

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 BASED ON A TOPOGRAPHICAL SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED AUGUST 18, 2010, OFFSITE TOPOGRAPHY FROM HOWARD COUNTY GIS. THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED AUGUST 18, 2010.
 - HORIZONTAL AND VERTICAL SURVEY CONTROLS: THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM AND 183791 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 30CC AND 31AC. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON DRAWINGS ARE:
 GEODETIC SURVEY CONTROL 30CC (N 576,747.03/E 1,365,563.14)
 BRASS DISC SET ON TOP OF A CONCRETE MONUMENT.
 GEODETIC SURVEY CONTROL 31AC (N 575,223.09/E 1,367,092.12)
 BRASS DISC SET ON TOP OF A CONCRETE MONUMENT.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
 - 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 THE 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 DRAWING, 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 OPERATIONS AT HIS OWN EXPENSE.
 - THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN 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 FOR CONSTRUCTION OF THE MAIN.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-7450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUTTING OR BORING/JACKING 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(a) OF THE HOWARD COUNTY CODE.

- PART II - WATER**
- ALL WATER MAINS SHALL BE C-900 PVC (DR-18) 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 DIP AND 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 ANNA STANDARD C900 FOR PVC PRESSURE PIPE 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. SEVENTEEN (17) POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSSES. 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.
 - 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 A 1" OUTSIDE METER SETTING.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND WITH SITE DEVELOPMENT PLAN SDP-14-074

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

Alexander Bostich 11/10/2020
 SOIL CONSERVATION DISTRICT DATE

PART I - CONTINUED

- THIS PLAN IS SUBJECT TO A DESIGN MANUAL VOLUME II, SECTIONS 4.3.B.3, 4.5.F AND 5.3. ON SEPTEMBER 22, 2014, THE DEPUTY DIRECTOR OF THE DEPARTMENT OF PUBLIC WORKS APPROVED THE WAIVER OF SECTION 4.3.B.3 TO ALLOW NO BASEMENT GRAVITY SEWER SERVICE TO LOTS 57 THRU 69, SUBJECT TO CONDITIONS:
 (1) THE WAIVER OF SECTION 4.5.F: TO ALLOW THE USE OF TWIN SEWER HOUSE CONNECTIONS SUBJECT TO CONDITIONS.
 (2) THE WAIVER OF SECTION 5.3: TO ALLOW THE USE OF STORM DRAIN INLET 1-16 WITHIN THE PUBLIC SEWER, WATER AND UTILITY EASEMENT.

FINAL WATER AND SEWER CONSTRUCTION PLAN

LONG GATE OVERLOOK-PHASE 2

LOTS 16-39, 82-99 AND PARCELS A & B (UNITS 200-210)

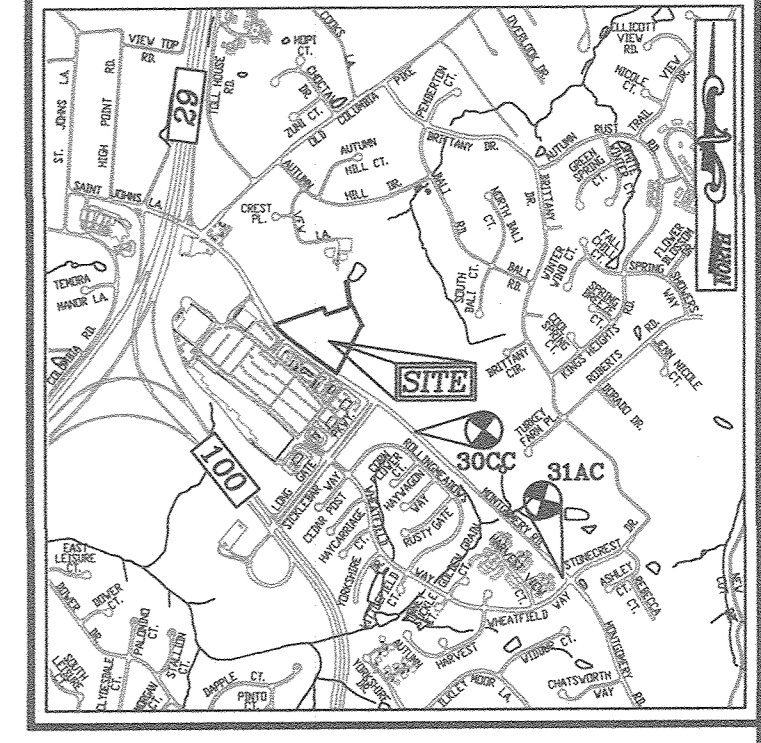
CONTRACT 14-5144-D

HOWARD COUNTY, MARYLAND

BENCHMARKS

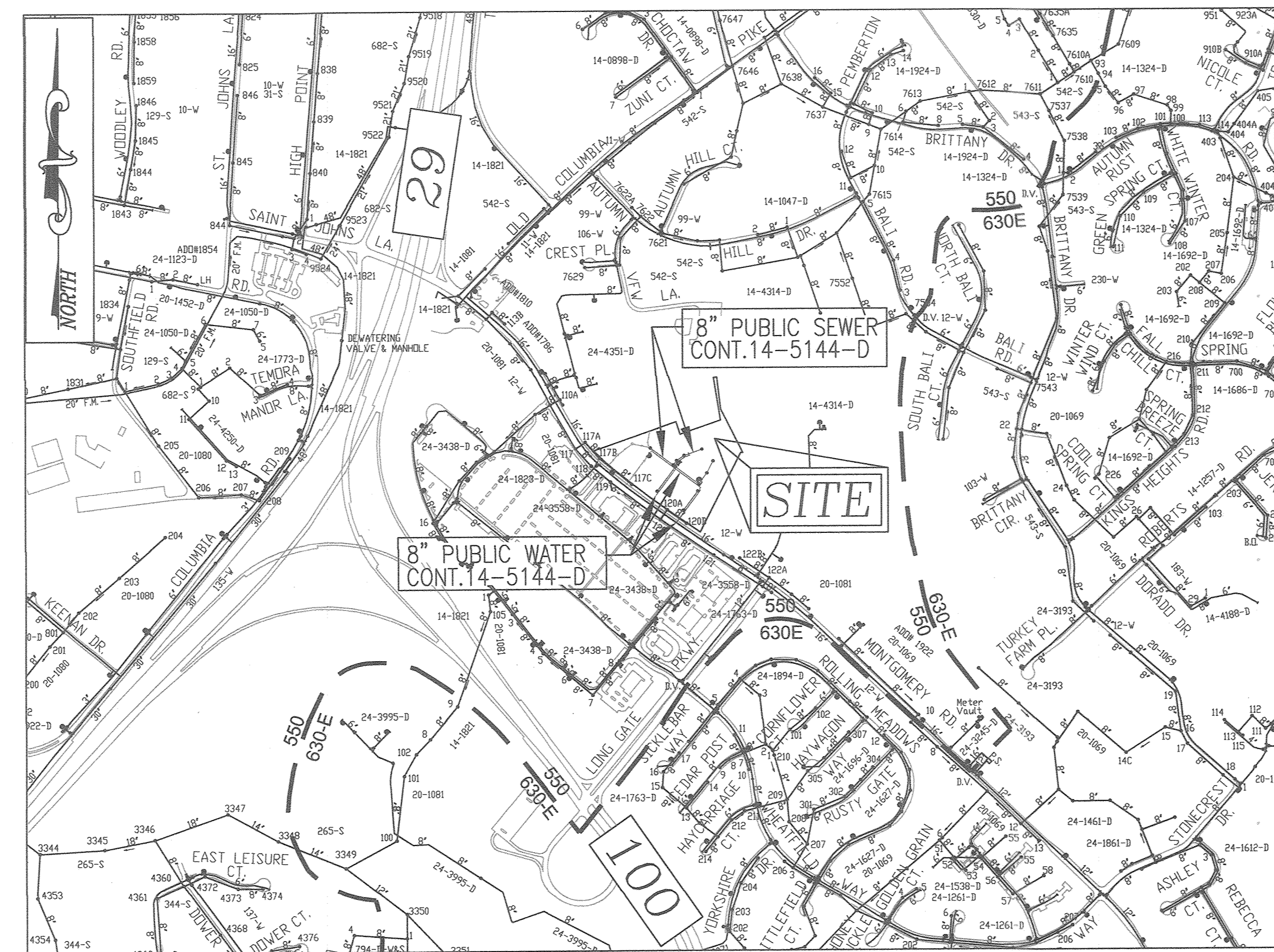
HOWARD COUNTY BENCHMARK - 30CC (CONC. MONUMENT)
 N 576747.03 E 1365563.14 ELEV. 427.32
 LOCATION: MONTGOMERY ROAD 1/3 MILE EAST OF LONG GATE PARKWAY

