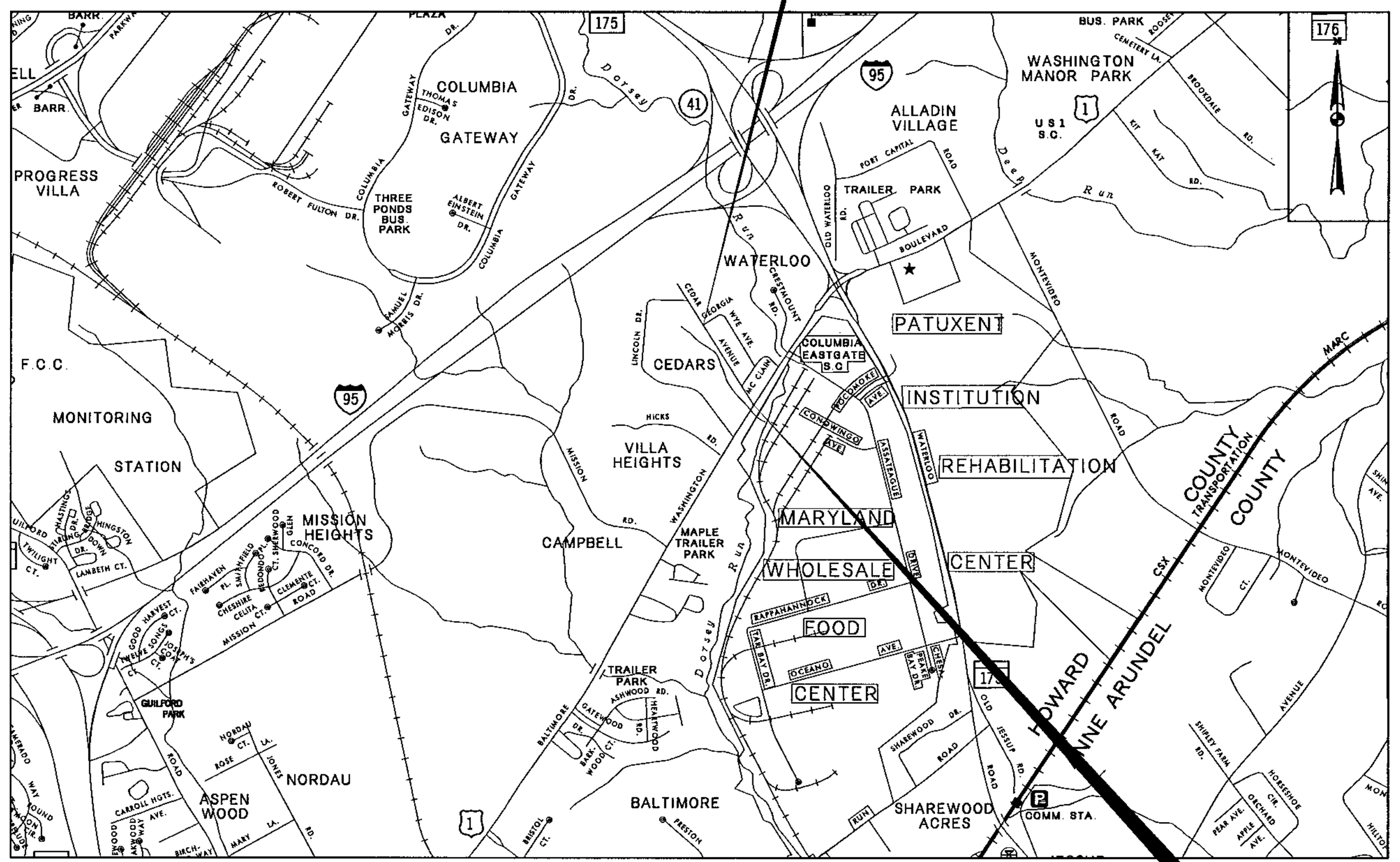
INDEX OF SHEETS

LIMIT OF WORK
CEDAR AVENUE
STA. 106+25.00
CAPITAL PROJECT NO. D-1155



LIMIT OF WORK
CEDAR AVENUE
STA. 119+53
CAPITAL PROJECT NO. D-1155

LOCATION MAP
SCALE 1" = 2000'

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY AND MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
2. ALL INFORMATION AND DETAILS ON THESE DRAWINGS SHALL BE CONSTRUCTED AS PER THE PLANS OR AS DIRECTED BY THE HOWARD COUNTY ENGINEER.
3. ALL STATIONING AND DIMENSIONING ARE TO BE FIELD VERIFIED BY THE CONTRACTOR.
4. STORM DRAINAGE SLOPES ARE TO BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE HOWARD COUNTY ENGINEER.
5. APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN. THESE LOCATIONS ARE BASED ON UTILITY PLANS OR TOPOGRAPHIC SURVEYS. TEST PIT LOCATIONS ARE SHOWN ON THE PLANS WITH TEST PIT LOGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RESOLVE ANY DISCREPANCIES BETWEEN THE UTILITY LOCATIONS SHOWN ON THE PLANS AND THE TEST PIT INFORMATION PROVIDED. 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 ENGINEER BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS.

   COMCAST 410-461-1362
   BGE (CONTRACTOR SERVICES) 410-850-4620
   BGE (UNDERGROUND DAMAGE CONTROL) 410-787-9068
   MISS UTILITY 1-800-257-7777
   HOWARD COUNTY BUREAU OF UTILITIES 410-313-4900
   HOWARD COUNTY DIVISION OF CONSTRUCTION INSPECTION 410-313-1880
   VERIZON 1-800-743-0033 / 410-224-9210

6. SEE HOWARD COUNTY STANDARD DETAILS NO'S G-1.01 AND G-1.02 FOR STANDARD SYMBOLS AND ABBREVIATIONS.
7. HORIZONTAL COORDINATES ARE BASED ON MD NAD 83/91 HORIZONTAL DATUM AND VERTICAL ELEVATIONS ARE BASED ON NAVD 1988 VERTICAL DATUM, TRANSFERRED FROM NATIONAL GEODETIC SURVEY CONTROL STATIONS; 43EB AND 43G6

   43EB: N 545,963.66020 E 1,371,573.819 ELEV. 216.264
   43G6: N 544,117.53030 E 1,370,550.826 ELEV. 219.353

8. A STAGING AND STOCKPILE AREA WILL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE HOWARD COUNTY ENGINEER.
9. TOPOGRAPHY SURVEY INFORMATION BASED ON FIELD SURVEY PERFORMED BY JOHNSON, MIRMIRAN & THOMPSON DATED JUNE, 2011.
10. TOP OF CURB (T.C.) FOR CURB OPENING INLETS SHALL APPLY TO CENTERLINE OF INLET AT TOP OF CURB. TOP OF RIM (T.R.) FOR MANHOLE ELEVATIONS SHALL APPLY TO CENTER OF MANHOLE COVER. STATION AND OFFSET IS GIVEN AT THE GEOMETRIC CENTER OF THE MANHOLE BASE UNIT.

CAPITAL PROJECT NO. D-1155

DRAINAGE IMPROVEMENTS ALONG
CEDAR AVENUE AND LINCOLN DRIVE AT CEDAR VILLA PARK PHASE 1- SOUTH

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

CONVENTIONAL SIGNS

- DRAINAGE AREA BOUNDARY
- EXISTING SIGN
- LIMIT OF GRADING — C — F —
- ELECTRICAL HAND BOX – SIGNALS — H.B.
- PROPOSED MEDIAN BARRIER
- BURIED UTILITY LINES & NO. OF CABLES — 4
- STATE, COUNTY OR CITY LINES
- PROPOSED TRAFFIC BARRIER
- EXISTING TRAFFIC BARRIER
- FENCE LINE — x — x —
- RIGHT OF WAY LINE
- EXISTING ROADWAY
- RAILROAD
- BASE OR SURVEY LINE
- FIRE HYDRANT — F.H.
- WATER LINE — W —
- GAS LINE — G —
- SAN. SEWER — SAN —
- UG ELECTRIC — E —
- UG TV CABLE — CATV —
- TEST PIT — TP-4
- PROPOSED HMA PAVEMENT MILL AND OVERLAY
- PROPOSED HMA PAVEMENT OVERLAY
- PROPOSED FULL DEPTH HMA PAVEMENT
- PROPOSED RIPRAP
- EXISTING CULVERT
- PROPOSED CULVERT
- EXISTING DROP INLET
- UTILITY POLE
- MARSH
- HEDGE
- GROUND ELEVATION — DATUM LINE
- GRADE ELEVATION — DATUM LINE

By the Engineer:

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Paul F. Clement — 10/12/15
Date
PAUL F. CLEMENT
Signature of Engineer
Print name below Signature

By the Developer:

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

[signature] — 19 OCT 2015
Date
KRISTOFER L. SINGLETON
Signature of Developer
Print name below Signature

EP-14-002

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS:
THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
[signature] 10/22/15
Howard Soil Conservation District — Date

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15466, EXPIRATION DATE: JULY 15, 2017"

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[signature] 10/27/15 — DIRECTOR OF PUBLIC WORKS
[signature] 10/19/15 — CHIEF, BUREAU OF ENGINEERING
Steve Sharar 10/19/15 — CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
[signature] 10/22/2015 — CHIEF, BUREAU OF HIGHWAYS

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future®
72 Loveton Circle Baltimore, Maryland 21152-0949

STATE OF MARYLAND — PAUL FRANKLIN CLEMENT — REGISTERED PROFESSIONAL ENGINEER — 10/12/15

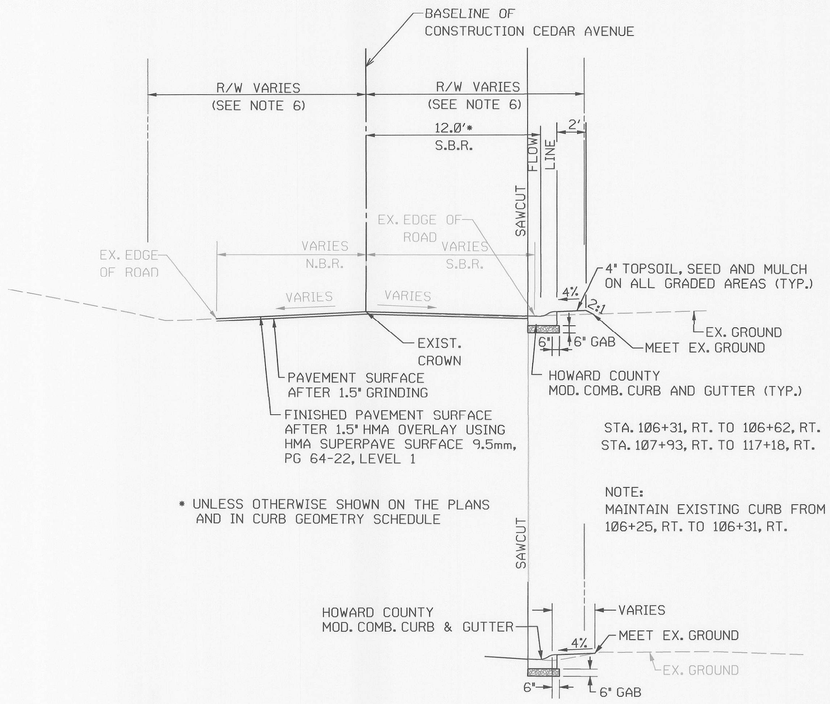
DES: BJM
DRN: JMB
CHK: SAM
DATE: JUL 2015

BY	NO.		DATE

CAPITAL PROJECT NO.
D-1155
MAP NO. — BLOCK NO.

TITLE SHEET
DRAINAGE IMPROVEMENTS ALONG
CEDAR AVENUE AND LINCOLN DRIVE
AT CEDAR VILLA PARK PHASE 1- SOUTH
ELECTION DISTRICT 2 — HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
SHEET 1 OF 16



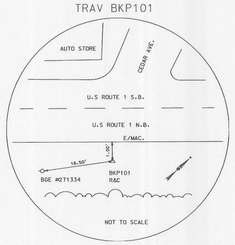
STA. 106+62, RT. TO STA. 107+93, RT.

CEDAR AVENUE TYPICAL SECTION

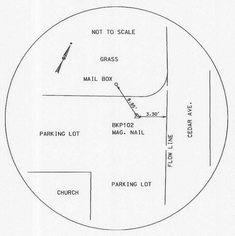
NOTES:

1. REMOVE EXISTING PAVEMENT UNDER PROPOSED CURB AND GUTTER AS DIRECTED BY THE COUNTY. REPLACE WITH COMPACTED COMMON BORROW. DO NOT REMOVE ANY EXISTING GRADED AGGREGATE BASE.
2. ALL FULL DEPTH SAW CUTS REQUIRED WILL NOT BE MEASURED BUT THE COST WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE FOR THE PAVEMENT AND CURB ITEMS.
3. THE GAB PLACED UNDER AND BEHIND THE CURB AND GUTTER WILL BE PAID FOR AT THE SQUARE YARD UNIT PRICE BID FOR 6" GRADED AGGREGATE BASE COURSE IN THIS CONTRACT. THE GAB PLACED FOR THE PROPOSED PAVEMENT SECTIONS WILL BE PAID FOR AT THE SQUARE YARD UNIT PRICE BID FOR 4" GRADED AGGREGATE BASE COURSE IN THIS CONTRACT.
4. UNLESS SPECIFIED OTHERWISE, ALL EXCAVATION REQUIRED FOR THE CONSTRUCTION OF THE PROPOSED PAVEMENT, DRIVEWAYS, AND CURB AND GUTTER SHALL BE CONSIDERED CLASS I EXCAVATION AND WILL BE PAID FOR AT THE CUBIC YARD UNIT PRICE BID FOR CLASS I EXCAVATION.
5. SEE DWG. TS-02 FOR TYPICAL SECTIONS AT DRIVEWAYS.
6. CEDAR AVENUE AND LINCOLN DRIVE ARE OF VARIABLE WIDTH RIGHT-OF-WAY IN CONJUNCTION WITH A PRESCRIPTIVE EASEMENT OF NO LESS THAN 30 FEET. IN THOSE PORTIONS OF CEDAR AVENUE AND LINCOLN DRIVE WHERE THE PAVEMENT IS GREATER THAN 30' WIDE, THE WIDTH OF THE EASEMENT IS FROM CURB TO CURB. SOME AREAS ALONG CEDAR AVENUE AND LINCOLN DRIVE HAVE BEEN "RESERVED FOR DEDICATION BY THE COUNTY" AS SHOWN ON PLANS.

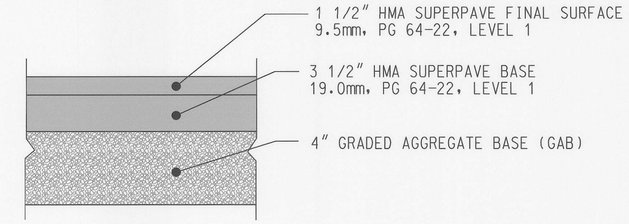
TRAV BKP101



TRAV BKP102



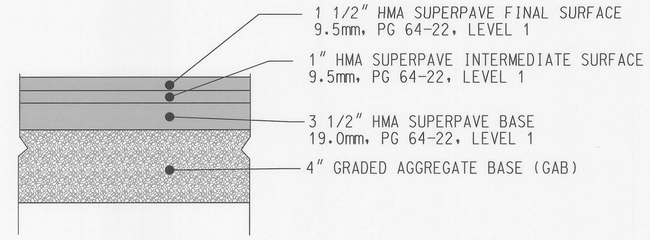
TRAVERSE POINTS



PAVEMENT DETAIL P-1

NOT TO SCALE

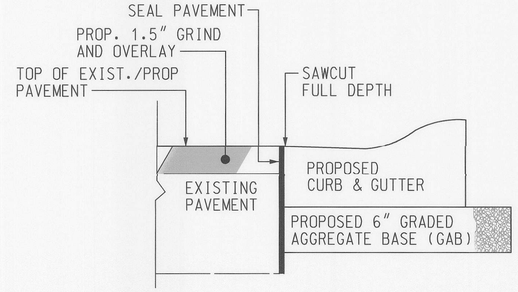
NOTE: PAVEMENT DETAIL P-1 SHALL BE FOR ASPHALT DRIVEWAYS/PARKING LOT.



PAVEMENT DETAIL P-2

NOT TO SCALE

NOTE: PAVEMENT DETAIL P-2 SHALL BE USED FOR UTILITY/ STORM DRAIN PATCH.



