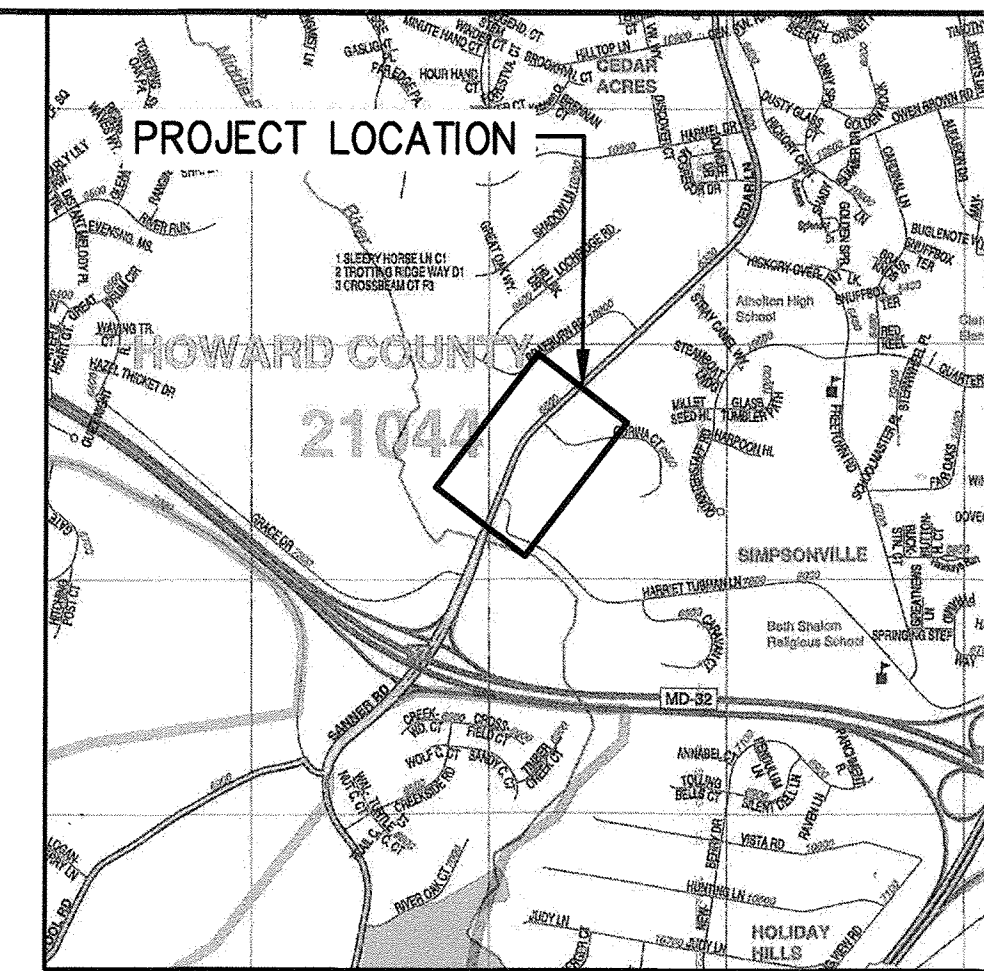


# CEDAR LANE SEWER EXTENSION

## HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

### CAPITAL PROJECT NO. S-6698 CONTRACT NO. 10-5070



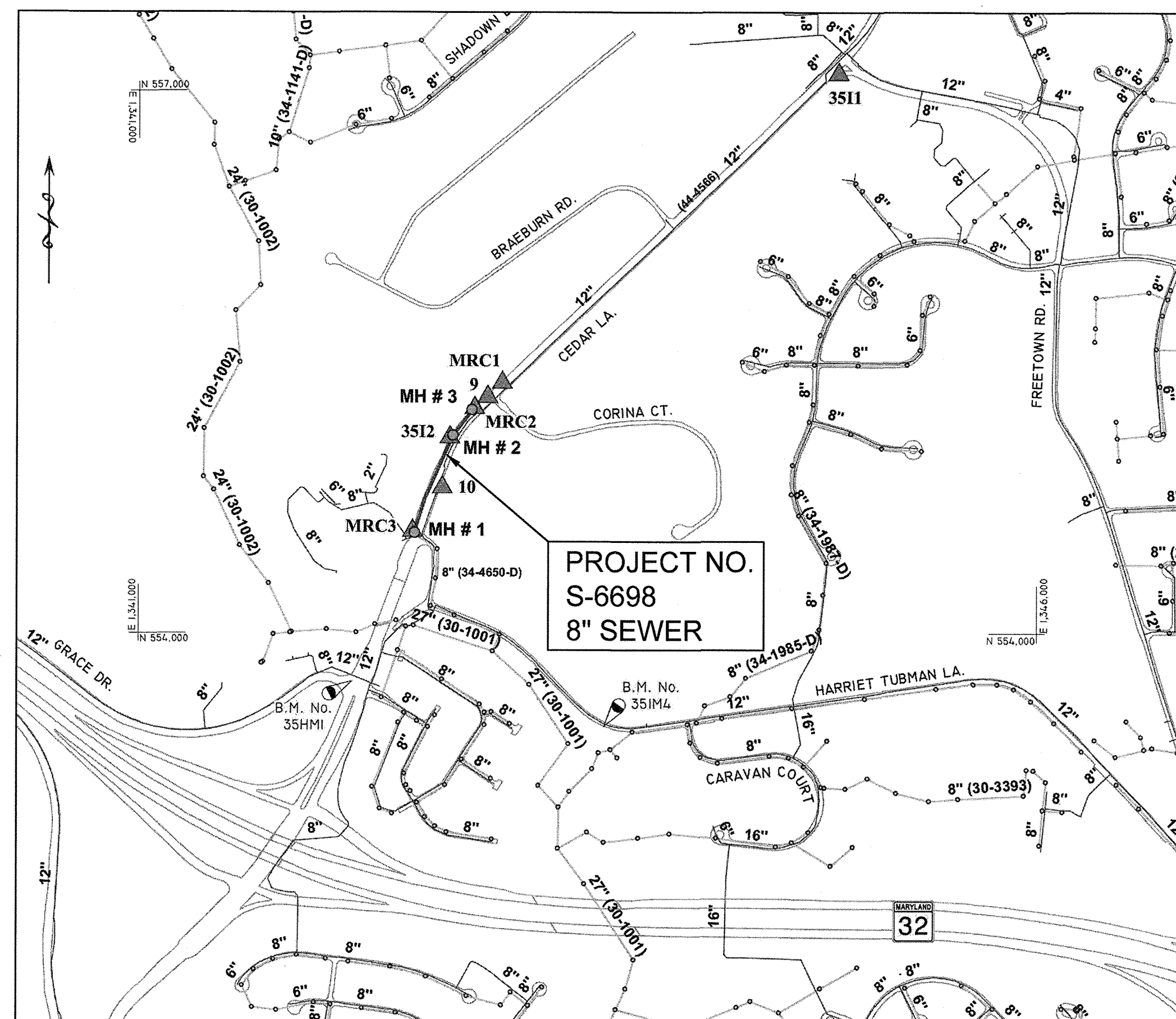
Map Copyright (c) ADC The Map People, 800-829-6277  
Permit Use Number 21003214  
Expiration: 03/31/2019