HOWARD COUNTY BENCHMARK - 31AC (CONC. MONUMENT)
 N 575223.09 E 1367092.12 ELEV. 432.55
 LOCATION: MONTGOMERY ROAD 3/4 MILE EAST OF LONG GATE PARKWAY



LOCATION MAP
 SCALE: 1"=2000'
 ADC MAP COORDINATE: PG. 4815 K10

SHEET INDEX	
DESCRIPTION	SHEET NO.
COVER SHEET	1 OF 3
WATER & SEWER PLAN	2 OF 3
WATER AND SEWER MAIN PROFILES	3 OF 3



VICINITY MAP
 SCALE: 1"=600'

WATER ZONE:	550
TEST GRADIENT:	827
TEST PRESSURE:	185.84

PART II - WATER CONTINUED

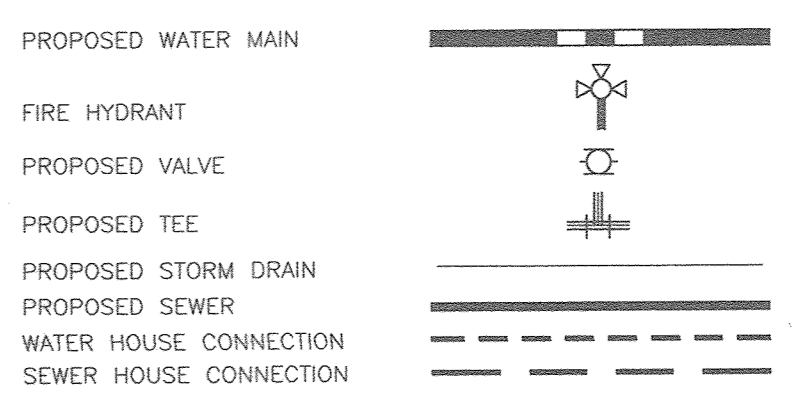
- ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS OR HIGH DEFLECTION (HD) COUPLINGS. NO BENDS OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED, WHERE HIGH DEFLECTION COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR 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 200 PSI MEETING THE REQUIREMENTS OF ANNA C900. SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTIFIED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL.
- FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR18 MEETING THE REQUIREMENTS OF ANNA 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 ANNA 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 INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAY 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" ONLY DIAMETER UNLESS OTHERWISE NOTED.
- FORCE MAINS SHALL BE D.I.P. ONLY.
- MANHOLES SHOWN WITH 12" AND 18" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.I. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL GS.52 WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.

TYPE OF BUILDING:	SINGLE FAMILY TOWNHOMES
NO. OF LOTS/PARCELS:	42 SFA, 2 PARCELS
NO. OF SINGLE WATER HOUSE CONNECTIONS:	18
NO. OF TWIN WATER HOUSE CONNECTIONS:	12
NO. OF SINGLE SEWER HOUSE CONNECTIONS:	5.3
NO. OF TWIN SEWER HOUSE CONNECTIONS:	0
NO. OF UNITS, TOTAL:	64 (42 TOWNHOMES, 22 COND.)
DRAINAGE AREA:	PATAPSCO WATERSHED
TREATMENT PLANT:	PATAPSCO WASTEWATER

LEGEND



PROPERTIES TO BE REMOVED

HOUSE ADDRESS	EXISTING HOUSE	EXISTING WATER & SEWER SERVICE
4271 MONTGOMERY ROAD	TO BE RAZED	TO BE ABANDONED
4275 MONTGOMERY ROAD	TO BE RAZED	TO BE ABANDONED
4281 MONTGOMERY ROAD	TO BE RAZED	TO BE ABANDONED
4291 MONTGOMERY ROAD	TO BE RAZED	TO BE ABANDONED
4309 MONTGOMERY ROAD	TO BE RAZED	TO BE ABANDONED
4319 MONTGOMERY ROAD	TO BE RAZED	TO BE ABANDONED

QUANTITIES

NAME OF UTILITY CONTRACTOR :	SURVEY AND DRAFTING DIVISION AS-BUILT DATE :	ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
				QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
WATER						
		8" WATER (C-900) (DR-18)	949 LF	950	PVC	NORTH AMERICAN PIPE COMPANY
		4" WATER (C-900) (DR-18)	30 LF	32	PVC	NORTH AMERICAN PIPE COMPANY
		6" WATER DIP	34 LF	34	DIP	AMERICAN
		16" X 8" TAPPING SLEEVE	1 EA	1	DIP	SMITH BLAIR
		8" X 8" TEE	4 EA	4	DIP	TYLER UNION
		8" X 6" TEE	2 EA	2	DIP	TYLER UNION
		8" X 4" TEE	2 EA	2	DIP	TYLER UNION
		8" VALVE	7 EA	7	DIP	MUELLER COMPANY
		6" VALVE	2 EA	2	DIP	MUELLER COMPANY
		4" VALVE	2 EA	2	DIP	MUELLER COMPANY
		FIRE HYDRANT	2 EA	2	DIP	MUELLER COMPANY
		CONTINUITY TEST STATION	2 EA	2	CONCRETE	HORNE CONCRETE
		8" - 1/8" HORIZ. BEND	2 EA	2	DIP	TYLER UNION
		8" - 1/16" HORIZ. BEND	1 EA	1	DIP	TYLER UNION
		8" - 1/32" HORIZ. BEND	1 EA	1	DIP	TYLER UNION
		8" - 1/64" HORIZ. BEND	2 EA	2	DIP	TYLER UNION
		8" - 5" VERT. SWEEP	5 EA	2	PVC	IPEX
		8" - VERT. COUPLING	6 EA	4	PVC	IPEX
		4" - 1/32" VERT. BEND	4 EA	4	DIP	TYLER UNION
		1-1/2" MHC	560 LF	562	COPPER	MUELLER COMPANY
		1" OUTSIDE METER (SINGLE)	18 EA	18	METER	MUELLER COMPANY
		1" OUTSIDE METER (TWIN)	12 EA	12	METER	MUELLER COMPANY
		8" CAP AND BUTTRISS	4 EA	4	DIP	TYLER UNION
		4" CAP AND BUTTRISS	2 EA	2	DIP	TYLER UNION
SEWER						
		MANHOLE	11 EA	11	CONCRETE	CPC
		8" SEWER (PVC)	1,095 LF	1094	PVC	NORTH AMERICAN PIPE COMPANY
		4" SHC	774 LF	865	PVC	NORTH AMERICAN PIPE COMPANY
		CLEANOUT	53 EA	65	CONCRETE	HORNE CONCRETE

OWNER / DEVELOPER

BEAZER HOMES
 ATTN: J. MARTIN SHAFER, AREA PRESIDENT
 AUTHORIZED SIGNATURE - EAST REGION
 6065 MARSHALLE DRIVE, SUITE 350
 ELK RIDGE, MD 21075
 443-539-9249

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

David M. ... 10/26/2020
 CHIEF, BUREAU OF UTILITIES DATE

... 11/13/20
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

VOGEL ENGINEERING

TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8951 www.timmons.com

STATE OF MARYLAND
 ROBERT H. VOGEL
 REGISTERED PROFESSIONAL ENGINEER
 NO. 16193
 EXPIRES 09-27-2022

PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A QUALIFIED LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2022.

