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 DATE: 20 MAR 2000 20:19:01

Howard County, Maryland – Department of Public Works

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ROADWAY IMPROVEMENTS to HARPERS FARM ROAD and WILLOWBOTTOM DRIVE

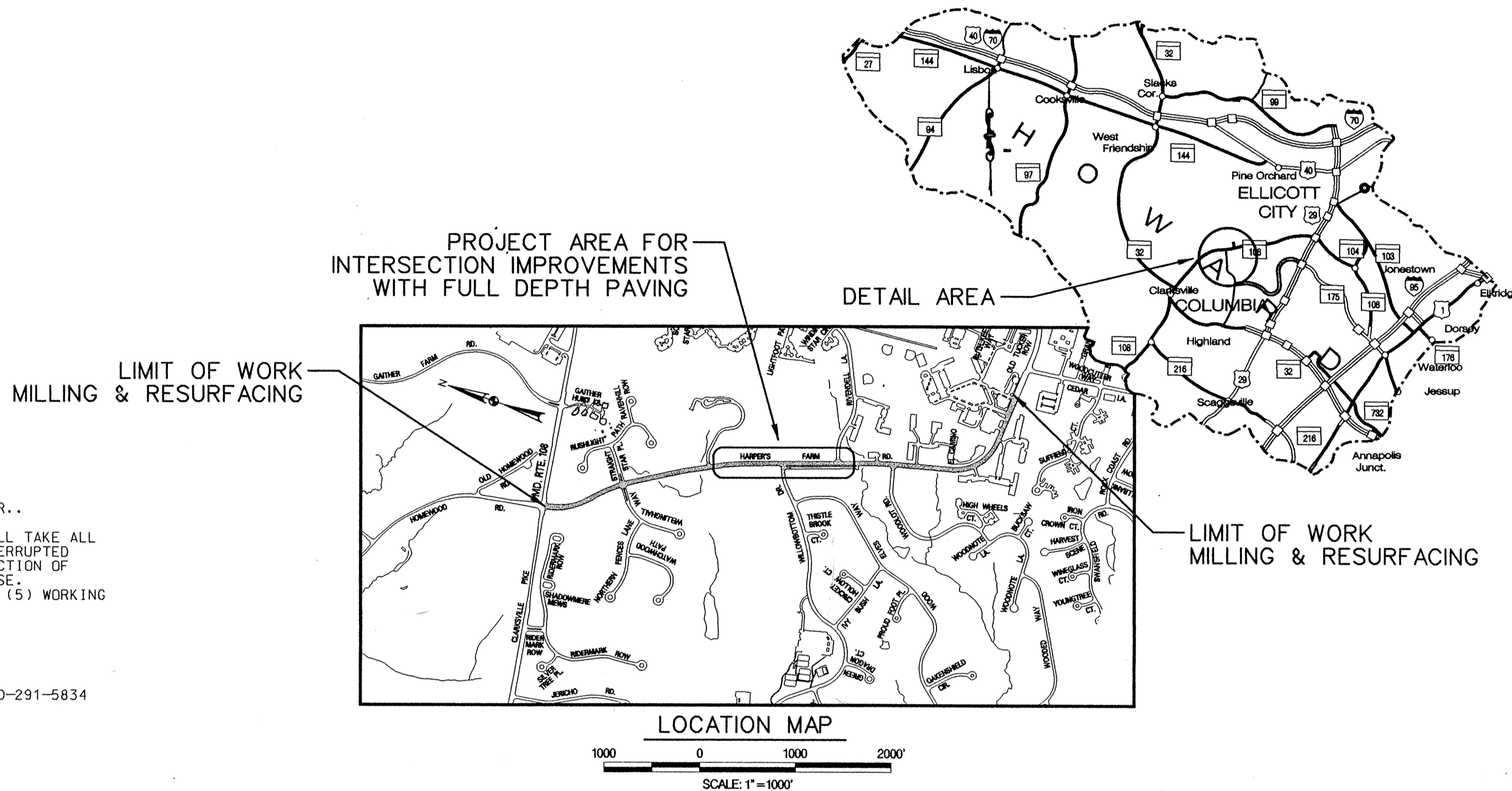
CAPITAL PROJECT NO. J-4164

BENCHMARKS

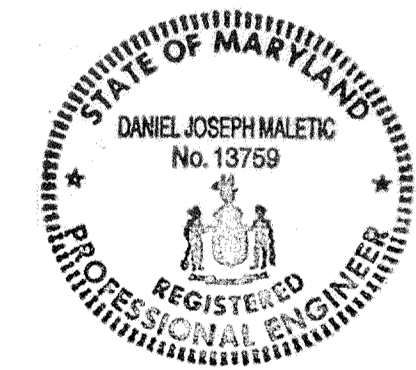
NOTE: SEE SHEET 5 OF 19 FOR CONTROL POINTS, TRAVERSE TIES, COORDINATE DATA AND ROADWAY ALIGNMENT GEOMETRIC DATA.

GENERAL NOTES

- ALL STATIONING AND DIMENSIONING ARE TO BE FIELD VERIFIED BY THE CONTRACTOR.
- APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE HOWARD COUNTY ENGINEER BY THE CONTRACTOR AND AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - MISS UTILITY 1-800-257-7777
 - CONSTRUCTION INSPECTION DIVISION, HOWARD COUNTY 410-313-1880
 - STATE HIGHWAY ADMINISTRATION DISTRICT 7-0 301-624-8100
 - BALTIMORE GAS & ELECTRIC COMPANY – UNDERGROUND ELECTRIC 410-855-6958
 - BALTIMORE GAS & ELECTRIC COMPANY – GAS ENGINEERING & CONSTRUCTION 410-291-5834
 - DISTRIBUTION CUSTOMER SERVICE 685-0123
 - ENGINEERING DAMAGE CONTROL 234-5621
 - BELL ATLANTIC TELEPHONE 1-800-870-0000
 - AMERICAN TELEPHONE & TELEGRAPH CABLE LOCATION DIVISION 393-3553
 - COLONIAL PIPELINE COMPANY 781-4641
 - BUREAU OF UTILITIES, HOWARD COUNTY 410-313-4900
 - COMCAST CABLE 888-793-1800
- THE CONTRACTOR SHALL CONTACT THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION OF ENGINEERING FOR VERIFICATION AND/OR INFORMATION REGARDING:
 - EXISTING/PROPOSED RIGHT-OF-WAY.
 - UTILITY RELOCATION.
 - MAINTENANCE OF TRAFFIC DURING CONSTRUCTION.
 - EROSION/SEDIMENT CONTROL CERTIFICATION AND PERMIT.
 - HORIZONTAL/VERTICAL CONTROL.
 - GRADING PERMIT.
- PLACE REGULATION "ROAD WORK" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS AT LIMIT OF WORK ALONG RTE. 108. WHERE LIMIT OF WORK IN ALONG COUNTY ROADWAYS, COMPLY WITH HOWARD COUNTY STANDARD SPECIFICATIONS AND DETAILS.
- ALL GRADING SHALL BE LIMITED TO EXISTING 80' OR 106' R.O.W. INCLUDING SIDE SLOPES AND STABILIZATION. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED IN ACCORDANCE WITH THE SEDIMENT CONTROL NOTES AND DETAILS ON SHEETS 7 & 8 OF 19.
- FOR DETAILS NOT SHOWN ON THESE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, THE CONTRACTOR SHALL ABIDE BY THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS. THE PROJECT INVITATION FOR BID BOOKLET, THE SPECIAL PROVISIONS AND THE MARYLAND STATE HIGHWAY ADMINISTRATION'S "BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES" AND "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS." IN THE EVENT OF ANY DISCREPANCY BETWEEN THESE SOURCES, THE SPECIAL PROVISIONS SHALL GOVERN.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MD SHA STANDARDS AND SPECIFICATIONS.
- STAGING AND STOCKPILE AREA WILL BE DETERMINED BY CONTRACTOR.



I hereby certify that to the best of my knowledge that this "As-Built" truly represents existing field conditions including but not limited to sizes, diameters, line and grade, and elevations, shown [7]



Daniel J. Maletic
 Maryland Registered Professional Engineer No. 13759

AS-BUILT
 April 2, 2001

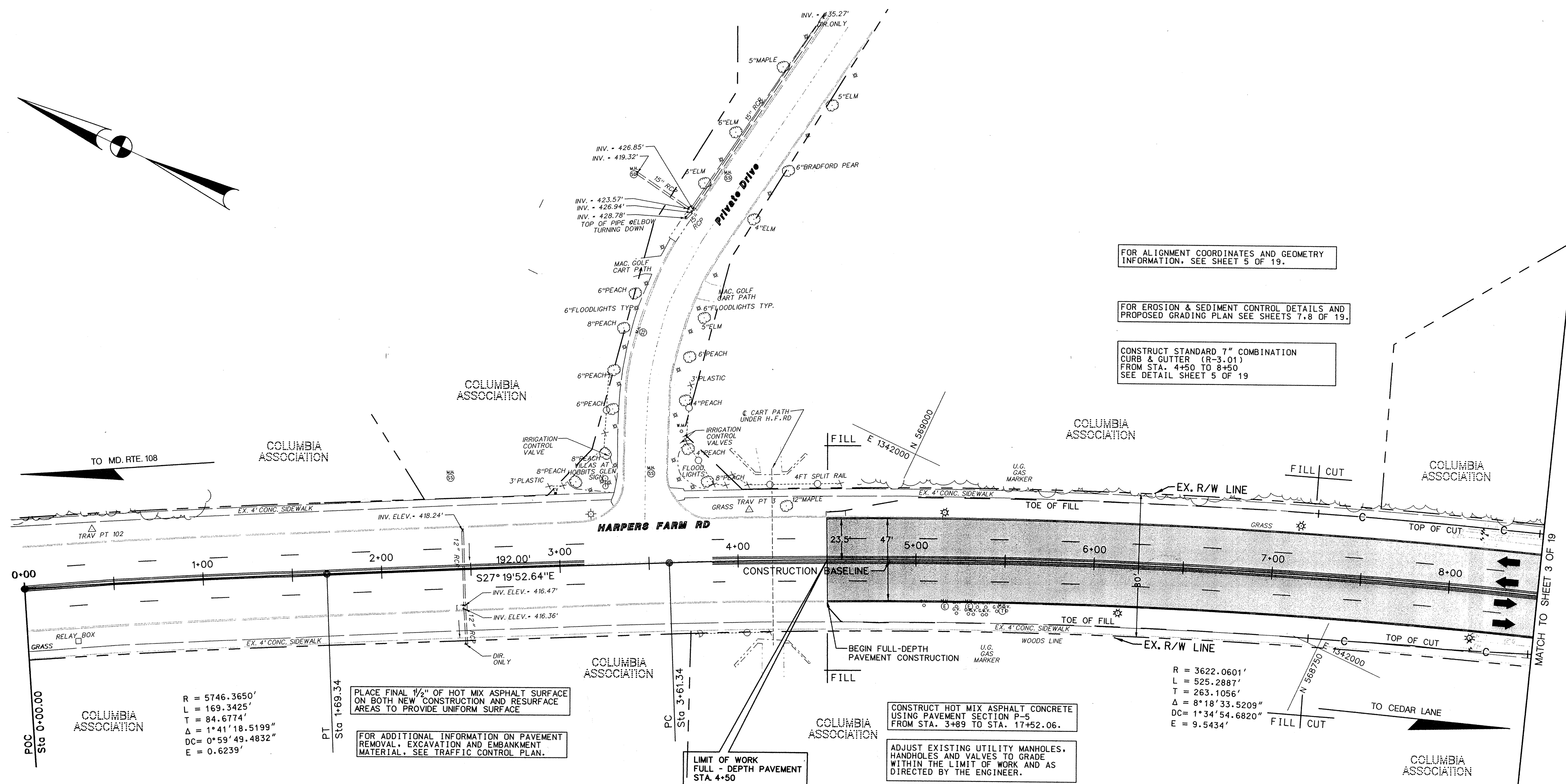
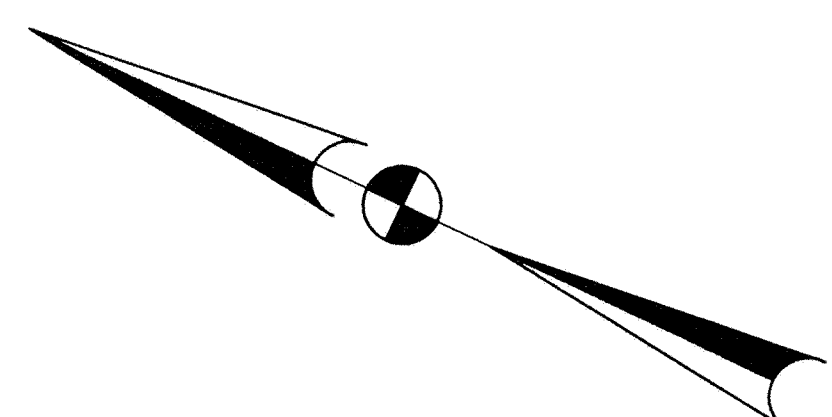
REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND METEOROLOGICAL REQUIREMENTS.
Chief, Soil Conservation Service 4/13/00
 Date

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Chief, Division of Transportation Projects and Watershed Management 4/13/00
 Date

Approved: For Storm Drainage Systems and Public Roads, Howard County Department of Public Works.
 Chief, Division of Transportation Projects and Watershed Management Date

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Samuel J. Miller</i> 4/13/00 DIRECTOR OF PUBLIC WORKS DATE <i>Charles M. Mueller</i> 4-13-00 CHIEF, BUREAU OF HIGHWAYS DATE	GPI Greenman-Pedersen, Inc. ENGINEERS, ARCHITECTS, PLANNERS, CONSTRUCTION ENGINEERS & INSPECTORS 14502 GREENVIEW DRIVE, SUITE 100, LAUREL, MD. 20708 WASH. (301) 470-2772 BALT. (410) 880-3065 FAX (301) 490-2648 www.gpi.net	STATE OF MARYLAND DANIEL JOSEPH MALETIC No. 13759 REGISTERED PROFESSIONAL ENGINEER	DES:	BY:	NO:	REVISION:	DATE:	TITLE SHEET	ROADWAY IMPROVEMENTS TO HARPERS FARM ROAD & WILLOWBOTTOM DRIVE HOWARD COUNTY, MARYLAND CAPITAL PROJECT NO. J-4164	SCALE AS SHOWN
			DRN:	CHK:	DATE:	SHEET 1 OF 19				

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FOR ALIGNMENT COORDINATES AND GEOMETRY INFORMATION, SEE SHEET 5 OF 19.

FOR EROSION & SEDIMENT CONTROL DETAILS AND PROPOSED GRADING PLAN SEE SHEETS 7,8 OF 19.

CONSTRUCT STANDARD 7" COMBINATION CURB & GUTTER (R=3.01) FROM STA. 4+50 TO 8+50 SEE DETAIL SHEET 5 OF 19

PLACE FINAL 1/2" OF HOT MIX ASPHALT SURFACE ON BOTH NEW CONSTRUCTION AND RESURFACE AREAS TO PROVIDE UNIFORM SURFACE

FOR ADDITIONAL INFORMATION ON PAVEMENT REMOVAL, EXCAVATION AND EMBANKMENT MATERIAL, SEE TRAFFIC CONTROL PLAN.

CONSTRUCT HOT MIX ASPHALT CONCRETE USING PAVEMENT SECTION P-5 FROM STA. 3+89 TO STA. 17+52.06.

ADJUST EXISTING UTILITY MANHOLES, HANDHOLES AND VALVES TO GRADE WITHIN THE LIMIT OF WORK AND AS DIRECTED BY THE ENGINEER.

SEE SHEETS 10-13 OF 19 FOR LIMITS OF WORK FOR MILLING AND RESURFACING ALONG HARPERS FARM ROAD.

SEE SHEETS 10-13 OF 19 FOR PAVEMENT MARKINGS ALONG HARPERS FARM ROAD BEYOND THE LIMIT OF WORK FOR FULL DEPTH PAVING. SEE SHEET 9 OF 19 FOR SIGNING AND MARKING WITHIN THE LIMIT OF WORK FOR FULL DEPTH PAVING.

UTILITY SYMBOL LEGEND

- | | | | |
|--------------------------|-----------------------------|--|--|
| ⊠ ELECTRIC BOX | ⊙ STORM DRAIN MANHOLE | — G — G — | — G — G — |
| ⊙ ELECTRIC MANHOLE | ⊙ ROUND GRATE INLET | — W — W — | — W — W — |
| ⊠ ELECTRIC POLE | ⊠ UTILITY STUB | — S — S — | — S — S — |
| ⊙ STREET LIGHT | ⊙ TEST HOLE | — D — D — | — D — D — |
| ⊠ ELECTRIC TRANSFORMER | ⊙ TELEPHONE JUNCTION BOX | — CATV — CATV — | — CATV — CATV — |
| ⊠ TRAFFIC SIGNAL POLE | ⊙ TELEPHONE MANHOLE | — E — E — | — E — E — |
| ⊠ TRAFFIC SIGNAL BOX | ⊙ TELEPHONE PEDestal | — T — T — | — T — T — |
| ⊠ TRAFFIC SIGNAL CABINET | ⊙ TELEPHONE POLE | — A — A — | — A — A — |
| ⊙ GAS MANHOLE | ⊙ CABLE TELEVISION PEDestal | ===== ELECTRICAL CONDUIT | ===== ELECTRICAL CONDUIT |
| ⊙ GAS TEST STATION | ⊙ UNKNOWN MANHOLE | DATUR - DEPICTED ACCORDING TO UTILITY RECORD | DATUR - DEPICTED ACCORDING TO UTILITY RECORD |
| ⊙ GAS VALVE OR METER | ⊙ WELL | AATUR - ABANDONED ACCORDING TO UTILITY RECORD | AATUR - ABANDONED ACCORDING TO UTILITY RECORD |
| ⊙ SANITARY CLEAN OUT | ⊙ FIRE HYDRANT | DATFI - DEPICTED ACCORDING TO FIELD INFORMATION | DATFI - DEPICTED ACCORDING TO FIELD INFORMATION |
| ⊙ SANITARY MANHOLE | ⊙ WATER METER | AATFI - ABANDONED ACCORDING TO FIELD INFORMATION | AATFI - ABANDONED ACCORDING TO FIELD INFORMATION |
| ⊙ CURB INLET | ⊙ WATER MANHOLE | EOI - END OF ELECTRONIC INFORMATION | EOI - END OF ELECTRONIC INFORMATION |
| ⊙ GRATE INLET | ⊙ WATER VALVE | NFL - NOT FIELD LOCATABLE | NFL - NOT FIELD LOCATABLE |

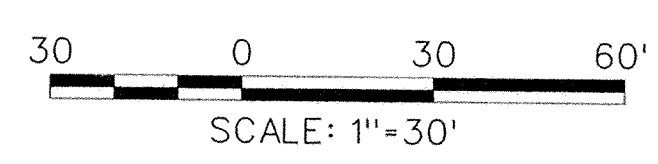
LEGEND

CONSTRUCT GRANULAR BASE PAVING SECTION: P-5

I hereby certify that to the best of my knowledge that this "As-Built" truly represents existing field conditions including but not limited to manholes, diameters, line and grade, and elevations, shown [H]

Daniel J. Maletic
 Daniel J. Maletic
 Maryland Registered Professional Engineer No. 13759

AS-BUILT
 April 2, 2001



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Jan A. Vlu 4/13/00
 DIRECTOR OF PUBLIC WORKS DATE

Robert J. Eppson 4/13/00
 CHIEF, BUREAU OF ENGINEERING DATE

Edgar M. Scaulle 4-13-00
 CHIEF, BUREAU OF HIGHWAYS DATE

Ed Galia 4/13/00
 CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DATE

GPI Greenman-Pedersen, Inc.
 ENGINEERS, ARCHITECTS, PLANNERS, CONSTRUCTION ENGINEERS & INSPECTORS
 1452 GREENVIEW DRIVE, SUITE 100, LAUREL, MD, 20708
 WASH. (301) 470-2772 BALT. (410) 880-3055
 FAX: (301) 490-2649 www.gpincl.com

STATE OF MARYLAND
 DANIEL JOSEPH MALETIC
 No. 13759
 REGISTERED PROFESSIONAL ENGINEER

DES:	BY	NO	REVISION	DATE
DRN:				
CHK:				
DATE:				

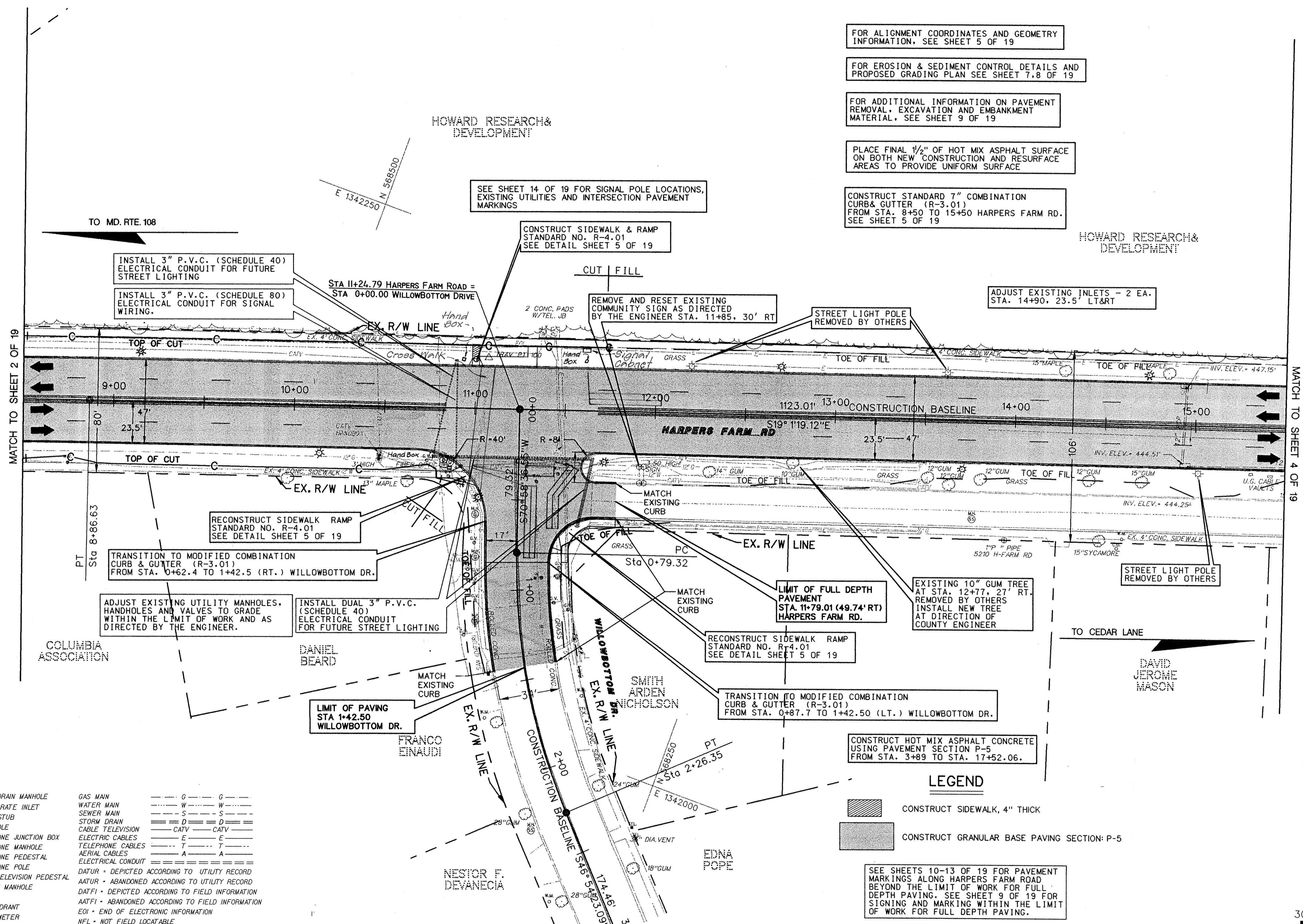
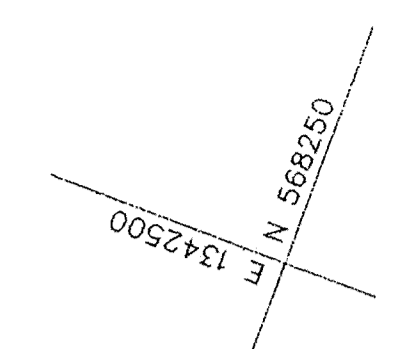
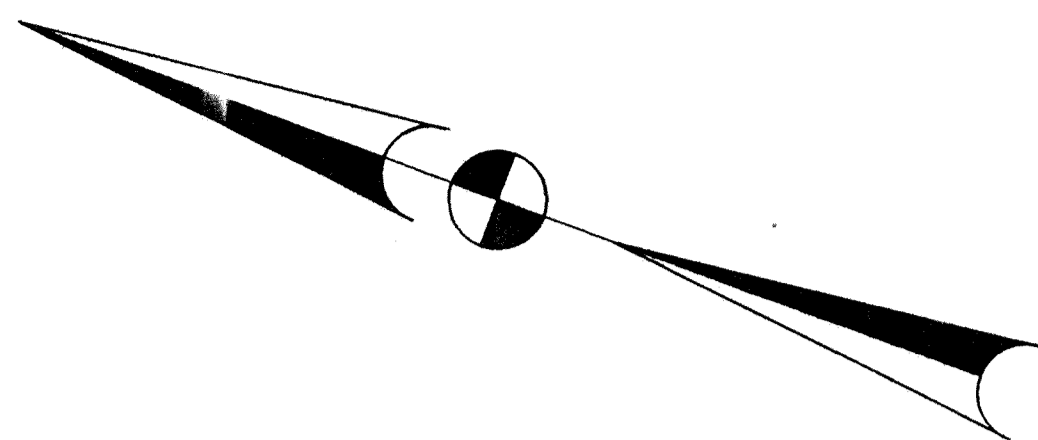
ROADWAY PLAN
 STA. 3+89 TO STA. 8+50

*SCALE MAP NO. BLOCK NO.

ROADWAY IMPROVEMENTS TO
 HARPERS FARM ROAD & WILLOWBOTTOM DRIVE
 HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO. J-4164

SCALE AS SHOWN
 SHEET 2 OF 19

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FOR ALIGNMENT COORDINATES AND GEOMETRY INFORMATION, SEE SHEET 5 OF 19

FOR EROSION & SEDIMENT CONTROL DETAILS AND PROPOSED GRADING PLAN SEE SHEET 7.8 OF 19

FOR ADDITIONAL INFORMATION ON PAVEMENT REMOVAL, EXCAVATION AND EMBANKMENT MATERIAL, SEE SHEET 9 OF 19

PLACE FINAL 1/2" OF HOT MIX ASPHALT SURFACE ON BOTH NEW CONSTRUCTION AND RESURFACE AREAS TO PROVIDE UNIFORM SURFACE

CONSTRUCT STANDARD 7" COMBINATION CURB & GUTTER (R-3.01) FROM STA. 8+50 TO 15+50 HARPERS FARM RD. SEE SHEET 5 OF 19

SEE SHEET 14 OF 19 FOR SIGNAL POLE LOCATIONS, EXISTING UTILITIES AND INTERSECTION PAVEMENT MARKINGS

CONSTRUCT SIDEWALK & RAMP STANDARD NO. R-4.01 SEE DETAIL SHEET 5 OF 19

REMOVE AND RESET EXISTING COMMUNITY SIGN AS DIRECTED BY THE ENGINEER STA. 11+85. 30' RT

ADJUST EXISTING INLETS - 2 EA. STA. 14+90, 23.5' LT&RT

INSTALL 3" P.V.C. (SCHEDULE 40) ELECTRICAL CONDUIT FOR FUTURE STREET LIGHTING

INSTALL 3" P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT FOR SIGNAL WIRING.

STA 11+24.79 HARPERS FARM ROAD = STA 0+00.00 WILLOWBOTTOM DRIVE

RECONSTRUCT SIDEWALK RAMP STANDARD NO. R-4.01 SEE DETAIL SHEET 5 OF 19

TRANSITION TO MODIFIED COMBINATION CURB & GUTTER (R-3.01) FROM STA. 0+62.4 TO 1+42.5 (RT.) WILLOWBOTTOM DR.

ADJUST EXISTING UTILITY MANHOLES, HANDHOLES AND VALVES TO GRADE WITHIN THE LIMIT OF WORK AND AS DIRECTED BY THE ENGINEER.

INSTALL DUAL 3" P.V.C. (SCHEDULE 40) ELECTRICAL CONDUIT FOR FUTURE STREET LIGHTING

RECONSTRUCT SIDEWALK RAMP STANDARD NO. R-4.01 SEE DETAIL SHEET 5 OF 19

TRANSITION TO MODIFIED COMBINATION CURB & GUTTER (R-3.01) FROM STA. 0+87.7 TO 1+42.50 (LT.) WILLOWBOTTOM DR.

CONSTRUCT HOT MIX ASPHALT CONCRETE USING PAVEMENT SECTION P-5 FROM STA. 3+89 TO STA. 17+52.06.

- LEGEND**
- CONSTRUCT SIDEWALK, 4" THICK
 - CONSTRUCT GRANULAR BASE PAVING SECTION: P-5

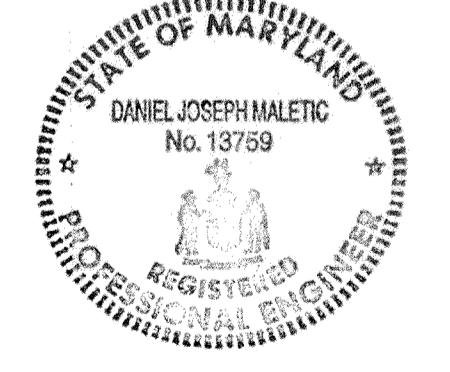
SEE SHEETS 10-13 OF 19 FOR PAVEMENT MARKINGS ALONG HARPERS FARM ROAD BEYOND THE LIMIT OF WORK FOR FULL DEPTH PAVING. SEE SHEET 9 OF 19 FOR SIGNING AND MARKING WITHIN THE LIMIT OF WORK FOR FULL DEPTH PAVING.

SEE SHEETS 10-13 OF 19 FOR LIMITS OF WORK FOR MILLING AND RESURFACING ALONG HARPERS FARM ROAD.