**LOCATION MAP**  
SCALE: 1" = 2000'

#### GENERAL NOTES

- Approximate locations of existing utilities are shown. The Contractor shall take all necessary precautions to protect existing utilities and services and maintain uninterrupted service. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer by the Contractor at the Contractor's expense.
- Topographic field surveys were performed in July 2017 by RK&K.
- Horizontal and Vertical Survey Controls: The coordinates shown on the drawings are based on Maryland State Reference System NAD 83/91A and NAVD88 as projected by Howard County Geodetic Control Station 3511 (Stamped disc in island intersection Cedar Lane and Freetown Road) and Howard County Benchmarks 35HM1 (Box cut on island curb intersection Cedar Lane and Grace Drive, Elevation 291.738) and 35IM4 (3/4" rebar 84.4' east of BGE Pole 108565, 4.5' south of Harriet Tubman Lane pavement edge and 14.8' west of guardrail, Elevation 265.395)
- All pipe elevations shown are invert elevations unless otherwise noted on the plans.
- Clear all utilities by a minimum of 12". Clear all BGE utility poles by 5'-0" minimum. The Owner has contacted BGE and made arrangements for the bracing of poles if so required as indicated on the drawings. In the event the Contractor's work requires the bracing of additional poles, any cost incurred by the Owner for the bracing of additional poles or damages shall be deducted from money owed the Contractor. The Contractor shall coordinate with BGE to schedule the bracing of the utility poles.
- For details not shown on the drawings or described in the contract documents and for materials and construction methods, use Howard County Design Manual Volume IV, Standard Specifications and Details for Construction (Latest Edition). The Contractor shall have a copy of Volume IV on the job.
- All existing utilities shall be test pitted/located as necessary and in advance of the proposed construction, in order to properly make all required utility crossings and/or connections. Any discrepancies or utility conflicts shall be immediately reported to the Engineer. Where test pits have been made on existing utilities, they are noted by the symbol at the location of the test pit. A note or notes containing the results of the test pit or pits is included on the drawings or specifications. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be located by the Contractor two (2) weeks in advance of construction operations at his own expense.
- Contractor shall notify the following utility companies or agencies at least five (5) working days before starting work shown on these plans:
 

AT&T.....	1-800-252-1133
BGE - Contractor Services.....	410-637-8713
BGE- Emergency .....	800-685-0123
Bureau of Utilities.....	410-313-4900
Miss Utility.....	1-800-257-7777
State Highway Administration.....	410-531-5533
Verizon.....	1-800-743-0033/410-224-9210
Howard County Public Schools (If during school times).....	410-313-6728
Howard County Bureau of Environmental Services.....	410-313-6470
Howard County Emergency Communications/911 Center.....	410-313-2300
- The Contractor shall notify the Howard County Bureau of Highways at 410-313-7450 at least five working days before any open cut or boring/jacking operation in any County road for constructing any water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPW requirements per Section 18.114(a) of the Howard County Code.
- The Contractor shall provide all necessary lines, grades and elevations. Cut Sheets shall be prepared based on the lines and grades shown on the contract drawings.



TYPE OF BUILDINGS: RESIDENTIAL  
NUMBER OF PARCELS: N/A  
WATER HOUSE CONNECTIONS: N/A  
SEWER HOUSE CONNECTIONS: N/A  
DRAINAGE AREA: MIDDLE PATUXENT  
TREATMENT PLANT: LITTLE PATUXENT WATER RECLAMATION PLANT

**VICINITY MAP**  
SCALE: 1" = 600'

PROJECT PURPOSE: THE OWNERS OF 6610 CEDAR LANE AND 6636 CEDAR LANE REQUESTED TO HOWARD COUNTY THAT PUBLIC SEWER SERVICE BE EXTENDED TO THEIR PROPERTIES. SINCE THESE PROPERTIES ARE ELIGIBLE FOR PUBLIC SEWER SERVICE, HOWARD COUNTY WILL CONSTRUCT THIS SEWER EXTENSION. FUTURE EXTENSIONS MAY BE BUILT TO CONNECT ADDITIONAL PROPERTIES THAT ARE CURRENTLY UNDEVELOPED OR SERVED BY SEPTIC SYSTEMS TO THE PUBLIC SEWER SYSTEM. THESE PROPERTIES ARE LOCATED ALONG CEDAR LANE, CORINA COURT AND BRAEBURN ROAD.

#### EROSION AND SEDIMENT CONTROL NARRATIVE

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW SANITARY SEWER LINE, LOCATED ALMOST ENTIRELY UNDERNEATH AN EXISTING ROAD WAY. A SMALL PORTION OF THE WORK INVOLVES CONNECTING LATERAL LINES TO THE SEWER, WHICH WILL BE OVER PVIOUS SURFACE. THE WORK IS TO BE COMPLETED USING SAME-DAY STABILIZATION AS THE PRIMARY FORM OF EROSION AND SEDIMENT CONTROL. THE CONTRACTOR SHOULD ONLY OPEN THE AMOUNT OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED IN ONE DAY. IF THE TRENCH IS TO BE OPEN FOR LONGER THAN ONE DAY, THE CONTRACTOR SHALL PLACE SILT FENCE ON THE DOWNSTREAM SIDE OF THE TRENCH. ALL SOIL SHALL BE STORED ON THE UPHILL SIDE OF THE TRENCH.

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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Wes Gault*  
DEVELOPER  
7-05-2018  
DATE

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.

*Edward F. Leonard, P.E.*  
ENGINEER  
7-12-2018  
DATE

#### INDEX OF SHEETS

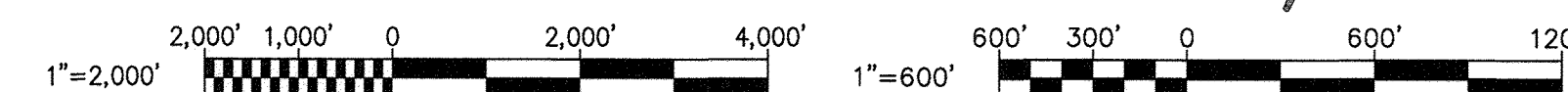
SHEET NO.	DESCRIPTION
1	GENERAL - TITLE SHEET
2	HSCD STANDARD NOTES, ABBREVIATIONS AND LEGEND
3	CEDAR LANE 8" SEWER PLAN & PROFILE
4	EROSION AND SEDIMENT CONTROL PLAN AND PAVEMENT RESTORATION
5	MAINTENANCE OF TRAFFIC PLAN, GENERAL NOTES AND MSHA STANDARDS

