

FINAL WATER AND SEWER CONSTRUCTION PLAN

BEECHWOOD MANOR

LOTS 1-31 AND OPEN SPACE LOTS 32-34 A SUBDIVISION OF TAX MAP 50 - PARCEL 1 HOWARD COUNTY, MARYLAND CONTRACT 24-5194-D

GENERAL NOTES

- PART I**
- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
 - THE EXISTING TOPOGRAPHY SHOWN HEREON IS TAKEN FROM AN AERIAL TOPOGRAPHIC SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC. DATED JUNE, 2018. OFFSITE TOPOGRAPHY FROM HOWARD COUNTY GIS.
 - THE COORDINATES SHOWN HEREON ARE BASED UPON HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 470E AND 470D WERE USED FOR THIS PROJECT.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
 - FOR DETAILS NOT SHOWN ON THE DRAWINGS, 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.
 - WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATION AT HIS OWN EXPENSE.
 - THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

AT&T	1-800-252-1133
BCE (CONSTRUCTION SERVICES)	410-637-8713
BCE (EMERGENCY)	410-685-0123
BUREAU OF UTILITIES	410-313-4900
COLONIAL PIPELINE CO	410-795-1390
MISS UTILITY	1-800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-5533
VERIZON	1-800-743-0033
 - TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
 - THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID OF THE CONSTRUCTION OF THE MAIN.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/LOUING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(g) OF THE HOWARD COUNTY CODE.

PART II - WATER

- ALL WATER MAINS SHALL BE AWWA STANDARD C900 (DR14) PVC 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 ELEVATION 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 DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
- FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATIONS TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C 900 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.
- SPRINKLER SYSTEM FOR SINGLE RESIDENTIAL DWELLING UNITS SHALL HAVE WATER HOUSE CONNECTIONS AND WATER METERS THAT ARE SIZED IN ACCORDANCE WITH THE DESIGN OF THE SPRINKLER SYSTEMS. SPRINKLER SYSTEMS FOR SINGLE RESIDENTIAL DWELLINGS SHALL HAVE A MINIMUM OF 1.5" SERVICE CONNECTION WITH 1" OUTSIDE WATER SETTING.
- 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. SEVENTEEN (17) POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESES. TWELVE (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 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 DEFLECTION 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 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 (1.5-DEGREE ON EITHER END OF THE COUPLING). SHALL BE RATED FOR A MINIMUM 200 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 CERTAINTED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL. 5-DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (PEX) 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 C900 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 INCORPORATE 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.

PART III - SEWER

- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- FORCE MAINS SHALL BE D.I.P. ONLY.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G-5.52. WHERE WATERTIGHT FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATED THAT CELLAR CANNOT BE SERVED.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND WITH FINAL PLAN F-23-018.

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Alexander Brattini 08/23/23
SOIL CONSERVATION DISTRICT DATE

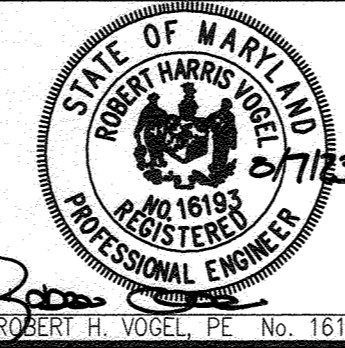
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Kim O'Neil 8/16/23
CHIEF, BUREAU OF UTILITIES DATE

Chad Anderson 8/30/23
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

VOGEL ENGINEERING
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com



PROFESSIONAL CERTIFICATE
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. 18193, EXPIRATION DATE: 02-27-2024

DRN: IMH/KC DES: RHV
CHK: RHV
DATE: AUGUST 2023

DF1	1	As-Built Data & Details	5/10/24
BY	NO.	REVISION	DATE

FINAL WATER AND SEWER CONSTRUCTION PLAN
CONTRACT 24-5194-D
COVER SHEET

OWNER
BEECHWOOD MANOR, LLC
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
(410) 480-0023

DEVELOPER
TRINITY HOMES MARYLAND, LLC
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
(410) 480-0023

TAX MAP 50, GRID 1, PARCEL 1
6TH ELECTION DISTRICT

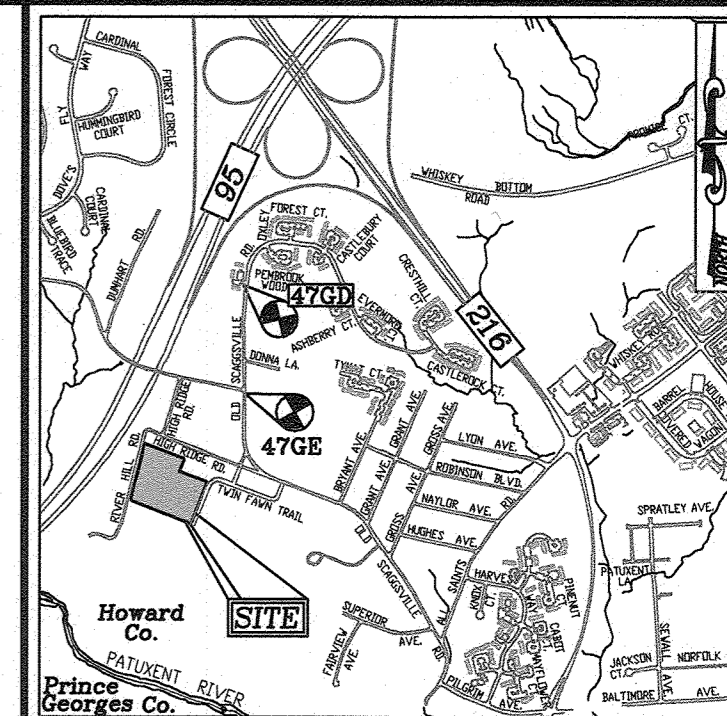
ZONED: R-SC
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 3