UTILITY SYMBOL LEGEND

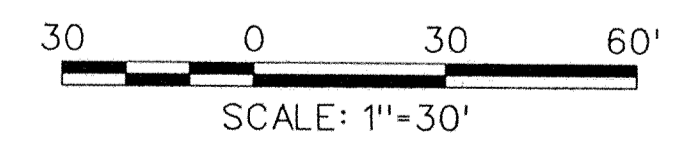
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|--|---|---|
| <ul style="list-style-type: none"> ⊠ ELECTRIC BOX ⊙ ELECTRIC MANHOLE ⊠ ELECTRIC POLE ⊠ STREET LIGHT ⊠ ELECTRIC TRANSFORMER ⊠ TRAFFIC SIGNAL POLE ⊠ TRAFFIC SIGNAL CABINET ⊠ TRAFFIC SIGNAL CABINET ⊠ GAS MANHOLE ⊠ GAS TEST STATION ⊠ GAS VALVE OR METER ⊠ SANITARY CLEAN OUT ⊠ SANITARY MANHOLE ⊠ CURB INLET ⊠ GRATE INLET | <ul style="list-style-type: none"> ⊙ STORM DRAIN MANHOLE ⊙ ROUND GRATE INLET ⊠ UTILITY STUB ⊠ TEST HOLE ⊠ TELEPHONE JUNCTION BOX ⊠ TELEPHONE MANHOLE ⊠ TELEPHONE PEDESTAL ⊠ TELEPHONE POLE ⊠ CABLE TELEVISION PEDESTAL ⊠ UNKNOWN MANHOLE ⊠ WELL ⊠ FIRE HYDRANT ⊠ WATER METER ⊠ WATER MANHOLE ⊠ WATER VALVE | <ul style="list-style-type: none"> — G — G — WATER MAIN — W — W — SEWER MAIN — S — S — STORM DRAIN — D — D — CABLE TELEVISION — CATV — CATV — CABLE TELEVISION — E — E — ELECTRIC CABLES — T — T — TELEPHONE CABLES — A — A — AERIAL CABLES — ELEC — ELEC — ELECTRICAL CONDUIT DATUR - DEPICTED ACCORDING TO UTILITY RECORD AATUR - ABANDONED ACCORDING TO UTILITY RECORD DATF1 - DEPICTED ACCORDING TO FIELD INFORMATION AATF1 - ABANDONED ACCORDING TO FIELD INFORMATION EOI - END OF ELECTRONIC INFORMATION NFL - NOT FIELD LOCATABLE |
|--|---|---|

I hereby certify that to the best of my knowledge that this "As-Built" truly represents existing field conditions including but not limited to sizes, diameters, line and grade, and elevations, shown []



Daniel J. Maletic
 Maryland Registered Professional Engineer No. 13759

AS-BUILT
 April 2, 2001

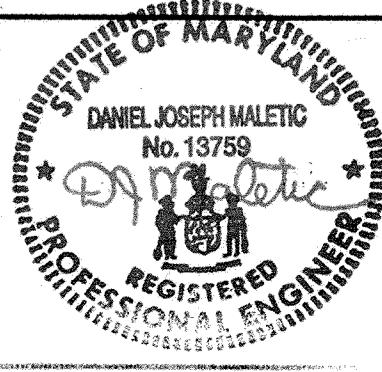


DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works: *4/13/00*
 Chief, Bureau of Highways: *4-13-00*

Chief, Bureau of Engineering: *4/13/00*
 Chief, Division of Transportation Projects and Watershed Management: *4/13/00*

GPI Greenman-Pedersen, Inc.
 ENGINEERS, ARCHITECTS, PLANNERS, CONSTRUCTION ENGINEERS & INSPECTORS
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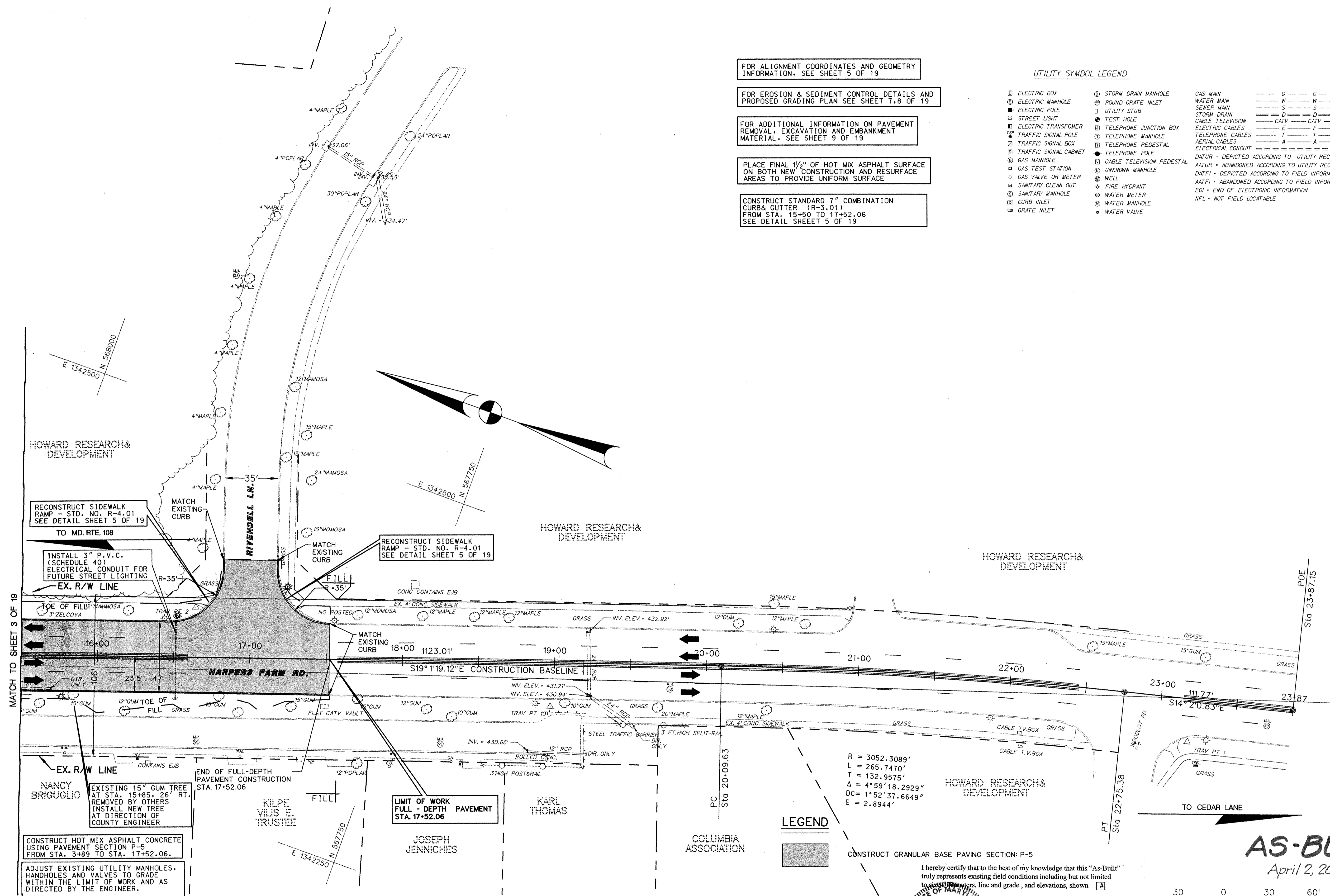
ROADWAY PLAN
 STA. 8+50 TO STA. 15+50

SCALE MAP NO. _____ BLOCK NO. _____

ROADWAY IMPROVEMENTS TO
 HARPERS FARM ROAD & WILLOWBOTTOM DRIVE
 HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO. J-4164

SCALE AS SHOWN
 SHEET 3 OF 19

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RECONSTRUCT SIDEWALK RAMP - STD. NO. R-4.01 SEE DETAIL SHEET 5 OF 19 TO MD. RTE. 108

INSTALL 3" P.V.C. (SCHEDULE 40) ELECTRICAL CONDUIT FOR FUTURE STREET LIGHTING EX. R/W LINE

RECONSTRUCT SIDEWALK RAMP - STD. NO. R-4.01 SEE DETAIL SHEET 5 OF 19

EXISTING 15" GUM TREE AT STA. 15+85, 26' RT. REMOVED BY OTHERS. INSTALL NEW TREE AT DIRECTION OF COUNTY ENGINEER

CONSTRUCT HOT MIX ASPHALT CONCRETE USING PAVEMENT SECTION P-5 FROM STA. 3+89 TO STA. 17+52.06.

ADJUST EXISTING UTILITY MANHOLES, HANDHOLES AND VALVES TO GRADE WITHIN THE LIMIT OF WORK AND AS DIRECTED BY THE ENGINEER.

LIMIT OF WORK FULL-DEPTH PAVEMENT STA. 17+52.06

SEE SHEETS 10-13 OF 19 FOR PAVEMENT MARKINGS ALONG HARPERS FARM ROAD BEYOND THE LIMIT OF WORK FOR FULL DEPTH PAVING. SEE SHEET 9 OF 19 FOR SIGNING AND MARKING WITHIN THE LIMIT OF WORK FOR FULL DEPTH PAVING.

SEE SHEETS 10-13 OF 19 FOR LIMITS OF WORK FOR MILLING AND RESURFACING ALONG HARPERS FARM ROAD.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. Vane 4/13/00
DIRECTOR OF PUBLIC WORKS DATE

Robert M. Donnell 4-15-00
CHIEF, BUREAU OF HIGHWAYS DATE

Daniel J. Maletic 4/13/00
CHIEF, BUREAU OF ENGINEERING DATE

Sal Calica 4/13/00
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DATE

GPI Greenman-Pedersen, Inc.
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FAX: (301) 450-2648 www.gpinet.com

STATE OF MARYLAND
DANIEL JOSEPH MALETIC
No. 13759
REGISTERED PROFESSIONAL ENGINEER

DES:	BY:	NO:	REVISION:	DATE:

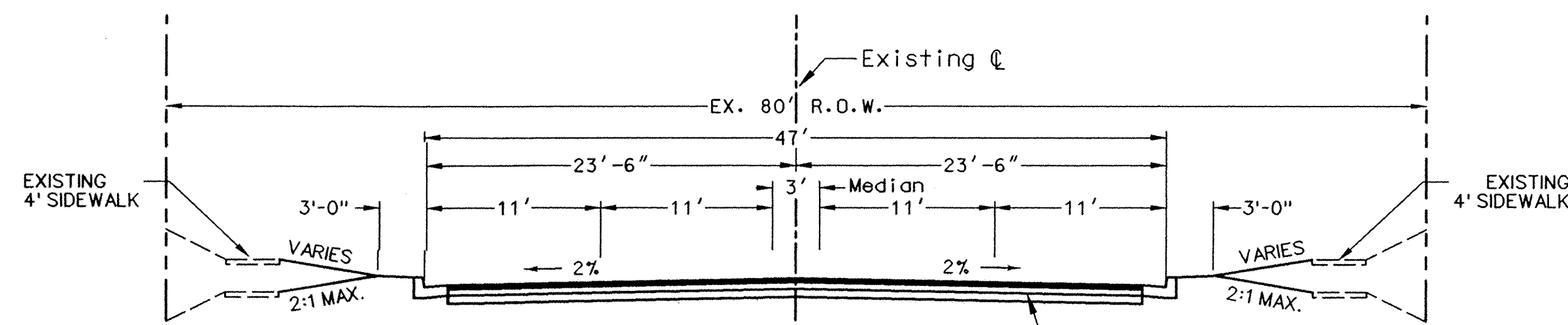
ROADWAY PLAN STA. 15+50 TO STA. 17+52.06

SCALE MAP NO. _____ BLOCK NO. _____

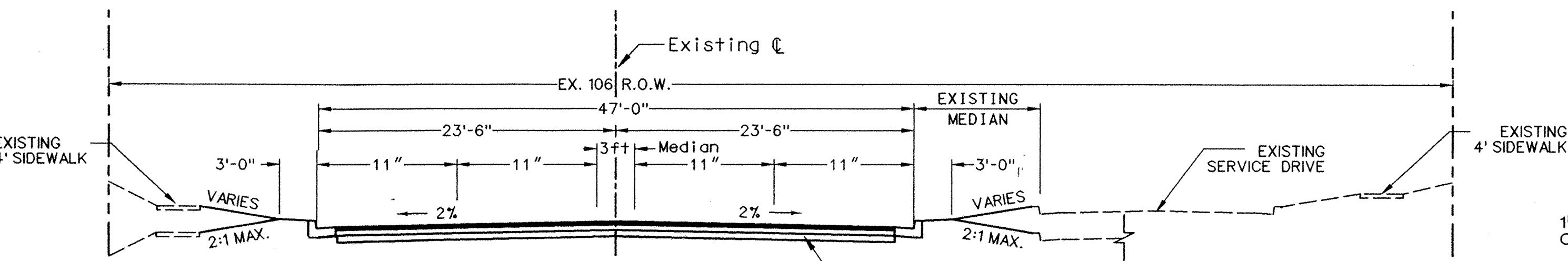
ROADWAY IMPROVEMENTS TO HARPERS FARM ROAD & WILLOWBOTTOM DRIVE
HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. J-4164

SCALE AS SHOWN
SHEET 4 OF 19

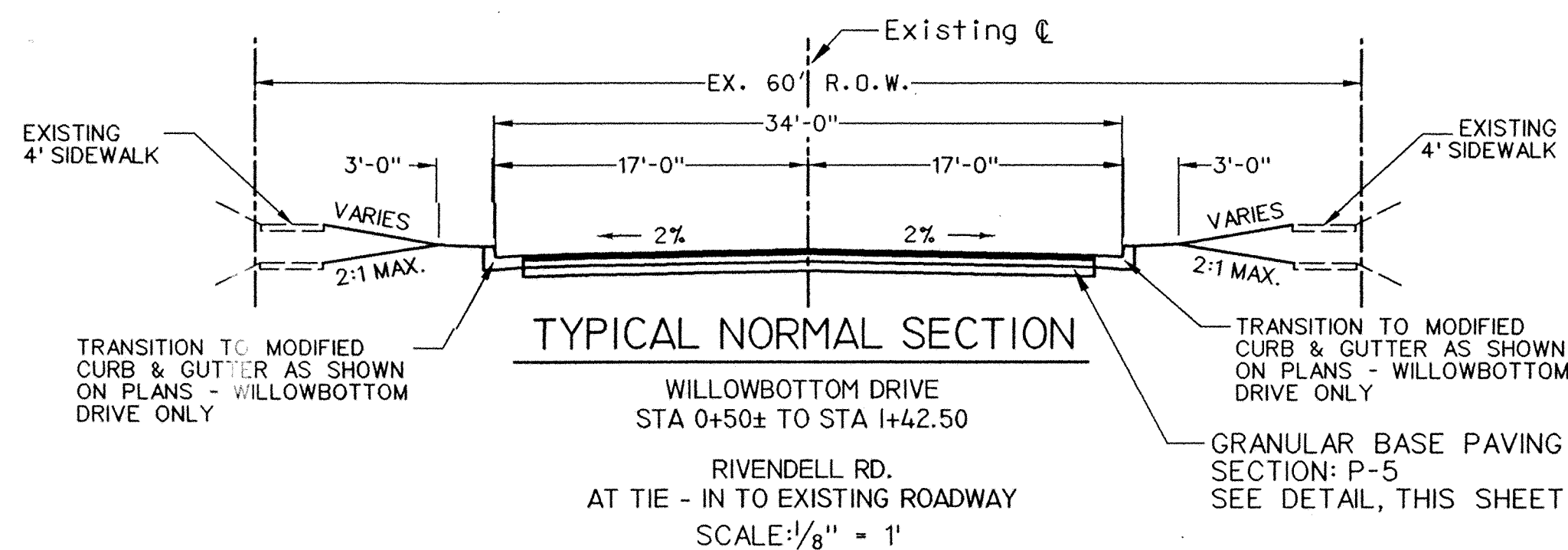
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TYPICAL NORMAL SECTION
HARPERS FARM ROAD
STA 3+89 TO STA 11+50±
SCALE: 1/8" = 1'

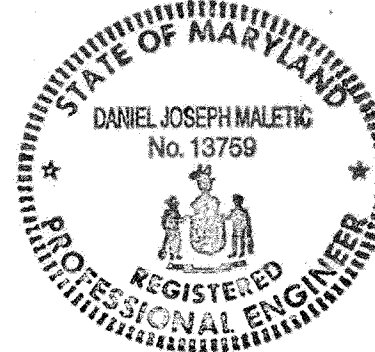


TYPICAL NORMAL SECTION
HARPERS FARM ROAD
STA 11+50± TO STA 17+52.06
SCALE: 1/8" = 1'



TYPICAL NORMAL SECTION
WILLOWBOTTOM DRIVE
STA 0+50± TO STA 1+42.50
SCALE: 1/8" = 1'

I hereby certify that to the best of my knowledge that this "As-Built" truly represents existing field conditions including but not limited to sizes, diameters, line and grade, and elevations, shown on this drawing.



Daniel J. Maletic
Maryland Registered Professional Engineer No. 13759

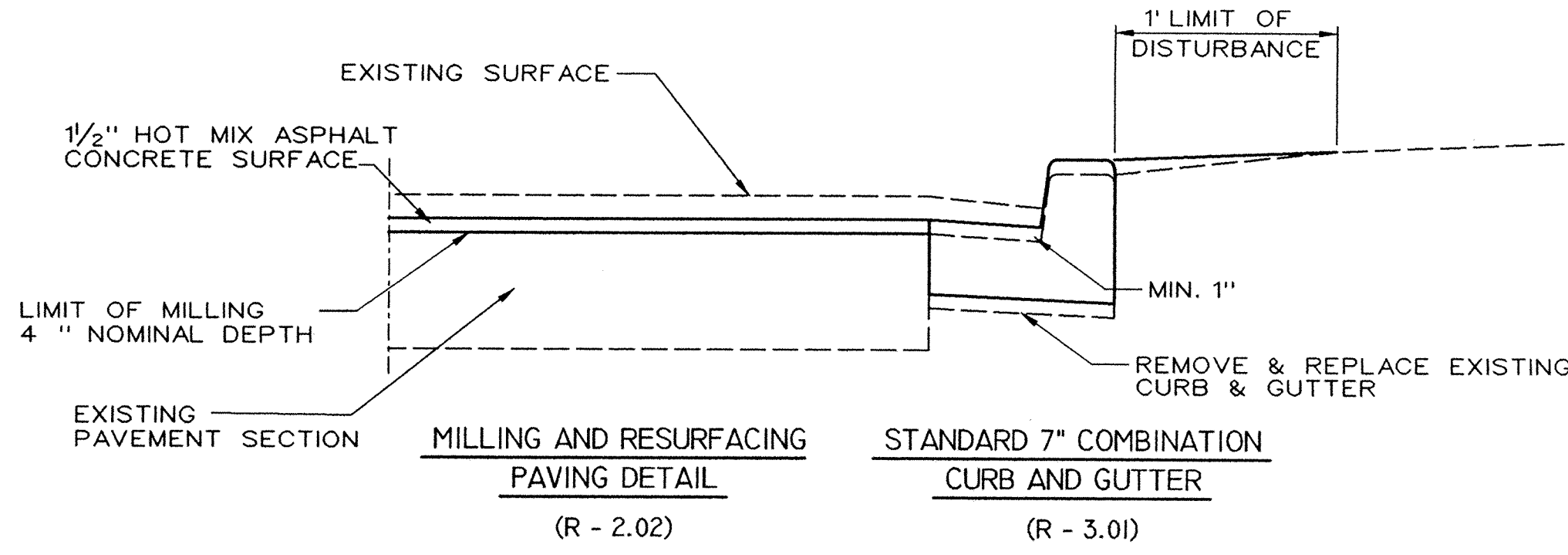
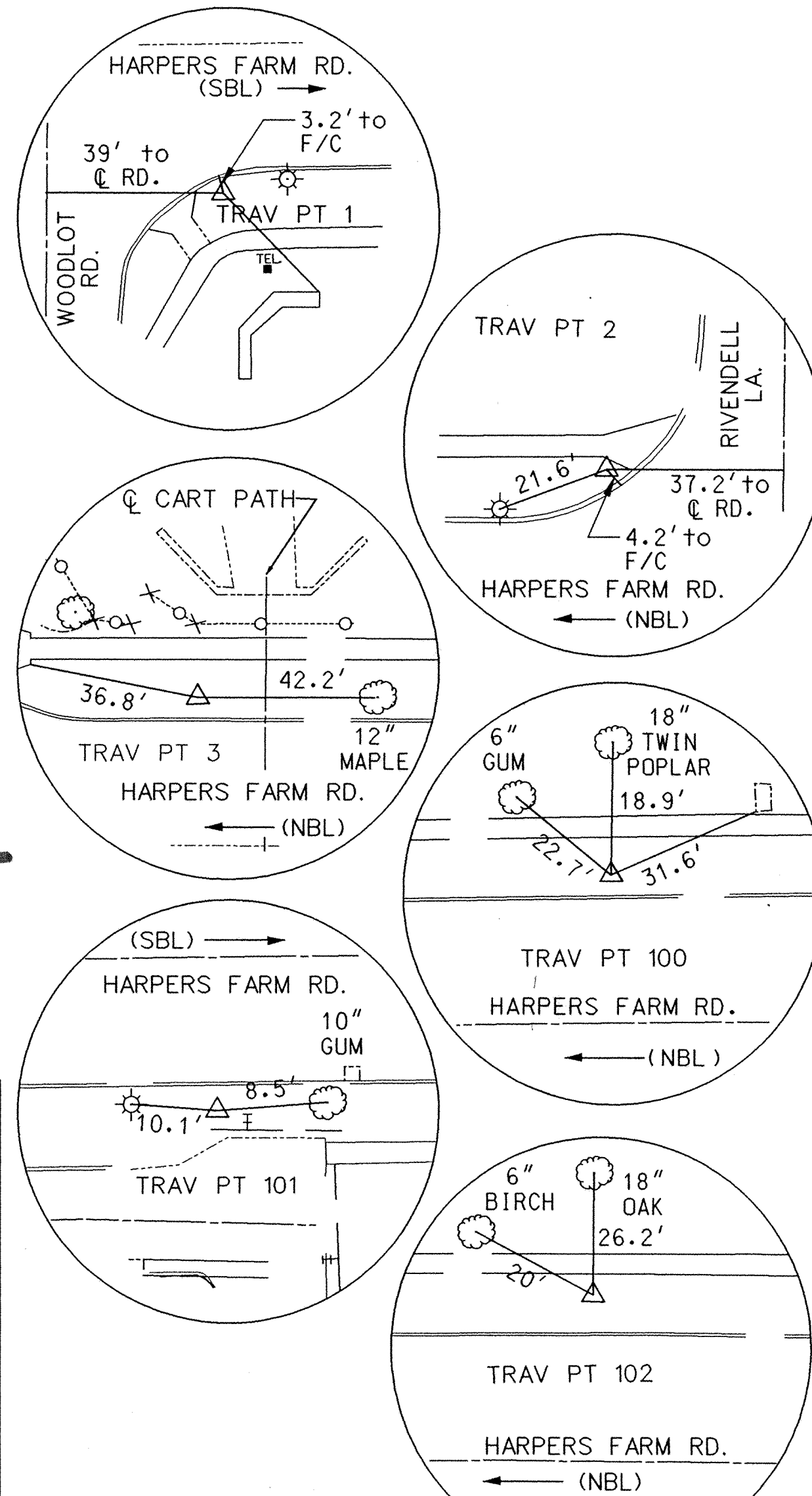
COORDINATE GEOMETRY DATA

AS-BUILT
April 2, 2001

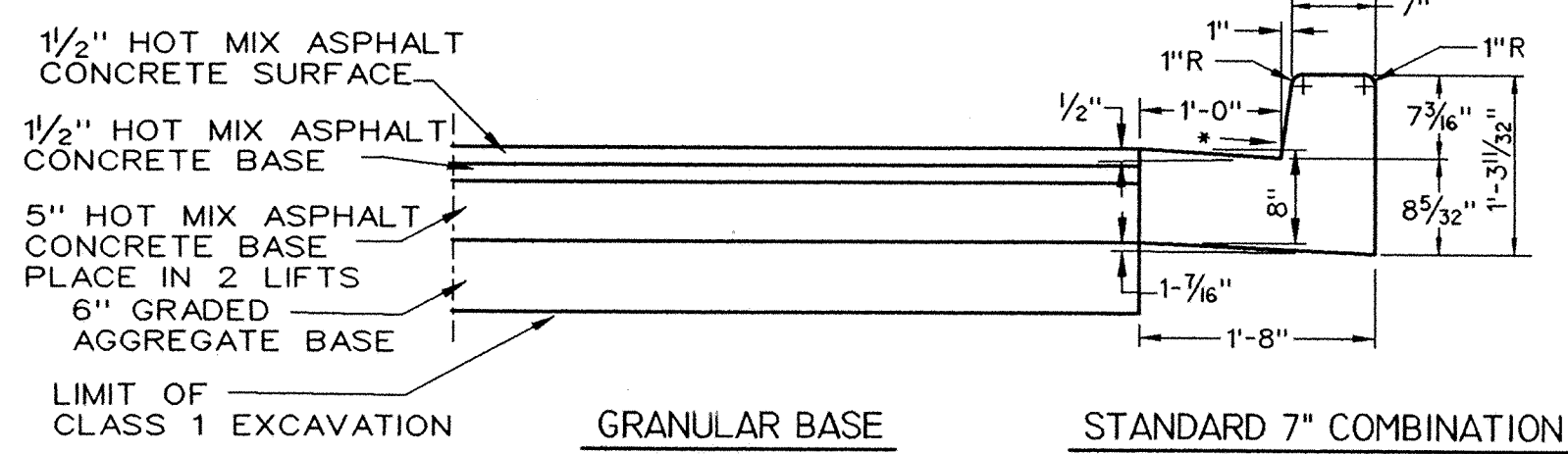
NUMBER	TRAVERSE POINTS	COORDINATE LISTING	TYPE	
		NORTHING EASTING ELEVATION		
1	567249.8767	1342516.9147	451.6800	TRAV
2	567891.3635	1342376.3679	445.5800	TRAV
3	569070.3110	1341331.4628	436.1200	TRAV
4	569847.4548	1341423.7980	436.4600	TRAV
100	568417.0253	1342190.3770	465.6487	TRAV
101	567651.2329	1342394.0671	438.2519	TRAV
102	569398.8638	1341763.5349	429.8500	TRAV

STATION	PT	ROADWAY ALIGNMENT LISTING		NORTH (Y)	EAST (X)
		DIST.	BRNG.		
0+00.00	POB	0.0003	BRNG. = S 29°01'10.4981" E	569418.5071	1341717.2871
0+00.00	PC			569418.5069	1341717.2872
1+69.34	PT			569269.2360	1341797.2435
3+61.34	PC			569098.6739	1341885.3951
8+86.63	PT			568616.2012	1342091.9503
20+09.63	PC			567554.5175	1342457.9730
22+75.38	PT			567299.8311	1342533.5488
23+87.15	POE			567191.3980	1342560.6517
0+00.00	POB			568391.0480	1342169.5730
0+79.32	PC			568365.1952	1342094.5894
2+26.35	PT			568289.8936	1341969.5548
4+00.82	POE			568170.7010	1341842.1540

TRAVERSE POINTS
NOT TO SCALE



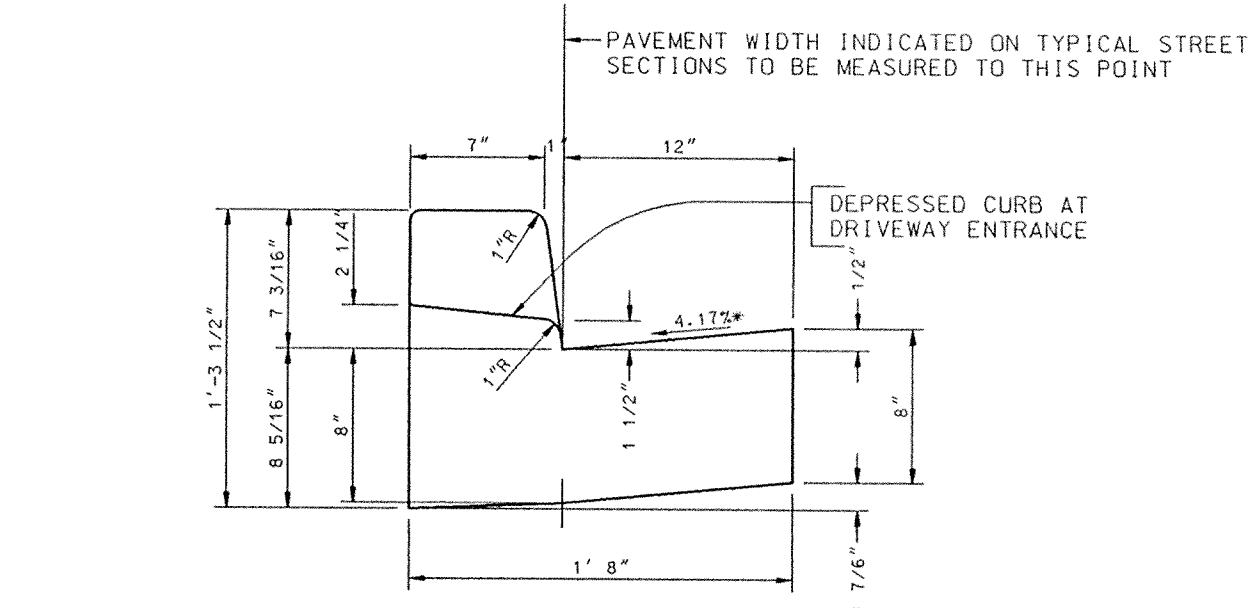
MILLING & RESURFACING DETAIL
SCALE: 1/2" = 1'



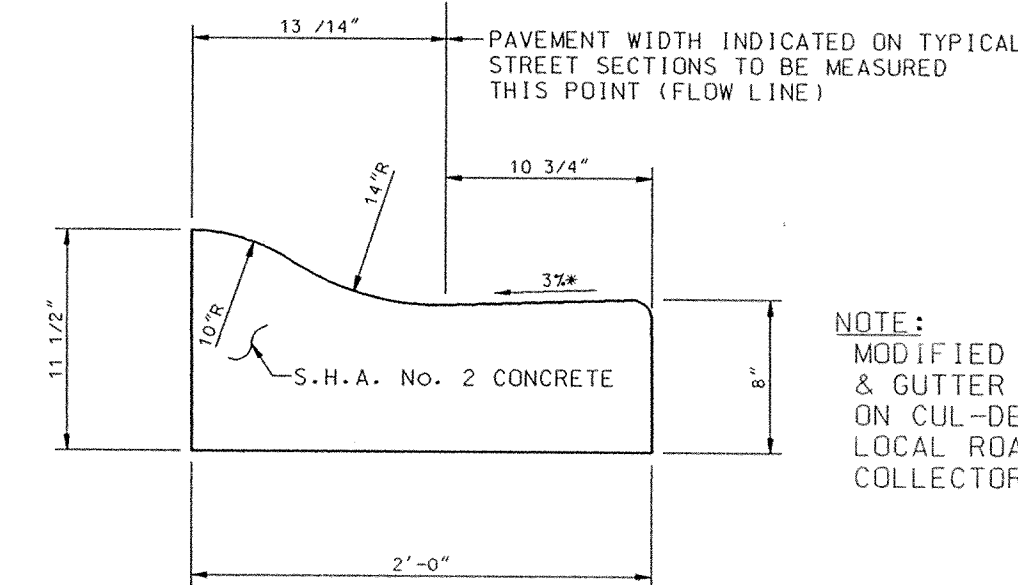
PAVING SECTION P-5 DETAIL
SCALE: 1/2" = 1'

* SEE GUTTER PAN NOTE ON HOWARD COUNTY STANDARD DETAIL R-3.01 - THIS SHEET

STANDARD 7" COMBINATION CURB AND GUTTER



STANDARD 7" COMBINATION CURB AND GUTTER



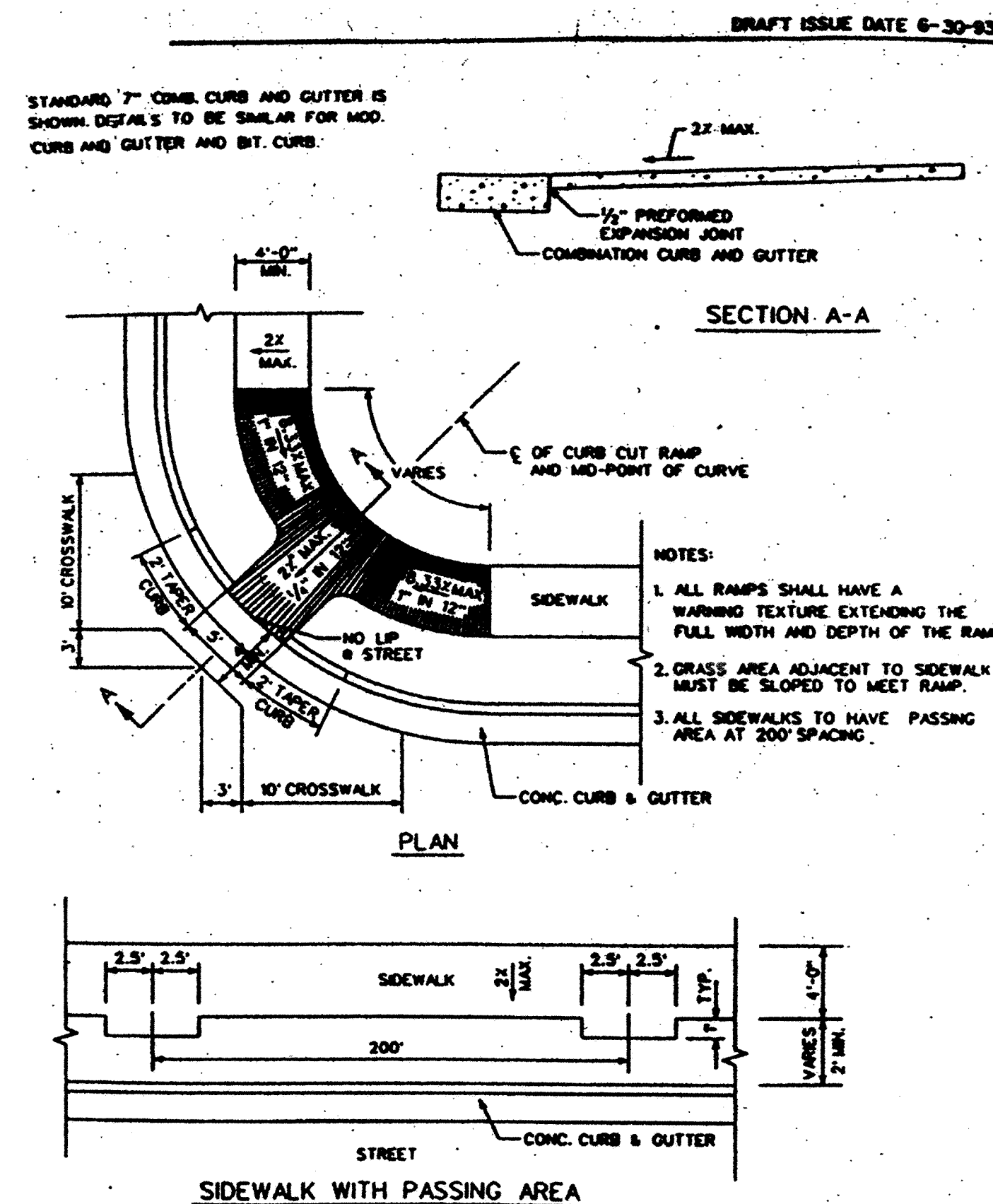
MODIFIED COMBINATION CURB AND GUTTER

* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB & GUTTER.