QUANTITIES				
NAME OF UTILITY CONTRACTOR : UTILITIES UNLIMITED				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE : 12-11-2018				
ITEM	ESTIMATED QUANTITY	QUANTITY	TYPE	AS-BUILT MANUFACTURER/SUPPLIER
8" PVC SEWER	715 LF	725	SDR-35	FERGUSON
48" MANHOLE	3 EA	3	CONCRETE	ATLANTIC
8" x 4" WYE BRANCH	2 EA	2	PVC	FERGUSON
4" SHC	50 LF	77	SDR-35	NOTE: INCLUDES STANDPIPES FERGUSON
CLEANOUT	2 EA	2	-	HORNE CONCRETE

SURVEY CONTROL				
POINT NO.	COORDINATES		ELEVATION (NAVD 88)	DESCRIPTION
	NORTH	EAST		
9	555,324.8500	1,342,942.4600	338.06'	X-CUT
10	554,823.0900	1,342,690.5100	316.68'	REBAR & CAP
MRC1	555,402.1229	1,343,024.1719	340.14'	X-CUT
MRC2	555,261.7796	1,342,871.3189	335.41'	X-CUT
MRC3	554,580.5810	1,342,526.2730	305.10'	MAG. NAIL
3512	555,100.8200	1,342,733.0300	329.78'	MONUMENT
3511	557,110.3850	1,344,893.6720	400.05'	STAMPED DISC

RESTORATION SCHEDULE		
LOCATION	DISTANCE	TYPE
CEDAR LANE	720'	HMA PAVEMENT

**AS-BUILT**  
DEC 11, 2018



<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>Jan 7, 2018</i> DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>7/5/18</i> CHIEF, BUREAU OF ENGINEERING DATE</p> <p><i>7/5/2018</i> CHIEF, BUREAU OF UTILITIES DATE</p> <p><i>7/5/2018</i> CHIEF, UTILITY DESIGN DIVISION DATE</p>	<p>PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 200456, EXPIRATION DATE 9-3-2019.</p> <p><b>RK&amp;K</b> RUMMEL, KLEPPER &amp; KAHL, LLP 700 EAST PRATT STREET, SUITE 500 BALTIMORE, MARYLAND 21202 (410) 728-2800 WWW.RK&amp;K.COM</p>	<p>DES: JNK BY: EFG NO: AS-BUILT REVISION: 12-11-2018 DATE: 6-25-2018</p>	<p>FINAL (100%) JUNE 29, 2018</p> <p style="text-align: center;">TITLE SHEET</p> <p>600' SCALE MAP NO. 35 BLOCK NO. 17 ELECTION DISTRICT NO. 5</p>	<p>PROJECT NO. S-6698 CONTRACT NO. 10-5070</p> <p style="text-align: center;">CEDAR LANE SEWER EXTENSION</p> <p>SCALE: AS SHOWN SHEET NO. 1 OF 5</p>
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2018 16138-001 DESIGN RK&K\SYSTEMS - \bdc\01\2018\2018\17154-JacCoBA\Task 8 - Cedar Ln Sewer Ext\Acad\Draw\001-1215478-Sheet 1.dwg Jun 29, 2018 - 11:12am ENVCIB Plot Scale 1"=1 Plot By: spridgen Tab:Sheet 1

**ABBREVIATIONS**

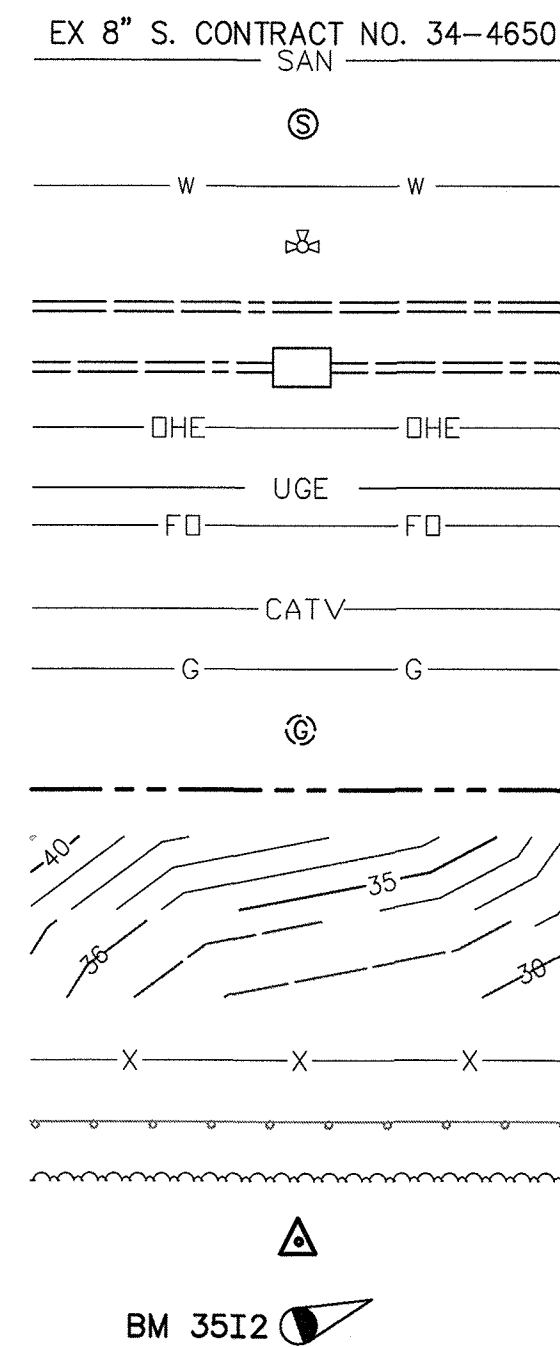
Ⓞ	AT
ADA	AMERICANS WITH DISABILITIES ACT
APPROX.	APPROXIMATE
BGE	BALTIMORE GAS & ELECTRIC
BLDG.	BUILDING
B.M.	BENCHMARK
CLR.	CLEAR
C.O.	CLEANOUT
CONC.	CONCRETE
CONST.	CONSTRUCTION
D.	DIAMETER
DIA.	DIAMETER
DIP	DUCTILE IRON PIPE
DWG.	DRAWING
E	ELECTRIC, EAST
ELEV.	ELEVATION
EX.	EXISTING
F.O.	FIBEROPTIC
FF	FIRST FLOOR
FLG.	FLANGE
FM	FORCE MAIN
G.	GAS
G.P.M.	GALLONS PER MINUTE
HC	HOWARD COUNTY
HB	HORIZONTAL BEND
HOR.	HORIZONTAL
INV.	INVERT
ICBN	INTER-COUNTY BROADBAND NETWORK
JT.	JOINT
MAX.	MAXIMUM
MIN.	MINIMUM
MDSHA	MARYLAND STATE HIGHWAY ADMINISTRATION
M.J.	MECHANICAL JOINT
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MPH	MILES PER HOUR
OH	OVERHEAD UTILITIES
PC	POINT OF CURVATURE
PCC	POINT OF CONTINUOUS CURVE
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PE	PLAIN END
PI	POINT OF INTERSECTION
POL	POINT ON LINE
PROP.	PROPOSED
PRC	POINT OF REVERSE CURVE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE OR POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
S.	SANITARY SEWER, SOUTH
SHC	SEWER HOUSE CONNECTION
S.S.	STAINLESS STEEL
STA.	STATION
STD.	STANDARD
UG	UNDERGROUND UTILITIES
VB	VERTICAL BEND
VERT.	VERTICAL
W.	WATER (POTABLE), WEST
WHC	WATER HOUSE CONNECTION

