieu of ROAD WORK OR SHOULDER WORK signs only.
- Warning signs mounted on wood posts, and those mounted on approved portable supports shall be mounted in conformance with Standard No. MD 104.00.26.

**5.0 PORTABLE VARIABLE MESSAGE SIGNS**

- The sequential arrow mode display is prohibited on N/A portable variable message signs.

APPROVED	DATE	SECTION NO.	REVISIONS

Maryland Department of Transportation  
STATE HIGHWAY ADMINISTRATION  
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

GENERAL NOTES

STANDARD NO. MD 10400-08

**6.0 ARROW PANELS**

- Arrow panels that are installed along the shoulder or median of roadways with prevailing speeds greater than 40 mph shall be provided with a minimum shoulder closure taper of 1/3 the taper length. (See 7.0 Channelizing Devices). For all other roadways a 100 foot minimum shoulder closure taper shall be used.

**7.0 CHANNELIZING DEVICES**

- Taper Formulas:  
L= WS for speeds greater than (s) 40 mph  
L= WS/60 for speeds equal to or less than (s) 40 mph  
Where: L= minimum length of taper (ft)  
S= numerical value of prevailing travel speed or speed limit (MPH), whichever is higher, prior to work starting.  
W= width of offset (ft)
- Maximum spacing between channelizing devices:  
a. Taper Channelization - shall be equal in feet to the posted speed limit.  
b. Tangent Channelization- shall be equal in feet to twice the posted speed limit.
- Channelizing devices, especially at horizontal or vertical curves, are to be extended to a point where they are visible to approaching traffic. A full taper length (on two-lane, two-way roadways) shall always be provided in advance of curves.
- Drums should always be used to form the taper on roadways having a posted or prevailing travel speed (whichever is higher) equal to or greater than 40 MPH.

APPROVED	DATE	SECTION NO.	REVISIONS

Maryland Department of Transportation  
STATE HIGHWAY ADMINISTRATION  
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

GENERAL NOTES

STANDARD NO. MD 10400-09

- Storing channelizing devices along any roadway is prohibited without approval of the Engineer.
- Type 3 object markers (VP-1) are required for barrier flare/tangent points.
- The appropriate channelizing devices (including approved barrier) to separate opposing traffic shall be as shown on the plans or as directed by the Engineer.

**8.0 PAVEMENT MARKINGS**

- Pavement markings no longer applicable shall be completely removed or obliterated. Temporary markings shall be used as necessary. Operations less than 12 hours or undertaken during the daytime may require that the permanent markings be temporarily covered with black tape as specified below.
- Pavement marking lines adjacent to any lane transition or lane closure taper shall be removed (or covered with SHA approved black pavement marking tape) as depicted on TTCTA for over 12 hours or nighttime use, unless otherwise directed by the Engineer. Pavement marking lines shall be re-installed (or uncovered) prior to re-opening the closed lane(s).
- Temporary markings on intermediate pavement surfaces shall be paint placed to full dimensions per the Contract Documents, (i.e. continuous double yellow center lines; single dashed yellow center line-10' segments, 30' gaps to denote passing when allowed; lane lines-10' segments, 30' gaps).
- On straight sections of roadway with full dimension center and/or lane lines, but without edge lines, channelizing drums may be used to delineate the edge of the roadway and may be spaced up to 500' apart where no undue hazards exist and when directed by the Engineer. On curve sections, this spacing shall be reduced to a value equal to the posted speed limit, unless otherwise directed by the Engineer.

APPROVED	DATE	SECTION NO.	REVISIONS

Maryland Department of Transportation  
STATE HIGHWAY ADMINISTRATION  
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

GENERAL NOTES

STANDARD NO. MD 10400-10

- Where two or more flaggers are to be used and are unable to see each other, two-way radio communications shall be used.
- If the entire work area is visible from one station, a single flagger may be used, subject to other safety considerations.

**10.0 VEHICLES**

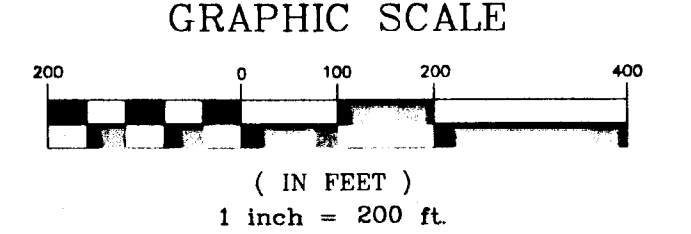
- Work vehicles should not occupy or be stopped in a lane beyond a horizontal curve or a vertical curve (hill). Instead, vehicles stopping are to be pulled as far off the road as possible or be otherwise parked in a manner as to inhibit the movement of traffic as little as possible. If stopping is necessary and no protection vehicle is available, place channelizing devices in conformance with the placement of channelizing devices at curves as specified in 7.0, Channelizing Devices.
- Work vehicles, if required, should not occupy any part of the buffer area; instead vehicle(s) may occupy part of the work area.
- Vehicle safety lights (amber in color) shall be approved by the Office of Traffic & Safety.
- A protection vehicle with a rear truck-mounted attenuator (TMA) shall be required for all work operations on freeways, where no formal lane closure exists. A formal lane closure condition includes a full complement of advance warning devices, a lane closure taper of channelizing devices and channelizing devices to define the work area as required. A protection vehicle shall also be required for highway marking and may be required under other traffic and work conditions in conformance with SHA policy or as directed by the Engineer. The protection vehicle may be considered the initial advance warning for some mobile work operations. This vehicle should be used in advance of horizontal and/or vertical curves to provide

