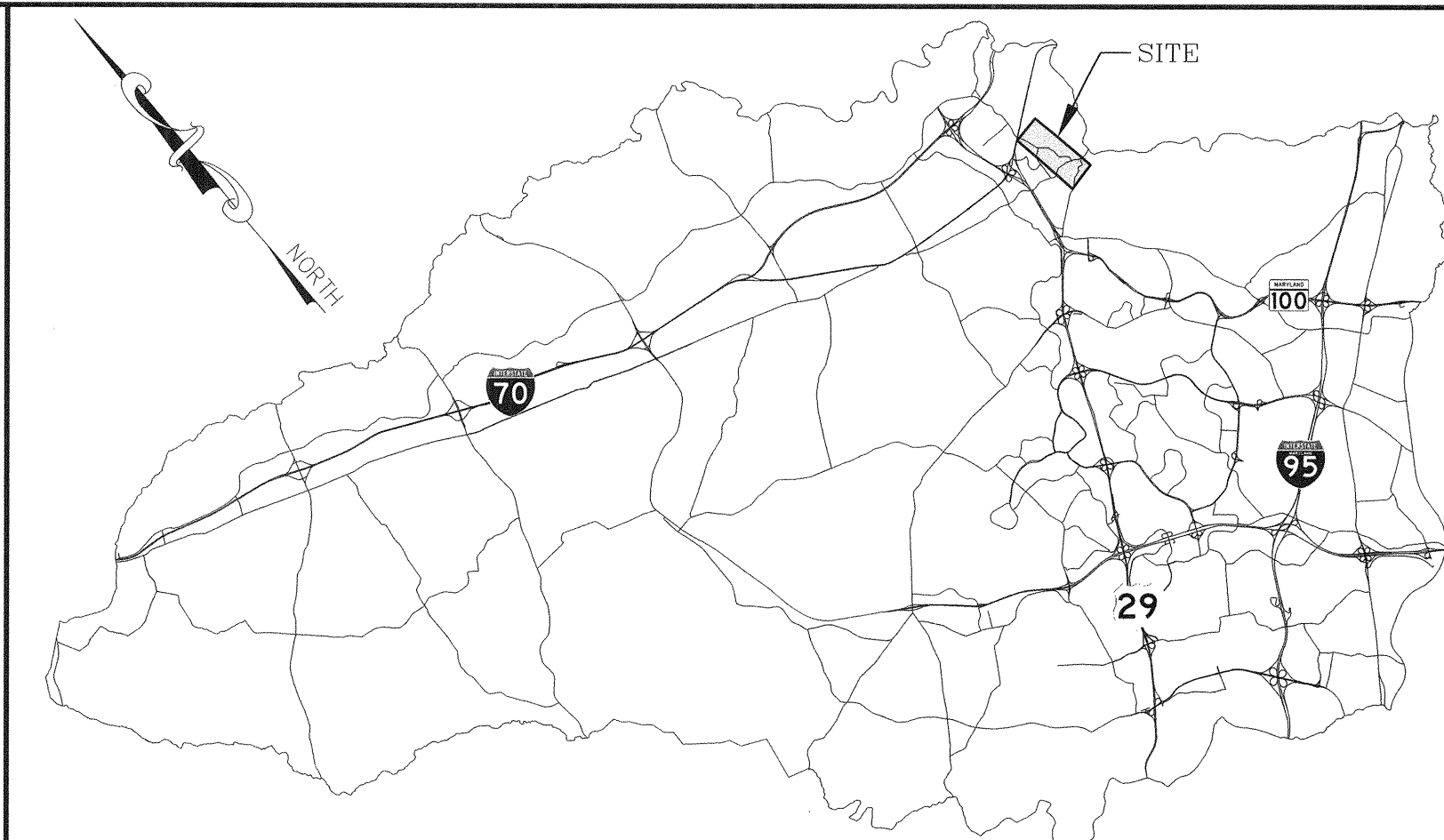


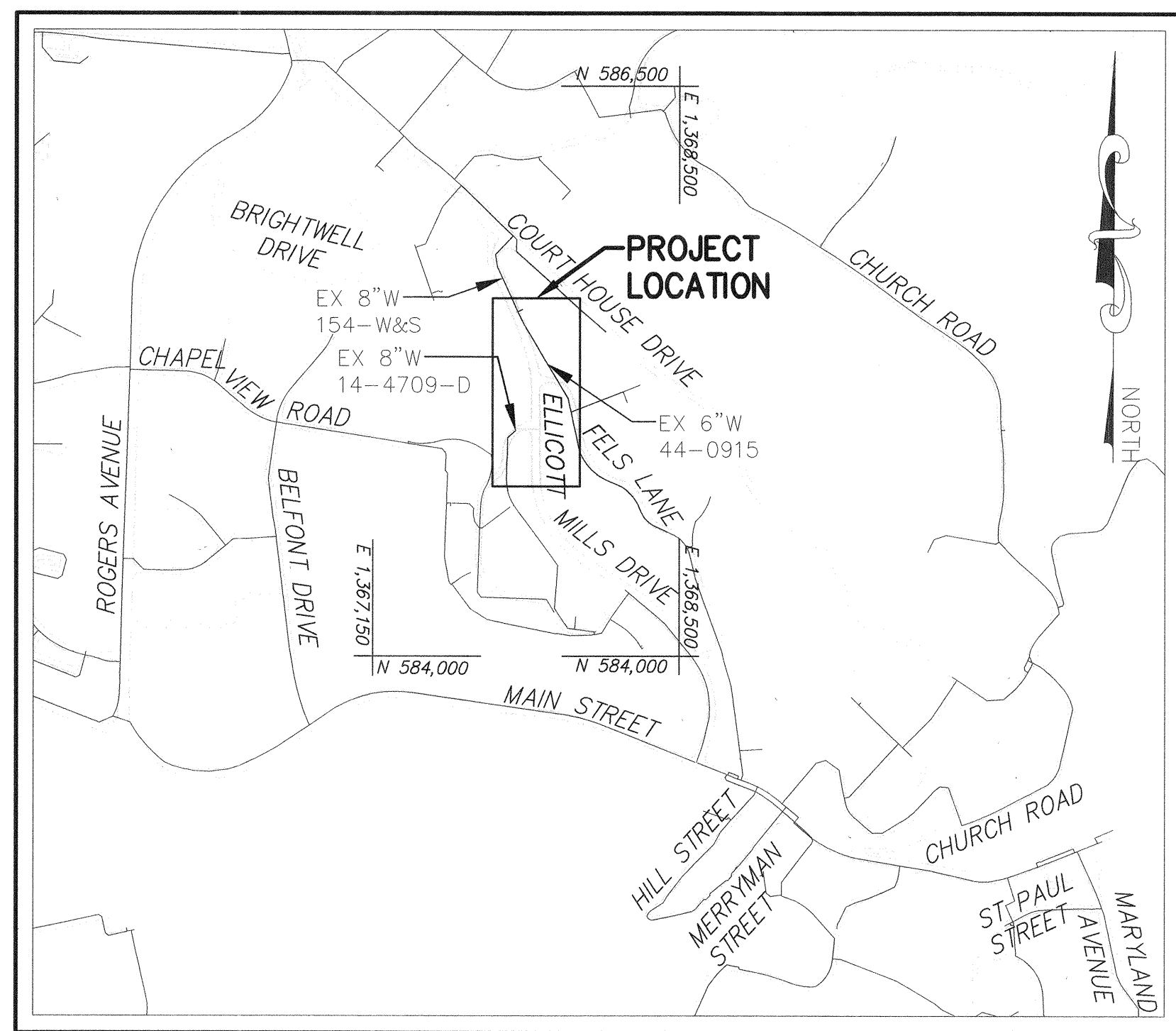
WATER NOTES:

