

HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS BEECHFIELD AVENUE DRAINAGE IMPROVEMENTS HOWARD COUNTY CAPITAL PROJECT D-1124-03

GENERAL NOTES

- This contract shall be constructed under provisions of the Maryland Department of Transportation, State Highway Administration (S.H.A.) "Standard Specifications for Construction and Materials," dated January 2001, including all revisions thereof and additions thereto, except where noted otherwise; the Special Provisions included in the invitation for bids book; the Administration Book of Standards for Highways and incidental Structures; as well as the latest Howard County Design Manual Standards and Specifications & Details for Construction dated 2006 and revisions thereof and additions thereto.
- The Contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410) 313-1870 at least five (5) working days prior to the start of work.
- The Contractor shall notify "Miss Utility" at 1-800-257-7777 at least forty-eight (48) hours prior to any excavation work. The Contractor shall contact the following utilities at least 5 days prior to beginning any work under this contract. For additional information and requirements with respect to utilities, see Special Provisions.
BGE Gas Division (410) 291-5834
BGE Electric Division (410) 855-6958
Verizon (410) 224-9590
Comcast (410) 497-0232
- Project Background:
Location: Elkridge, Maryland
Tax Map: 38
Election District: 1
- Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
- Any damage caused by the Contractor to existing public right-of-way, existing paving, existing curb and gutter, existing utilities, etc. shall be corrected at the Contractor's expense.
- The existing utilities shown hereon are located from the best information available, but no guarantee is made to their accuracy. The approximate location of existing utilities are shown for the Contractor's information and convenience. The Contractor shall locate existing utilities to his own satisfaction and well in advance of any construction activities. Additionally, the Contractor shall take all necessary precautions to protect all existing utilities and maintain uninterrupted service.
- Horizontal and vertical datums based on to the Maryland State Plane Coordinate System NAD 83 and NAVD 83 and is referenced to Howard County Survey Control Monuments: 371D N 556,907.4177 E 1,384,460.9875 Elev. 157.314 & 38D6 N 557,155.4454 E 1,384,992.2276 Elev. 174.506
- Clearing shall be limited to the "Limit of Disturbance" as shown on the sediment and erosion control plan. Grading shall be done in such a manner as to provide positive drainage. Contractor shall seed and mulch all disturbed areas except as otherwise directed.
- The contractor shall take extreme caution not to disturb the existing vegetation outside the limits of construction. Soil stabilization shall conform to "Maryland Standards and Specifications for Soil Erosion and Sediment Control," dated 1994, published jointly by Water Management Administration, Soil Conservation Service, and State Soil Conservation Committee.
- All fill areas shall be compacted to a minimum of 95% of the maximum dry density as determined and verified in accordance with AASHTO T-180.
- This drawing is based on a field ran topographic survey performed by Associated Engineering Services, Inc. (AES) 34 West Franklin St, Hagerstown, Maryland 21740 on or about November 2009.
- All sign posts used for traffic control signs installed in the County Right-of-Way shall be mounted on a 2" galvanized steel, perforated, square tube post (14 gauge) inserted into a 2-1/2" galvanized steel, perforated, square tube sleeve (12 gauge) - 3' long. A galvanized steel pole cap shall be mounted on top of each post.
- A staging and stockpile area will be determined by the contractor and approved by the Howard County Engineer.

MAINTENANCE OF TRAFFIC (MOT)

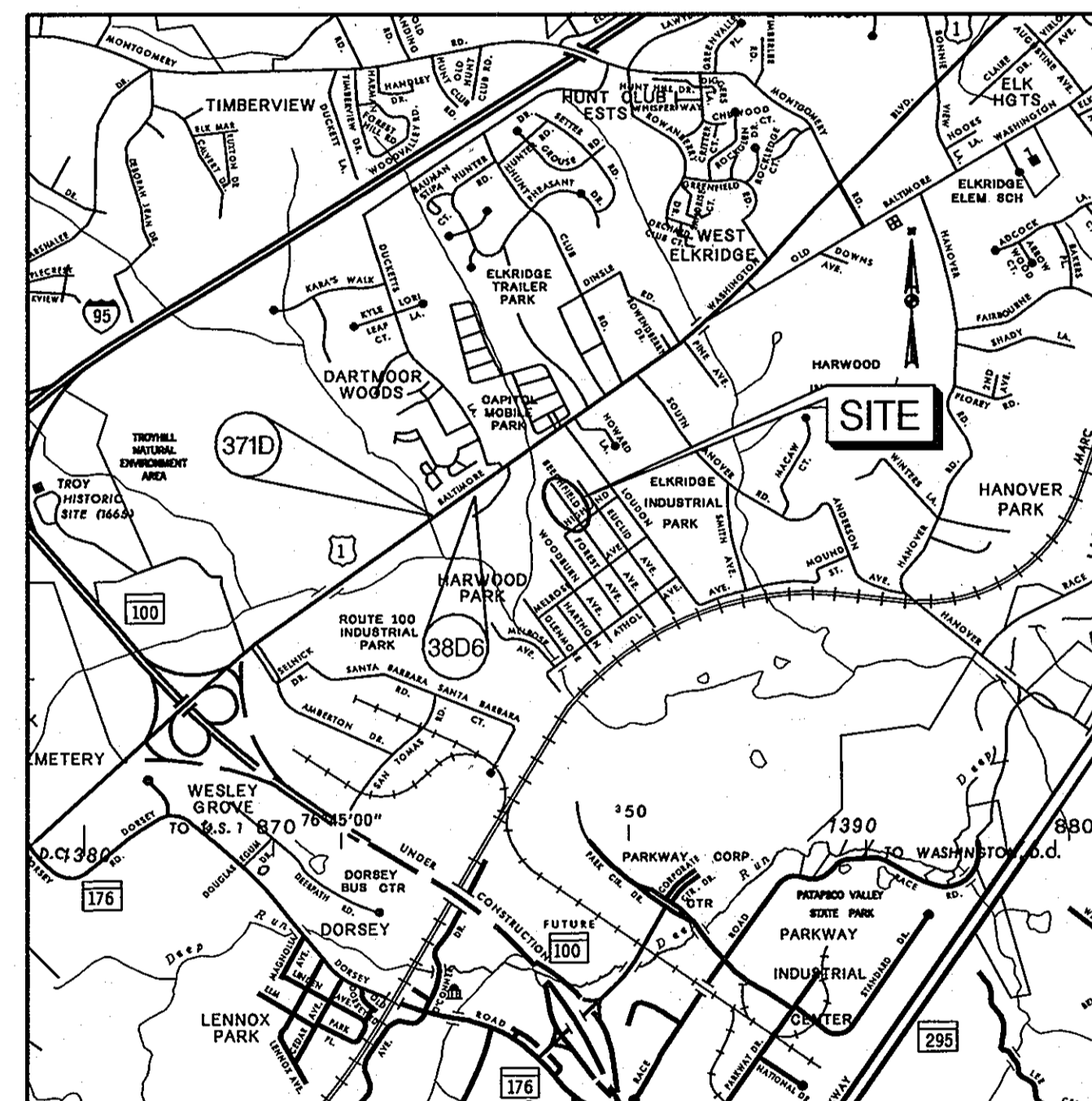
- All work shall be done in accordance with MD SHA Standard Detail MD 104.02-10.
- Contractor to maintain a minimum 10' travel lane at all times.
- Throughout the period of construction, traffic will be maintained by implementing standard traffic control work zone typical plans in accordance with the latest plans and manuals of the Maryland State Highway Administration. The contractor will be required to adhere to The Manual of Uniform Traffic Control Devices (2009 edition and all revisions). The contractor is required to maintain access to all driveways at all times for the duration of the project. If the contractor is unable to reconstruct existing driveway aprons after curb installation, contractor shall provide graded aggregate backfill behind curb to maintain use of driveways. All items not listed in the itemized schedule of prices, required for maintaining traffic, including but not limited to signing, barriers, drums, temporary aggregate and pavement, shall be included in the lump sum unit bid price for maintenance of traffic.

- PLAN LOCATION OF TEST PIT
- PLAN LOCATION OF ROADWAY BORING

NOTE:
ROADWAY BORING AND TEST PIT LOG SUMMARY SHEETS
ARE AVAILABLE UPON REQUEST.

INDEX OF DRAWINGS

SHEET NO.	TITLE
1	TITLE SHEET
2	TYPICAL SECTION AND DETAILS
3	ROADWAY PLAN
4	STORM DRAIN PROFILES, STRUCTURE AND PIPE SCHEDULES
5	MISCELLANEOUS DETAILS
6	GRADING, EROSION AND SEDIMENT CONTROL PLAN
7	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
8	EROSION AND SEDIMENT CONTROL DETAILS



LOCATION MAP
SCALE: 1" = 2000'

Charles S. Nolan
CHARLES S. NOLAN, P.E. 3/31/2010
DATE

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS ARE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15212, EXPIRATION DATE: 12/24/2010."

By the Owner/Developer
"I/We certify that all development and/or construction will be done according to these plans, 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 project. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Jay Steimetz 3/30/10
Signature of Owner/Developer Date
Print name below signature

By the Owner/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. This Plan was prepared in accordance with the requirements of the Howard Soil Conservation District."

Charles S. Nolan 3/31/2010
Signature of Engineer Date
Print name below signature

These plans are approved for soil erosion and sediment control by the Howard Soil Conservation District.

John K. Robertson 4/8/10
Signature of Engineer Date
Print name below signature

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John K. Robertson 4/8/10
DIRECTOR OF PUBLIC WORKS DATE

William J. Miller 4-24-12
CHIEF, BUREAU OF HIGHWAYS DATE

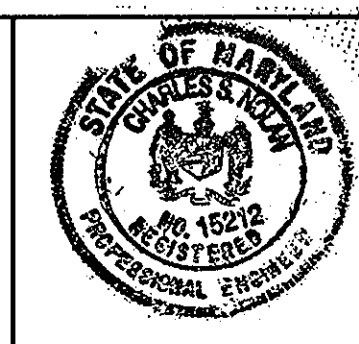
Thomas E. Buttle 4/26/12
CHIEF, BUREAU OF ENGINEERING DATE

Steve Sawyer 4/26/12
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

NOLAN
Associates, Inc.

Engineers - Civil/Structural/Inspections
4785 Dorsey Hall Drive
Suite 124
Ellicott City, Maryland 21042

Phone: (410) 995-3652 Fax: (410) 995-1363



DES:	GWF	BNL	PI	AS-BUILT	8/13
DRN:	BSB				
CHK:	CSN				
DATE:	APRIL 2010	BY:	NO.	REVISION	DATE

TITLE SHEET

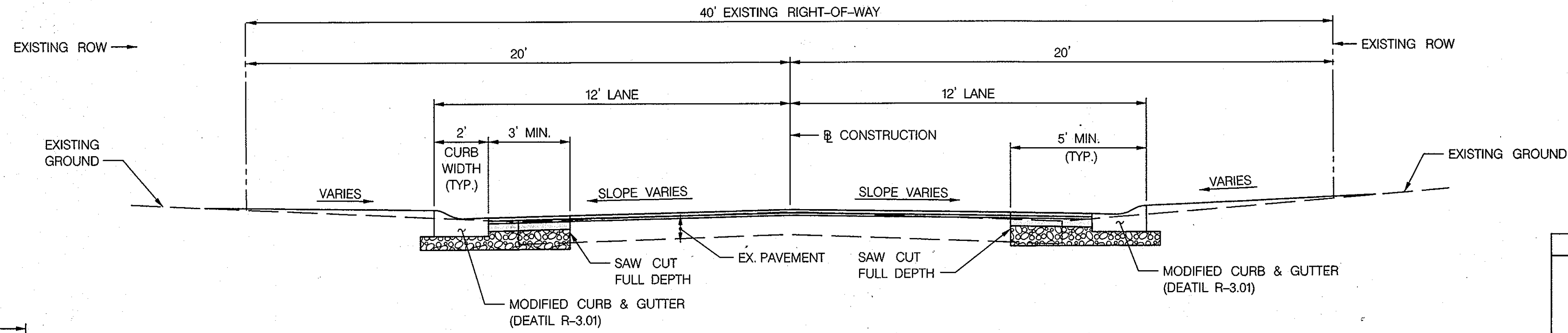
600' SCALE MAP NO. _____ BLOCK NO. _____

BEECHFIELD AVENUE
DRAINAGE IMPROVEMENTS
CAPITAL PROJECT D-1124-03
ELECTION DISTRICT NO. 1
ELKRIDGE, MARYLAND

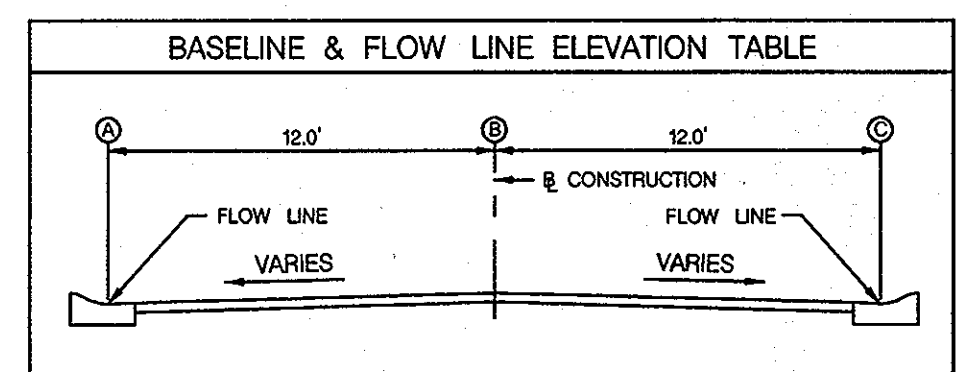
SCALE:
AS SHOWN

SHEET
1 OF 8

- NOTES**
- WIDTH OF EXISTING PAVEMENT MAY EXTEND BEYOND LIMIT OF PROPOSED CURB AND GUTTER. IF REQUIRED, REMOVE EXISTING ROADWAY PAVEMENT BEYOND FACE OF NEW CURB GUTTER PAN. REMOVAL OF PAVEMENT SHALL BE INCIDENTAL TO CLASS I EXCAVATION.
 - AREA BEHIND BACK OF CURB TO BE ADJUSTED TO MEET EXISTING GROUND WHERE DRIVEWAY MEETS CURB. CONTRACTOR TO RECONSTRUCT DRIVEWAY APRON SIMILAR TO HO. CO. STD. DETAIL R-6.05 EXCEPT THAT DRIVEWAY WIDTH SHALL MATCH THE WIDTH OF EXISTING DRIVEWAY. DRIVEWAY APRON RECONSTRUCTION TO CONSIST OF P-1 PAVEMENT SECTION, OR REINFORCED CONCRETE AS NOTED.
 - ALL FULL DEPTH SAW CUTS REQUIRED WILL NOT BE MEASURED BUT THE COST WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE FOR THE CURB AND GUTTER PAY ITEM.
 - THE GAB PLACED UNDER AND BEHIND CURB & GUTTER WILL NOT BE MEASURED BUT THE COST WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE FOR THE CURB & GUTTER PAY ITEM.

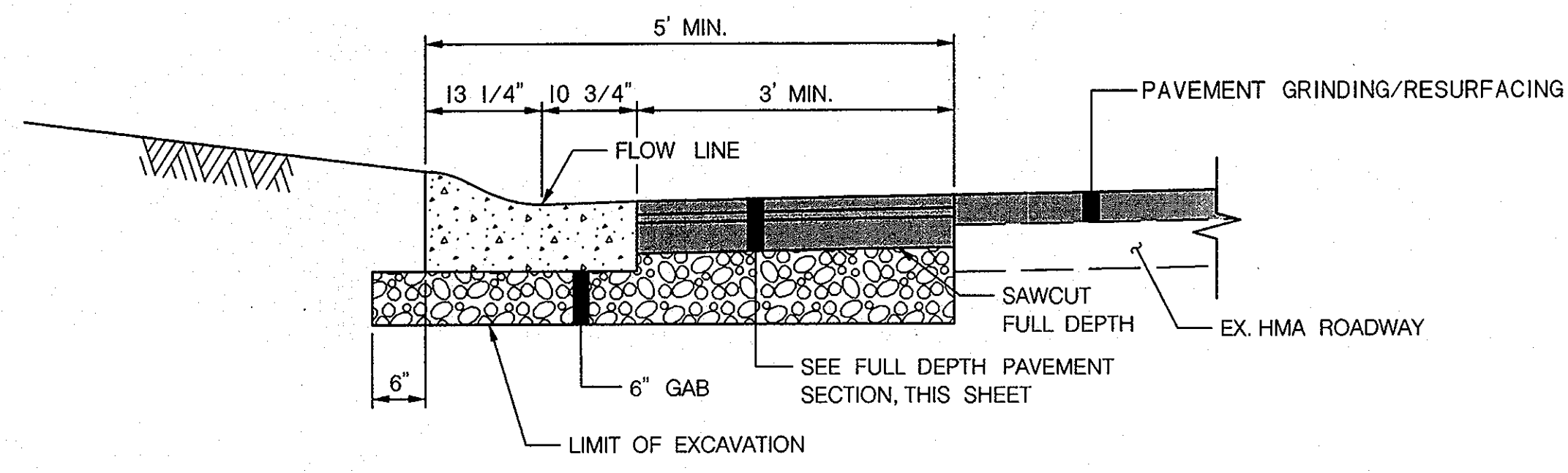


ROADWAY TYPICAL SECTION
 STA. 101 + 67.89 TO STA. 107 + 13.90
 SCALE: 1" = 3'