APPROVED	DATE	SECTION NO.	REVISIONS

Maryland Department of Transportation  
STATE HIGHWAY ADMINISTRATION  
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

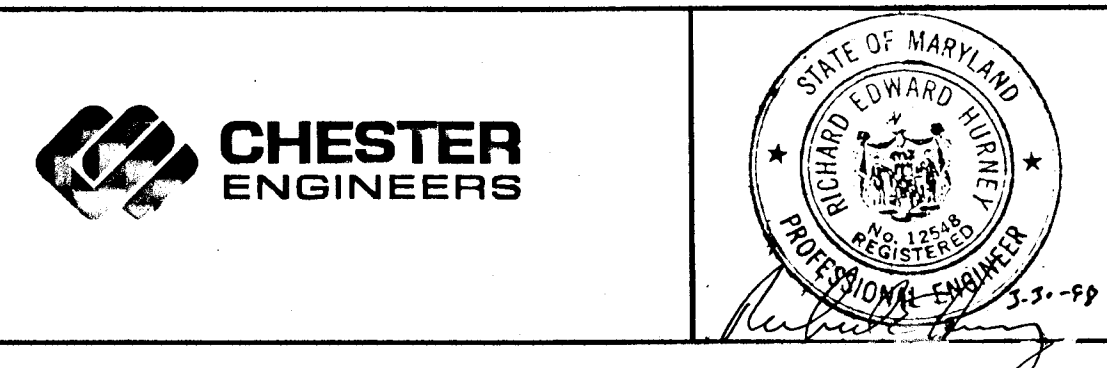
GENERAL NOTES

STANDARD NO. MD 10400-11



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *Samuel A. Law* 5/15/98  
Chief, Bureau of Engineering: *Charles E. Seaman* 4/21/98  
Chief, Bureau of Highways: *Charles M. ...* 4-22-98  
Chief, Transportation Projects and Watershed Management Division: *Elizabeth de Calia* 4/21/98



DES: EUA			
DRN: EUA			
CHK: REH			
DATE: 03/98	BY NO.	REVISION	DATE

MAINTENANCE OF TRAFFIC PLAN

600' SCALE MAP NO. 25 BLOCK NO. 7

W. MAIN STREET-ELLCOTT CITY STORM DRAINAGE IMPROVEMENTS

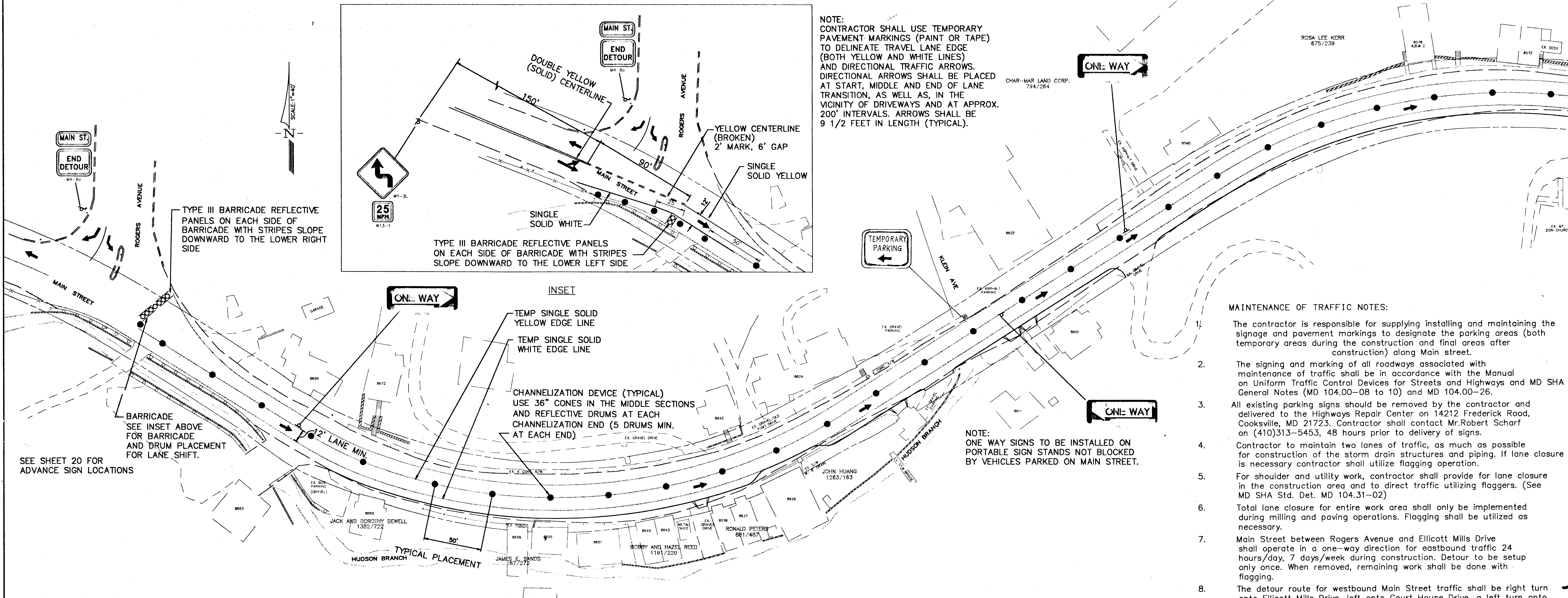
HOWARD COUNTY, MARYLAND  
CAPITAL PROJECT D-1083