- ALL WATER MAINS SHALL BE RESTRAINED JOINT C900 PVC DR-18 OR DIP CLASS 54 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
- FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPES SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.
- UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. 17 POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSSES. 12 POUND ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.
- PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE INSERTION LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF THE PVC PIPE.
- ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS OR HIGH DEFLECTION (HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED. WHERE HIGH DEFLECTION COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20-FOOT LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP. THE CONTRACTOR SHALL USE A VIBRATORY PLATE COMPACTOR OR OTHER APPROVED MEANS TO THOROUGHLY COMPACT THE #57 STONE ON BOTH SIDES OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING. PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL DEFLECTION OF 3-DEGREES (1 1/2- DEGREE ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM 235 PSI MEETING THE REQUIREMENTS OF AWWA C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTEEED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL. FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 235 PSI, DR 18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DR18 OR EQUAL.
- WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C-900 PVC PIPELINES, THE CONTRACTOR SHALL INSTALL DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTION COUPLINGS AND 5-DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATES AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.

ELLICOTT MILLS DRIVE WATER MAIN LOOP HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CAPITAL PROJECT NO. W8600 CONTRACT NO. 44-5078



LOCATION MAP
NOT TO SCALE



VICINITY MAP
SCALE: 1" = 600'

HOWARD COUNTY GEODETIC SURVEY CONTROL POINTS:

STATION#	EAST	NORTH	ELEVATION
TP186	1,367,849.94	584,846.63	283.20
TP187	1,367,901.94	585,238.26	308.54
TP188	1,367,717.92	585,778.34	371.90
RKK3	1,367,803.25	584,973.34	296.91

INDEX OF DRAWINGS

SHEET NO.	DRAWING NO.	DESCRIPTION
01	G-01	TITLE SHEET, GENERAL NOTES AND INDEX OF DRAWINGS
02	G-02	LEGEND, ABBREVIATIONS, SURVEY CONTROL, AND FITTING SCHEDULES
03	C-01	WATER SHUTOFF PLAN AND SEQUENCE OF CONSTRUCTION
04	C-02	WATER PLAN AND PROFILE (STA 0+00 TO STA 5+22)

HOWARD COUNTY CONTACT INFORMATION

HOWARD COUNTY PM: ZACK KNIGHT, PE
PHONE (410) 313-6125

HOWARD COUNTY UTILITY DESIGN DIVISION
PHONE (410) 313-2040

WATER ZONE: 550 NORTH
TEST GRADIENT: 827 FT

TYPE OF BUILDINGS: N/A
NUMBER OF PARCELS: N/A
NO. OF WATER CONNECTIONS: 0
NO. OF SEWER CONNECTIONS: N/A
DRAINAGE AREA: PATAPSCO

PURPOSE STATEMENT:

THE PURPOSE OF CONTRACT 44-5078 IS TO COMPLETE THE WATER MAIN LOOP BETWEEN ELLICOTT MILLS DRIVE AND MILLTOWNE ROAD, TO PROVIDE A SECONDARY LOOP TO BURGESS MILL STATION, AND INCREASE RELIABILITY OF THE WATER SYSTEM IN THE AREA. THE SCOPE OF WORK TO BE COMPLETED UNDER THIS CONTRACT INCLUDES THE INSTALLATION AND RESTORATION OF APPROXIMATELY 524 LINEAR FEET OF 8-INCH DIAMETER C900 PVC DR-18 WATER MAIN INCLUDING ONE (1) FIRE HYDRANT, VALVES, FITTINGS, AND APPURTENANCES INCLUDING CONTINUITY STATIONS AND CORROSION PROTECTION.

ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John C. Moore 20566 March 27, 2019
Engineer's Signature - Registration Number Date

RECORD DRAWINGS:

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN REVISED TO REFLECT THE AS-BUILT CONDITIONS OF THE ELLICOTT MILLS DRIVE WATER MAIN LOOP RECORDED BY HOWARD COUNTY'S CONTRACTOR AND INSPECTOR.

John C. Moore 20566 March 27, 2019
Engineer's Signature - Registration Number Date

RECORD DRAWING

G-01

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p>4/6/19 DATE</p> <p>4/2/19 DATE</p>	<p>RK&K</p> <p>P: 410.728.2900 700 East Pratt Street, Suite 500 Baltimore, MD 21202 www.rkk.com Responsive People Creative Solutions</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. 20566 EXPIRATION DATE: 09/06/2020</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DES-REG/NKS</td> <td>BY</td> <td>NO</td> <td>REVISION</td> <td>DATE</td> </tr> <tr> <td>DRN: RAD</td> <td>RKK</td> <td>1</td> <td>RECORD DRAWING REPLACEMENT SHEET</td> <td>12/18</td> </tr> <tr> <td>CHK: JCM</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>SIGN DATE:</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	DES-REG/NKS	BY	NO	REVISION	DATE	DRN: RAD	RKK	1	RECORD DRAWING REPLACEMENT SHEET	12/18	CHK: JCM					SIGN DATE:					<p>RECORD DRAWING JANUARY, 2019</p> <p style="text-align: center;">TITLE SHEET, GENERAL NOTES, AND INDEX OF DRAWINGS</p> <p>600' SCALE MAP NO. 25 BLOCK NO. 7 ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND</p>	<p>PROJECT NO. W8600 CONTRACT NO. 44-5078</p> <p style="text-align: center;">ELLICOTT MILLS DRIVE WATER MAIN LOOP</p> <p>SCALE AS SHOWN</p> <p>SHEET NO. 01 OF 4</p>
DES-REG/NKS	BY	NO	REVISION	DATE																					
DRN: RAD	RKK	1	RECORD DRAWING REPLACEMENT SHEET	12/18																					
CHK: JCM																									
SIGN DATE:																									