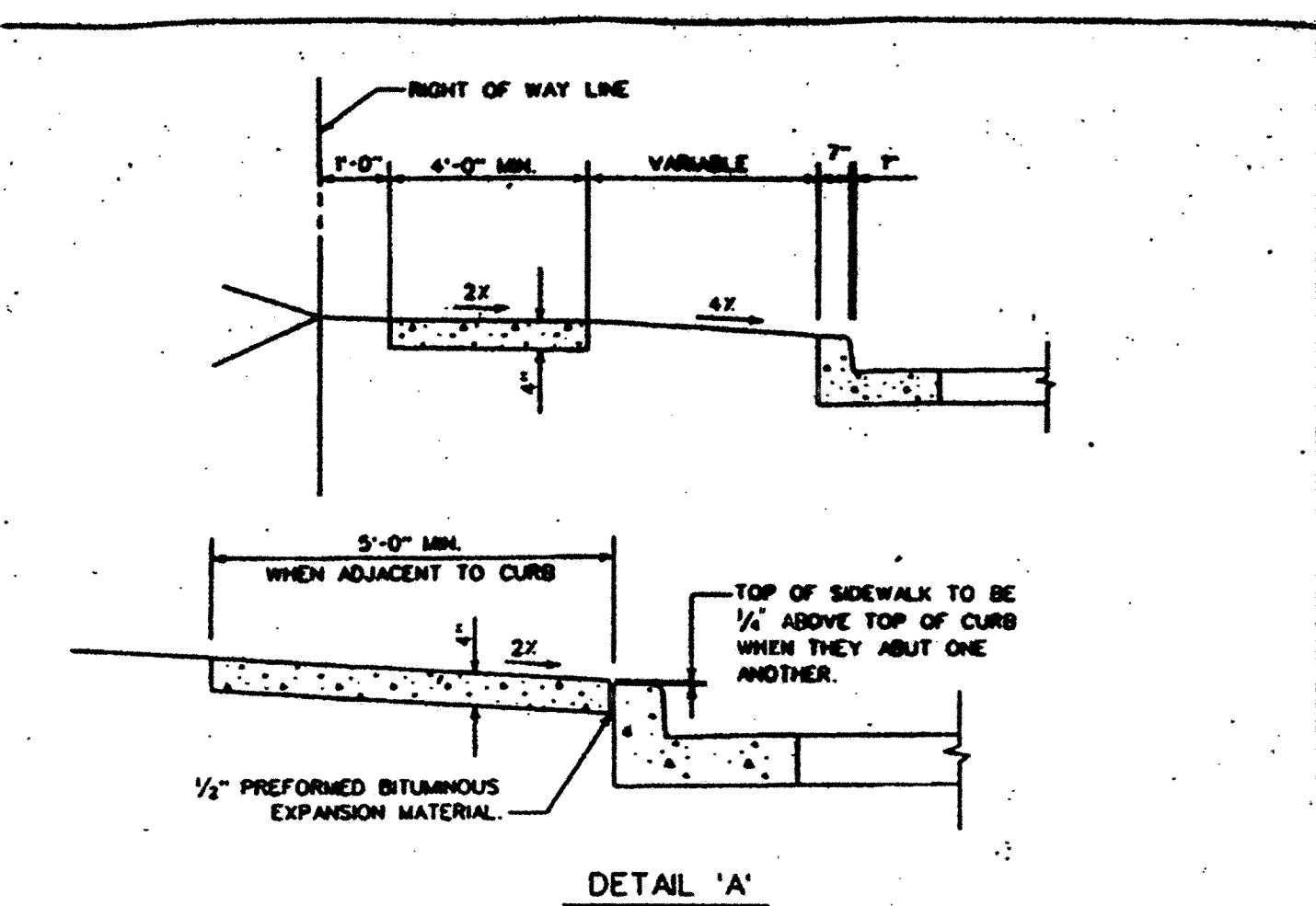
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

COMBINATION CURB AND GUTTER

NO SCALE
R - 3.01



SIDEWALK RAMP TYPE A
SCALE: 1/2" = 1'



- NOTES:**
1. SIDEWALK TO BE SCRIBED IN 5'-0" MAXIMUM SQUARES.
 2. EXPANSION JOINTS ACROSS THE SIDEWALK NOT TO MORE THAN 15' APART.
 3. 1/2" PREFORMED BITUMINOUS EXPANSION MATERIAL IN EXPANSION JOINTS TO BE KEPT 1/4" BELOW SURFACE OF SIDEWALK.
 4. CONCRETE TO BE MIX NO. 2.
 5. WHEN SIDEWALK ABUTS CURB, WALK SHALL BE 1/4" ABOVE CURB WITH 1/2" PREFORMED BITUMINOUS EXPANSION MATERIAL BETWEEN SIDEWALK AND CURB.
 6. ON LONGITUDINAL SIDEWALK GRADES OF 5% OR GREATER, A CONCRETE HEADER, 6" THICK AND 6" DEEP BELOW THE NORMAL 4" SIDEWALK THICKNESS SHALL BE CONSTRUCTED FOR THE FULL WIDTH OF THE SIDEWALK AT INTERVALS OF 48 FEET. THE HEADERS SHALL BE PLACED AT EXPANSION JOINT LOCATIONS AND SHALL BE MONOLITHIC WITH THE SIDEWALK.
 7. SIDEWALK WIDTH ADJACENT TO CURB SHALL BE 5'-0" MIN. EXCEPT SIDEWALK ADJACENT TO CURB IN CUL-DE-SAC BULBS MAY BE 4'-0" WIDE.
 8. SIDEWALK LOCATED 2' OR MORE FROM CURB MAY BE 4'-0" IN WIDTH WITH A 5'-0" PAVED SECTION PLACED 200' APART.

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

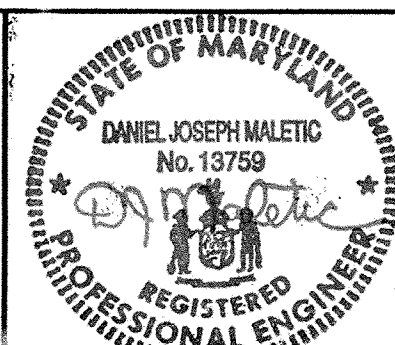
CONCRETE SIDEWALK

DWN: J.P.
CHK: W.M.H.
NO SCALE
R - 3.05

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND
James J. New 4/13/00
DIRECTOR OF PUBLIC WORKS
DATE
Daniel J. Maletic 4/13/00
CHIEF, BUREAU OF ENGINEERING
DATE
Daniel J. Maletic 4/13/00
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT
DATE

GPI Greenman-Pedersen, Inc.
ENGINEERS, ARCHITECTS, PLANNERS, CONSTRUCTION ENGINEERS & INSPECTORS
1432 GREENVIEW DRIVE, SUITE 100, LAUREL, MD 20708
WASH. (301) 470-2772 BALT. (410) 880-3055
FAX (301) 490-2648 www.gpi.com



DES:	BY:	NO:	REVISION:	DATE:

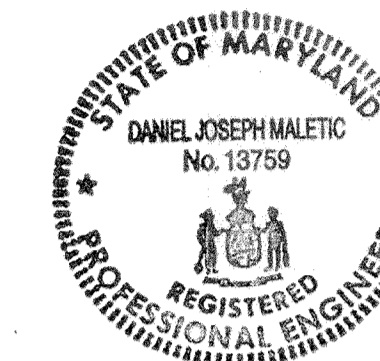
TYPICAL SECTIONS PAVING SECTIONS MISC. DETAILS

SCALE MAP NO. BLOCK NO.

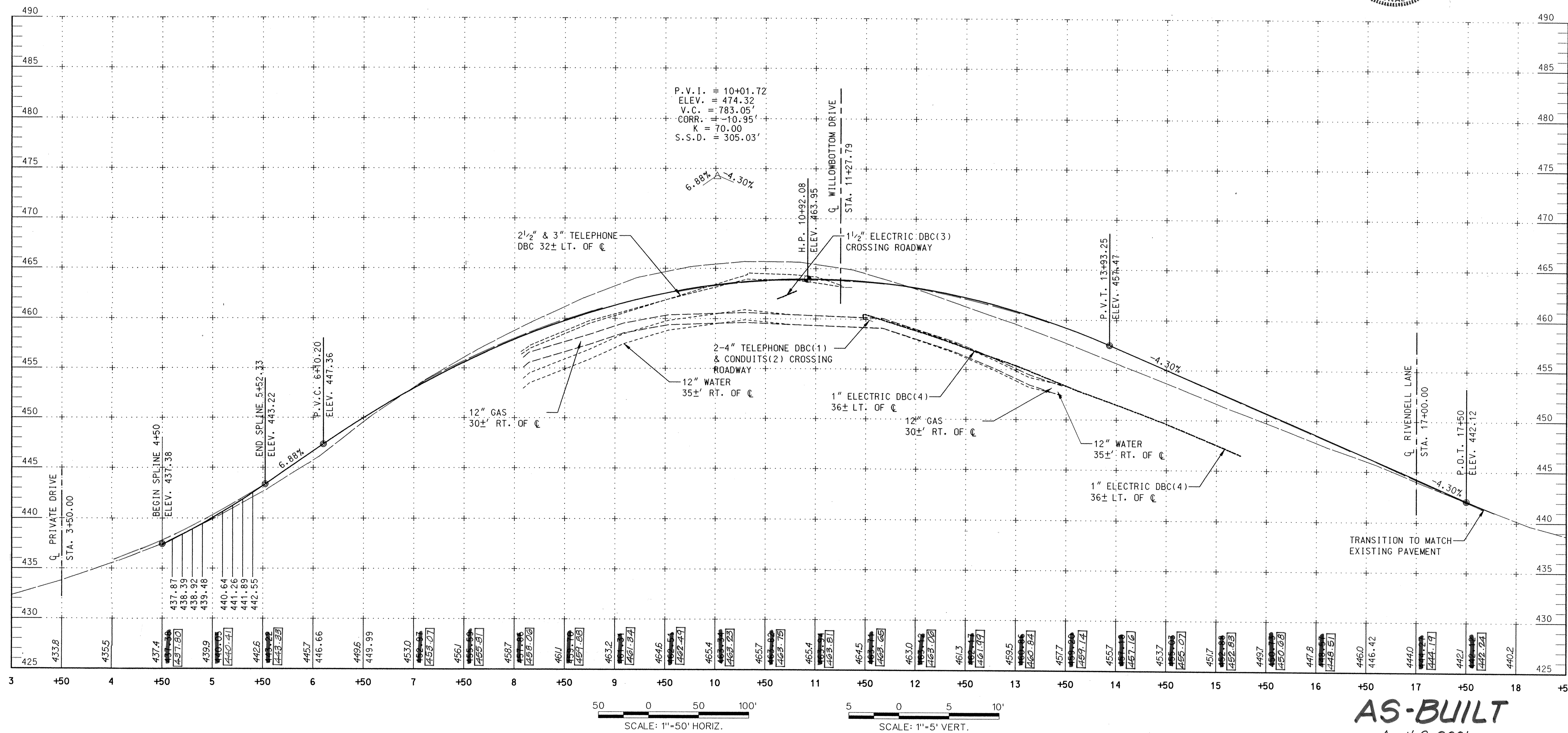
ROADWAY IMPROVEMENTS TO
HARPERS FARM ROAD & WILLOWBOTTOM DRIVE
HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. J-4164

SCALE AS SHOWN
SHEET 5 OF 19

I hereby certify that to the best of my knowledge that this "As-Built" truly represents existing field conditions including but not limited to sizes, diameters, line and grade, and elevations, shown #



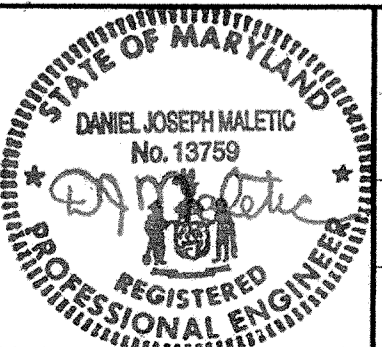
Daniel J. Maletic
 Daniel J. Maletic
 Maryland Registered Professional Engineer No. 13759



AS-BUILT
 April 2, 2001

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *James A. New* 4/13/00
 Chief, Bureau of Engineering: *Robert Ransom* 4/13/00
 Chief, Bureau of Highways: *Andrew M. Davelle* 4-13-00
 Chief, Division of Transportation Projects and Watershed Management: *D. J. Maletic* 4/13/00

GPI Greenman-Pedersen, Inc.
 ENGINEERS, ARCHITECTS, PLANNERS, CONSTRUCTION ENGINEERS & INSPECTORS
 14502 GREENVIEW DRIVE, SUITE 100, LAUREL, MD. 20708
 WASH. (301) 470-2772 BALT. (410) 880-3055
 FAX: (301) 490-2648 www.gpinc.com



DES:	BY:	NO:	REVISION:	DATE:
DRN:				
CHK:				
DATE:				

PROFILE SHEET
 STA. 3+00 TO STA. 18+50
 SCALE MAP NO. _____ BLOCK NO. _____

ROADWAY IMPROVEMENTS TO
 HARPERS FARM ROAD & WILLOWBOTTOM DRIVE
 HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO. J-4164

SCALE AS SHOWN
 SHEET 6 OF 19

FILE: 1998 98175 04 vgn/vasth/mr/dp
DATE: 13 APR 2000 13:25:43

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION
PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES
1. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

- THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
- THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
- THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
- THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

II. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

- TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
- TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
 - TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
 - TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMOUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
 - WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, (GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
- FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:

- ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
 - PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
 - ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
 - TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
 - NO SOO OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILIZANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

- PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

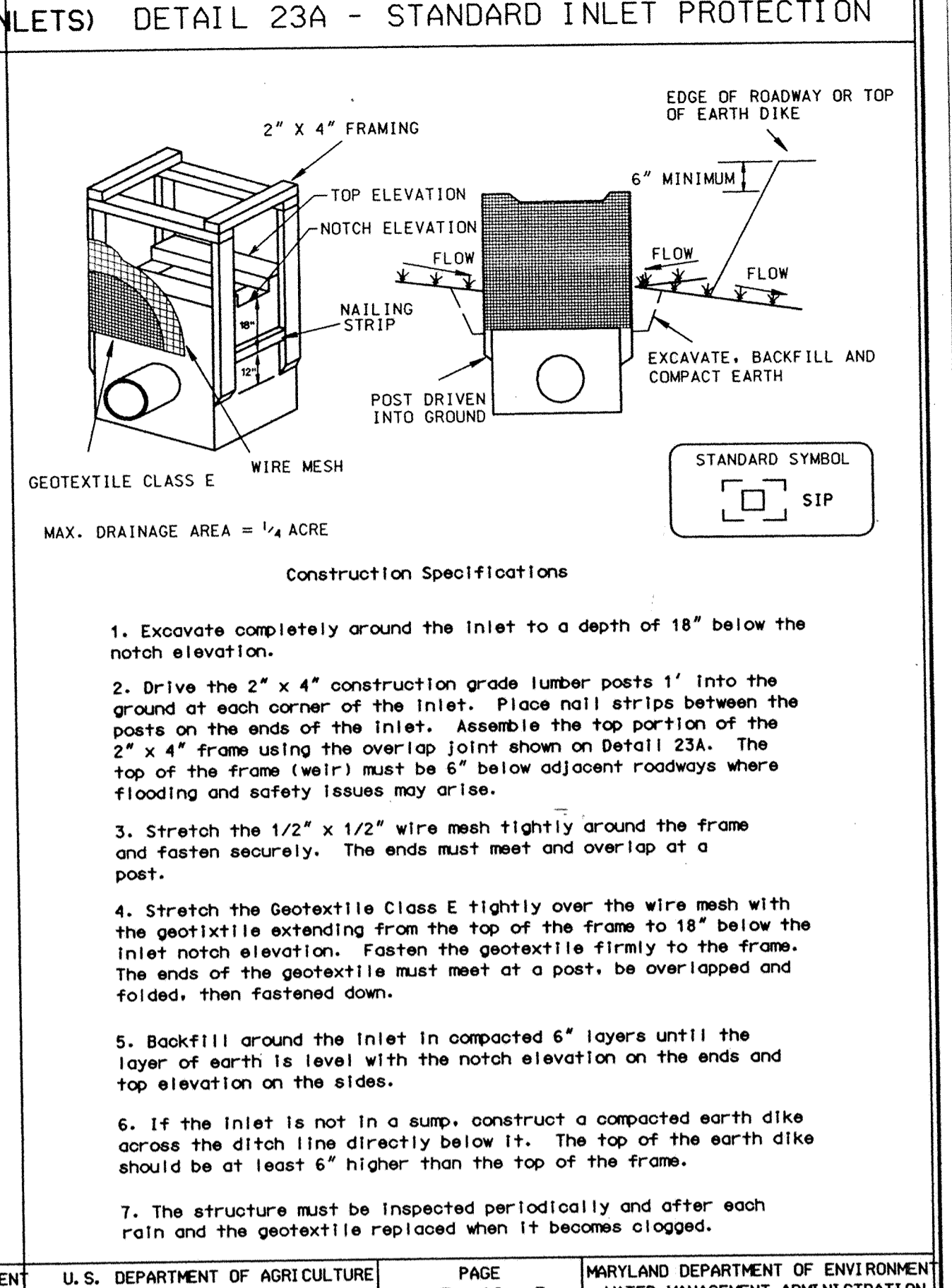
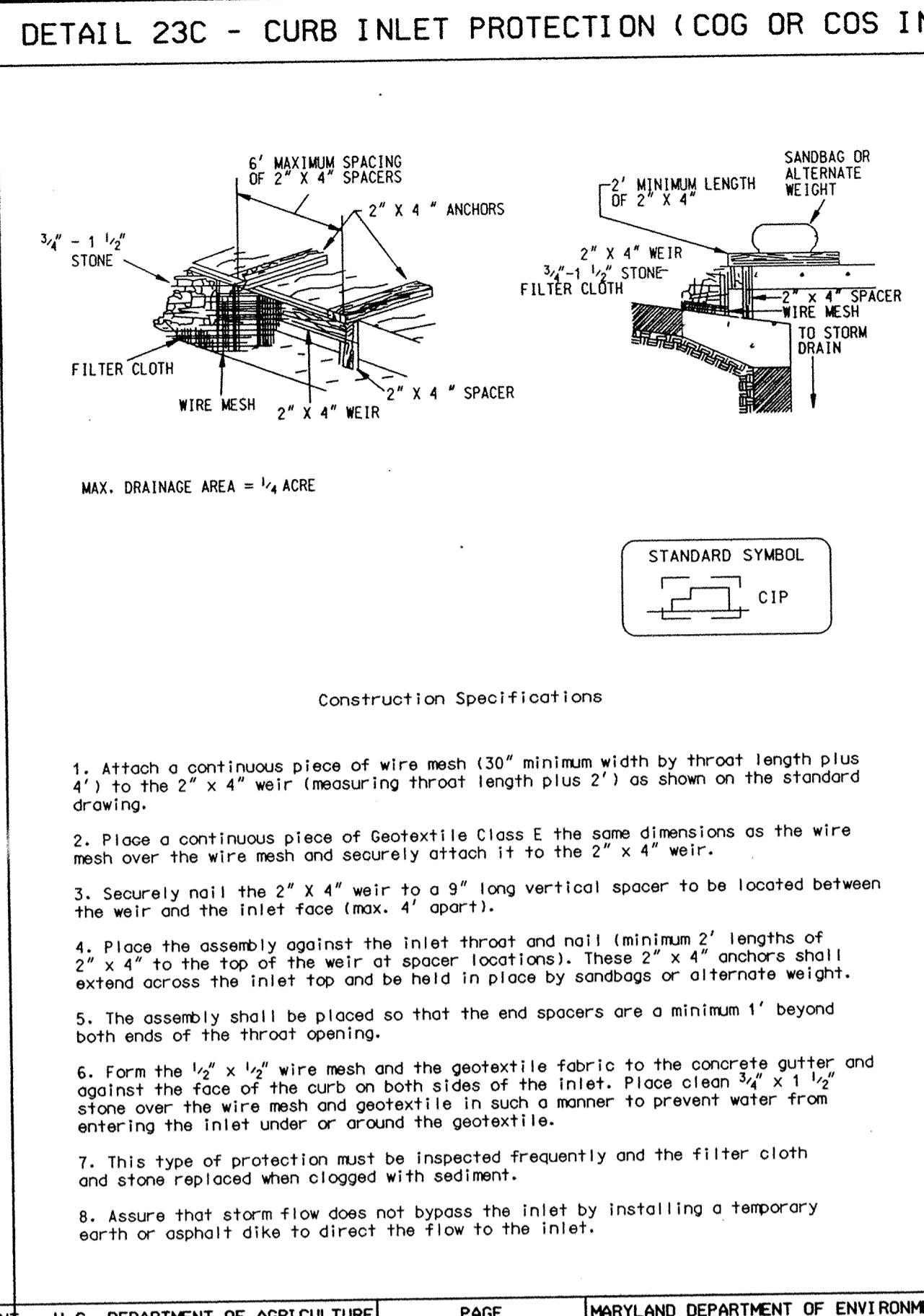
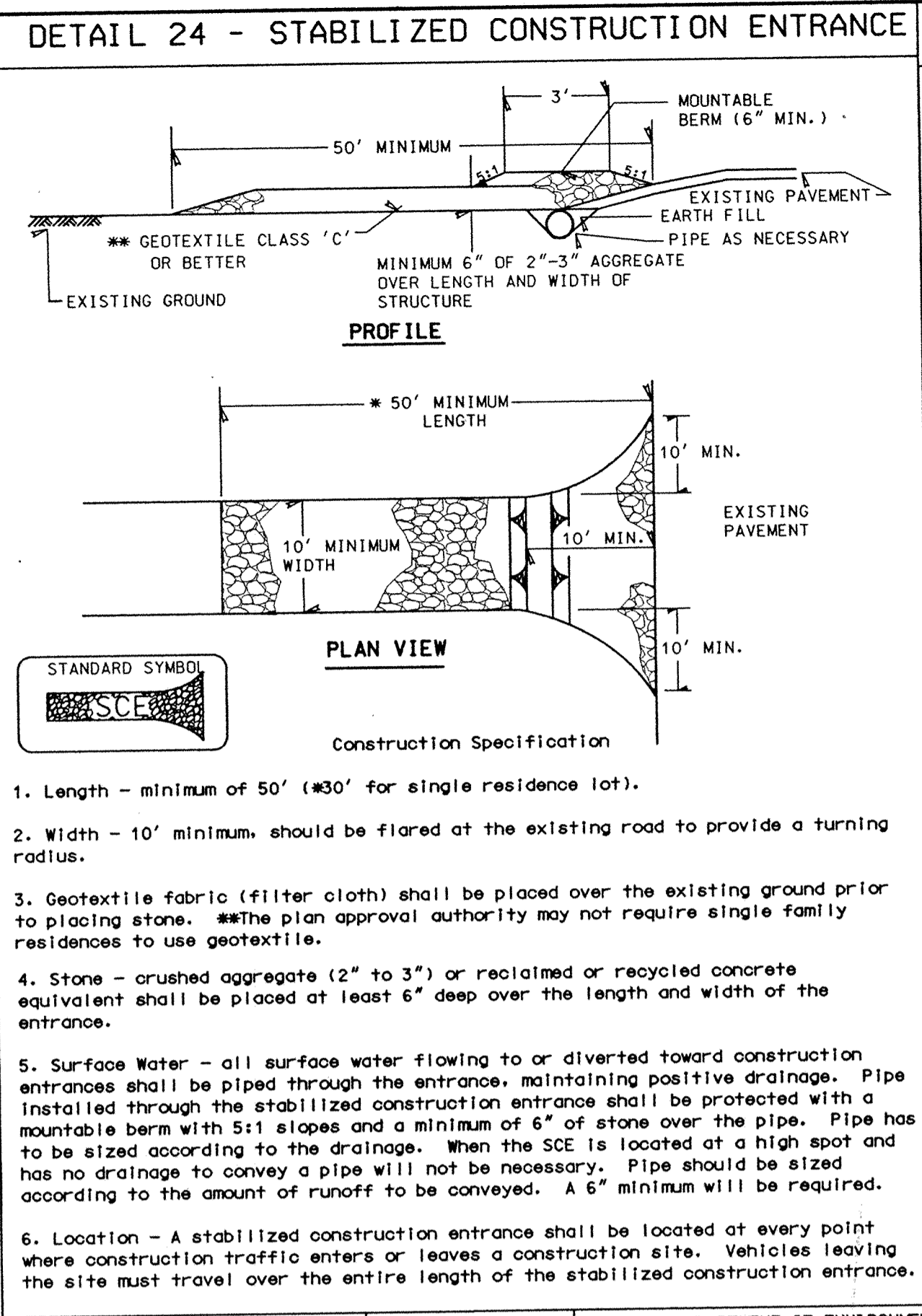
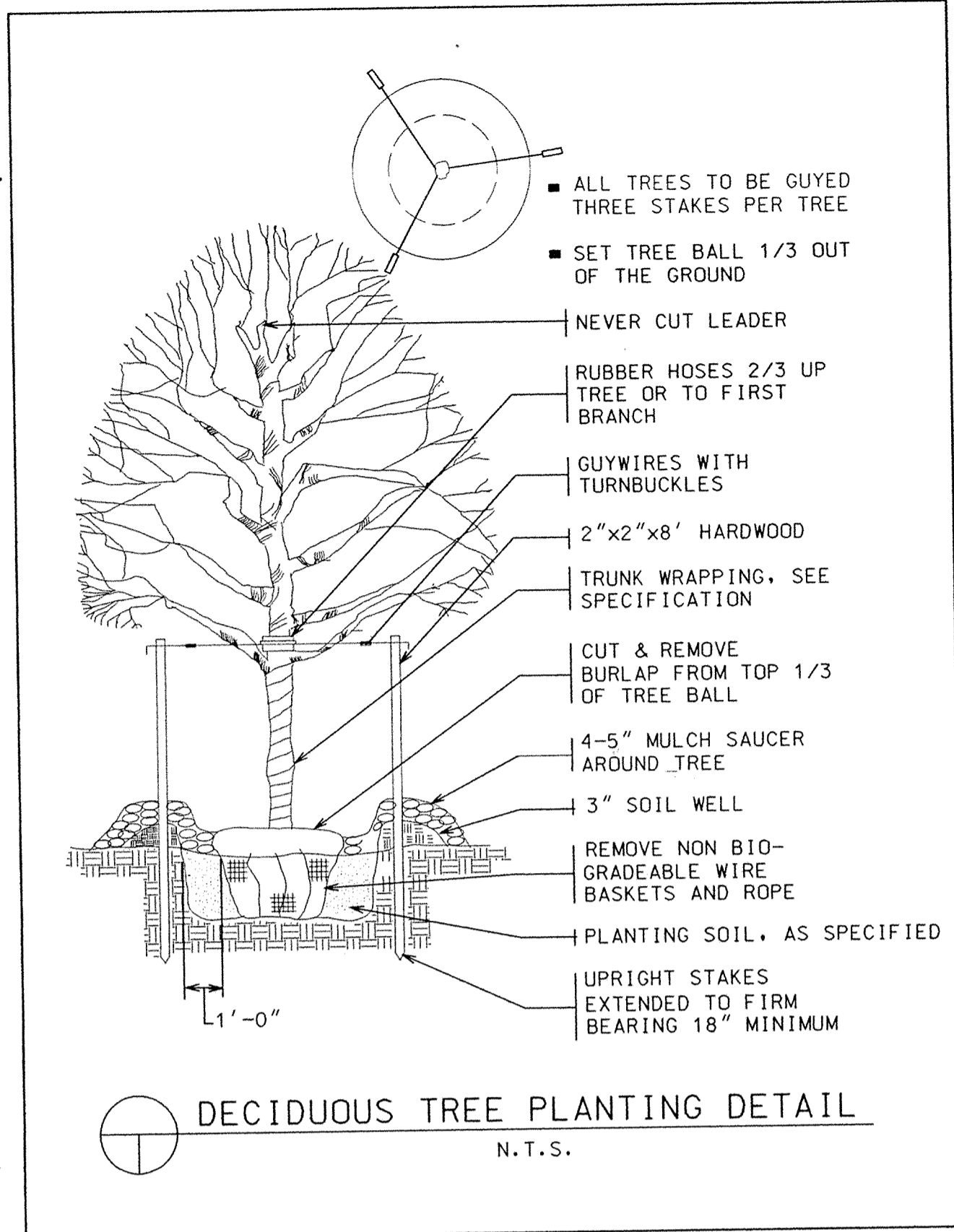
V. TOPSOIL APPLICATION

- WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
 - GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION.
 - TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SOODING OR SEEDING CAN PROCEED WITH A MINIMUM OF RESULTING. FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
 - TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

VI. ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:

- COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 - COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
 - COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
 - COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
- COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SOODING MD-VI, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F - 17 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 16 - 5B MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 16 - 5 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SILT FENCE

Silt Fence Design Criteria

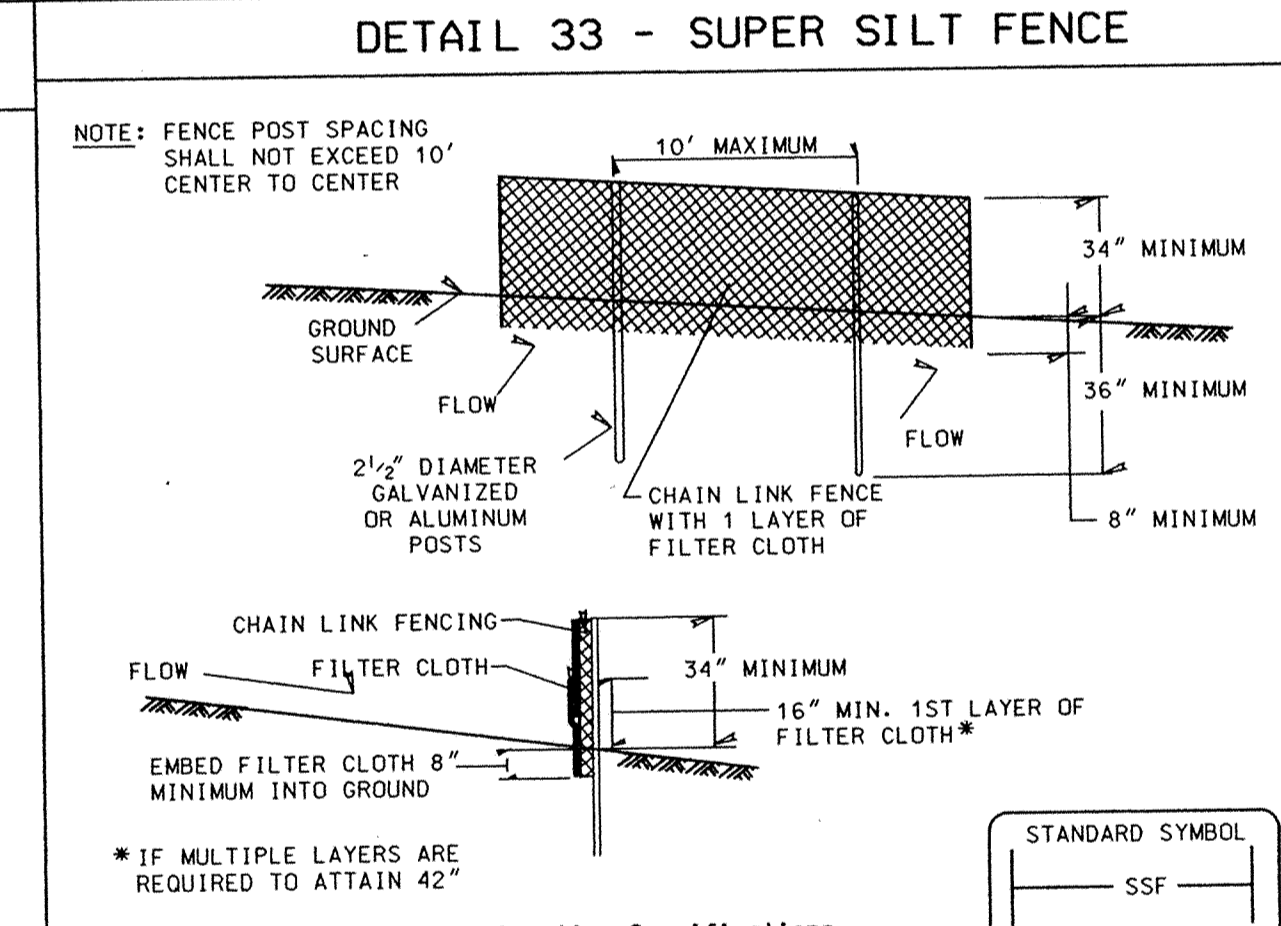
Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