TYPICAL PAVEMENT JOINT B (ADJACENT TO NEW CURB)

NOT TO SCALE

PAVEMENT DETAILS

*PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15466, EXPIRATION DATE: JULY 15, 2017

TS-01

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — 10/22/15

CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION — Steve Sharar 10/19/15

CHIEF, BUREAU OF ENGINEERING — Thomas E. Butler 10/19/15

CHIEF, BUREAU OF HIGHWAYS — 10/22/2015

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future®
72 Loveton Circle Baltimore, Maryland 21152-0949

STATE OF MARYLAND — PAUL FRANKLIN CLEMENT — REGISTERED PROFESSIONAL ENGINEER
10/12/15

DES:	BJM
DRN:	JMB
CHK:	SAM
DATE:	JUL 2015

BY	NO.		DATE

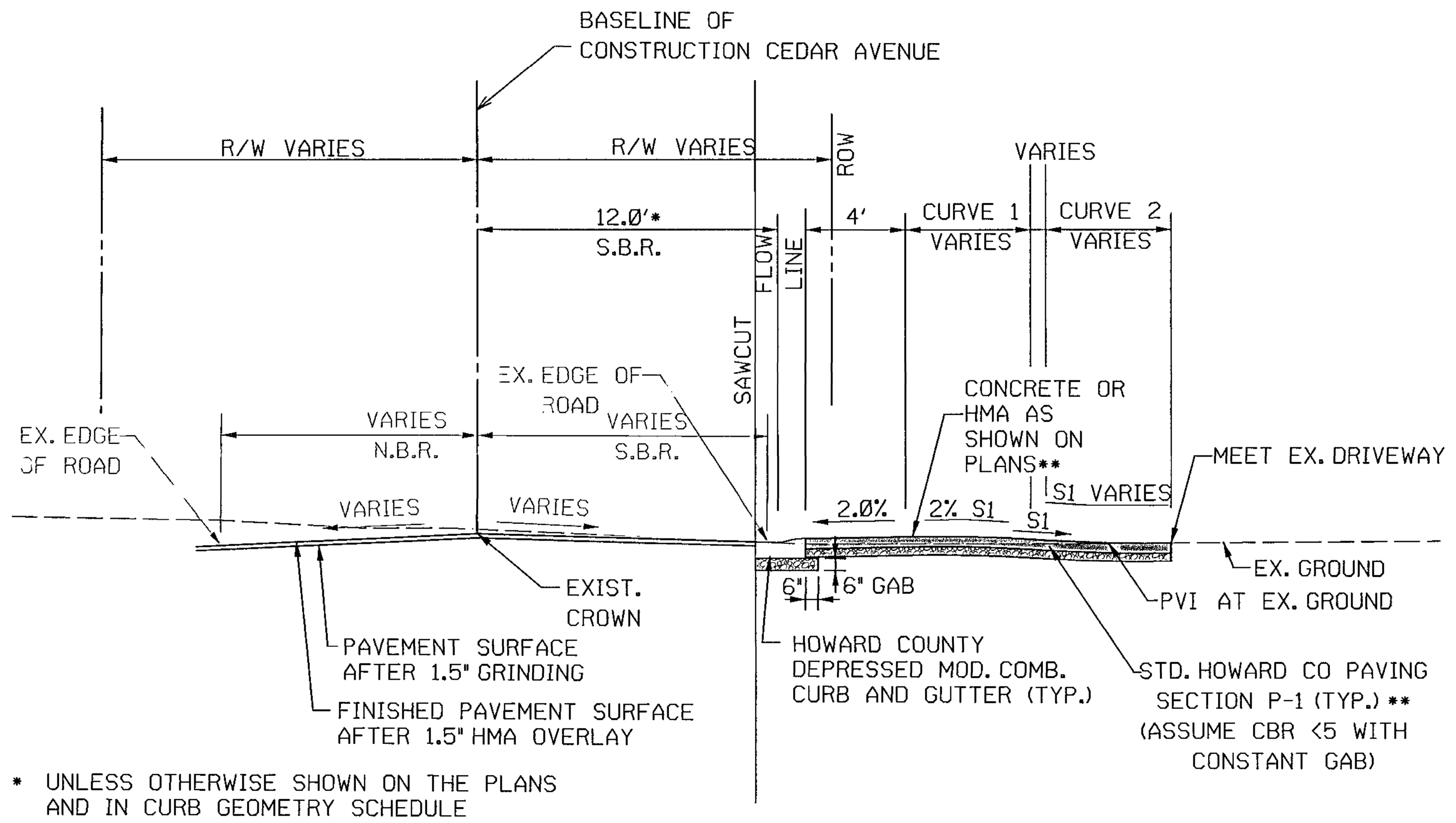
CAPITAL PROJECT NO.
D-1155
MAP NO. | BLOCK NO.

TYPICAL SECTIONS/ROADWAY DETAILS
DRAINAGE IMPROVEMENTS ALONG
CEDAR AVENUE AND LINCOLN DRIVE
AT CEDAR VILLA PARK PHASE I- SOUTH
ELECTION DISTRICT 2 — HOWARD COUNTY, MARYLAND

SCALE N.T.S.

SHEET 2 OF 16

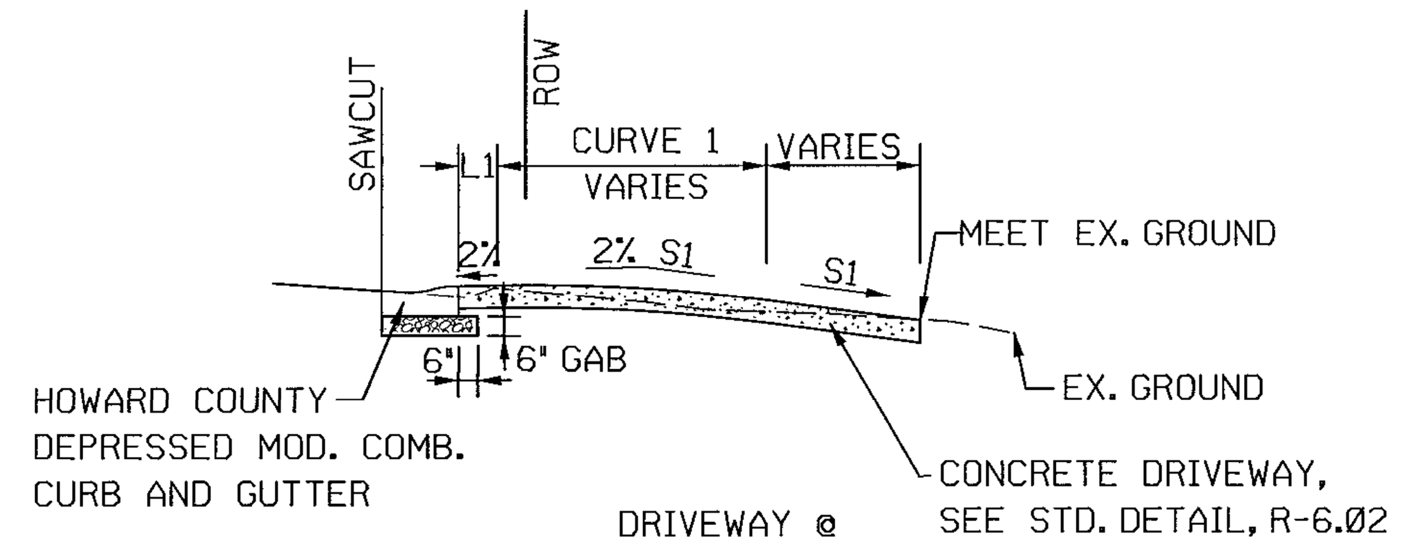
FILE: G:\SMD\09235.01_Lincoln_Drive_at_Cedar\CADD\phase 1\SHT-X00_Cedar_phase&.dgn
DATE: 10/12/2015



* UNLESS OTHERWISE SHOWN ON THE PLANS AND IN CURB GEOMETRY SCHEDULE

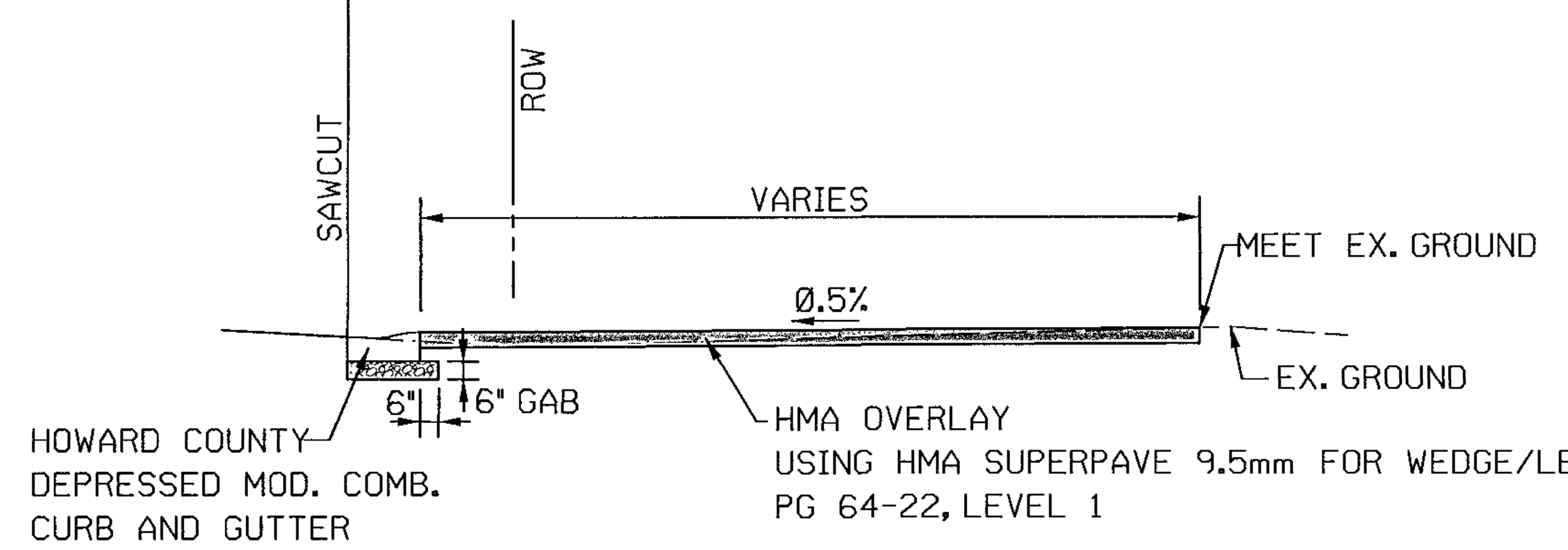
** FOR CONCRETE DRIVEWAYS, SEE STD. DETAIL R-6.02. FOR HMA DRIVEWAYS AT STA. 110+75, RT. AND STA. 116+50, RT. PROVIDE OVERLAY OF DRIVEWAY USING HMA SUPERPAVE 9.5 mm FOR WEDGE/LEVEL, PG 64-22, LEVEL 1.

DRIVEWAY @	CURVE 1 LENGTH	SLOPE S1	CURVE 2 LENGTH
STA. 109+19, RT.	6.0'	10.0%	6.0'
STA. 109+67, RT.	6.0'	10.0%	7.5'
STA. 110+75, RT.	5.0'	8.0%	8.0'
STA. 111+60, RT.	6.0'	11.0%	8.0'
STA. 116+06, RT.	7.0'	13.0%	9.0'
STA. 116+50, RT.	5.0'	6.0%	5.0'



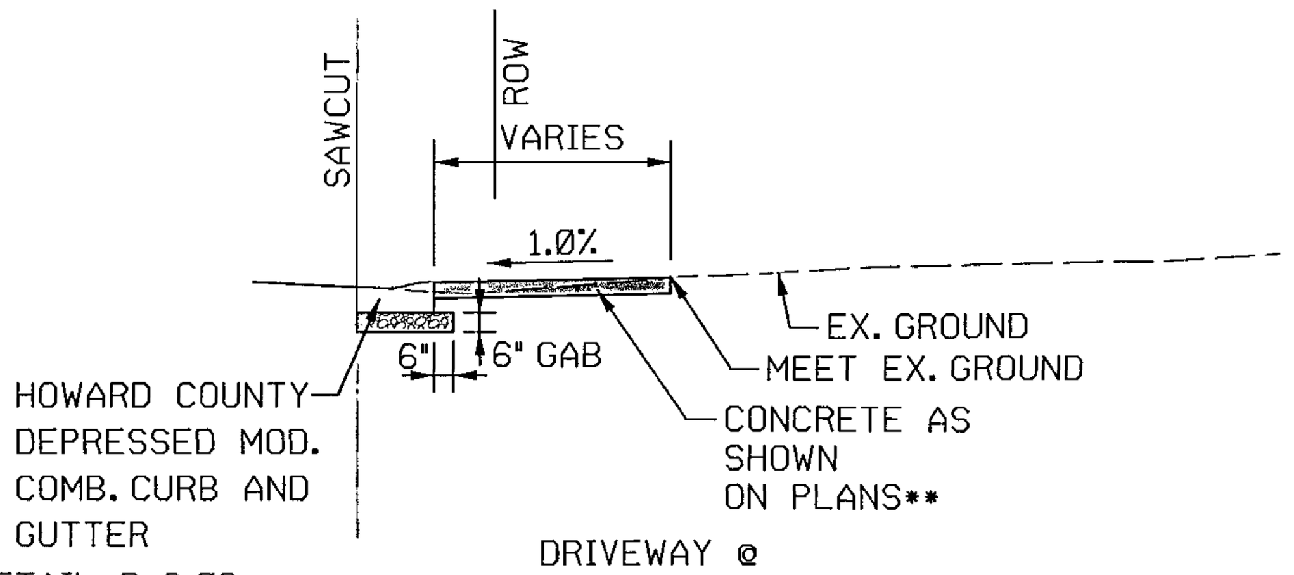
DRIVEWAY @
STA. 106+75, RT.
STA. 108+00, RT.
STA. 108+25, RT.

DRIVEWAY @	L1	CURVE 1 LENGTH	SLOPE S1
STA. 106+75, RT.	4.0'	5.0'	3.0%
STA. 108+00, RT.	1.0'	7.0'	13.0%
STA. 108+25, RT.	2.0'	6.0'	10.0%



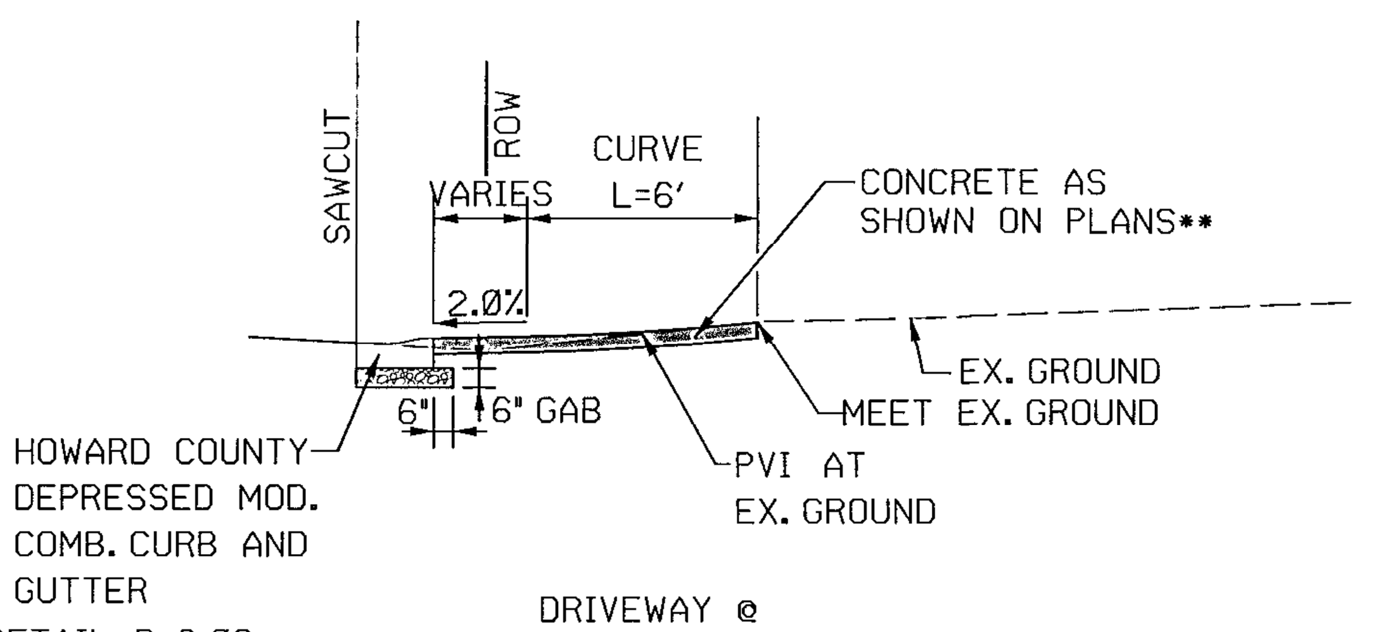
DRIVEWAY/PARKING LOT @
STA. 112+50, RT. TO STA. 114+25, RT.

CEDAR AVENUE DRIVEWAY TYPICAL SECTIONS



DRIVEWAY @
STA. 107+25, RT.**

** FOR CONCRETE DRIVEWAYS, SEE STD. DETAIL R-6.02. FOR HMA DRIVEWAYS PROVIDE OVERLAY OF DRIVEWAY USING HMA SUPERPAVE 9.5 mm FOR WEDGE/LEVEL, PG 64-22, LEVEL 1.



DRIVEWAY @
STA. 107+40, RT.

** FOR CONCRETE DRIVEWAYS, SEE STD. DETAIL R-6.02. FOR HMA DRIVEWAYS PROVIDE OVERLAY OF DRIVEWAY USING HMA SUPERPAVE 9.5 mm FOR WEDGE/LEVEL, PG 64-22, LEVEL 1.

CEDAR AVENUE DRIVEWAY TYPICAL SECTIONS

NOTES

1. DRIVEWAYS SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH HOWARD COUNTY STD. DETAIL NO. R-6.05, EXCEPT THAT THE DRIVEWAY WIDTH SHALL MATCH THE WIDTH OF THE EXISTING DRIVEWAY. DRIVEWAY SLOPES SHALL BE AS SHOWN ON TYPICAL SECTIONS.
2. DEPRESS MODIFIED COMBINATION CURB AND GUTTER AT DRIVEWAYS PER STD. DETAIL R-6.05 AND STD. DETAIL R-3.01.
3. TO THE EXTENT PRACTICABLE, CONTRACTOR SHALL ENSURE THAT NEWLY POURED CONCRETE DRIVEWAYS ARE NOT ACCESSED BY VEHICULAR TRAFFIC UNTIL THE CONCRETE HAS ACHIEVED 75% OF IT'S COMPRESSIVE STRENGTH.