BENCHMARKS

HOWARD COUNTY BENCHMARK 470E (CONC. MON.)
N 52904.84 E 135085.03 ELEV. 335.74
LOCATION: BY #9160 OLD SCAGSVILLE ROAD

HOWARD COUNTY BENCHMARK 470D (CONC. MON.)
N 53049.42 E 135087.37 ELEV. 312.28
LOCATION: BY #9028 OLD SCAGSVILLE ROAD



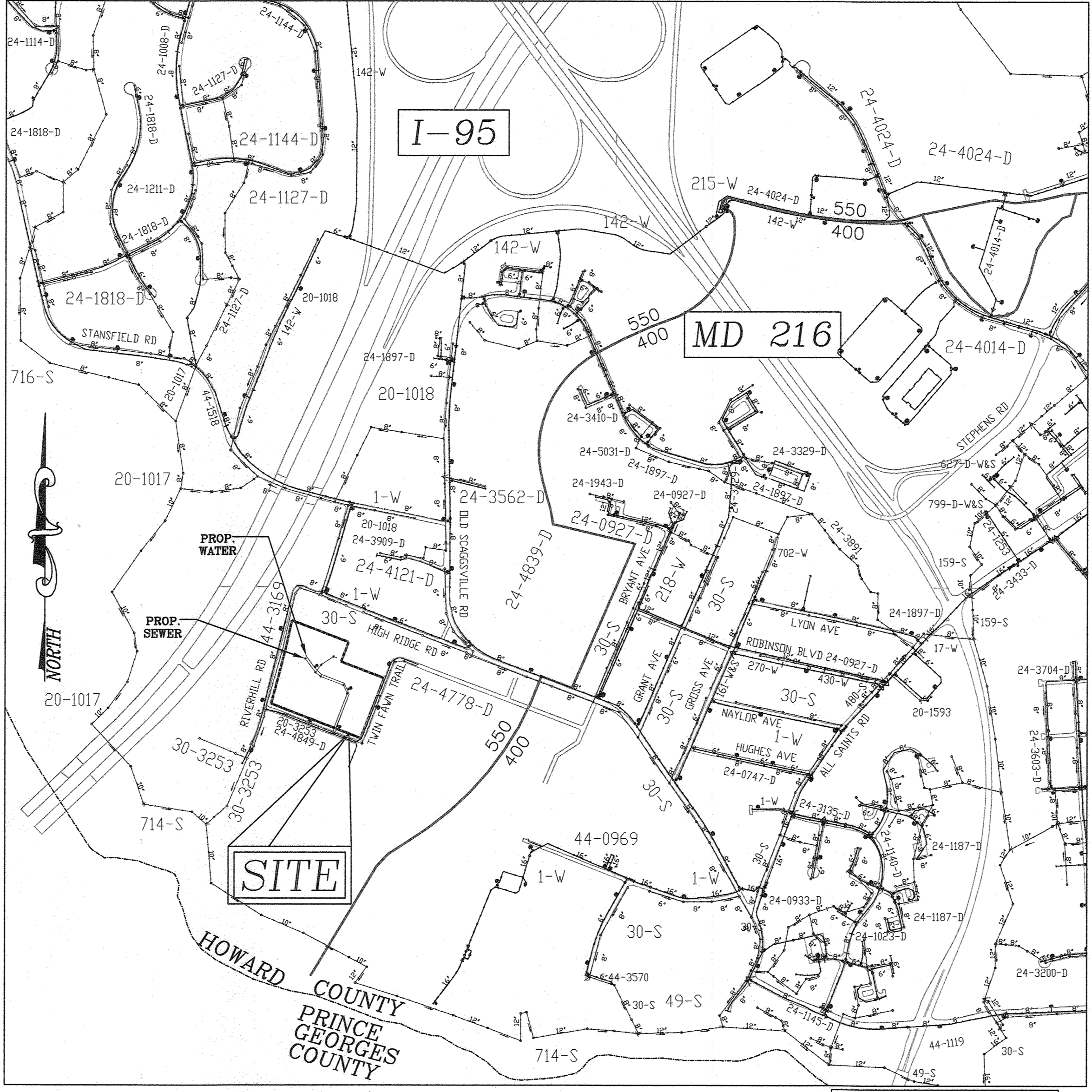
VICINITY MAP
SCALE: 1"=2000'
ADC MAP, PAGE: 39 GRID: F7

LEGEND

- EXISTING CURB
- PROPOSED CURB
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING WATER MAIN
- PROPOSED PUBLIC WATER
- FIRE HYDRANT
- PROPOSED VALVE
- PROPOSED TEE
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- EXISTING SEWER
- SEWER MANHOLE
- TERMINAL SEWER MANHOLE
- PRIVATE WATER HOUSE CONNECTION
- PUBLIC SEWER
- PRIVATE SEWER HOUSE CONNECTION
- PROPOSED LIGHT
- ROW LINE
- PROPERTY LINE
- LOT LINE
- PROPOSED RETAINING WALL
- EXISTING TREES
- EXISTING STREAM
- EXISTING STREAM BUFFER
- EXISTING WETLAND
- EXISTING WETLAND BUFFER

SHEET INDEX

DESCRIPTION	SHEET NO.
COVER SHEET & LOCATION MAP	1 OF 3
LAYOUT PLAN AND WATER PROFILE	2 OF 3
SEWER PROFILES	3 OF 3



LOCATION MAP
SCALE: 1"=600'