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

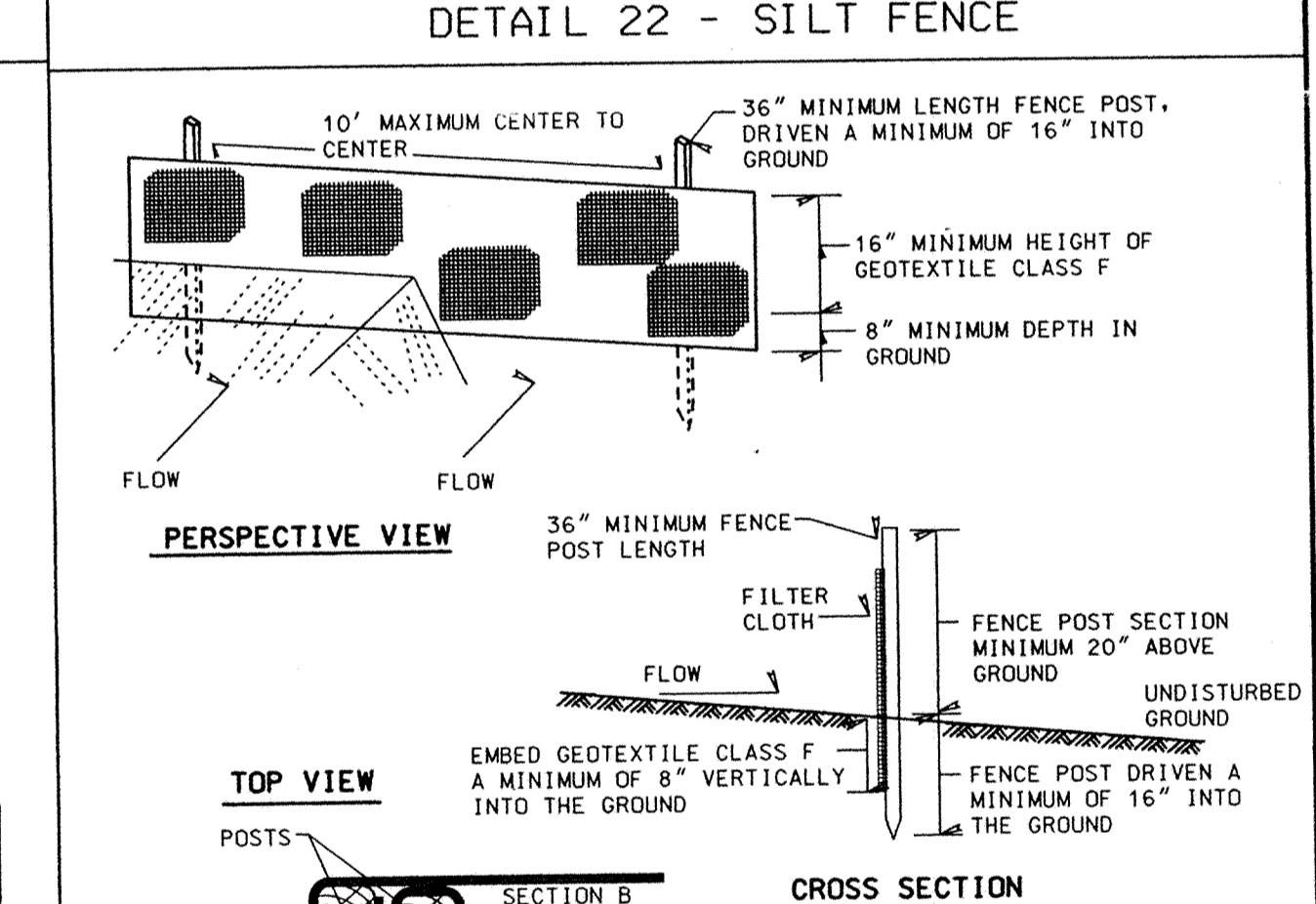
SUPER SILT FENCE

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet



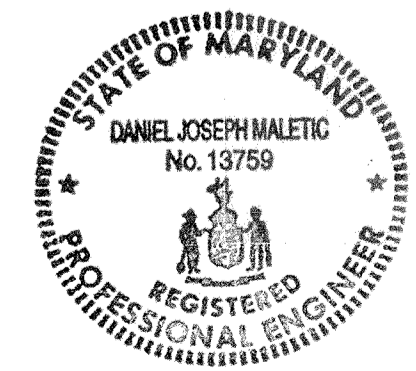
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H - 26 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



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

I hereby certify that to the best of my knowledge that this "As-Built" truly represents existing field conditions including but not limited to sizes, diameters, line and grade, and elevations, shown #

Daniel J. Maletic
Daniel J. Maletic
Maryland Registered Professional Engineer No. 13759



AS-BUILT
April 2, 2001

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

4/14/00
4/14/00

GPI Greenman-Pedersen, Inc.
ENGINEERS, ARCHITECTS, PLANNERS, CONSTRUCTION ENGINEERS & INSPECTORS
14502 GREENVIEW DRIVE, SUITE 100, LAUREL, MD 20708
WASH. (301) 470-2772 BALT. (410) 880-3055
FAX (301) 490-2649 www.gpinet.com

DES:	BY:	NO:	REVISION:	DATE:

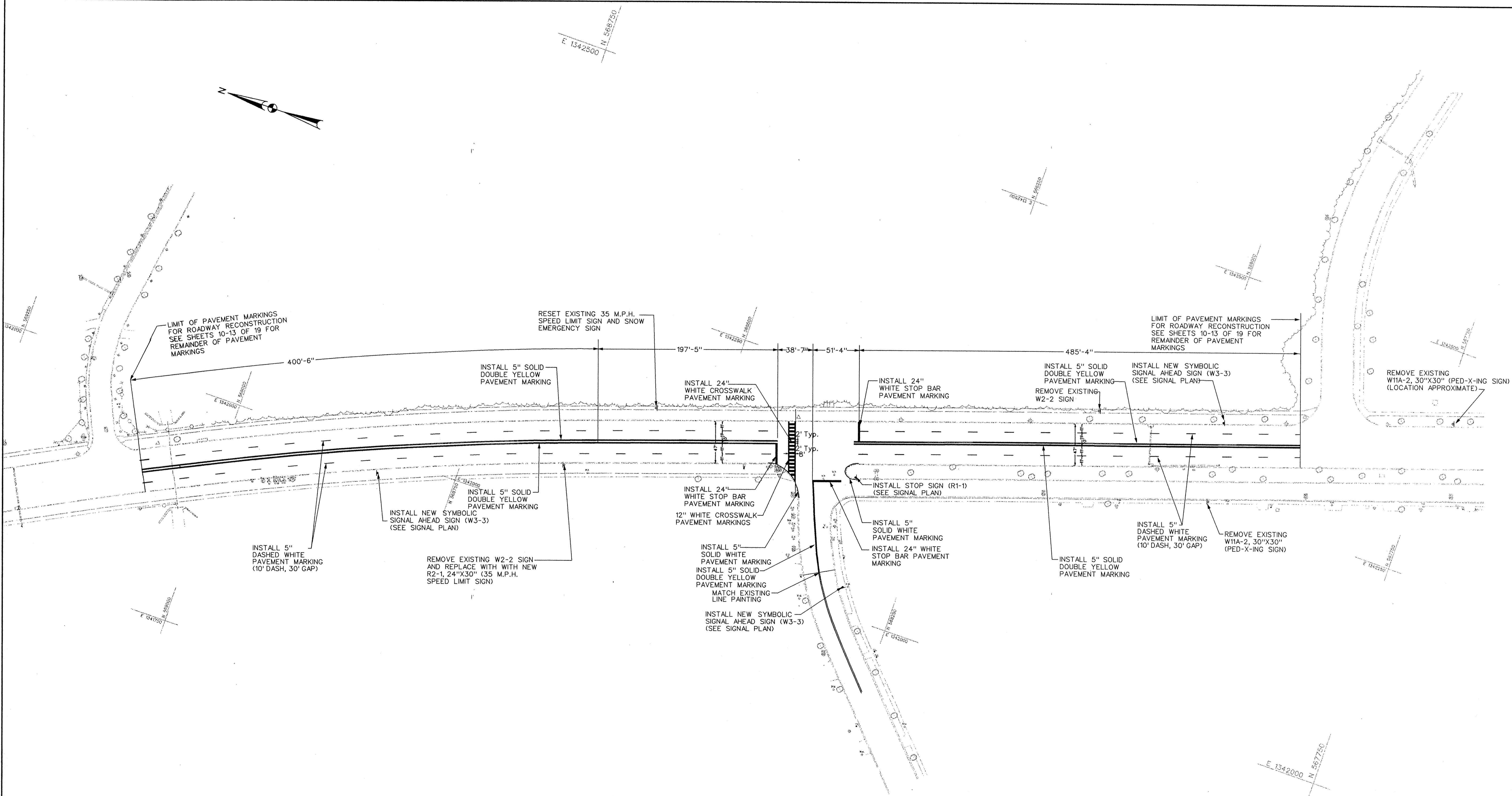
GRADING, EROSION AND SEDIMENT CONTROL PLAN DETAILS

SCALE MAP NO. _____ BLOCK NO. _____

ROADWAY IMPROVEMENTS TO HARPERS FARM ROAD & WILLOWBOTTOM DRIVE
HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. J-4164

SCALE AS SHOWN
SHEET 8 OF 19

FILE: n:\1998\98175\98175_04\pdm\pdm11r.dgn
 DATE: 29 MAR 2000 11:22:05



NOTES:

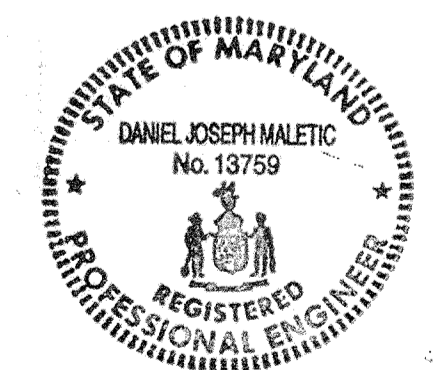
1. BAG OR COVER ALL EXISTING TRAFFIC SIGNS IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL. UNCOVER WHEN DIRECTED BY THE COUNTY.
2. RELOCATE OR REMOVE, STORE AND RESET EXISTING SIGNS AS SHOWN ON THIS PLAN OR AS DIRECTED BY THE COUNTY.
3. WHEN THE NEW PAVEMENT SURFACE COURSE IS COMPLETE REMOVE ALL EXISTING STRIPING WITHIN THE LIMITS SHOWN ON THIS PLAN OR AS DIRECTED BY THE COUNTY AND REPLACE WITH NEW STRIPING. IF POSSIBLE ALL STRIPING WORK SHOULD BE DONE IN ONE DAY. IF STRIPING WORK CANNOT BE COMPLETED IN ONE DAY, THE PLACEMENT OF NEW STRIPING AT THE END OF THE WORK DAY SHALL NOT CONFLICT WITH EXISTING STRIPING.

LEGEND:

- ◻ EXISTING SIGN
- ◻ PROPOSED SIGN

I hereby certify that to the best of my knowledge that this "As-Built" truly represents existing field conditions including but not limited to sizes, diameters, line and grade, and elevations, shown.

Daniel J. Maletic
 Daniel J. Maletic
 Maryland Registered Professional Engineer No. 13759



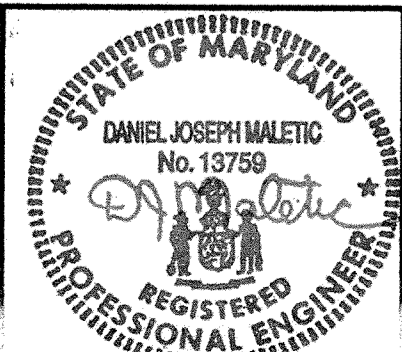
50 0 50 100'
 SCALE: 1"=50'

AS-BUILT
 April 2, 2001

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James M. ... 4/13/00
 DIRECTOR OF PUBLIC WORKS DATE
Charles B. ... 4/13/00
 CHIEF, BUREAU OF ENGINEERING DATE
... 4/13/00
 CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND MAINTENANCE DATE

GPI Greenman-Pedersen, Inc.
 ENGINEERS, ARCHITECTS, PLANNERS, CONSTRUCTION ENGINEERS & INSPECTORS
 14332 GREENVIEW DRIVE, SUITE 100, LAUREL, MD. 20708
 WASH. (301) 470-2772 BALT. (410) 860-3655
 FAX: (301) 490-2649 www.gpinet.com



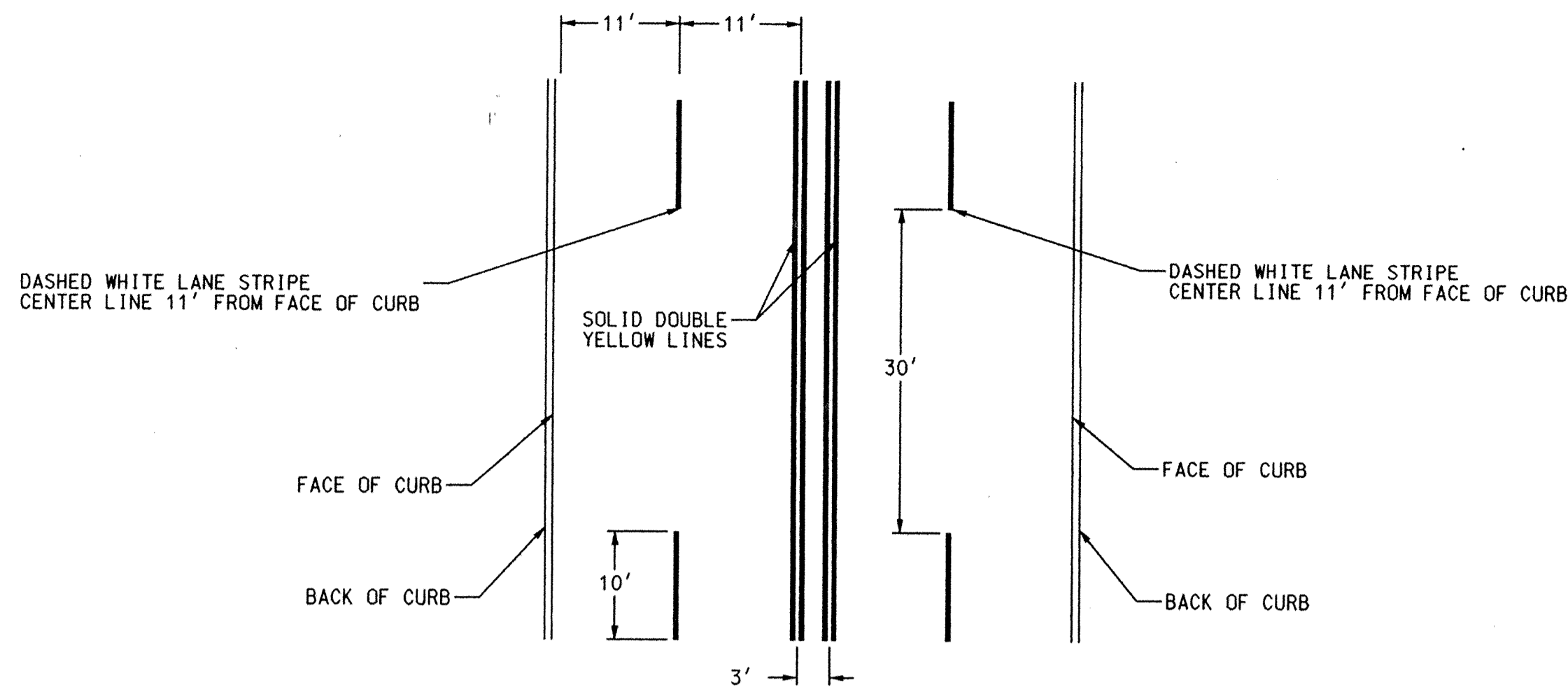
DES:	BY:	NO:	REVISION:	DATE:
DRN:				
CHK:				
DATE:				

SIGNING & PAVEMENT MARKING PLAN

SCALE MAP NO. BLOCK NO.

ROADWAY IMPROVEMENTS TO
 HARPERS FARM ROAD & WILLOWBOTTOM DRIVE
 HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO. J-4164

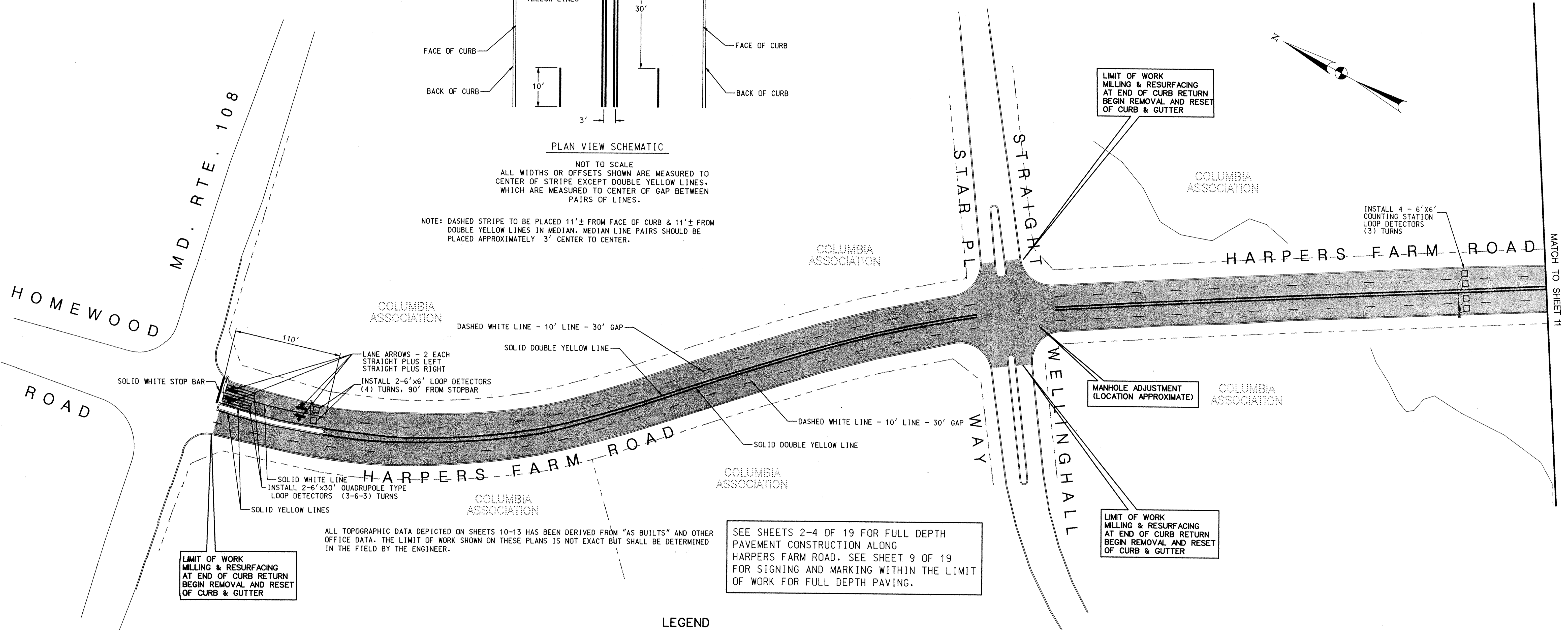
SCALE AS SHOWN
 SHEET 9 OF 19



PLAN VIEW SCHEMATIC

NOT TO SCALE
ALL WIDTHS OR OFFSETS SHOWN ARE MEASURED TO CENTER OF STRIPE EXCEPT DOUBLE YELLOW LINES, WHICH ARE MEASURED TO CENTER OF GAP BETWEEN PAIRS OF LINES.

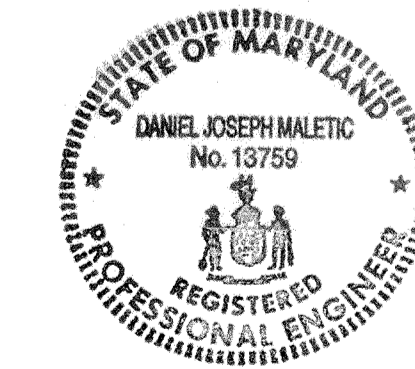
NOTE: DASHED STRIPE TO BE PLACED 11' ± FROM FACE OF CURB & 11' ± FROM DOUBLE YELLOW LINES IN MEDIAN. MEDIAN LINE PAIRS SHOULD BE PLACED APPROXIMATELY 3' CENTER TO CENTER.



LEGEND

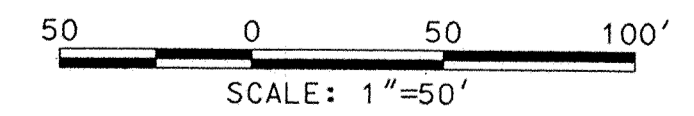
■ MILL 4" EXISTING SURFACE
■ RESURFACE 1/2" BITUMINOUS SURFACE

I hereby certify that to the best of my knowledge that this "As-Built" truly represents existing field conditions including but not limited to sizes, diameters, line and grade, and elevations, shown [initials]



Daniel J. Maletic
Daniel J. Maletic
Maryland Registered Professional Engineer No. 13759

AS-BUILT
April 2, 2001



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

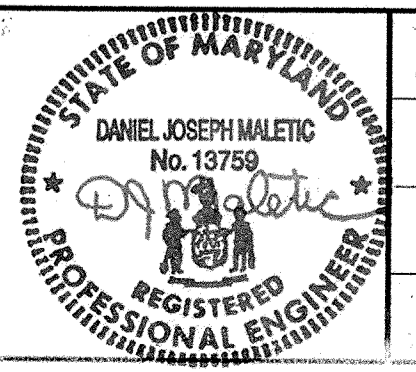
James E. Uva 4/13/00
DIRECTOR OF PUBLIC WORKS DATE

Richard J. Spon 4/13/00
CHIEF, BUREAU OF ENGINEERING DATE

Andrew M. Danek 4-13-00
CHIEF, BUREAU OF HIGHWAYS DATE

Luca 4/13/00
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DATE

GPI Greenman-Pedersen, Inc.
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WASH. (301) 470-2772 BALT. (410) 880-3055
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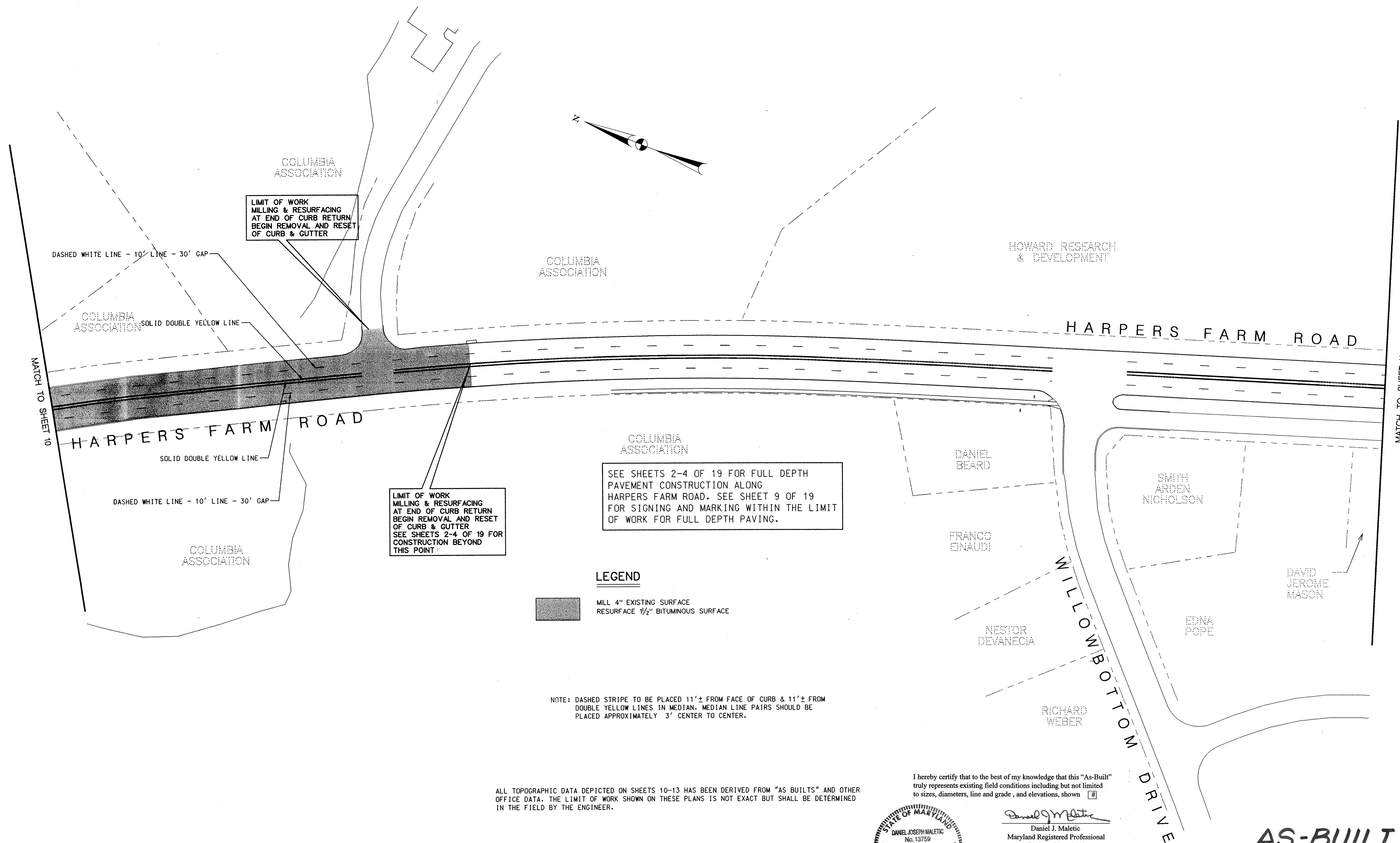
DES:	BY:	NO:	REVISION:	DATE:
DRN:				
CHK:				
DATE:				

LANE MARKINGS & MILLING AND RESURFACING
PLAN SHEET 1

SCALE MAP NO. _____ BLOCK NO. _____

ROADWAY IMPROVEMENTS TO HARPERS FARM ROAD & WILLOWBOTTOM DRIVE
HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. J-4164

SCALE AS SHOWN
SHEET 10 OF 19

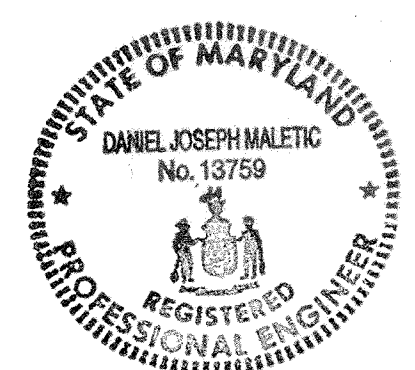


LEGEND
 [Shaded Box] MILL 4" EXISTING SURFACE
 [Dashed Line] RESURFACE 1/2" BITUMINOUS SURFACE

NOTE: DASHED STRIPE TO BE PLACED 11'± FROM FACE OF CURB & 11'± FROM DOUBLE YELLOW LINES IN MEDIAN. MEDIAN LINE PAIRS SHOULD BE PLACED APPROXIMATELY 3' CENTER TO CENTER.

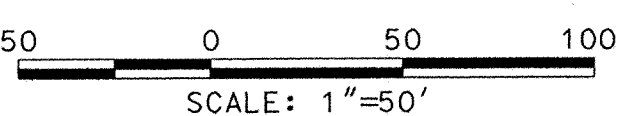
ALL TOPOGRAPHIC DATA DEPICTED ON SHEETS 10-13 HAS BEEN DERIVED FROM "AS BUILTS" AND OTHER OFFICE DATA. THE LIMIT OF WORK SHOWN ON THESE PLANS IS NOT EXACT BUT SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

I hereby certify that to the best of my knowledge that this "As-Built" truly represents existing field conditions including but not limited to sizes, diameters, line and grade, and elevations, shown []



Daniel J. Maletic
 Daniel J. Maletic
 Maryland Registered Professional Engineer No. 13759

AS-BUILT
 April 2, 2001



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

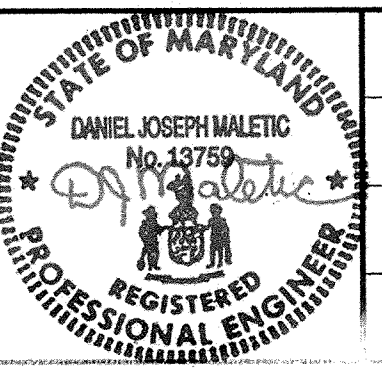
James P. New 4/13/00
 DIRECTOR OF PUBLIC WORKS DATE

Richard M. Pedersen 4/13/00
 CHIEF, BUREAU OF HIGHWAYS DATE

Richard M. Pedersen 4/13/00
 CHIEF, BUREAU OF ENGINEERING DATE

Richard M. Pedersen 4/13/00
 CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DATE

GPI Greenman-Pedersen, Inc.
 ENGINEERS, ARCHITECTS, PLANNERS, CONSTRUCTION ENGINEERS & INSPECTORS
 14502 GREENVIEW DRIVE, SUITE 101 LAUREL, MD, 20708
 WASH. (301) 470-2772 BALT. (410) 880-3055
 FAX (301) 490-2646 www.gpinet.com



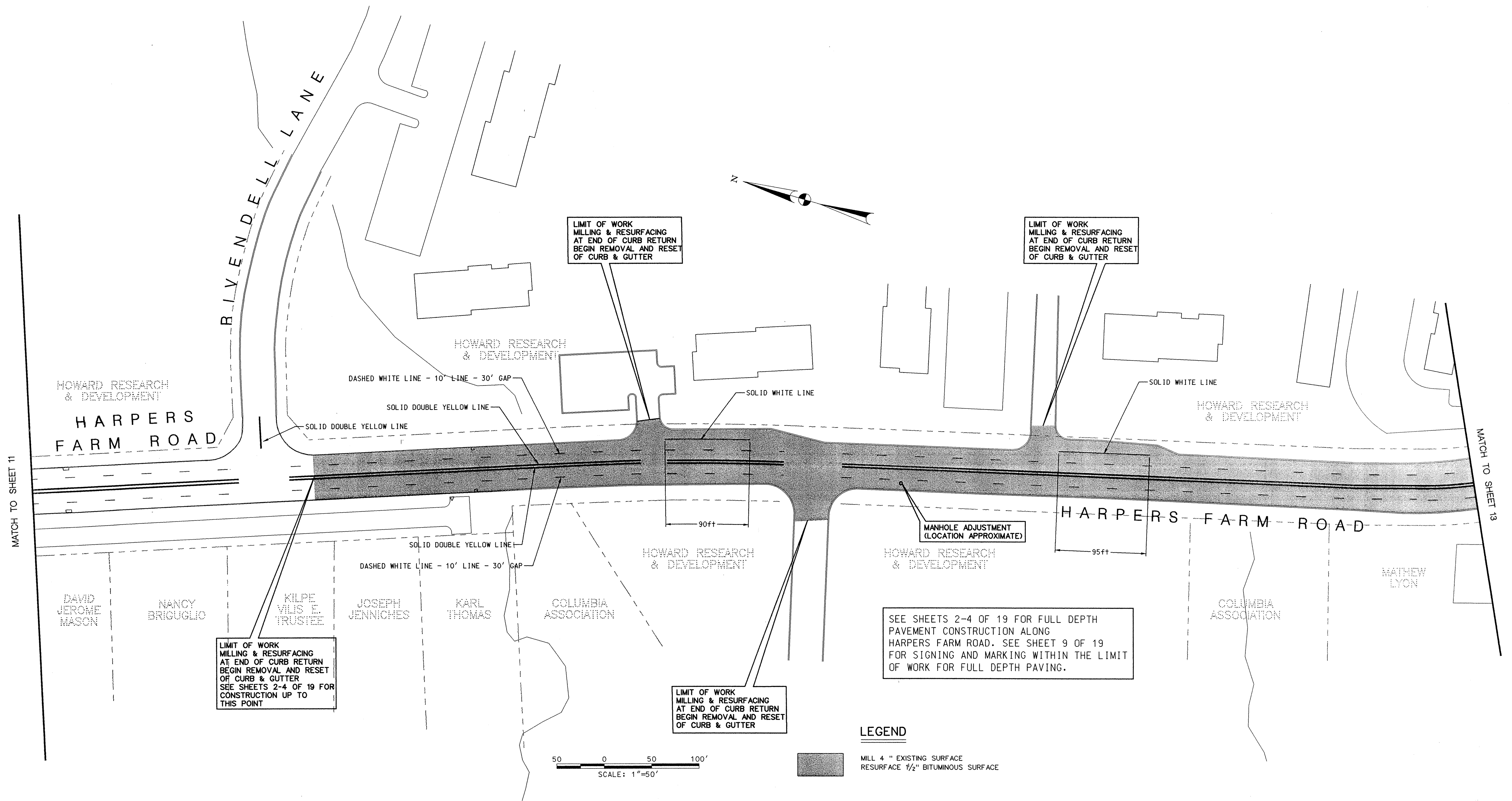
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DRN:				
CHK:				
DATE:				

LANE MARKINGS &
 MILLING AND RESURFACING
 PLAN SHEET 2

* SCALE MAP NO. _____ BLOCK NO. _____

ROADWAY IMPROVEMENTS TO
 HARPERS FARM ROAD & WILLOWBOTTOM DRIVE
 HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO. J-4164

SCALE AS SHOWN
 SHEET 11 OF 19



ALL TOPOGRAPHIC DATA DEPICTED ON SHEETS 10-13 HAS BEEN DERIVED FROM "AS BUILTS" AND OTHER OFFICE DATA. THE LIMIT OF WORK SHOWN ON THESE PLANS IS NOT EXACT BUT SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

NOTE: DASHED STRIPE TO BE PLACED 11'± FROM FACE OF CURB & 11'± FROM DOUBLE YELLOW LINES IN MEDIAN. MEDIAN LINE PAIRS SHOULD BE PLACED APPROXIMATELY 3' CENTER TO CENTER.