RKK21/SYS - \\baldwin05\2017\17240_466060Call\Howard County\Task 4 - Ellicott Mills Drive Survey\CADD\Plan\Ellicott Mills Water Loop\Map-Build\2-pc-1002-ELLICOTT.DWG Mar 25, 2019 - 2:55pm ENW/CB Plot Scale 1=1 Plot By: rgreen Tab-C-02

ABBREVIATIONS

ABAN	ABANDONED
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJUSTABLE, ADJACENT
ALT	ALTERNATE, ALTERNATIVE
APPROX	APPROXIMATE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVE	AVENUE
BGE	BALTIMORE GAS AND ELECTRIC
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BLT(S)	BOLT(S)
BM	BENCHMARK
CC	CORROSION CONTROL
CFM	CUBIC FEET PER MINUTE
C&G	CURB AND GUTTER
CI	CAST IRON
CIP	CAST IRON PIPE
CL	CLASS, CLEARANCE, CENTER LINE
CLR	CLEAR, CLEARANCE
CO	CLEAN OUT
COMB	COMBINATION
CONC	CONCRETE
COND	CONDUIT
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS, CONTINUATION, CONTROL
COV	COVER
CP	CATHODIC PROTECTION
CPLG	COUPLING
CTV	CABLE TELEVISION
DEG	DEGREE
DEPT	DEPARTMENT
DET	DETAIL
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DIV	DIVISION
DN	DOWN
DOT	DEPARTMENT OF TRANSPORTATION
DR	DRAIN
DTL	DETAIL
DV	DIVISION VALVE
DWG(S)	DRAWING(S)
E	EAST, ELECTRIC
EA	EACH
EBOX	ELECTRICAL BOX
EL	ELEVATION
ELEC	ELECTRIC
ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQUIP	EQUIPMENT
EX	EXISTING
EXT	EXTENSION, EXTERIOR, EXTERNAL
FH	FIRE HYDRANT
FLEX	FLEXIBLE
FLG	FLANGE
FM	FORCE MAIN, FLOW METER
FO	FIBER OPTIC
FP	FLOOD PLAIN
FT	FEET, FOOT
G	GAS
GAB	GRADED AGGREGATE BASE
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
GR	GRADE
GV	GATE VALVE, GRAVITY VENTILATOR
HB	HORIZONTAL BEND
HC	HOWARD COUNTY
HD	HIGH DEFLECTION
HMA	HOT MIX ASPHALT
HORIZ	HORIZONTAL
HR	HOUR
HWY	HIGHWAY
ID	INSIDE DIAMETER
IN	INCH, INCHES
INC	INCORPORATED
INCL	INCLUDING
INL	INLET
INSUL	INSULATE, INSULATION, INSULATING
INV	INVERT
JT	JOINT

ABBREVIATIONS (CONT'D)

L	LENGTH
LB(S)	POUND(S)
LF	LINEAR FEET
LG	LENGTH, LONG
LOC	APPROXIMATE
LOD	LIMIT OF DISTURBANCE
LP	LOW POINT, LIGHT POLE
LT	LEFT
MAX	MAXIMUM
M.B.	MAILBOX
MDSHA	MARYLAND STATE HIGHWAY ADMINISTRATION
MECH	MECHANICAL
MED	MEDIUM
MFR(S)	MANUFACTURER(S)
MG	MILLION GALLONS
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM, MINUTE
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MPH	MILES PER HOUR
N	NORTH
NA	NOT APPLICABLE
N.I.C	NOT IN CONTRACT
NO.(S)	NUMBER(S)
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OPP	OPPOSITE, OPPOSING
PAV	PAVEMENT
PE	PLAIN END
PK	PK NAIL
PL	PLATE
PROP	PROPOSED
PSI	POUNDS PER SQUARE INCH
PT	POINT
PVC	POLYVINYL CHLORIDE
R	RADIUS, RISER, RIM ELEVATION
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REF	REFERENCE
REQD	REQUIRED
REV	REVISION, REVISED
ROW	RIGHT-OF-WAY
R/W	RIGHT-OF-WAY
RT	RIGHT
S	SOUTH, SEWER
SAN	SANITARY
SB	SOIL BORING
SD	STORM DRAIN
SECT	SECTION
SF	SILT FENCE
SHC	SANITARY SEWER HOUSE CONNECTION
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
SS	STAINLESS STEEL, SANITARY SEWER
STA	STATION
STD	STANDARD
SYS	SYSTEM
T	TOP
TBD	TO BE DETERMINED
TEL	TELEPHONE
TEMP	TEMPERATURE, TEMPORARY
TH	TEST HOLE
TOP	TOP (OF PIPE) ELEVATION
TP	TEST PIT
TRAV	TRAVERSE
TYP	TYPICAL
UFGS	UNIFIED FACILITIES GUIDE SPECIFICATIONS
USGS	UNITED STATES GEOLOGICAL SURVEY
V	VALVE, VERTICAL
VB	VERTICAL BEND
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
W	WEST, WIDTH, WATER
W/	WITH
WHC	WATER HOUSE CONNECTION
WM	WATER METER
W/O	WITHOUT
WSS	WATER SUPPLY SERVICE
WV	WATER VALVE

ABBREVIATIONS (CONT'D)