SANITARY SEWER
SANITARY SEWER MANHOLE
WATER
WATER FIRE HYDRANT
STORM DRAIN
STORM DRAIN INLET
OVERHEAD ELECTRIC
UNDERGROUND ELECTRIC
UNDERGROUND FIBEROPTIC
UNDERGROUND CABLE
GAS
GAS METER
PROPERTY LINE
CONTOURS (SURVEY, 1-FT)
CONTOURS (GIS, 2-FT)
FENCE
GUARDRAIL
TREE LINE OR WOODS
TRAVERSE CONTROL
BENCHMARK

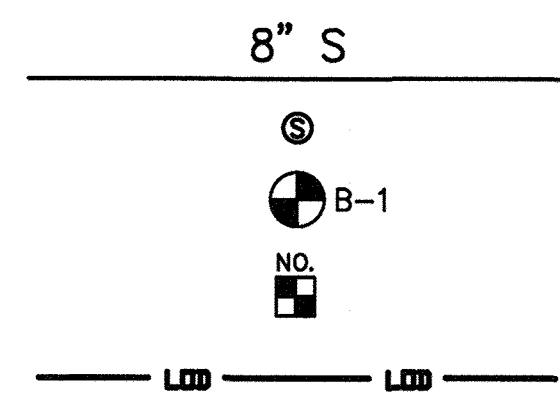
SANITARY SEWER
SANITARY SEWER MANHOLE
BORING
VACUUM TEST HOLE
LIMITS OF DISTURBANCE

**LEGEND**

**EXISTING**



**PROPOSED**



**HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES**

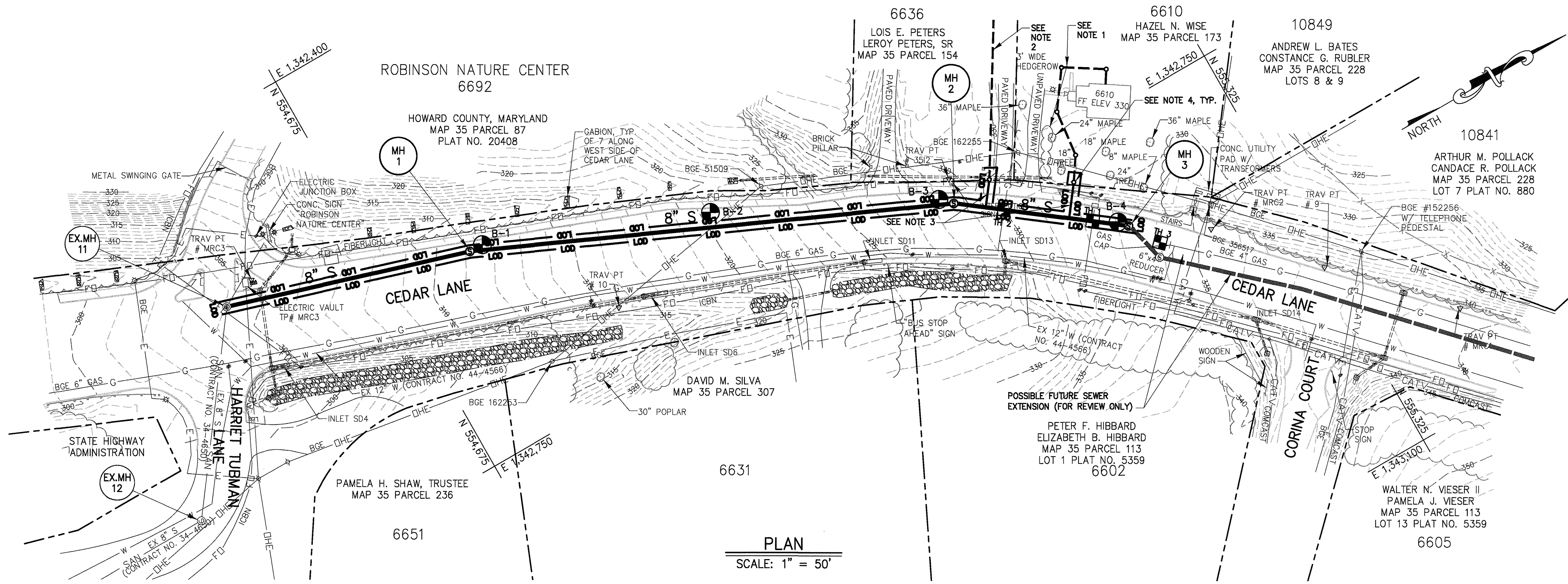
- A PRECONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOURS NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
  - PRIOR TO THE START OF EACH DISTURBANCE
  - UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING
  - PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT,
  - PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.
- OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
- 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.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 3 CALENDAR 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.
- 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 APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH > 15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).
- 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.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE:	0.19 ACRES	(LINEAR PUBLIC UTILITY PROJECT)
AREA DISTURBED:	0.19 ACRES	
AREA TO BE ROOFED OR PAVED:	0.19 ACRES	
AREA TO BE VEGETATIVELY STABILIZED:	0.00 ACRES	
TOTAL CUT:	3,660 CU. YDS.	
TOTAL FILL:	3,630 CU. YDS.	
OFFSITE WASTE/BORROW AREA LOCATION:	TO BE DETERMINED BY CONTRACTOR	
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY, AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
  - INSPECTION DATE
  - INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
  - NAME AND TITLE OF INSPECTOR
  - WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
  - BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
  - EVIDENCE OF SEDIMENT DISCHARGES
  - IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
  - IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
  - COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
  - PHOTOGRAPHS
  - MONITORING/SAMPLING
  - MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
  - OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORM ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.
- ANY MAJOR CHANGES OR REVISIONS ON THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER LIST OF HSCD-APPROVED FIELD CHANGES.
- DISTURBANCE SHALL NOT OCCUR OUTSIDE THE LOD. 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 CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE CID, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
- TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.
- ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.
- STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):
  - USE I AND II MARCH 1- JUNE 15
  - USE III AND IIII OCTOBER 1- APRIL 30
  - USE IV MARCH 1 - MAY 31
- A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

2016 16138-001 DESIGN RKK&K\SYS - \\\redwin01\2012\2012\12154\_JacCoBOM\Task 8 - Cedar Lane Sewer Ext\Acad\Draw\002-1215418-Sheet 2.dwg Jun 25, 2018 - 3:55pm ENV/CTB Plot Scale 1=1 Plot By: spridgen Tab:Sheet 2