LEGEND

MILL 4" EXISTING SURFACE
 RESURFACE 1/2" BITUMINOUS SURFACE

I hereby certify that to the best of my knowledge that this "As-Built" truly represents existing field conditions including but not limited to sizes, diameters, line and grade, and elevations, shown [#]

Daniel J. Maletic
 Daniel J. Maletic
 Maryland Registered Professional Engineer No. 13759

AS-BUILT
 April 2, 2001

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James J. New 4/13/00
 DIRECTOR OF PUBLIC WORKS DATE

Richard M. Mankle 4-13-00
 CHIEF, BUREAU OF HIGHWAYS DATE

Paul D. Sykes 4/13/00
 CHIEF, BUREAU OF ENGINEERING DATE

Errolia 4/13/00
 CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DATE

GPI Greenman-Pedersen, Inc.
 ENGINEERS, ARCHITECTS, PLANNERS, CONSTRUCTION ENGINEERS & INSPECTORS
 14502 GREENVIEW DRIVE, SUITE 100, LAUREL, MD, 20706
 WASH. (301) 470-2772 BALT. (410) 880-3055
 FAX: (301) 490-2648 www.gpinet.com



DES:	BY:	NO:	REVISION:	DATE:
DRN:				
CHK:				
DATE:				

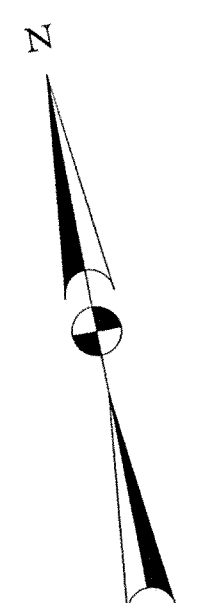
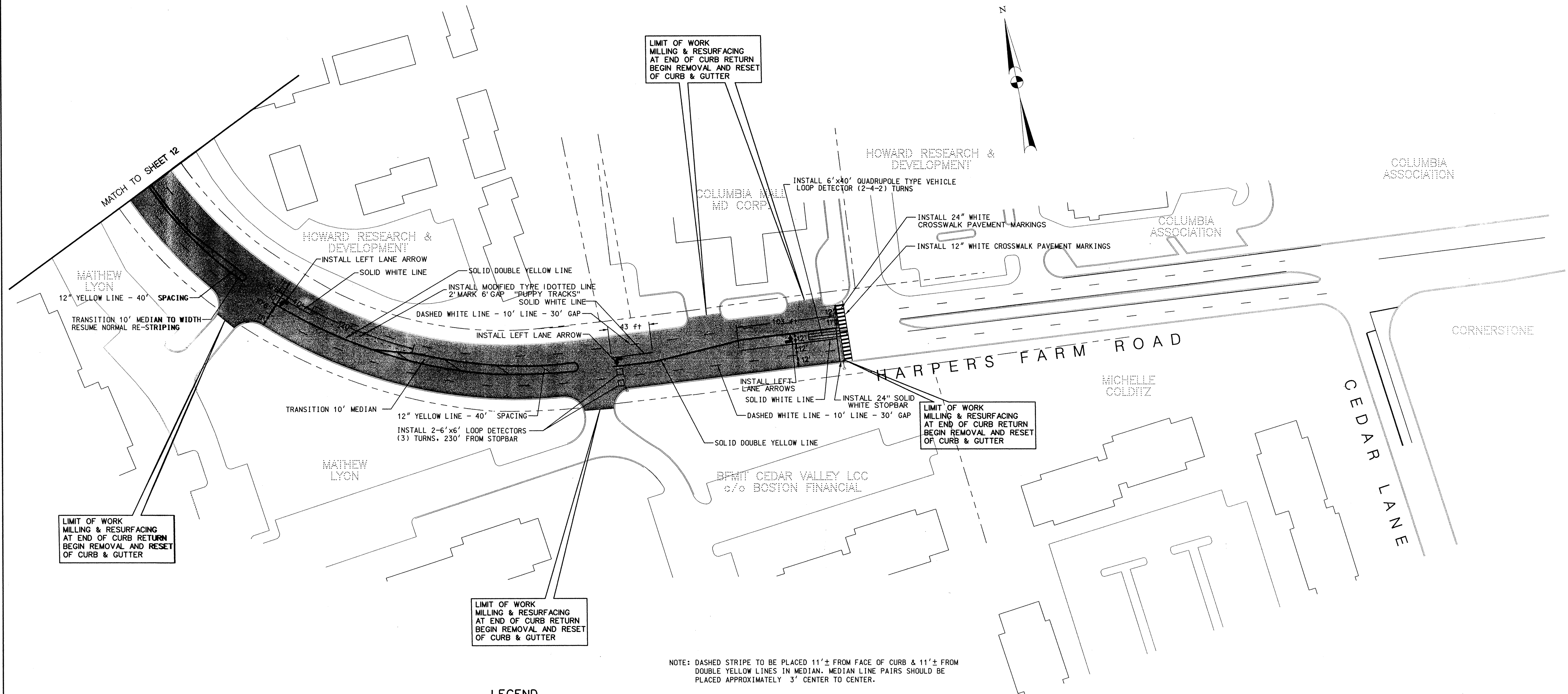
LANE MARKINGS &
 MILLING AND RESURFACING
 PLAN SHEET 3

SCALE MAP NO. _____ BLOCK NO. _____

ROADWAY IMPROVEMENTS TO
 HARPERS FARM ROAD & WILLOWBOTTOM DRIVE
 HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO. J-4164



SCALE AS SHOWN
 SHEET 12 OF 19

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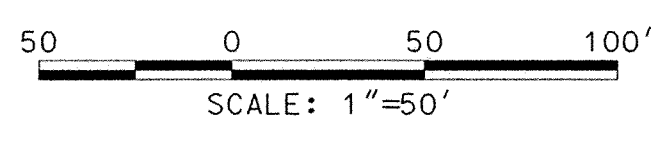


NOTE: DASHED STRIPE TO BE PLACED 11'± FROM FACE OF CURB & 11'± FROM DOUBLE YELLOW LINES IN MEDIAN. MEDIAN LINE PAIRS SHOULD BE PLACED APPROXIMATELY 3' CENTER TO CENTER.

LEGEND

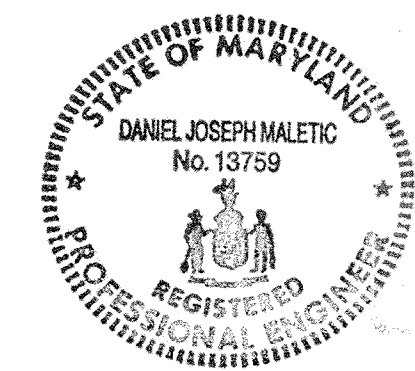
 MILL 4" EXISTING SURFACE
 RESURFACE 1/2" BITUMINOUS SURFACE

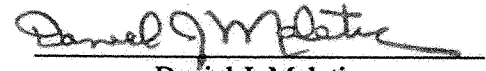
SEE SHEETS 2-4 OF 19 FOR FULL DEPTH PAVEMENT CONSTRUCTION ALONG HARPERS FARM ROAD. SEE SHEET 9 OF 19 FOR SIGNING AND MARKING WITHIN THE LIMIT OF WORK FOR FULL DEPTH PAVING.



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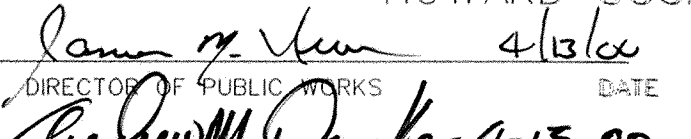
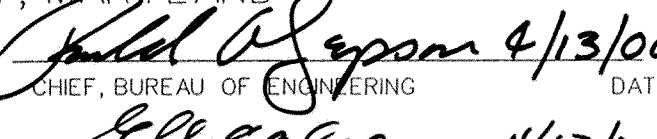

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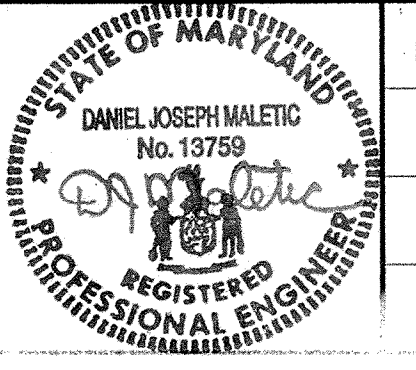

 Daniel J. Maletic
 Maryland Registered Professional
 Engineer No. 13759

AS-BUILT
 April 2, 2001

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

 4/13/00
 DIRECTOR OF PUBLIC WORKS DATE
 4/13/00
 CHIEF, BUREAU OF ENGINEERING DATE
 4/13/00
 CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DATE

GPI Greenman-Pedersen, Inc.
 ENGINEERS, ARCHITECTS, PLANNERS, CONSTRUCTION ENGINEERS & INSPECTORS
 14502 GREENVIEW DRIVE, SUITE 100, LAUREL, MD, 20708
 WASH. (301) 470-2772 BALT. (410) 880-3055
 FAX: (301) 490-2649 www.gpinet.com



DES:	BY:	NO:	REVISION:	DATE:
DRN:				
CHK:				
DATE:				

LANE MARKINGS & MILLING AND RESURFACING PLAN SHEET 4

SCALE MAP NO. _____ BLOCK NO. _____

ROADWAY IMPROVEMENTS TO HARPERS FARM ROAD & WILLOWBOTTOM DRIVE
 HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO. J-4164

SCALE AS SHOWN
 SHEET 13 OF 19

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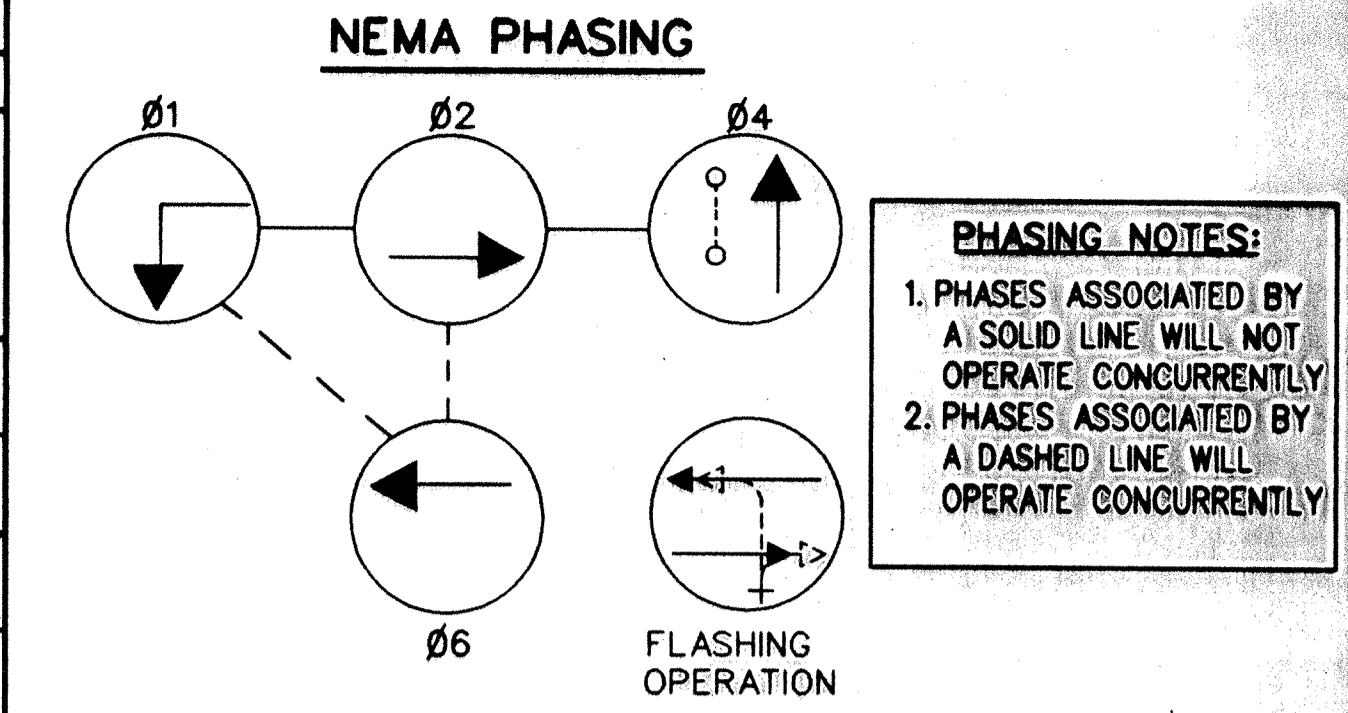
CONSTRUCTION DETAILS

- A. INSTALL 27-FOOT STEEL POLE, 70-FOOT MASTARM, 15-FOOT STREET LIGHT ARM AND 250 WATT HPS VAPOR CUTOFF LUMINAIRE, PEDESTRIAN SIGNAL, PUSHBUTTON, SIGNS, TRAFFIC SIGNAL HEADS, CONCRETE FOUNDATION AND GROUND ROD (NOTE: ONE 3-INCH P.V.C. 90-DEGREE ELBOW).
- B. INSTALL 8' PEDESTAL POLE WITH PEDESTRIAN SIGNAL, PUSHBUTTON, SIGN, CONCRETE FOUNDATION AND GROUND ROD (NOTE: ONE 2-INCH P.V.C. 90-DEGREE ELBOW).
- C. INSTALL BASE MOUNTED CABINET AND NEMA CONTROLLER, CONCRETE FOUNDATION, GROUND ROD AND ALL NECESSARY EQUIPMENT FOR AN ELECTRICAL SERVICE INCLUDING TWO NEMA TYPE 4 - 30 AMP STAINLESS STEEL DISCONNECT SWITCHES WITH TRAY (NOTE: TWO 4-INCH P.V.C. 90-DEGREE ELBOWS AND ONE 2-INCH P.V.C. 90-DEGREE ELBOW STUBBED OUT FOR PHONE LINE).
- D. INSTALL HANDBOX.
- E. INSTALL 1-INCH GALVANIZED STEEL ELECTRICAL CONDUIT FOR LOOP DETECTOR SLEEVE.
- F. INSTALL 2-INCH P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT (TRENCHED).
- G. 3-INCH P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT (PUSHED) (INSTALLED BY OTHERS)
- H. INSTALL 3-INCH P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT (TRENCHED).
- J. INSTALL 4-INCH P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT (TRENCHED).
- K. INSTALL 6-FOOT x 6-FOOT LOOP DETECTOR (3 TURNS)
- L. INSTALL 6-FOOT x 27-FOOT QUADRUPOLE TYPE VEHICLE LOOP DETECTOR (2-4-2 TURNS).
- M. INSTALL 6-FOOT x 40-FOOT QUADRUPOLE TYPE VEHICLE LOOP DETECTOR (2-4-2 TURNS).
- N. INSTALL GROUND MOUNTED SIGN. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.

NOTES:

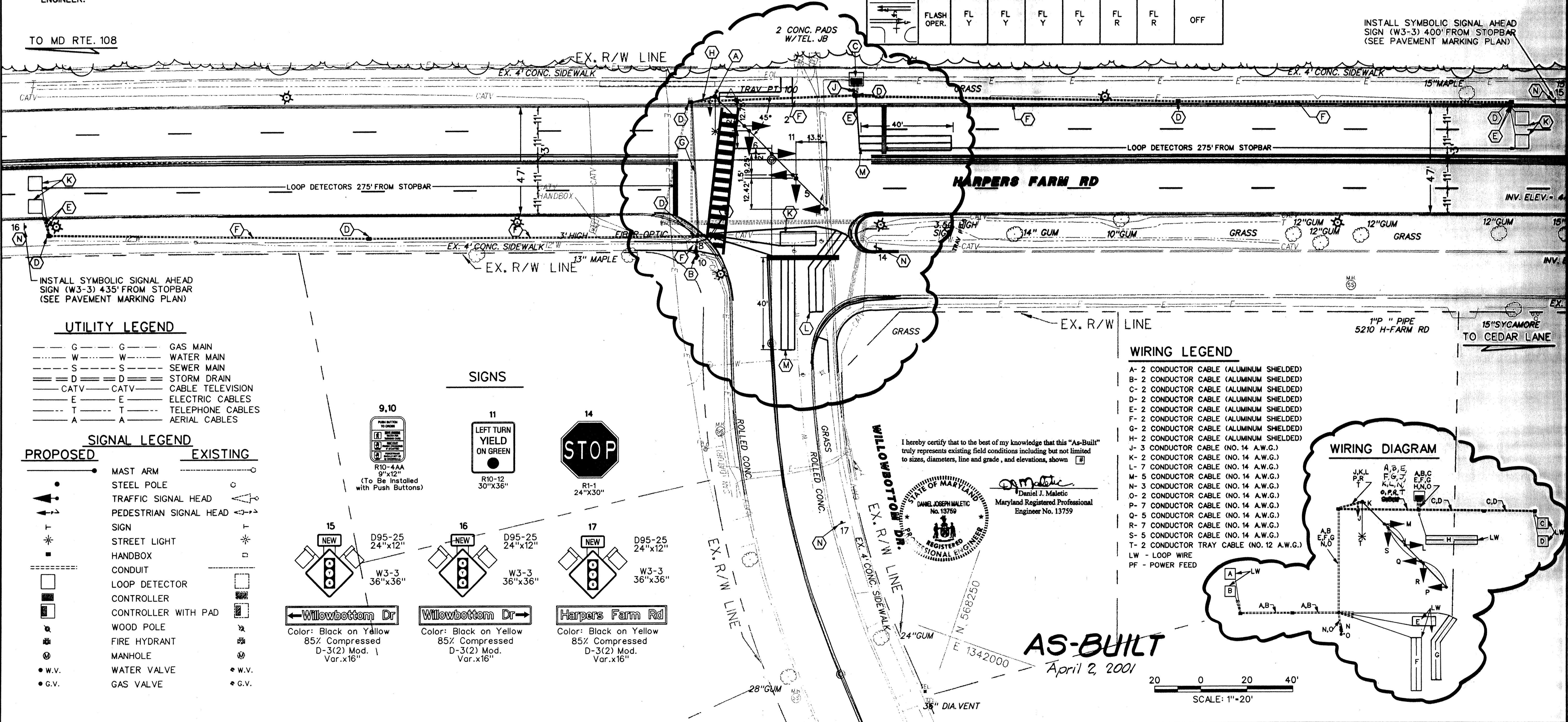
- 1. ALL POLE, SIGNAL HEAD AND DETECTOR LOCATIONS TO BE VERIFIED BY HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS PERSONNEL BEFORE INSTALLATION BY CONTRACTOR.
- 2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES BEFORE STARTING CONSTRUCTION AND HAND EXCAVATE OR TEST PIT ALL UTILITY CROSSINGS.
- 3. 3-INCH P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT (PUSHED), TO BE INSTALLED BY OTHERS. (SEE SHEET 3 OF 19)

PHASE AND SEQUENCE DIAGRAM	SIGNAL HEADS						
	1	2	3	4	5	6	7,8
PHASE 1+6	G	G	R	R	R	R	H
PHASE 1+6 CHANGE	Y	Y	R	R	R	R	H
PHASE 2+6	G	G	G	G	R	R	H
PHASE 2+6 CHANGE	Y	Y	Y	Y	R	R	H
PHASE 4	R	R	R	R	G	G	M
PED-CLEAR	R	R	R	R	G	G	FH
PHASE 4 CHANGE	R	R	R	R	Y	Y	H
FLASH OPER.	FL Y	FL Y	FL Y	FL Y	FL R	FL R	OFF



INSTALL SYMBOLIC SIGNAL AHEAD SIGN (W3-3) 400' FROM STOPBAR (SEE PAVEMENT MARKING PLAN)

TO MD RTE. 108



INSTALL SYMBOLIC SIGNAL AHEAD SIGN (W3-3) 435' FROM STOPBAR (SEE PAVEMENT MARKING PLAN)

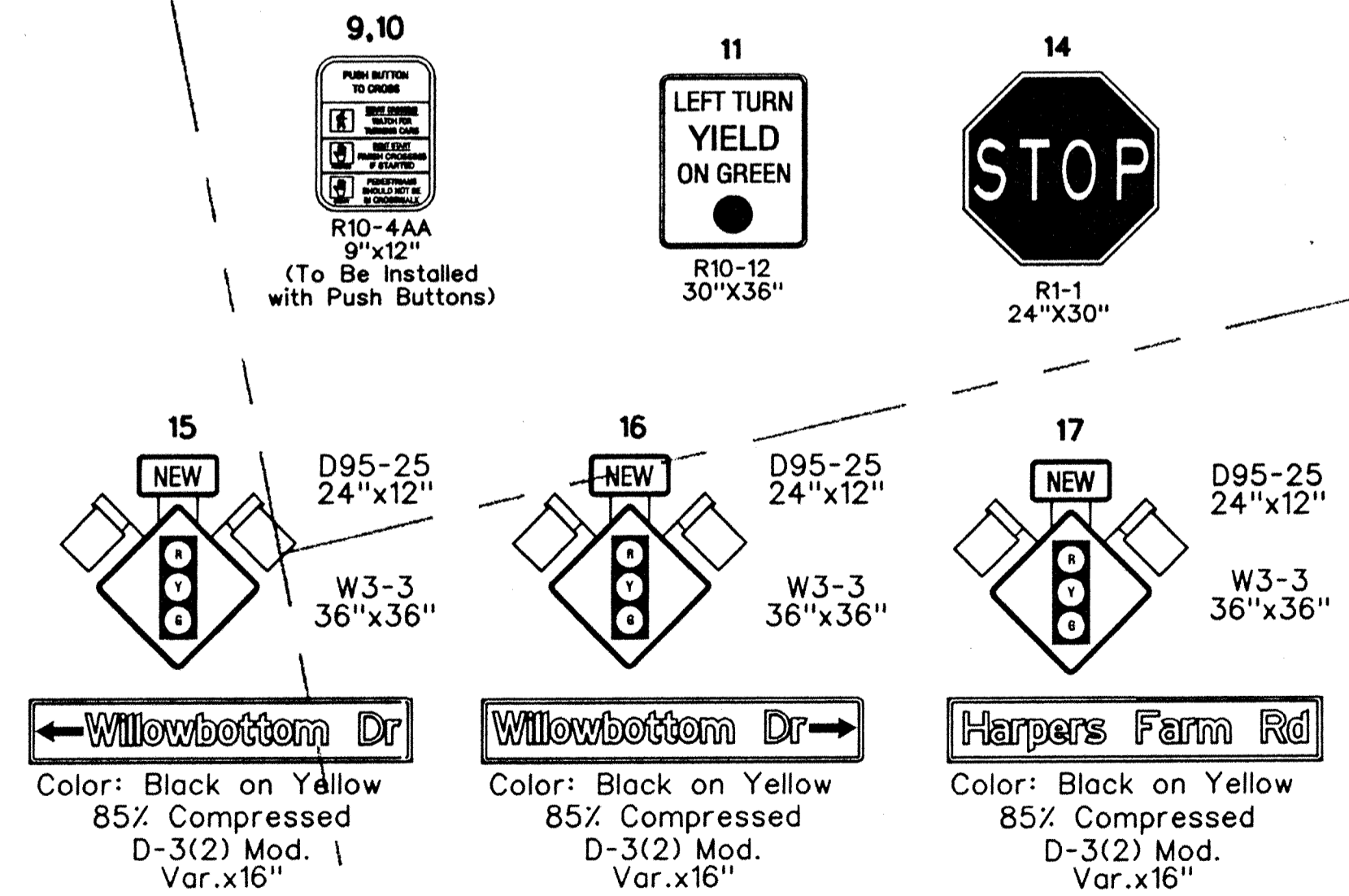
UTILITY LEGEND

- G - GAS MAIN
- W - WATER MAIN
- S - SEWER MAIN
- D - STORM DRAIN
- CATV - CABLE TELEVISION
- E - ELECTRIC CABLES
- T - TELEPHONE CABLES
- A - AERIAL CABLES

SIGNAL LEGEND

- | PROPOSED | EXISTING |
|--------------------------|----------|
| ● MAST ARM | ○ |
| ▲ STEEL POLE | ○ |
| ▲ TRAFFIC SIGNAL HEAD | ○ |
| ▲ PEDESTRIAN SIGNAL HEAD | ○ |
| T SIGN | T |
| * STREET LIGHT | * |
| ■ HANDBOX | □ |
| --- CONDUIT | --- |
| □ LOOP DETECTOR | □ |
| □ CONTROLLER | □ |
| □ CONTROLLER WITH PAD | □ |
| ○ WOOD POLE | ○ |
| ○ FIRE HYDRANT | ○ |
| ○ MANHOLE | ○ |
| ● W.V. WATER VALVE | ● W.V. |
| ● G.V. GAS VALVE | ● G.V. |

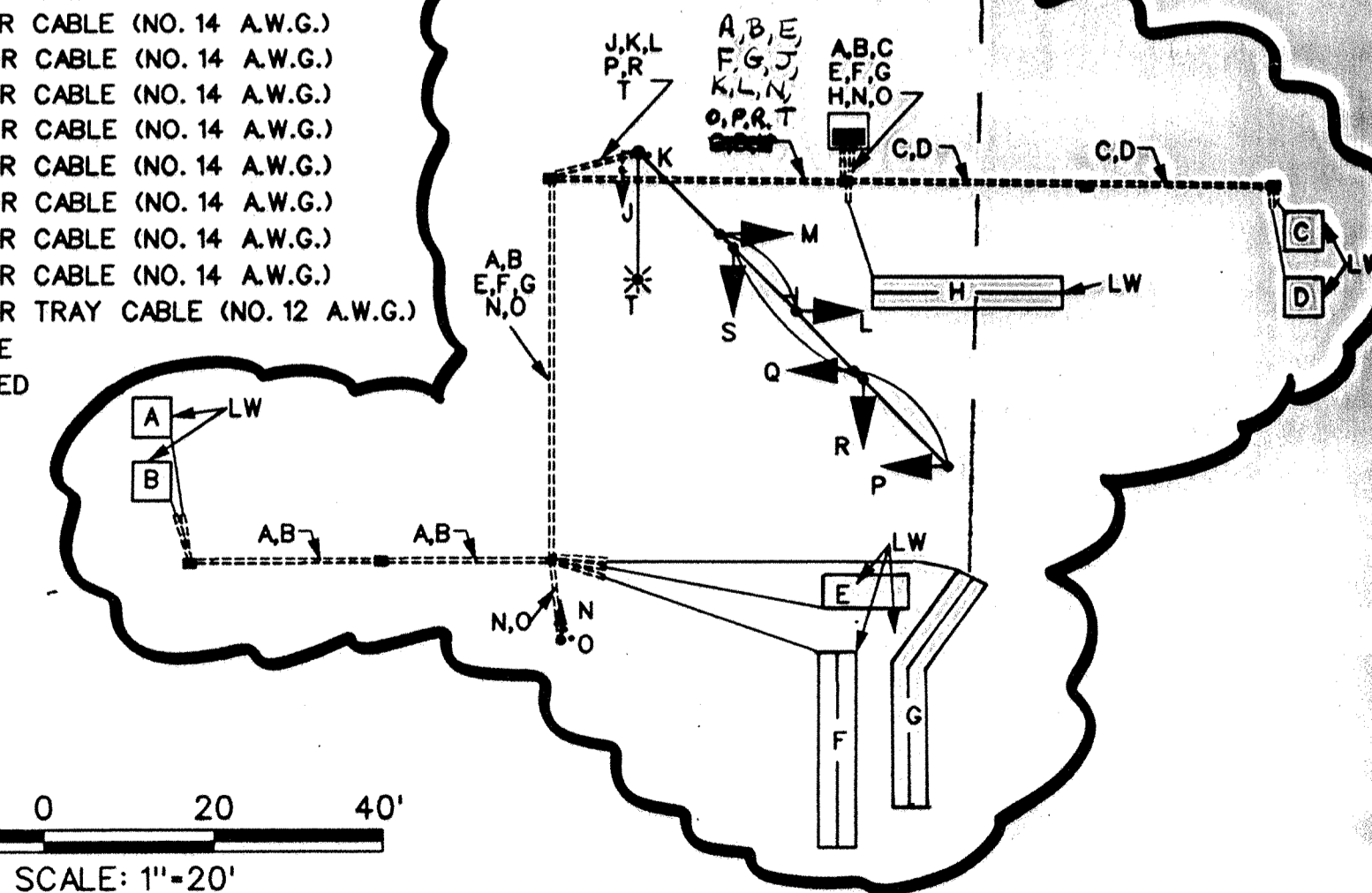
SIGNS



WIRING LEGEND

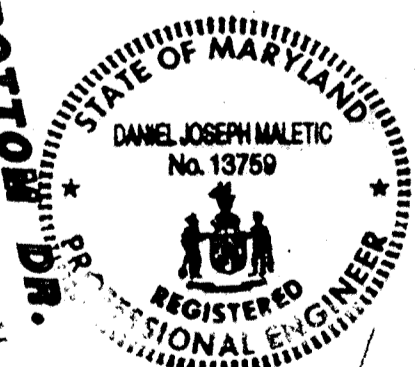
- A- 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
- B- 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
- C- 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
- D- 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
- E- 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
- F- 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
- G- 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
- H- 2 CONDUCTOR CABLE (ALUMINUM SHIELDED)
- J- 3 CONDUCTOR CABLE (NO. 14 A.W.G.)
- K- 2 CONDUCTOR CABLE (NO. 14 A.W.G.)
- L- 7 CONDUCTOR CABLE (NO. 14 A.W.G.)
- M- 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- N- 3 CONDUCTOR CABLE (NO. 14 A.W.G.)
- O- 2 CONDUCTOR CABLE (NO. 14 A.W.G.)
- P- 7 CONDUCTOR CABLE (NO. 14 A.W.G.)
- Q- 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- R- 7 CONDUCTOR CABLE (NO. 14 A.W.G.)
- S- 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- T- 2 CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)
- LW - LOOP WIRE
- PF - POWER FEED

WIRING DIAGRAM

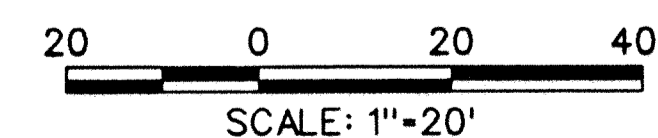


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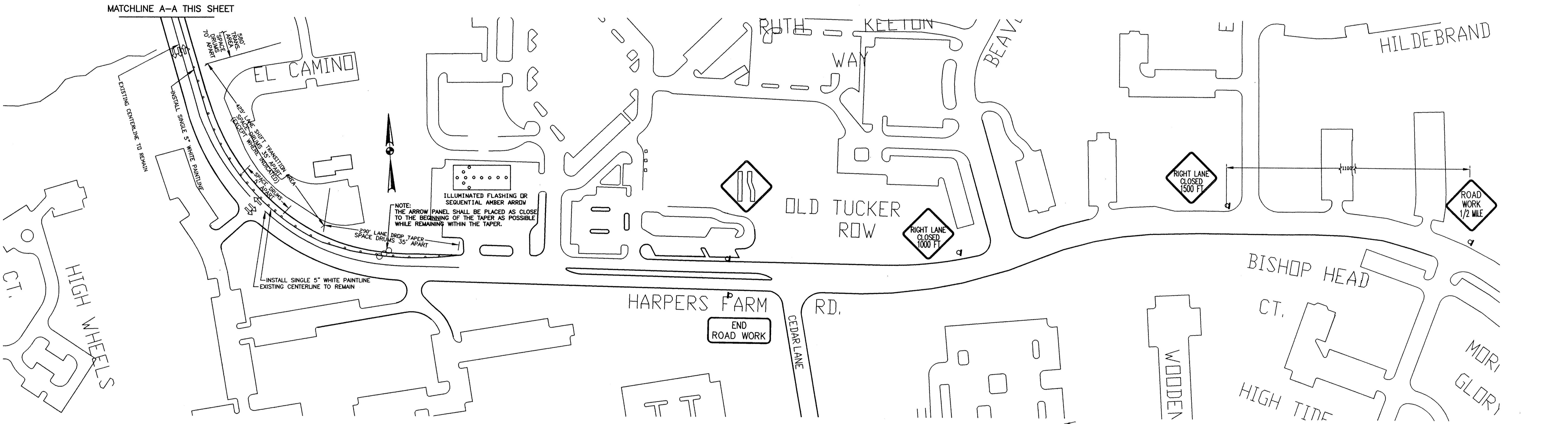
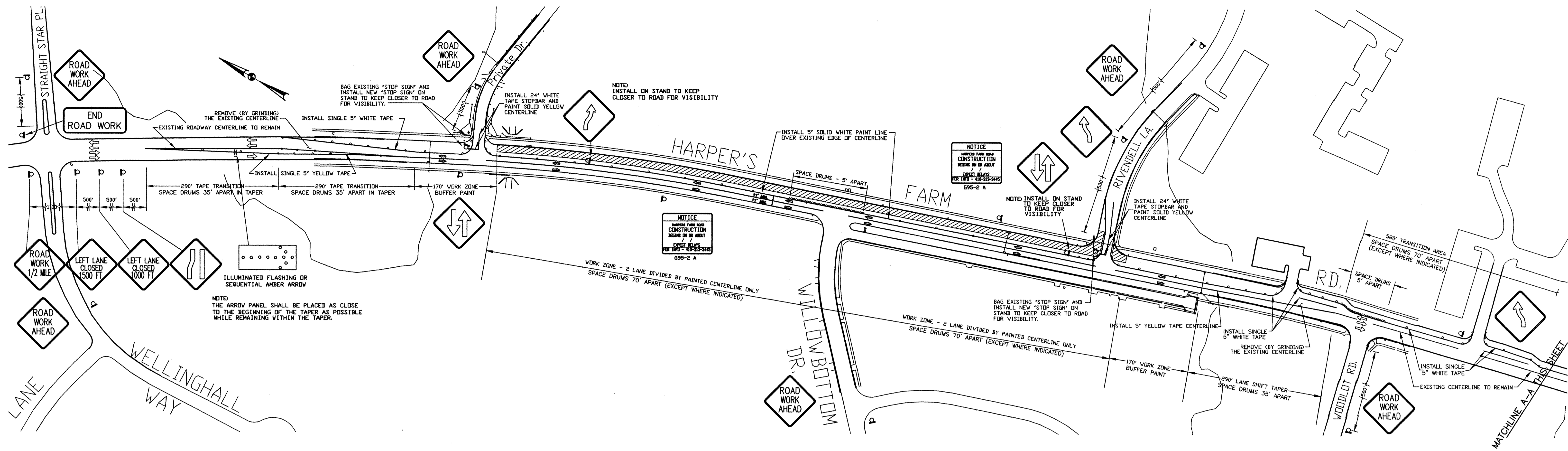
Daniel J. Maletic
 Maryland Registered Professional Engineer No. 13759



AS-BUILT
 April 2, 2001

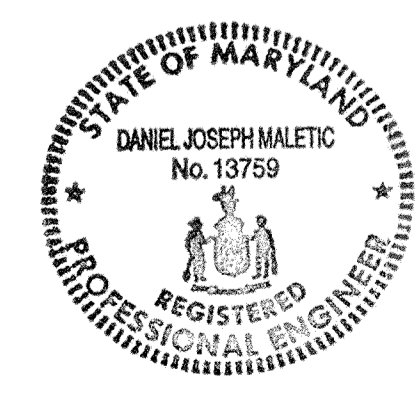


DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND James J. ... 4/13/00 DIRECTOR OF PUBLIC WORKS Andrew M. ... 4/13/00 CHIEF, BUREAU OF HIGHWAYS	GPI Greenman-Pedersen, Inc. ENGINEERS, ARCHITECTS, PLANNERS, CONSTRUCTION ENGINEERS & INSPECTORS 14502 GREENVIEW DRIVE, SUITE 100, LAUREL, MD. 20708 WASH. (301) 470-2772 BALT. (410) 880-3065 FAX: (301) 480-2649 www.gpi.net	DES: S.A.Y. BY: [] NO: [] REVISION: [] DATE: []	DRN: S.A.Y. CHK: C.R. DATE: 8/99	Signal Plan SCALE MAP NO. [] BLOCK NO. []	ROADWAY IMPROVEMENTS TO HARPERS FARM ROAD & WILLOWBOTTOM DRIVE HOWARD COUNTY, MARYLAND CAPITAL PROJECT NO. J-4164	SCALE AS SHOWN SHEET 44A OF 19
		DEPARTMENT OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT []	[]	[]	[]	[]



KEY:
 a CHANNELIZING DEVICES
 b TRAFFIC CONTROL SIGN
 c DIRECTION OF TRAFFIC
 d WORK SITE
 8 ARROW PANEL

NOTE:
 THE TWO (2) G95-2A SIGNS "NOTICE HARPERS FARM ROAD CONSTRUCTION BEGINS ON OR ABOUT 4/13/01 EXPECT DELAYS FOR INFO CALL 410-313-3445" MUST BE INSTALLED TWO WEEKS PRIOR TO CONTRACTOR BEGINNING ANY WORK ON HARPER'S FARM ROAD.