X	BY, TIMES
&	AND
@	AT
#	NUMBER
%	PERCENT

LEGEND

EXISTING	SANITARY SEWER	
	SANITARY SEWERS 12" AND OVER	
	SANITARY SEWER FORCE MAIN	
	WATER	
	WATER PRESSURE ZONE BOUNDARY	
	STORM DRAIN	
	STORM DRAIN INLET	
	OVERHEAD ELECTRIC	
	UNDERGROUND ELECTRIC	
	UNDERGROUND TELEPHONE	
	UNDERGROUND CABLE	
	GAS	
	PROPERTY LINE	
	UTILITY EASEMENT	
	MINOR CONTOURS	
	MAJOR CONTOURS	
	100-YEAR FLOODPLAIN	
	WETLAND BOUNDARY	
	25' WETLAND BUFFER	
	STREAM BUFFER	
	WATERS OF THE US	
	FENCE	
	GUARDRAIL	
	RAILROAD TRACKS	
	TREE LINE OR WOODS	
	WATER FIRE HYDRANT	
	WATER VALVE	
	GAS METER	
	ELECTRIC POLE GUY	
	ELECTRIC POLE	
	UTILITY MARKER	
	SIGN	
	MAILBOX	
	SANITARY SEWER MANHOLE	
	STORM DRAIN MANHOLE	
	BORING	
	TRAVERSE LOCATION	
	TEST HOLE LOCATION	
	PROPOSED	
	WATER MAIN	
	WATER VALVE	
	FIRE HYDRANT	

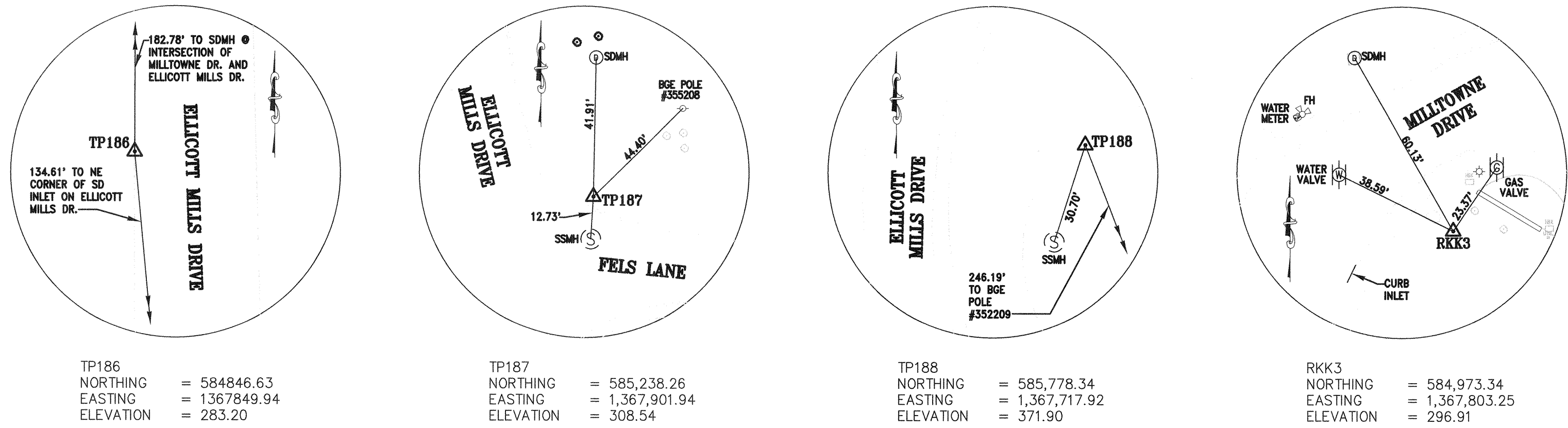
QUANTITIES				
ITEM	ESTIMATED QUANTITY	AS-BUILT	SUPPLIER	
8" X 8" TAPPING SLEEVE AND VALVE	1	EA	1	AMERICAN FLOW CONTROL
8" C900 PVC DR-18 PIPE	522	LF	512	NORTH AMERICAN PIPE
8" GATE VALVE	1	EA	1	AMERICAN FLOW CONTROL
6" FIRE HYDRANT ASSEMBLY	1	EA	1	AMERICAN DARLING
8" - 45' (1/8) ELBOW	6	EA	4	TYLER UNION
8" - 22.5' (1/8) ELBOW	3	EA	2	TYLER UNION
8" - 5' SWEEP	5	EA	2	MULTI FITTINGS
8" X 6" FH TEE	1	EA	1	TYLER UNION
8" DI MJ SOLID SLEEVE	1	EA	2	TYLER UNION
6" C900 PVC DR-18 PIPE	12	LF	12	NORTH AMERICAN PIPE

FITTING SCHEDULE - ELLICOTT MILLS DRIVE			
STATION	FITTING	NORTHING	EASTING
0+00	8" TAPPING SLEEVE	585,458.04	1,367,815.18
0+04	8" VALVE	585,456.45	1,367,811.18
0+12	8" DI SLEEVE	585,452.75	1,367,801.14
0+15	8" DI 45' HB	585,454.72	1,367,806.50
0+26	8" DI 45' HB	585,442.73	1,367,796.61
1+77	8" 5' SWEEP HB	585,298.04	1,367,839.53
1+90	8"x6" FH TEE AND VALVE	585,285.26	1,367,841.95
2+21	8" 5' SWEEP HB	585,254.82	1,367,847.95
4+55	8" DI 45' HB	585,021.20	1,367,863.04
4+60.8	8" DI 45' HB	585,016.80	1,367,859.36
5+04.7	8" 22.5' HB	585,012.83	1,367,815.64
5+43.5	8" VALVE	584,994.89	1,367,780.83
5+49	8" SOLID SLEEVE	584,993.81	1,367,779.36

RECORD DRAWINGS:

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN REVISED TO REFLECT THE AS-BUILT CONDITIONS OF THE ELLICOTT MILLS DRIVE WATER MAIN LOOP RECORDED BY HOWARD COUNTY'S CONTRACTOR AND INSPECTOR.