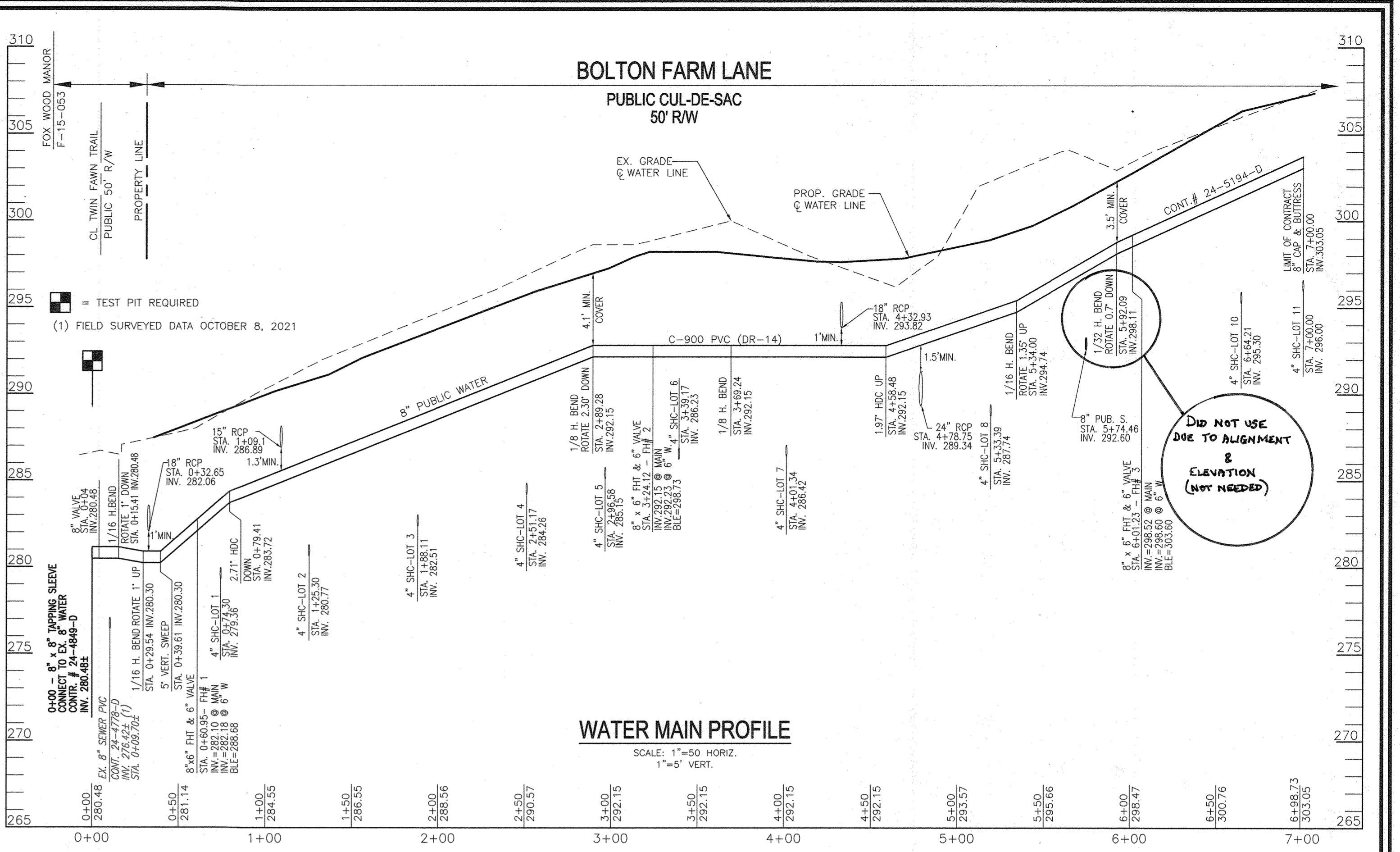
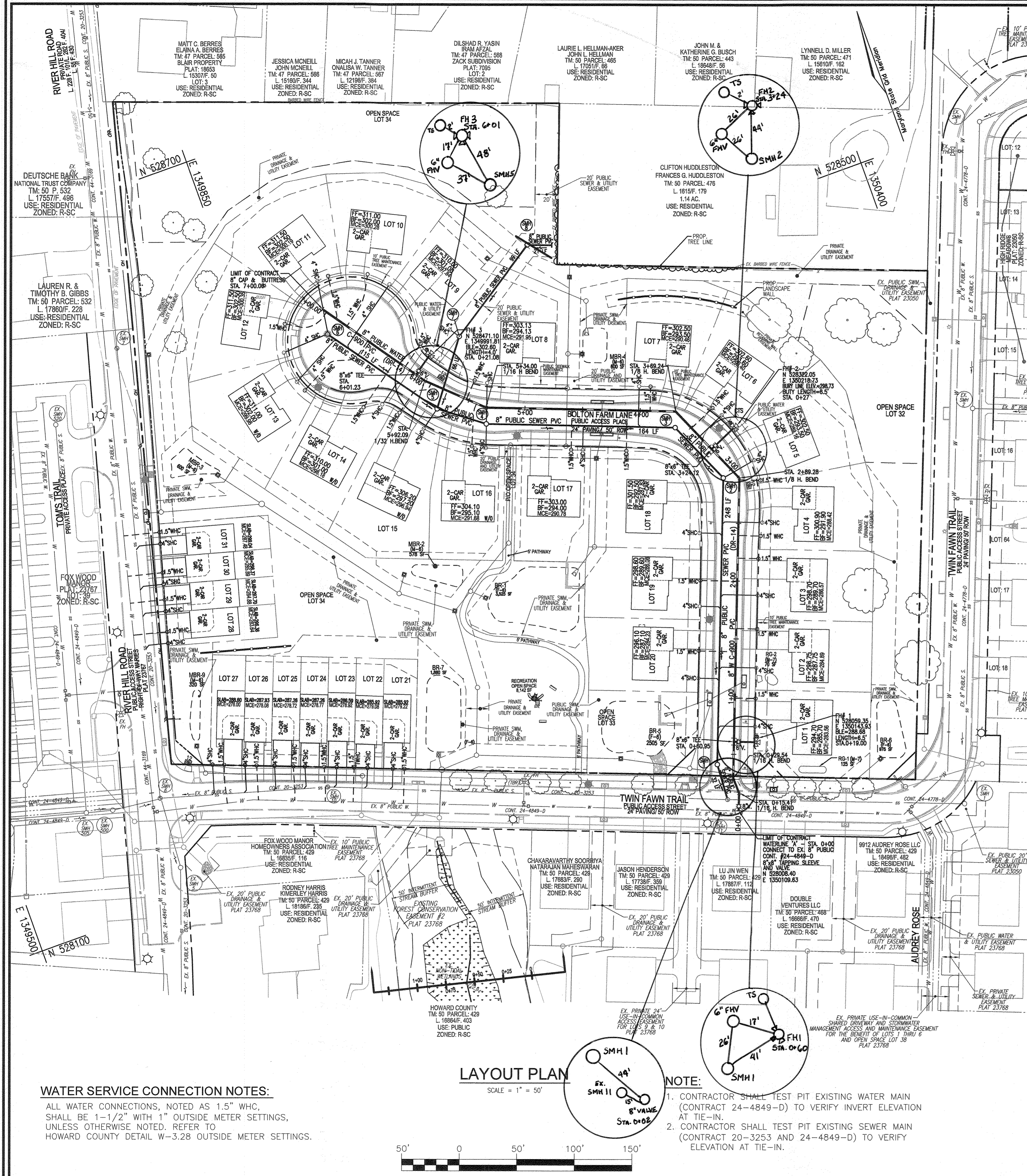
WATER ZONE: 550
TEST PRESSURE: 236.91 psi
TEST GRADIENT: 827

Type of Building :	RESIDENTIAL
No. of Lots/Parcels :	31 (20 SFD, 11 SFA)
No. of single Water House Connections :	31
No. of Twin Water House Connections :	0
No. of Sewer House Connections :	31
No. of Twin Sewer House Connections :	0
Sewer Shed :	LITTLE PATUXENT RIVER
Treatment Plant :	LITTLE PATUXENT WATER RECLAMATION PLANT

QUANTITIES

NAME OF UTILITY CONTRACTOR : HTI SUBCONTRACTOR : CCS
SURVEY AND DRAFTING DIVISION AS-BUILT DATE :

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
WATER				
8" WATER PVC-C900 DR-14	700 LF	698'	PVC	NATIONAL PIPE/WESTLAKE
6" WATER DIP (FH)	67 LF	62'	DIP	AMERICAN CAST IRON
8"x8" TAPPING SLEEVE & VALVE	1 EA	1	STAINLESS	SMITH-BLAIR
8" X 8" TEE	3 EA	3	DIP	TYLER UNION STAR
6" VALVE	3 EA	3	DIP	MUELLER
FIRE HYDRANT & TEST STATION	3 EA	3	DIP/CONCRETE	MUELLER / J. FARM HOME (TS)
8" GAP AND BUTTRESS	1 EA	1	DIP	TYLER UNION STAR
1/8" HORIZ. BEND	2 EA	2	DIP	TYLER UNION STAR
1/16" HORIZ. BEND	3 EA	3	DIP	TYLER UNION STAR
1/32" HORIZ. BEND	1 EA	0	DIP	TYLER UNION STAR
5" VERT. SWEEP	1 EA	1	DIP	TYLER UNION STAR
SEWER				
4' PRECAST MANHOLE	8 EA	8		
8" SEWER PVC	850 LF	844'		