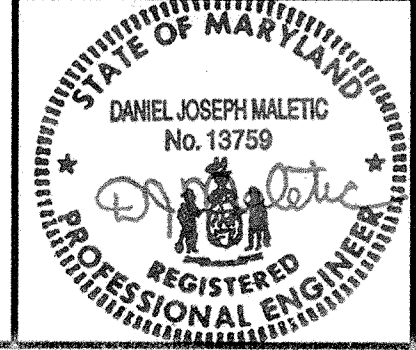
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Daniel J. Matic
 Daniel J. Matic
 Maryland Registered Professional Engineer No. 13759

AS-BUILT 100 0 100 200'
 April 2, 2001
 SCALE: 1"=100'

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *James J. Lewis* 4/13/01
 Chief, Bureau of Highways: *Richard M. Cook* 4-13-00

GPI Greenman-Pedersen, Inc.
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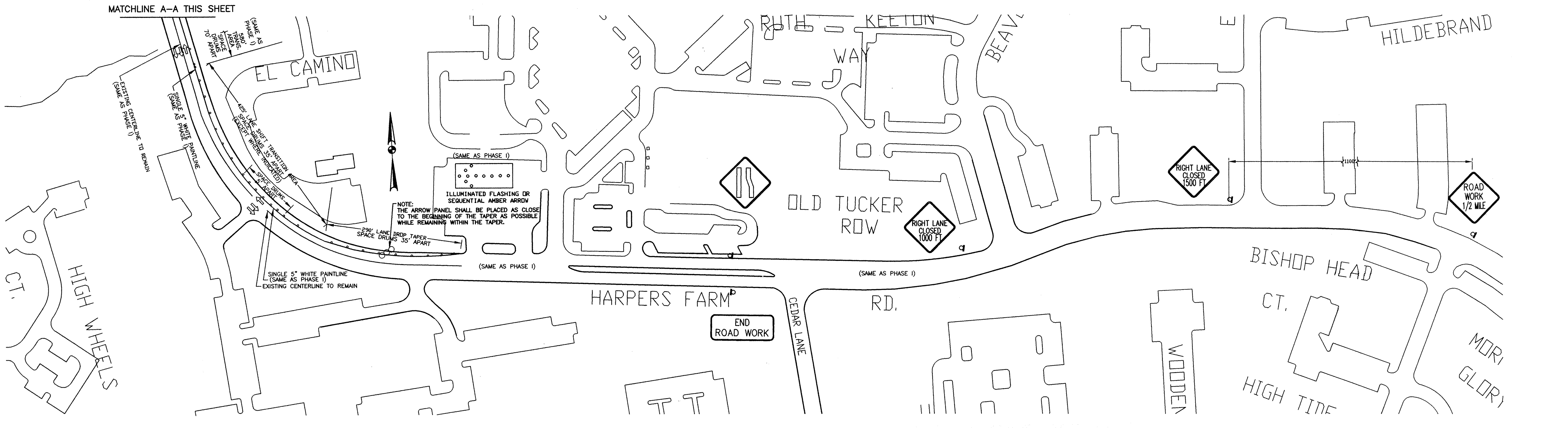
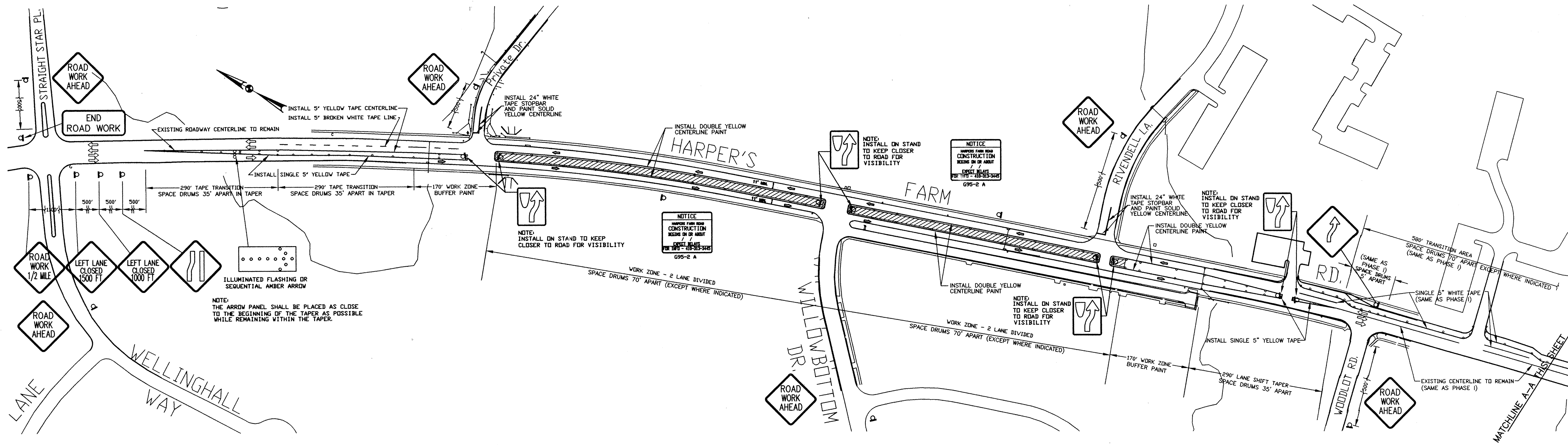


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CHK:				
DATE:				

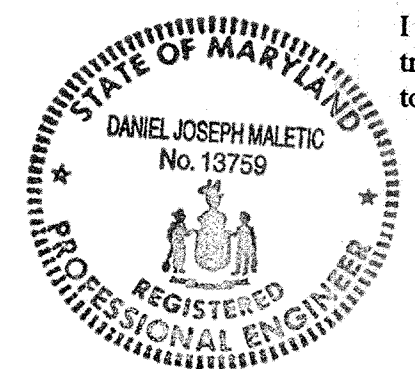
PHASE I MAINTENANCE OF TRAFFIC PLAN
 SCALE MAP NO. _____ BLOCK NO. _____

ROADWAY IMPROVEMENTS TO HARPER'S FARM RD. & WILLOWBOTTOM DR.
 HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO. J-4164

SCALE AS SHOWN
 SHEET 15 OF 19



KEY:
 CHANNELIZING DEVICES
 TRAFFIC CONTROL SIGN
 DIRECTION OF TRAFFIC
 WORK SITE
 ARROW PANEL

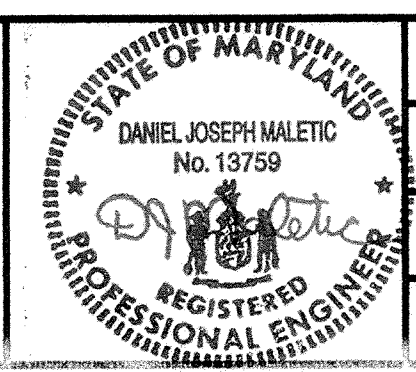


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 Daniel J. Maletic
 Maryland Registered Professional Engineer No. 13759

AS-BUILT
 April 2, 2001
 SCALE: 1"=100'

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 James J. Lewis 4/13/01
 DIRECTOR OF PUBLIC WORKS DATE
 Charles M. G. Wells 4-0-00
 CHIEF, BUREAU OF HIGHWAYS DATE

GPI Greenman-Pedersen, Inc.
 ENGINEERS, ARCHITECTS, PLANNERS, CONSTRUCTION ENGINEERS & INSPECTORS
 14502 GREENVIEW DRIVE, SUITE 100, LAUREL, MD 20708
 WASH. (301) 470-2772 BALT. (410) 880-3055
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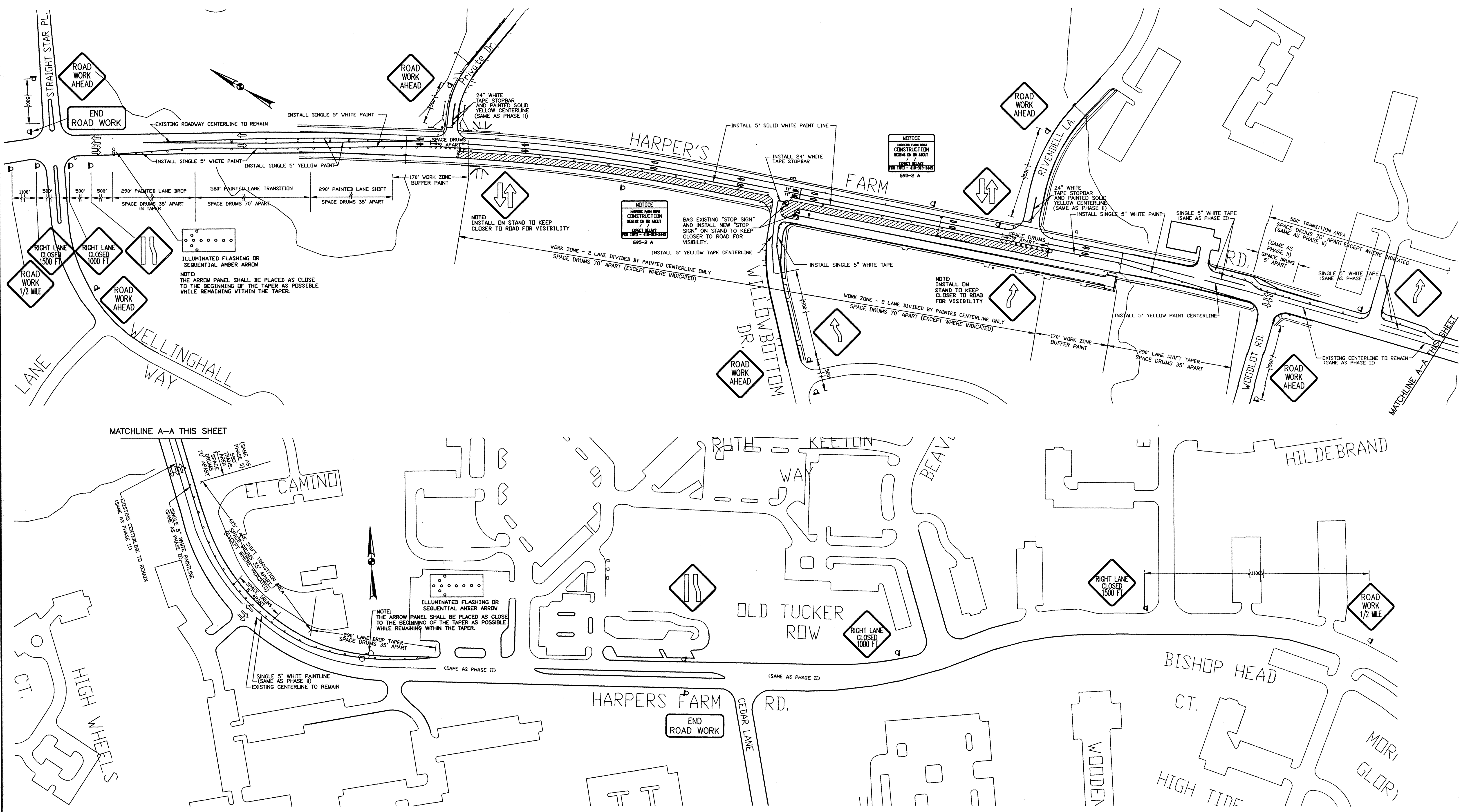
DES:	BY:	NO:	REVISION	DATE
DRN:				
CHK:				
DATE:				

PHASE II MAINTENANCE OF TRAFFIC PLAN
 SCALE MAP NO. _____ BLOCK NO. _____

ROADWAY IMPROVEMENTS TO HARPERS FARM RD. & WILLOWBOTTOM DR.
 HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT NO. J-4164

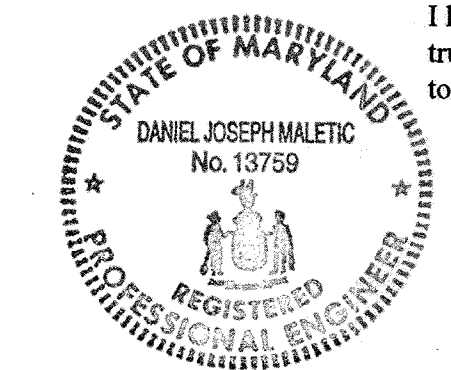
SCALE AS SHOWN
 SHEET 16 OF 19

FILE#FILE#
DATE#DATE# \$TIME#



MATCHLINE A-A THIS SHEET

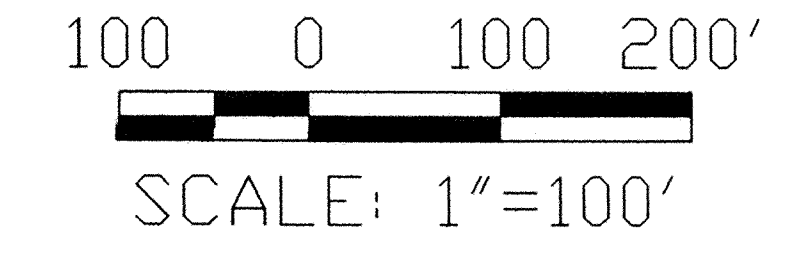
- KEY:**
- CHANNELIZING DEVICES
 - TRAFFIC CONTROL SIGN
 - DIRECTION OF TRAFFIC
 - WORK SITE
 - ARROW PANEL



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Daniel J. Maletic
Daniel J. Maletic
Maryland Registered Professional Engineer No. 13759

AS-BUILT
April 2, 2001



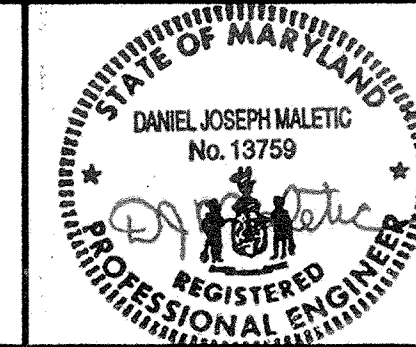
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. ... 4/13/00
DIRECTOR OF PUBLIC WORKS DATE

John Pedersen 4/13/00
CHIEF, BUREAU OF ENGINEERING DATE

... 4/13/00
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DATE

GPI Greenman-Pedersen, Inc.
ENGINEERS, ARCHITECTS, PLANNERS, CONSTRUCTION ENGINEERS & INSPECTORS
14502 GREENVIEW DRIVE, SUITE 100, LAUREL, MD. 20708
WASH. (301) 470-2772 BALT. (410) 880-3055
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DES.	BY	NO	REVISION	DATE
DRN:				
CHK:				
DATE:				