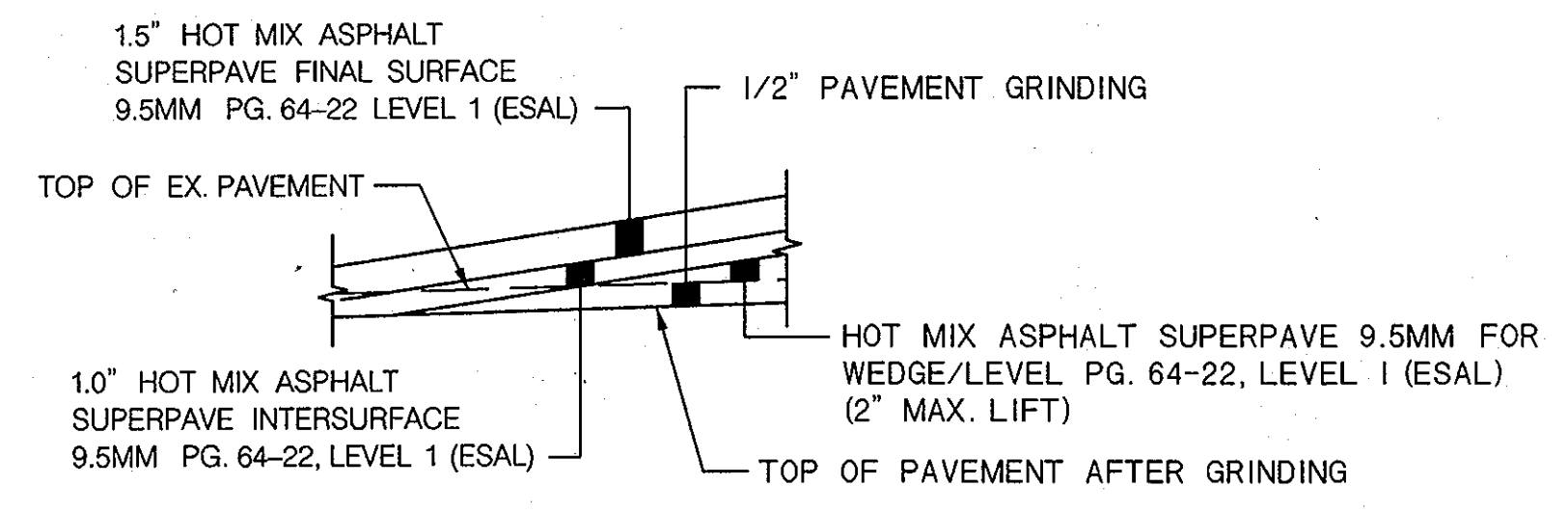


STATION	A		B		C	
	PROP.	EXIST.	PROP.	EXIST.	PROP.	EXIST.
101 + 52	MEET EXISTING					
101 + 67.89 (1)	-	-	-	-	-	183.52
101 + 69.94 (2)	183.39	-	-	-	-	-
101 + 75	183.44	183.29	183.70	183.44	183.44	183.44
102 + 00	183.37	183.22	183.63	183.37	183.37	183.37
102 + 25	182.69	183.12	183.21	182.46	182.46	182.46
102 + 50	182.44	182.39	182.69	182.44	182.44	182.44
102 + 75	181.76	181.82	182.01	182.11	182.11	182.11
103 + 00	181.30	181.49	181.55	181.70	181.70	181.70
103 + 25	180.22	180.52	180.69	180.90	180.90	180.90
103 + 50	179.46	179.71	179.88	180.12	180.12	180.12
103 + 75	178.30	178.50	178.67	178.92	178.92	178.92
104 + 00	177.08	177.49	177.66	177.84	177.84	177.84
104 + 25	175.86	176.20	176.37	176.30	176.30	176.30
104 + 50	174.61	174.93	175.10	175.19	175.19	175.19
104 + 75	173.72	173.41	173.97	173.72	173.72	173.72
105 + 00	172.29	172.38	172.79	172.54	172.54	172.54
105 + 25	170.63	170.51	170.88	170.63	170.63	170.63
105 + 50	168.68	168.82	168.93	168.68	168.68	168.68
105 + 75	166.64	166.23	166.40	166.16	166.16	166.16
106 + 00	163.72	163.80	163.97	163.96	163.96	163.96
106 + 25	161.23	161.36	161.93	161.80	161.80	161.80
106 + 50	158.87	159.14	159.31	159.46	159.46	159.46
106 + 75	156.80	156.54	157.01	156.80	156.80	156.80
107 + 00	154.26	154.16	154.51	154.26	154.26	154.26
107 + 13.90 (3)	153.22	-	-	153.22	153.22	153.22
107 + 25	152.03 (4)	152.12	152.64	151.68 (4)	151.68 (4)	151.68 (4)
107 + 50	151.07 (4)	150.71	150.71	151.04 (4)	151.04 (4)	151.04 (4)
107 + 53 (5)	150.96	-	-	150.96	150.96	150.96

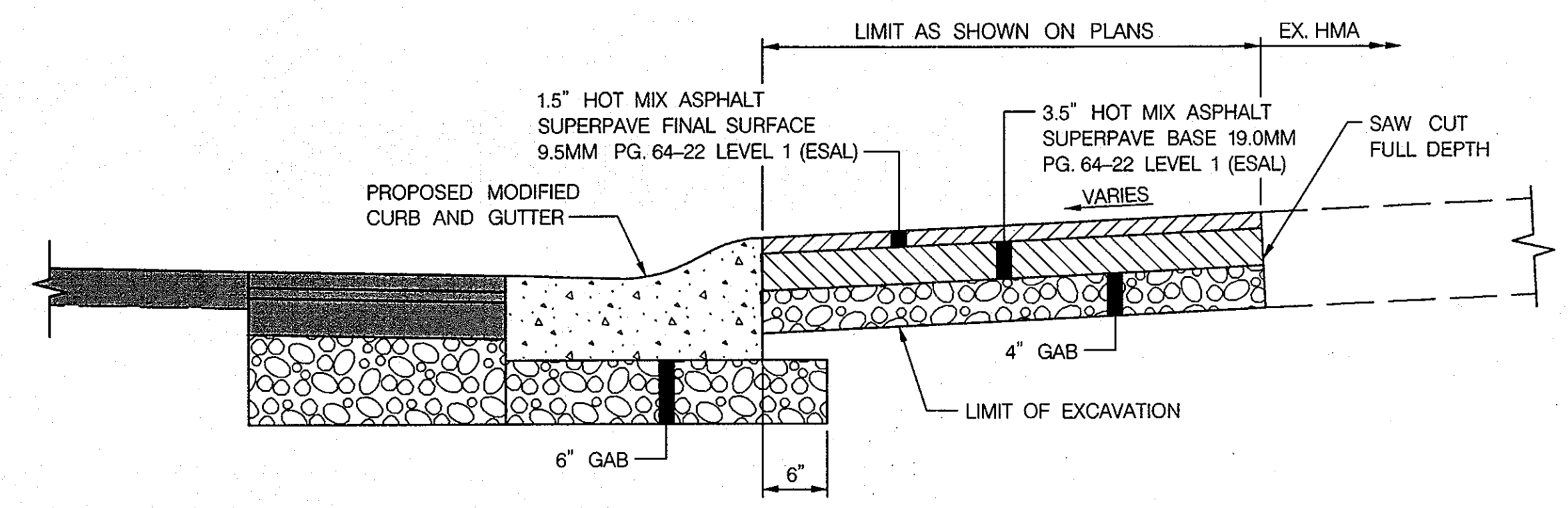
- (1) - P.T. CURB FLOW LINE ELEVATION RIGHT OF R
 (2) - P.T. CURB FLOW LINE ELEVATION LEFT OF R
 (3) - P.C. CURB FLOW LINE ELEVATION LEFT AND RIGHT OF R
 (4) - P.C. FLOW LINE ELEVATION 30' LEFT AND RIGHT OF R
 (5) - CURB FLOW LINE ELEVATION AT R AND 30' LEFT AND RIGHT



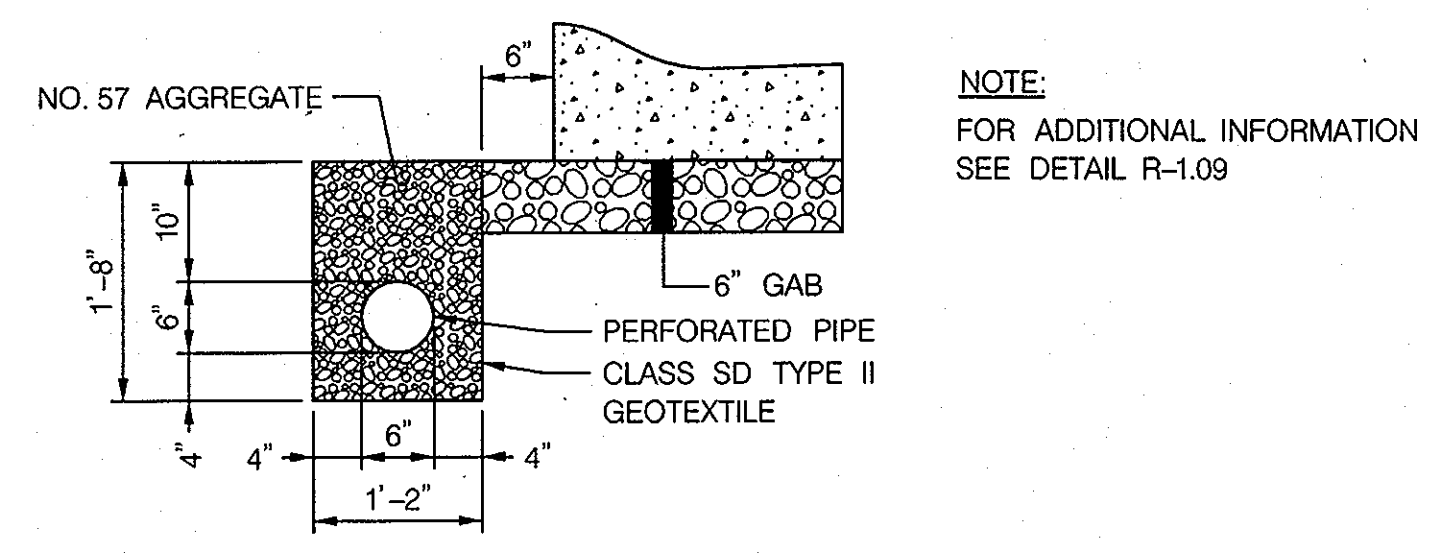
DETAIL FOR MODIFIED COMBINATION CURB AND GUTTER CONSTRUCTION
 NOT TO SCALE



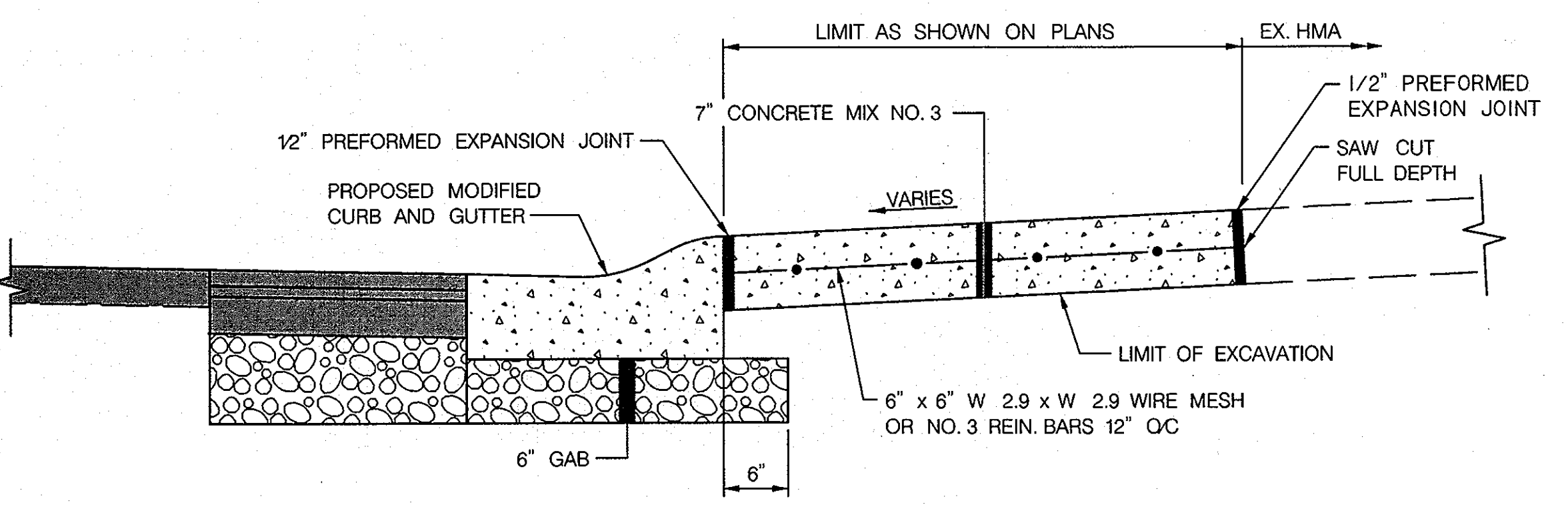
PAVEMENT WEDGE/LEVEL DETAIL
 NOT TO SCALE



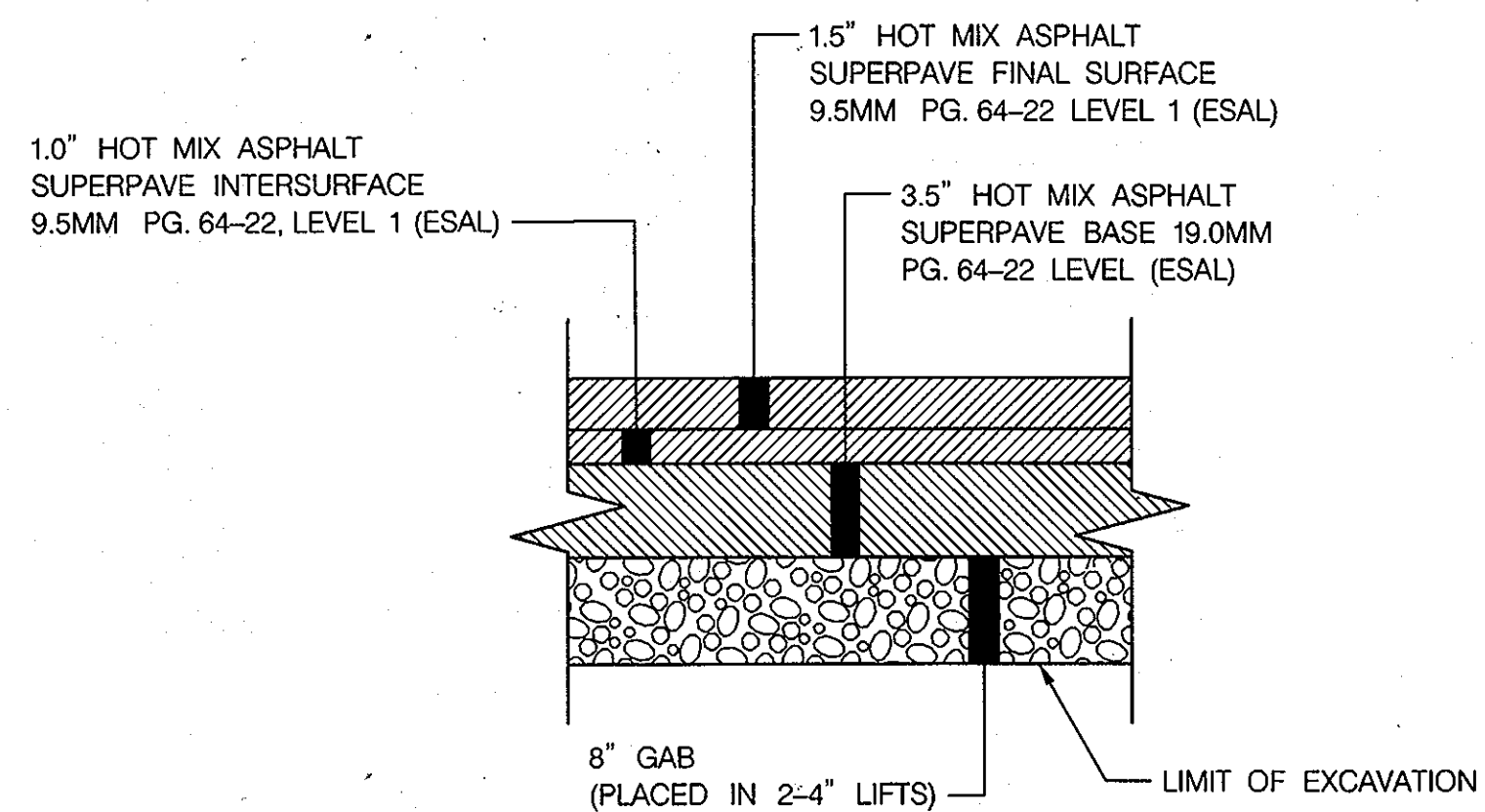
P-1 PAVEMENT SECTION FOR DRIVEWAY RECONSTRUCTION
 NOT TO SCALE



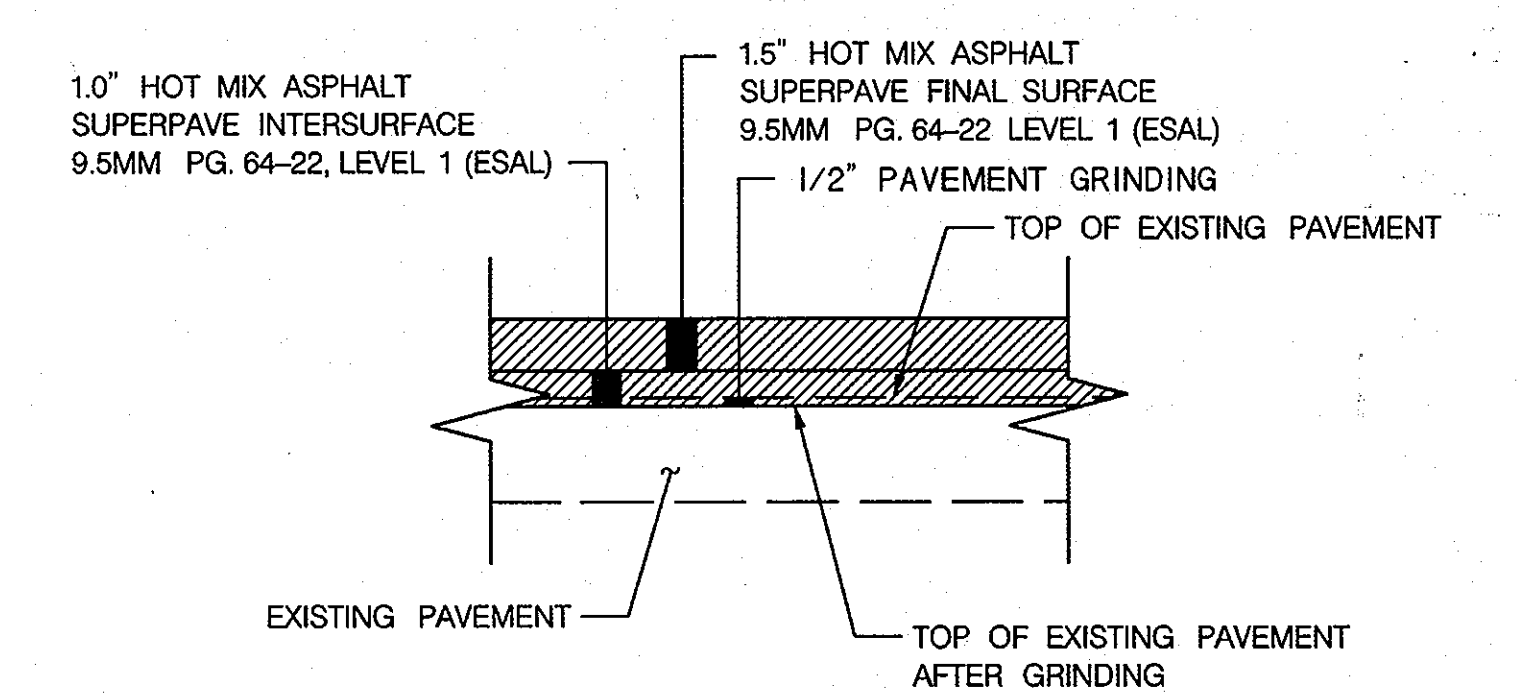
**6\"/>
 NOT TO SCALE**



REINFORCED CONCRETE SECTION FOR DRIVEWAY RECONSTRUCTION
 NOT TO SCALE



P-2 PAVEMENT SECTION DETAIL FOR PATCH AND WIDENING AREAS
 NOT TO SCALE



PAVEMENT GRINDING/RESURFACING DETAIL
 NOT TO SCALE

(SEE TITLE SHEET FOR PROFESSIONAL CERTIFICATION)