SCALE AS SHOWN  
SHEET 20 OF 24

Approved for Construction: *Clayton Summer* 5/11/98  
S.G.D.  
U.S.A. LANDMARKS & SURVEYING CORPORATION

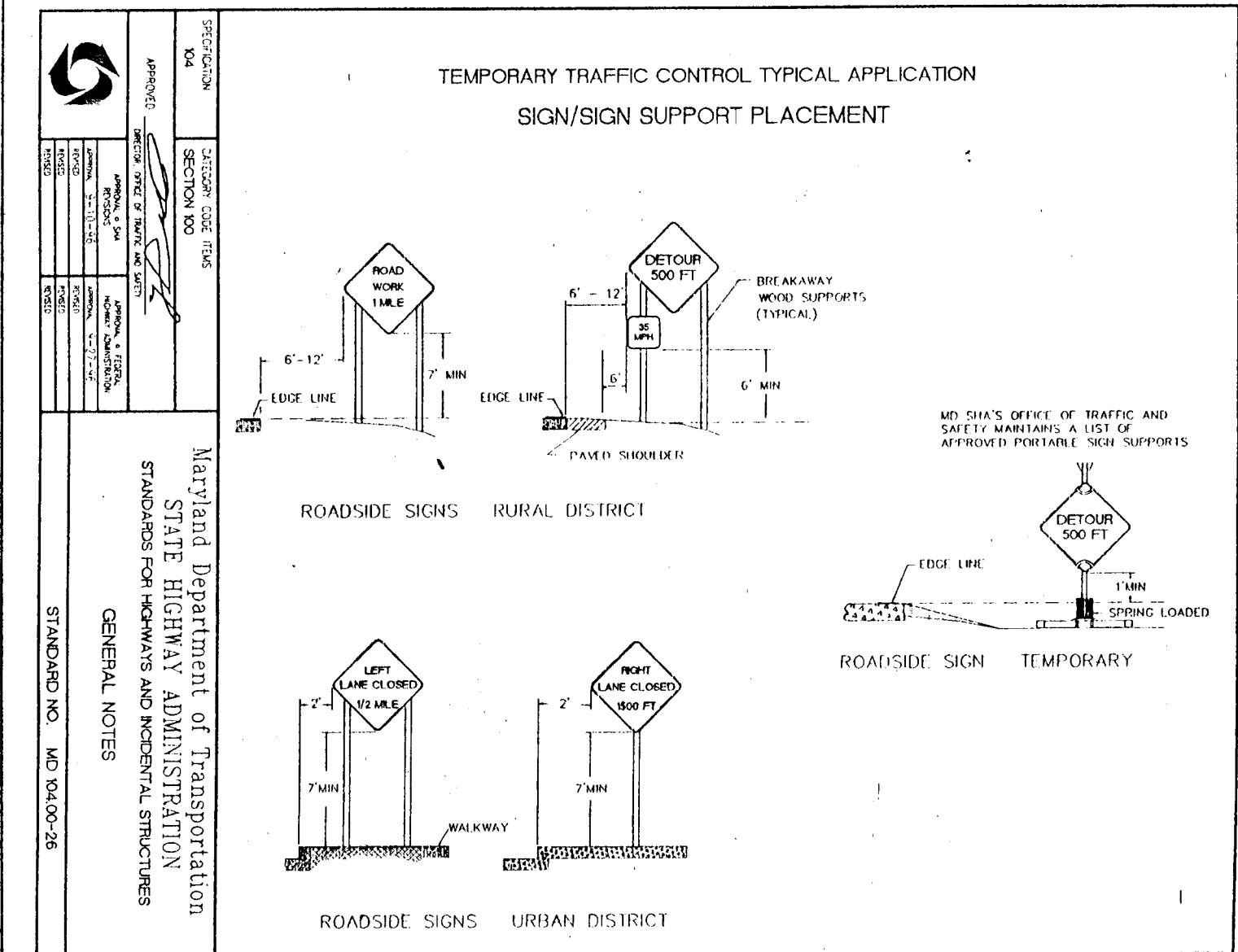