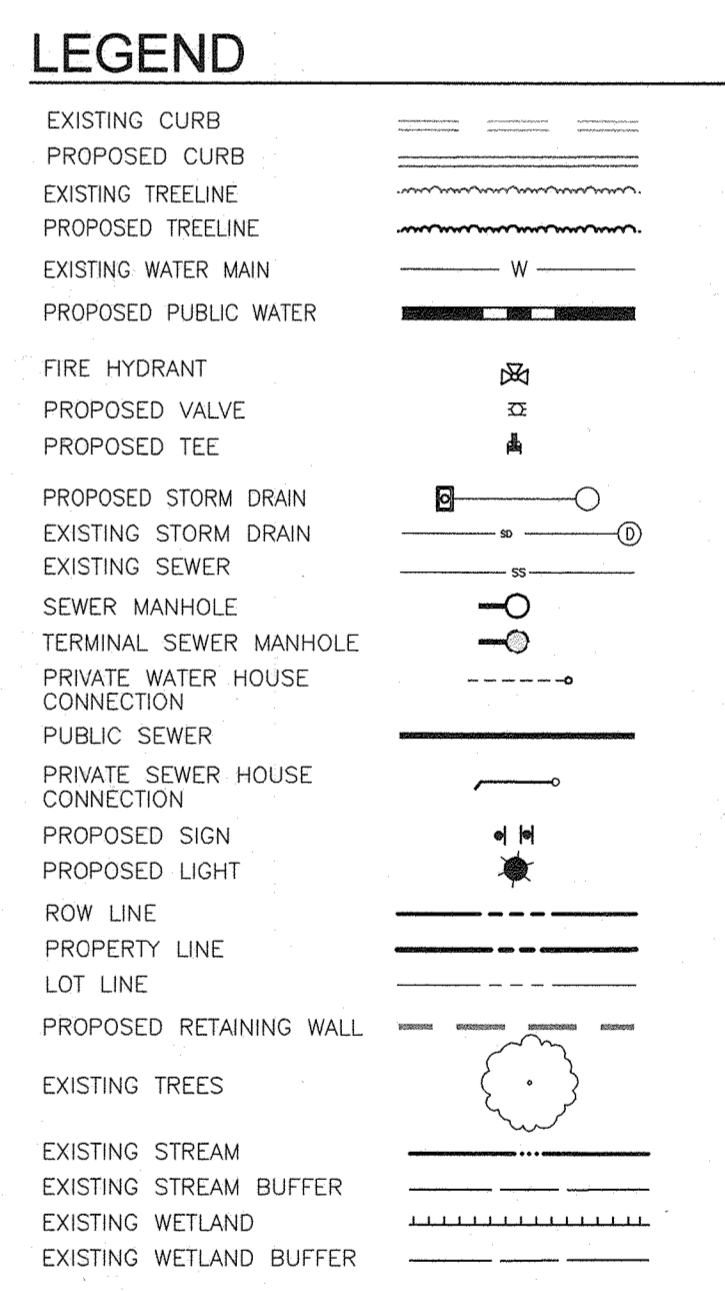


WATER HOUSE CONNECTION - AS-BUILT LOCATION TABLE

LOT	STREET ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
LOT 1	9500 BOLTON FARM LANE	FH1 32' FHV1	42'
LOT 2	9504 BOLTON FARM LANE	FH1 98' FHV1	101'
LOT 3	9508 BOLTON FARM LANE	FHV2 102' SMH2	78'
LOT 4	9512 BOLTON FARM LANE	FHV2 86' SMH2	60'
LOT 5	9516 BOLTON FARM LANE	FHV2 48' SMH2	33'
LOT 6	9520 BOLTON FARM LANE	FHV2 35' SMH2	41'
LOT 7	9524 BOLTON FARM LANE	SMH3 41' 1-18	36'
LOT 8	9532 BOLTON FARM LANE	SMH5 42' FHV3	51'
LOT 9	9536 BOLTON FARM LANE	FH3 11' FHV3	24'
LOT 10	9540 BOLTON FARM LANE	SMH6 62' FH3	87'
LOT 11	9544 BOLTON FARM LANE	SMH6 60' FH3	110'
LOT 12	9545 BOLTON FARM LANE	SMH6 88' CLEARANCE LOT 11	47'
LOT 13	9541 BOLTON FARM LANE	SMH6 53' W/HC LOT 14	52'
LOT 14	9537 BOLTON FARM LANE	SMH6 71' SMH5	32'
LOT 15	9533 BOLTON FARM LANE	SMH5 32' FHV3	39'
LOT 16	9529 BOLTON FARM LANE	SMH5 44' SMH4	43'
LOT 17	9525 BOLTON FARM LANE	SMH4 77' 1-12	23'
LOT 18	9513 BOLTON FARM LANE	1-12 32' SMH3	47'
LOT 19	9509 BOLTON FARM LANE	FHV2 114' SMH4	91'
LOT 20	9505 BOLTON FARM LANE	CLEARANCE LOT 19 39' FHV1	86'
LOT 21	10020 TWIN FAWN TRAIL	MH-1 31' MH-1B	36'
LOT 22	10022 TWIN FAWN TRAIL	MH-1 75' MH-1B	10'
LOT 23	10024 TWIN FAWN TRAIL	TWIN TWIN	
LOT 24	10026 TWIN FAWN TRAIL	MH-19 77' MH-1B	61'
LOT 25	10028 TWIN FAWN TRAIL	MH-19 98' MH-19	62'
LOT 26	10030 TWIN FAWN TRAIL	MH-19 45' Ex. SMH10	87'
LOT 27	10031 TWIN FAWN TRAIL	MH-19 18' Ex. SMH10	62'
LOT 28	9119 RIVER HILL ROAD	1-11 100' Ex. 8" VALVE	54'
LOT 29	9117 RIVER HILL ROAD	MH-15 75' 1-11	72'
LOT 30	9115 RIVER HILL ROAD	MH-15 52' 1-11	49'
LOT 31	9113 RIVER HILL ROAD	MH-15 18' 1-11	18'