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> 7/6/18 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>[Signature]</i> 7/5/2018 CHIEF, BUREAU OF UTILITIES DATE</p>	<p>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. 200456, EXPIRATION DATE 9-3-2019.</p> <p><b>RK&amp;K</b> RUMMEL, KLEPPER &amp; KAHL, LLP 700 EAST PRATT STREET, SUITE 500 BALTIMORE, MARYLAND 21202 (410) 728-2900 WWW.RK&amp;K.COM</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>DES:</th> <th>BY:</th> <th>NO.:</th> <th>REVISION</th> <th>DATE</th> </tr> <tr> <td>JNK</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DRN:</td> <td>SCP</td> <td></td> <td></td> <td></td> </tr> <tr> <td>CHK:</td> <td>JNK</td> <td></td> <td></td> <td></td> </tr> <tr> <td>DATE:</td> <td colspan="4">6-25-2018</td> </tr> </table>	DES:	BY:	NO.:	REVISION	DATE	JNK					DRN:	SCP				CHK:	JNK				DATE:	6-25-2018				<p>FINAL (100%) JUNE 25, 2018</p> <p style="text-align: center;"><b>HSCD STANDARD NOTES, ABBREVIATIONS AND LEGEND</b></p> <p>600' SCALE MAP NO. 35 BLOCK NO. 17 ELECTION DISTRICT NO. 5</p>	<p>PROJECT NO. S-6698 CONTRACT NO. 10-5070</p> <p style="text-align: center;"><b>CEDAR LANE SEWER EXTENSION</b></p>	<p>SCALE AS SHOWN</p> <p>SHEET NO. 2 OF 5</p>
DES:	BY:	NO.:	REVISION	DATE																										
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DRN:	SCP																													
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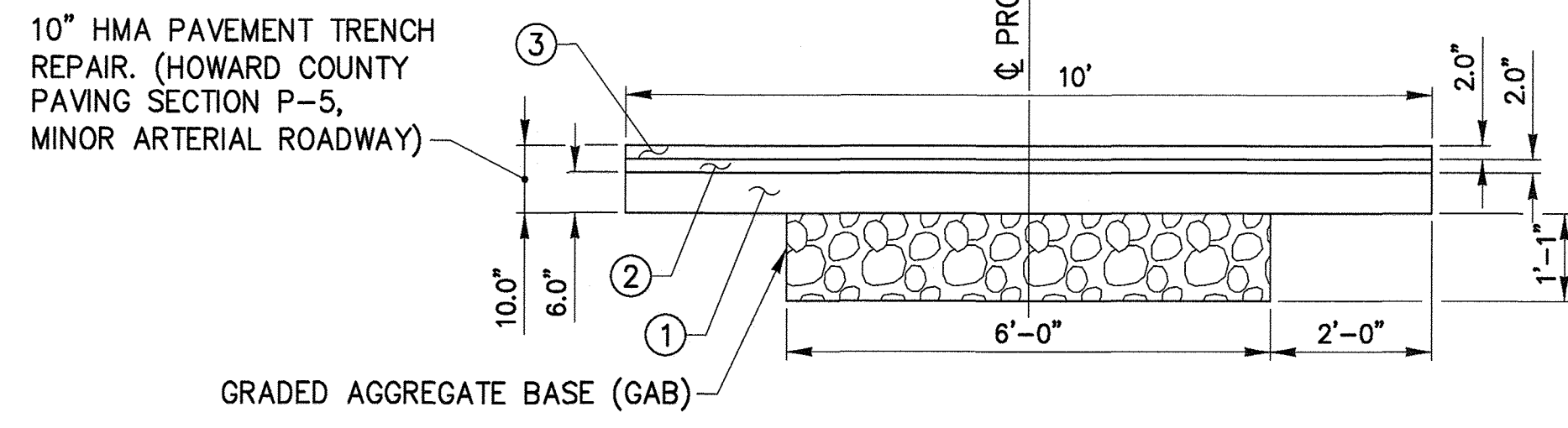


**SEQUENCE OF OPERATION**

1. Howard County will schedule the Pre-construction Meeting. Notify the Howard County Construction Division (1-410-313-3800) at least 48 hours before commencing work. Work may not commence until the permittee or the responsible personnel have met on site with the County Sediment and Erosion Control Inspector to review the approved plans.
2. Contractor shall locate and procure all staging and stockpiling areas which shall be approved by the Project Inspector/Manager
3. With the approval of the County Sediment and Erosion Control Inspector, clear and grub the site.
4. Perform the following sequence for each day of utility construction operations:
  - a. Excavate and install sanitary sewer and appurtenances. Place backfill and compact. Contractor should open only that section of trench that can be backfilled and stabilized each day. If trench must remain open longer than one day, silt fence shall be placed below (downslope of) the trench.
  - b. Place spoil on uphill side of trench.
  - c. Place topsoil, fine grade, seed and apply mulch to disturbed area.
  - d. All roadways (Public & Private) are to be swept free of dirt and debris.
  - e. Any sediment laden water resulting from dewatering operations shall be discharged through a portable sediment tank which will not be measured for payment but shall be considered incidental to project construction
5. Direct all water pumped during trench dewatering operations to an approved portable sediment tank. Clean out tank when one-third (1/3) filled with silt. Haul sediment to a Howard County approved site.
6. No excavated material shall be placed in the ditch adjacent to the existing roadway. The Contractor shall take precautions to prevent the disturbance of existing vegetated areas to the extent possible. Any existing vegetated areas disturbed as a result of the contractor's work operations shall be stabilized by the end of the work day.
7. Trenching is not to exceed that which can be backfilled and stabilized at the end of each working day. Stabilize the top of all trenches by the end of each work day. All excess stockpiled soil remaining after refilling of the trench shall be removed from the surface and hauled from the site by the end of the working day. The Contractor shall be responsible for obtaining all permits for his off-site stockpile areas. The Contractor shall also adequately clean all dirt and mud off the roadways by the end of each working day.
8. Stabilize any remaining disturbed areas as required, and complete permanent pavement restoration in accordance with the detail and notes on this sheet.
9. Remove any remaining sediment controls after prior approval from Howard County Inspections and Permits Division. Fine grade and stabilize area formerly occupied by perimeter controls.

**PAVEMENT RESTORATION NOTES**

1. CEDAR LANE IS A MINOR ARTERIAL ROADWAY WITH A FLEXIBLE PAVEMENT SURFACE. REFER TO STANDARD DETAILS G-4.01 AND R-2.02 FOR RESTORATION OF THE ROADWAY AFTER THE SEWER EXTENSION IS COMPLETE.
2. IN LOCATIONS SUCH AS AT THE THREE NEW MANHOLES, IF THE REMAINING EXISTING PAVEMENT BETWEEN THE PERMANENT PAVEMENT RESTORATION AND THE CURB IS LESS THAN 4 FEET WIDE, THE RESIDUAL PAVEMENT SHALL BE REMOVED IN ITS ENTIRETY AND REPLACED.