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

John J. ...
 DIRECTOR OF PUBLIC WORKS

Thomas J. ...
 CHIEF, BUREAU OF ENGINEERING

Steve ...
 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

DATE: 4-24-12

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 4785 Dorsey Hall Drive
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DES:	GNL	AS-BUILT	8/13
DRN:	BSB		
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BY:	NO.	REVISION	DATE

TYPICAL ROADWAY SECTION AND DETAILS

600' SCALE MAP NO. _____ BLOCK NO. _____

BEECHFIELD AVENUE DRAINAGE IMPROVEMENTS
 CAPITAL PROJECT D-1124-03
 ELECTION DISTRICT NO. 1
 ELKRIDGE, MARYLAND

SCALE: AS SHOWN
 SHEET 2 OF 8

INSTALL TYPE 'C' DEAD END BARRICADE
(HO. CO. STD. R-5.11)
STA. 107+58, 20' LT. TO 20' RT. - 40 L.F.

ADJUST EXISTING SANITARY MANHOLE FRAME AND COVER
STA. 102+08, LT. EXIST. ELEV. 183.17 PROP. ELEV. 183.65
STA. 104+38.41, LT. EXIST. ELEV. 174.90 PROP. ELEV. 175.50
STA. 107+50, LT. EXIST. ELEV. 151.05 PROP. ELEV. 150.72

GRIND EXISTING PAVEMENT
STA. 101+52 TO STA. 107+39, RT. - 1081 S.Y.

RELOCATE EXISTING WATER METER
STA. 104+72, LT. - 1 EACH.
STA. 106+97, LT. - 1 EACH

REMOVE AND REPLACE CONCRETE SIDEWALK (4" THICKNESS)
STA. 106+40 TO STA. 106+43, LT. - 24 S.F.
STA. 106+85.5 TO STA. 106+89, LT. - 27 S.F.

INSTALL CLASS I RIPRAP OUTLET PROTECTION
STA. 107+69 TO STA. 107+79, LT. - 8 S.Y.

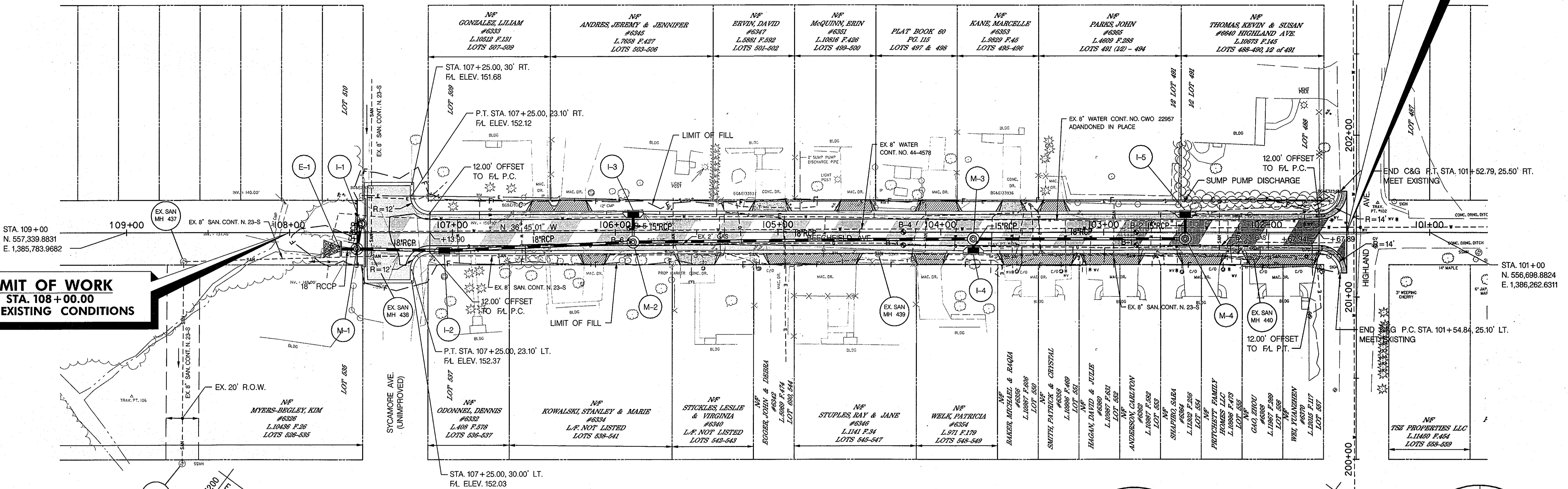
NOTE: RELOCATED LOCATION TO BE DETERMINED IN FIELD BY ENGINEER AND HOWARD COUNTY BUREAU OF UTILITIES REPRESENTATIVE. CONTRACTOR SHALL COORDINATE RELOCATION WITH ENGINEER.

NOTE: SIDEWALK TO BE REMOVED AND REPLACED FROM BACK OF PROPOSED CURB TO RIGHT-OF-WAY LINE. SIDEWALK SHALL BE SAW CUT AT RIGHT-OF-WAY LINE.

LIMIT OF WORK
STA. 101+50.94
MEET EXISTING CONDITIONS

LIMIT OF WORK
STA. 108+00.00
MEET EXISTING CONDITIONS

END C&G P.C. STA. 101+54.84, 25.10' LT. MEET EXISTING



ROADWAY PLAN
SCALE: 1" = 30'

INSTALL 6-INCH LONGITUDINAL UNDERDRAIN (SEE DETAIL ON SHEET NO. 2)
STA. 101+80 TO STA. 102+50, RT. - 70 L.F. (TIE INTO I-5) (SEE NOTE 1)
STA. 102+55 TO STA. 105+89, RT. - 334 L.F. (TIE INTO I-3) (SEE NOTE 2)

NOTES: 1. CONTRACTOR TO LOCATE EXISTING SUMP PUMP DISCHARGE PIPE, STA. 102+52(±), RT AND CONNECT TO I-5 INLET AS DIRECTED BY THE ENGINEER COST SHALL BE INCIDENTAL TO UNDERDRAIN PAY ITEM.
2. CONNECT EXISTING 2" SUMP PUMP DISCHARGE PIPE, STA. 104+86, RT. INTO UNDERDRAIN AS DIRECTED BY THE ENGINEER. COST SHALL BE INCIDENTAL TO UNDERDRAIN PAY ITEM.

CONSTRUCT MODIFIED COMBINATION CURB AND GUTTER
STA. 101+55, LT. TO STA. 101+53, RT. - 1253 L.F.
NOTES: 1. PROVIDE CURB TRANSITIONS AT ALL INLETS AS SHOWN IN DETAIL R-3.06.
2. MODIFY CURB ALIGNMENT TO CLEAR SANITARY SEWER MANHOLE FRAME AND COVER AT STA. 104+38.41, LT.

REMOVE AND RELOCATE EXISTING WOOD FENCE
STA. 104+12 TO STA. 104+40, RT. - 40 L.F.

REMOVE AND RELOCATE EXISTING MAILBOX
101+67, LT. 103+13, RT.
102+14.5' LT. 103+45.5' RT.
102+67' LT. 104+64' RT.
103+15, LT. 104+92, RT.
103+64, LT. 105+65, RT.
103+84, LT. 106+55, RT.
104+52, LT.
105+09, LT.
105+12, LT.
105+38, LT.
106+39.5, LT.
106+84, LT.
107+11, LT.

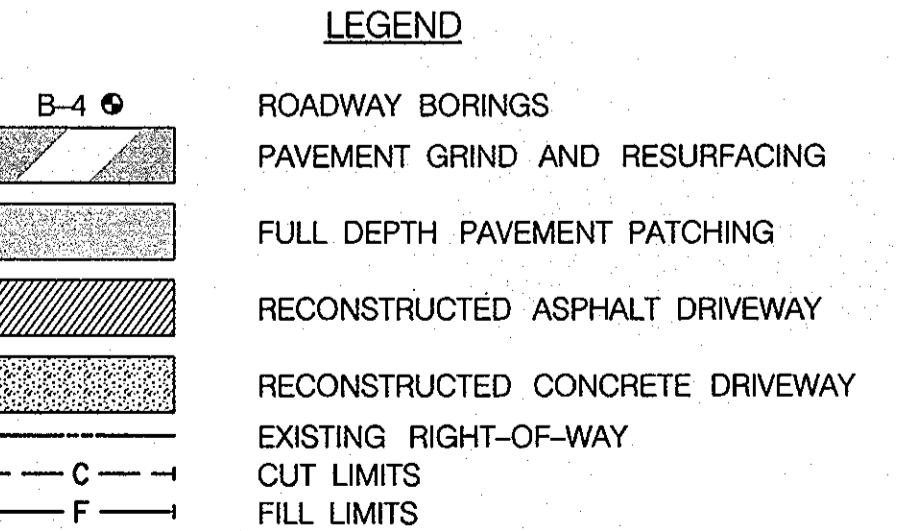
NOTE: CONTRACTOR AND ENGINEER SHALL DOCUMENT THE LOCATION, TYPES AND CONDITION OF EXISTING MAILBOXES THAT WILL BE AFFECTED BY CONSTRUCTION. CONTRACTOR SHALL REMOVE AND RELOCATE IMPACTED MAILBOXES AS PER DIRECTION OF ENGINEER. THE COST OF REMOVAL AND RELOCATION SHALL BE INCLUDED AS PART OF THE CONTRACT LUMP SUM PAY ITEM.

RECONSTRUCT DRIVEWAY WITH P-1 PAVEMENT
STA. 103+21 TO STA. 103+41, RT. - 117 S.F.
STA. 103+87 TO STA. 104+16, RT. - 171 S.F.
STA. 104+39 TO STA. 104+65, RT. - 153 S.F.
STA. 106+14 TO STA. 106+55, RT. - 234 S.F.
STA. 101+67 TO STA. 102+14, LT. - 360 S.F.
STA. 102+25 TO STA. 102+55, LT. - 190 S.F.
STA. 102+75 TO STA. 103+15, LT. - 252 S.F.
STA. 103+16 TO STA. 103+65, LT. - 332 S.F.
STA. 103+94 TO STA. 104+18, LT. - 135 S.F.
STA. 104+48 TO STA. 105+09, LT. - 405 S.F.
STA. 106+03 TO STA. 106+23, LT. - 117 S.F.

RECONSTRUCT DRIVEWAY WITH REINFORCED CONCRETE
STA. 103+47 TO STA. 103+66, RT. - 108 S.F.
STA. 104+92 TO STA. 105+18, RT. - 162 S.F.
STA. 105+35 TO STA. 105+64, LT. - 171 S.F.

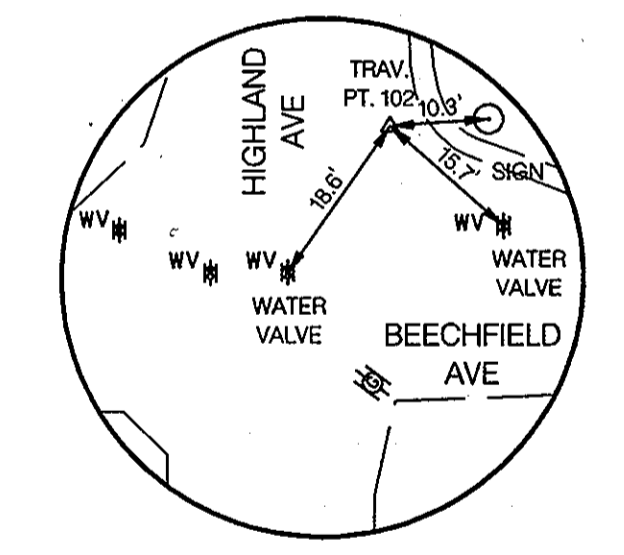
REMOVE EXISTING PIPE
12" CMP - STA. 104+43 TO STA. 104+63, RT.
12" CMP - STA. 104+95 TO STA. 105+15, RT.
12" CMP - STA. 105+83 TO STA. 106+63, LT.
8" DIP - STA. 107+33 TO STA. 107+62, LT.
NOTE: COST OF REMOVAL OF EXISTING PIPE SHALL BE INCIDENTAL TO CLASS I EXCAVATION WITH COST PAY ITEM.

CONSTRUCT 7" COMBINATION CURB AND GUTTER
STA. 101+53, 21' LT. TO STA. 101+53, 21' RT. - 47 L.F. SEE DETAIL SHEET 5.

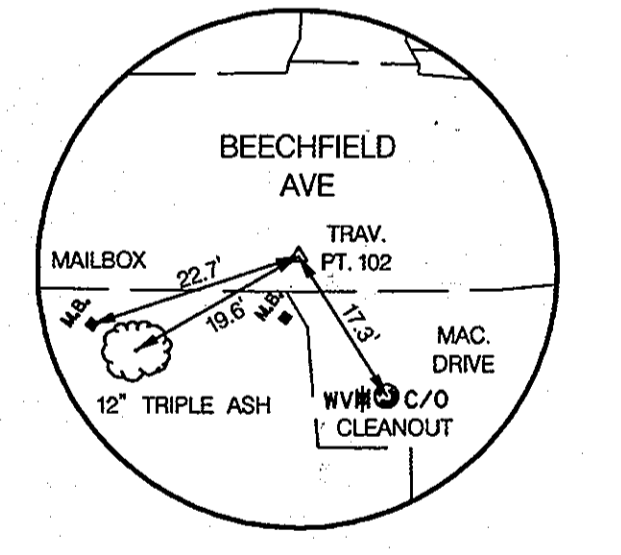


NOTE: ALL TREES AND SHRUBS WITHIN THE LOD ARE TO REMAIN IN PLACE AND UNHARMED TO THE MAXIMUM EXTENT POSSIBLE. IF IT IS DETERMINED THAT A TREE OR SHRUB REQUIRES REMOVAL, THE CONTRACTOR SHALL REMOVE AND RESET THE EX. TREE OR SHRUB TO THE SATISFACTION OF THE COUNTY ENGINEER. THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE COUNTY ENGINEER PRIOR TO THE REMOVAL ALL COST FOR THE REMOVAL AND RESETTING OF EXIST. TREE OR SHRUB SHALL BE INCLUDED AS PART OF THE LUMP SUM PAY ITEM.

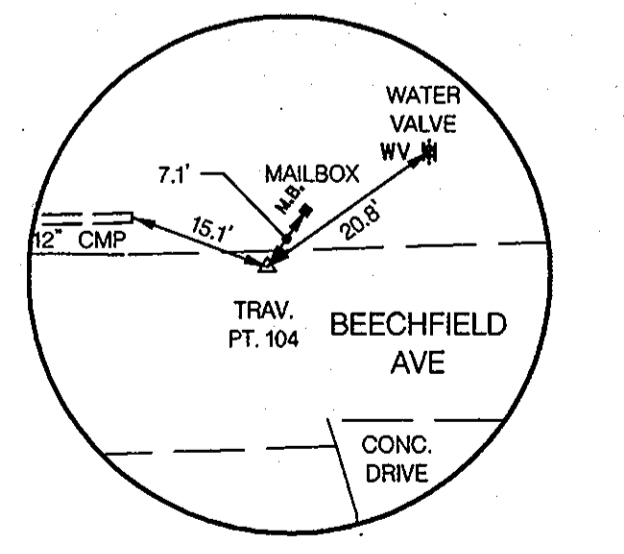
NOTE: THE CONTRACTOR SHALL MAKE EVERY EFFECT TO MINIMIZE IMPACTS TO EXISTING LANDSCAPING AND PLANTING BEDS. IF IT IS DETERMINED THAT LANDSCAPING OR PLANTING BEDS ARE IMPACTED, THE CONTRACTOR SHALL REMOVE AND REPLACE EX. LANDSCAPING TO THE SATISFACTION OF THE COUNTY ENGINEER. THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE COUNTY ENGINEER PRIOR TO DISTURBING THE EXISTING LANDSCAPING SHALL BE INCLUDED AS PART OF THE LUMP SUM PAY ITEM.