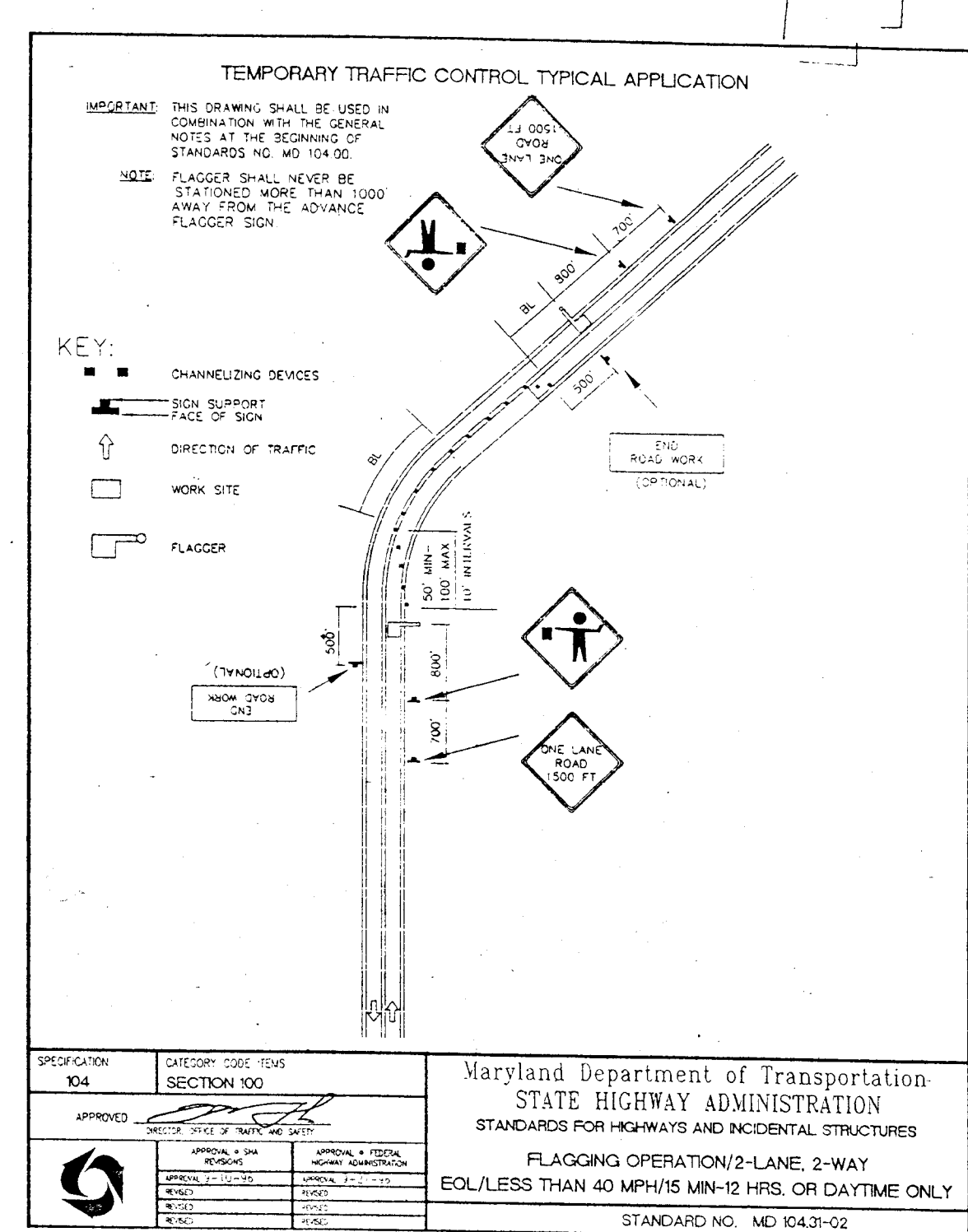
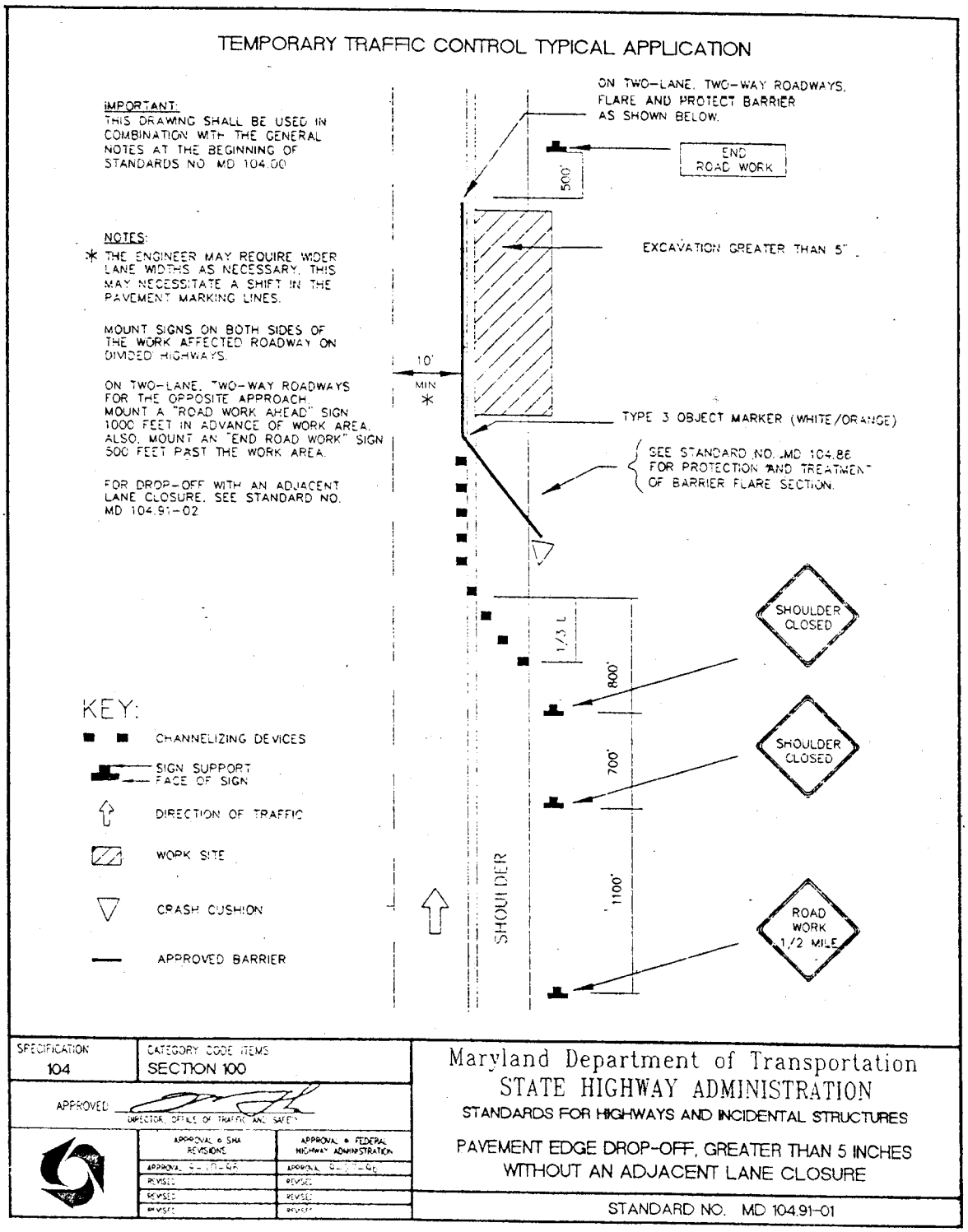
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY CONSERVATION DISTRICT.  
Approved: *John R. ...* 5/11/98