Engineer's Signature - Registration Number 20566 Date March 27, 2019

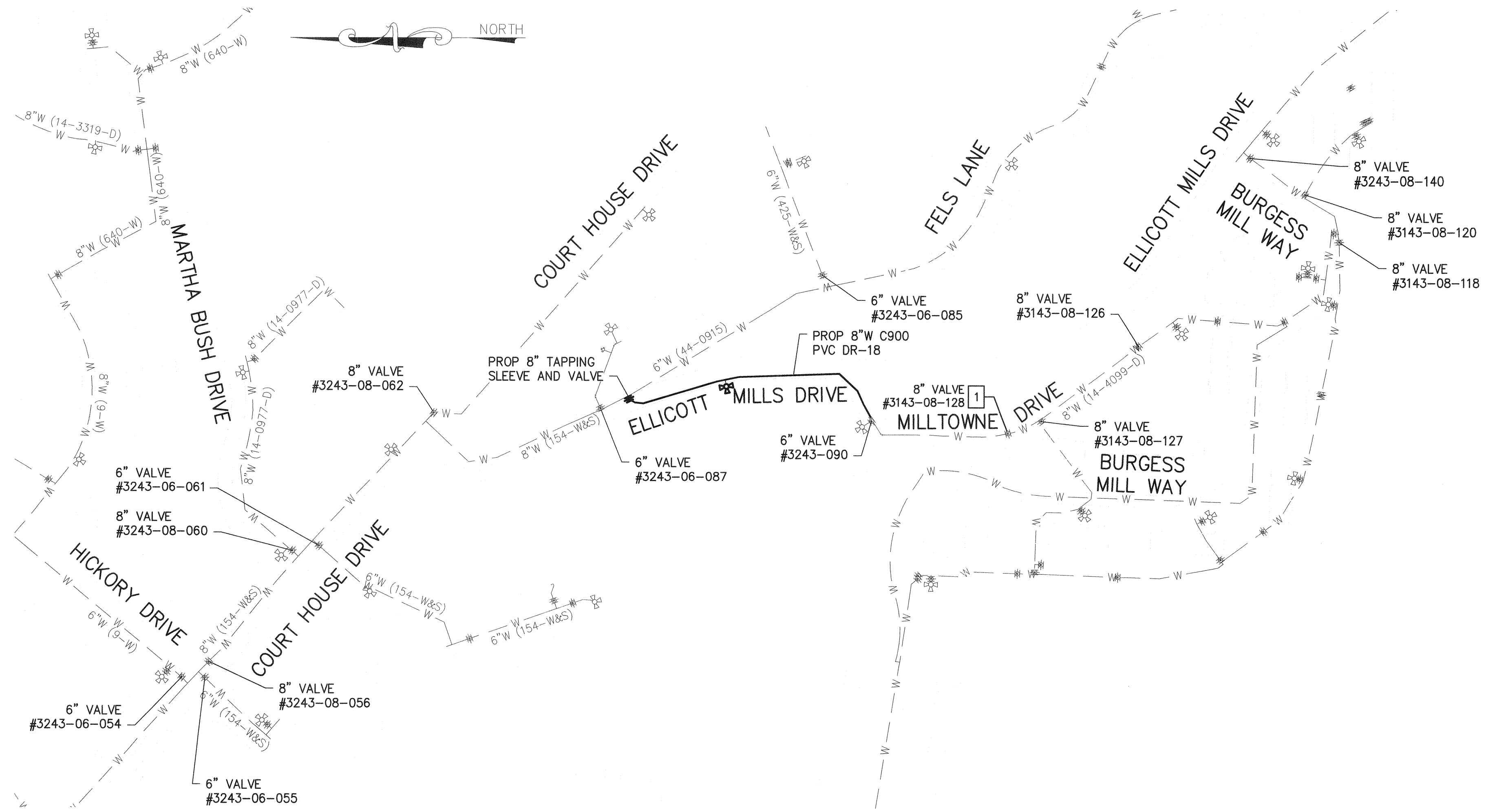


TP186	NORTHING = 584846.63
	EASTING = 1367849.94
	ELEVATION = 283.20
TP187	NORTHING = 585,238.26
	EASTING = 1,367,901.94
	ELEVATION = 308.54
TP188	NORTHING = 585,778.34
	EASTING = 1,367,717.92
	ELEVATION = 371.90
RKK3	NORTHING = 584,973.34
	EASTING = 1,367,803.25
	ELEVATION = 296.91

RECORD DRAWING

G-02

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DIRECTOR OF PUBLIC WORKS CHIEF, BUREAU OF UTILITIES	 CHIEF, BUREAU OF ENGINEERING CHIEF, UTILITY DESIGN DIVISION	RKK P. 410.728.2900 700 East Pratt Street, Suite 500 Baltimore, MD 21202 Engineers Construction Managers Planners Scientists www.rkk.com Responsive People Creative Solutions	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. 20566 EXPIRATION DATE: 09/06/2020	DES. REG/NKS DRN: RAD CHK: JCM SIGN DATE:	REVISION BY NO. DATE RKK 1 RECORD DRAWING REPLACEMENT SHEET 12/18	RECORD DRAWING JANUARY, 2019 LEGEND, ABBREVIATIONS, SURVEY CONTROL, AND FITTING SCHEDULES 600' SCALE MAP NO. 25 BLOCK NO. 7 ELECTION DISTRICT NO. 2	PROJECT NO. W8600 CONTRACT NO. 44-5078 ELLICOTT MILLS DRIVE WATER MAIN LOOP HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET NO. 02 OF 4
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SHUTOFF PLAN
SCALE: 1" = 150'