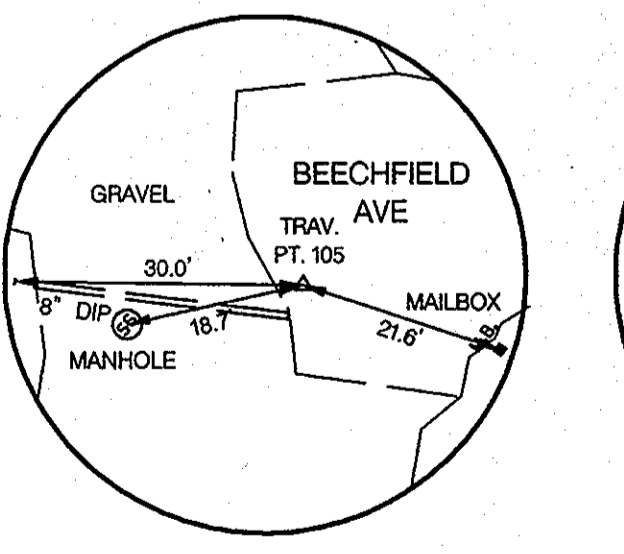
TRAV. PT. 102
N. 556,735.4469
E. 1,386,258.2730
ELEV. 183.14



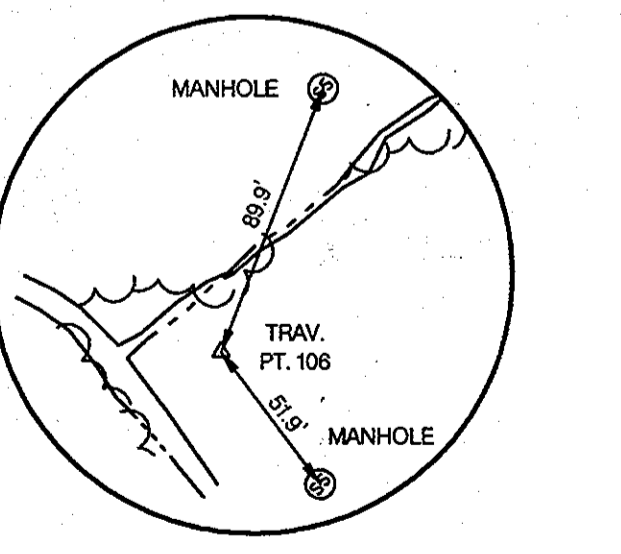
TRAV. PT. 103
N. 556,903.3979
E. 1,386,097.8952
ELEV. 178.63



TRAV. PT. 104
N. 557,079.8735
E. 1,385,988.4318
ELEV. 167.05



TRAV. PT. 105
N. 557,198.6595
E. 1,385,876.3236
ELEV. 151.69



TRAV. PT. 106
N. 557,276.9377
E. 1,385,704.9936
ELEV. 128.34

(SEE TITLE SHEET FOR PROFESSIONAL CERTIFICATION)

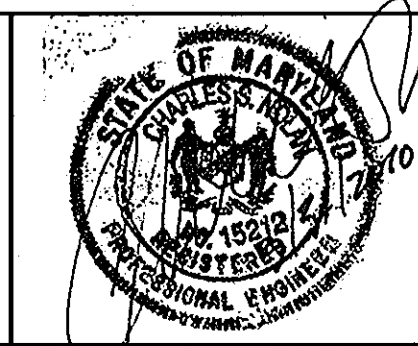
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John K. ...
DIRECTOR OF PUBLIC WORKS
DATE: 4-24-12

Thomas S. ...
CHIEF, BUREAU OF ENGINEERING
DATE: 4/20/12

Steve ...
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

Nolan Associates, Inc.
Engineers - Civil/Structural/Inspections
4785 Dorsey Hall Drive
Suite 124
Ellicott City, Maryland 21042
Phone: (410) 995-3851 Fax: (410) 995-1883



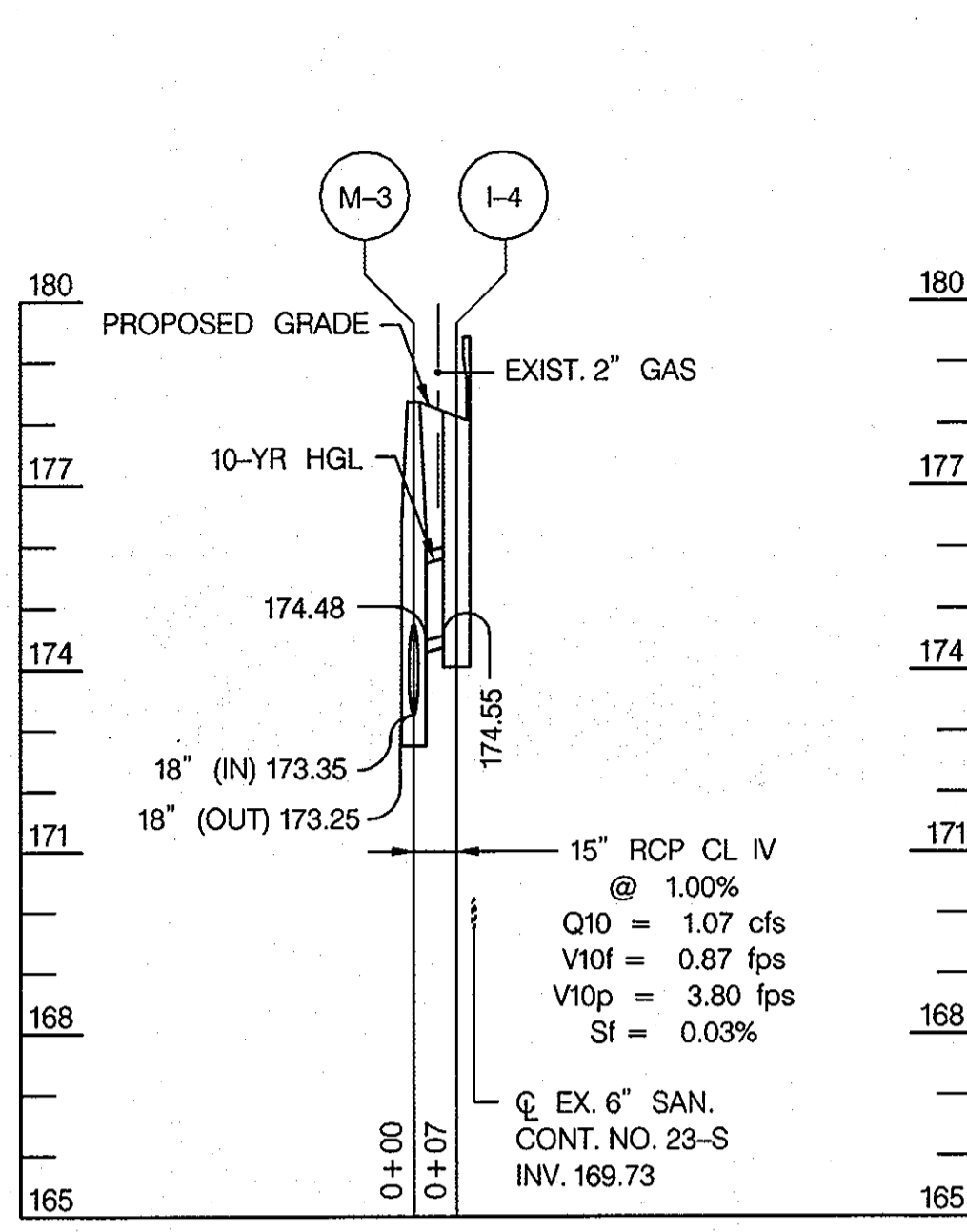
DES: GWF	BNL	AS-BUILT	B/3
DRN: BSB			
CHK: CSN			
DATE: APRIL 2010	BY: NO.	REVISION	DATE

ROADWAY PLAN

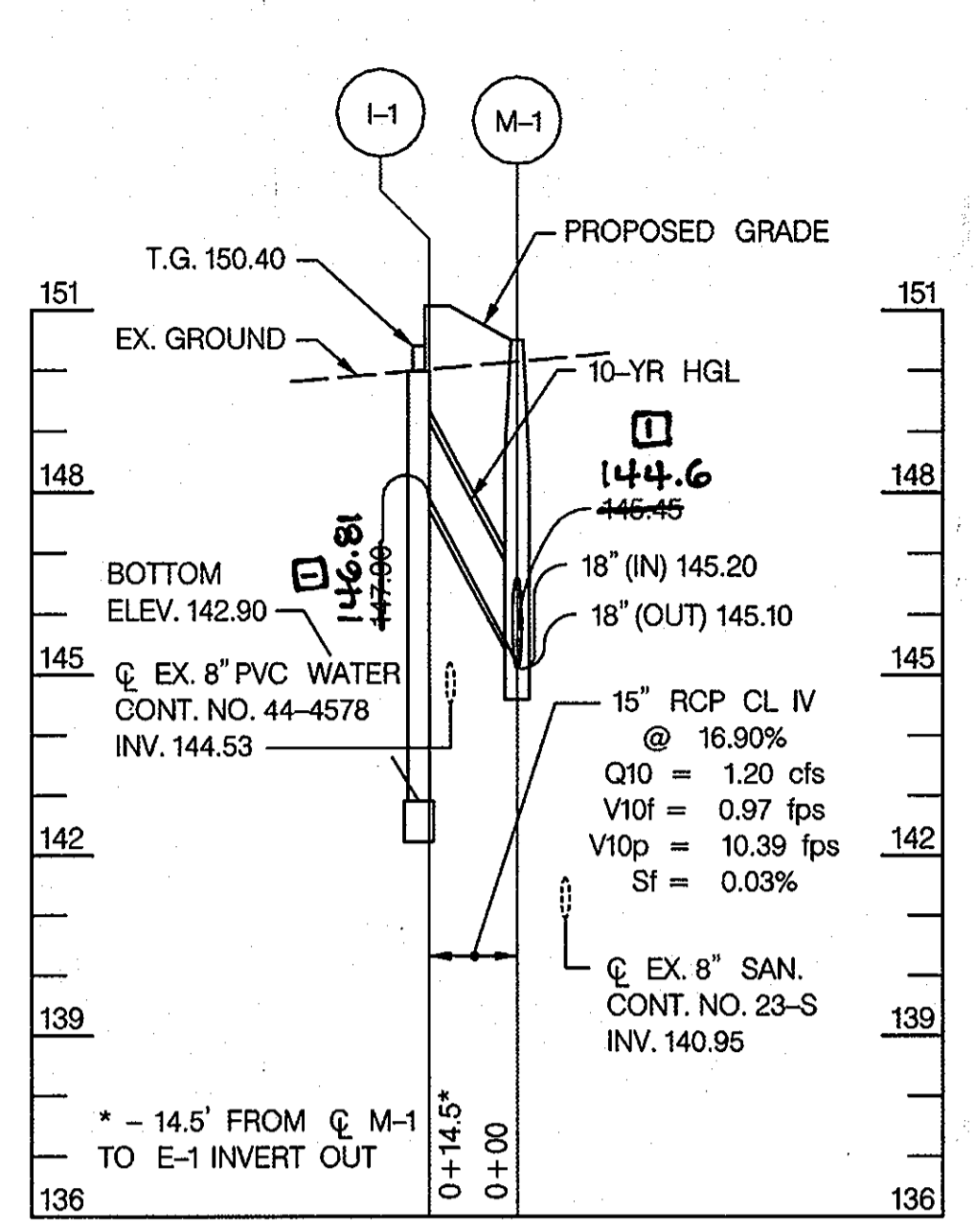
600' SCALE MAP NO. _____ BLOCK NO. _____