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15466, EXPIRATION DATE: JULY 15, 2017"

TS-02

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

10/22/15 DIRECTOR OF PUBLIC WORKS
10/19/15 CHIEF, BUREAU OF ENGINEERING
10/19/15 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
10/22/2015 CHIEF, BUREAU OF HIGHWAYS

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future®
72 Loveton Circle Baltimore, Maryland 21152-0949

DES: BJM
DRN: JMB
CHK: SAM
DATE: JUL 2015

BY	NO.		DATE

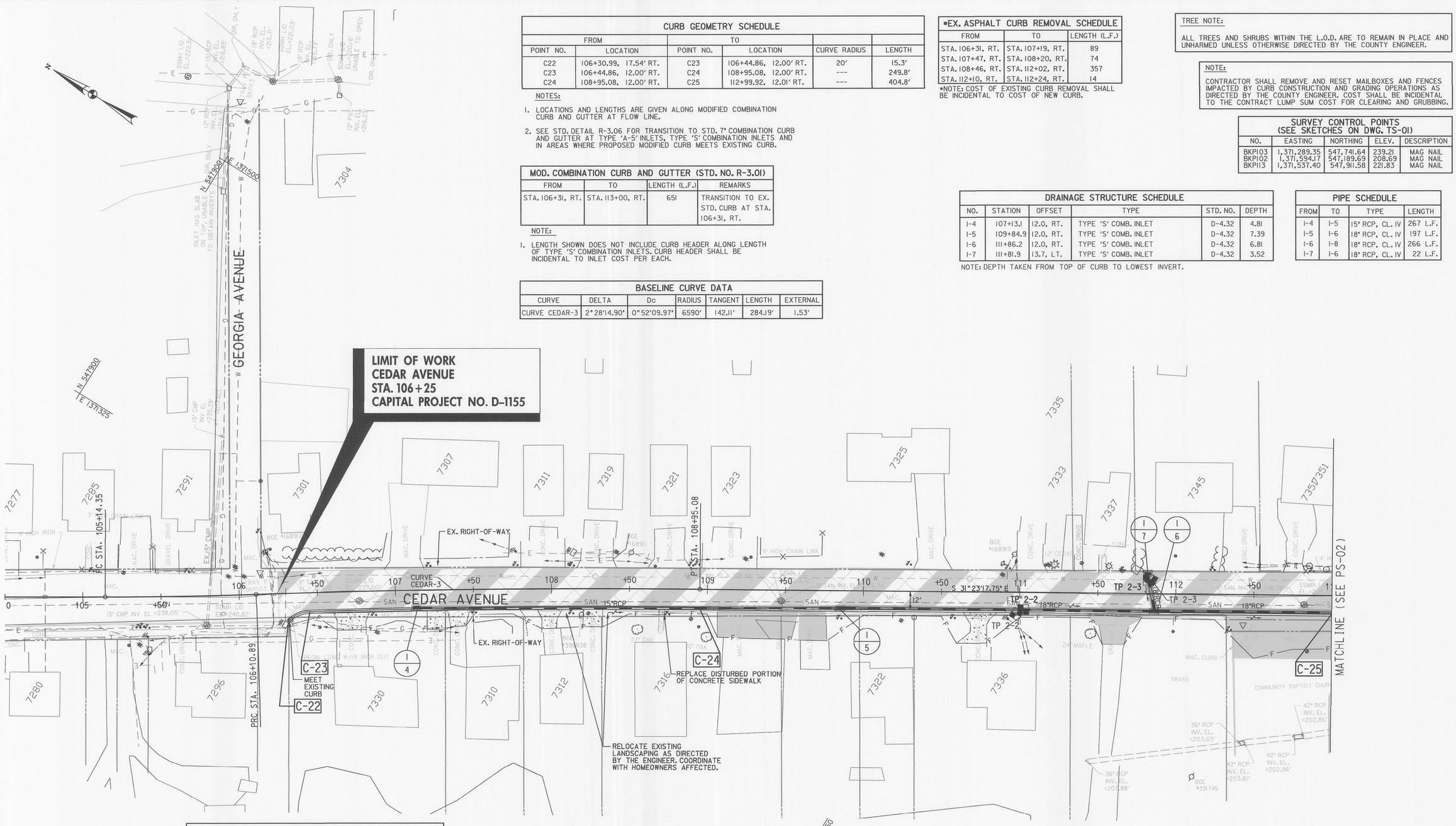
CAPITAL PROJECT NO.
D-1155

MAP NO. BLOCK NO.

TYPICAL SECTIONS/ROADWAY DETAILS
DRAINAGE IMPROVEMENTS ALONG
CEDAR AVENUE AND LINCOLN DRIVE
AT CEDAR VILLA PARK PHASE I- SOUTH

ELECTION DISTRICT 2 HOWARD COUNTY, MARYLAND

SCALE N.T.S.



CURB GEOMETRY SCHEDULE

FROM		TO			
POINT NO.	LOCATION	POINT NO.	LOCATION	CURVE RADIUS	LENGTH
C22	106+30.99, 17.54' RT.	C23	106+44.86, 12.00' RT.	20'	15.3'
C23	106+44.86, 12.00' RT.	C24	108+95.08, 12.00' RT.	---	249.8'
C24	108+95.08, 12.00' RT.	C25	112+99.92, 12.01' RT.	---	404.8'

NOTES:

1. LOCATIONS AND LENGTHS ARE GIVEN ALONG MODIFIED COMBINATION CURB AND GUTTER AT FLOW LINE.
2. SEE STD. DETAIL R-3.06 FOR TRANSITION TO STD. 7" COMBINATION CURB AND GUTTER AT TYPE 'A-5' INLETS, TYPE 'S' COMBINATION INLETS AND IN AREAS WHERE PROPOSED MODIFIED CURB MEETS EXISTING CURB.

MOD. COMBINATION CURB AND GUTTER (STD. NO. R-3.01)

FROM	TO	LENGTH (L.F.)	REMARKS
STA. 106+31, RT.	STA. 113+00, RT.	651	TRANSITION TO EX. STD. CURB AT STA. 106+31, RT.

NOTE:

1. LENGTH SHOWN DOES NOT INCLUDE CURB HEADER ALONG LENGTH OF TYPE 'S' COMBINATION INLETS. CURB HEADER SHALL BE INCIDENTAL TO INLET COST PER EACH.

BASELINE CURVE DATA

CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
CURVE CEDAR-3	2°28'14.90"	0°52'09.97"	6590'	142.11'	284.19'	1.53'

•EX. ASPHALT CURB REMOVAL SCHEDULE

FROM	TO	LENGTH (L.F.)
STA. 106+31, RT.	STA. 107+19, RT.	89
STA. 107+47, RT.	STA. 108+20, RT.	74
STA. 108+46, RT.	STA. 112+02, RT.	357
STA. 112+10, RT.	STA. 112+24, RT.	14

•NOTE: COST OF EXISTING CURB REMOVAL SHALL BE INCIDENTAL TO COST OF NEW CURB.

TREE NOTE:

ALL TREES AND SHRUBS WITHIN THE L.O.D. ARE TO REMAIN IN PLACE AND UNHARMED UNLESS OTHERWISE DIRECTED BY THE COUNTY ENGINEER.

NOTE:

CONTRACTOR SHALL REMOVE AND RESET MAILBOXES AND FENCES IMPACTED BY CURB CONSTRUCTION AND GRADING OPERATIONS AS DIRECTED BY THE COUNTY ENGINEER. COST SHALL BE INCIDENTAL TO THE CONTRACT LUMP SUM COST FOR CLEARING AND GRUBBING.

SURVEY CONTROL POINTS (SEE SKETCHES ON DWG. TS-01)

NO.	EASTING	NORTHING	ELEV.	DESCRIPTION
BKPI03	1,371,289.35	547,741.64	239.21	MAG NAIL
BKPI02	1,371,594.17	547,189.69	208.69	MAG NAIL
BKPI13	1,371,537.40	547,911.58	221.83	MAG NAIL

DRAINAGE STRUCTURE SCHEDULE

NO.	STATION	OFFSET	TYPE	STD. NO.	DEPTH
I-4	107+13.1	12.0, RT.	TYPE 'S' COMB. INLET	D-4.32	4.81
I-5	109+84.9	12.0, RT.	TYPE 'S' COMB. INLET	D-4.32	7.39
I-6	111+86.2	12.0, RT.	TYPE 'S' COMB. INLET	D-4.32	6.81
I-7	111+81.9	13.7, LT.	TYPE 'S' COMB. INLET	D-4.32	3.52

NOTE: DEPTH TAKEN FROM TOP OF CURB TO LOWEST INVERT.

PIPE SCHEDULE

FROM	TO	TYPE	LENGTH
I-4	I-5	15" RCP, CL. IV	267 L.F.
I-5	I-6	18" RCP, CL. IV	197 L.F.
I-6	I-8	18" RCP, CL. IV	266 L.F.
I-7	I-6	18" RCP, CL. IV	22 L.F.

UTILITY TEST PIT SCHEDULE

NO.	LOCATION	UTILITY	DEPTH
TP 2-2	110+98, 14.02' RT.	0.25" TELE/(3) 0.75" ELEC	2.82'
TP 2-3	111+84, 8.89' LT.	8" WATER	5.42'

4 INCH CONCRETE SIDEWALK (STD. NO. R-3.05)

11 S.F. - STA. 108+71, RT.

PAVING LEGEND

- HMA DRIVEWAY RECONSTRUCTION OR OVERLAY
- CARBIDE GRINDING AND RESURFACING
- CONCRETE DRIVEWAY OR SIDEWALK RECONSTRUCTION

UTILITY NOTE:

UTILITY SERVICE CONNECTIONS HAVE NOT BEEN SHOWN ON PLANS. CONTRACTOR SHALL DETERMINE SERVICE LOCATIONS AND RELOCATE AS NECESSARY TO AVOID IMPACTING PROPOSED STORM DRAIN. SEE HOWARD COUNTY STANDARDS FOR SERVICE CONNECTION DETAILS.

*PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15466, EXPIRATION DATE: JULY 15, 2017

7 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR DRIVEWAY, MIX NO. 6 (STD. NO. R-6.03)

QUANTITY (S.Y.)	LOCATION	OFFSET @ TIE-IN	REMARKS
24.6	STA. 106+72, RT.	24.42'	HOUSE #7330
15.8	STA. 107+26, RT.	25.10'	HOUSE #7330
13.4	STA. 107+41, RT.	23.25'	HOUSE #7310
15.0	STA. 107+99, RT.	25.11'	HOUSE #7312
15.3	STA. 108+27, RT.	24.18'	HOUSE #7316
30.4	STA. 110+74, RT.	32.63'	HOUSE #7336

ASPHALT PAVEMENT FOR DRIVEWAY (STD. NO. R-2.01 (SECTION P-1))

LOCATION	OFFSET @ TIE-IN	REMARKS
STA. 109+21, RT.	30.65'	HOUSE #7316
STA. 109+66, RT.	31.78'	HOUSE #7322
STA. 109+48, RT.	30.97'	HOUSE #7322/#7316
STA. 111+60, RT.	32.60'	HOUSE #7336
STA. 113+50, RT.	40.56'	CHURCH PARKING

NOTE: SEE TYPICAL SECTIONS FOR DRIVEWAY SLOPES.

BASELINE CONTROL COORDINATES

LOCATION	STATION	EASTING	NORTHING
℄ OF CONSTR. CEDAR AVENUE	PC 105+14.35	1,371,223.62	547,817.37
	PRC 106+10.89	1,371,276.11	547,736.34
	PT 108+95.08	1,371,429.30	547,497.01

GRINDING EXISTING ASPHALT PAVEMENT 0 INCH TO 2 INCH DEPTH

1871 S.Y. - STA. 106+25 TO STA. 113+00, RT. & LT.

PS-01

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — 10/22/15
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION — Steve Shanan 10/19/15
CHIEF, BUREAU OF ENGINEERING — Thomas E. Butler 10/19/15
CHIEF, BUREAU OF HIGHWAYS — 10/22/2015

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future®
72 Loveton Circle Baltimore, Maryland 21152-0949

STATE OF MARYLAND — PAUL FRANKLIN CLEMENT — REGISTERED PROFESSIONAL ENGINEER
10/12/15

DES: BJM
DRN: JMB
CHK: SAM
DATE: JUL 2015

BY	NO.		DATE

CAPITAL PROJECT NO.
D-1155
MAP NO. | BLOCK NO.

PLAN SHEET
DRAINAGE IMPROVEMENTS ALONG CEDAR AVENUE AND LINCOLN DRIVE AT CEDAR VILLA PARK PHASE I- SOUTH
ELECTION DISTRICT 2 — HOWARD COUNTY, MARYLAND

SCALE 1" =30'
SHEET 4 OF 16

DATE: 07/2015

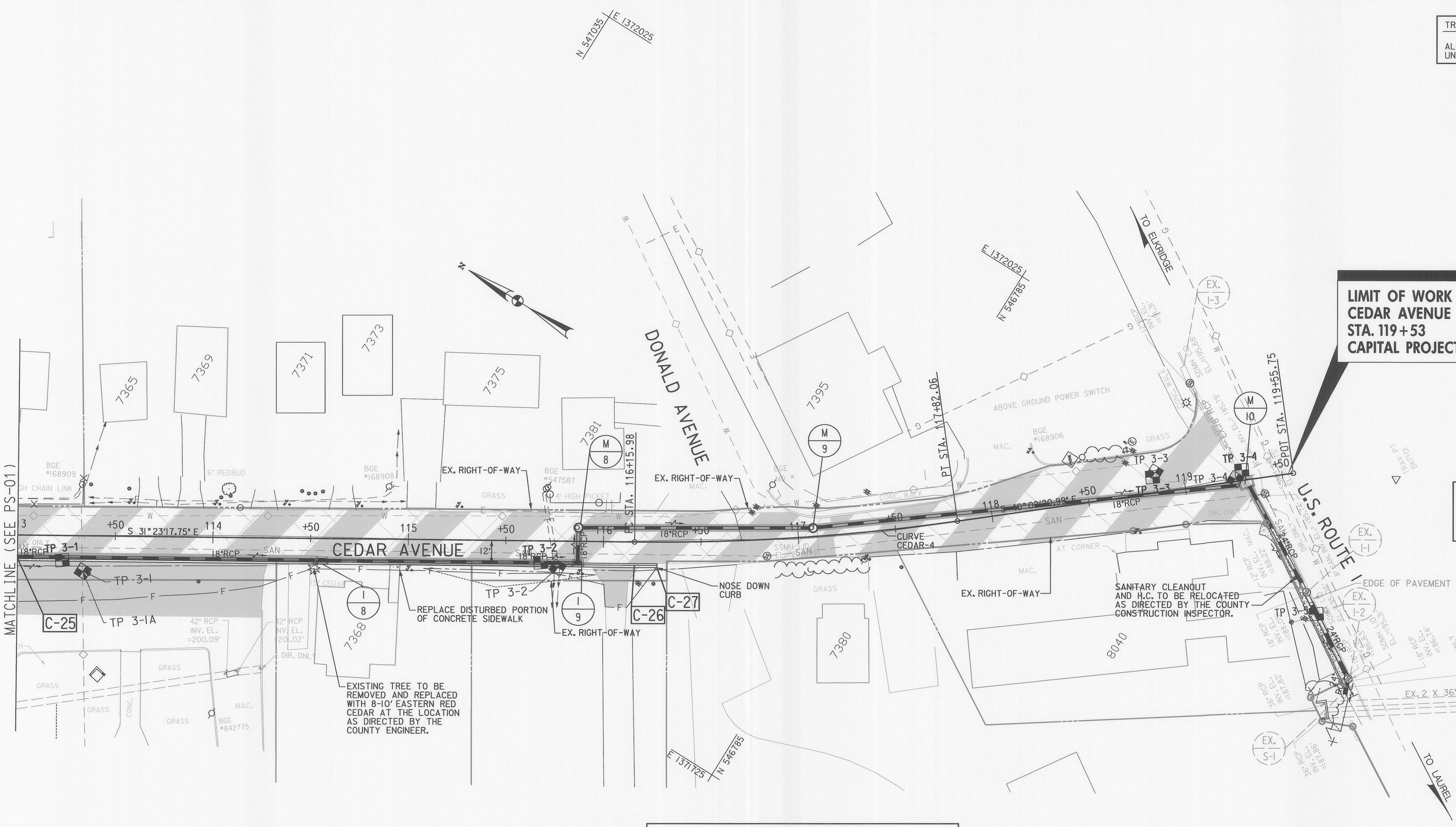
TREE NOTE:

ALL TREES AND SHRUBS WITHIN THE L.O.D. ARE TO REMAIN IN PLACE AND UNHARMED UNLESS OTHERWISE DIRECTED BY THE COUNTY ENGINEER.

NOTE:

CONTRACTOR SHALL REMOVE AND RESET MAILBOXES AND FENCES IMPACTED BY CURB CONSTRUCTION AND GRADING OPERATIONS AS DIRECTED BY THE COUNTY ENGINEER. COST SHALL BE INCIDENTAL TO THE CONTRACT LUMP SUM COST FOR CLEARING AND GRUBBING.

SURVEY CONTROL POINTS (SEE SKETCHES ON DWG. TS-01)				
NO.	EASTING	NORTHING	ELEV.	DESCRIPTION
BKP101	1,372,038.87	546,567.74	194.00	R&C (GPS)



NOTE:

CONCRETE KICKERS MAY HAVE BEEN INSTALLED ALONG 8" WATER IN THE AREA OF TP 3-3 AND TP 3-4. CARE SHOULD BE TAKEN DURING EXCAVATION IN THIS AREA FOR WORKER SAFETY AND TO MAINTAIN THESE POTENTIAL KICKERS.

4 INCH CONCRETE SIDEWALK (STD. NO. R-3.05)
14 S.F. - STA. 114+93, RT. 460 S.F. - U.S. RT. 1*

*REPLACE IN KIND (INCLUDING ADA RAMP(S)) UPON COMPLETION OF STORM DRAIN CONSTRUCTION

UTILITY TEST PIT SCHEDULE			
NO,	LOCATION	UTILITY	DEPTH
TP 3-1	113+34, 18.23' RT.	(3) 1.0" ELEC	2.99'
TP 3-1A	113+33, 18.21' RT.	0.75" TELE	2.53'
TP 3-2	115+77, 13.61' RT.	0.375" TELE/(3) 0.75" ELEC	3.23'
TP 3-3	118+86, 10.29' LT.	8" WATER	4.43'
TP 3-4	119+26, 1.12' LT.	8" WATER	4.56'
TP 3-5	119+58, 72.8', RT.	1.25" X.S. GAS	2.73'

ASPHALT PAVEMENT FOR DRIVEWAY (STD. NO. R-2.01 [SECTION P-1])		
LOCATION	OFFSET @ TIE-IN	REMARKS
STA. 113+25, RT. STA. 116+06, RT.	29.35' 33.51'	CHURCH PARKING HOUSE #7368

NOTE: SEE TYPICAL SECTIONS FOR DRIVEWAY SLOPES.

PLANTING SCHEDULE				
BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING
JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	8'-10'	B+B	AS SHOWN

CURB GEOMETRY SCHEDULE					
FROM		TO			
POINT NO.	LOCATION	POINT NO.	LOCATION	CURVE RADIUS	LENGTH
C25	112+99.92, 12.01' RT.	C26	116+15.98, 12.00' RT.	---	315.9'
C26	116+15.98, 12.00' RT.	C27	116+27.45, 13.20' RT.	---	11.6'

NOTES:

1. LOCATIONS AND LENGTHS ARE GIVEN ALONG MODIFIED COMBINATION CURB AND GUTTER AT FLOW LINE.
2. SEE STD. DETAIL R-3.06 FOR TRANSITION TO STD. 7" COMBINATION CURB AND GUTTER AT TYPE 'A-5' INLETS, TYPE 'S' COMBINATION INLETS AND IN AREAS WHERE PROPOSED MODIFIED CURB MEETS EXISTING CURB.