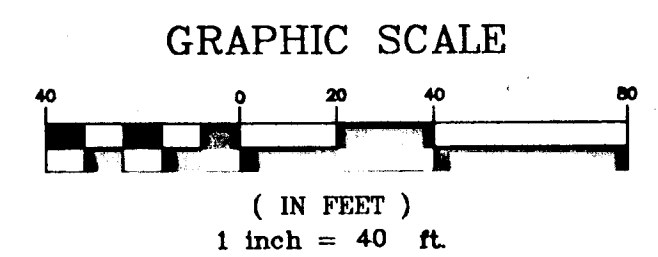


NOTE: CONTRACTOR SHALL USE TEMPORARY PAVEMENT MARKINGS (PAINT OR TAPE) TO DELINEATE TRAVEL LANE EDGE (BOTH YELLOW AND WHITE LINES) AND DIRECTIONAL TRAFFIC ARROWS. DIRECTIONAL ARROWS SHALL BE PLACED AT START, MIDDLE AND END OF LANE TRANSITION, AS WELL AS, IN THE VICINITY OF DRIVEWAYS AND AT APPROX. 200' INTERVALS. ARROWS SHALL BE 9 1/2 FEET IN LENGTH (TYPICAL).

- MAINTENANCE OF TRAFFIC NOTES:**
- The contractor is responsible for supplying installing and maintaining the signage and pavement markings to designate the parking areas (both temporary areas during the construction and final areas after construction) along Main street.
  - The signing and marking of all roadways associated with maintenance of traffic shall be in accordance with the Manual on Uniform Traffic Control Devices for Streets and Highways and MD SHA General Notes (MD 104.00-08 to 10) and MD 104.00-26.
  - All existing parking signs should be removed by the contractor and delivered to the Highways Repair Center on 14212 Frederick Road, Cooksville, MD 21723. Contractor shall contact Mr. Robert Scharf on (410)313-5453, 48 hours prior to delivery of signs.
  - Contractor to maintain two lanes of traffic, as much as possible for construction of the storm drain structures and piping. If lane closure is necessary contractor shall utilize flagging operation.
  - For shoulder and utility work, contractor shall provide for lane closure in the construction area and to direct traffic utilizing flaggers. (See MD SHA Std. Det. MD 104.31-02)
  - Total lane closure for entire work area shall only be implemented during milling and paving operations. Flagging shall be utilized as necessary.
  - Main Street between Rogers Avenue and Ellicott Mills Drive shall operate in a one-way direction for eastbound traffic 24 hours/day, 7 days/week during construction. Detour to be setup only once. When removed, remaining work shall be done with flagging.
  - The detour route for westbound Main Street traffic shall be right turn onto Ellicott Mills Drive, left onto Court House Drive, a left turn onto Rogers Avenue and a right turn back onto Main Street (at Frederick Road).
  - The operating traffic lane shall be a minimum of 12' wide. Parking shall be provided continuously on at least one side and depending on location of the contractors work area, parking may be provided on both sides in certain areas. Minimum parking lane width shall be 7'.