PHASE III MAINTENANCE OF TRAFFIC PLAN

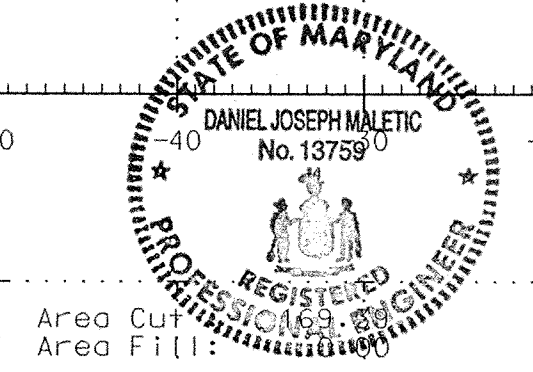
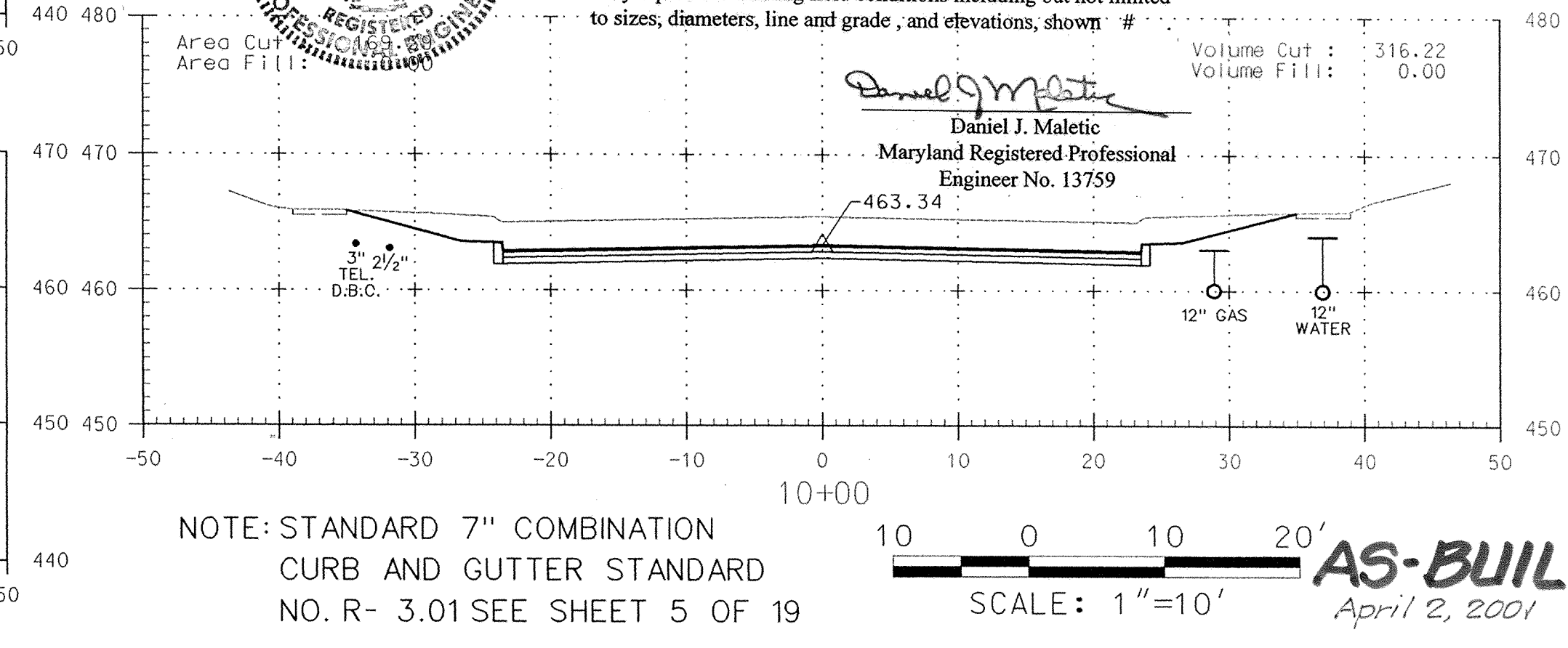
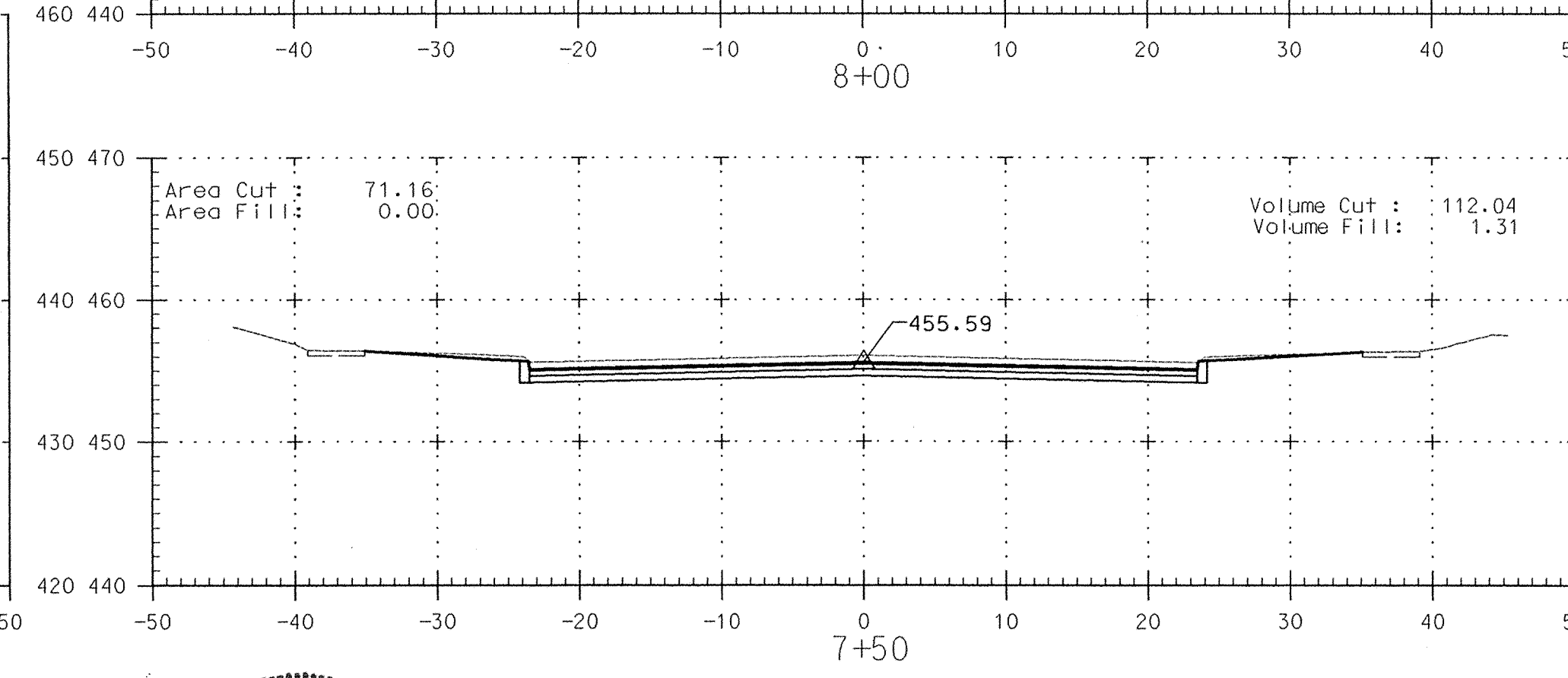
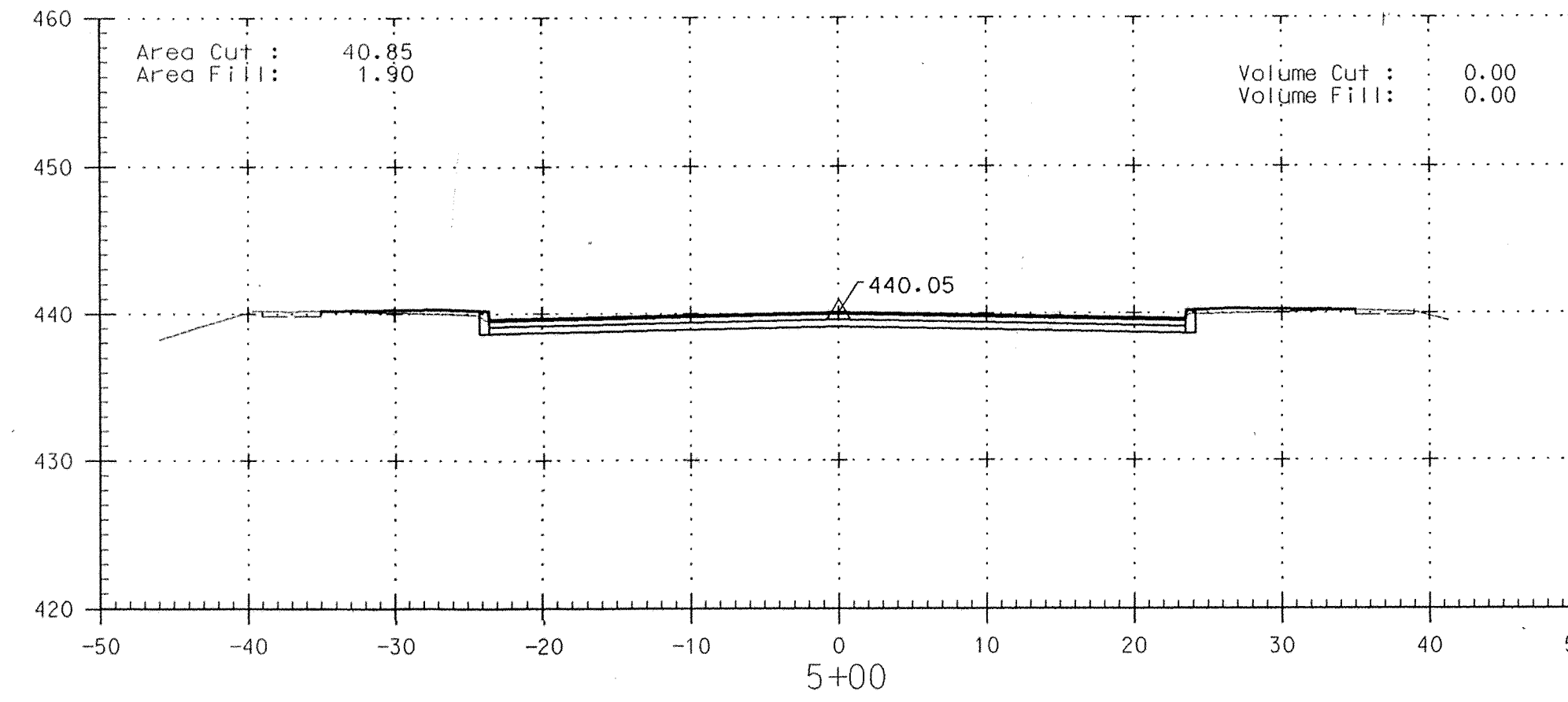
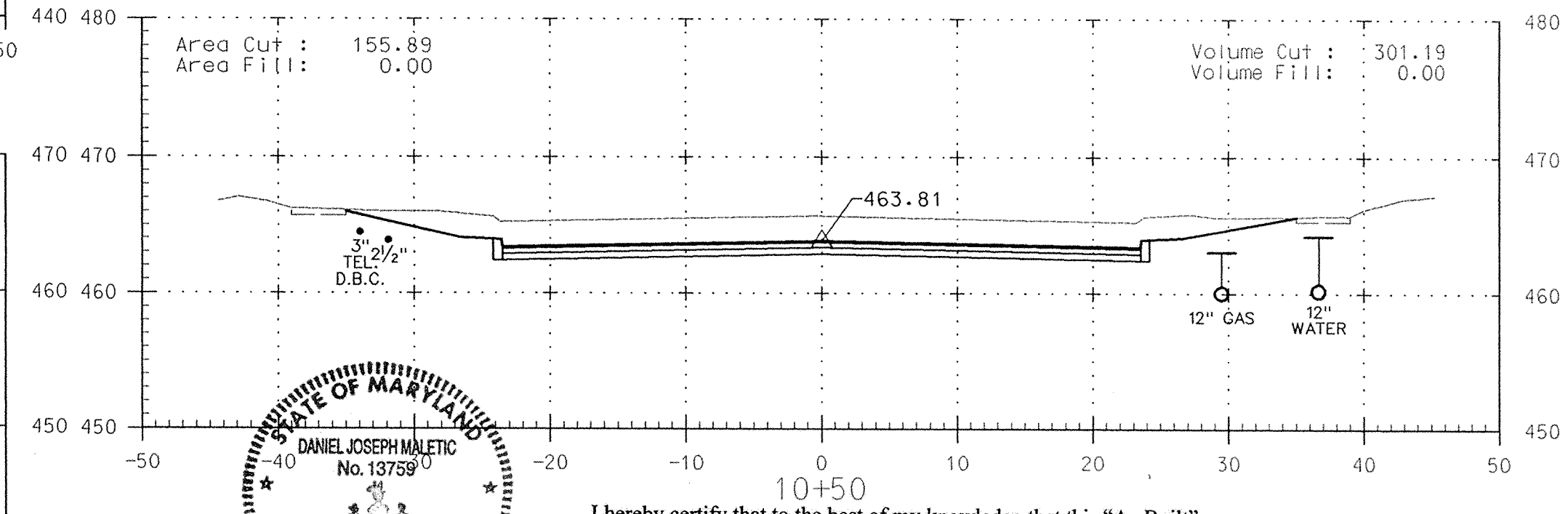
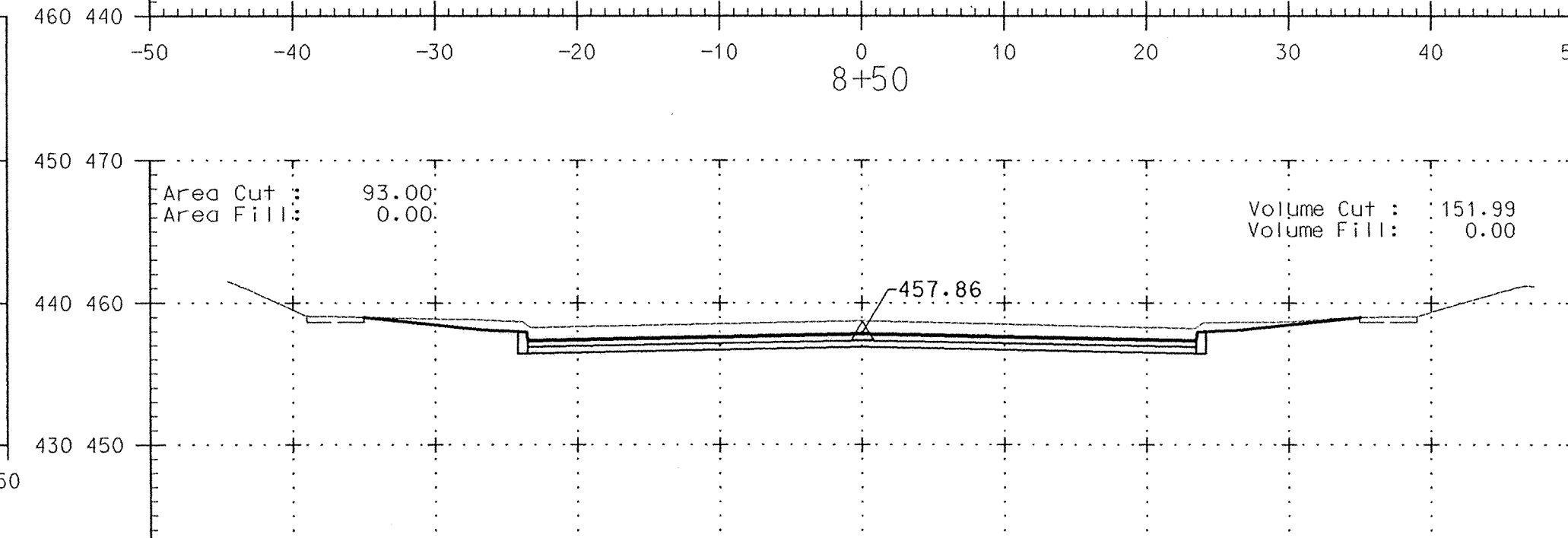
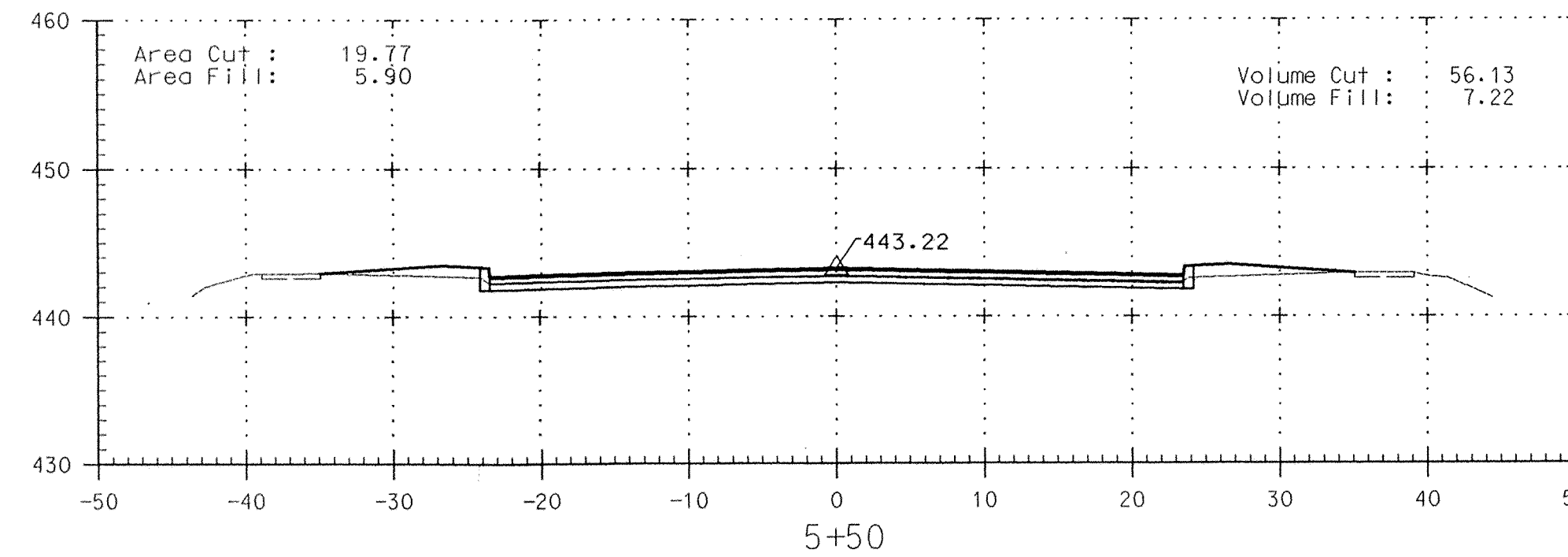
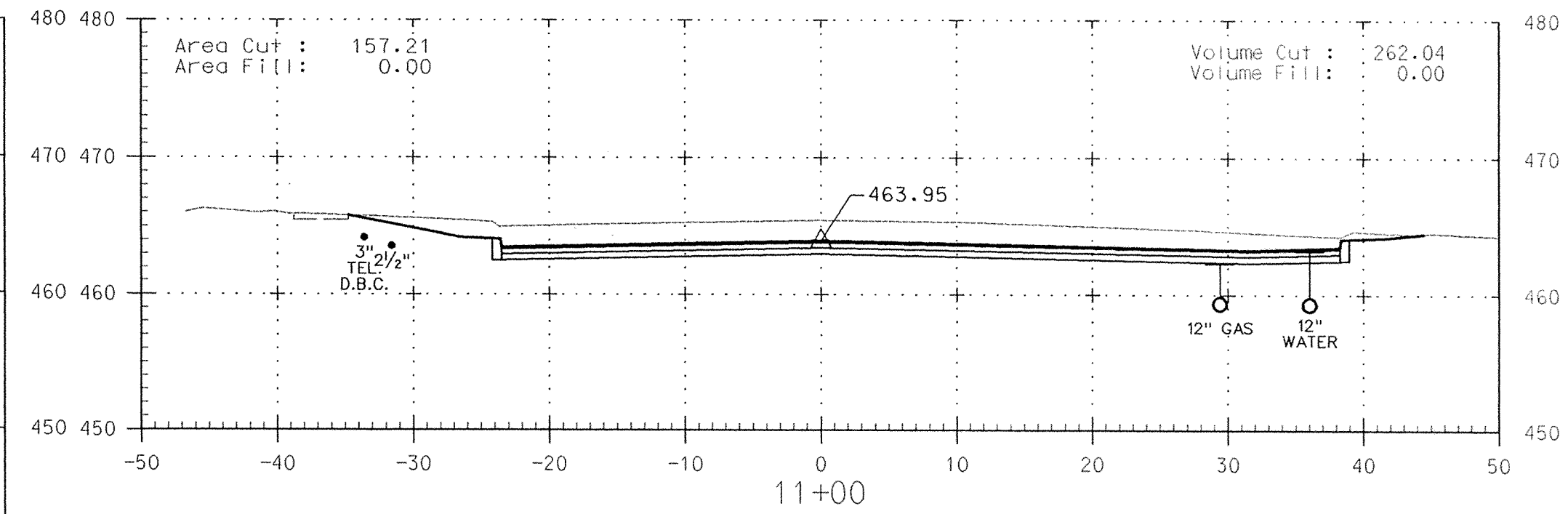
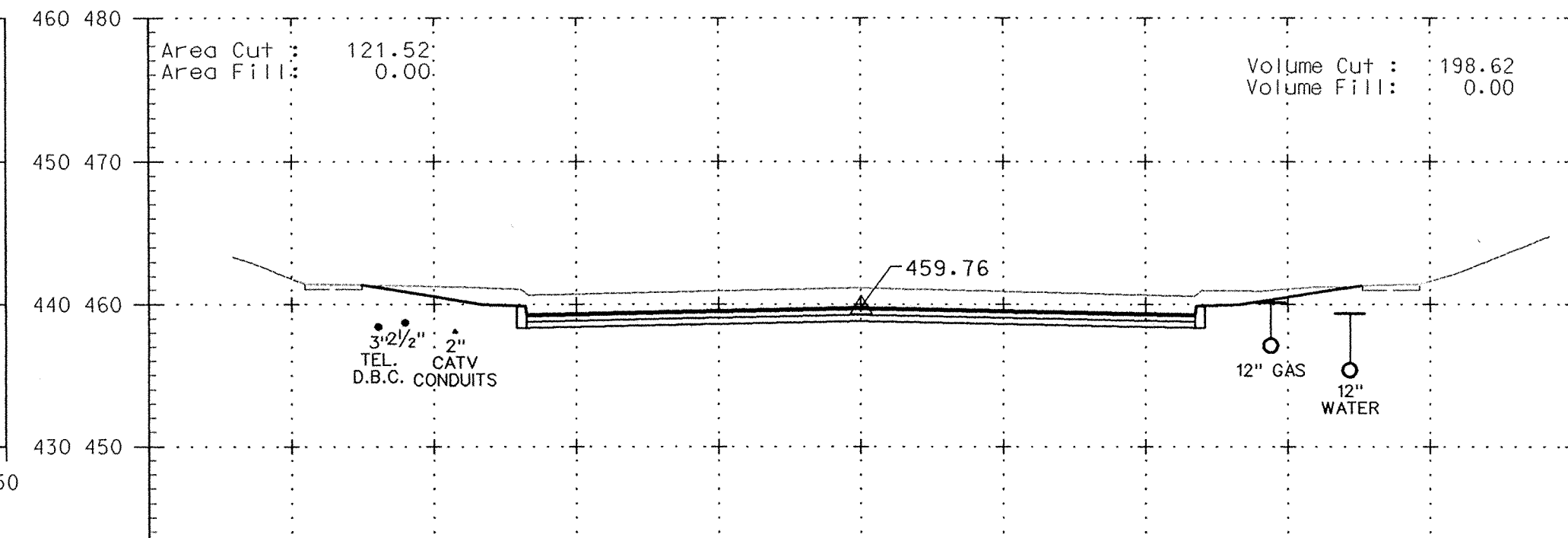
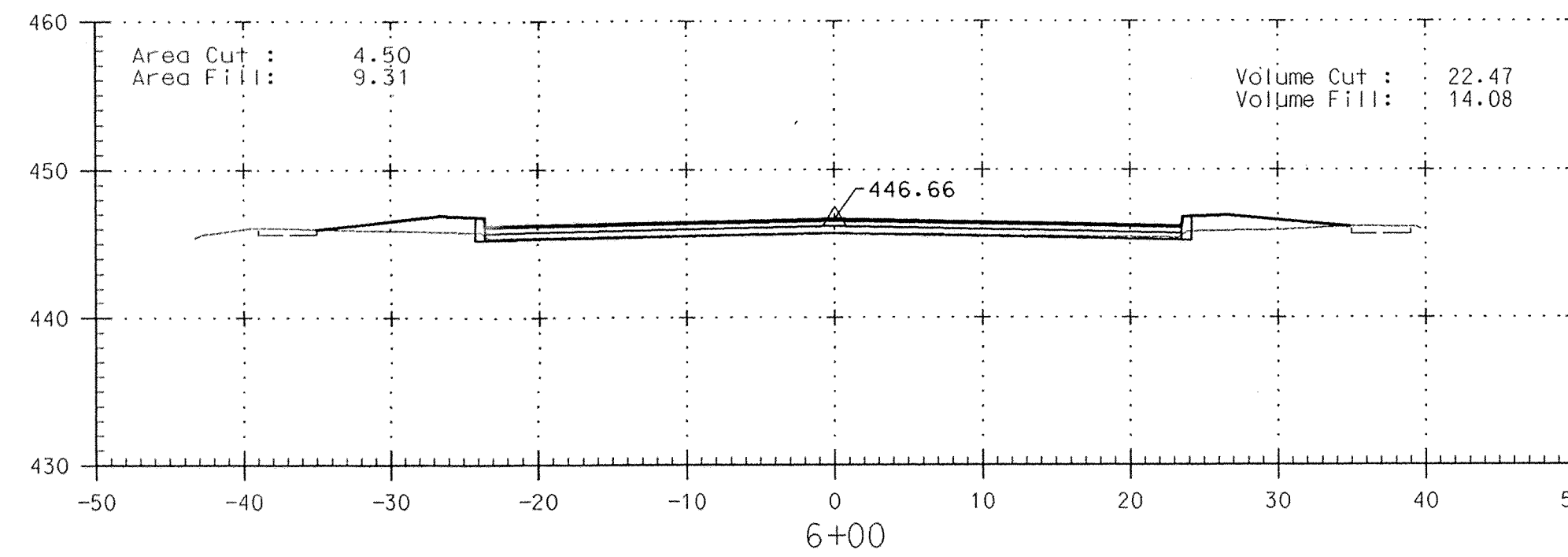
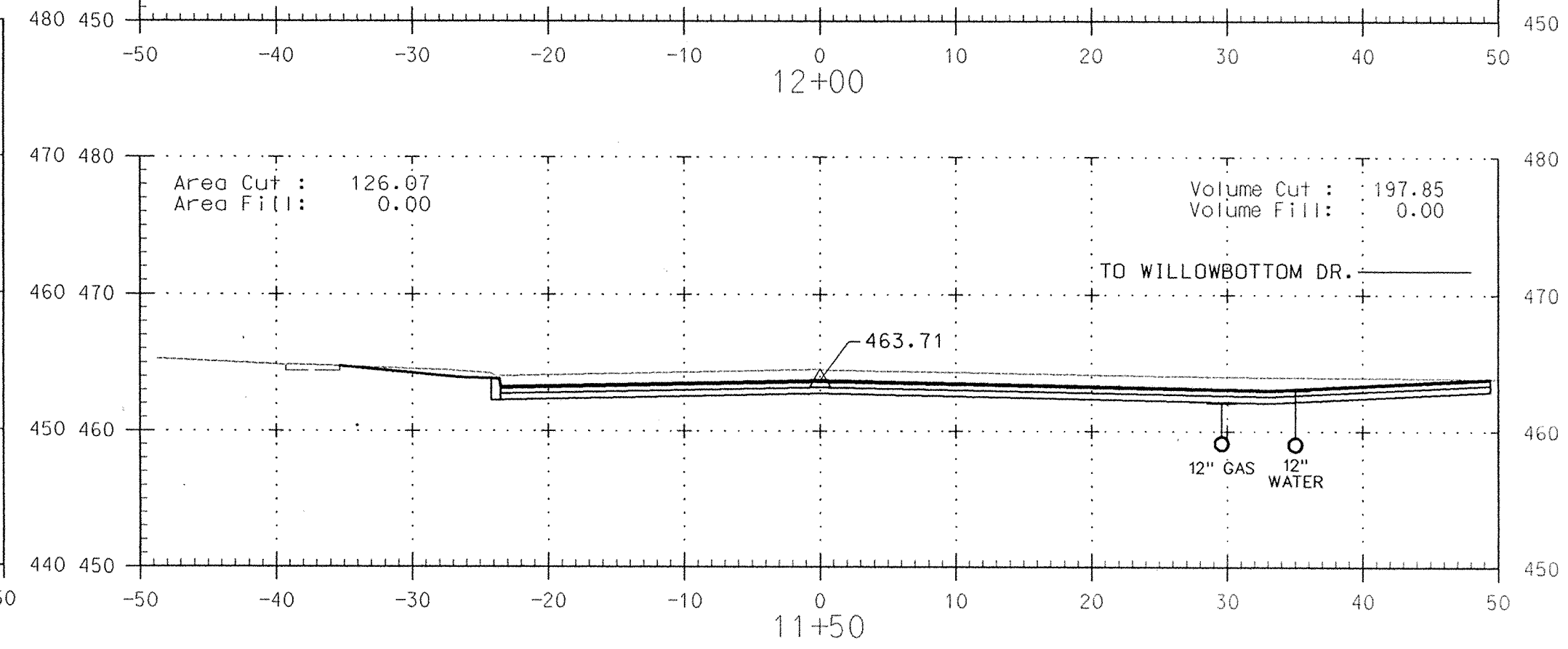
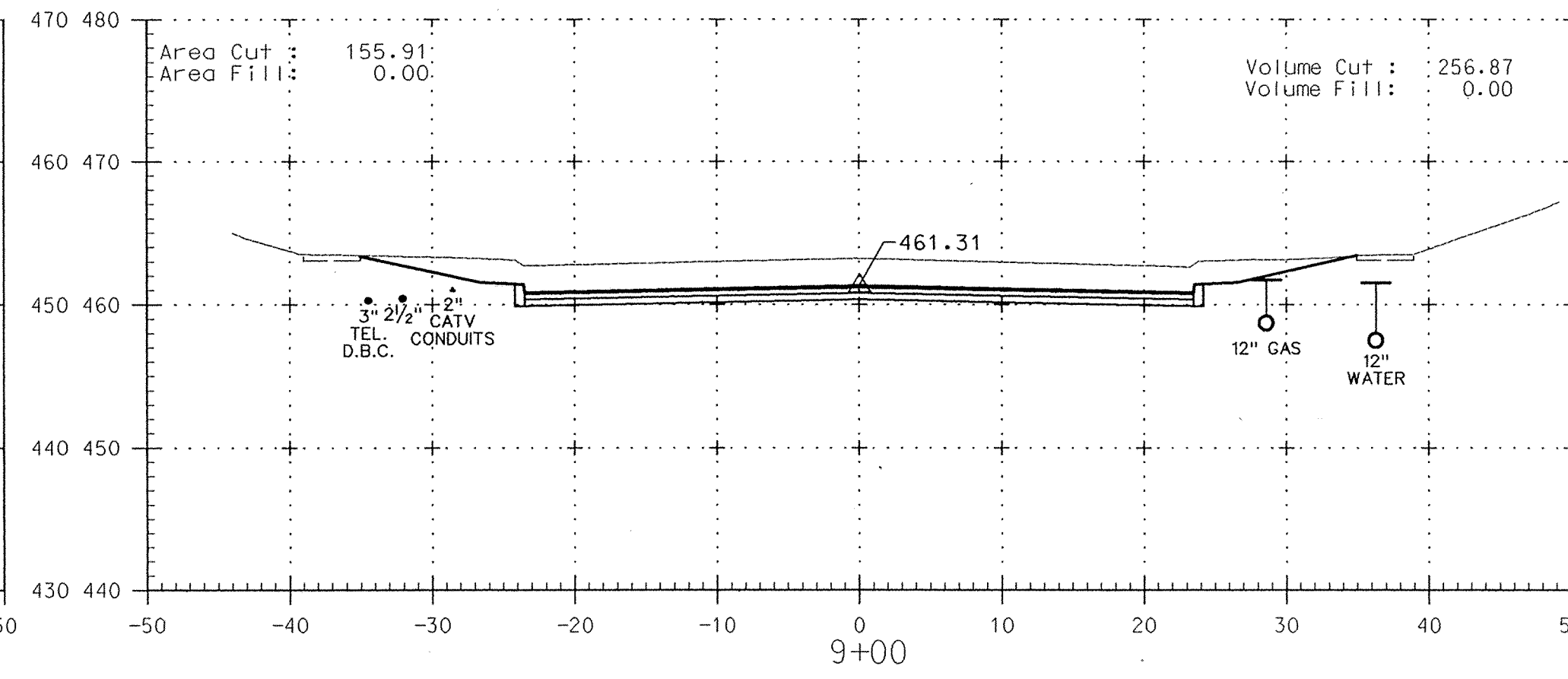
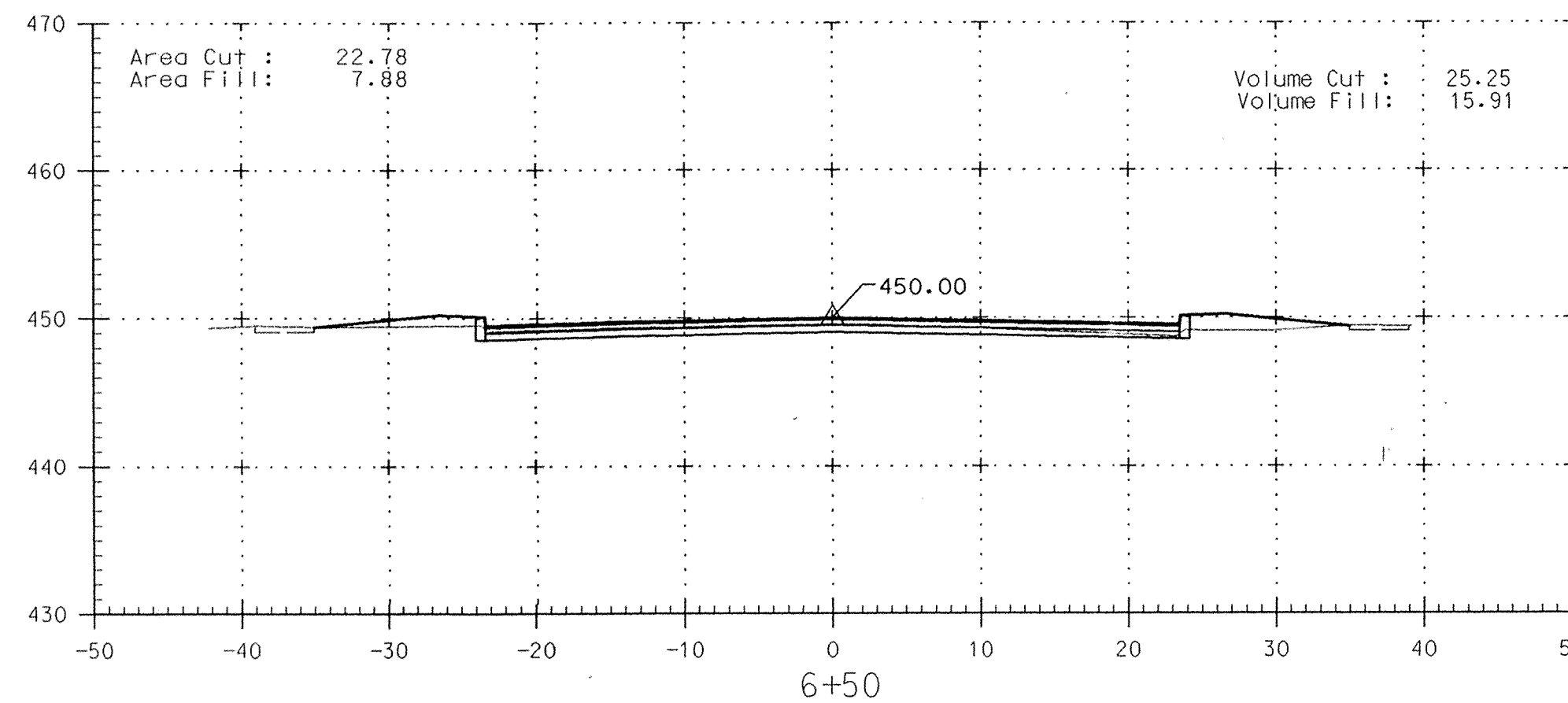
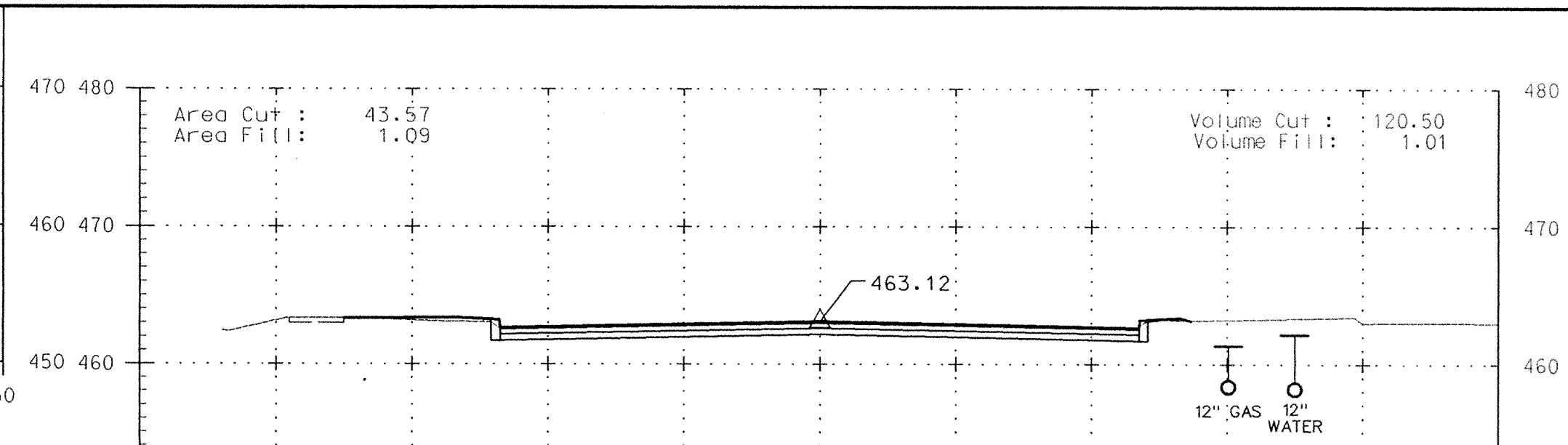
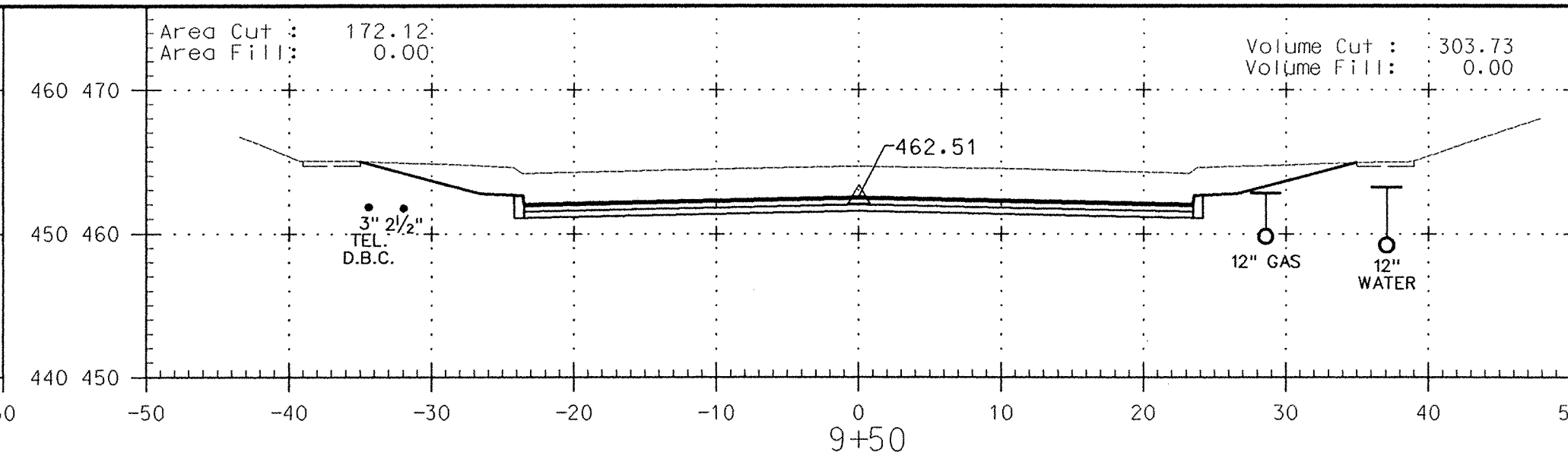
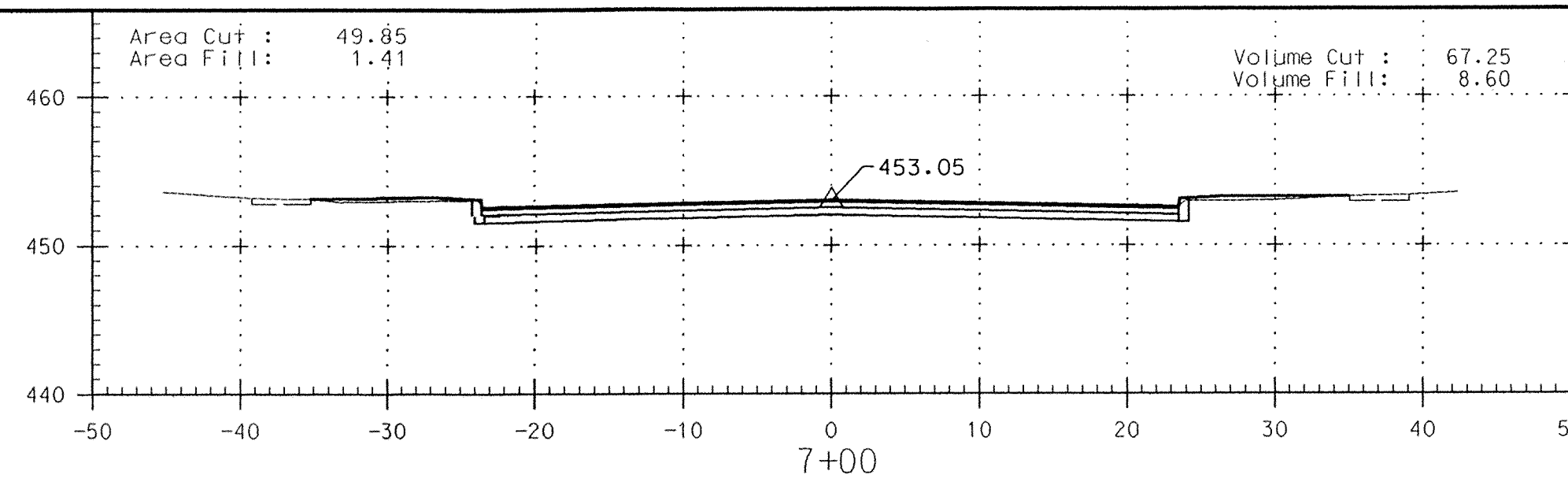
SCALE MAP NO. _____ BLOCK NO. _____

ROADWAY IMPROVEMENTS TO HARPERS FARM RD. & WILLOWBOTTOM DR. HOWARD COUNTY, MARYLAND CAPITAL PROJECT NO. J-4164

SCALE AS SHOWN
SHEET 17 OF 19

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DATE#DATE# \$TIME#

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DATE: 20 MAR 2000 20:30:25



I hereby certify that to the best of my knowledge that this "As-Built" truly represents existing field conditions including but not limited to sizes, diameters, line and grade, and elevations, shown #

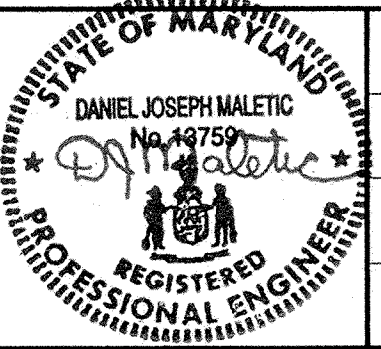
Daniel J. Maletic
Daniel J. Maletic
Maryland Registered Professional Engineer No. 13759

NOTE: STANDARD 7" COMBINATION CURB AND GUTTER STANDARD NO. R- 3.01 SEE SHEET 5 OF 19

SCALE: 1"=10'
AS-BUILT
April 2, 2001

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS: *James J. Clum* 4/13/00
CHIEF, BUREAU OF ENGINEERING: *Robert J. Eppom* 4/13/00
CHIEF, BUREAU OF HIGHWAYS: *Richard M. Danella* 4-13-00
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT: *Erica L. Garcia* 4/13/00