BASELINE CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
CURVE CEDAR-4	8° 39'03.24"	5°12'31.35"	1100'	83.20'	166.09'	3.14'

GRINDING EXISTING ASPHALT PAVEMENT 0 INCH TO 2 INCH DEPTH
2009 S.Y. - STA. 113+00, RT. TO STA. 119+32, RT. & LT.

BASELINE CONTROL COORDINATES			
LOCATION	STATION	EASTING	NORTHING
℄ OF CONSTR.	PC 116+15.98	1,371,804.77	546,881.61
CEDAR AVENUE	PT 117+82.06	1,371,901.63	546,746.89
	POT 119+55.75	1,372,013.36	546,613.92

PIPE SCHEDULE			
FROM	TO	TYPE	LENGTH
I-8	I-9	18" RCP, CL. IV	127 L.F.
I-9	M-8	18" RCP, CL. IV	15 L.F.
M-8	M-9	18" RCP, CL. IV	116 L.F.
M-9	M-10	18" RCP, CL. IV	218 L.F.
*M-10	EX I-1	**24" RCP, CL. IV	60 L.F.
*EX I-1	EX I-2	#24" RCP, CL. IV	45 L.F.
EX I-2	EX S-1	#24" RCP, CL. IV	6 L.F.

*ANY CURB REMOVED DURING CONSTRUCTION OF STORM DRAIN PIPE SHALL BE REPLACED WITH STANDARD SHA COMBINATION CURB AND GUTTER AND BE INCIDENTAL TO THE COST OF THE STORM DRAIN CONSTRUCTION.

**EXISTING 12" STORMDRAIN TO BE REMOVED. COST SHALL BE INCIDENTAL TO PROPOSED 24" RCP.

#EXISTING 18" STORMDRAIN TO BE REMOVED. COST SHALL BE INCIDENTAL TO PROPOSED 24" RCP.

STD. TYPE 'A' COMBINATION CONCRETE CURB AND GUTTER (SHA STD. 620.02)
70 L.F. - U.S. RT. 1*

*REPLACE IN KIND UPON COMPLETION OF STORM DRAIN CONSTRUCTION

MOD. COMBINATION CURB AND GUTTER (STD. NO. R-3.01)			
FROM	TO	LENGTH (L.F.)	REMARKS
STA. 113+00, RT.	STA. 116+27, RT.	316	NOSE DOWN AT STA. 116+27, RT.

NOTES:

1. LENGTH SHOWN DOES NOT INCLUDE CURB HEADER ALONG LENGTH OF TYPE 'S' COMBINATION INLETS. CURB HEADER SHALL BE INCIDENTAL TO INLET COST PER EACH.

DRAINAGE STRUCTURE SCHEDULE					
NO.	STATION	OFFSET	TYPE	STD. NO.	DEPTH
I-8	114+55.9	12.0, RT.	TYPE 'S' COMB. INLET	D-4.32	7.71
I-9	115+87.0	12.0, RT.	TYPE 'S' COMB. INLET	D-4.32	7.14
M-8	115+87.2	6.9, LT.	48" STD. PRECAST MANHOLE	G-5.12	8.03
M-9	117+07.9	4.4, LT.	48" STD. PRECAST MANHOLE	G-5.12	7.27
M-10	119+31.3	1.7, RT.	MOD. SHALLOW MANHOLE	SEE DETAIL	6.15

NOTE: DEPTH TAKEN FROM TOP OF RIM OR TOP OF CURB TO LOWEST INVERT.

PAVING LEGEND

- HMA DRIVEWAY RECONSTRUCTION OR OVERLAY
- CARBIDE GRINDING AND RESURFACING
- CONCRETE DRIVEWAY OR SIDEWALK RECONSTRUCTION

UTILITY NOTE:

UTILITY SERVICE CONNECTIONS HAVE NOT BEEN SHOWN ON PLANS. CONTRACTOR SHALL DETERMINE SERVICE LOCATIONS AND RELOCATE AS NECESSARY TO AVOID IMPACTING PROPOSED STORM DRAIN. SEE HOWARD COUNTY STANDARDS FOR SERVICE CONNECTION DETAILS.

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15466, EXPIRATION DATE: JULY 15, 2017

PS-02

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

10/22/15
DIRECTOR OF PUBLIC WORKS

10/19/15
CHIEF, BUREAU OF ENGINEERING

Steve Sharar 10/19/15
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

10/22/2015
CHIEF, BUREAU OF HIGHWAYS

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72 Loveton Circle Baltimore, Maryland 21152-0949

STATE OF MARYLAND — PAUL FRANKLIN CLEMENT — REGISTERED PROFESSIONAL ENGINEER
10/12/15

DES: BJM
DRN: JMB
CHK: SAM
DATE: JUL 2015

BY | NO. | DATE

CAPITAL PROJECT NO.
D-1155

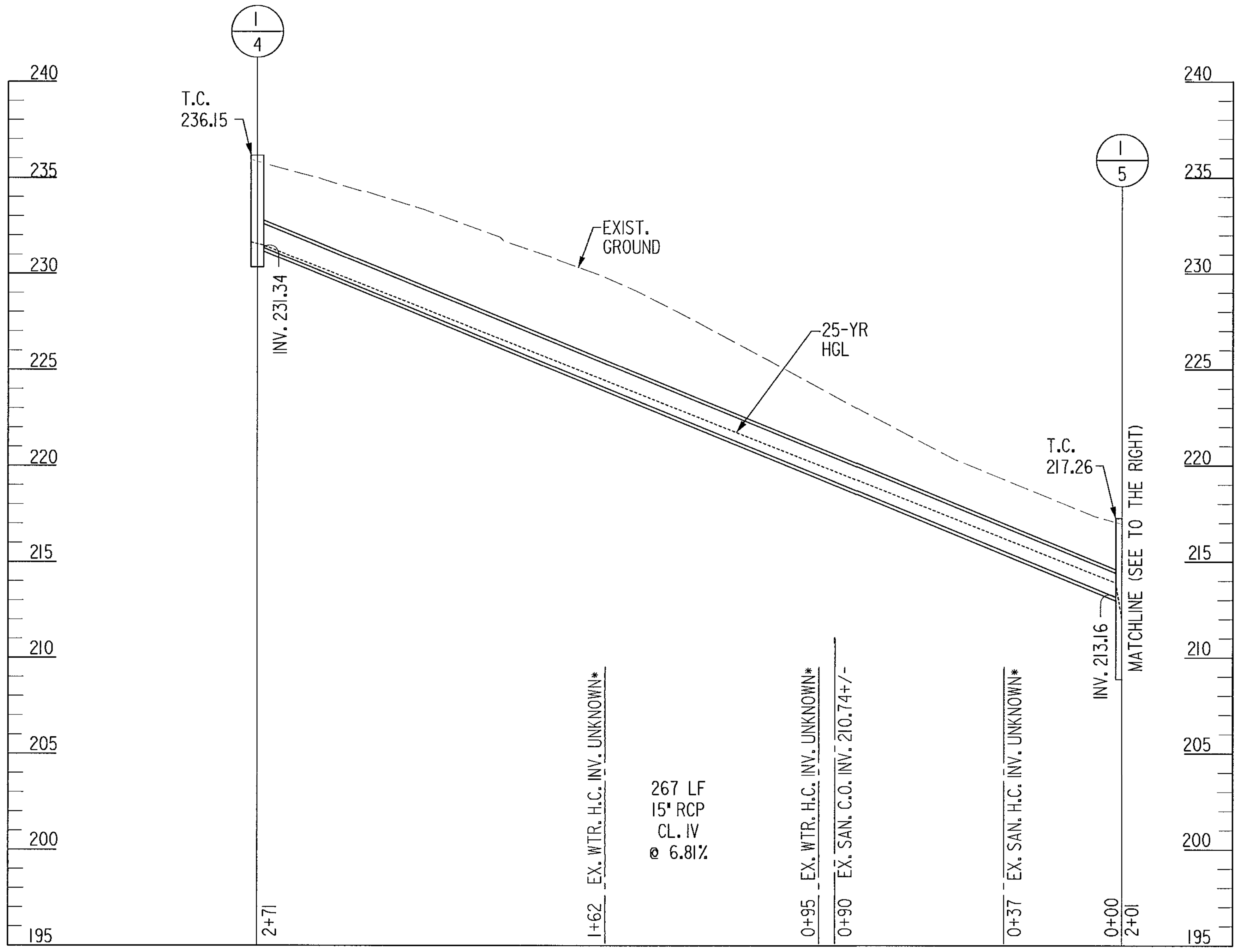
MAP NO. | BLOCK NO.

PLAN SHEET
DRAINAGE IMPROVEMENTS ALONG CEDAR AVENUE AND LINCOLN DRIVE AT CEDAR VILLA PARK PHASE I- SOUTH

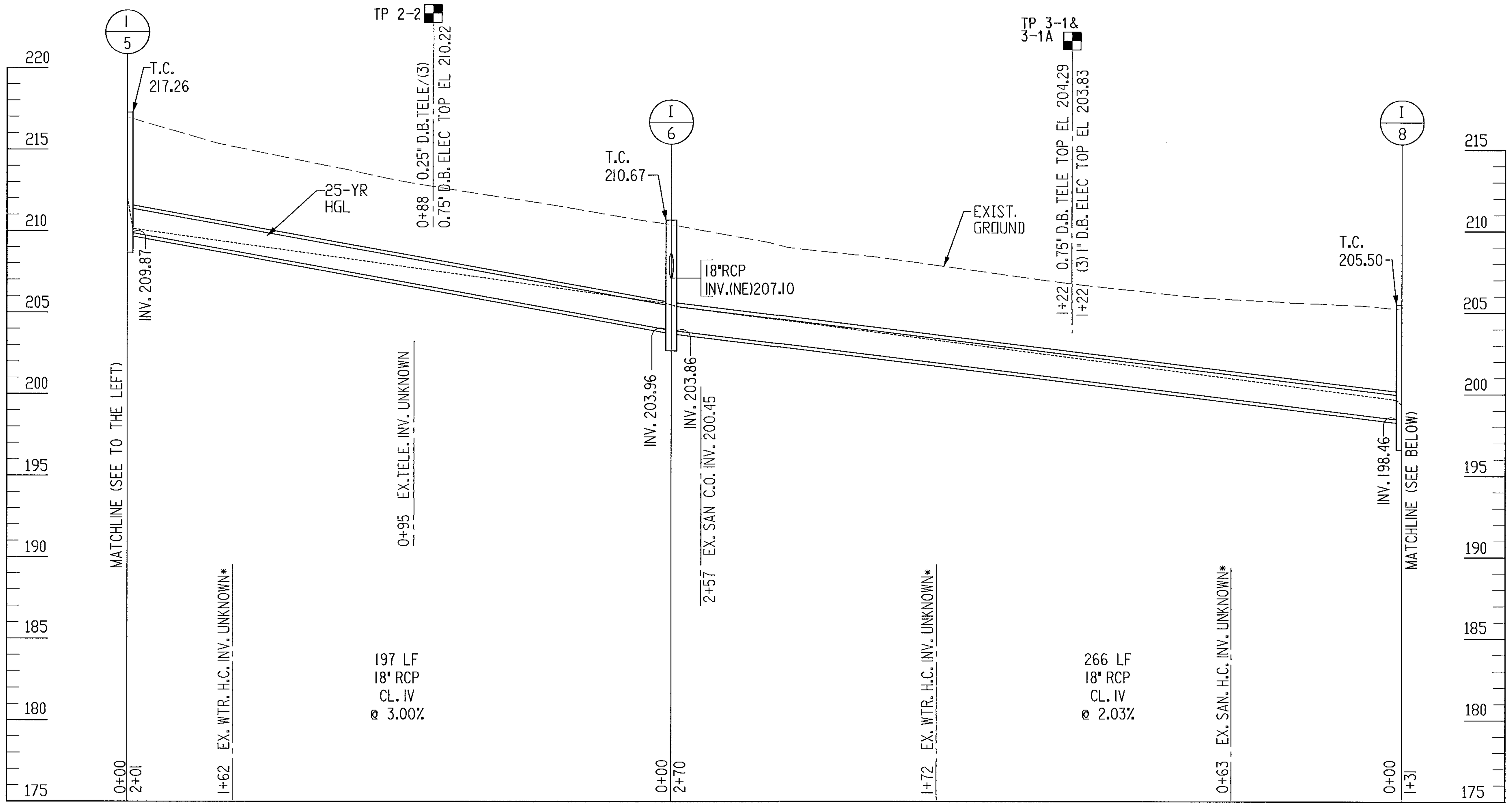
ELECTION DISTRICT 2
HOWARD COUNTY, MARYLAND

SCALE 1" = 30'

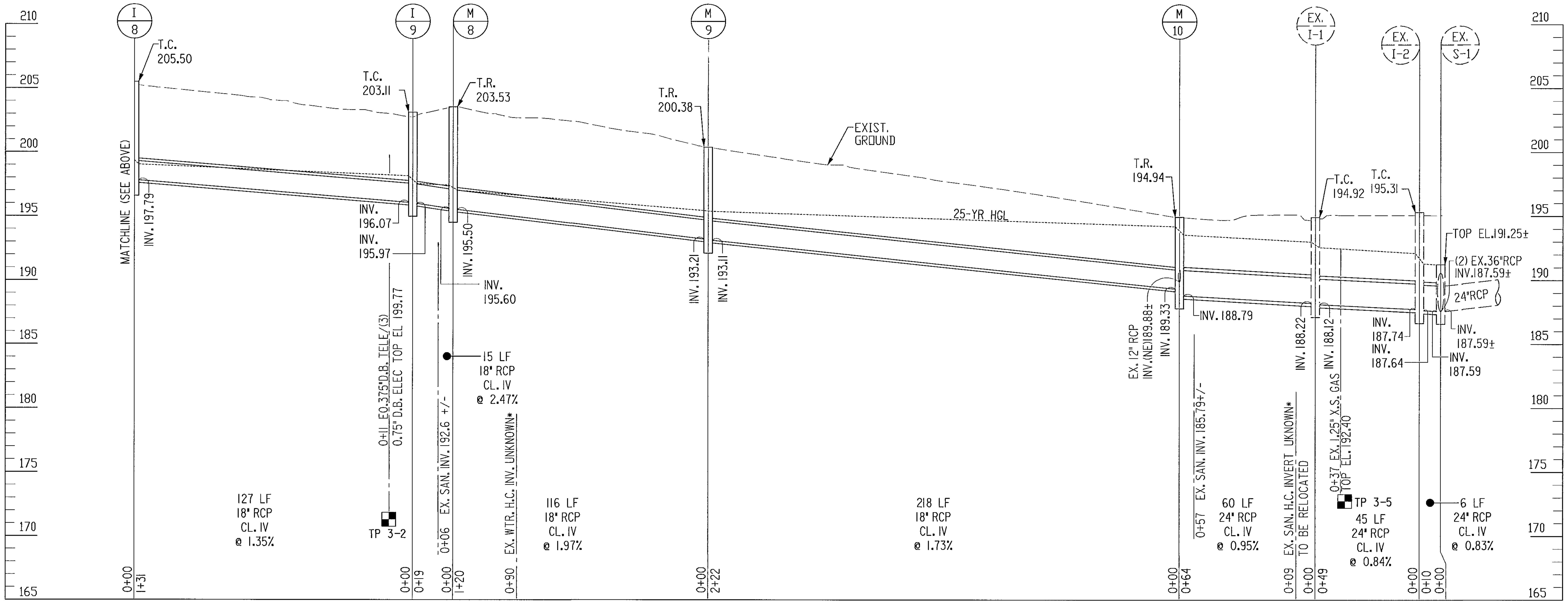
SHEET 5 OF 16



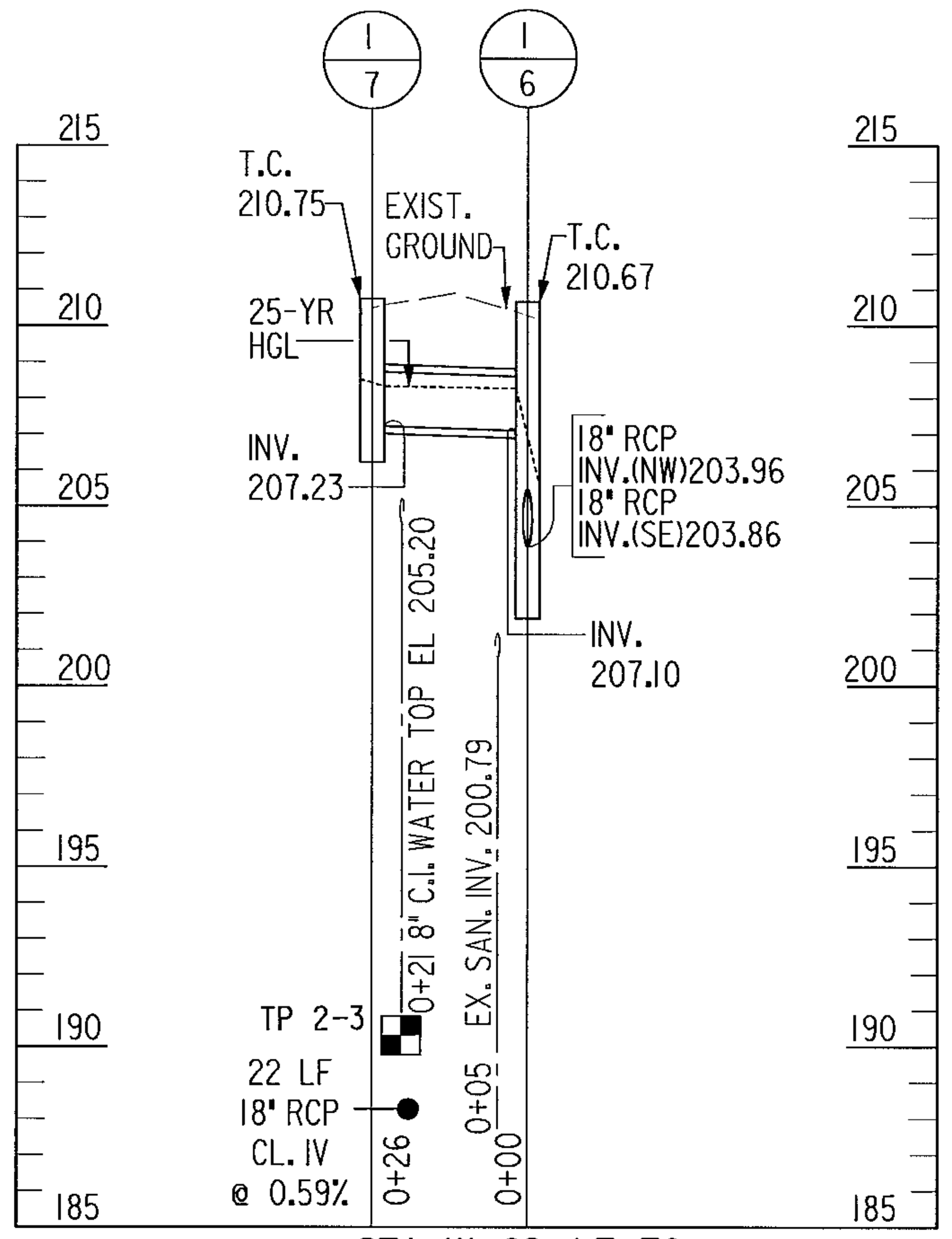
STA. 107+13, RT. TO STA. 109+85, RT. (CEDAR)



STA. 109+85, RT. TO STA. 114+56, RT. (CEDAR)



STA. 114+56, RT. TO STA. 119+56, RT. (CEDAR)



STA. 111+82, LT. TO
STA. 111+90, RT. (CEDAR)

* INVERT INFORMATION NOT OBTAINED DURING DESIGN. CONTRACTOR TO VERIFY LOCATION OF SANITARY AND WATER HOUSE CONNNECTIONS AND ADJUST AS NECESSARY PRIOR TO FABRICATION OF STORM DRAIN STRUCTURES. HORIZONTAL LOCATION OF SERVICES BASED ON APPROXIMATE LOCATION OF SERVICE METERS.