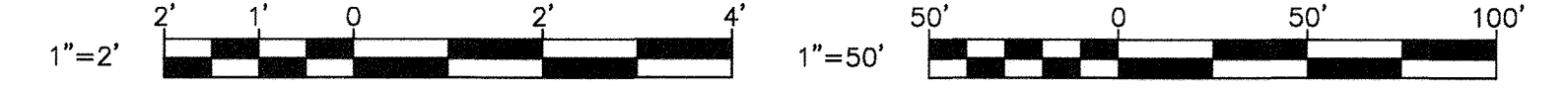


**DETAIL - PERMANENT PAVEMENT RESTORATION**

SCALE: 1" = 2'-0"

- ① 6" THICKNESS SUPERPAVE ASPHALT MIX  
BASE COURSE 19.0 MM, PG 64-22S, LEVEL 3-4
- ② 2" MINIMUM THICKNESS SUPERPAVE ASPHALT  
MIX INTERMEDIATE COURSE 12.5 MM, PG  
64-22S, LEVEL 3-4
- ③ 2" THICKNESS SUPERPAVE ASPHALT MIX  
SURFACE COURSE 12.5 MM, PG-70-22,  
LEVEL-3 PG 76-22, LEVEL 2

**AS-BUILT  
DEC 11, 2018**



2016 16138-001 DESIGN RKK21\SYS - \redwin01\2018\2018\121514\_JacCoB0A\Task 8 - Cedar La Sewer EXA\Acad\DWG\004-12151418-Sheet 4.dwg Jun 25, 2018 - 3:55pm ENVCIB Plot Scale 1"=1 Plot By: spridgen Tab:Sheet 4

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 7/10/18  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 7/5/2018  
CHIEF, BUREAU OF UTILITIES DATE

*[Signature]* 7/5/18  
CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 7/5/2018  
CHIEF, UTILITY DESIGN DIVISION 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. 200456, EXPIRATION DATE 9-3-2019.

**RK&K** RUMMEL, KLEPPER & KAHL, LLP  
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DES: JNK	BY: EFG	NO: AS-BUILT	REVISION:	DATE: 12-11-2018
DRN: SCP	CHK: JNK	DATE: 6-25-2018		