  - Contractor shall shift the travel and parking lanes to either side of the road with the use of channelization devices to coordinate with the construction phases. Use reflective drums at each end. 36" cones are acceptable in middle section.
  - Contractor shall distribute fliers to the occupants of all adjoining properties and local business community, fire, police and newspapers, and inform them of the scope of the work, the timing of construction, and proposed traffic patterns at least 48 hours prior to the commencement of any activity on the site, and traffic or parking pattern modifications.
  - Contractor to submit a phased traffic control plan for review and approval by the County prior to any construction. Changes in the lane closings must be coordinated with the County at least 72 hours in advance. Phone 410-313-2430.
  - Ingress and egress shall be maintained for all cross-roads and driveways within the limits of contractor's work in accordance with the Manual of Uniform Traffic Control Device for Streets and Highways.
  - Contractor shall provide jersey barriers with sand cushions along, and 25' beyond, vertical drops in pavement that exceed 5". See MD SHA Shoulders MD 104.91-01, 104.86 & 104.92.
  - Where construction will affect sidewalk areas, the contractor shall provide appropriate sidewalk closure signs, barricades and alternate pedestrian routes including ramps, according to the manual of UTCD and MD SHA Standard MD 104.80.



THIS PLAN IS FOR TYPICAL PLACEMENT OF WARNING SIGNS AND CHANNELIZATION DEVICES ONLY. CONTRACTOR TO COORDINATE WITH TRAFFIC DIVISION (410-313-2430) SPECIFIC DEVICE LOCATIONS NECESSARY TO ACCOMMODATE CONSTRUCTION PHASING.



**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND

Director of Public Works: *James A. Shaw* 5/5/98  
Date: 4/21/98

Chief, Bureau of Engineering: *Robert J. Eppson* 4/21/98  
Date: 4/21/98

Chief, Bureau of Highways: *Robert J. Eppson* 4/21/98  
Date: 4/21/98

Chief, Bureau of Watershed Management: *Edward G. Galia* 4/21/98  
Date: 4/21/98

**CHESTER ENGINEERS**

Professional Engineer: *Richard Edward Turner*  
Professional Engineer: *Richard Edward Turner*

DES: EUA				
DRN: EUA				
CHK: REH				
DATE: 03/98	EUA	1	ADDED TEMP PARKING SIGN	1/27/99
	BY	NO.	REVISION	DATE

**MAINTENANCE OF TRAFFIC**  
PLAN SHEET #1 OF 2

600' SCALE MAP NO. 25 BLOCK NO. 7

SCALE AS SHOWN

SHEET 21 OF 24

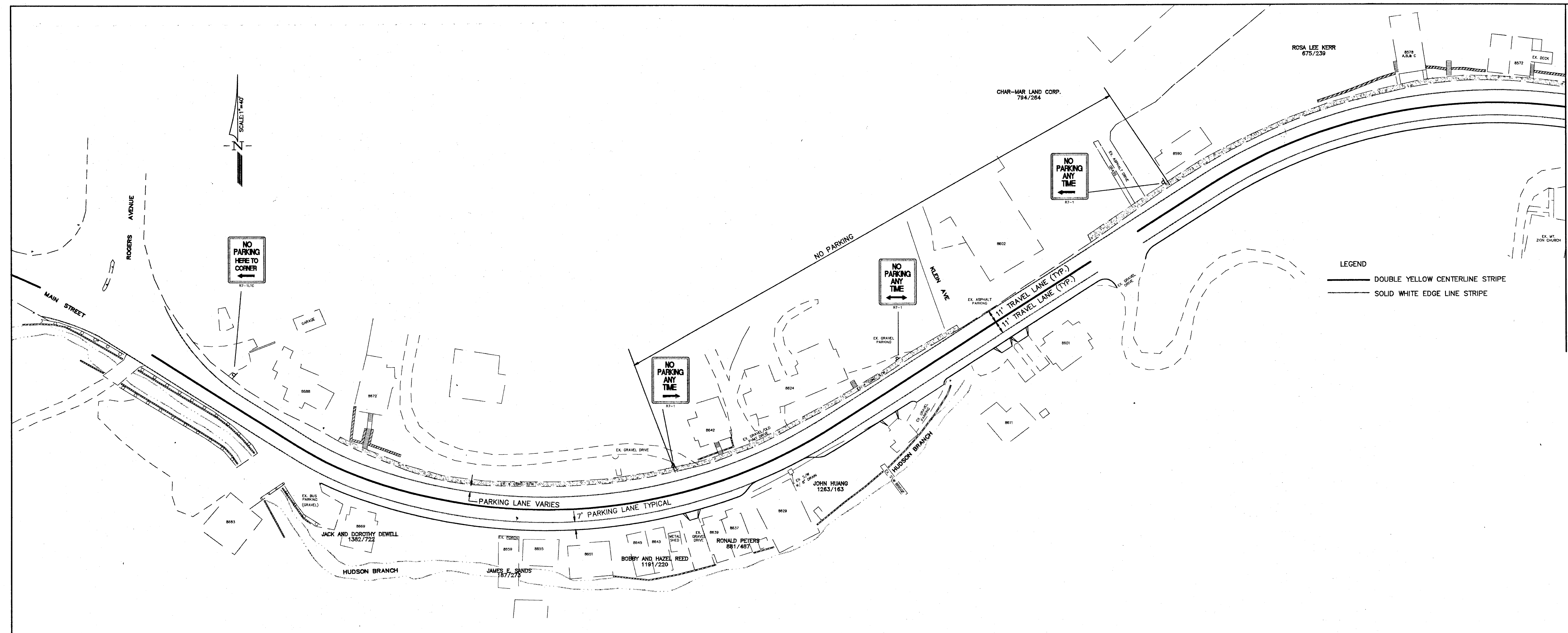
HOWARD COUNTY, MARYLAND  
CAPITAL PROJECT D-1083