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PP-01

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS 10/22/15
CHIEF, BUREAU OF ENGINEERING 10/18/15
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION 10/19/15
CHIEF, BUREAU OF HIGHWAYS 10/22/2015

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DES: BJM	BY	NO.		DATE
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CHK: SAM				
DATE: JUL 2015				

CAPITAL PROJECT NO.
D-1155

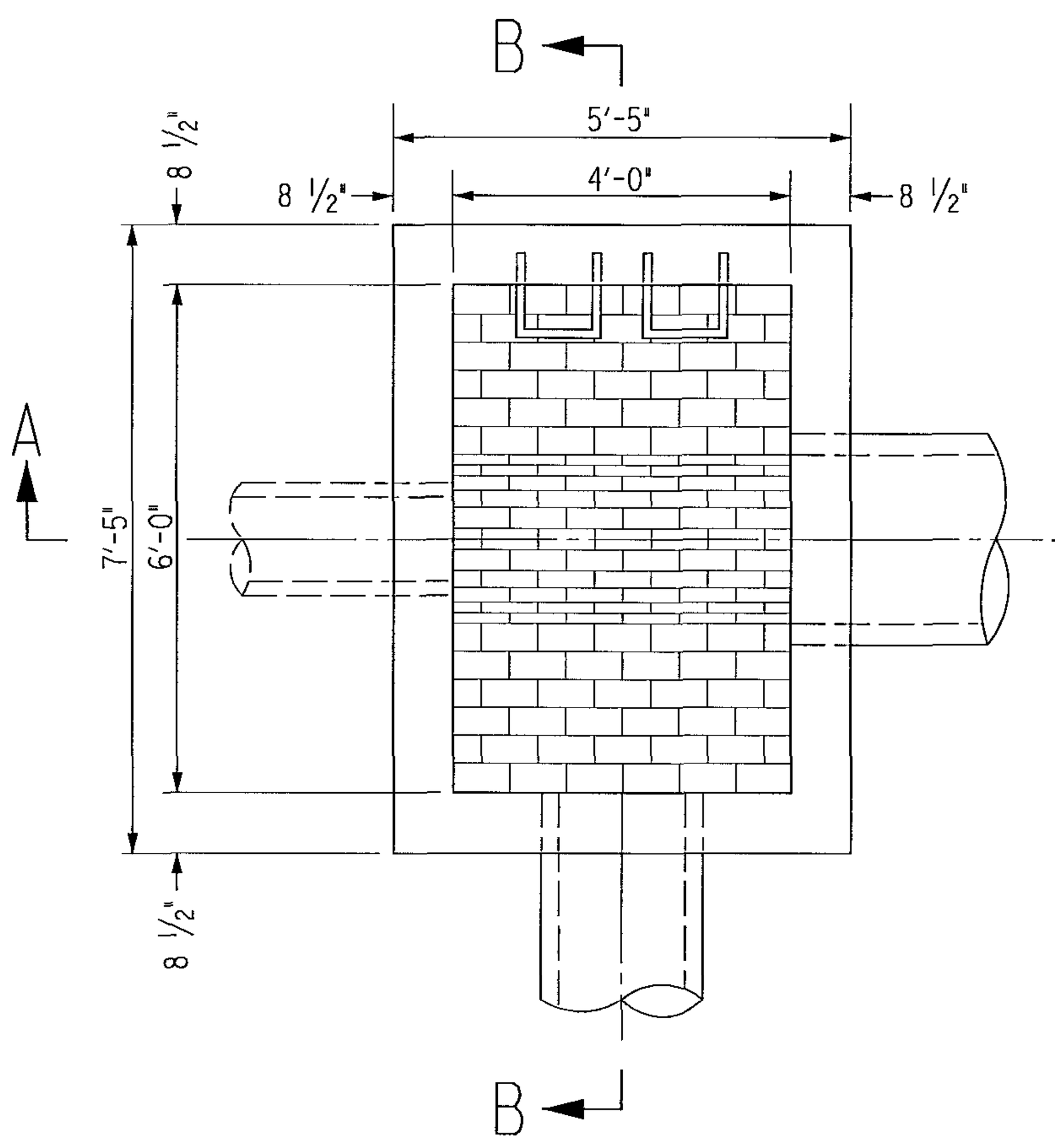
MAP NO. | BLOCK NO.

PIPE PROFILE
DRAINAGE IMPROVEMENTS ALONG
CEDAR AVENUE AND LINCOLN DRIVE
AT CEDAR VILLA PARK PHASE I- SOUTH

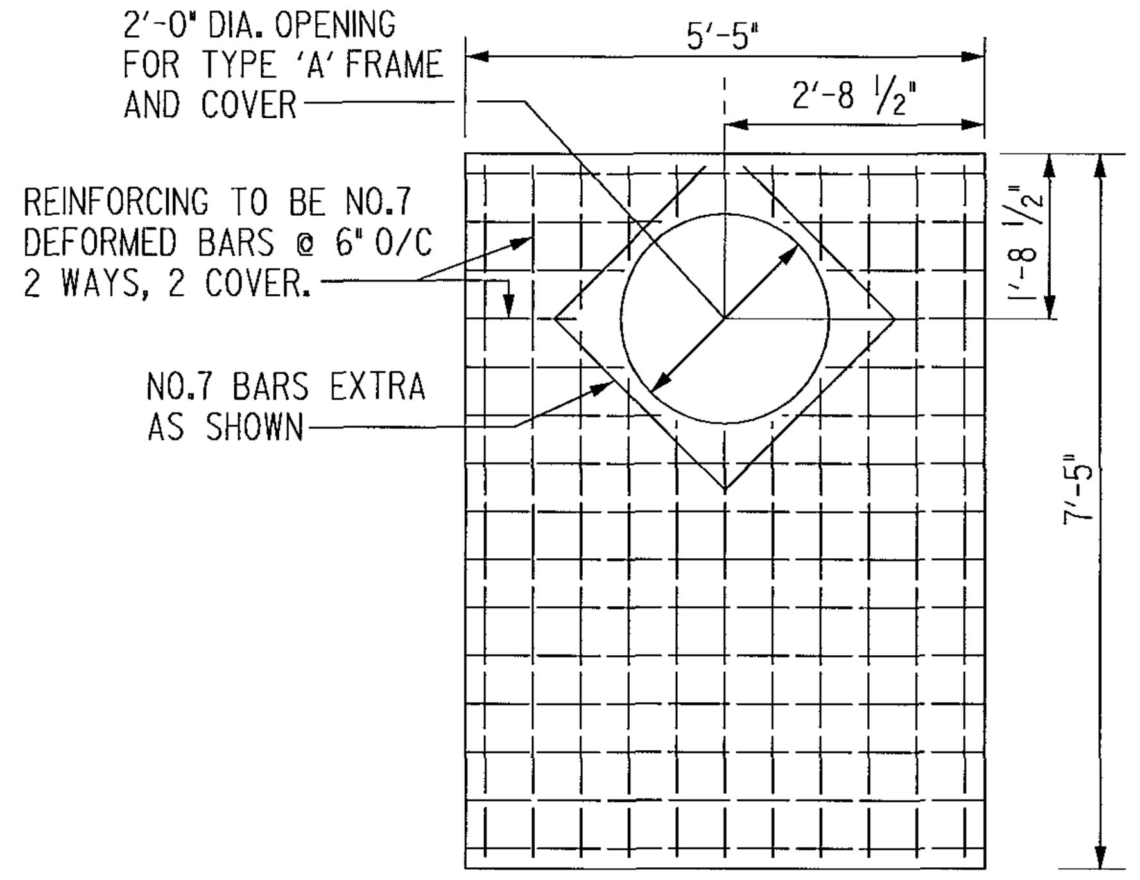
ELECTION DISTRICT 2 HOWARD COUNTY, MARYLAND

SCALE H: 1" =30' V: 1" =5'

SHEET 6 OF 16



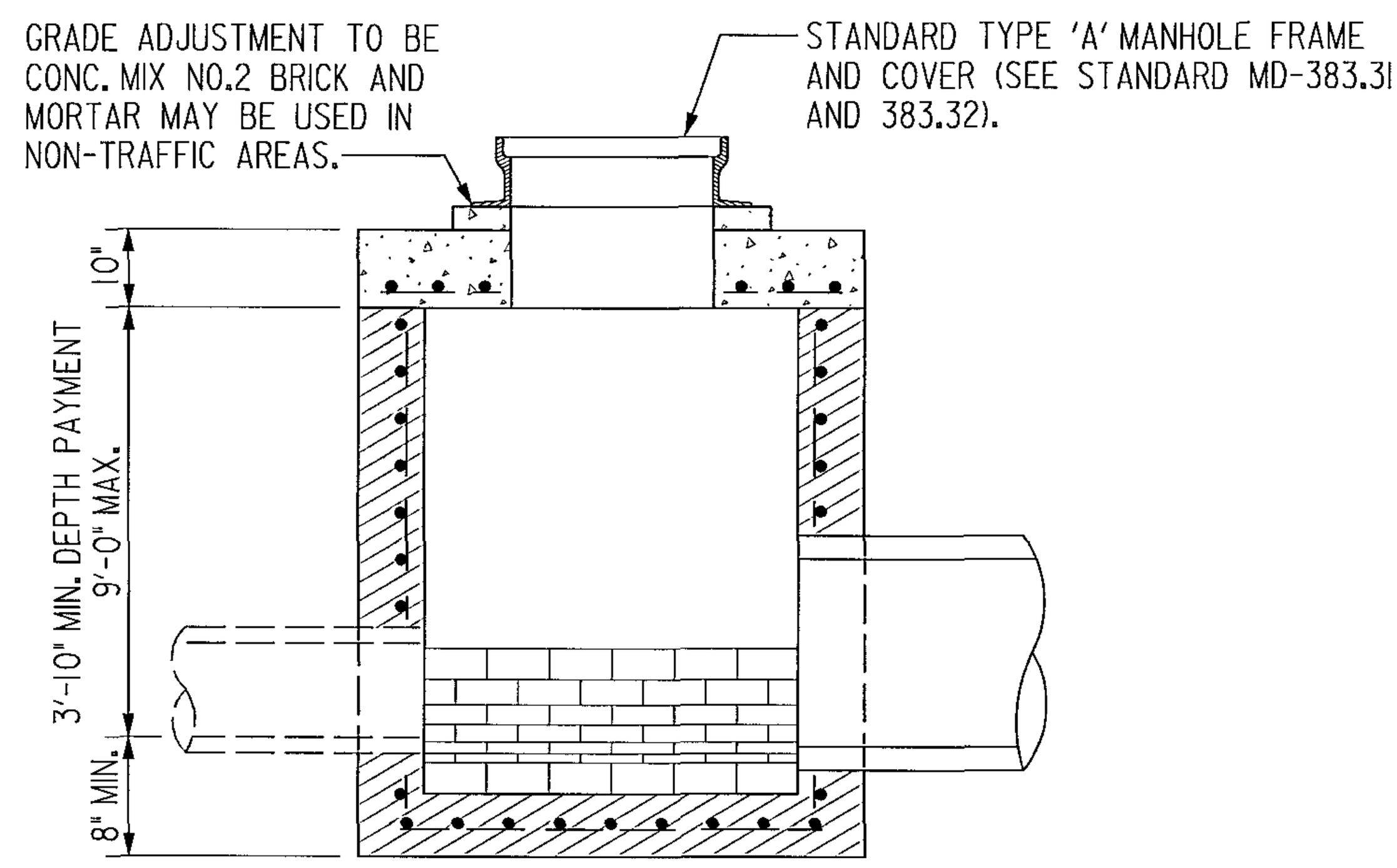
PLAN VIEW



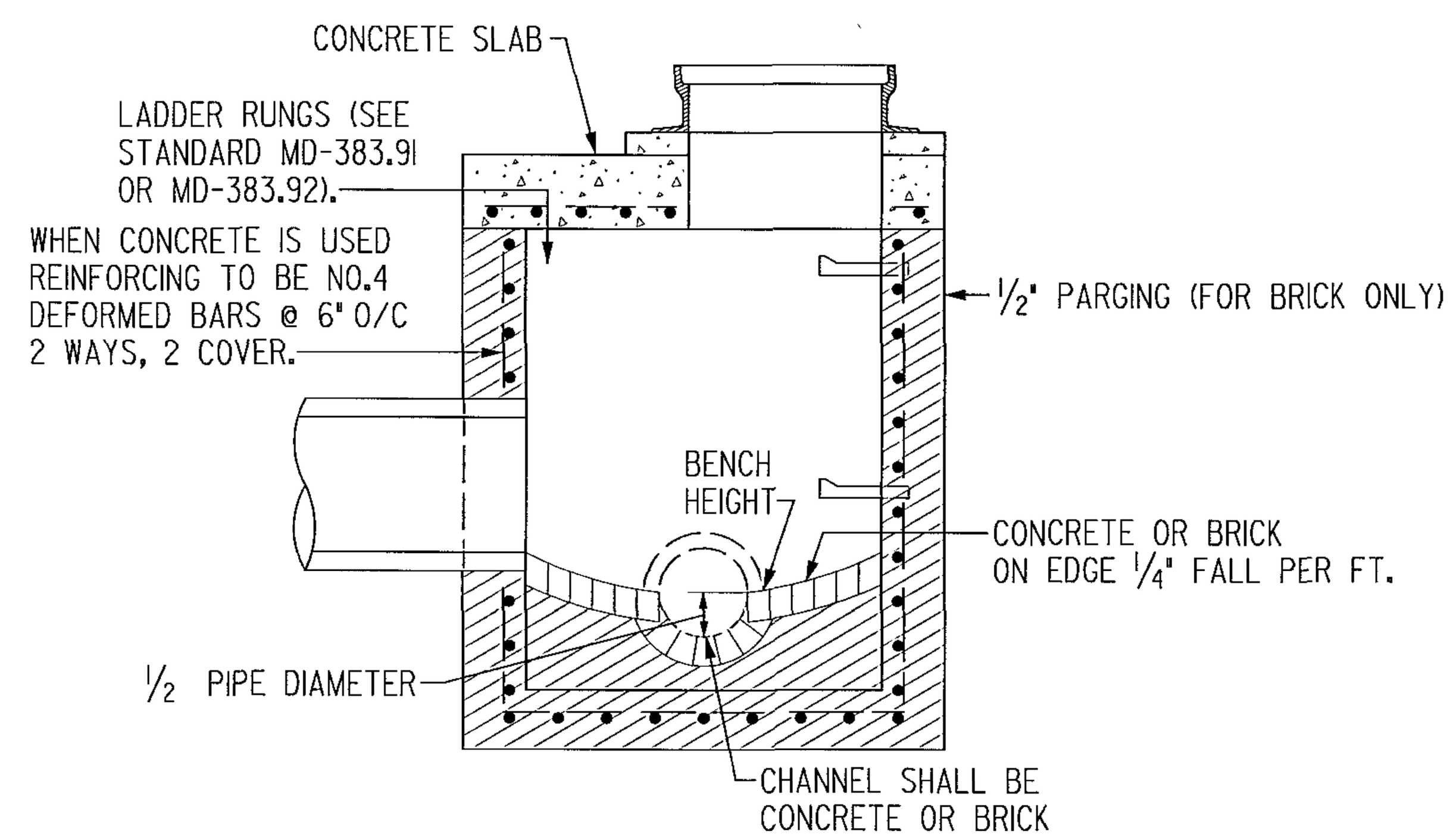
CONCRETE SLAB

NOTES:

1. MANHOLE SHALL BE CONSTRUCTED OF REINFORCED CONCRETE (SHA MIX NO.2).
2. BENCH HEIGHT ABOVE OUTGOING PIPE INVERT SHALL BE HALF THE DIAMETER OF THE PIPE.
3. CONTRACTOR SHALL SUBMIT P.E. CERTIFIED SHOP DRAWINGS WITH STRUCTURAL CALCULATIONS FOR PRECAST STRUCTURE TO COUNTY FOR REVIEW PRIOR TO FABRICATING MANHOLE.



SECTION A-A



SECTION B-B

MODIFIED SHALLOW MANHOLE (M-10)

SCALE: 1/2" = 1'

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PP-02

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

10/22/15
DIRECTOR OF PUBLIC WORKS

10/19/15
CHIEF, BUREAU OF ENGINEERING

Steve Sharar 10/19/15
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PIPE PROFILE
DRAINAGE IMPROVEMENTS ALONG
CEDAR AVENUE AND LINCOLN DRIVE
AT CEDAR VILLA PARK PHASE I- SOUTH

ELECTION DISTRICT 2 — HOWARD COUNTY, MARYLAND

SCALE
H: 1" =30'
V: 1" =5'

SHEET 7 OF 16

HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (410) 313-1855.