WATER MAIN LOCATION CHART

STATION	APPURTENANCE	NORTHING	EASTING
WATER MAIN 'A'			
WL 0+00.00	CONNECT TO EX. 8" WATER LINE 8"X8" TAPPING SLEEVE	528008.40	1350109.63
WL 0+04.00	8" VALVE	528012.13	1350111.06
WL 0+15.41	8" - 1/16 HB, ROTATE 1' DOWN	528022.81	1350115.18
WL 0+29.54	8" - 1/16 HB, ROTATE 1' UP	528036.94	1350114.83
WL 0+39.61	8" - 5' VERT. SWEEP		
WL 0+60.95	8" x 6" FHT & 6" VALVE	528066.21	1350126.11
WL 0+79.41	8" - 2.71 VERT. HDC DOWN		
WL 2+89.28	8" - 1/8 HB, ROTATE 2.30' DOWN	528279.28	1350208.21
WL 3+24.12	8" x 6" FHT & 6" VALVE	528309.13	1350194.95
WL 3+69.24	8" - 1/8 HB	528352.35	1350175.76
WL 4+58.48	8" - 1.97 VERT. HDC UP		
WL 5+34.00	8" - 1/16 HB, ROTATE 1.35' UP	528411.48	1350021.98
WL 5+49.02	8" - 1/32 HB, ROTATE 0.7' DOWN	528451.49	1349979.86
WL 6+01.23	8" x 6" FHT & 6" VALVE	528458.99	1349974.65
WL 7+00.00	8" CAP AND BUTTRISS	528538.60	1349918.36



WATER SERVICE CONNECTION NOTES:
 ALL WATER CONNECTIONS, NOTED AS 1.5" W/HC, SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAIL W-3.28 OUTSIDE METER SETTINGS.

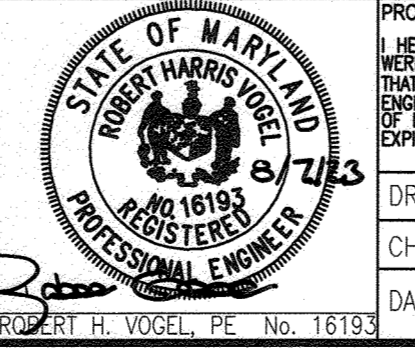
LAYOUT PLAN
 SCALE = 1" = 50'

- NOTE:**
- CONTRACTOR SHALL TEST PIT EXISTING WATER MAIN (CONTRACT 24-4849-D) TO VERIFY INVERT ELEVATION AT TIE-IN.
 - CONTRACTOR SHALL TEST PIT EXISTING SEWER MAIN (CONTRACT 20-3253 AND 24-4849-D) TO VERIFY ELEVATION AT TIE-IN.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 8/16/23
 DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
 8/30/23
 DATE

VOGEL ENGINEERING
TIMMONS GROUP
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8961 www.timmons.com



PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2024
 DRN: MM/KG DES: RHV
 CHK: RHV
 DATE: AUGUST 2023

NO.	REVISION	DATE
01	As-Built Data & Details	8/16/23

FINAL WATER AND SEWER CONSTRUCTION PLAN
CONTRACT 24-5194-D
LAYOUT PLAN

OWNER
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 3675 PARK AVE., SUITE 301
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 (410) 480-0023