W. MAIN STREET-ELLICOTT CITY STORM DRAINAGE IMPROVEMENTS



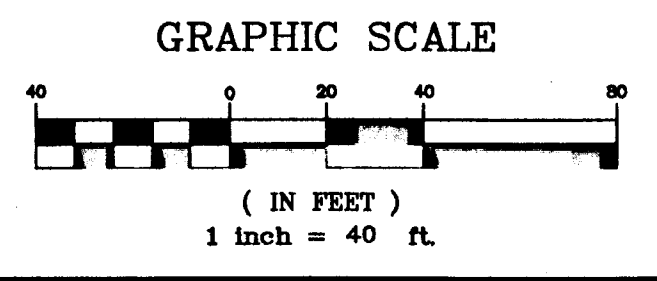






STRIPING PLAN NOTES:

1. The contractor shall provide and install parking signs and markings.
2. All signs and markings shall be in accordance with the Manual of Uniform Traffic Control Devices for Streets and Highways.
3. All pavement markings shall be five inches wide.
4. Provide continuous yellow centerline double stripe from Rogers Avenue to Ellicott Mills Drive.
5. Provide white edgeline stripe as shown on this plan.
6. Parking signs shall be mounted on the wooden 4"x4" sign posts buried 30" into the ground.  
Signs shall be located within 8" behind sidewalk.
7. The contractor shall maintain all existing traffic signs during construction. If any existing signs are damaged by the construction activity or require relocation they shall be replaced in kind.



DATE: Mar. 27, 1998

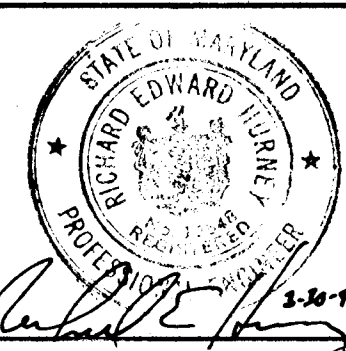
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James H. Clark* 5/5/98  
DIRECTOR OF PUBLIC WORKS DATE

*Shirley M. Dancy* 4-27-98  
CHIEF, BUREAU OF HIGHWAYS DATE

*Robert Deacon* 4/21/98  
CHIEF, BUREAU OF ENGINEERING DATE

*Elizabeth U. Calva* 4/1/98  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION DATE