BEECHFIELD AVENUE DRAINAGE IMPROVEMENTS
CAPITAL PROJECT D-1124-03
ELECTION DISTRICT NO. 1
ELK RIDGE, MARYLAND

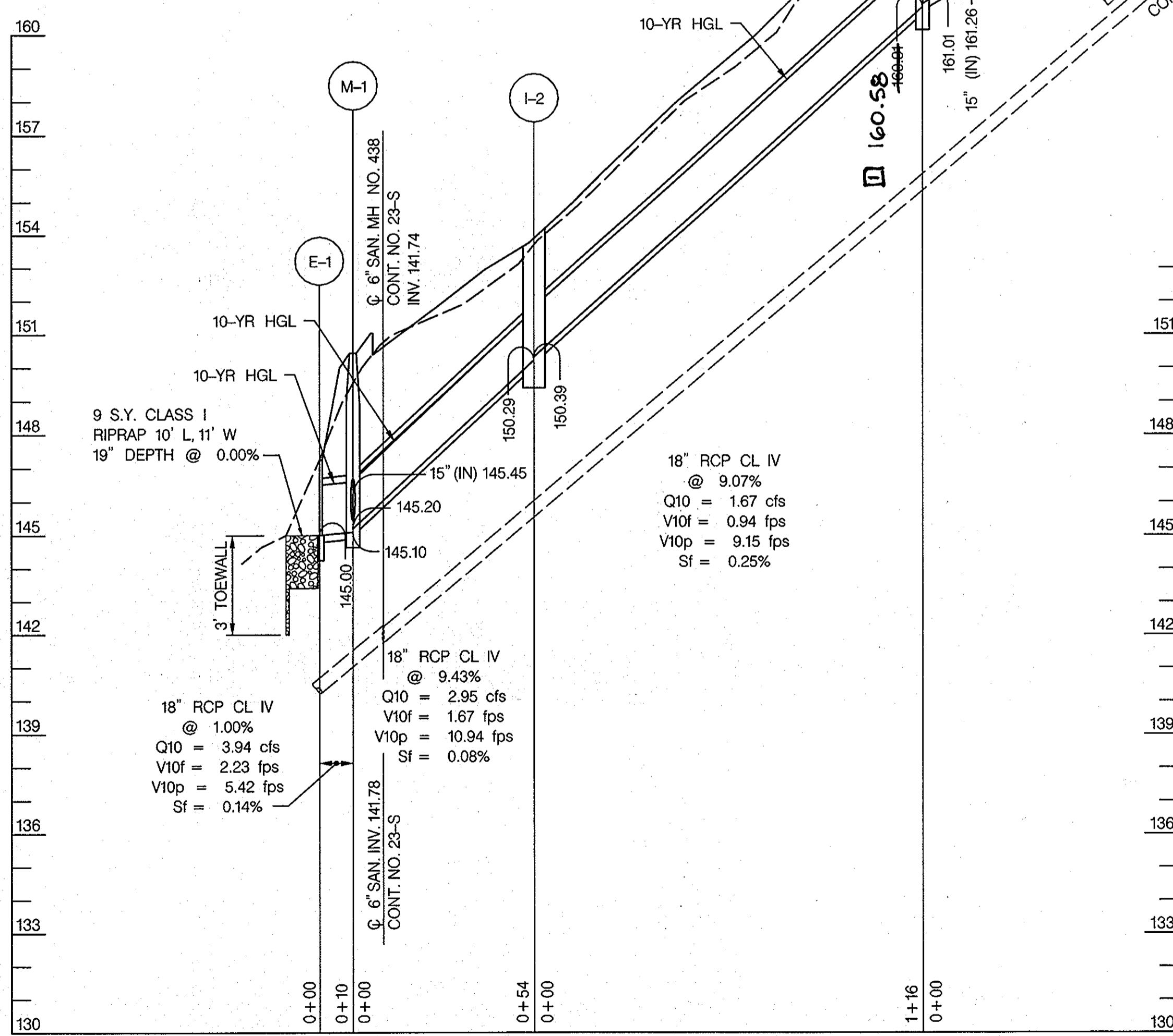
SCALE: AS SHOWN
SHEET 3 OF 8



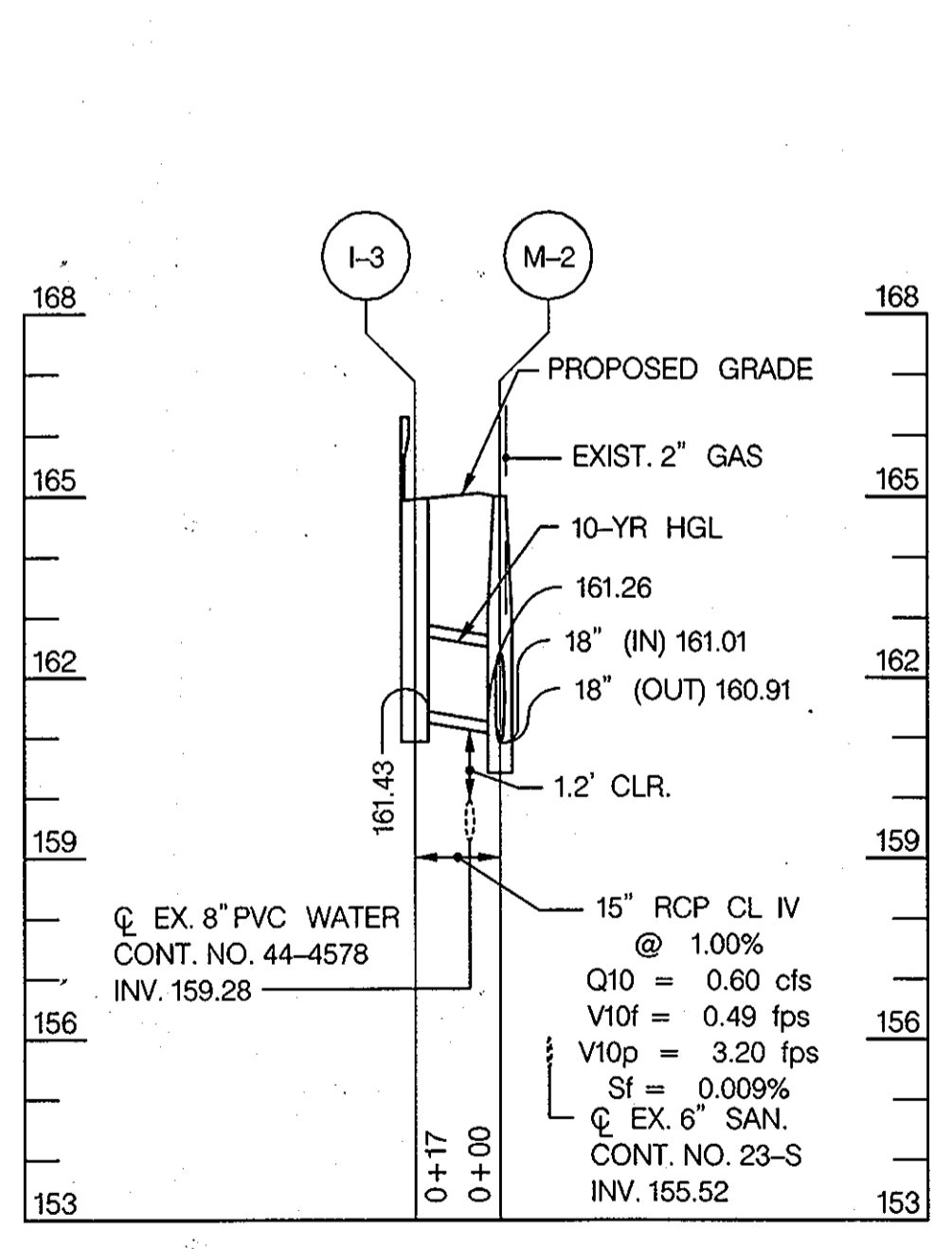
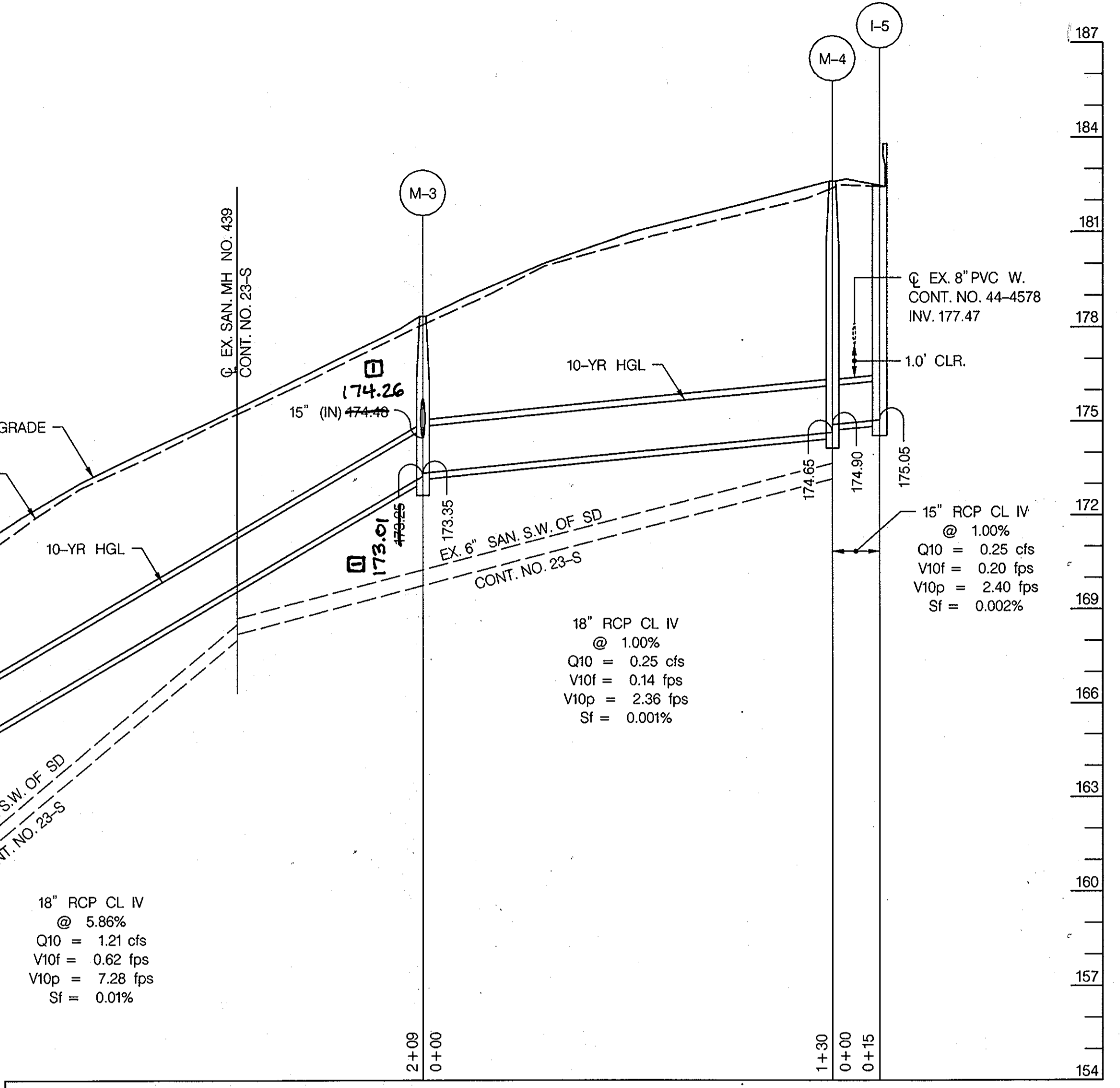
STORM DRAIN PROFILE M-3 TO I-4
SCALE: HOR. 1" = 30'
VERT. 1" = 3'



STORM DRAIN PROFILE I-1 TO M-1
SCALE: HOR. 1" = 30'
VERT. 1" = 3'



STORM DRAIN PROFILE E-1 TO I-5
SCALE: HOR. 1" = 30'
VERT. 1" = 3'



STORM DRAIN PROFILE M-2 TO I-3
SCALE: HOR. 1" = 30'
VERT. 1" = 3'

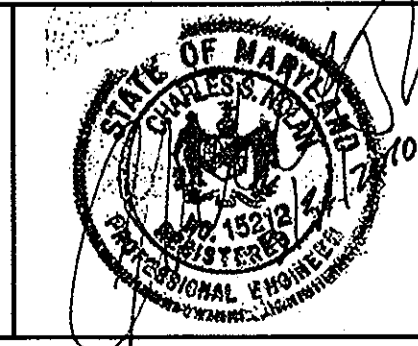
DRAINAGE PIPE SCHEDULE				
FROM STRUCT.	TO STRUCT.	SIZE (IN.)	TYPE	LENGTH (FT.)
M-1	E-1	18"	RCCP CL IV	10
I-1	M-1	15"	RCCP CL IV	15'
I-2	M-1	18"	RCCP CL IV	54
M-2	I-2	18"	RCCP CL IV	116
I-3	M-2	15"	RCCP CL IV	17
M-3	M-2	18"	RCCP CL IV	209
I-4	M-3	15"	RCCP CL IV	7
M-4	M-3	18"	RCCP CL IV	130
I-5	M-4	15"	RCCP CL IV	15

DRAINAGE STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP EL.	STD. NO.
I-1	STC 4501 PRECAST CONCRETE STORMCEPTOR	STA. 107+56, 5.50' RT.***	—	144.6	151.40**	SEE DETAIL
I-2	PRECAST STD. TYPE 'S' COMB. INLET DOUBLE GRATE TANDEM W/VANE GRATE	STA. 107+05, 12' LT.*	150.39	150.29	153.89	MDSA STD. NO. MD-374.4I
I-3	PRECAST STD. TYPE 'S' COMB. INLET DOUBLE GRATE TANDEM W/VANE GRATE	STA. 105+89, 12' RT.*	—	161.43	164.93	MDSA STD. NO. MD-374.4I
I-4	PRECAST STD. TYPE 'S' COMB. INLET DOUBLE GRATE TANDEM W/VANE GRATE	STA. 103+80, 12' LT.*	—	174.55	178.05	MDSA STD. NO. MD-374.4I
I-5	PRECAST STD. TYPE 'S' COMB. INLET DOUBLE GRATE TANDEM W/VANE GRATE	STA. 102+50, 12' RT.*	—	175.05	182.44	MDSA STD. NO. MD-374.4I
M-1	PRECAST MANHOLE	STA. 107+59, 10' LT.*	145.20 (18") 144.45 (15")	145.10	150.50	HO. CO. STD. G-5.1I
M-2	PRECAST MANHOLE	STA. 105+89, 6.0' LT.	161.26 (15") 161.01 (18")	160.68	165.00	HO. CO. STD. G-5.1I
M-3	PRECAST MANHOLE	STA. 103+80, 4.0' LT.	174.26 (15") 173.35 (18")	173.01	178.35	HO. CO. STD. G-5.1I
M-4	PRECAST MANHOLE	STA. 102+50, 4.0' LT.	174.90	174.65	182.61	HO. CO. STD. G-5.1I
E-1	TYPE 'C' ENDWALL FOR CIRCULAR PIPE	STA. 107+69, 10' LT.	—	145.00	147.25	HO. CO. STD. D-5.2I

**--OFFSET AND TOP GRATE ELEVATION AT FLOWLINE
***--TOP GRATE ELEVATION
---LOCATION GIVEN TO CENTER OF STRUCTURE.
NOTE THAT GRATE IS OFFSET FROM CENTER PER DETAIL.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
4/24/12
4/24/12

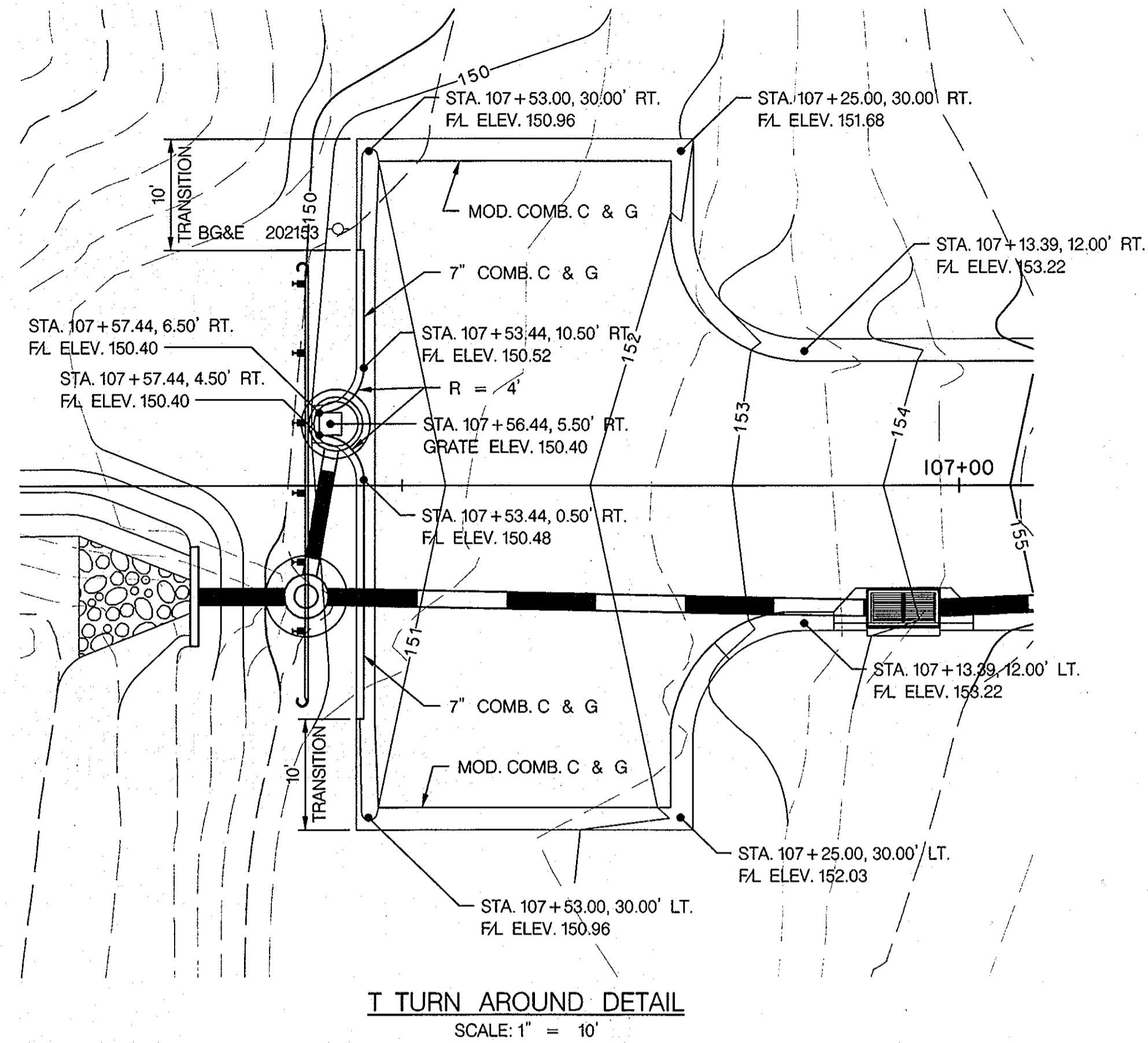
NOLAN Associates, Inc.
Engineers - Civil/Structural/Inspections
4785 Dorsey Hall Drive
Suite 124
Ellicott City, Maryland 21042
Phone: (410) 935-3851 Fax: (410) 935-3851



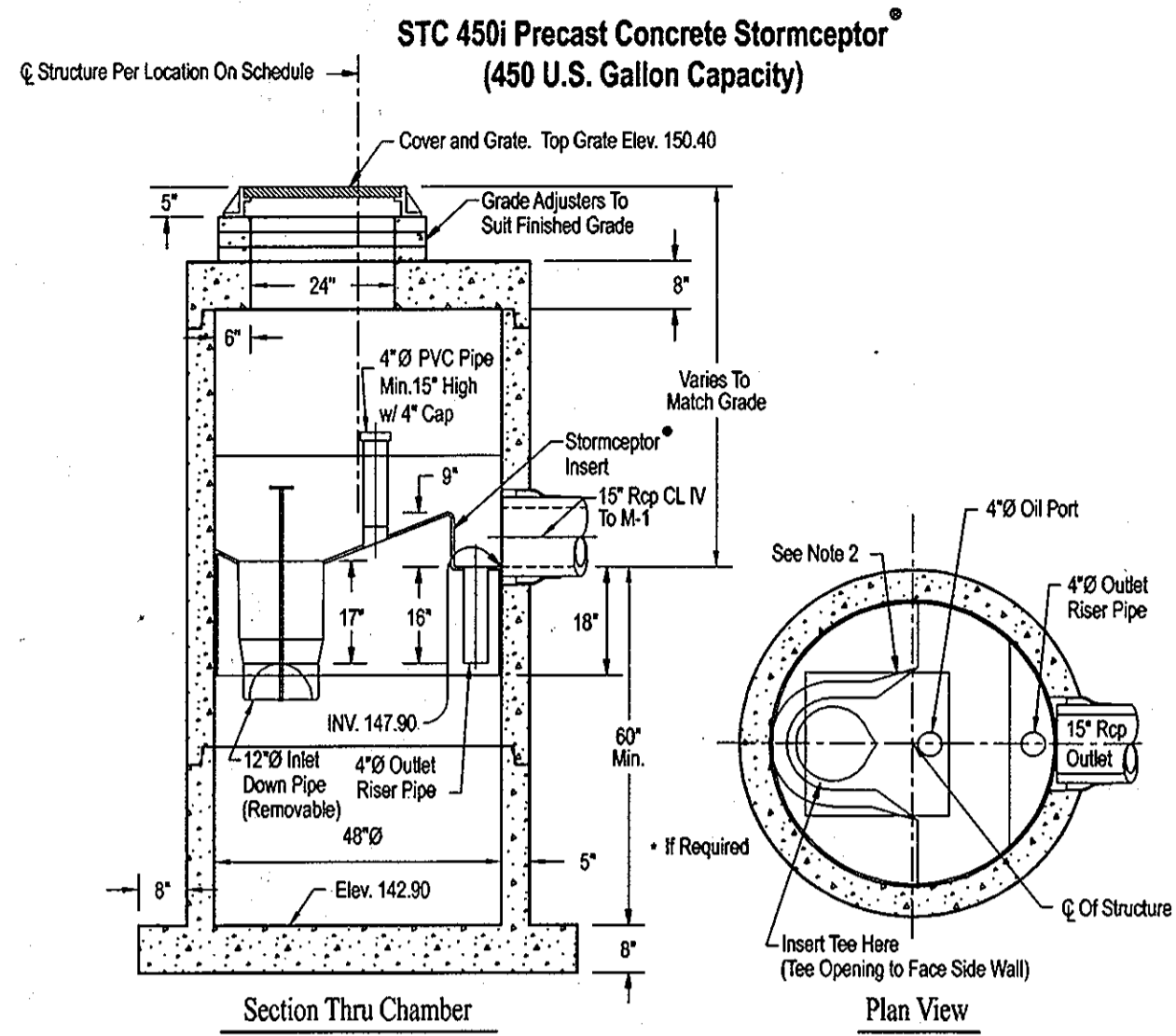
DES: GWF	AS-BUILT	8/13
DRN: BSB		
CHK: CSN		
DATE: APRIL 2010		
BY: NO.	REVISION	DATE

STORM DRAIN PROFILES,
STRUCTURE & PIPE
SCHEDULES

BEECHFIELD AVENUE
DRAINAGE IMPROVEMENTS
CAPITAL PROJECT D-1124-03
ELECTION DISTRICT NO. 1
ELKBRIDGE, MARYLAND
SCALE: AS SHOWN
SHEET 4 OF 8