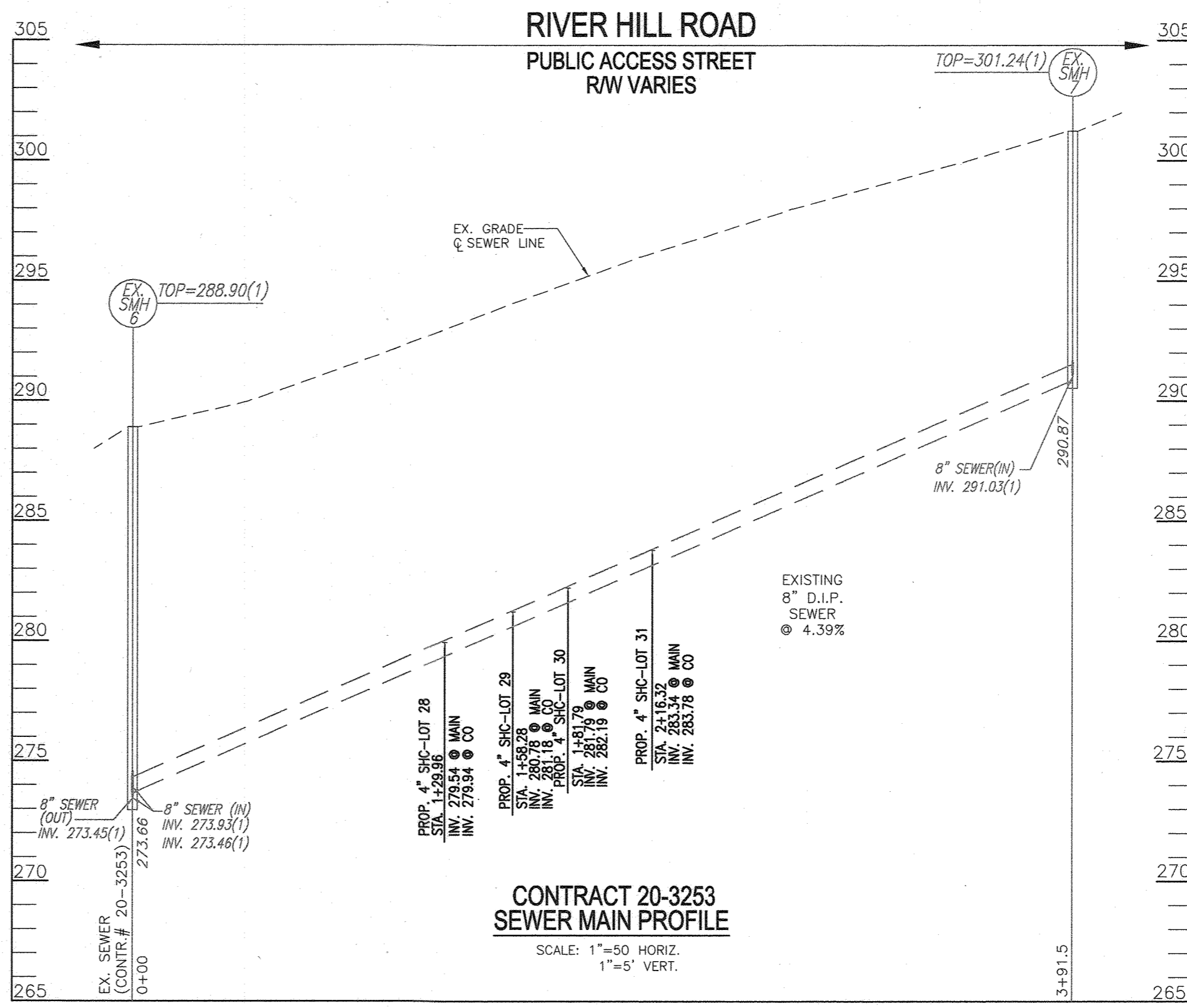
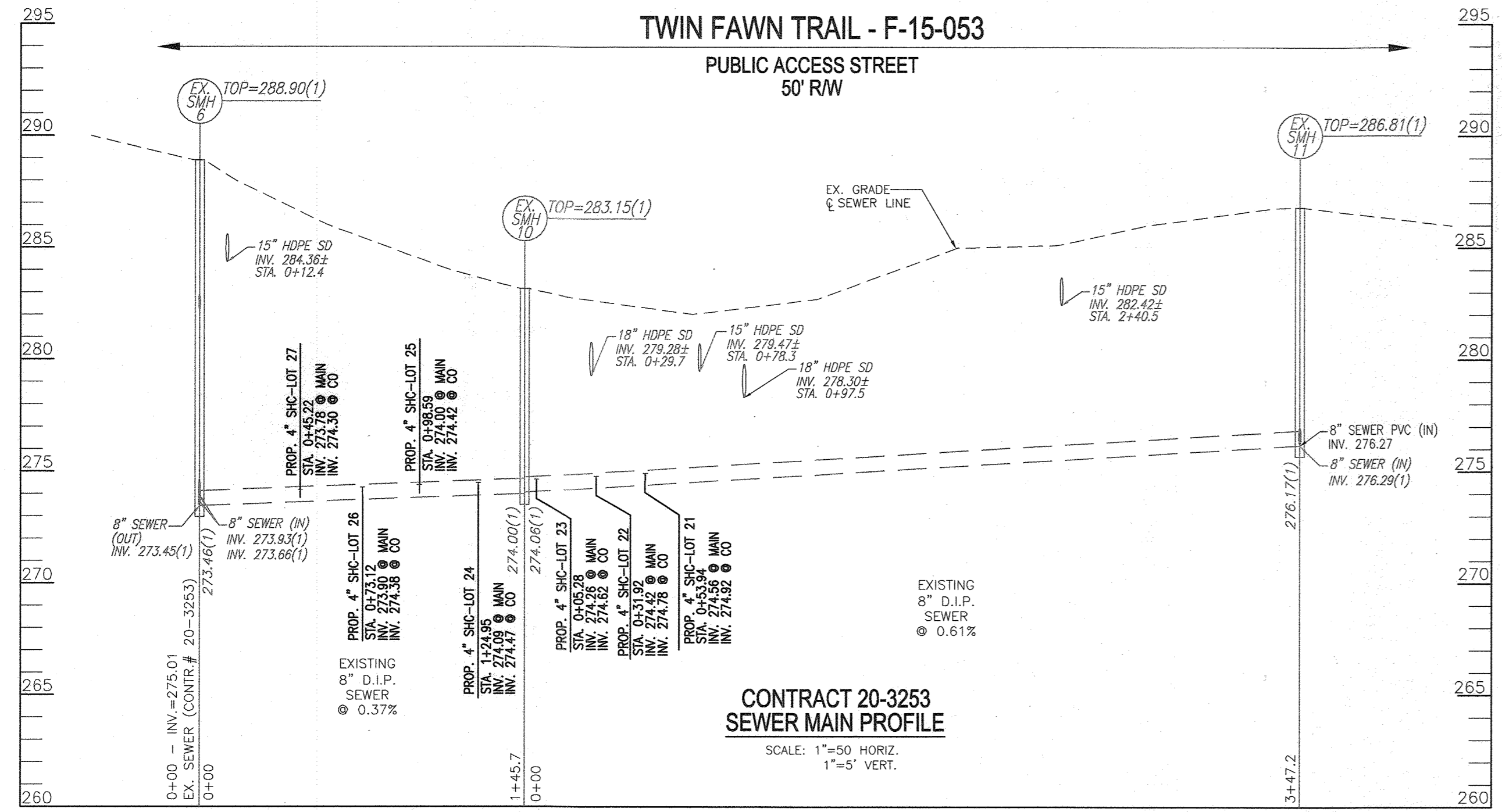
DEVELOPER
 TRINITY HOMES MARYLAND, LLC
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
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BEECHWOOD MANOR
 LOTS 1-31 AND OPEN SPACE LOTS 32-34
 A SUBDIVISION OF TAX MAP 50 - PARCEL 1