SEQUENCE OF CONSTRUCTION – GENERAL NOTES

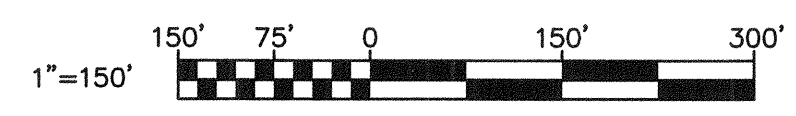
1. THE SUGGESTED SEQUENCE OF CONSTRUCTION DOES NOT INCLUDE CONCURRENT SEDIMENT AND EROSION CONTROL MEASURES, AND MAINTENANCE OF TRAFFIC ACTIVITIES, WHICH SHALL ALSO BE FOLLOWED AS DESCRIBED IN THE CONTRACT DOCUMENTS.
2. THE CONTRACTOR SHALL VERIFY THAT THE EXISTING WATER MAINS AND VALVES ARE ADEQUATELY RESTRAINED PRIOR TO REMOVAL OF EXISTING WATER MAIN AT THE CONNECTION LOCATIONS. THE CONTRACTOR SHALL PROVIDE TEMPORARY THRUST BLOCKING ON THE EXISTING AND NEW WATER MAINS AS NEEDED TO COMPLETE CONNECTION TO THE NEW WATER MAIN AT NO ADDITIONAL COST TO THE COUNTY.
3. THE CONTRACTOR SHALL NOTIFY ALL PROPERTY OWNERS AFFECTED BY THE PROPOSED WATER SHUTDOWN. SUCH NOTIFICATIONS SHALL BE SENT SUFFICIENTLY IN ADVANCE OF ANY PLANNED WATER SHUTDOWN. ALL WATER SHUTDOWNS MUST BE LIMITED TO MAXIMUM OF EIGHT (8) HOURS AND SHALL BE PERFORMED DURING A LOW WATER DEMAND PERIOD IN CONSULTATION WITH THE COUNTY PERSONNEL AND IMPACTED PROPERTY OWNERS.
4. TEST PIT EXISTING 8" WATER MAIN AT PROPOSED TIE-IN ALONG ELLICOTT MILLS DRIVE, AND AT MILLTOWNE DRIVE, SURVEY INVERT ELEVATION AT EXISTING STORM DRAINS AND SEWERS, AND PROVIDE TO ENGINEER.
5. INSTALL WATER MAIN AND BACKFILL. OPEN TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THAT WHICH CAN BE BACKFILLED AND STABILIZED BY THE END OF THE WORK DAY. AT THE END OF EACH WORK DAY, ALL DISTURBED PAVED AREAS SHALL BE RESTORED WITH PERMANENT SUBGRADE AND BASE ASPHALT TO THE EXTENT SHOWN PER HOWARD COUNTY STANDARD DETAIL G-4.01, THEN TEMPORARILY PAVED OR PROPERLY COVERED TO PERMIT VEHICULAR TRAFFIC DURING NON-WORK HOURS. SUBSEQUENT TO WATER MAIN TRENCH RESTORATION, COMPLETE RESTORATION PER HOWARD COUNTY STANDARD DETAIL G-4.01, INCLUDING 2" MILLING AND REPAVING THE SOUTHBOUND LANE OF ELLICOTT MILLS DRIVE AND MILLTOWNE DRIVE WITHIN THE LOD TO THE APPROXIMATE EXTENT SHOWN ON THE PLAN.
6. INSTALL TRACER WIRES, CONTINUITY TEST STATIONS, AND CORROSION PROTECTION IN ACCORDANCE WITH THE WATER NOTES AND STANDARD DETAILS.
7. CLEAR AND GRADE 5' RADIUS AROUND FH PER W-1.12. RESTORE CONCRETE CURB, GUTTER, AND SIDEWALK PER STANDARD DETAILS. RESTORE LANDSCAPED AREA WITH 6" TOPSOIL AND SEED AND ESTABLISH TURF.

SUGGESTED SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT AND NOTIFY THE COUNTY TEN (10) BUSINESS DAYS PRIOR TO WORK. (10 WORK DAYS)
2. INSTALL EROSION/SEDIMENT DEVICES AND MAINTENANCE/PROTECTION OF TRAFFIC DEVICES AS REQUIRED. (1 WORK DAY)
3. TEST PIT EXISTING 8" WATER MAIN PER GENERAL NOTE 4 ON THIS SHEET. (1 WORK DAY)
4. CONSTRUCT WATER MAIN AS SHOWN WITH THE EXCEPTION OF TIE-INS, UTILIZING "SAME-DAY TRENCH STABILIZATION" METHODS IN ACCORDANCE WITH GENERAL NOTE 5 ON THIS SHEET. (10 WORK DAYS)
5. PERFORM HYDROSTATIC TESTING AT 235 PSI PER SECTION 1006 OF COUNTY DESIGN MANUAL VOL. IV. (1 WORK DAY)
6. UPON SUCCESSFUL COMPLETION OF HYDROSTATIC TESTING, DISINFECT WATER MAIN AND PERFORM BACTERIOLOGICAL TESTING ACCORDING TO SECTIONS 1007 AND 1008, RESPECTIVELY. (2 WORK DAYS)
7. PERFORM TIE-IN ON ELLICOTT MILLS DRIVE WITH 8"x8" TS&V. (1 WORK DAY)
8. COORDINATE SHUTDOWN OF EXISTING 8"W ALONG MILLTOWNE DRIVE WITH THE COUNTY BUREAU OF UTILITIES TO CLOSE VALVE 10 DAYS PRIOR TO SCHEDULING THE WORK. ONCE SHUT, PERFORM TIE-IN TO EXISTING 8"x6" TEE ON MILLTOWNE DRIVE. (1 WORK DAY)
9. RESTORE AREA AS SPECIFIED. (5 WORK DAYS)
10. CLEAN CONSTRUCTION SITE AND REMOVE EROSION/SEDIMENT CONTROL DEVICES AFTER PERMISSION IS GRANTED BY THE EROSION/SEDIMENT CONTROL INSPECTOR. (1 WORK DAY)

RECORD DRAWINGS:
I HEREBY CERTIFY THAT THIS PLAN HAS BEEN REVISED TO REFLECT THE AS-BUILT CONDITIONS OF THE ELLICOTT MILLS DRIVE WATER MAIN LOOP RECORDED BY HOWARD COUNTY'S CONTRACTOR AND INSPECTOR.

Alan C. Miller 20566 March 27, 2019
Engineer's Signature - Registration Number Date



RECORD DRAWING

C-01

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>[Signature]</i> 4/15/19 Chief, Bureau of Utilities: <i>[Signature]</i> 4-3-19		RK&K P. 410.728.2900 700 East Pratt Street, Suite 500 Baltimore, MD 21202 Engineers Construction Managers Planners Scientists www.rkk.com Responsive People Creative Solutions		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. 20566 EXPIRATION DATE: 09/06/2020		DES: REG/NKS BY: RKK NO: Δ REVISION: RECORD DRAWING REPLACEMENT SHEET DATE: 12/18		RECORD DRAWING JANUARY, 2019 WATER SHUTOFF PLAN AND SEQUENCE OF CONSTRUCTION 600' SCALE MAP NO. 25 BLOCK NO. 7 ELECTION DISTRICT NO. 2		PROJECT NO. W8600 CONTRACT NO. 44-5078 ELLICOTT MILLS DRIVE WATER MAIN LOOP HOWARD COUNTY, MARYLAND		SCALE: AS SHOWN SHEET NO.: 03 OF 4	
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RKK21\GIS - \bentley\2017\2017\17240_hicco\coll\Howard County\Task 4 - Ellicott Mills Drive Survey\CADD\Plans\Ellcott Mills Water Loop\Map-Build\3-p\UT-P001_ELLICOTT.dwg Mar 18, 2019 - 2:13pm ENV/CTB Plot Scale 1=1 Plot By: rgreen Tab: C-01

RKK21575 - \\balrav05\2017\17240_HoCo06\Call\Howard County\Task 4 - Ellicott Mills Drive Survey\CADD\Plan\Ellicott Mills Water Loop\As-Built\4-p11-P002-ELLICOTT.dwg, Mar 25, 2019 - 2:56pm ENV,CTB Plot Scale 1=1 Plot By: rgreen Tab.C-02

SOIL BORINGS			
TEST HOLE #	NORTH	EAST	DEPTH OF AUGER REFUSAL
SB-01	585,408.09	1,367,807.66	10.0
SB-02	585,147.12	1,367,855.44	10.6

PAVEMENT RESTORATION NOTE

LIMITS OF PAVEMENT RESTORATION INCLUDE 2" MILLING AND REPAVING THE SOUTHBOUND LANE OF ELLICOTT MILLS DRIVE AND MILLTOWNE DRIVE WITHIN THE LOD AS SHOWN ON THE PLAN.