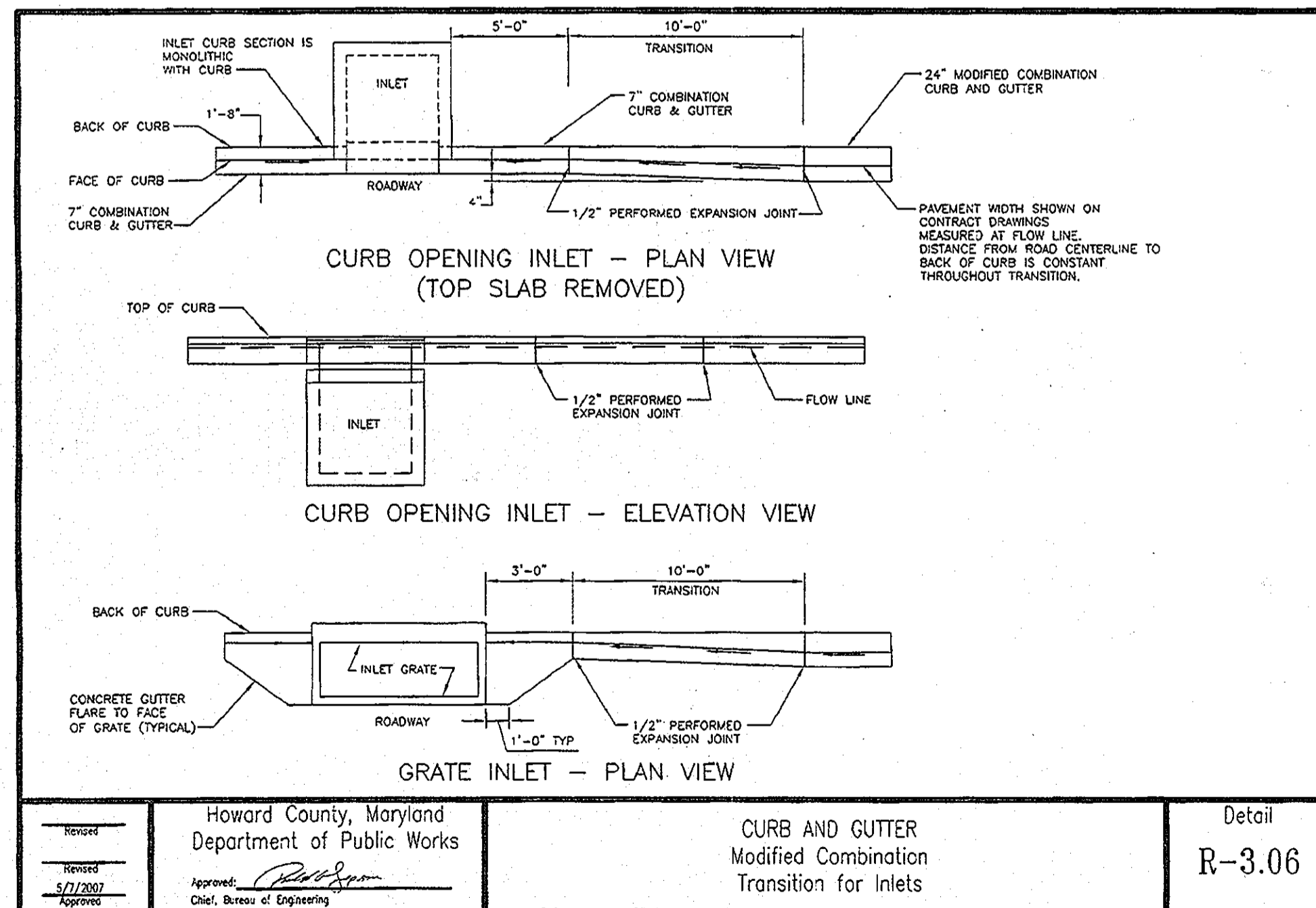
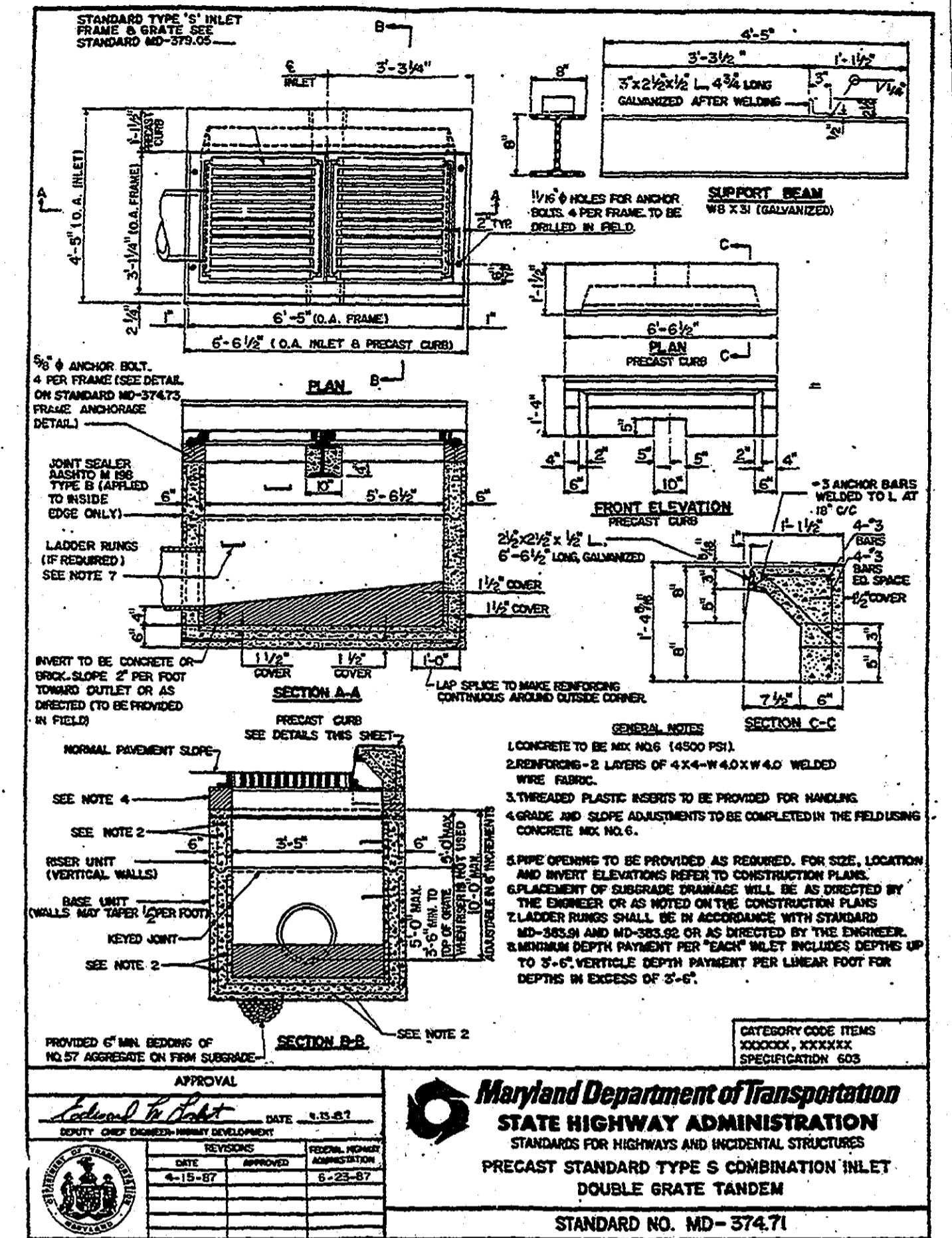


Rinker Concrete Pipe Division



- Notes:
- The Use Of Flexible Connection is Recommended at The Inlet and Outlet Where Applicable.
 - The Cover Should be Positioned Over The Inlet Drop Pipe and The Oil Port.
 - The Stormceptor System is protected by one or more of the following U.S. Patents: #4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.
 - Contact a Concrete Pipe Division representative for further details not listed on this drawing.
 - For station and offset to centerline of grate, see t turn around detail.

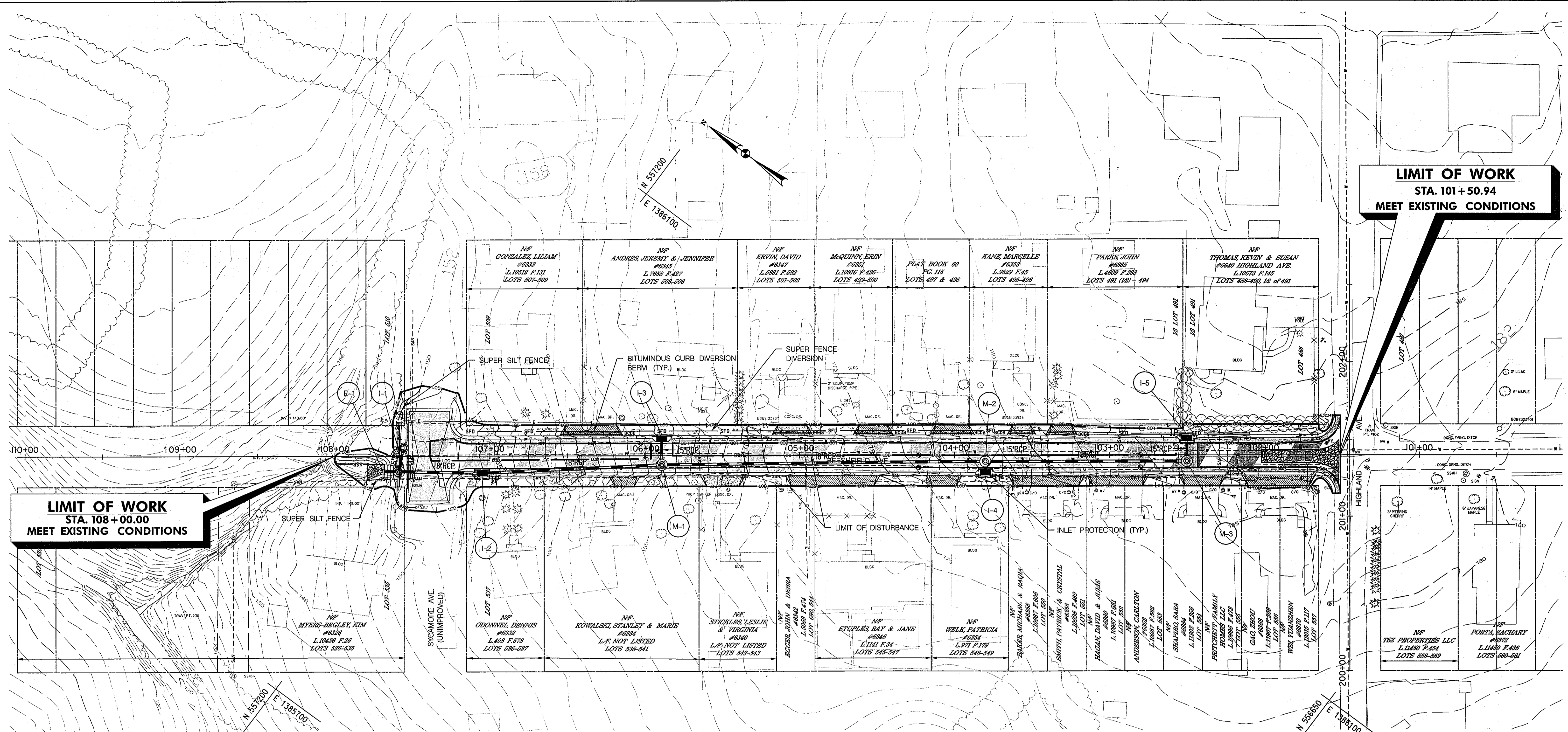
- 1-1 Maintenance Requirements:
- Units should be inspected post construction, prior to being put into service.
 - Inspect every six months for the first year to determine the oil and sediment accumulation rate.
 - In subsequent years, inspections should be done annually.
 - Cleaning is required once the sediment depth reaches 15% of storage capacity, (generally taking one year or longer).
 - Inspect the unit immediately after oil, fuel or chemical spill.
 - A licensed waste management company should remove oil and sediment and dispose responsibly.



HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS APPROVED: <i>[Signature]</i> DATE: 4/24/12 CHIEF, BUREAU OF ENGINEERING	CURB AND GUTTER Modified Combination Transition for Inlets	Detail R-3.06
--	--	------------------

(SEE TITLE SHEET FOR PROFESSIONAL CERTIFICATION)

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DIRECTOR OF PUBLIC WORKS: <i>[Signature]</i> DATE: 4-24-12 CHIEF, BUREAU OF HIGHWAYS	HOWARD COUNTY, MARYLAND CHIEF, BUREAU OF ENGINEERING: <i>[Signature]</i> DATE: 4/25/12 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION	NOLAN Associates, Inc. Engineers - Civil/Structural/Inspections 4785 Dorsey Hall Drive Suite 124 Ellicott City, Maryland 21042 Phone: (410) 895-3851 Fax: (410) 895-3863	DES: GWF DRN: BSS CHK: CSN DATE: APRIL 2010	BNL <input checked="" type="checkbox"/> AS-BUILT	B/13	MISCELLANEOUS DETAILS	BEECHFIELD AVENUE DRAINAGE IMPROVEMENTS CAPITAL PROJECT D-1124-03 ELECTION DISTRICT NO. 1 ELKRIDGE, MARYLAND	SCALE: AS SHOWN SHEET 5 OF 8
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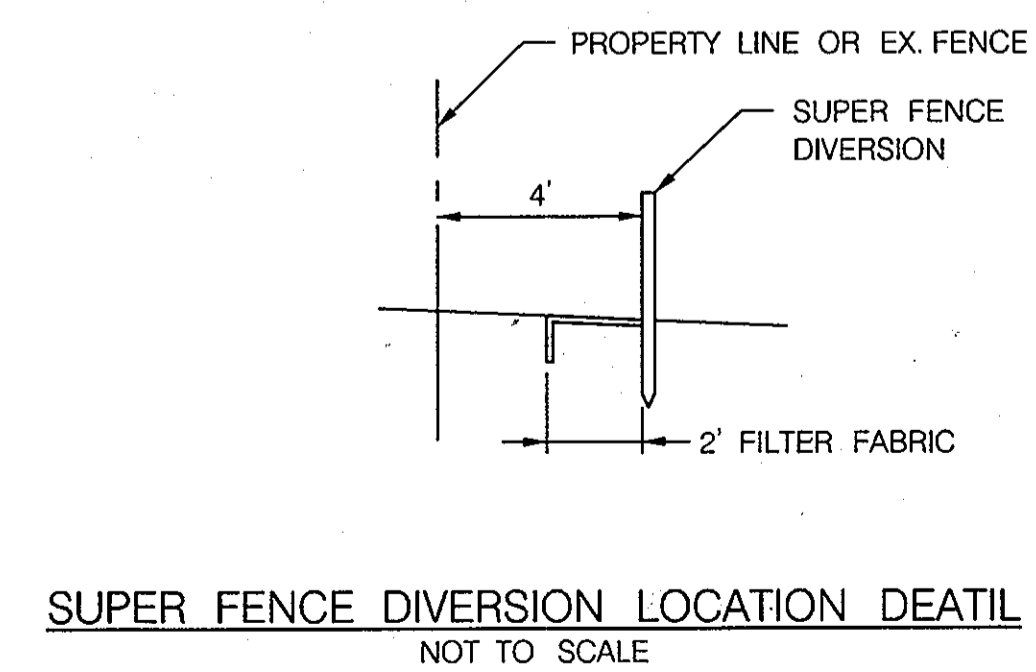
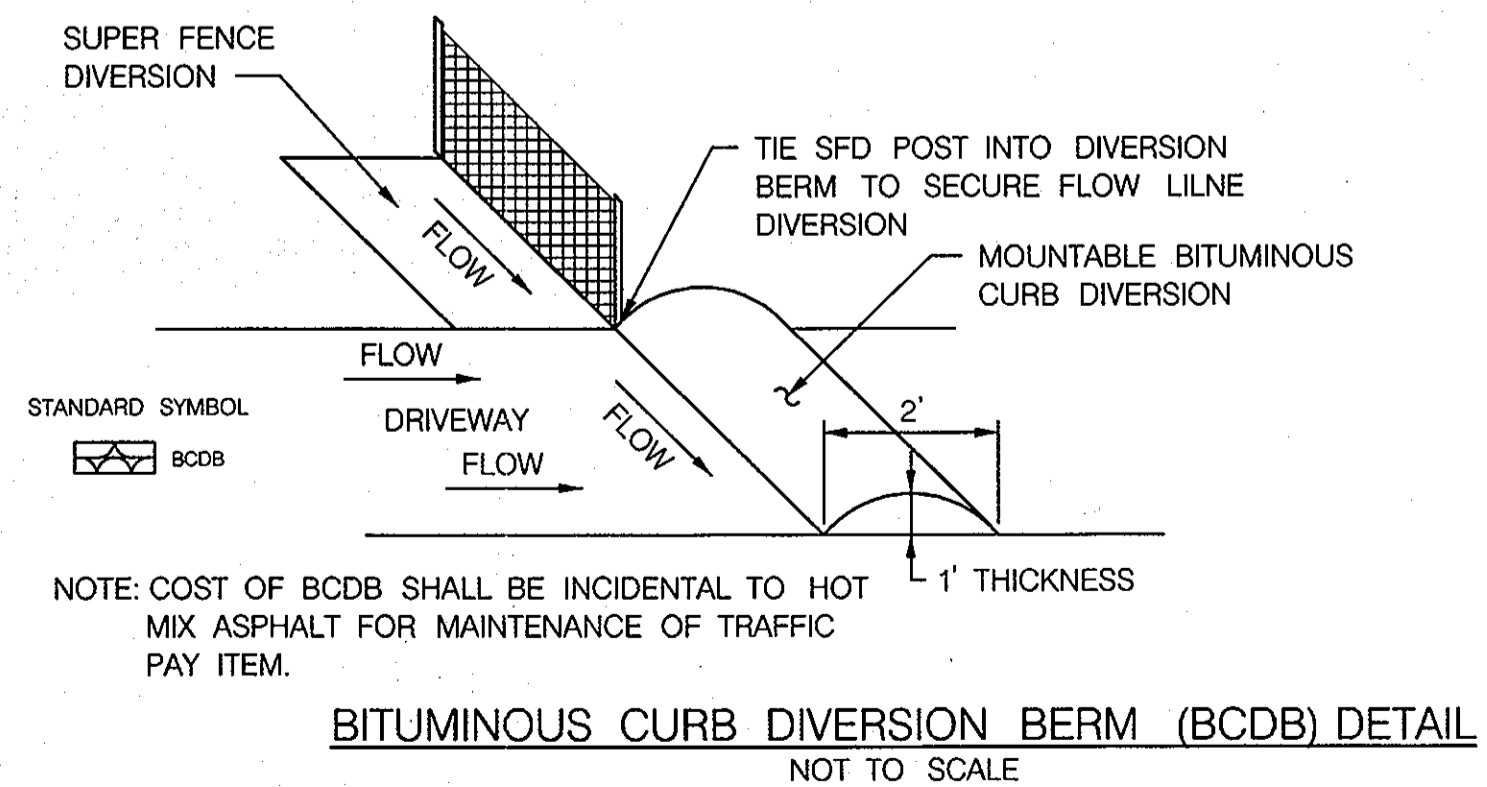


GRADING, EROSION AND SEDIMENT CONTROL PLAN
SCALE: 1" = 30'

LIMIT OF WORK
STA. 108+00.00
MEET EXISTING CONDITIONS

LIMIT OF WORK
STA. 101+50.94
MEET EXISTING CONDITIONS

- LEGEND**
- PAVEMENT GRIND AND RESURFACING
 - FULL DEPTH PAVEMENT PATCHING
 - RECONSTRUCTED ASPHALT DRIVEWAY
 - RECONSTRUCTED CONCRETE DRIVEWAY
 - EXISTING CONTOURS
 - PROPOSED CONTOURS
 - LIMIT OF DISTURBANCE
 - SUPER SILT FENCE
 - SUPER FENCE DIVERSION
 - INLET PROTECTION
 - STABILIZED CONSTRUCTION ENTRANCE



INSTALL SUPER FENCE DIVERSION	
STA. 101+75 TO STA. 103+23, RT.	- 138 L.F.
STA. 103+37 TO STA. 103+51, RT.	- 14 L.F.
STA. 103+62 TO STA. 103+71, RT.	- 28 L.F.
STA. 104+12 TO STA. 104+43, RT.	- 31 L.F.
STA. 104+62 TO STA. 104+94, RT.	- 33 L.F.
STA. 105+14 TO STA. 106+18, RT.	- 104 L.F.
STA. 106+35 TO STA. 106+41, RT.	- 7 L.F.
STA. 106+51 TO STA. 107+25, RT.	- 90 L.F.