DES: EUA					
DRN: EUA					
CHK: REH					
DATE: 03/98	BY	NO.	REVISION	DATE	

STRIPING PLAN SHEET #1 OF 2

W. MAIN STREET-ELLICOTT CITY STORM DRAINAGE IMPROVEMENTS

HOWARD COUNTY, MARYLAND CAPITAL PROJECT D-1083

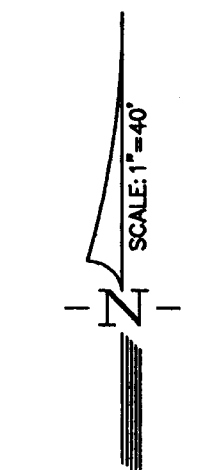
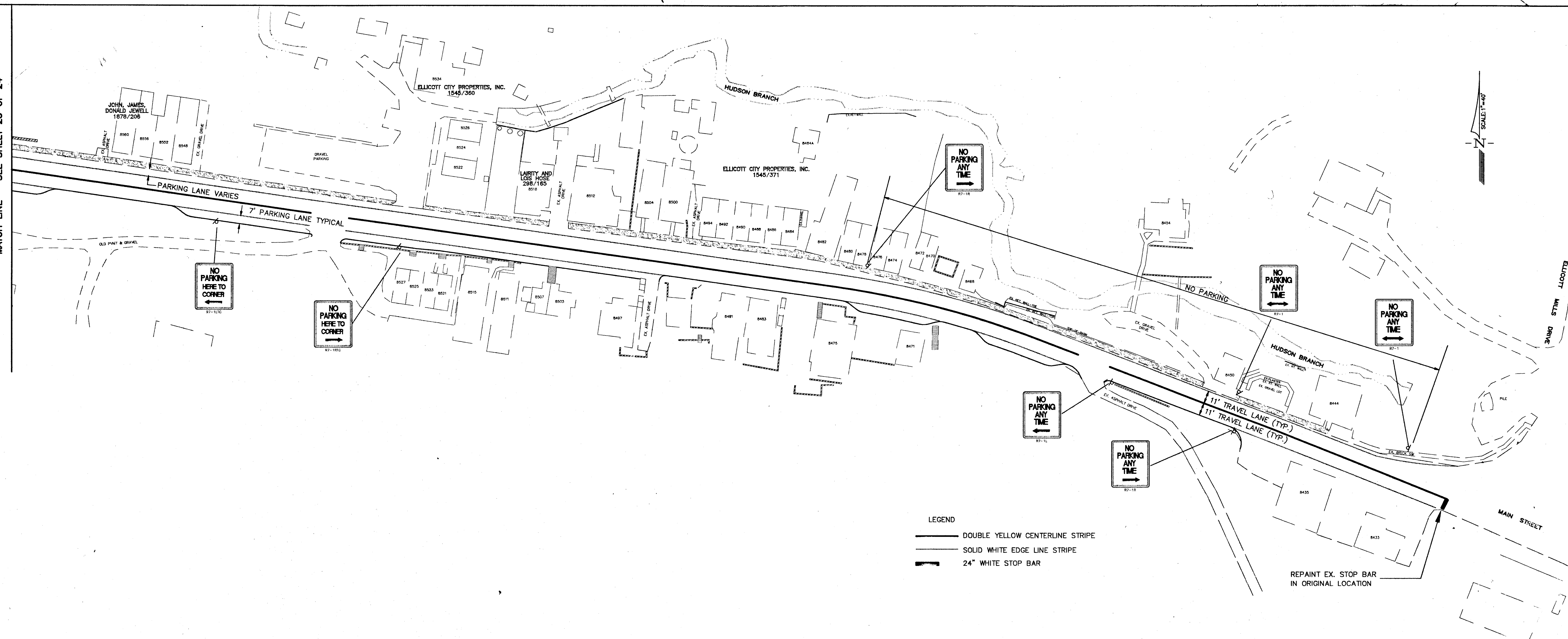
SCALE AS SHOWN SHEET 23 OF 24



24/24

Striping

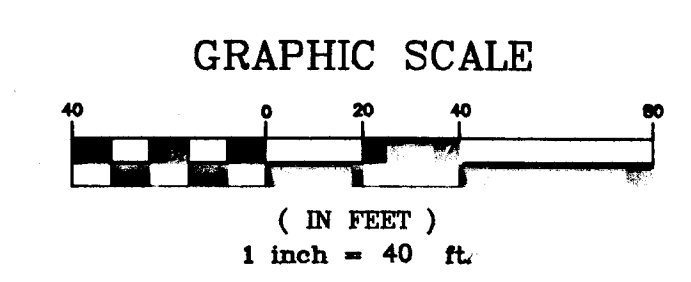
MATCH LINE - SEE SHEET 23 OF 24



- LEGEND
- DOUBLE YELLOW CENTERLINE STRIPE
  - SOLID WHITE EDGE LINE STRIPE
  - 24" WHITE STOP BAR

STRIPING PLAN NOTES:

1. The contractor shall provide and install parking signs and markings.
2. All signs and markings shall be in accordance with the Manual of Uniform Traffic Control Devices for Streets and Highways.
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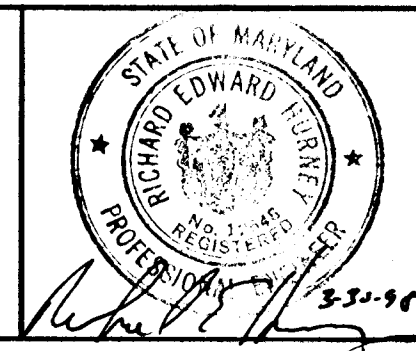
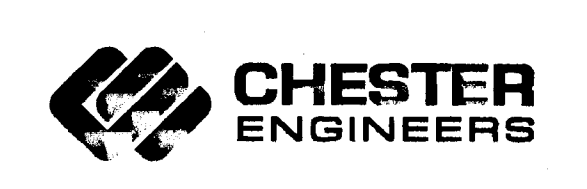


DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James A. Slaw* 5/2/98  
DIRECTOR OF PUBLIC WORKS DATE

*Richard E. Sepperson* 4/21/98  
CHIEF, BUREAU OF ENGINEERING DATE

*Robert H. Pallen* 4/21/98  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION DATE



DES: EUA					
DRN: EUA					
CHK: REH					
DATE: 03/98	BY	NO.	REVISION	DATE	600' SCALE MAP NO. 25 BLOCK NO. 7

STRIPING PLAN  
SHEET #2 OF 2

W. MAIN STREET-ELLICOTT CITY STORM DRAINAGE IMPROVEMENTS

HOWARD COUNTY, MARYLAND  
CAPITAL PROJECT D-1083

SCALE AS SHOWN  
SHEET 24 OF 24

Printed: Mar. 27, 1998  
 Dept. - A-15182-01/000/STMASTER  
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