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.

3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 3 calender days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 7 days as to all other disturbed or graded areas on the project site.

4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.

5. 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.

6. Site Analysis:

Total Area of Site	0.99	Acres
Area Disturbed	0.63	Acres
Area to be roofed or paved	0.43	Acres
Area to be vegetatively stabilized	0.20	Acres
Total Cut	0	Cu. Yds.
Total Fill	16	Cu. Yds.
Off-site waste/borrow area locations:	UNKNOWN	

7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

8. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.

9. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

10. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each workday, whichever is shorter.

11. Any changes or revisions to the sequence of construction must be reviewed and approved by the plan approval authority prior to proceeding with construction.

12. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the enforcement authority. Unless otherwise specified and approved by the approval authority, no more than 30 acres cumulatively may be disturbed at a given time.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

Definition

To stabilize disturbed soils with vegetation for up to 6 months.

Purpose

To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

Temporary Seeding Summary

Hardiness Zone (from Figure B.3): 6B				Fertilizer Rate (10-20-20)	Lime Rate
Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
Annual Ryegrass	40	3-1 to 5-15 and 8-1 to 10-15	0.5 in.	436 lb/ac (10lb/1000 sf)	2 tons/ac (90 lb/1000 sf)
Foxtail Millet	30	5-16 to 7-31	0.5 in.		
Pearl Millet	20	5-16 to 7-31	0.5 in.		

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

Definition

To stabilize disturbed soils with permanent vegetation.

Purpose

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for 6 months or more.

Criteria

A. Seeding Mixtures

1. General Use

a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.

b. Additional planting specifications for exceptional sites such as shorelines, stream banks or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.

c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.

d. For areas receiving low maintenance, apply urea form Fertilizer (46-0-0) at 3 ½ pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.

Permanent Seeding Summary

Hardiness Zone (from Figure B.3): 6B Seed Mixture (from Table B.3):				FertilizerRate (10-20-20)			Lime Rate
Species	Application Rate)lb/ac)	Seeding Dates	Seeding Depths	N	P_2O_5	K_2O	
Switch Grass	10	3-1 to 5-15 and 5-16 to 6-15	0.5 in.	45 lb/ac (1.0lb/ 1000 sf)	90 lb/ac (2.0lb/ 1000 sf)	90 lb/ac (2.0lb/ 1000 sf)	2 tons /ac (90 lb/ 1000 sf)
Creeping Red Fescue	15	3-1 to 5-15 and 5-16 to 6-15	0.5 in.				
Wild Indigo	2	3-1 to 5-15 and 5-16 to 6-15	0.5 in.				

2. Turfgrass Mixtures

a. Areas where turfgrass may be desired include lawns, parks, playgrounds and commercial sites which will receive a medium to high level of maintenance.

b. Select one or more of the species or mixtures listed below based on the site conditions ot purpose. Enter selected mixture(s), application rates and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.

i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total moisture by weight.

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.

iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1½ to 3 pounds per 1000 square feet.

Notes:
Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77 "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection, and assures a pure genetic line.

c. Ideal Times of Seeding for Turf Grass Mixtures

Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6B)

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.

e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons or on adverse sites.

SEQUENCE OF CONSTRUCTION

1. CONTRACTOR SHALL OBTAIN GRADING PERMIT FROM HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS PRIOR TO BEGINNING CONSTRUCTION (ESTIMATED TIME TO COMPLETE - 3 DAYS)
2. CONTRACTOR SHALL CONTACT HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES, AND PERMITS AT (410) 313-2455 TO SCHEDULE A PRE-CONSTRUCTION MEETING AT LEAST 72 HOURS BEFORE CONSTRUCTION IS TO BEGIN (ESTIMATED TIME TO COMPLETE - 1 DAY)
3. TRACKING OF SEDIMENT ONTO ROADS IS NOT PERMITTED, IF SEDIMENT IS TRACKED ONTO ROADS, IT SHOULD BE CLEARED AND HAULED OFF SITE AT THE END OF EACH WORKING DAY.
4. DURING A THREE-DAY FORECASTED DRY WEATHER PERIOD, CONSTRUCT STORMDRAIN SYSTEM DOWNSTREAM TO UPSTREAM FROM EX S-1 TO M-10, AND CONNECT EX. 12" STORM DRAIN TO M-10. CONCURRENTLY WITH STORMDRAIN CONSTRUCTION, REMOVE EXISTING STORMDRAIN SYSTEM FROM EX. S-1 TO M-10. (ESTIMATED TIME TO COMPLETE - 10 DAYS)
5. CONSTRUCT STORM DRAIN SYSTEM ALONG CEDAR AVENUE FROM M-10 TO I-4. INSTALL INLET PROTECTION AS EACH INLET IS CONSTRUCTED. ALL DISTURBED AREA UNDER ROADS SHALL BE STABILIZED WITH GAB AND/OR PAVEMENT ON THE SAME DAY OF INITIAL DISTURBANCE. ANY SEDIMENT LADEN WATER SHALL BE DIRECTED TO A HOWARD COUNTY APPROVED SEDIMENT CONTROL DEVICE. (ESTIMATED TIME TO COMPLETE - 14 DAYS)
6. CONSTRUCT CONCRETE CURB AND GUTTER ALONG CEDAR AVENUE. STABILIZE BACKFILL AT THE END OF EACH WORKING DAY. (ESTIMATED TIME TO COMPLETE - 10 DAYS)
7. CONSTRUCT FULL DEPTH PAVEMENT SECTION IN AREAS AS SHOWN ON PS-1 THRU PS-2. (ESTIMATED TIME TO COMPLETE - 5 DAYS)
8. PERFORM DRIVEWAY/WALKWAY RECONSTRUCTION PER THE TYPICAL SECTIONS SHOWN ON TS-1 AND TS-2. (ESTIMATED TIME TO COMPLETE - 5 DAYS)
9. PERFORM CARBIDE GRIND AND OVERLAY ALONG CEDAR AVENUE. (ESTIMATED TIME TO COMPLETE - 5 DAYS)
10. ONCE ALL DISTURBED AREAS HAVE BEEN STABILIZED AND WITH APPROVAL OF THE INSPECTOR, REMOVE INLET PROTECTIONS AND STABILIZE ALL DISTURBED AREAS. (ESTIMATED TIME TO COMPLETE - 3 DAYS)

NOTE: ESTIMATED TIME TO COMPLETE IS FOR PLANNING PURPOSES ONLY. CONTRACTOR TO DEVELOP CPM SCHEDULE PER THE CONTRACT SPECIFICATIONS.

By the Engineer:

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Paul F. Clement — 10/12/15
Date
PAUL F. CLEMENT
Signature of Engineer
Print name below Signature

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS:
This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

10/22/15
Howard SCD — Date

STORM DRAIN CONSTRUCTION NOTES:

1. INSTALLATION OF THE STORM DRAIN SHALL BE LIMITED TO THAT WHICH CAN BE BACKFILLED AND STABILIZED EACH WORKING DAY.
2. SPOIL FROM THE TRENCHING OPERATION IS TO BE PLACED ON THE UPHILL SIDE OF CONSTRUCTION.
3. STOCKPILING WILL NOT BE ALLOWED ON-SITE WITHOUT PRIOR APPROVAL FROM THE INSPECTOR AND ENGINEER.

By the Developer:

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer — Date
Print name below Signature

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

10/22/15
DIRECTOR OF PUBLIC WORKS

Thomas E. Butler 10/19/15
CHIEF, BUREAU OF ENGINEERING

10/19/15
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

10/22/2015
CHIEF, BUREAU OF HIGHWAYS

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future®
72 Loveton Circle Baltimore, Maryland 21152-0949

STATE OF MARYLAND — PAUL FRANKLIN CLEMENT — REGISTERED PROFESSIONAL ENGINEER — 10/12/15

DES: BJM	BY	NO.		DATE
DRN: JMB				
CHK: SAM				
DATE: JUL 2015				

CAPITAL PROJECT NO.
D-1155
MAP NO. — BLOCK NO.

ED-01

SEDIMENT AND EROSION CONTROL DETAILS AND NOTES
DRAINAGE IMPROVEMENTS ALONG CEDAR AVENUE AND LINCOLN DRIVE AT CEDAR VILLA PARK PHASE I- SOUTH
ELECTION DISTRICT 2 — HOWARD COUNTY, MARYLAND

SCALE N.T.S.

FILE: Q:\SMD\092356.011_Lincoln_Drive_at_Ced\CADD\phase 1\ED-001_Cedar_phase1.dgn
DATE: 10/12/2015

B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Definition

Using vegetation as cover to protect exposed soil from erosion.

Purpose

To promote the establishment of vegetation on exposed soil.

Conditions Where Practice Applies

On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization; and permanent stabilization.

Effects on Water Quality and Quantity

Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.

Adequate Vegetative Establishment

Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the planting season.

1. Adequate vegetative stabilization requires 95 percent groundcover.

2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding.

3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.

4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition

The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose

To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies

Where vegetative stabilization is to be established.

Criteria

A. Soil Preparation

1. Temporary Stabilization

a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.

b. Apply fertilizer and lime as prescribed on the plans.

c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.

2. Permanent Stabilization

a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:

i. Soil pH between 6.0 and 7.0.

ii. Soluble salts less than 500 parts per million (ppm).

iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.

iv. Soil contains 1.5 percent minimum organic matter by weight.

v. Soil contains sufficient pore space to permit adequate root penetration.

b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.

c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.

d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.

e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

B. Topsoiling

1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is 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.

2. Topsoil salvaged from an existing site may be used provided 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-NRCS.

3. Topsoiling 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.

4. Areas having slopes steeper than 2:1 require special consideration and design.

5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:

a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ inches in diameter. 5% 4 inches in diameter.

b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.

c. 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.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

Definition

The application of seed and mulch to establish vegetative cover.

Purpose

To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria

A. Seeding

1. Specifications

a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.

b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.

c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding.

Note: it is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.

d. Sod or seed must not 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 phyto-toxic materials.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT
AND MEETS TECHNICAL REQUIREMENTS:

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

John L Robertson — 10/22/15

Howard SCD — Date

*PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15466, EXPIRATION DATE: JULY 15, 2017

ED-02

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — 10/22/15

CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION — Steve Sharar 10/9/15

CHIEF, BUREAU OF ENGINEERING — Thomas E. Butler 10/19/15

CHIEF, BUREAU OF HIGHWAYS — 10/22/2015

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future®
72 Loveton Circle Baltimore, Maryland 21152-0949

STATE OF MARYLAND — PAUL FRANKLIN TORIENT — No. 15466 — REGISTERED PROFESSIONAL ENGINEER — 10/22/15

DES: BJM	BY	NO.		DATE	CAPITAL PROJECT NO. D-1155	SEDIMENT AND EROSION CONTROL DETAILS AND NOTES DRAINAGE IMPROVEMENTS ALONG CEDAR AVENUE AND LINCOLN DRIVE AT CEDAR VILLA PARK PHASE I- SOUTH
DRN: JMB						
CHK: SAM						
DATE: JUL 2015					MAP NO.	BLOCK NO.

ELECTION DISTRICT 2 — HOWARD COUNTY, MARYLAND

SCALE N.T.S.

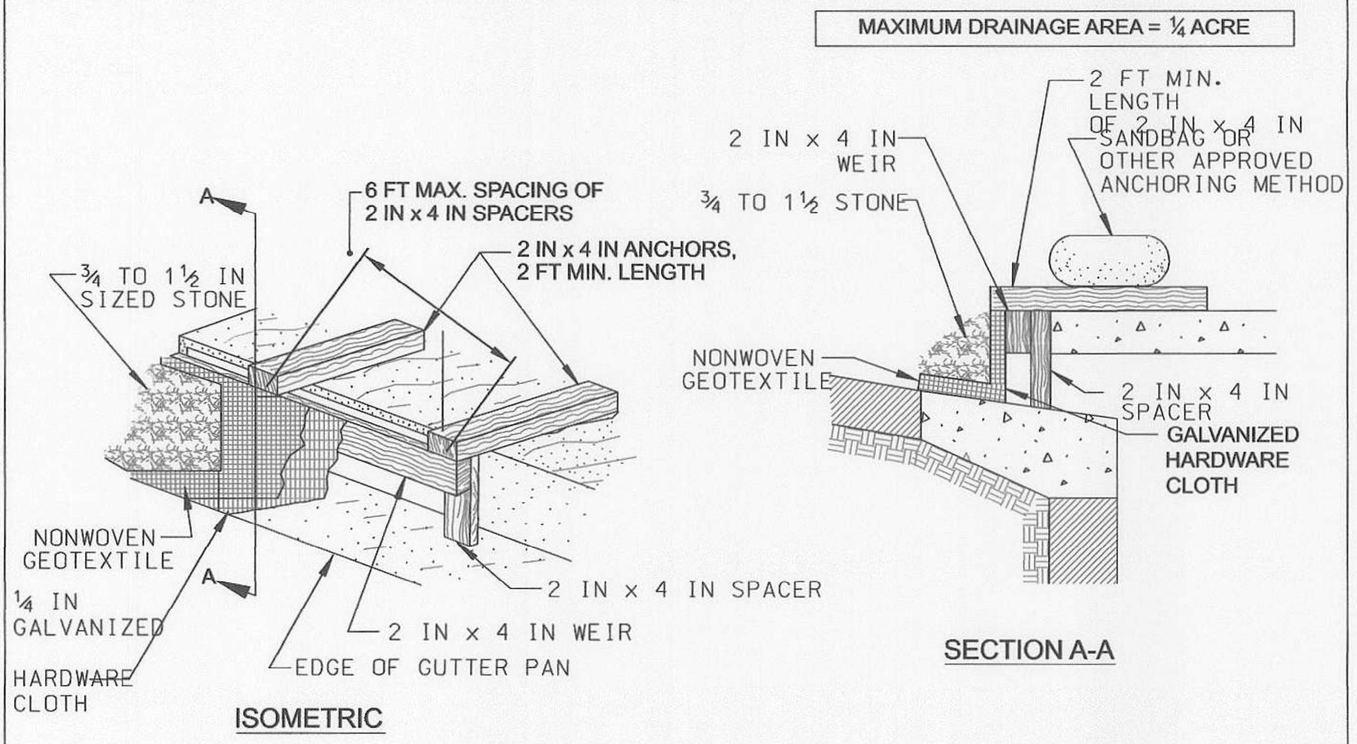
SHEET 9 OF 16

FILE: G:\SMD\05235.01\Lincoln Drive at Cedar\CAD\phase 1\05235-0002-Cedar_phase1.dgn
DATE: 10/12/2015

DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL: CIP

MAXIMUM DRAINAGE AREA = ¼ ACRE



CONSTRUCTION SPECIFICATIONS

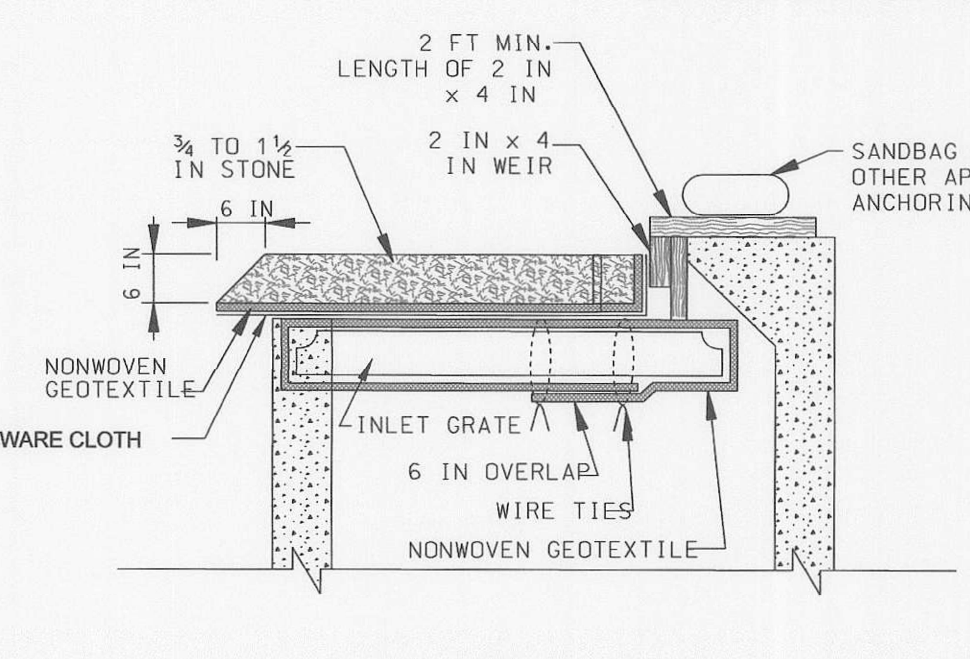
1. USE NOMINAL 2 INCH x 4 INCH LUMBER
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
7. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
9. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

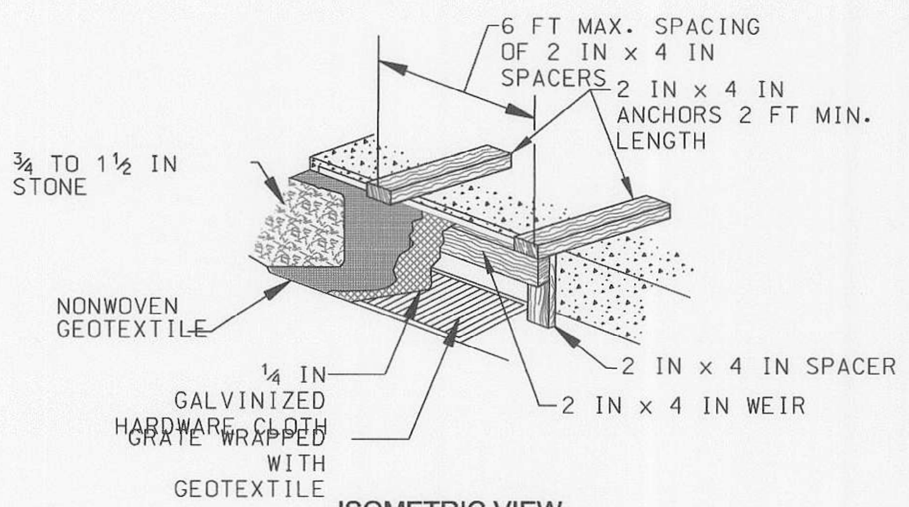
DETAIL E-9-6 COMBINATION INLET PROTECTION