NOTES: BITUMINOUS CURB DIVERSION BERM (BCDB) TO BE INSTALLED ALONG EXIST. DRIVEWAYS BETWEEN SECTIONS OF SUPER FENCE DIVERSION AS SHOWN ON DETAIL.

INSTALL INLET PROTECTION	
STA. 107+54, LT.	- 1 EACH
STA. 107+05, LT.	- 1 EACH
STA. 105+89, RT.	- 1 EACH
STA. 103+80, LT.	- 1 EACH
STA. 102+50, RT.	- 1 EACH

INSTALL SUPER SILT FENCE	
STA. 107+52, 34' LT.	TO 30' RT. - 75 L.F.
STA. 107+79, 18' LT.	TO STA. 107+79, 2' LT. - 60 L.F.

NOTES: 1. FOR SEQUENCE OF CONSTRUCTION SEE SHEET 6.
2. LOCATION OF STABILIZED CONSTRUCTION ENTRANCE SHOWN FOR INFORMATION PURPOSES THE EXACT LOCATION TO BE NEGOTIATED IN FIELD.
3. SPOIL FROM TRENCHING OPERATIONS IS TO BE PLACED ON THE UPHILL SIDE OF EXCAVATION.

THIS PLAN IS FOR SEDIMENT AND EROSION CONTROL PURPOSE ONLY

(SEE TITLE SHEET FOR PROFESSIONAL CERTIFICATION)

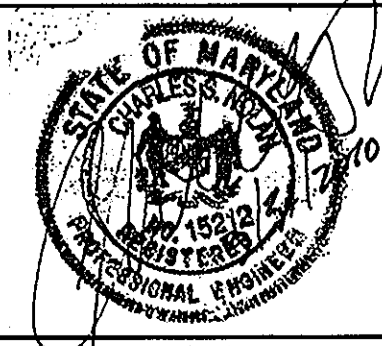
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John G. ... DATE: 4-24-12
DIRECTOR OF PUBLIC WORKS

Thomas S. ... DATE: 4/20/12
CHIEF, BUREAU OF ENGINEERING

Steve ... DATE: 4/20/12
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

NOLAN
Associates, Inc.
Engineers - Civil/Structural/Inspections
4785 Dorsey Hall Drive
Suite 124
Ellicott City, Maryland 21042
Phone: (410) 985-3851 Fax: (410) 985-3863



DES: GWF	BNL	AS-BUILT	8/13
DRN: BSB			
CHK: CSN			
DATE: APRIL 2010	BY: NO.	REVISION	DATE

GRADING, EROSION AND SEDIMENT CONTROL PLAN

BEECHFIELD AVENUE
DRAINAGE IMPROVEMENTS
CAPITAL PROJECT D-1124-03
ELECTION DISTRICT NO. 1
ELKBRIDGE, MARYLAND

SCALE: AS SHOWN
SHEET 6 OF 8

SPECIFICATIONS FOR VEGETATION ESTABLISHMENT

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation:—Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments:—In lieu of soil test recommendations, use one of the following schedules:

1. Preferred—Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)
2. Acceptable—Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding—For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue and 2 lbs per acre (.05 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) — 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) — Use sod. Option (3) — Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching—Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance—Inspect all seeding areas and make needed repairs, replacements and reseeds.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

Seedbed preparation:—Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments:—Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).

Seeding—For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (0.7 lbs/1000 sq. ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching—Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted 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 slopes 8 ft. or higher, use 348 gal per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

STANDARD SEDIMENT CONTROL NOTES

1. A minimum of 24 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 (313-1850).
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 redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 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	0.48	Acres
Area Disturbed	0.48	Acres
Area to be roofed or paved	0.05	Acres
Area to be vegetatively stabilized	0.23	Acres
Total Cut	315	Cu. Yds.
Total Fill	63	Cu. Yds.

Offsite Waste/Borrow Area Location To Be Determined By Contractor at a site with an active grading permit.

*It is the responsibility of the contractor to identify the soil/borrow site and notify and gain the approval from the sediment control inspector of the site and its grading permit number at the time of construction.

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.

THIS PLAN IS FOR SEDIMENT AND EROSION CONTROL PURPOSE ONLY

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

This practice is limited to areas having 2:1 or flatter slopes where:

- a. The texture of the exposed subsoil parent material is not adequate to produce vegetative growth.
- b. 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.
- c. The original soil to be vegetated contains material toxic to plant growth.
- d. The soil is so acidic that treatment with limestone is not feasible.

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 Experiment Station.

Topsoil Specifications - Soil to be used as topsoil must meet the following:

- i. 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.
- i. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutssedge, poison ivy, thistle, or others as specified.
- i. 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.
- i. 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.
- i. 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:
 - a. 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.
 - b. Organic content of topsoil shall be not less than 1.5 percent by weight.
 - c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by appropriate 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.

Topsoil Application

- i. 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.
- i. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4"-8" higher in elevation.
- i. 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 sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
- i. 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.
- ii. 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:
 - i. Composted Sludge Material for use as 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:
 - a. 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 Environment under COMAR 26.04.08.
 - b. 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.
 - c. Composted sludge shall be applied at the rate of 1 ton/1,000 square feet.
 - i. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1000 square feet, and 1/3 the normal lime application rate.

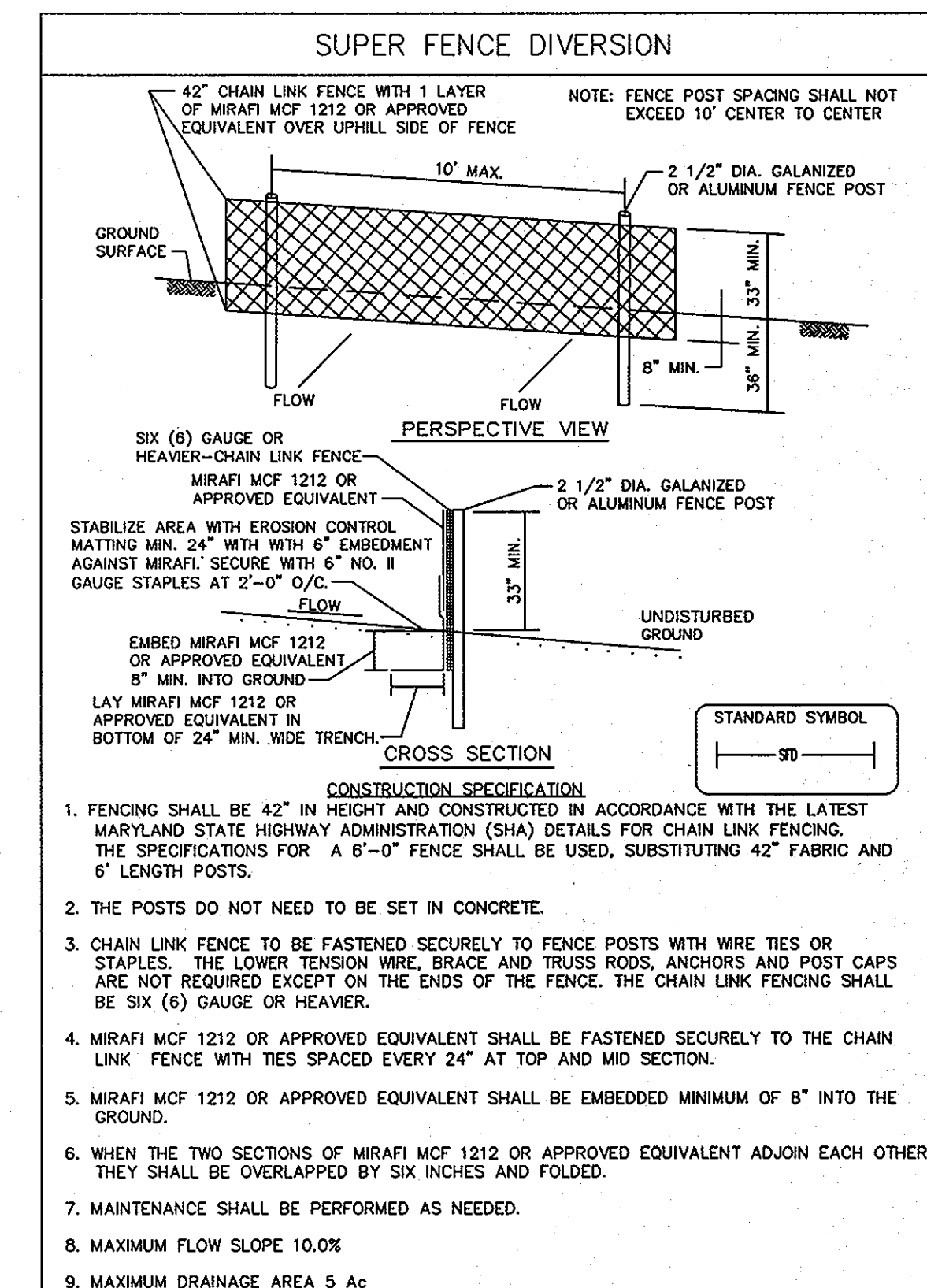
SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT. 1 DAY
2. NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410-313-1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK. 1 DAY
3. CONSTRUCT STORM DRAIN SYSTEM FROM E-1 TO I-5 PROCEEDING UPGRADE WITH THE AMOUNT OF OPEN EXCAVATION THAT CAN BE BACKFILLED AND STABILIZED IN AT THE END OF WORK DAY. STABILIZATION TO INCLUDE METAL PLATES FOR OPEN SECTION OF ROADWAY. INSTALL INLET PROTECTION. (SEE NOTE NO. 1 BELOW), UPON INSTALLATION OF STORM DRAIN FROM E-1 TO M-1 INSTALL RIPRAP OUTLET PROTECTION AND SUPER SILT FENCE AS INDICATED IN CONSTRUCTION NOTE. 3 WEEKS
4. INSTALL SUPER FENCE DIVERSION WITH BITUMINOUS CURB DIVERSION BERM (SEE DETAIL) AND SUPER SILT FENCE. 1 WEEK
5. SAW CUT AND REMOVE EXISTING PAVEMENT AND EXCAVATE FOR FULL DEPTH PAVEMENT SECTION PER ROADWAY PLAN. LIMIT THE AMOUNT OF WORK THAT CAN BE DONE AND STABILIZED WITH GRADED AGGREGATE BASE (G.A.B.) AT THE END OF THE WORK DAY. (SEE NOTE NO. 2 BELOW) 3 WEEKS
6. CONSTRUCT CURB AND GUTTER SECTIONS. 1 WEEK
7. PLACE FILL/TOPSOIL, SEED AND MULCH LANDSCAPE AREA BETWEEN CURB AND PROPERTY LINE. 1 WEEK
8. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR REMOVE SUPER FENCE DIVERSION AND BCDP. 2 DAYS
9. CONSTRUCT FULL DEPTH PAVEMENT SECTION. 1 WEEK
10. REMOVE EXISTING DRIVEWAY PAVEMENT AND CONSTRUCT PROPOSED APRON AS PER ROADWAY PLAN. LIMIT THE AMOUNT OF WORK THAT CAN BE DONE AND STABILIZED WITH GRADED AGGREGATE BASE (G.A.B.) AT THE END OF THE WORK DAY. (SEE NOTE NO. 2 BELOW). STABILIZE ANY DISTURBED LANDSCAPING AREAS. 1 WEEK
11. GRIND AND RESURFACE ACCORDING TO ROADWAY PLAN. 2 DAYS
12. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE ANY REMAINING DISTURBED AREAS. 1 DAY