EROSION AND SEDIMENT CONTROL CONSTRUCTION NOTE

PROVIDE CURB INLET PROTECTION AS SHOWN ON THE PLAN IN ACCORDANCE WITH MDE STANDARD DETAIL E-9-3, TYP. 2

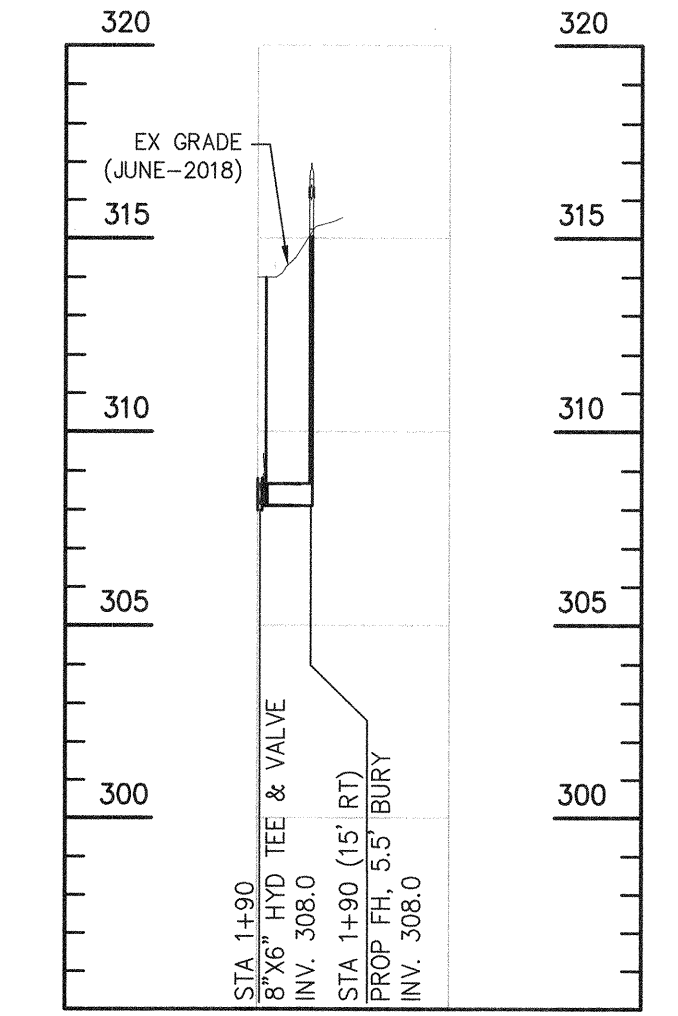
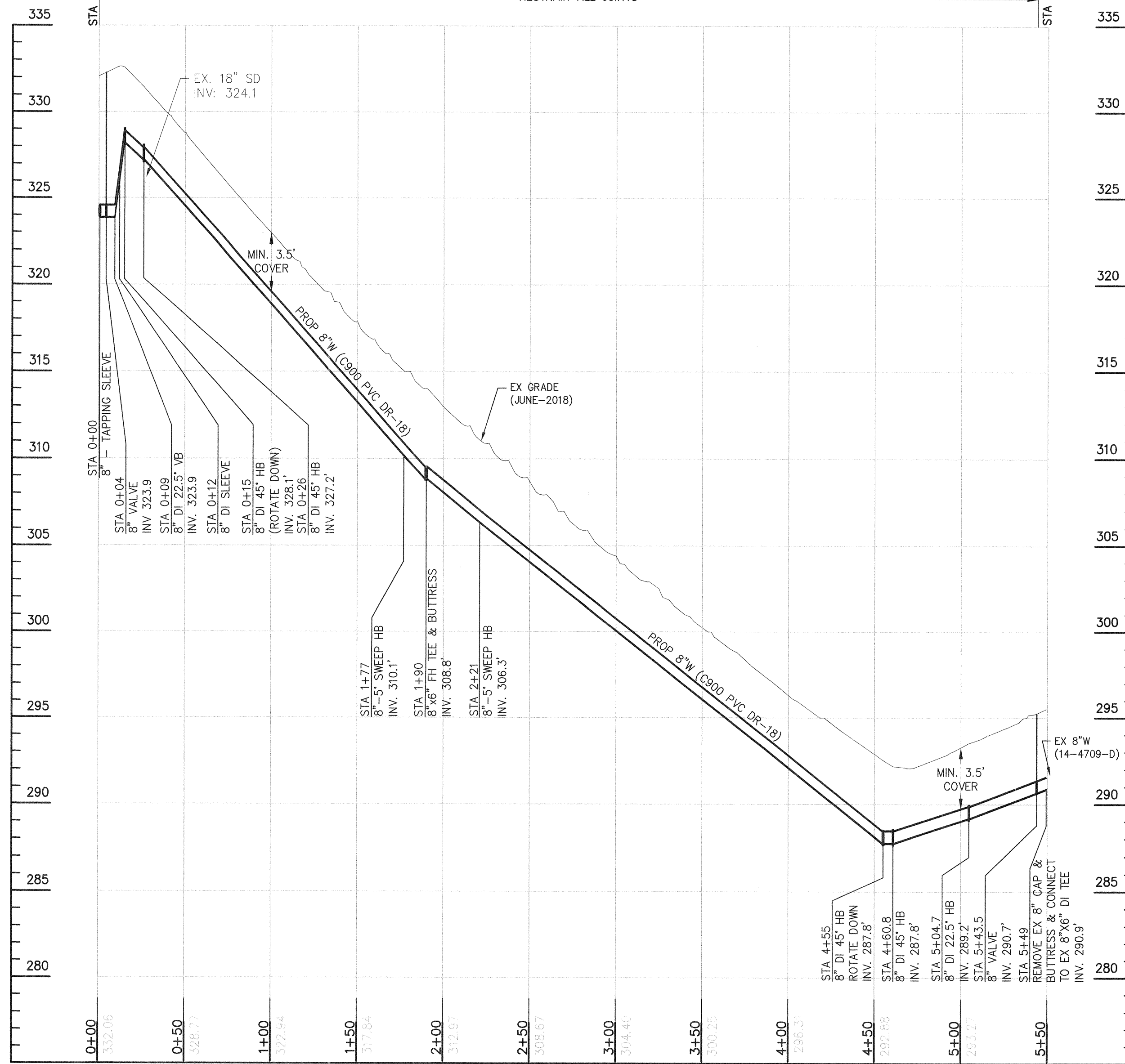
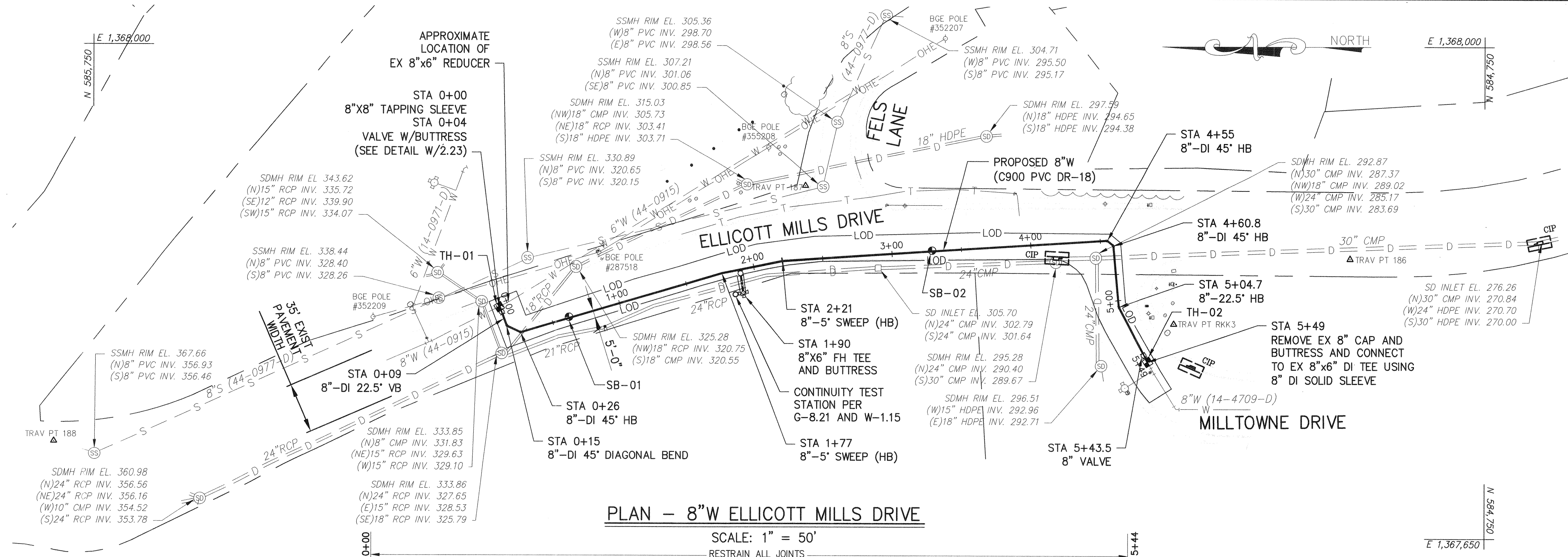
UTILITY TRENCH SEDIMENT CONTROL PROCEDURES