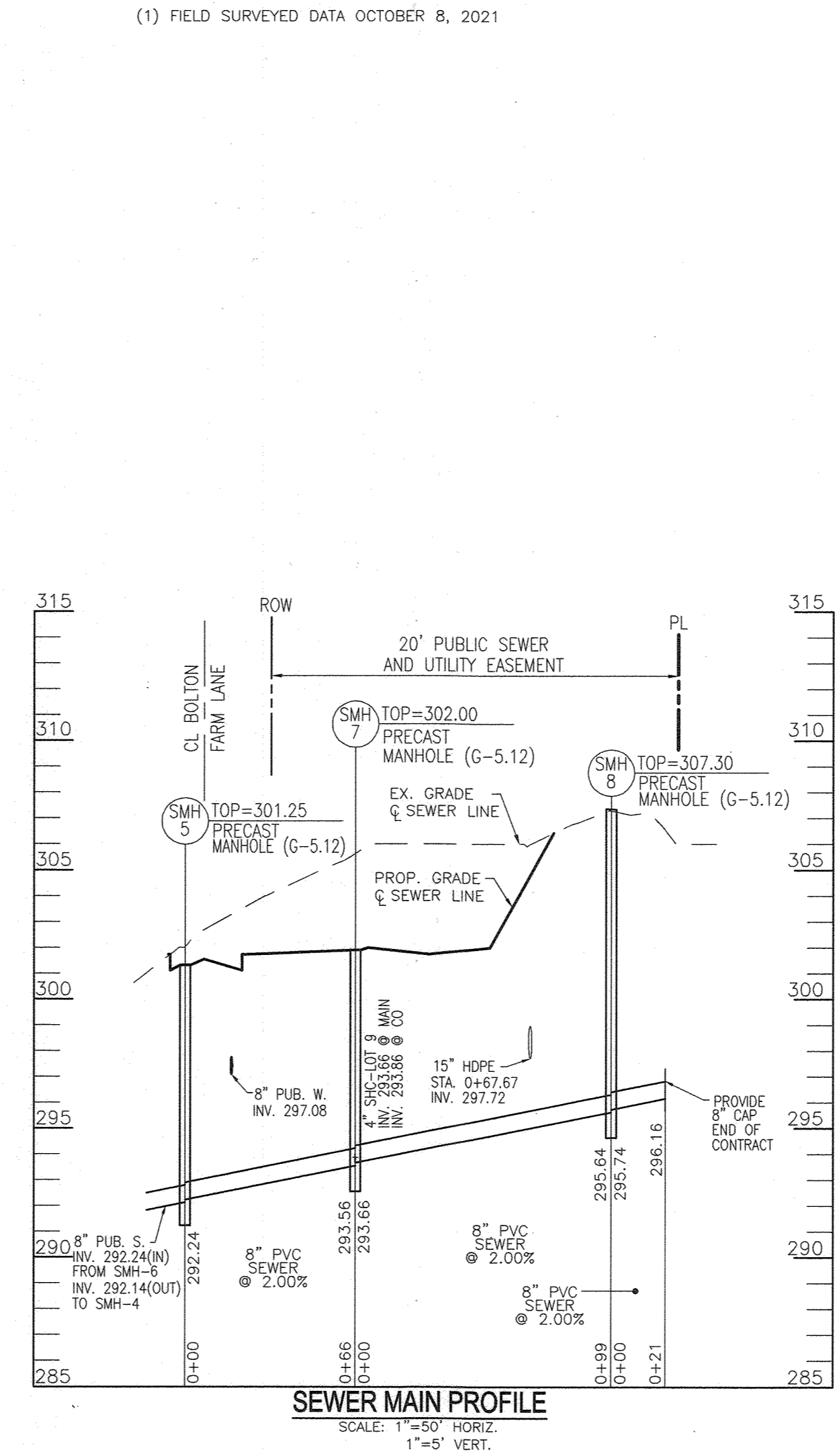
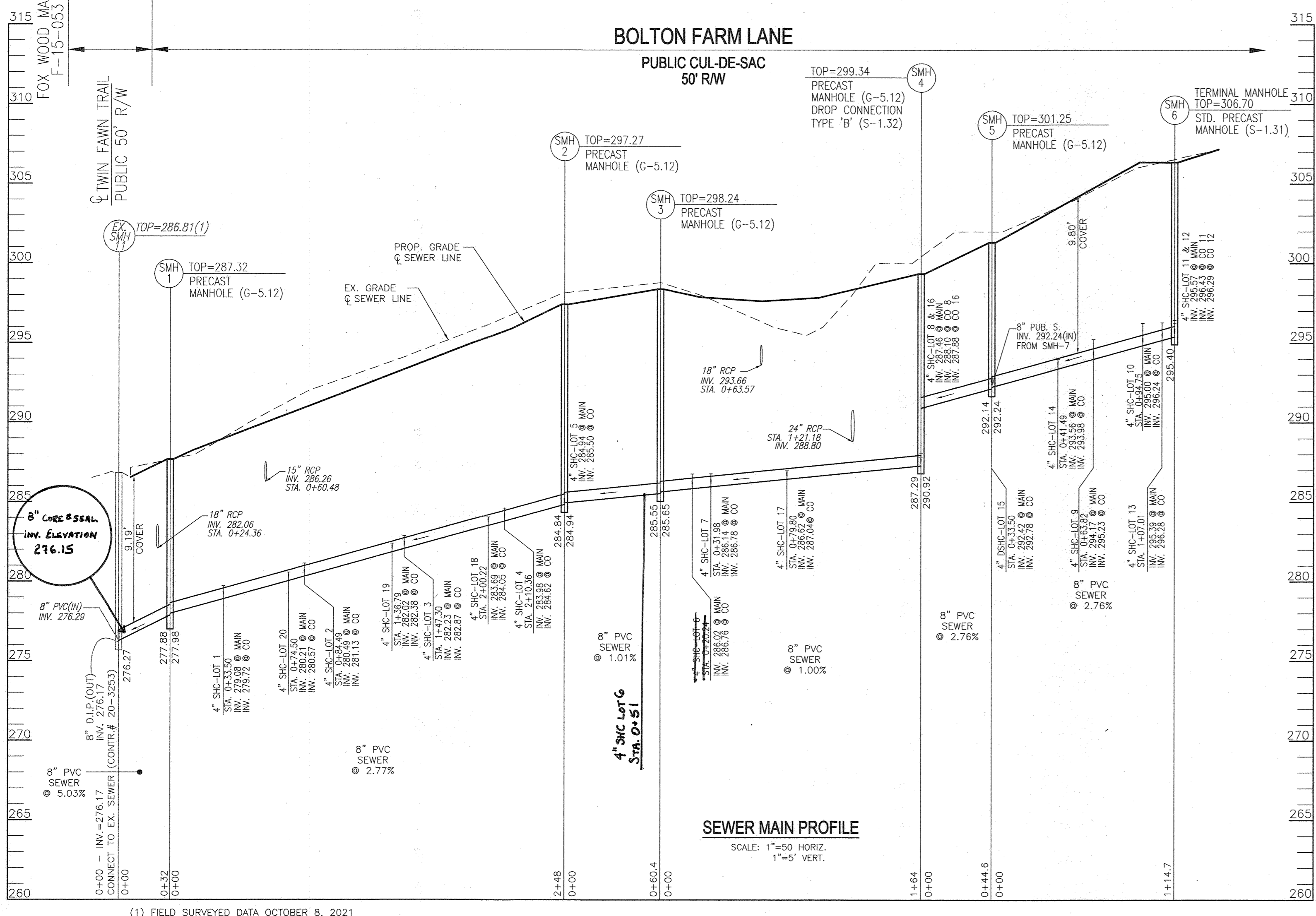
TAX MAP 50, GRID 1, PARCEL 1
 6TH ELECTRON DISTRICT

ZONED: R-SC
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 2 OF 3



LOT	STREET ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
LOT 1	9500 BOLTON FARM LANE	FH1 13'	FHV1 23'
LOT 2	9504 BOLTON FARM LANE	FH1 66'	FHV1 69'
LOT 3	9508 BOLTON FARM LANE	SMH2 108'	WHC LOT 4 52'
LOT 4	9512 BOLTON FARM LANE	FHV2 72'	SMH 2 52'
LOT 5	9516 BOLTON FARM LANE	FHV2 31'	SMH 2 33'
LOT 6	9520 BOLTON FARM LANE	FHV2 31'	SMH 2 55'
LOT 7	9524 BOLTON FARM LANE	SMH 3 46'	I-18 28'
LOT 8	9532 BOLTON FARM LANE	SMH 5 49'	FHV 3 61'
LOT 9	9536 BOLTON FARM LANE	FH3 28'	SMH 7 11'
LOT 10	9540 BOLTON FARM LANE	SMH 6 69'	FH 3 69'
LOT 11	9544 BOLTON FARM LANE	SMH 6 69'	FH 3 116'
LOT 12	9545 BOLTON FARM LANE	SMH 6 41'	WHC LOT 14 82'
LOT 13	9541 BOLTON FARM LANE	SMH 6 49'	WHC LOT 14 63'
LOT 14	9537 BOLTON FARM LANE	SMH 6 77'	SMH 5 48'
LOT 15	9533 BOLTON FARM LANE	SMH 5 21'	FHV 3 50'
LOT 16	9529 BOLTON FARM LANE	SMH 5 54'	SMH 4 20'
LOT 17	9525 BOLTON FARM LANE	SMH 4 86'	I-17 17'
LOT 18	9513 BOLTON FARM LANE	FHV2 74'	SMH 4 52'
LOT 19	9509 BOLTON FARM LANE	SMH 2 112'	WHC LOT 20 39'
LOT 20	9505 BOLTON FARM LANE	FHV1 65'	FH1 75'
LOT 21	10020 TWIN FAWN TRAIL	MH-1 40'	MH-1B 23'
LOT 22	10022 TWIN FAWN TRAIL	MH-1 62'	MH-1B 81'
LOT 23	10024 TWIN FAWN TRAIL	MH-1 89'	MH-1B 24'
LOT 24	10026 TWIN FAWN TRAIL	MH-19 87'	MH-1B 51'
LOT 25	10028 TWIN FAWN TRAIL	MH-19 75'	MH-19 61'
LOT 26	10030 TWIN FAWN TRAIL	MH-19 36'	EX. SMH 10 78'
LOT 27	10031 TWIN FAWN TRAIL	MH-19 10'	EX. SMH 10 52'
LOT 28	9119 RIVER HILL ROAD	I-11 109'	EX. 8' VALVE 46'
LOT 29	9117 RIVER HILL ROAD	MH-15 86'	I-11 83'
LOT 30	9115 RIVER HILL ROAD	MH-15 62'	I-11 59'
LOT 31	9113 RIVER HILL ROAD	MH-15 27'	I-11 26'



NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT	NOTE
SMH 1	STD. PRECAST MD HO. CO. STD. DET. G-5.12	N 528052.47 E 1350105.84	287.32	277.98	274.88	
SMH 2	STD. PRECAST MD HO. CO. STD. DET. G-5.12	N 528284.17 E 1350195.10	297.27	284.94	284.84	
SMH 3	STD. PRECAST MD HO. CO. STD. DET. G-5.12	N 528339.34 E 1350170.60	298.24	285.65	285.55	
SMH 4	STD. PRECAST MD HO. CO. STD. DET. G-5.12	N 528398.20 E 1350017.49	299.34	290.92	287.29	DROP MANHOLE 'B'
SMH 5	STD. PRECAST MD HO. CO. STD. DET. G-5.12	N 528424.97 E 1349981.82	301.25	(2) 292.24	292.14	
SMH 6	STD. PRECAST MD HO. CO. STD. DET. G-5.12	N 528517.81 E 1349914.38	306.70		295.40	TERMINAL MANHOLE
SMH 7	STD. PRECAST MD HO. CO. STD. DET. G-5.12	N 528477.37 E 1350021.13	302.00	293.66	293.56	
SMH 8	STD. PRECAST MD HO. CO. STD. DET. G-5.12	N 528531.74 E 1350103.68	307.30	295.74	295.64	
EX-SMH 6	EXISTING SEWER MANHOLE (CONTR. # 20-3253)	N 528189.48 E 1349641.23	288.90	273.46, 273.66, 273.93	273.45	(1) FIELD SURVEYED DATA OCTOBER 8, 2021
EX-SMH 7	EXISTING SEWER MANHOLE (CONTR. # 20-3253)	N 528568.73 E 1349738.38	301.24	291.03	290.87	(1) FIELD SURVEYED DATA OCTOBER 8, 2021
EX-SMH 10	EXISTING SEWER MANHOLE (CONTR. # 20-3253)	N 528149.00 E 1349781.18	283.15	274.06	274	(1) FIELD SURVEYED DATA OCTOBER 8, 2021
EX-SMH 11	EXISTING SEWER MANHOLE (CONTR. # 20-3253)	N 528020.95 E 1350103.9	286.81	276.27, 276.29	276.17	(1) FIELD SURVEYED DATA OCTOBER 8, 2021

LOT #	INV 4" SHC	TYPE	DIST TO ESMT/R/W	EL @ ESMT	DIST ESMT - HSE	SHC SLOPE	EL @ HOUSE	PROP BF ELEV	MCE
1	279.08	SHC	32	279.72	67	2.0%	281.05	281.00	283.56
2	280.49	SHC	32	281.13	63	2.0%	282.39	287.75	284.89
3	282.23	SHC	32	282.87	60	2.0%	284.07	289.70	286.67
4	283.98	SHC	32	284.62	65	2.0%	285.92	291.90	288.42
5	284.94	SHC	31	285.56	55	2.0%	286.66	293.50	289.16
6	286.02	SHC	37	286.76	57	2.0%	287.90	293.60	290.40
7	286.14	SHC	32	286.78	59	2.0%	287.96	293.50	290.46
8	287.46	SHC	35.5	288.17	64	2.0%	289.45	294.13	291.95
9	289.66	SHC	10	283.86	74	2.0%	295.34	301.00	297.84
10	295.00	SHC	66	296.32	73	2.0%	297.78	302.00	300.28
11	295.57	SHC	47	296.51	59	2.0%	297.69	302.50	300.19
12	295.57	SHC	41	296.39	73	2.0%	297.85	302.50	300.35
13	295.36	SHC	49	296.34	57	2.0%	297.48	302.00	299.98
14	293.56	SHC	21	293.99	85	2.0%	296.68	301.00	298.18
15	292.42	SHC	18	292.78	83	2.0%	294.44	297.20	296.94
16	287.46	SHC	21	287.88	65	2.0%	289.18	295.10	291.68
17	286.62	SHC	21	287.04	62	2.0%	288.28	294.00	290.78
18	283.69	SHC	18	284.05	64	2.0%	285.33	292.50	287.83
19	282.02	SHC	18	282.38	60	2.0%	283.58	289.60	286.08
20	280.21	SHC	18	280.57	58	2.0%	281.73	287.10	284.23

OWNER
BEECHWOOD MANOR, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

DEVELOPER
TRINITY HOMES MARY LAND, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

8/16/23

CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

8.30.23

CHIEF, DEVELOPMENT ENGINEERING DIVISION

VOGEL ENGINEERING
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLCOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com

PROFESSIONAL CERTIFICATE
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. 16193
EXPIRATION DATE: 09-27-2024

DRN: IMH/KG DES: RHV
CHK: RHV
DATE: AUGUST 2023

DFI 1 As-BUILT DATA & DETAILS 5/10/24

**FINAL WATER AND SEWER
CONSTRUCTION PLAN
CONTRACT 24-5194-D
SEWER PROFILES**

BEECHWOOD MANOR
LOTS 1-31 AND OPEN SPACE LOTS 32-34
A SUBDIVISION OF TAX MAP 50 - PARCEL 1

SCALE AS SHOWN
SHEET 3 OF 3

600' SCALE MAP NO. 50

BLOCK NO. 1

TAX MAP 50, GRID 1, PARCEL 1
6TH ELECTION DISTRICT

ZONED: R-SC
HOWARD COUNTY, MARYLAND