DRN: JMR/KG DES: EDS
 CHK: RHV
 DATE: SEPTEMBER 2020

WRA AS BUILT 11/5/21

BY NO. REVISION DATE

FINAL WATER AND SEWER CONSTRUCTION PLAN

COVER SHEET

LONG GATE OVERLOOK-PHASE 2
 LOTS 16-39, 82-99 AND PARCELS A & B (UNITS 200-210)
 CONT. 14-5144-D

SCALE AS SHOWN

SHEET 1 OF 3

ZONED: R-A-15
 HOWARD COUNTY, MARYLAND
 PARCELS 322, 323, 324, 325, 326 & 327

600' SCALE MAP NO. 24 BLOCK NO. 24 TAX MAP 24 GRID 24 2ND ELECTION DISTRICT

NOTES:

- EXISTING CONTRACT 20-1081 SEWER MAIN AND THE SHC SERVING #4281 AND #4291 (SERVICES TERMINATED 2018) ALONG MONTGOMERY ROAD FROM PROPOSED SMH-1 TO EXISTING CONTRACT 20-1081 SMH 117C ARE TO BE ABANDON IN PLACE.
SEWER MAIN SHALL BE ABANDONED IN ACCORDANCE WITH DMV II SECTION 5.6.B.
- EXISTING CONTRACT 20-1081 SEWER MAIN FROM EXISTING SMH-120A TO EXISTING SMH 120B AND SHC (TBA) ALONG MONTGOMERY ROAD ARE TO BE ABANDON IN PLACE. SEWER MAIN SHALL BE ABANDONED IN ACCORDANCE WITH DMV II SECTION 5.6.B.
INVERT INTO EX. SMH 120 (FROM NORTH) SHALL BE PLUGGED, SEWER PIPE BETWEEN EXISTING SMH-120A AND SMH 120 SHALL BE ABANDONED IN PLACE.
SEWER MANHOLES SHALL BE ABANDONED IN ACCORDANCE WITH DMV II SECTION 5.6.C.
- EXISTING CONTRACT 12-W WATER METERS (TBA) ALONG MONTGOMERY ROAD ARE TO BE DISCONNECTED AND PLUGGED AT THE WATER MAIN. (SERVICES TERMINATED 2018)
WATER SERVICE CONNECTIONS SHALL BE ABANDONED IN ACCORDANCE WITH DMV II SECTION 5.6.D.3. CONTRACTOR TO INFORM BUREAU OF UTILITIES OF WATER SERVICE ABANDONMENT.

PROJECT BOUNDARY
LINE TABLE

LINE	COURSE	LENGTH
A	S21°14'0"E	9.54'
B	R=33.00' L=26.55'	
C	S23°09'45"W	13.20'
D	R=23.00' L=32.60'	
E	N75°37'28"W	7.27'
F	R=60.00' L=177.50'	
G	S55°02'22"W	60.54'
H	R=52.00' L=12.77'	
I	S40°57'57"W	66.06'
J	R=33.00' L=26.55'	
K	S42°10'06"W	15.89'
L	N50°09'55"W	57.99'
M	N05°29'45"W	29.53'

WATER

LOT #	LOCATION 1	LOCATION 2
16	WHC-16 TO SMH-14	WHC-16 TO WHC-17-18
17	WHC-17-18 TO WHC-18	WHC-17-18 TO SHC-18
18		
19	WHC-19-20 TO SHC-20	WHC-19-20 TO SHC-19
20		
21	WHC-21-22 TO SHC-21	WHC-21-22 TO SHC-22
22		
23	WHC-23 TO SHC-23	WHC-23 TO WHC-24
24	WHC-24 TO WHC-25	WHC-24 TO SHC-25
25	WHC-25-26 TO SHC-26	WHC-25-26 TO SHC-27
26		
27	WHC-27-28 TO SHC-28	WHC-27-28 TO SHC-27
28		
29	WHC-29-30 TO SHC-30	WHC-29-30 TO SHC-31
30		
31	WHC-31 TO SHC-31	WHC-31 TO SHC-30
32	WHC-32 TO SMH-12	WHC-32 TO SHC-32
33	WHC-33-34 TO SMH-12	WHC-33-34 TO SHC-34
34		
35	WHC-35-36 TO SHC-36	WHC-35-36 TO SHC-36
36		
37	WHC-37-38 TO SHC-38	WHC-37-38 TO SHC-37
38		
39	WHC-39 TO SHC-39	WHC-39 TO WHC-40
40	WHC-40 TO WHC-41	WHC-40 TO SHC-42
41	WHC-41-42 TO SHC-42	WHC-41-42 TO SHC-42
42		
43	WHC-43-44 TO SHC-44	WHC-43-44 TO SHC-44
44		
45	WHC-45-46 TO SHC-46	WHC-45-46 TO SHC-44
46		
47	WHC-47-48 TO SHC-48	WHC-47-48 TO SHC-48
48		
49	WHC-49 TO SHC-49	WHC-49 TO SMH-12

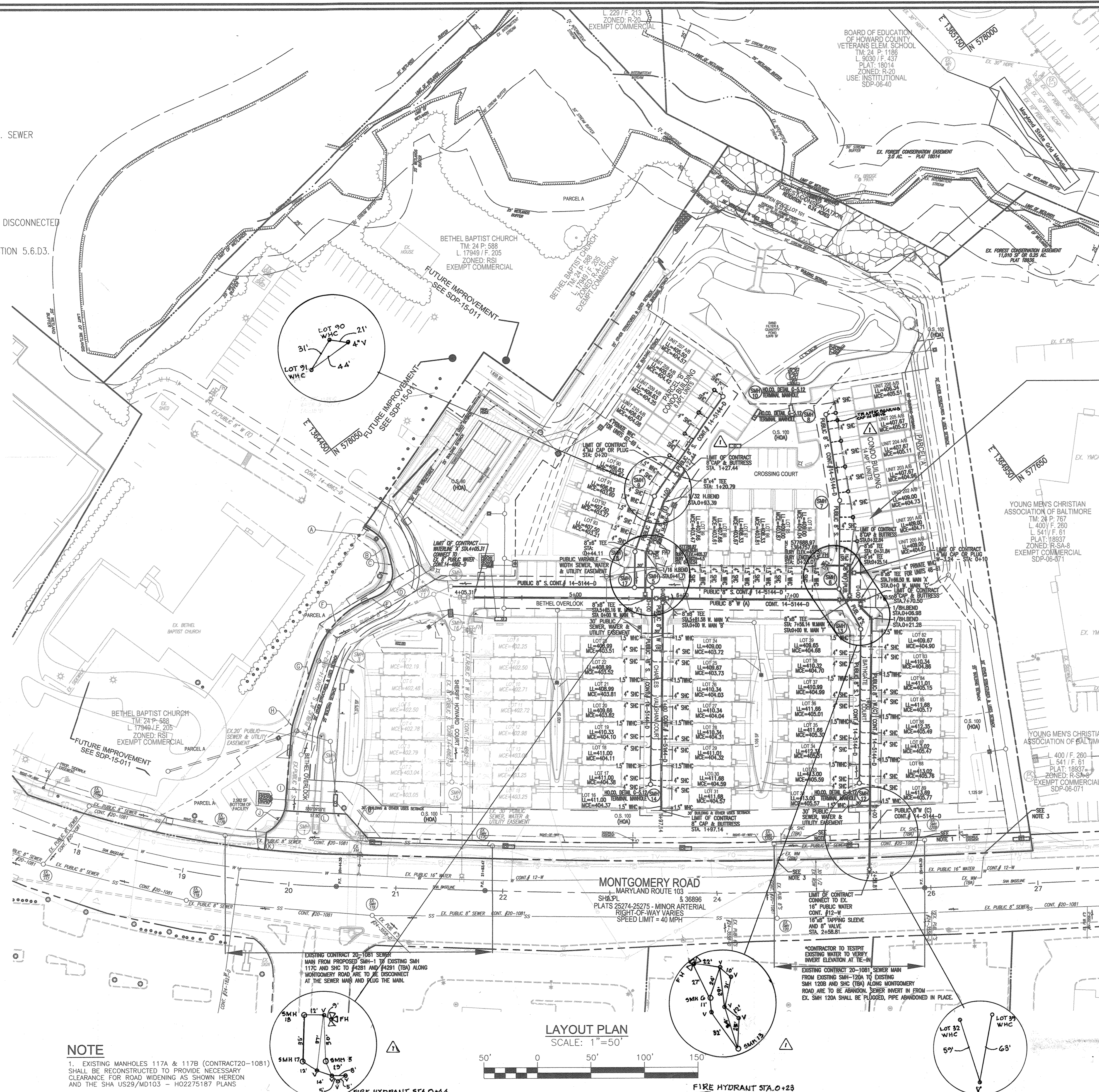
- NOTES:**
- ALL TOWNHOUSE WATER CONNECTIONS SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAILS W-3.28 AND W-3.32 FOR SINGLE AND TWIN OUTSIDE METER SETTINGS.