- EXCAVATE TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.
- IMMEDIATELY FOLLOWING PIPE INSTALLATION THE TRENCH SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORK DAY.
- TEMPORARY STEEL PLATES SHALL BE PLACED ON ANY DISTURBED AREA DAILY.
- TEST HOLES SHOWN ARE TO BE CONDUCTED BY THE CONTRACTOR; REFER TO GENERAL NOTES ON DWG C-01.

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

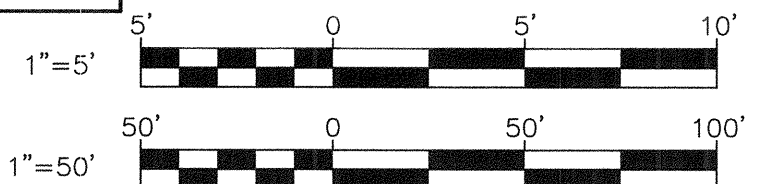
- THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN THREE (3) HORIZONTAL TO ONE (1) VERTICAL (3:1); AND
- SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.



RECORD DRAWINGS:

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN REVISED TO REFLECT THE AS-BUILT CONDITIONS OF THE ELLICOTT MILLS DRIVE WATER MAIN LOOP RECORDED BY HOWARD COUNTY'S CONTRACTOR AND INSPECTOR.

John C. W... 20566 March 27, 2019
 Engineer's Signature - Registration Number Date



RECORD DRAWING

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>John C. W...</i> +1515 DIRECTOR OF PUBLIC WORKS DATE		<i>Thomas E. ... 4/6/19</i> CHIEF, BUREAU OF ENGINEERING DATE		<i>...</i> 4/6/19 CHIEF, UTILITY DESIGN DIVISION DATE		RK K P: 410.728.2900 700 East Pratt Street, Suite 500 Baltimore, MD 21202 Engineers Construction Managers Planners Scientists www.rkk.com Responsive People Creative Solutions		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. 20566 EXPIRATION DATE: 09/06/2020		DES: REG/NKS DRN: RAD CHK: JCM SIGN DATE:		BY: RKK NO: Δ REVISION: RECORD DRAWING REPLACEMENT SHEET DATE: 12/18		RECORD DRAWING JANUARY, 2019 WATER PLAN AND PROFILE (STA 0+00 TO 5+22) 600' SCALE MAP NO. 25		PROJECT NO. W8600 CONTRACT NO. 44-5078 ELLICOTT MILLS DRIVE WATER MAIN LOOP ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND		SCALE: AS SHOWN SHEET NO. 04 OF 4	
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