TOTAL: 12 WEEKS ±

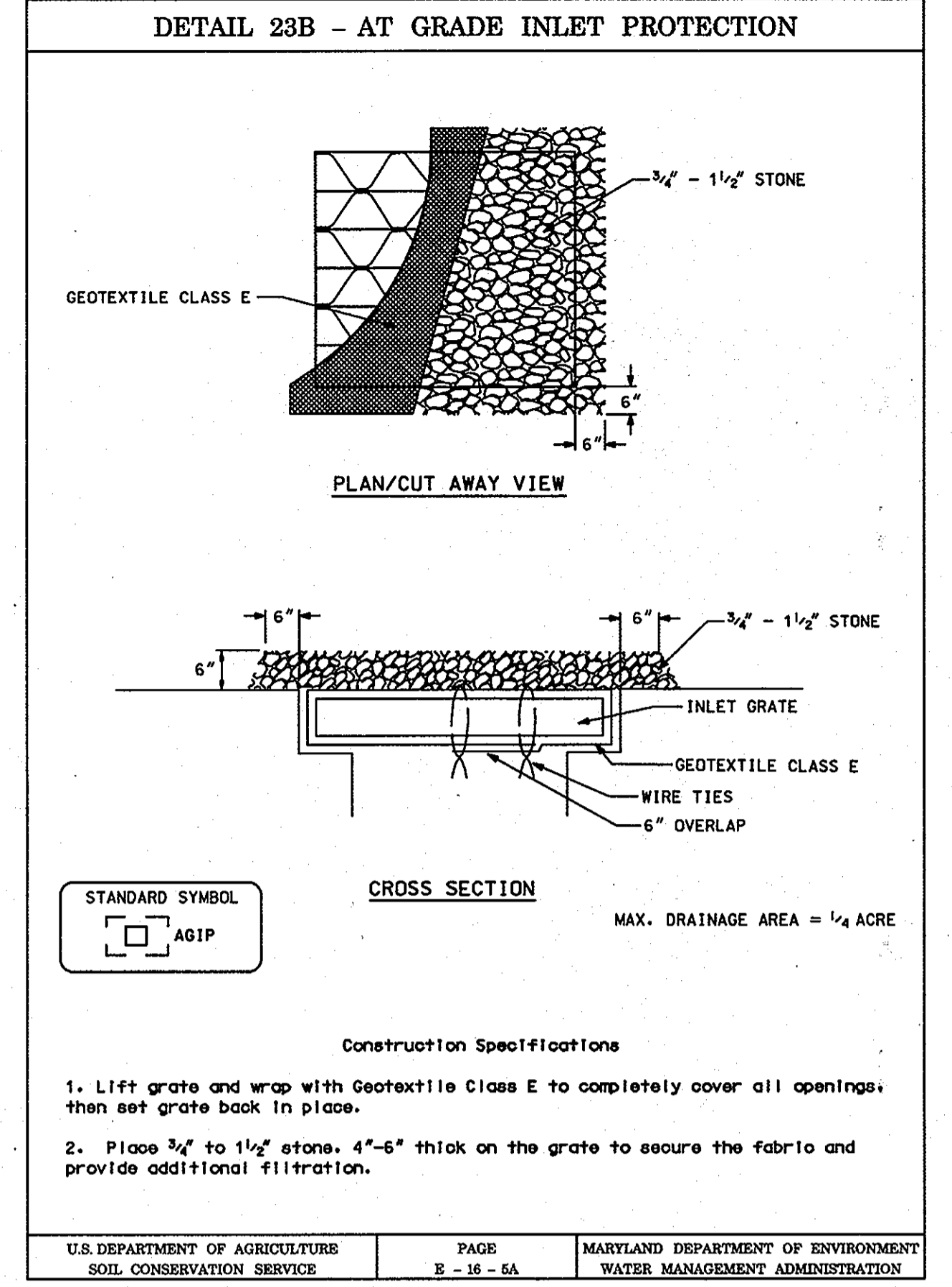
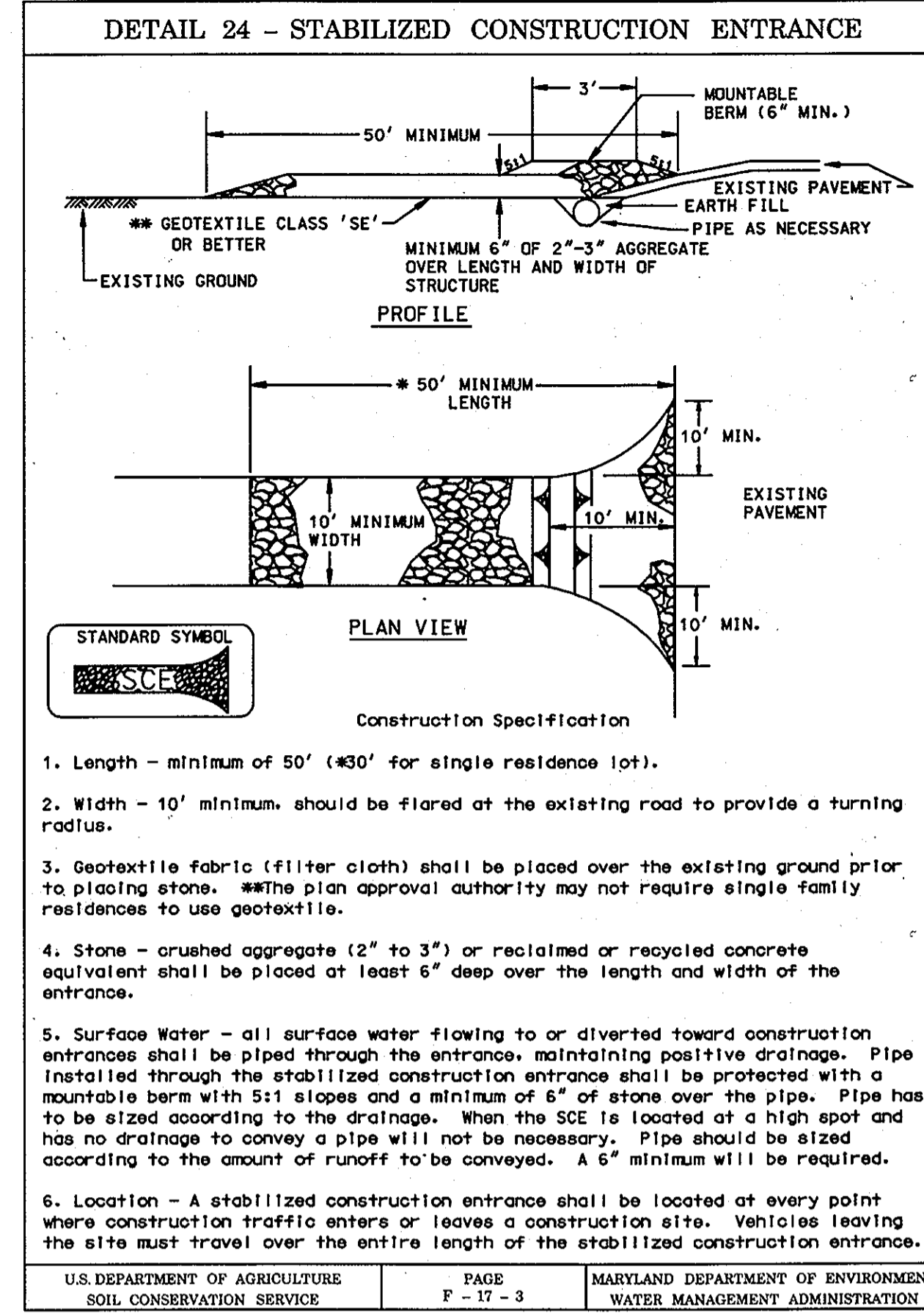
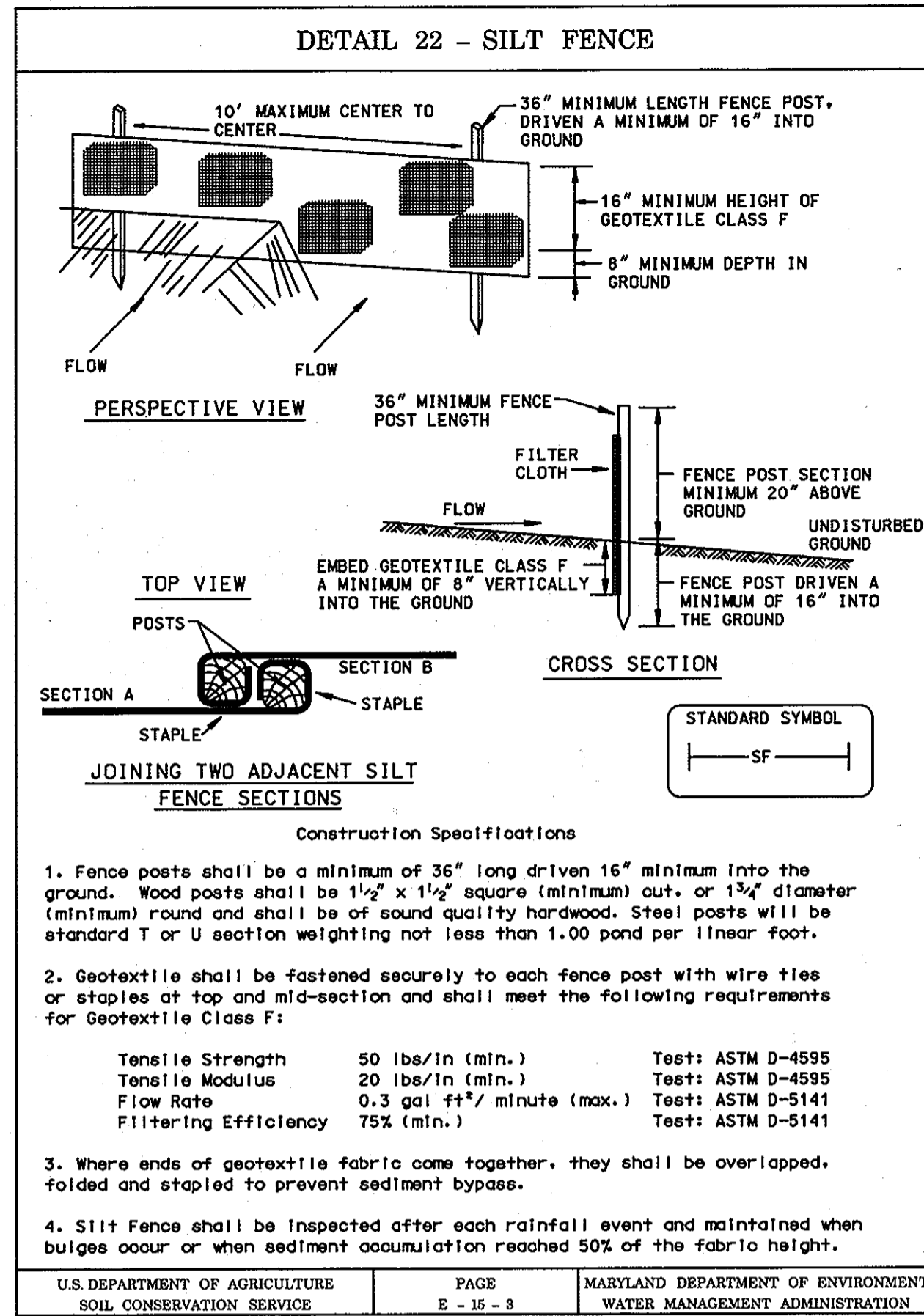
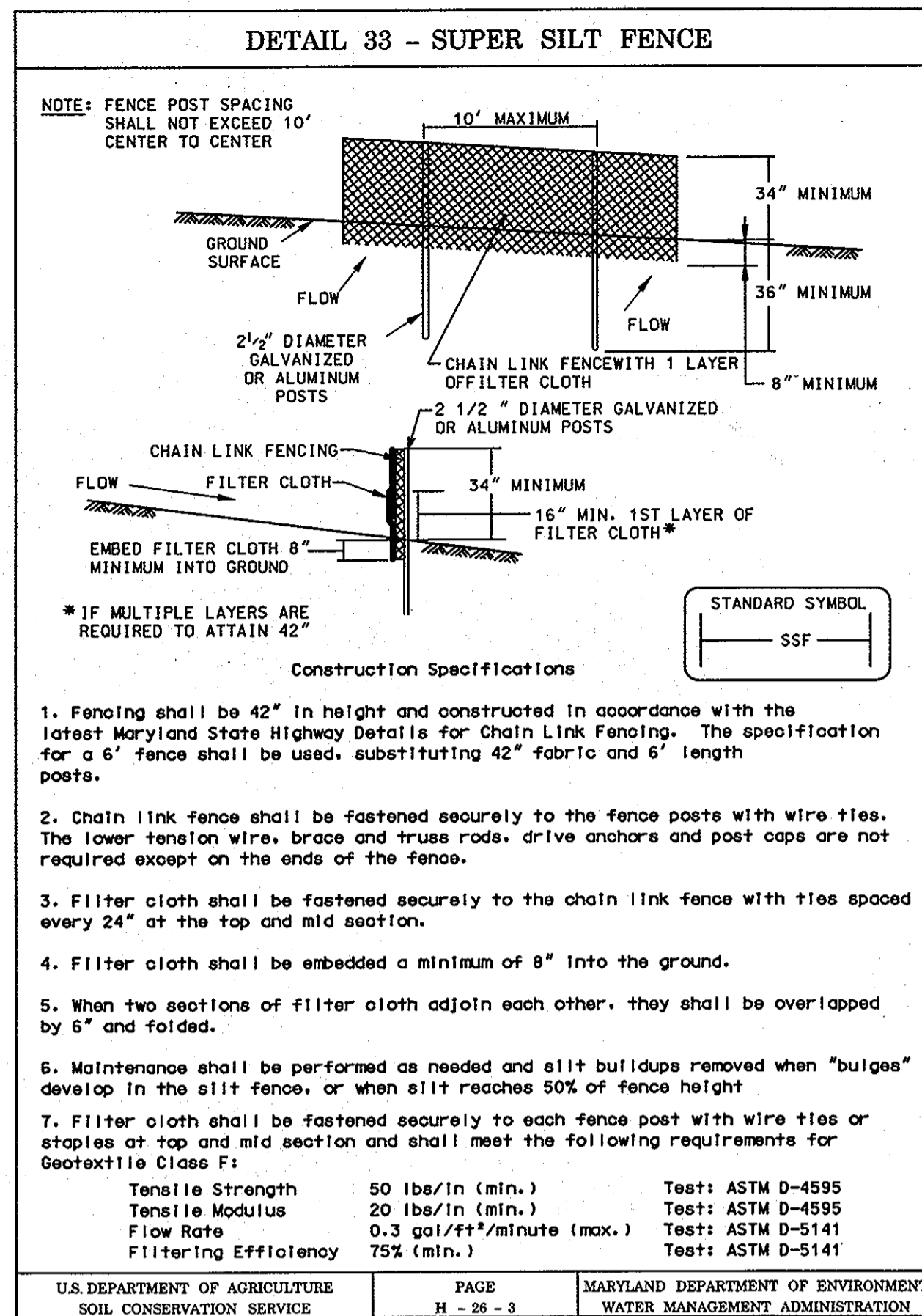
NOTES:

1. DETAILS HAVE BEEN PROVIDED FOR INLET PROTECTION. IT SHALL BE AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR BASED ON FIELD CONDITIONS TO IMPLEMENT THE INSTALLATION OF SAID PROTECTION. AS THE MAXIMUM DRAINAGE AREA (1/4 AC.) TO INLETS I-1, I-2 AND I-4 IS EXCEEDED PRIOR TO INSTALLATION OF SUPER FENCE DIVERSION, THE INLET PROTECTION SHALL BE UPGRADED BY WRAPPING THE INLET WITH "SUPER SILT FENCE". THE SEDIMENT CONTROL INSPECTOR SHALL INSTRUCT THE CONTRACTOR AS TO PROCEDURE TO UPGRADE THE INLET PROTECTION. ANY ADDITION COST TO PERFORM UPGRADE SHALL BE INCIDENTAL TO THE UNIT COST PAY ITEM FOR INLET PROTECTION.
2. A DETAIL HAS BEEN PROVIDED FOR SILT FENCE. SAME DAY STABILIZATION HAS BEEN NOTED BUT DUE TO VARYING FIELD CONDITIONS, IT MAY BE NECESSARY TO IMPLEMENT THE INSTALLATION OF SAID CONTROL. IT SHALL BE AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR TO DIRECT THE IMPLEMENTATION OF THE CONTROLS BY THE CONTRACTOR. CONTINGENT QUANTITIES FOR SILT FENCE HAS BEEN INCLUDED IN THE CONTRACT TO COVER THE POSSIBLE IMPLEMENTATION.



(SEE TITLE SHEET FOR PROFESSIONAL CERTIFICATION)

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> DIRECTOR OF PUBLIC WORKS <i>[Signature]</i> CHIEF, BUREAU OF HIGHWAYS</p>		<p>NOLAN Associates, Inc. Engineers - Civil/Structural/Inspections 4785 Dorsey Hall Drive Suite 124 Ellicott City, Maryland 21042 Phone: (410) 895-2851 Fax: (410) 895-1363</p>		<p>DES: GWF DRN: BSB CHK: CSN DATE: APRIL 2010</p>		<p>8/12 AS-BUILT</p>		<p>EROSION AND SEDIEMNT CONTROL NOTES AND DETAILS</p>		<p>BEECHFIELD AVENUE DRAINAGE IMPROVEMENTS CAPITAL PROJECT D-1124-03 ELECTION DISTRICT NO. 1 ELKCRIDGE, MARYLAND</p>		<p>SCALE: AS SHOWN SHEET 7 OF 9</p>	
<p>DATE: 4-24-12</p>		<p>DATE: 4/20/12</p>		<p>BY: NO. REVISION DATE</p>		<p>600' SCALE MAP NO. BLOCK NO.</p>							



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-26-3A | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

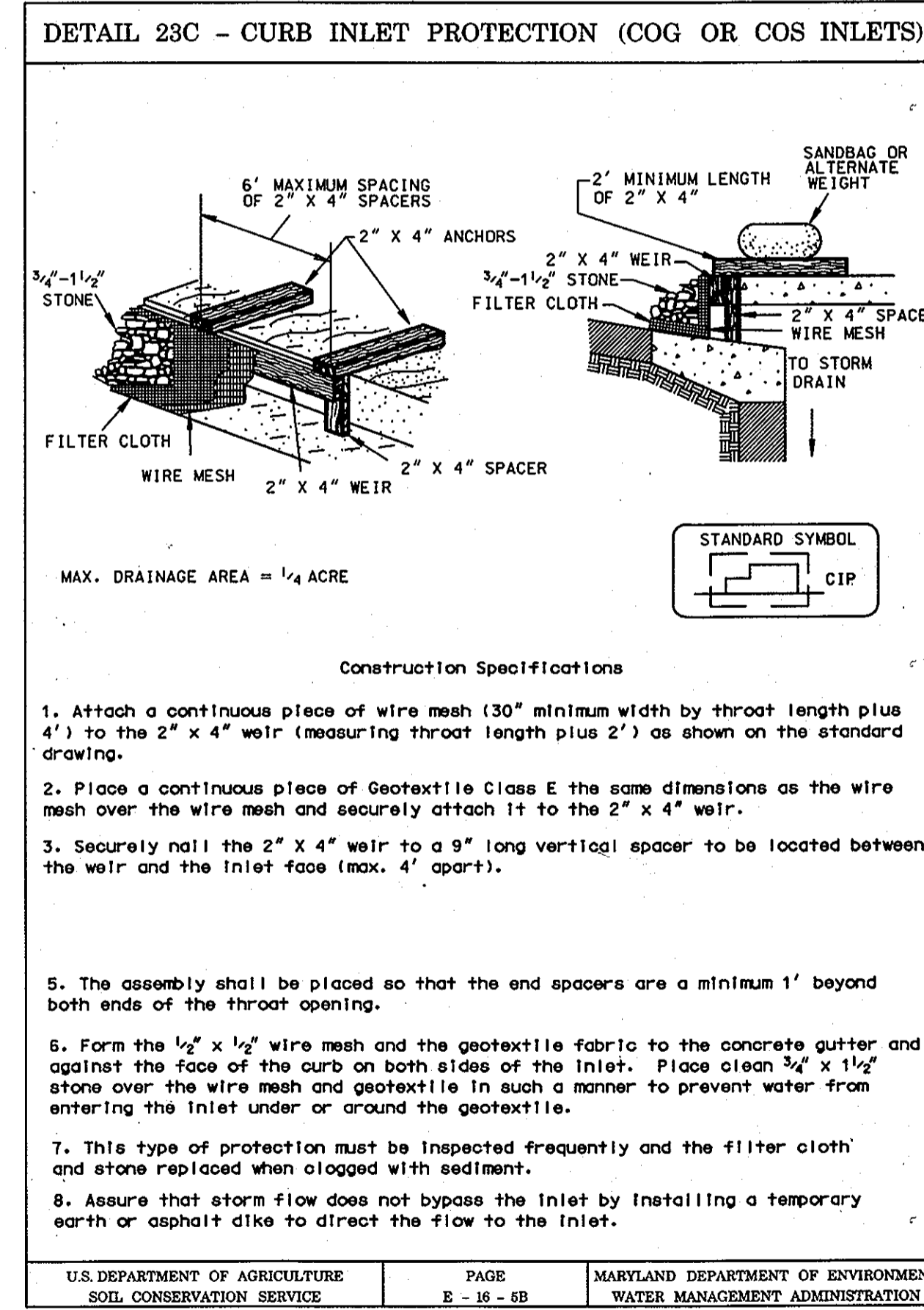
SILT FENCE

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 2% 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.

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(SEE TITLE SHEET FOR PROFESSIONAL CERTIFICATION)

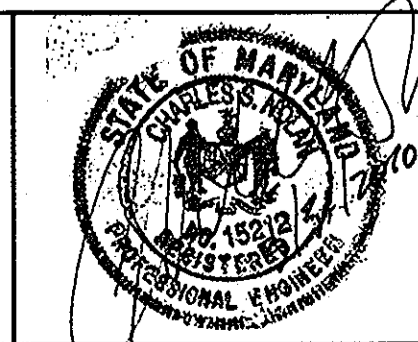
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John G. ... 4-24-12
DIRECTOR OF PUBLIC WORKS

Thomas J. ... 4/24/12
CHIEF, BUREAU OF ENGINEERING

Steve Shanan 4/20/12
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

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Engineers - Civil/Structural/Inspections
4785 Dorsey Hall Drive
Suite 124
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Phone: (410) 995-3851 Fax: (410) 995-1363



DES:	GWF	0/13
DRN:	BSS	
CHK:	CSN	
DATE:	APRIL 2010	
BY:	NO.	

AS-BUILT

EROSION AND SEDIMENT CONTROL DETAILS

600' SCALE MAP NO. _____ BLOCK NO. _____

BEECHFIELD AVENUE
DRAINAGE IMPROVEMENTS
CAPITAL PROJECT D-1124-03
ELECTION DISTRICT NO. 1
ELK RIDGE, MARYLAND

SCALE:
AS SHOWN

SHEET
8 OF 8