FINAL (100%) JUNE 25, 2018

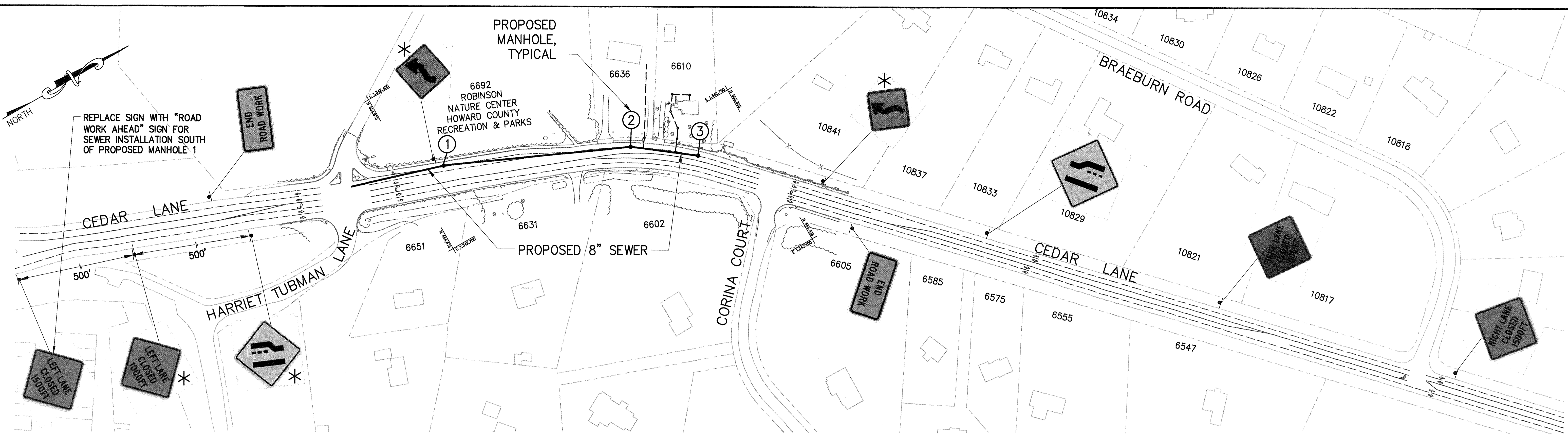
**EROSION AND SEDIMENT CONTROL  
PLAN AND PAVEMENT RESTORATION**

600' SCALE MAP NO. 35 BLOCK NO. 17 ELECTION DISTRICT NO. 5

PROJECT NO. S-6698  
CONTRACT NO. 10-5070

**CEDAR LANE SEWER EXTENSION**

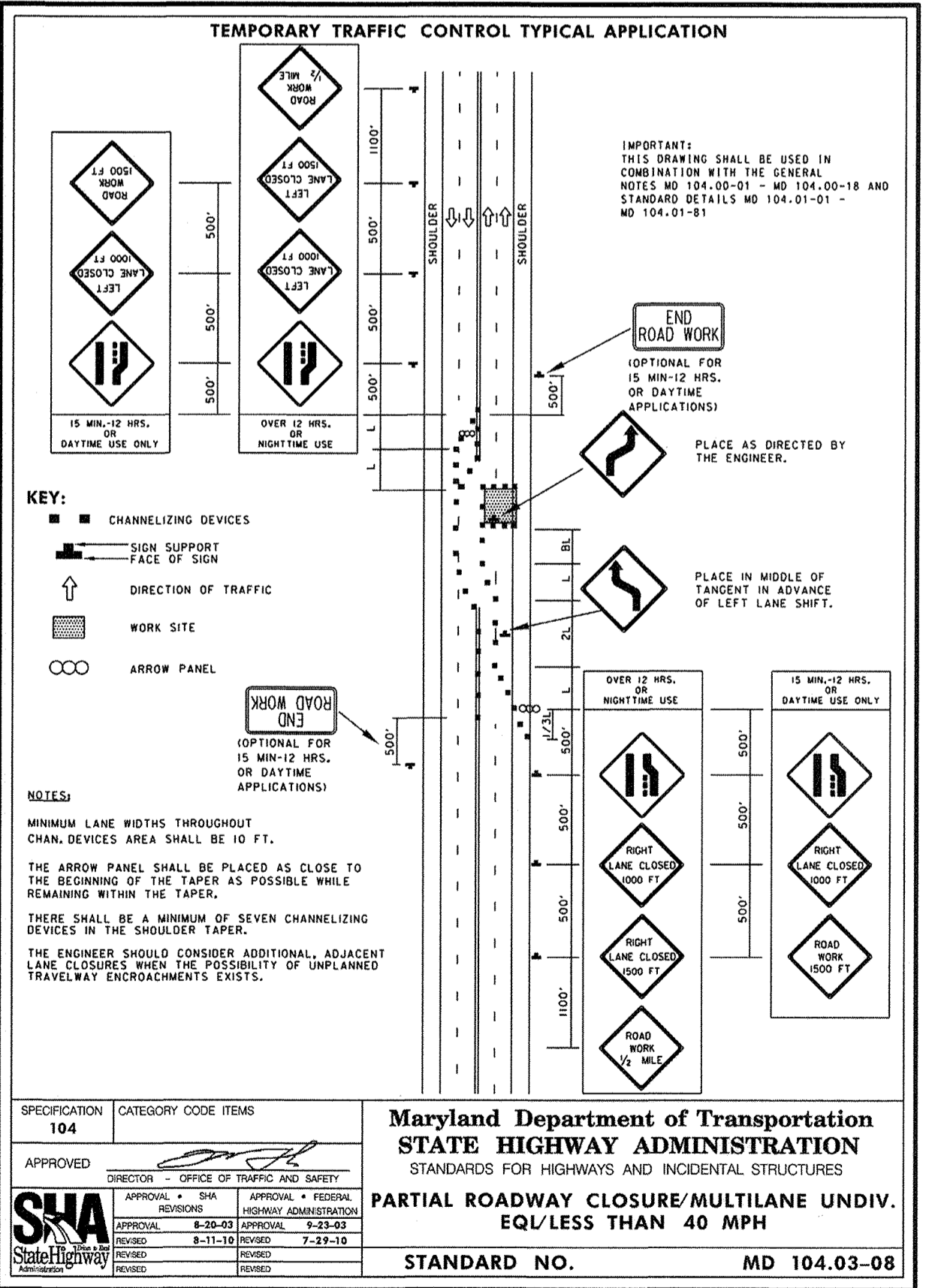
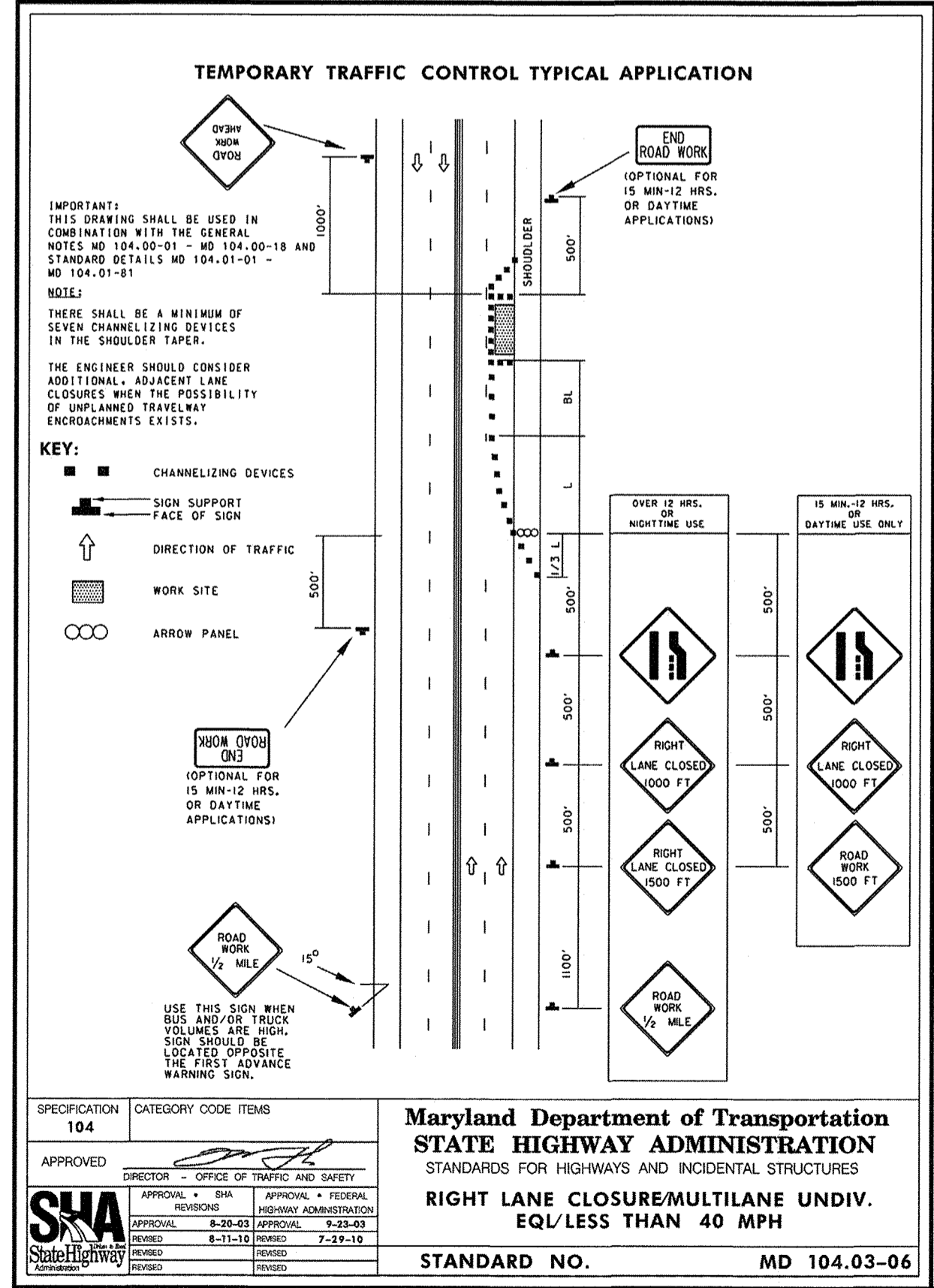
SCALE: AS SHOWN  
SHEET NO. 4 OF 5



**MAINTENANCE OF TRAFFIC GENERAL NOTES**

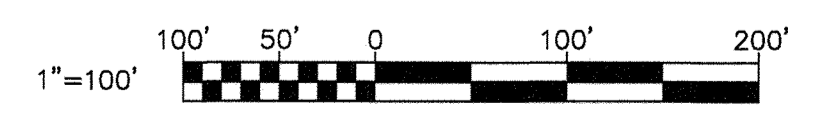
**PLAN**  
SCALE: 1" = 100'