STANDARD SYMBOL: COIP

MAXIMUM DRAINAGE AREA = ¼ ACRE



SECTION



ISOMETRIC VIEW

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-6 COMBINATION INLET PROTECTION

STANDARD SYMBOL: COIP

CONSTRUCTION SPECIFICATIONS

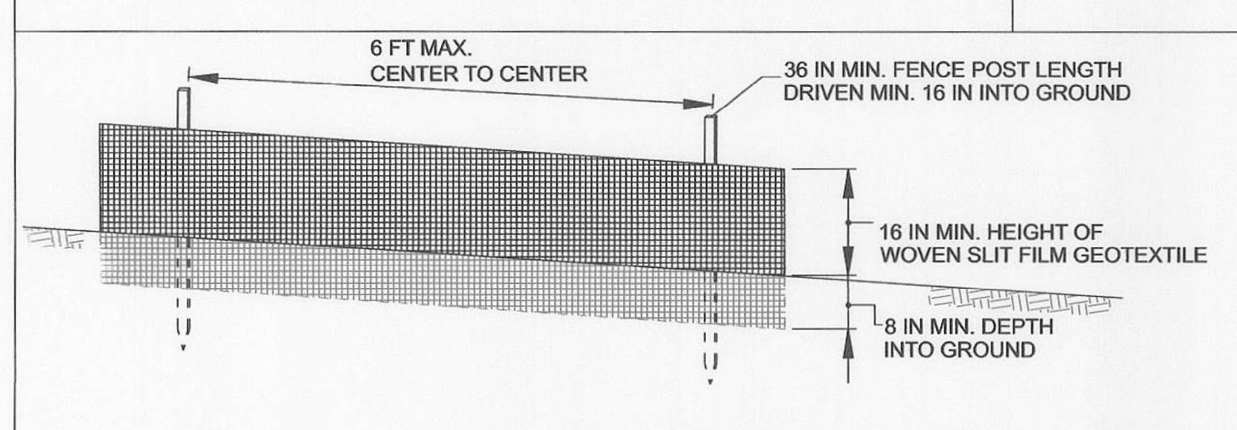
1. USE NOMINAL 2 INCH x 4 INCH LUMBER.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. LIFT GRATE, AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS, THEN SET GRATE BACK IN PLACE.
4. ATTACH A CONTINUOUS PIECE OF ½ INCH GALVANIZED HARDWARE CLOTH WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2X4 WEIR, EXTENDING 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH IT TO THE WEIR.
6. NAIL THE 2X4 WEIR TO THE TOP OF A 9 INCH LONG VERTICAL SPACER TO BE LOCATED BETWEEN THE WEIR AND THE INLET FACE (MAXIMUM 4 FEET APART).
7. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2X4 ANCHORS (MINIMUM 2 FOOT LENGTHS OF 2x4 INCH TO THE TOP OF THE WEIR AT SPACER LOCATIONS). EXTEND 2X4 ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
8. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND BOTH ENDS OF THE THROAT OPENING.
9. FORM THE ¼ INCH HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE OVER THE HARDWARE CLOTH AND GEOTEXTILE IN SUCH A MANNER TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE.
10. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
11. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

2 OF 2

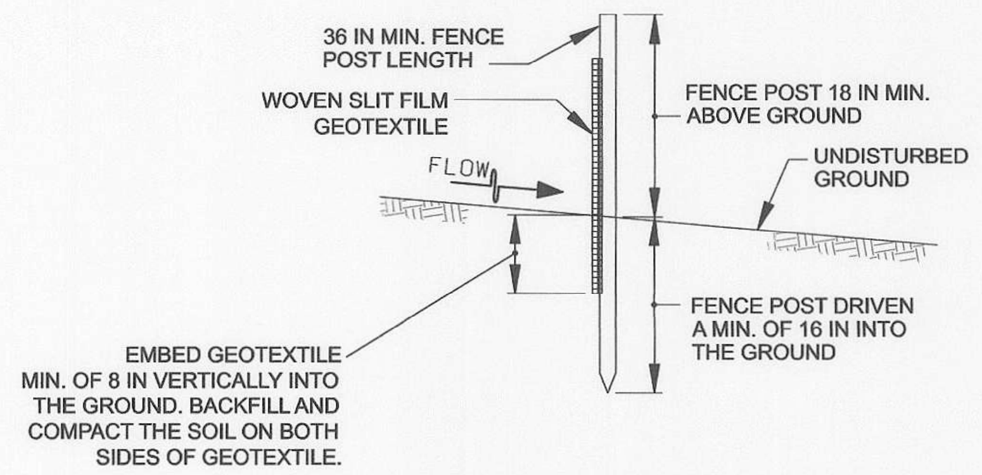
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

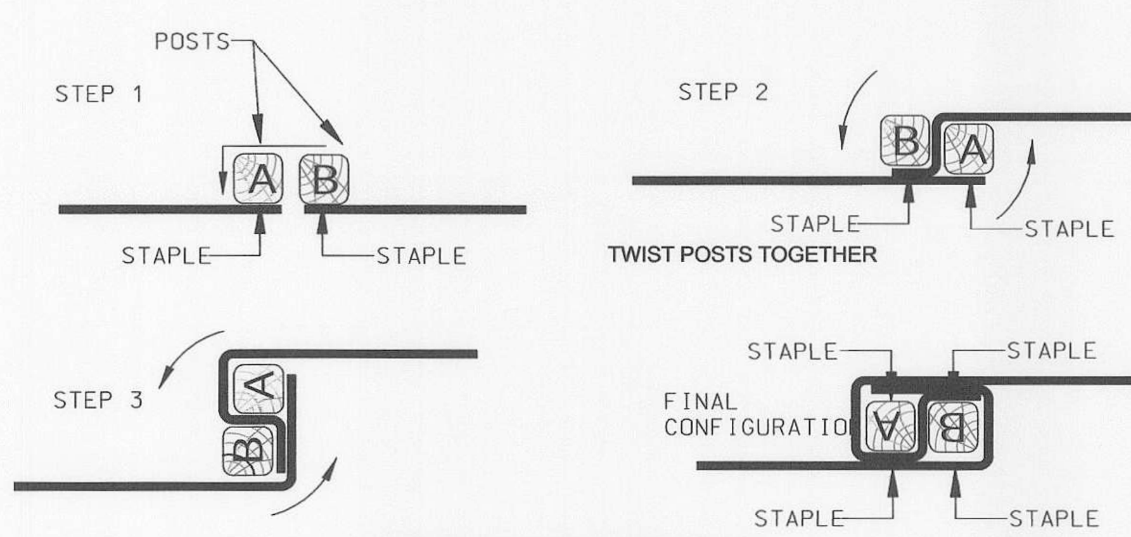
STANDARD SYMBOL: SF



ELEVATION



CROSS SECTION



JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± 1⁄16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUREMENTS:

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date: 10/22/15

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15466, EXPIRATION DATE: JULY 15, 2017

ED-03

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — 10/22/15
CHIEF, BUREAU OF ENGINEERING — 10/19/15
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION — 10/19/15
CHIEF, BUREAU OF HIGHWAYS — 10/22/2015

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future®
72 Loveton Circle Baltimore, Maryland 21152-0949

DES: BJM	BY	NO.		DATE
DRN: JMB				
CHK: SAM				
DATE: JUL 2015				

CAPITAL PROJECT NO. D-1155

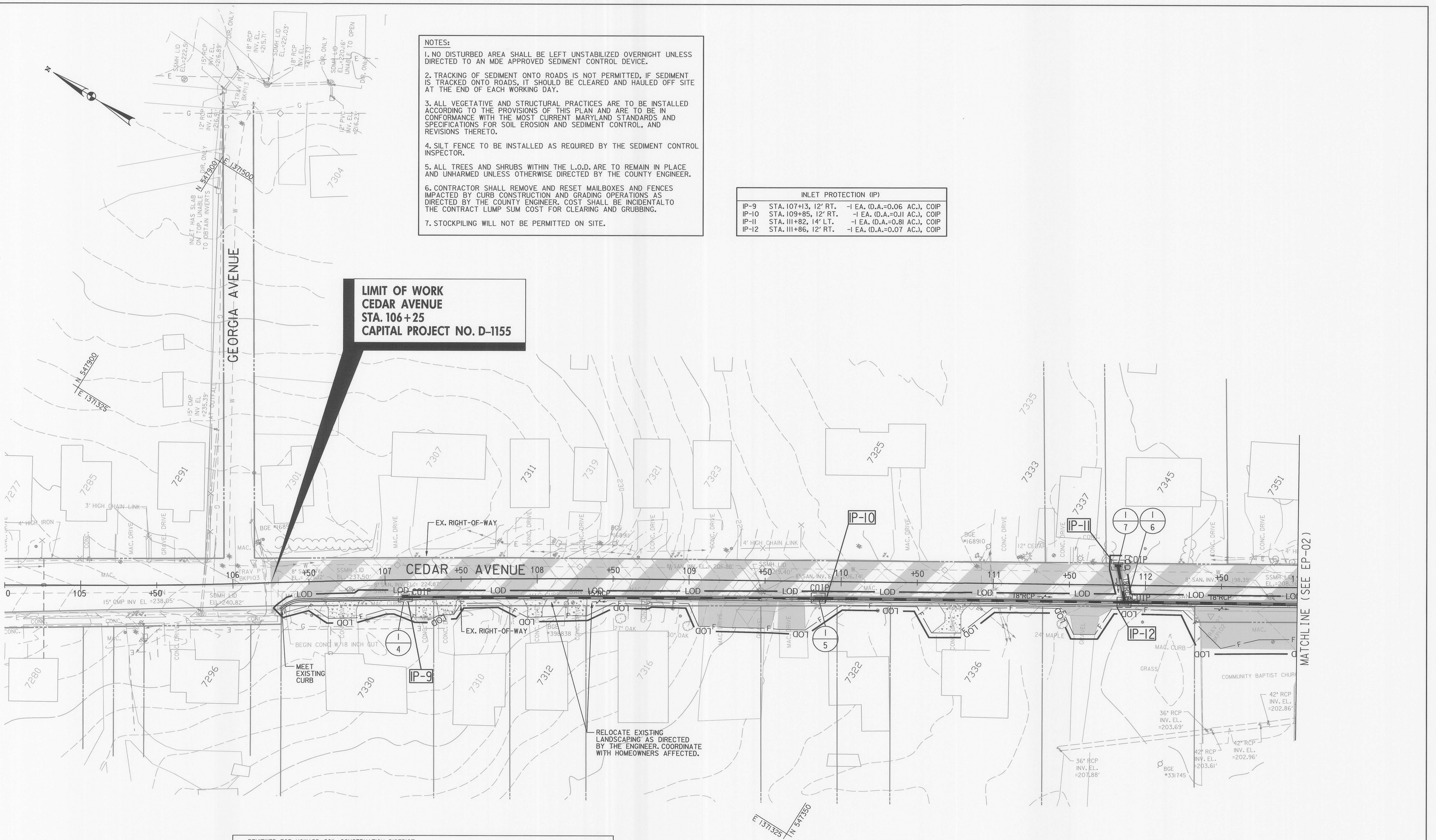
MAP NO. | BLOCK NO.

SEDIMENT AND EROSION CONTROL DETAILS AND NOTES
DRAINAGE IMPROVEMENTS ALONG
CEDAR AVENUE AND LINCOLN DRIVE
AT CEDAR VILLA PARK PHASE I- SOUTH

ELECTION DISTRICT 2 — HOWARD COUNTY, MARYLAND

SCALE: N.T.S.

SHEET 10 OF 16



NOTES:

1. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS DIRECTED TO AN MDE APPROVED SEDIMENT CONTROL DEVICE.

2. TRACKING OF SEDIMENT ONTO ROADS IS NOT PERMITTED, IF SEDIMENT IS TRACKED ONTO ROADS, IT SHOULD BE CLEARED AND HAULED OFF SITE AT THE END OF EACH WORKING DAY.

3. 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.

4. SILT FENCE TO BE INSTALLED AS REQUIRED BY THE SEDIMENT CONTROL INSPECTOR.

5. ALL TREES AND SHRUBS WITHIN THE L.O.D. ARE TO REMAIN IN PLACE AND UNHARMED UNLESS OTHERWISE DIRECTED BY THE COUNTY ENGINEER.

6. CONTRACTOR SHALL REMOVE AND RESET MAILBOXES AND FENCES IMPACTED BY CURB CONSTRUCTION AND GRADING OPERATIONS AS DIRECTED BY THE COUNTY ENGINEER. COST SHALL BE INCIDENTALTO THE CONTRACT LUMP SUM COST FOR CLEARING AND GRUBBING.

7. STOCKPILING WILL NOT BE PERMITTED ON SITE.

INLET PROTECTION (IP)		
IP-9	STA. 107+13, 12′ RT.	-1 EA. (D.A.=0.06 AC.), COIP
IP-10	STA. 109+85, 12′ RT.	-1 EA. (D.A.=0.11 AC.), COIP
IP-11	STA. 111+82, 14′ LT.	-1 EA. (D.A.=0.81 AC.), COIP
IP-12	STA. 111+86, 12′ RT.	-1 EA. (D.A.=0.07 AC.), COIP

PAVING LEGEND

- HMA DRIVEWAY RECONSTRUCTION OR OVERLAY
- CARBIDE GRINDING AND RESURFACING
- CONCRETE DRIVEWAY OR SIDEWALK RECONSTRUCTION

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS:
This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date 10/22/15

*PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15466, EXPIRATION DATE: JULY 15, 2017

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS 10/22/15
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION 10/19/15
CHIEF, BUREAU OF ENGINEERING 10/19/15
CHIEF, BUREAU OF HIGHWAYS 10/22/2015

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future®
72 Loveton Circle Baltimore, Maryland 21152-0949

STATE OF MARYLAND — PAUL FRANKLIN CLEMENT — REGISTERED PROFESSIONAL ENGINEER
10/12/15

DES: BJM
DRN: JMB
CHK: SAM
DATE: JUL 2015

BY	NO.		DATE

CAPITAL PROJECT NO.
D-1155

MAP NO. BLOCK NO.

EROSION AND SEDIMENT CONTROL PLAN
DRAINAGE IMPROVEMENTS ALONG
CEDAR AVENUE AND LINCOLN DRIVE
AT CEDAR VILLA PARK PHASE 1- SOUTH

ELECTION DISTRICT 2 — HOWARD COUNTY, MARYLAND

EP-01

SCALE 1" =30'

SHEET 11 OF 16

NOTES:

1. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS DIRECTED TO AN MDE APPROVED SEDIMENT CONTROL DEVICE.

2. TRACKING OF SEDIMENT ONTO ROADS IS NOT PERMITTED, IF SEDIMENT IS TRACKED ONTO ROADS, IT SHOULD BE CLEARED AND HAULED OFF SITE AT THE END OF EACH WORKING DAY.

3. 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.

4. SILT FENCE TO BE INSTALLED AS REQUIRED BY THE SEDIMENT CONTROL INSPECTOR.

5. ALL TREES AND SHRUBS WITHIN THE L.O.D. ARE TO REMAIN IN PLACE AND UNHARMED UNLESS OTHERWISE DIRECTED BY THE COUNTY ENGINEER.

6. CONTRACTOR SHALL REMOVE AND RESET MAILBOXES AND FENCES IMPACTED BY CURB CONSTRUCTION AND GRADING OPERATIONS AS DIRECTED BY THE COUNTY ENGINEER. COST SHALL BE INCIDENTALTO THE CONTRACT LUMP SUM COST FOR CLEARING AND GRUBBING.

7. STOCKPILING WILL NOT BE PERMITTED ON SITE.

INLET PROTECTION (IP)		
IP-13	STA. 114+56, 12' RT.	-1 EA. (D.A.=0.60 AC.), COIP
IP-14	STA. 115+87, 12' RT.	-1 EA. (D.A.=0.05 AC.), COIP

PAVING LEGEND

- HMA DRIVEWAY RECONSTRUCTION OR OVERLAY
- CARBIDE GRINDING AND RESURFACING
- CONCRETE DRIVEWAY OR SIDEWALK RECONSTRUCTION

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUREMENTS:
This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

John R Robertson — Howard SCD — 10/22/15 Date

*PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15466, EXPIRATION DATE: JULY 15, 2017

EP-02

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

10/22/15 — DIRECTOR OF PUBLIC WORKS
Steve Sharar 10/19/15 — CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
Thomas G. Butler 10/19/15 — CHIEF, BUREAU OF ENGINEERING
10/22/2015 — CHIEF, BUREAU OF HIGHWAYS

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future®
72 Loveton Circle Baltimore, Maryland 21152-0949

STATE OF MARYLAND — PAUL FRANKLIN CLEMENT — PROFESSIONAL ENGINEER — Paul F. Clement 10/12/15

DES: BJM
DRN: JMB
CHK: SAM
DATE: JUL 2015

BY	NO.		DATE

CAPITAL PROJECT NO.
D-1155

MAP NO. | BLOCK NO.