WATER-CONTINUED

LOT #	LOCATION 1	LOCATION 2
90	WHC-90 TO SHC-90	WHC-90 TO SMH-9
91	WHC-91 TO SHC-92	WHC-91 TO SMH-9
92	WHC-92 TO SHC-93	WHC-92 TO SMH-18
93	WHC-93 TO WHC-94	WHC-93 TO SMH-18
94	WHC-94 TO SMH-6	WHC-94 TO SMH-95
95	WHC-95 TO WHC-96	WHC-95 TO WHC-96
96	WHC-96 TO WHC-95	WHC-96 TO SHC-97
97	WHC-97 TO WHC-96	WHC-97 TO SHC-96
98	WHC-98 TO WHC-97	WHC-98 TO SHC-97
99	WHC-99 TO FHT	WHC-99 TO SHC-98

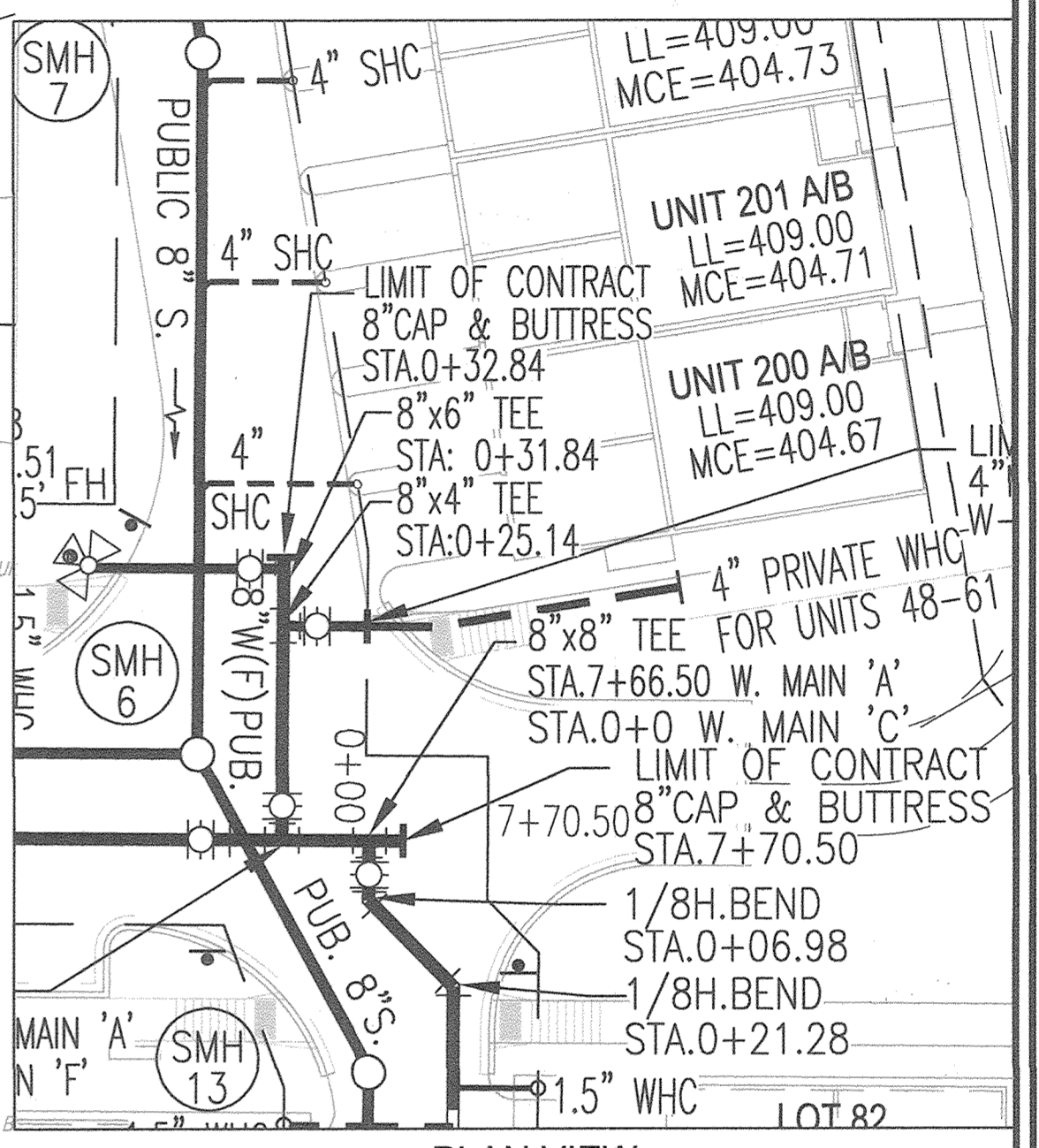
CAUTION SHOULD BE TAKEN AROUND OVERHEAD UTILITIES AT THE FRONTAGE OF THE PROPERTY ALONG MONTGOMERY ROAD DURING EXCAVATION FOR THE CONSTRUCTION OF THIS WATER CONTRACT.

CONTRACTOR TO VERIFY LOCATION OF AND ABANDON EXISTING UTILITY CONNECTIONS FOR 4281, 4291, 4309, AND 4319 MONTGOMERY ROAD PER HOWARD COUNTY REQUIREMENTS.



SEWER - CONTINUED

LOT #	LOCATION 1	LOCATION 2
93	SHC-93 TO WHC-92	SHC-93 TO SMH-18
94	SHC-94 TO WHC-94	SHC-94 TO SMH-6
95	SHC-95 TO WHC-96	SHC-95 TO SHC-94
96	SHC-96 TO WHC-95	SHC-96 TO SHC-97
97	SHC-97 TO WHC-96	SHC-97 TO WHC-96
98	SHC-98 TO WHC-97	SHC-98 TO SHC-97
99	SHC-99 TO SHC-98	SHC-99 TO SMH-7
200	SHC-200 TO FHT	SHC-200 TO SMH-7
201	SHC-201 TO FHT	SHC-201 TO SMH-7
202	SHC-202 TO FHT	SHC-202 TO SMH-7
203	SHC-203 TO SHC-204	SHC-203 TO SMH-7
204	SHC-204 TO SHC-203	SHC-204 TO SMH-8
205	SHC-205 TO SHC-204	SHC-205 TO SMH-8
206	SHC-206 TO SHC-205	SHC-206 TO SMH-8
207	SHC-207A TO SHC-208A	SHC-207A TO SMH-10
208	SHC-207B TO SHC-207A	SHC-207B TO SHC-208A
209	SHC-208A TO SHC-207A	SHC-208A TO SMH-10
210	SHC-208B TO SHC-209A	SHC-208B TO SHC-209A
211	SHC-209A TO SHC-209A	SHC-209A TO SMH-10
212	SHC-210A TO SHC-209A	SHC-210A TO SMH-9
213	SHC-210B TO SHC-210A	SHC-210B TO SHC-209B



SEWER

LOT #	LOCATION 1	LOCATION 2
16	SHC-16 TO SMH-14	SHC-16 TO WHC-17-18
17	SHC-17 TO SMH-14	SHC-17 TO WHC-16
18	SHC-18 TO SMH-14	SHC-18 TO WHC-17-18
19	SHC-19 TO WHC-17-18	SHC-19 TO SHC-20
20	SHC-20 TO SHC-19	SHC-20 TO WHC-19-20
21	SHC-21 TO WHC-21-22	SHC-21 TO SHC-22
22	SHC-22 TO SHC-21	SHC-22 TO WHC-23
23	SHC-23 TO SHC-22	SHC-23 TO WHC-23
24	SHC-24 TO WHC-23-26	SHC-24 TO SHC-25
25	SHC-25 TO SHC-24	SHC-25 TO WHC-25
26	SHC-26 TO SHC-27	SHC-26 TO WHC-25-26
27	SHC-27 TO SHC-26	SHC-27 TO WHC-27-28
28	SHC-28 TO SHC-27	SHC-28 TO WHC-27-28
29	SHC-29 TO SHC-28	SHC-29 TO WHC-29-30
30	SHC-30 TO SHC-29	SHC-30 TO WHC-29-30
31	SHC-31 TO SHC-30	SHC-31 TO WHC-31
32	SHC-32 TO SMH-12	SHC-32 TO WHC-32
33	SHC-33 TO SMH-12	SHC-33 TO WHC-32
34	SHC-34 TO SMH-12	SHC-34 TO SHC-33
35	SHC-35 TO WHC-35-36	SHC-35 TO SHC-34
36	SHC-36 TO WHC-35-36	SHC-36 TO SHC-35
37	SHC-37 TO SHC-36	SHC-37 TO WHC-37
38	SHC-38 TO SHC-37	SHC-38 TO WHC-37
39	SHC-39 TO SHC-38	SHC-39 TO WHC-37
40	SHC-40 TO WHC-39	SHC-40 TO WHC-37
41	SHC-41 TO WHC-39	SHC-41 TO WHC-37
42	SHC-42 TO WHC-39	SHC-42 TO WHC-37
43	SHC-43 TO WHC-39	SHC-43 TO WHC-37
44	SHC-44 TO WHC-39	SHC-44 TO WHC-37
45	SHC-45 TO WHC-39	SHC-45 TO WHC-37
46	SHC-46 TO WHC-39	SHC-46 TO WHC-37
47	SHC-47 TO WHC-39	SHC-47 TO WHC-37
48	SHC-48 TO WHC-39	SHC-48 TO WHC-37
49	SHC-49 TO WHC-39	SHC-49 TO WHC-37
50	SHC-50 TO WHC-39	SHC-50 TO WHC-37
51	SHC-51 TO WHC-39	SHC-51 TO WHC-37
52	SHC-52 TO WHC-39	SHC-52 TO WHC-37