1. HOWARD COUNTY TRAFFIC SHALL BE NOTIFIED AT LEAST 3 DAYS PRIOR TO BEGINNING ANY WORK IN ORDER TO SCHEDULE A FIELD INSPECTION OF TRAFFIC CONTROL DEVICES. CONTACT THE TRAFFIC DIVISION AT (410) 313-2430.
2. ALL CONSTRUCTION AND MATERIALS FOR THE TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE STANDARDS CONTAINED IN THE LATEST EDITION OF THE STATE OF MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
3. THE SIGNS DEPICTED ON THIS PLAN ARE FOR THE CEDAR LANE SEWER EXTENSION NORTH OF PROPOSED MANHOLE 1. THE SIGNS MARKED WITH AN ASTERISK ARE NOT REQUIRED FOR THE SEWER EXTENSION BETWEEN HARRIET TUBMAN DRIVE AND PROPOSED MANHOLE 1.
4. REFLECTORIZED CHANNELIZING DEVICES SHALL BE USED AT NIGHT ALONG THE CONSTRUCTION AREA.
5. PAVEMENT DISRUPTIONS OF ONE INCH (1") OR GREATER SHALL BE RAMPED WITH A BEVELED EDGE OF FOUR HORIZONTAL TO ONE VERTICAL (4:1).
6. THE CONTRACTOR SHALL BACKFILL THE TRENCH IMMEDIATELY AFTER THE INSTALLATION OF A SECTION OF PIPE. IF STEEL PLATES ARE TO BE USED, APPROPRIATE SIGNING WILL BE REQUIRED. STEEL PLATES MUST BE PINNED. STEEL PLATES ON ALL COUNTY ROADWAYS MUST BE RECESSED, AS MUST ALL STEEL PLATES TO BE PLACED FOR MORE THAN 24 HOURS BETWEEN DECEMBER 1st AND MARCH 15th. THE CONTRACTOR SHALL NOT LEAVE AN OPEN TRENCH UNATTENDED.
7. CONTRACTOR SHALL INSTALL "CAUTION STEEL PLATES AHEAD" SIGNS W8-8(4) IN ADVANCE OF STEEL PLATE BRIDGING.
8. ALL TEMPORARY SIGNS THAT DO NOT APPLY WHEN ROAD IS OPEN SHALL BE COVERED OR REMOVED, OR TURNED AWAY.
9. CHANNELIZING DEVICES SHALL BE REMOVED AT THE END OF EACH SHIFT.
10. ALL TRAFFIC CONTROL DEVICES SHALL BE KEPT IN THEIR PROPER POSITION AT ALL TIMES AND SHALL BE REPAIRED, REPLACED OR CLEANED AS NECESSARY TO PRESERVE THEIR APPEARANCE AND CONTINUITY.
11. ACCESS SHALL BE PROVIDED TO ALL EXISTING DRIVEWAYS AT ALL TIMES UNLESS COVERED BY THE APPROVED TRAFFIC CONTROL PLAN. CONTRACTOR SHALL COORDINATE ALL DRIVEWAY CONSTRUCTION WITH THE PROPERTY OWNER. ALL CONES AND FLAGMEN SHALL BE MOVED ACCORDINGLY AS CONSTRUCTION PROGRESSES.
12. ALL CONSTRUCTION SIGNING SHALL BE IN ACCORDANCE WITH THE TYPICAL SIGN PLACEMENT SHOWN ON THESE PLANS AND SHALL NOT OBSTRUCT EXISTING TRAFFIC CONTROL DEVICES.
13. ANY CHANGES TO THE MAINTENANCE OF TRAFFIC SHALL BE SUBMITTED TO THE TRAFFIC ENGINEERING DIVISION FOR REVIEW AND APPROVAL. REQUESTS FOR DETOURS AND ROAD CLOSURES SHALL BE SUBMITTED TO THE TRAFFIC DIVISION AT 410-313-2430 5 DAYS IN ADVANCE WITH A DETOUR PLAN FOR APPROVAL.
14. CONSTRUCTION & WORKER'S VEHICLES SHALL NOT BE PARKED IN A MANNER THAT WILL IMPEDE TRAFFIC OR IMPAIR SIGHT DISTANCE. THESE VEHICLES SHOULD BE PARKED OFF-STREET ON THE CONSTRUCTION SITE OR ON A SIDE STREET NOT UNDER CONSTRUCTION.
15. FLAGGERS SHALL BE CERTIFIED AND SHALL HAVE THEIR CERTIFIED FLAGGER CARD WITH THEM AT ALL TIMES DURING FLAGGING OPERATIONS.
16. CONTRACTOR WORK HOURS WITH LANE CLOSURES ARE RESTRICTED TO 9AM TO 3PM MONDAY THROUGH FRIDAY. WORK REQUEST ANY OTHER TIME MUST BE SUBMITTED TO THE TRAFFIC DIVISION AT LEAST 48 HOURS IN ADVANCE.
17. CONTRACTOR'S TRAFFIC MANAGER MUST HAVE A MDSA TEMPORARY TRAFFIC CONTROL MANAGER'S TRAINING COURSE CARD.
18. ALL WARNINGS SIGNS SHALL BE 48"x48".



**MAINTENANCE OF TRAFFIC AND SEQUENCE OF CONSTRUCTION**

1. THE CEDAR LANE SEWER EXTENSION INSTALLATION WILL PROCEED NORTHERLY FROM HARRIET TUBMAN DRIVE TOWARD CORINA COURT.
2. THE CONTRACTOR WILL USE A 100-FOOT LONG "FLOATING" WORK ZONE TO COMPLETE THE SEWER CONSTRUCTION.
3. CEDAR LANE IS GENERALLY 5 LANES WIDE WITH A CENTER LEFT LANE BETWEEN THE MIDDLE PATUXENT RIVER BRIDGE AND BRAEBURN ROAD.
4. FOR THE SEWER EXTENSION BETWEEN HARRIET TUBMAN LANE AND PROPOSED MANHOLE 1, NORTHBOUND CEDAR LANE TRAFFIC SHALL NOT BE AFFECTED. AND THE TEMPORARY TRAFFIC CONTROL APPLICATION SHALL CONFORM TO MDSA STANDARD NO. 104.03-06 SHOWN ON THIS SHEET.
5. FOR THE SEWER EXTENSION NORTH OF PROPOSED MANHOLE 1, ONE 10-FOOT WIDE MINIMUM TRAVEL LANE IN EACH DIRECTION SHALL BE MAINTAINED ALONG THE EAST SIDE OF CEDAR LANE THROUGH THE WORK ZONE USING CHANNELIZING DEVICES. THE TEMPORARY TRAFFIC CONTROL APPLICATION SHALL CONFORM TO MDSA STANDARD No. 104-03-08 SHOWN ON THIS SHEET.
6. PLACE PORTABLE VARIABLE MESSAGE SIGNS (PVMS) 10 DAYS PRIOR TO THE START OF CONSTRUCTION. THE SOUTHBOUND SIGN SHALL BE PLACED IMMEDIATELY NORTH OF THE CORINA COURT INTERSECTION. THE NORTHBOUND SIGN SHALL BE PLACED IMMEDIATELY SOUTH OF THE HARRIET TUBMAN LANE INTERSECTION. HOWARD COUNTY WILL DETERMINE THE MESSAGES TO BE PLACED ON THE PVMS.



2016 16139-001 DESIGN RKK&K SYSTEMS - \\\baltimore\2016\16139-001\12154178-Sheet 5.dwg Jun 25, 2018 - 4:00pm ENV/CB Plot Scale 1"=100' Plot By: apidgen Tab:Sheet 5

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 7/10/18  
DIRECTOR OF PUBLIC WORKS DATE

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DES: JNK	BY: NO.	REVISION:	DATE:
DRN: SCP			
CHK: JNK			
DATE: 6-25-2018			

FINAL (100%) JUNE 25, 2018

**MAINTENANCE OF TRAFFIC PLAN, GENERAL NOTES AND MDSA STANDARDS**

600' SCALE MAP NO. 35 BLOCK NO. 17

PROJECT NO. S-6698  
CONTRACT NO. 10-5070

**CEDAR LANE SEWER EXTENSION**

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN  
SHEET NO. 5 OF 5