EROSION AND SEDIMENT CONTROL PLAN DRAINAGE IMPROVEMENTS ALONG CEDAR AVENUE AND LINCOLN DRIVE AT CEDAR VILLA PARK PHASE I- SOUTH

ELECTION DISTRICT 2 — HOWARD COUNTY, MARYLAND

SCALE 1" =30'

SHEET 12 OF 16

FILE: Q:\SMD\092356_011_Lincoln_Drive_at_Ced\CADD\phase 1\ES-P02_Cedar_phase1.dgn
DATE: 10/12/2015

GENERAL NOTES

1. ALL TEMPORARY TRAFFIC SIGNS, BARRICADES AND OTHER TRAFFIC CONTROL DEVICES USED FOR MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE MARYLAND STATE HIGHWAY ADMINISTRATION BOOK OF STANDARDS AND SPECIFICATIONS.
2. ALL TEMPORARY TRAFFIC SIGNS SHALL BE INSTALLED IN ACCORDANCE TO MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 104.08
3. ANY CORRECTIONS, MODIFICATIONS, OR ADDITIONS TO THE PLAN SHALL BE APPROVED BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, TRAFFIC DIVISION.
4. MISS UTILITY SHALL BE NOTIFIED PRIOR TO PLACEMENT OF SIGNING, IF MOUNTING ON POSTS.
5. HOWARD COUNTY BUREAU OF ENGINEERING/TRANSPORTATION PROJECTS DIVISION (410-313-2014) SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY WORK.
6. THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS TRAFFIC DIVISION RESERVES THE RIGHT TO MODIFY OR ADJUST THE PLAN TO FIT SITE CONDITIONS AT ANY TIME.
7. ALL SIGNS SHALL CONFORM TO CURRENT MDSHA MATERIAL AND REFLECTIVITY REQUIREMENTS.
8. ACCESS SHALL BE MAINTAINED TO ALL DRIVEWAYS UNLESS PERMISSION FOR CLOSURE IS GRANTED BY THE PROPERTY OWNER/MANAGER. HOWEVER, ACCESSIBILITY FOR EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES.
9. ALL FLAGGERS SHALL BE CERTIFIED BY THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION.
10. ALL TRAFFIC CONTROL DEVICES ARE TO BE REMOVED FROM VIEW TO ONCOMING TRAFFIC WHEN NOT IN USE.
11. NO MATERIALS SHALL BE STORED WITHIN PUBLIC RIGHT-OF-WAY.
12. ANY TEMPORARY TRAFFIC SIGNING AND MARKINGS THAT MAY CONFLICT WITH NORMAL TRAFFIC FLOW SHALL BE REMOVED OR COVERED AT THE END OF EACH DAY DURING CONSTRUCTION ON THIS PROJECT.
13. ALL EXISTING TRAFFIC CONTROL DEVICES THAT MUST BE REMOVED SHALL BE REPLACED IN THEIR PROPER LOCATION PRIOR TO THE COMPLETION OF THE PROJECT. COST FOR THE REPLACEMENT AND/OR REPAIR OF DEVICES DAMAGED AS A RESULT OF THE PROJECT SHALL BE ASSESSED TO THE CONTRACTOR.
14. AT THE COMPLETION OF THE PERMITTED WORK ACTIVITY, CONDITIONS WITHIN THE PUBLIC SPACE SHALL BE FULLY RESTORED TO THOSE WHICH EXISTED PRIOR TO THE WORK ACTIVITY.
15. WHEN PAVEMENT MARKINGS HAVE BEEN OBLITERATED BY THE WORK ACTIVITY, THE CONTRACTOR SHALL INSTALL ANY CRITICAL INTERIM PAVEMENT MARKING PRIOR TO THE END OF THE WORK DAY.

OVERALL SEQUENCE OF CONSTRUCTION

CONSTRUCTION SHALL BE COMPLETED DURING OFF-PEAK HOURS (9 AM TO 3 PM) ONLY, UNLESS OTHERWISE NOTED. TRAFFIC LANES SHALL BE OPENED AND ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED DURING PEAK HOURS.

THE CONTRACTOR SHALL EXCAVATE AND/OR TRENCH AS MUCH AS CAN BE COMPLETED IN ONE WORK PERIOD. THE CONTRACTOR SHALL BACKFILL WITH SELECT FILL MATERIAL OR USE STEEL PLATES TO COVER ANY AND ALL OPEN TRENCHES AT THE END OF THE WORK PERIOD OR WHEN LANES ARE TO BE OPENED TO TRAFFIC. STEEL PLATES AHEAD SIGNS SHALL BE USED.

DURING PHASES 3 AND 4, THE WORK ZONE SHALL BE LIMITED TO 100 FEET TO ENSURE ACCESS TO/FROM ALL DRIVEWAYS IS SAFELY PERMITTED AND COORDINATED WITH THE ONE LANE TWO WAY FLAGGING OPERATION.

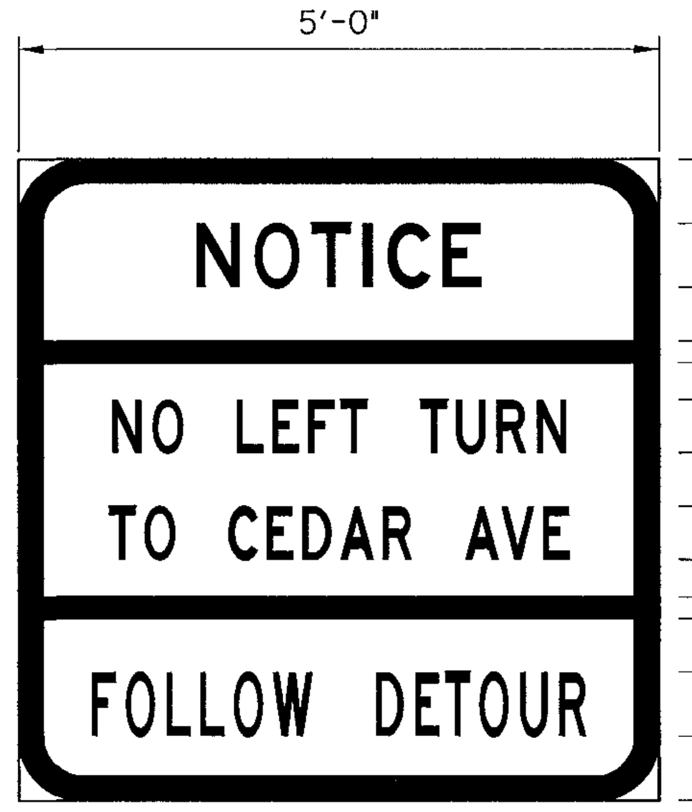
PHASE 1
PLACE TRAFFIC CONTROL DEVICES ALONG CEDAR AVENUE AND US 1 PER MD STD. NOS. 104.02-14, 104.03-11, AND THIS PLAN. INSTALL STORM DRAIN STRUCTURES AND PIPE AS SHOWN ON PLAN, AND PERFORM FULL DEPTH PAVEMENT RECONSTRUCTION.

PHASE 2
CONSTRUCTION SHALL BE COMPLETED DURING NIGHT TIME HOURS, THIS PHASE ONLY. PLACE TRAFFIC CONTROL DEVICES ALONG CEDAR AVENUE PER MD STD. NO. 104.02-04 TO SHIFT TRAFFIC AWAY FROM THE WORK ZONE. TWO-WAY, TWO-LANE TRAFFIC SHALL BE MAINTAINED. PLACE TRAFFIC CONTROL DEVICES ALONG US 1 PER MD STD. NO. 104.03-11. INSTALL TEMPORARY PEDESTRIAN DETOUR AS SHOWN ON SHEET 14. CONSTRUCT STORM DRAIN STRUCTURES AND PIPE AS SHOWN ON PLANS. PLATE THE WORK AT THE END OF EACH WORK PERIOD.

PHASE 3
PLACE TRAFFIC CONTROL DEVICES AND PROVIDE FLAGGERS ALONG CEDAR AVENUE UTILIZING MD STD. NOS. 104.02-10 AND 104.02-13. INSTALL STORM DRAIN STRUCTURES AND PIPE AS SHOWN ON PLAN, INSTALL CURB & GUTTER, AND PERFORM FULL DEPTH PAVEMENT AND DRIVEWAY RECONSTRUCTION AS SHOWN ON PLAN SHEETS PS-01 AND PS-02. CONTRACTOR TO STAGE WORK TO PROVIDE ACCESS TO ALL DRIVEWAYS AND SIDE STREETS. CONTRACTOR SHALL COORDINATE WITH HOWARD COUNTY TO NOTIFY ALL PROPERTY OWNERS OF ONE-LANE TWO-WAY FLAGGING OPERATIONS.

PHASE 4
PLACE TRAFFIC CONTROL DEVICES AND PROVIDE FLAGGERS ALONG CEDAR AVENUE UTILIZING MDSHA STD. 104.02-10. INSTALL STORM DRAIN STRUCTURES AND PIPE AS SHOWN ON PLAN, INSTALL CURB & GUTTER, REPAIR CONCRETE SIDEWALK, PERFORM LANDSCAPING WORK, AND PERFORM FULL DEPTH PAVEMENT AND DRIVEWAY RECONSTRUCTION AS SHOWN ON PLAN SHEETS PS-01 AND PS-02. CONTRACTOR TO STAGE WORK TO PROVIDE ACCESS TO ALL DRIVEWAYS AND SIDE STREETS. CONTRACTOR SHALL COORDINATE WITH HOWARD COUNTY TO NOTIFY ALL PROPERTY OWNERS OF ONE-LANE TWO-WAY FLAGGING OPERATIONS.

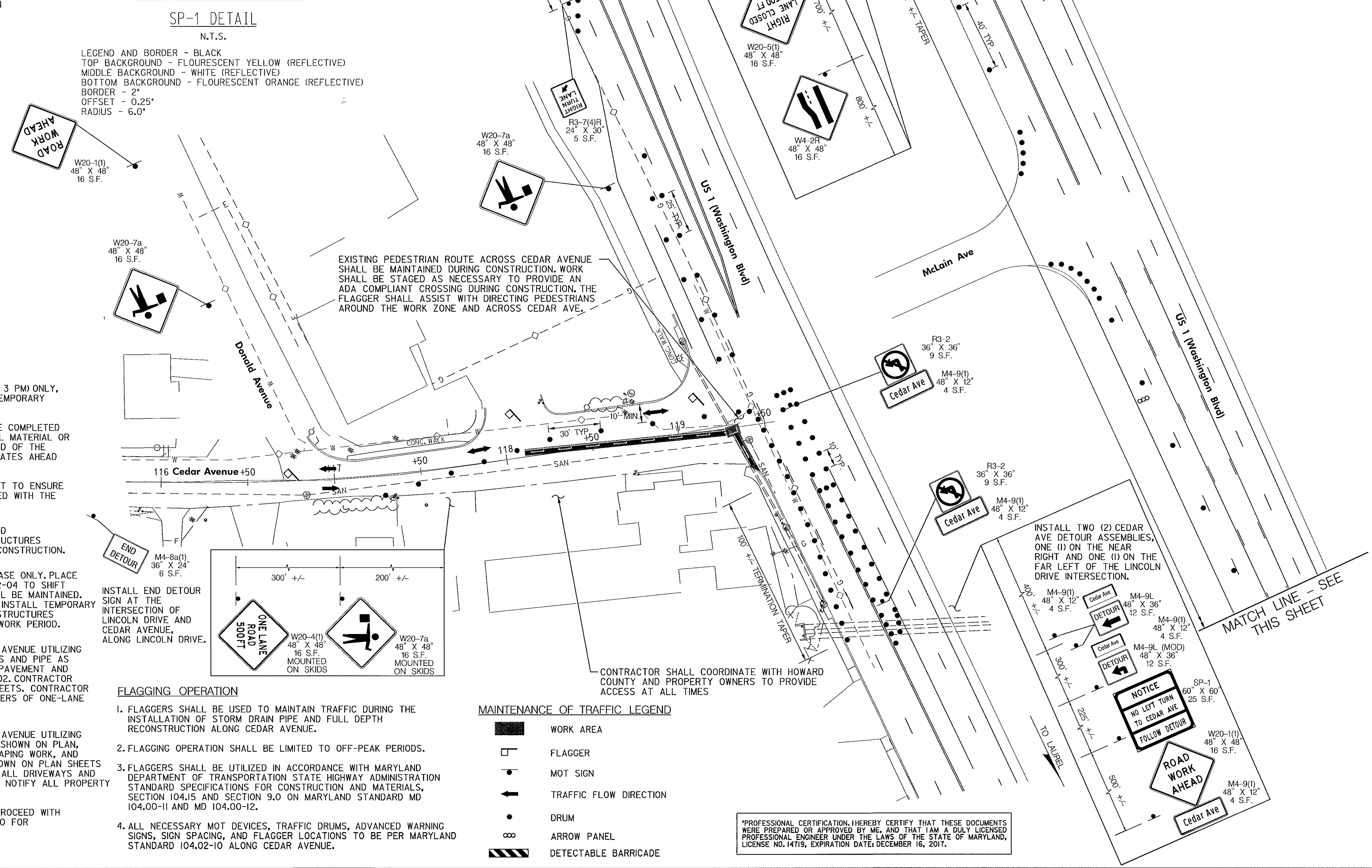
ONCE THE STORM DRAIN, CURB & GUTTER CONSTRUCTION IS COMPLETE, PROCEED WITH RESURFACING WITHIN THE PROJECT LIMITS UTILIZING MDSHA STD. 104.02-10 FOR FLAGGING OPERATION.



SP-1 DETAIL

N.T.S.

LEGEND AND BORDER - BLACK
TOP BACKGROUND - FLOURESCENT YELLOW (REFLECTIVE)
MIDDLE BACKGROUND - WHITE (REFLECTIVE)
BOTTOM BACKGROUND - FLOURESCENT ORANGE (REFLECTIVE)
BORDER - 2"
OFFSET - 0.25"
RADIUS - 6.0"



FLAGGING OPERATION

1. FLAGGERS SHALL BE USED TO MAINTAIN TRAFFIC DURING THE INSTALLATION OF STORM DRAIN PIPE AND FULL DEPTH RECONSTRUCTION ALONG CEDAR AVENUE.
2. FLAGGING OPERATION SHALL BE LIMITED TO OFF-PEAK PERIODS.
3. FLAGGERS SHALL BE UTILIZED IN ACCORDANCE WITH MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 104.15 AND SECTION 9.0 ON MARYLAND STANDARD MD 104.00-11 AND MD 104.00-12.
4. ALL NECESSARY MOT DEVICES, TRAFFIC DRUMS, ADVANCED WARNING SIGNS, SIGN SPACING, AND FLAGGER LOCATIONS TO BE PER MARYLAND STANDARD 104.02-10 ALONG CEDAR AVENUE.

MAINTENANCE OF TRAFFIC LEGEND

- WORK AREA
- FLAGGER
- MOT SIGN
- TRAFFIC FLOW DIRECTION
- DRUM
- ARROW PANEL
- DETECTABLE BARRICADE

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14719, EXPIRATION DATE: DECEMBER 16, 2017."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

for DIRECTOR OF PUBLIC WORKS

Steve Sharar 5/26/16
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

Thomas E. Butler 5/26/16
CHIEF, BUREAU OF ENGINEERING

for CHIEF, BUREAU OF HIGHWAYS

JMT
JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future®
72 Loveton Circle Baltimore, Maryland 21152-0949

DES: DJD	BY	NO.	DATE
DRN: DJD			
CHK: AEZ			
DATE: APR. 2016			

CAPITAL PROJECT NO.
D-1155

MAP NO. | BLOCK NO.

MAINTENANCE OF TRAFFIC - PHASE I

DRAINAGE IMPROVEMENTS ALONG CEDAR AVENUE AND LINCOLN DRIVE AT CEDAR VILLA PARK PHASE I- SOUTH

ELECTION DISTRICT 2 — HOWARD COUNTY, MARYLAND

SCALE 1" = 30'

MAINTENANCE OF TRAFFIC LEGEND

▬	WORK AREA
⊏	FLAGGER
●̄	MOT SIGN
←	TRAFFIC FLOW DIRECTION
●	DRUM
∞	ARROW PANEL
▧	DETECTABLE BARRICADE

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14719, EXPIRATION DATE: DECEMBER 16, 2017."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

for DIRECTOR OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING 5/26/16
Steve Sharar 5/26/16
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
CHIEF, BUREAU OF HIGHWAYS

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72 Loveton Circle Baltimore, Maryland 21152-0949

DES: DJD
DRN: DJD
CHK: AEZ
DATE: APR. 2016

CAPITAL PROJECT NO.
D-1155
MAP NO. BLOCK NO.

MAINTENANCE OF TRAFFIC - PHASE 2
DRAINAGE IMPROVEMENTS ALONG CEDAR AVENUE AND LINCOLN DRIVE AT CEDAR VILLA PARK PHASE I- SOUTH
ELECTION DISTRICT 2 HOWARD COUNTY, MARYLAND

SCALE 1" = 30'
SHEET 14 OF 16

*PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14719, EXPIRATION DATE: DECEMBER 16, 2017.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

for DIRECTOR OF PUBLIC WORKS

Steve Sharar 5/26/16
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

Thomas E. Butler 5/26/16
CHIEF, BUREAU OF ENGINEERING

for CHIEF, BUREAU OF HIGHWAYS

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DES: DJD
DRN: DJD
CHK: AEZ
DATE: APR. 2016

BY	NO.		DATE

CAPITAL PROJECT NO.
D-1155

MAP NO. | BLOCK NO.

MAINTENANCE OF TRAFFIC - PHASE 3
DRAINAGE IMPROVEMENTS ALONG CEDAR AVENUE AND LINCOLN DRIVE AT CEDAR VILLA PARK PHASE I- SOUTH
ELECTION DISTRICT 2 HOWARD COUNTY, MARYLAND

SCALE 1" = 30'

SHEET 15 OF 16


MATCHLINE - SEE BELOW
MATCHLINE - SEE ABOVE
Cedar Avenue
Donald Avenue
Georgia Avenue
US 1 Washington Blvd
TO ELKRIDGE
TO LAUREL
COMMUNITY BAPTIST CHURCH
CONC. WALK
18"RCP
24"RCP
10' MIN.
GRASS
W20-1(1) 48" X 48" 16 S.F.
ROAD WORK AHEAD
M4-9(1) 48" X 12" 4 S.F.
Cedar Ave
W20-7a 48" X 48" 16 S.F.
W20-4(1) 48" X 48" 16 S.F. MOUNTED ON SKIDS
ONE LANE ROAD 500FT
W20-7a 48" X 48" 16 S.F. MOUNTED ON SKIDS
MAINTENANCE OF TRAFFIC LEGEND
WORK AREA
FLAGGER
MOT SIGN
TRAFFIC FLOW DIRECTION
DRUM
ARROW PANEL
DETECTABLE BARRICADE
NOTE: THE WORKZONE SHALL BE LIMITED TO 100 FEET IN ORDER TO SAFELY PROVIDE ACCESS TO ALL DRIVEWAYS.

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14719, EXPIRATION DATE: DECEMBER 16, 2017."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS

CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION 5/26/16

CHIEF, BUREAU OF ENGINEERING 5/26/16

CHIEF, BUREAU OF HIGHWAYS

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DES: DJD	BY	NO.		DATE
DRN: DJD				
CHK: AEZ				
DATE: APR. 2016				

CAPITAL PROJECT NO.
D-1155
MAP NO. BLOCK NO.

MAINTENANCE OF TRAFFIC - PHASE 4
DRAINAGE IMPROVEMENTS ALONG CEDAR AVENUE AND LINCOLN DRIVE AT CEDAR VILLA PARK PHASE I- SOUTH
ELECTION DISTRICT 2 HOWARD COUNTY, MARYLAND

SCALE 1" = 30'
SHEET 16 OF 16