THIS SCHEDULE CONTINUES IN TOP RIGHT CORNER OF THIS SHEET

OWNER / DEVELOPER
REARER HOMES
ATLANTA MARTIN SHAWTER, AREA PRESIDENT
AUTHORIZED SIGNATURE - EAST REGION
6085 MARSHALL DRIVE, SUITE 350
ELK RIDGE, MD 21117
443-539-9249

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

10/30/2020
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

11-13-20
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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.
EXPIRATION DATE: 09-27-2022

DRN: JMR/KG DES: EDS
CHK: RRV
DATE: SEPTEMBER 2020

WRA: A AS BUILT
BY NO. REVISION DATE: 11/9/21

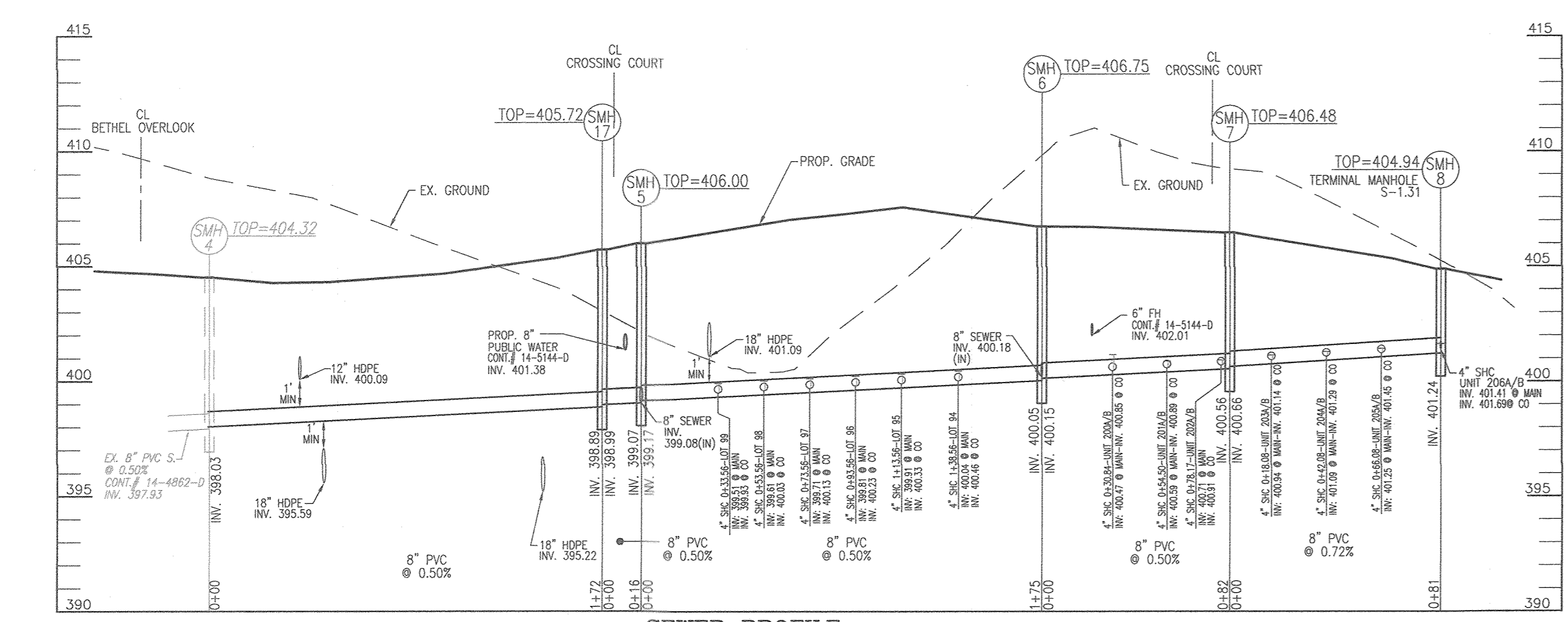
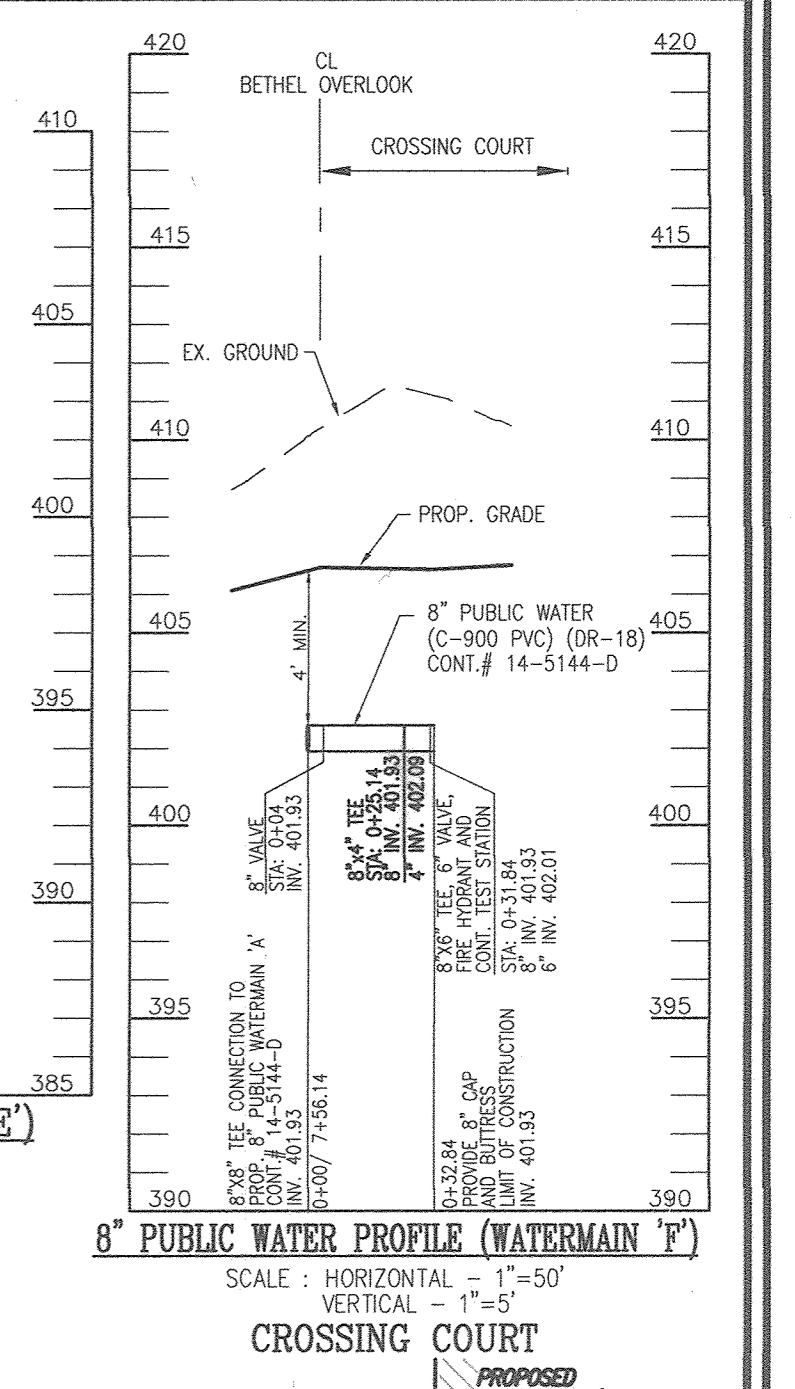
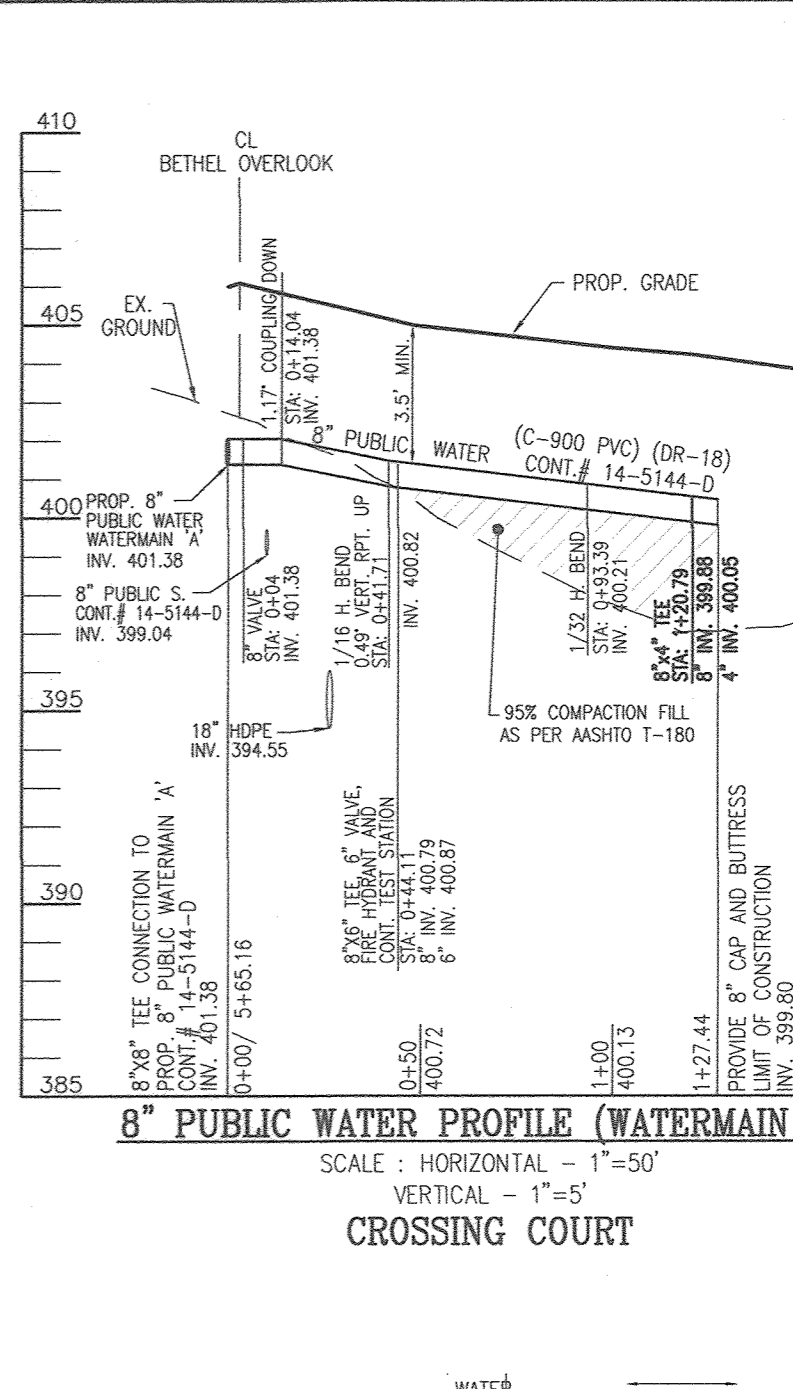
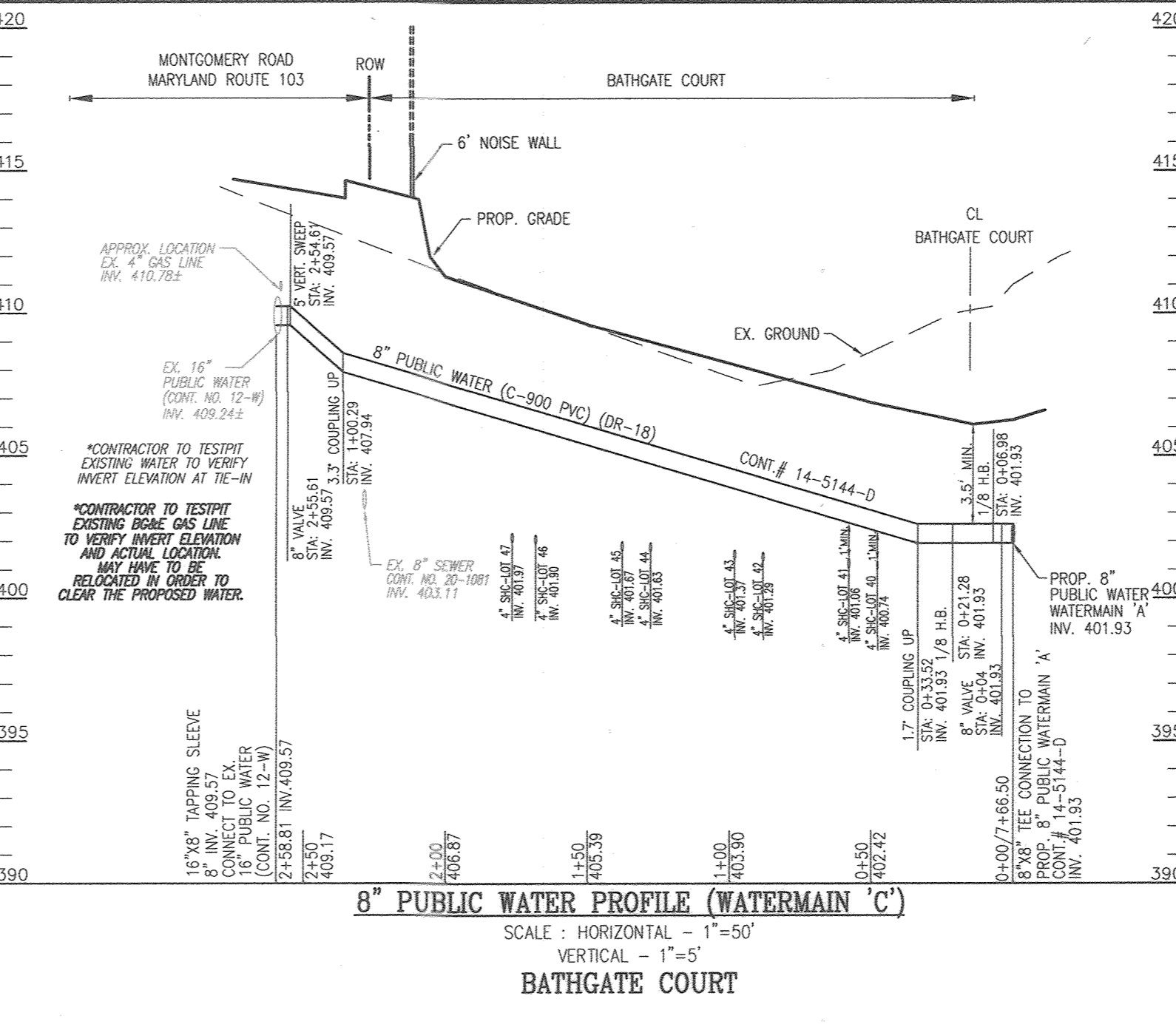
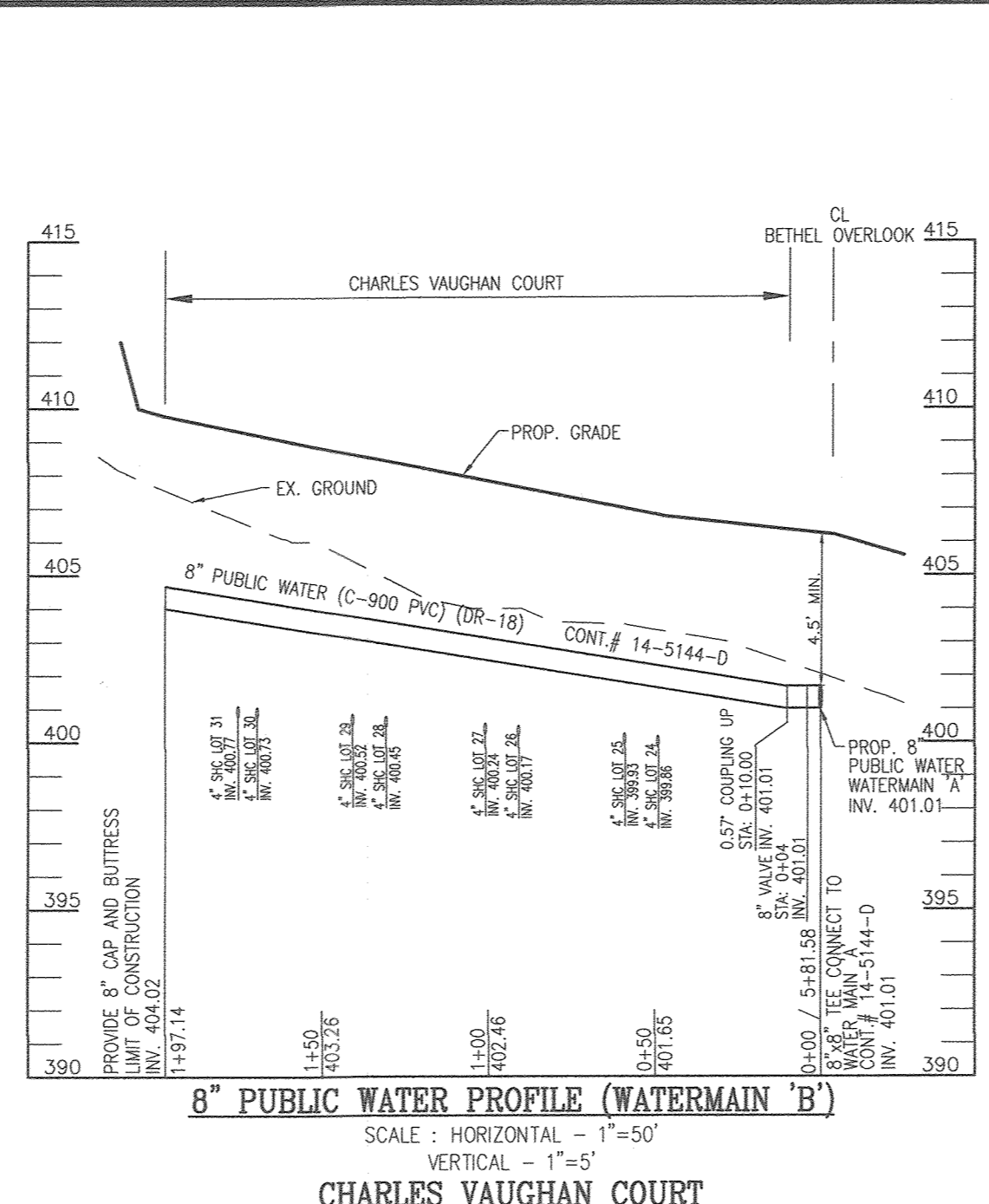
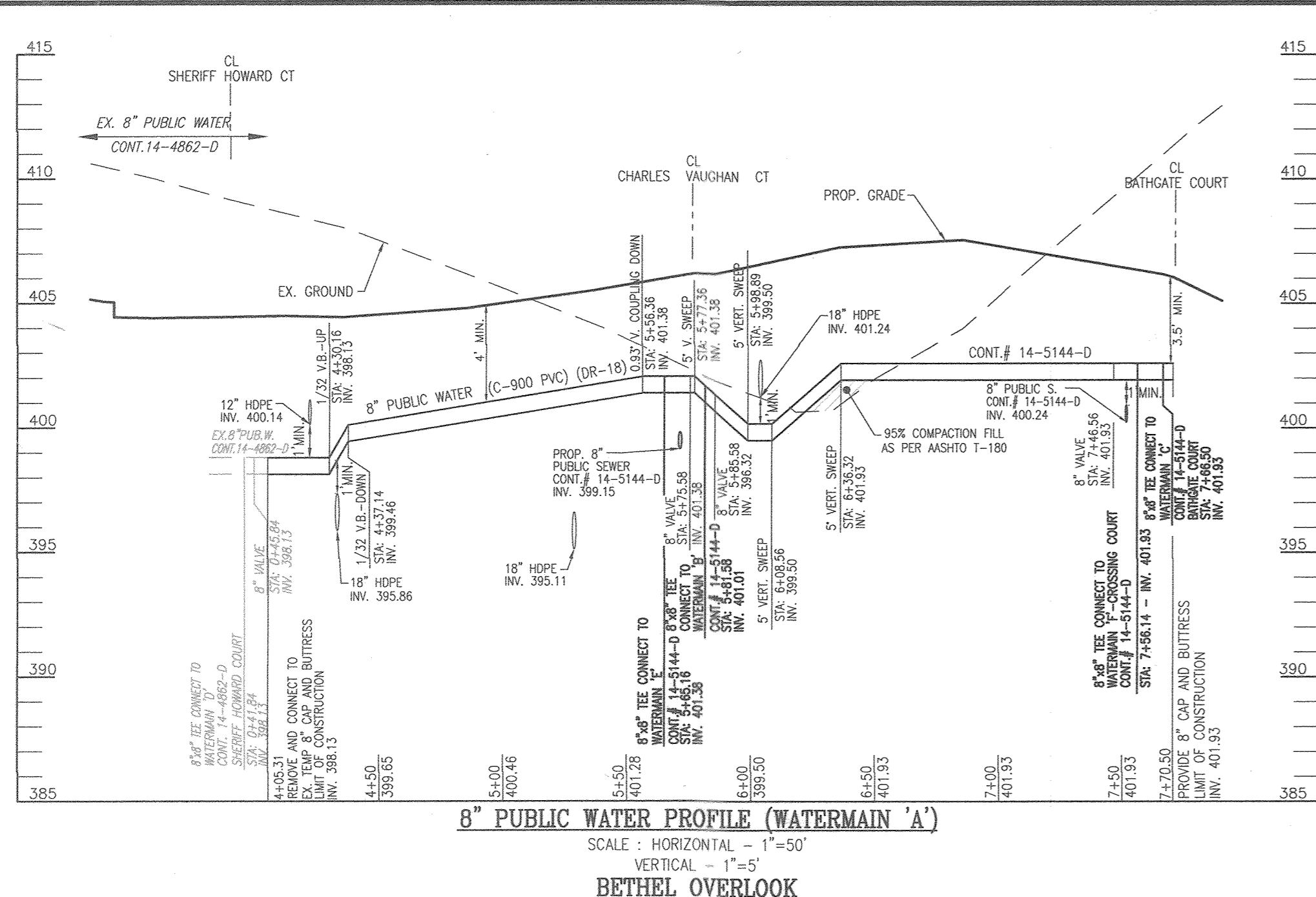
600' SCALE MAP NO. 24 BLOCK NO. 24