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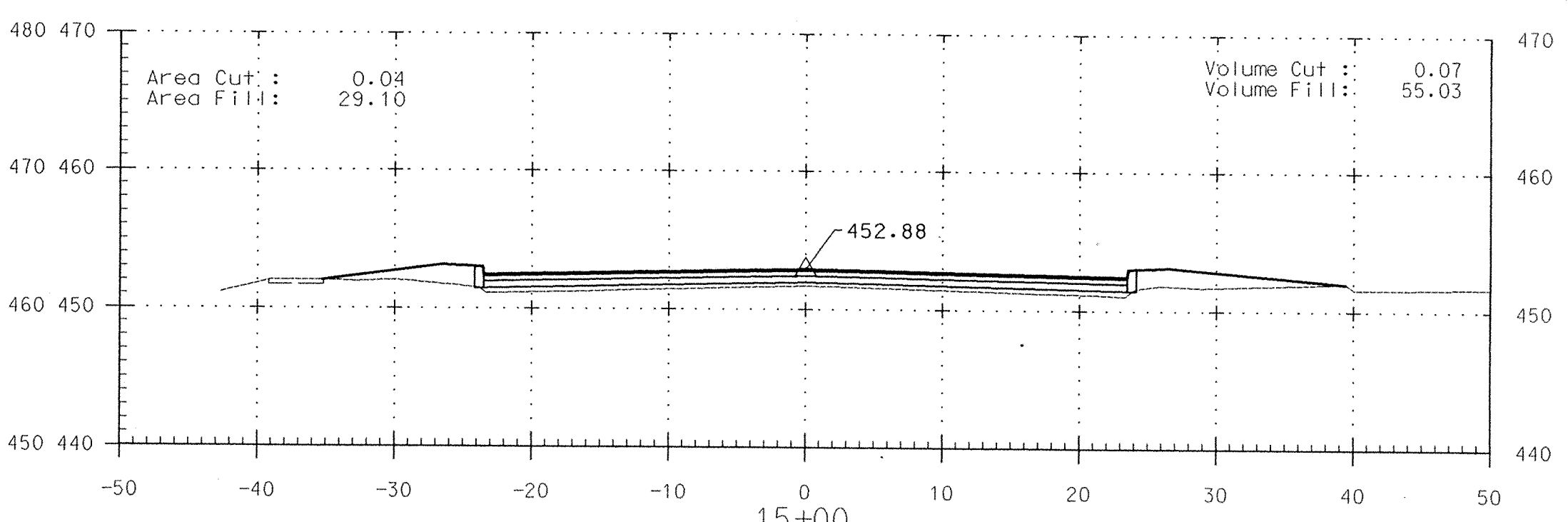
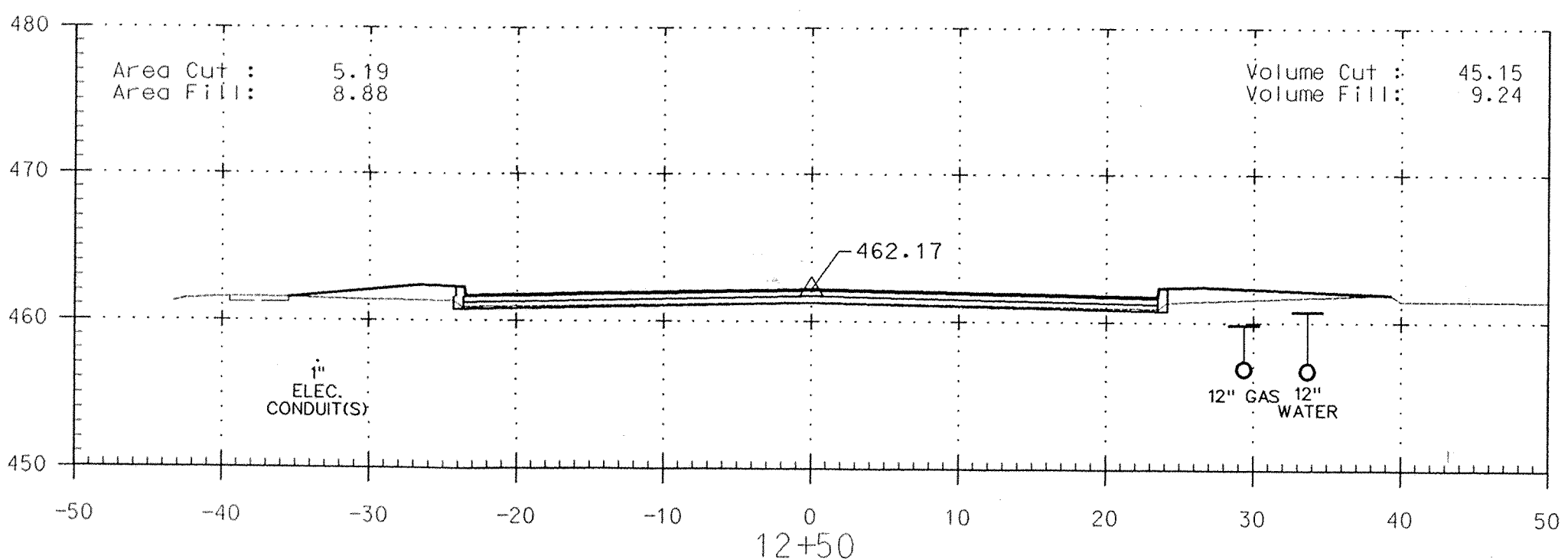
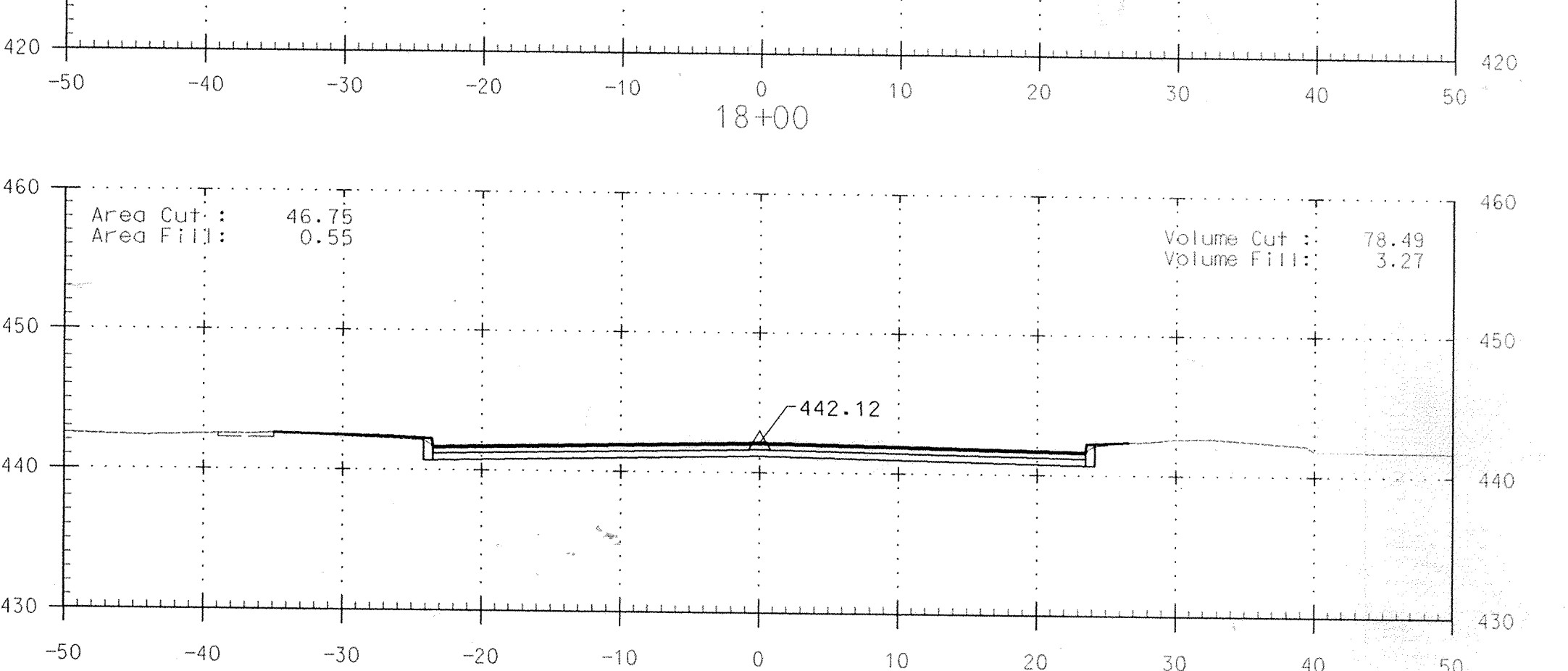
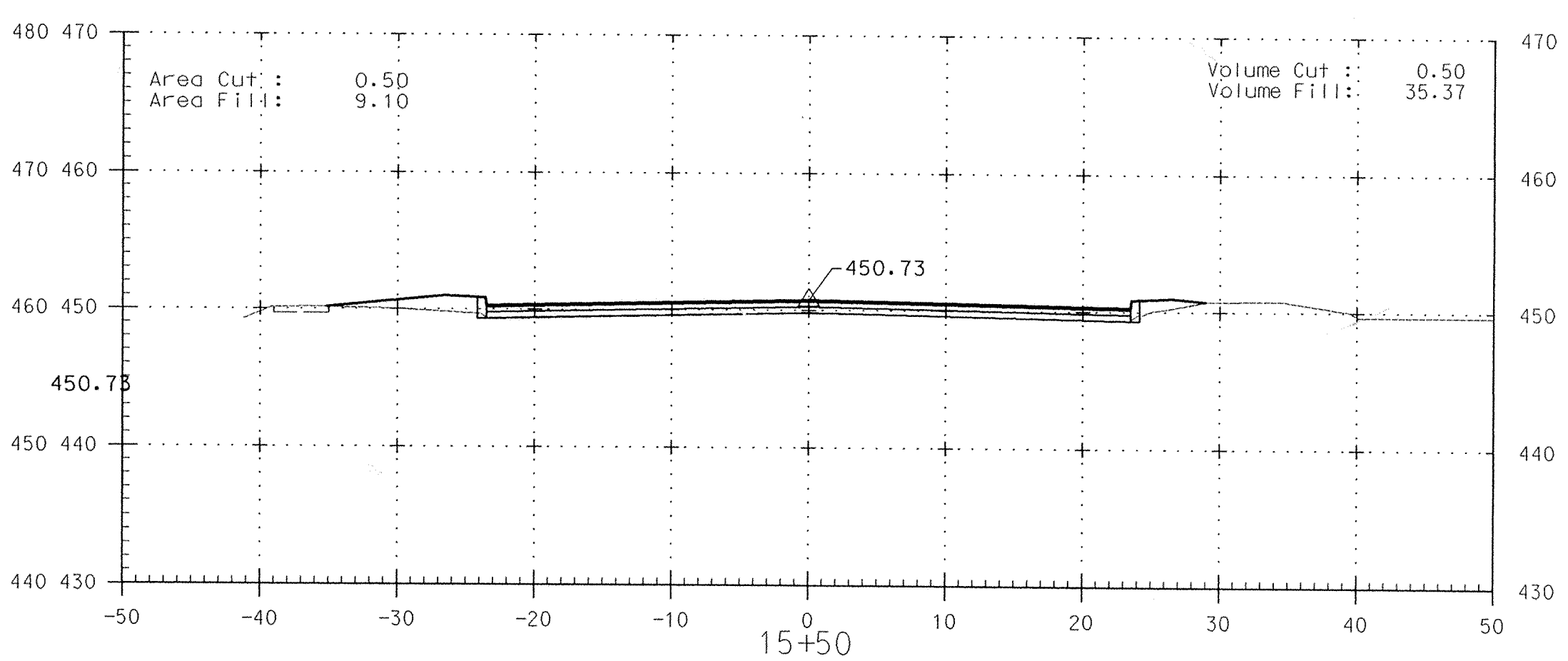
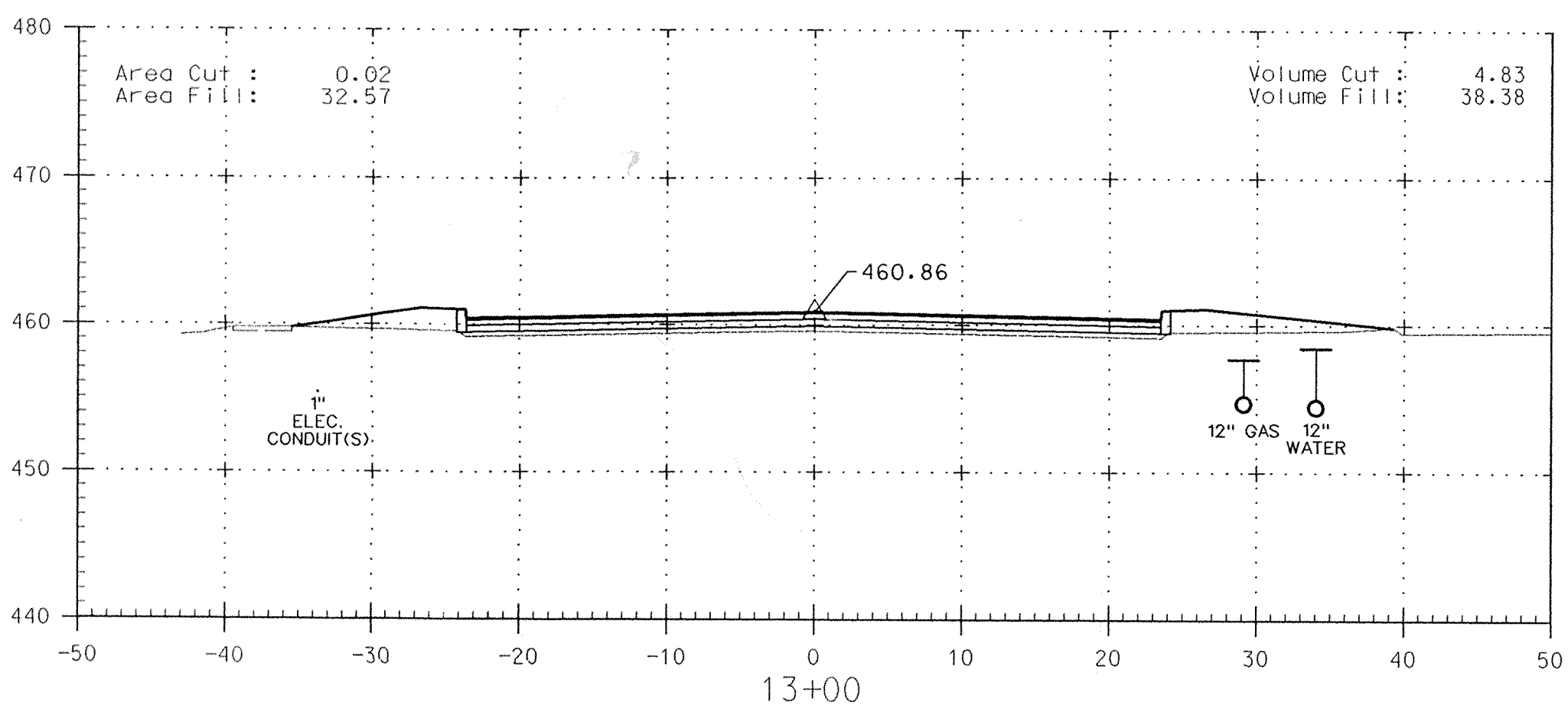
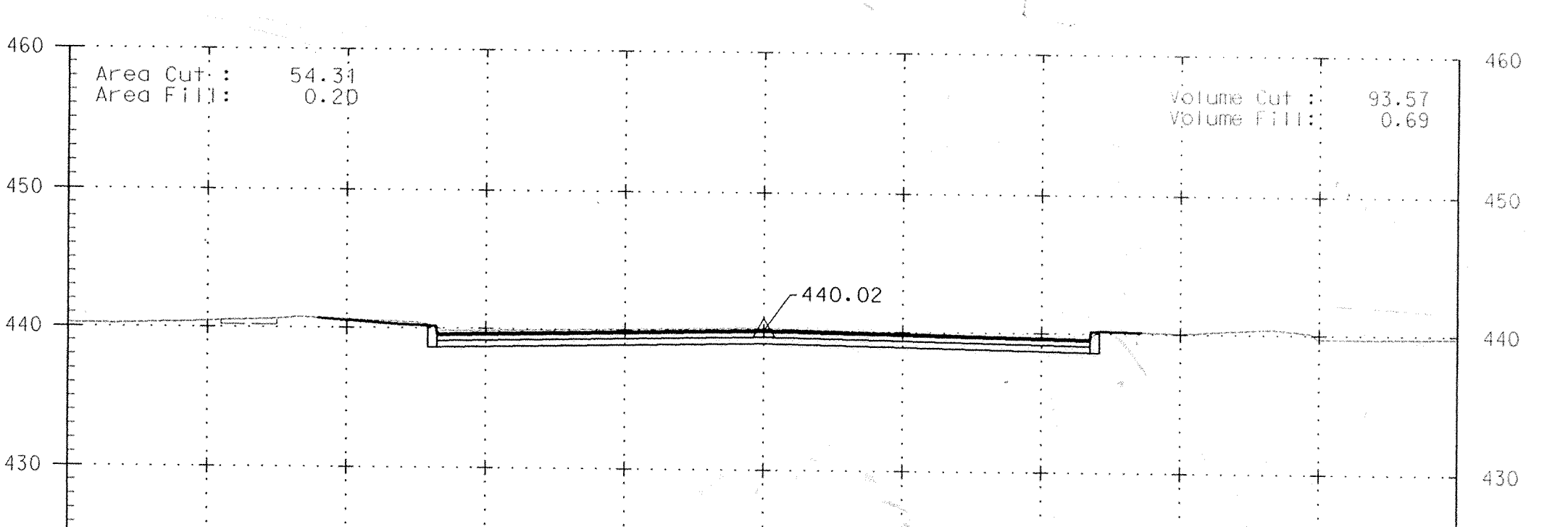
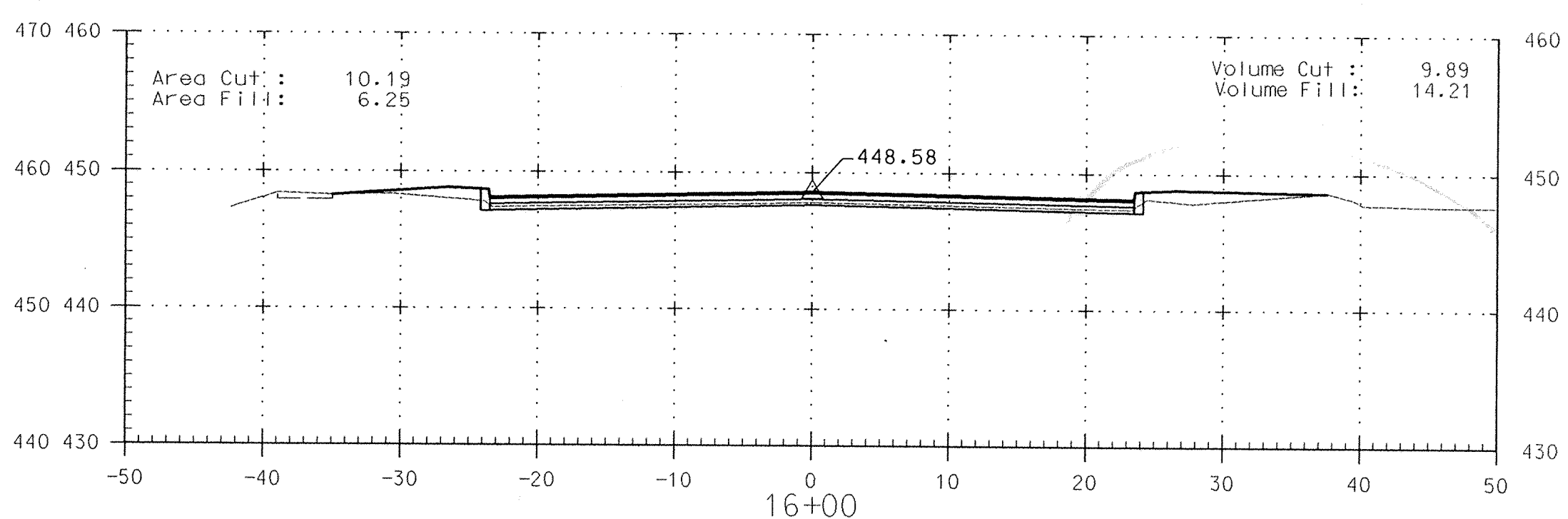
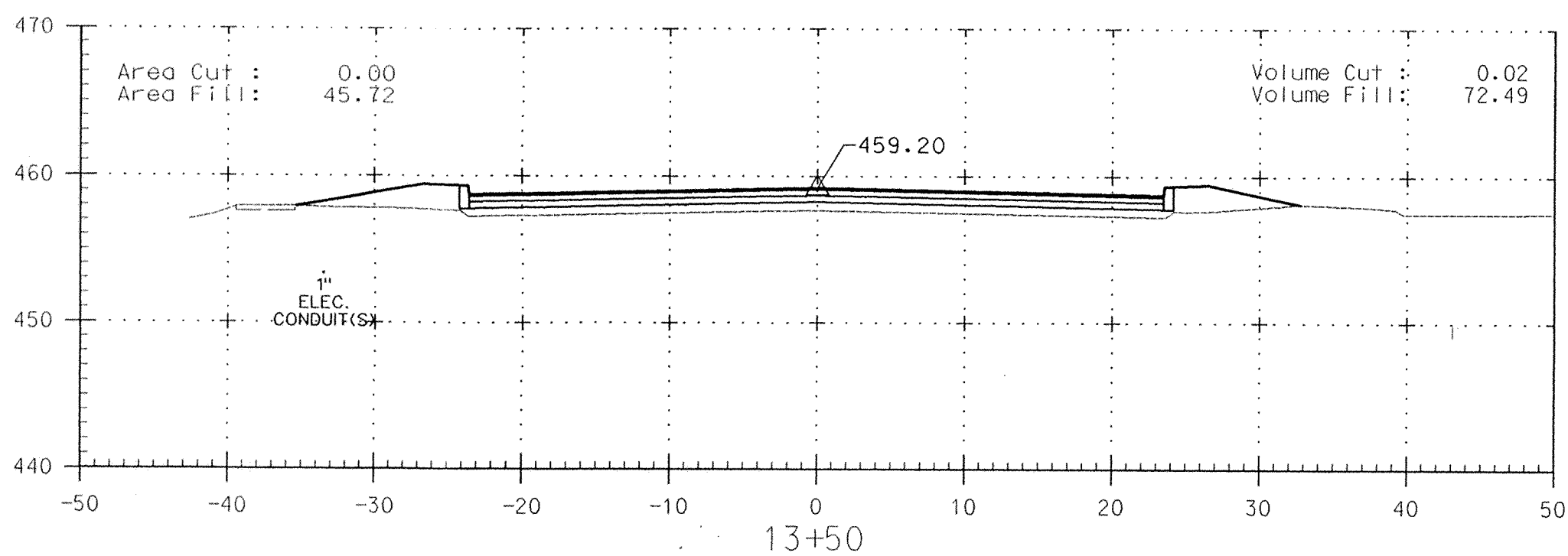
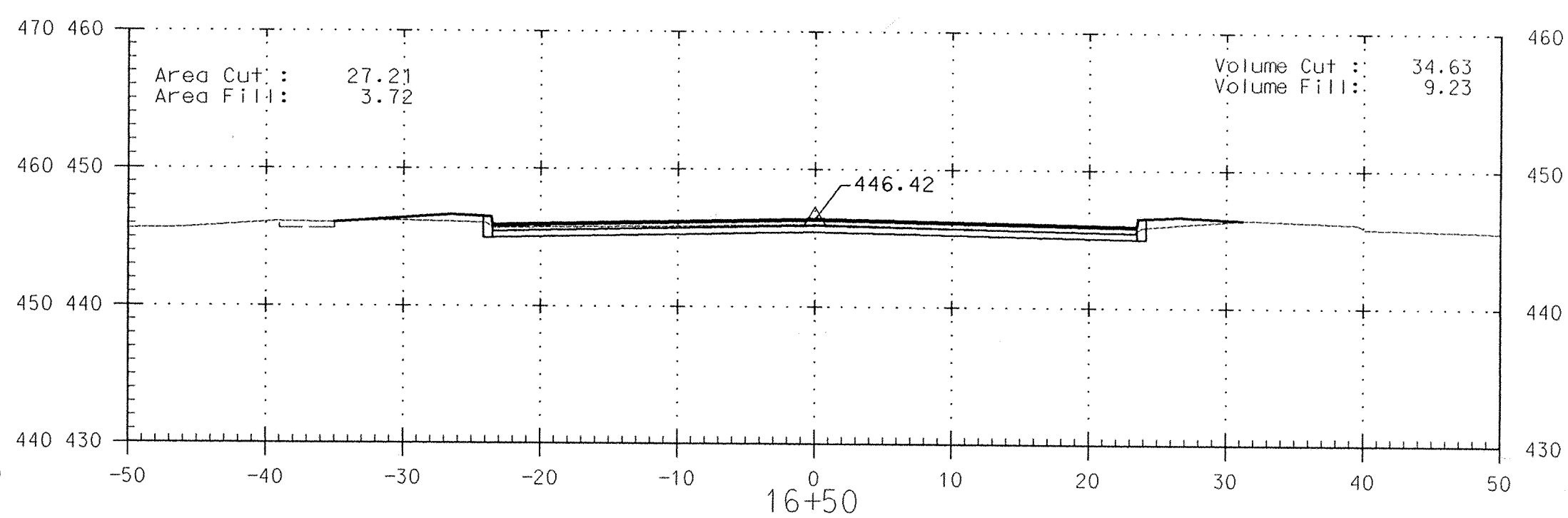
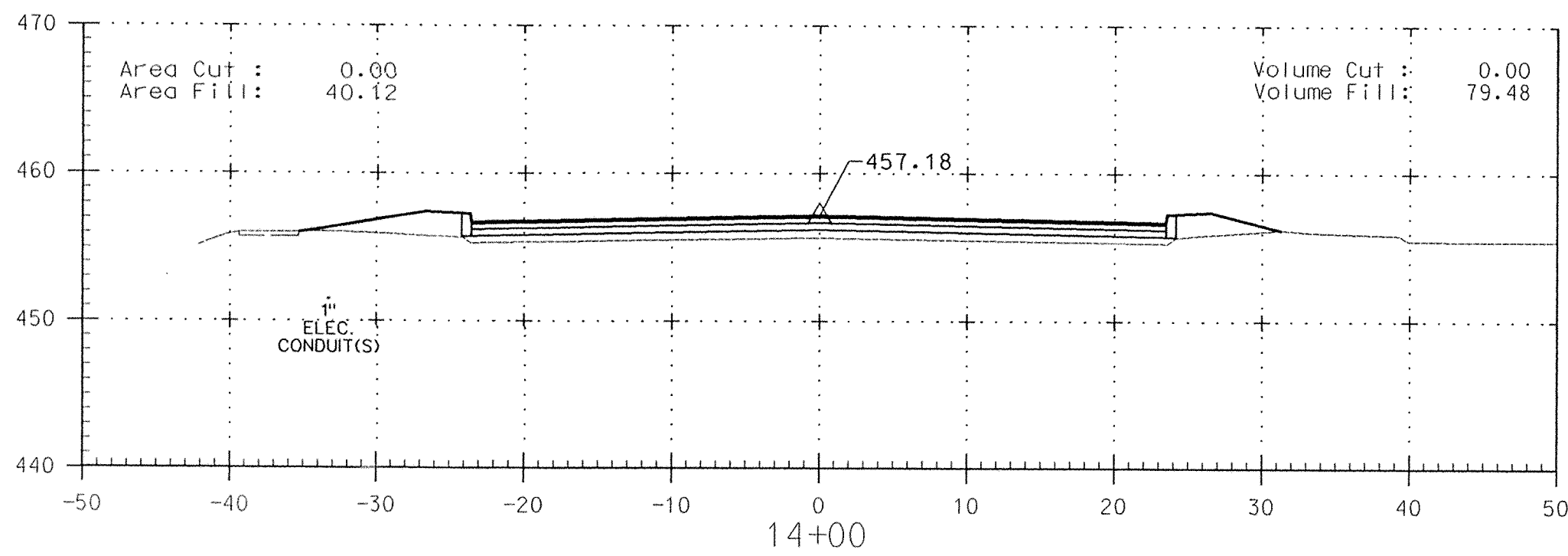
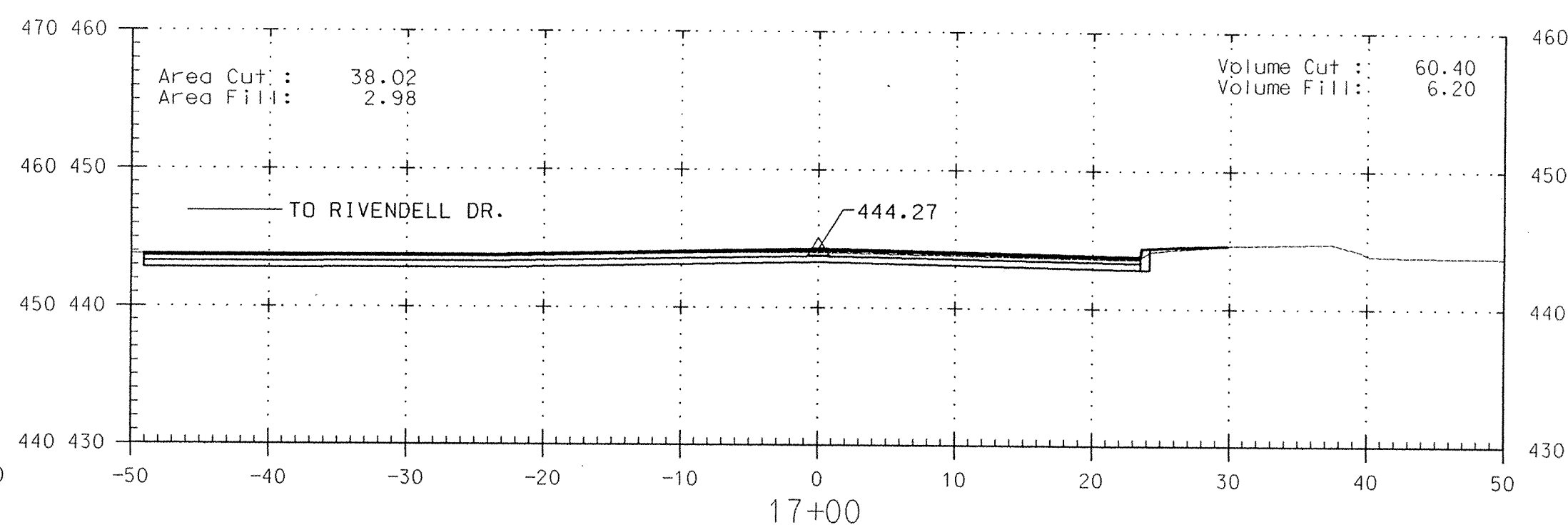
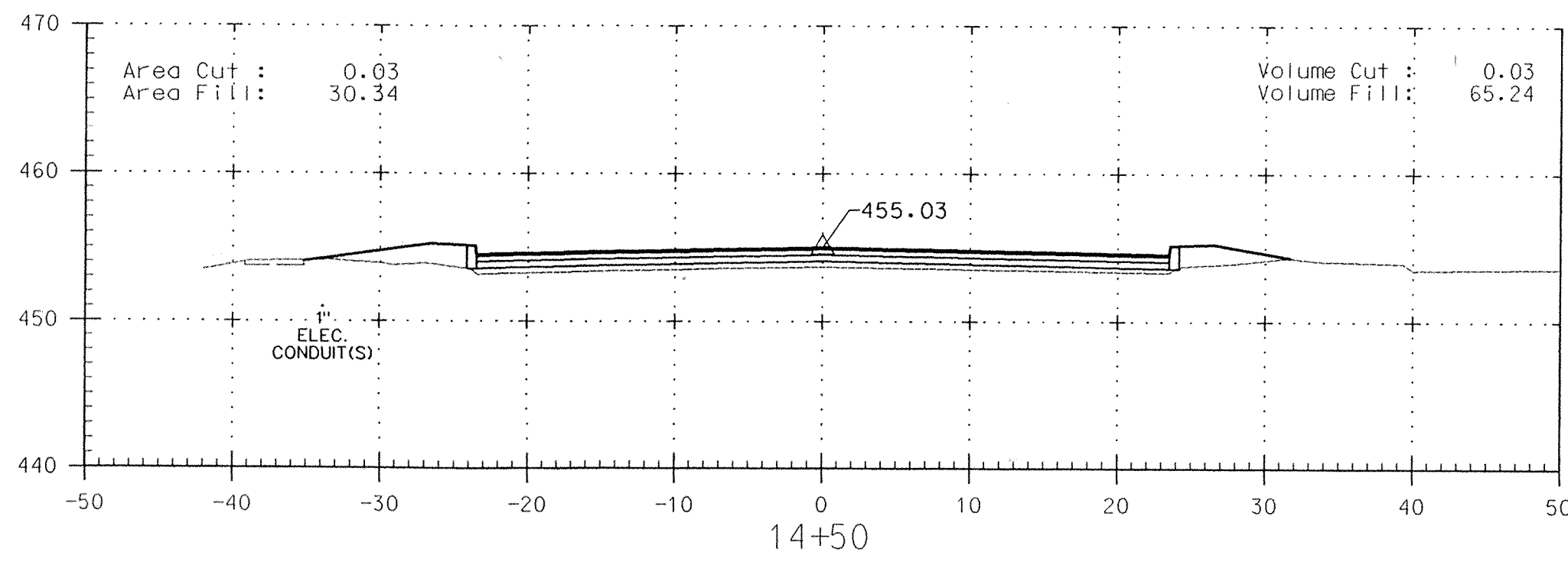
DES:	BY:	NO:	REVISION:	DATE:
DRN:				
CHK:				
DATE:				

Cross Sections
Sheet 1
SCALE MAP NO. _____ BLOCK NO. _____

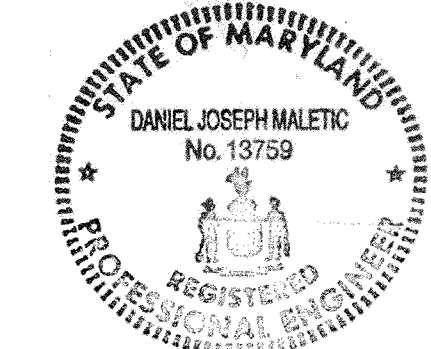
ROADWAY IMPROVEMENTS TO
HARPERS FARM ROAD & WILLOWBOTTOM DRIVE
HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. J-4164
SCALE AS SHOWN
SHEET 18 OF 19

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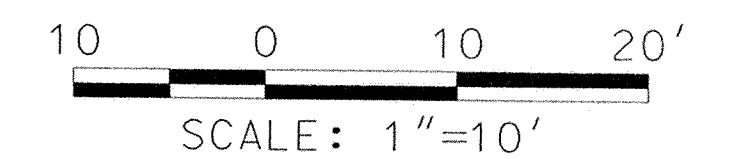
I hereby certify that to the best of my knowledge that this "As-Built" truly represents existing field conditions including but not limited to sizes, diameters, line and grade, and elevations, shown.



Daniel J. Maletic
Maryland Registered Professional Engineer No. 13759

AS-BUILT
April 2, 2001

NOTE: STANDARD 7" COMBINATION CURB AND GUTTER STANDARD NO. R- 3.01 SEE SHEET 5 OF 19



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. Clark 4/13/00
DIRECTOR OF PUBLIC WORKS DATE

Robert J. Larson 4/13/00
CHIEF, BUREAU OF ENGINEERING DATE

Robert M. Clarke 4-13-00
CHIEF, BUREAU OF HIGHWAYS DATE

Barbara A. Garcia 4/13/00
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DATE

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FAX (301) 490-2849 www.gpinet.com

DANIEL JOSEPH MALETIC
No. 13759
REGISTERED PROFESSIONAL ENGINEER
STATE OF MARYLAND

DES:	BY:	NO:	REVISION:	DATE:
DRN:				
CHK:				
DATE:				

Cross Sections
Sheet 2

SCALE MAP NO. _____ BLOCK NO. _____

ROADWAY IMPROVEMENTS TO
HARPERS FARM ROAD & WILLOWBOTTOM DRIVE
HOWARD COUNTY, MARYLAND
CAPITAL PROJECT NO. J-4164

SCALE AS SHOWN
SHEET 19 OF 19

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