STATE OF MARYLAND
ROBERT HAROLD VOGEL
10/16/20
REGISTERED PROFESSIONAL ENGINEER
NO. 16193
EXPIRES 09-27-2022

FINAL WATER AND SEWER CONSTRUCTION PLAN
LAYOUT PLAN

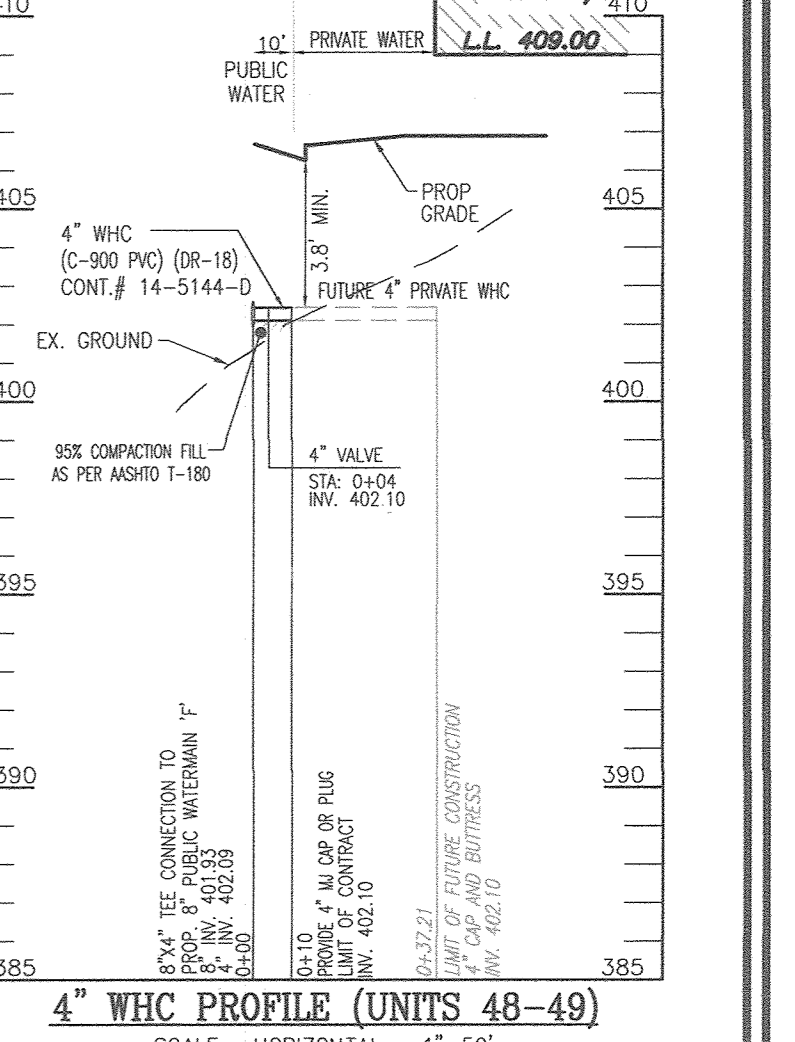
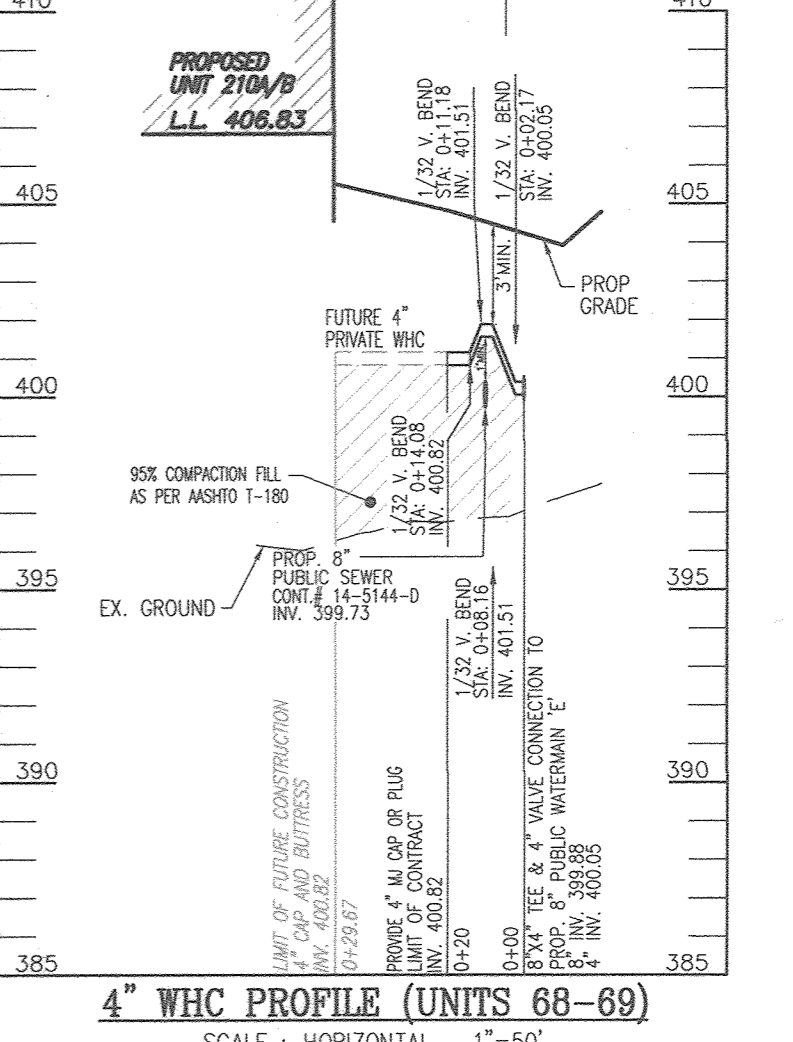
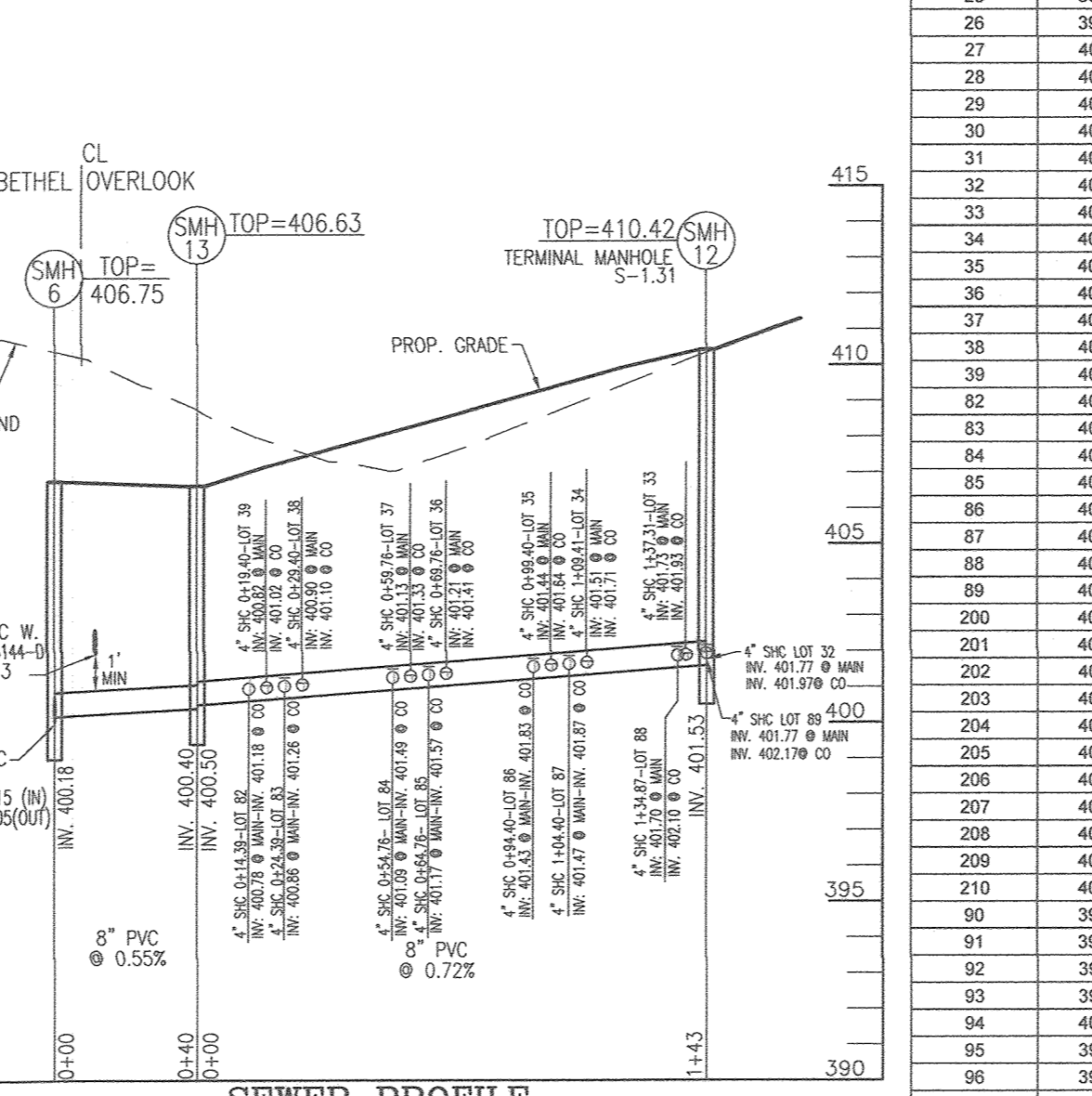
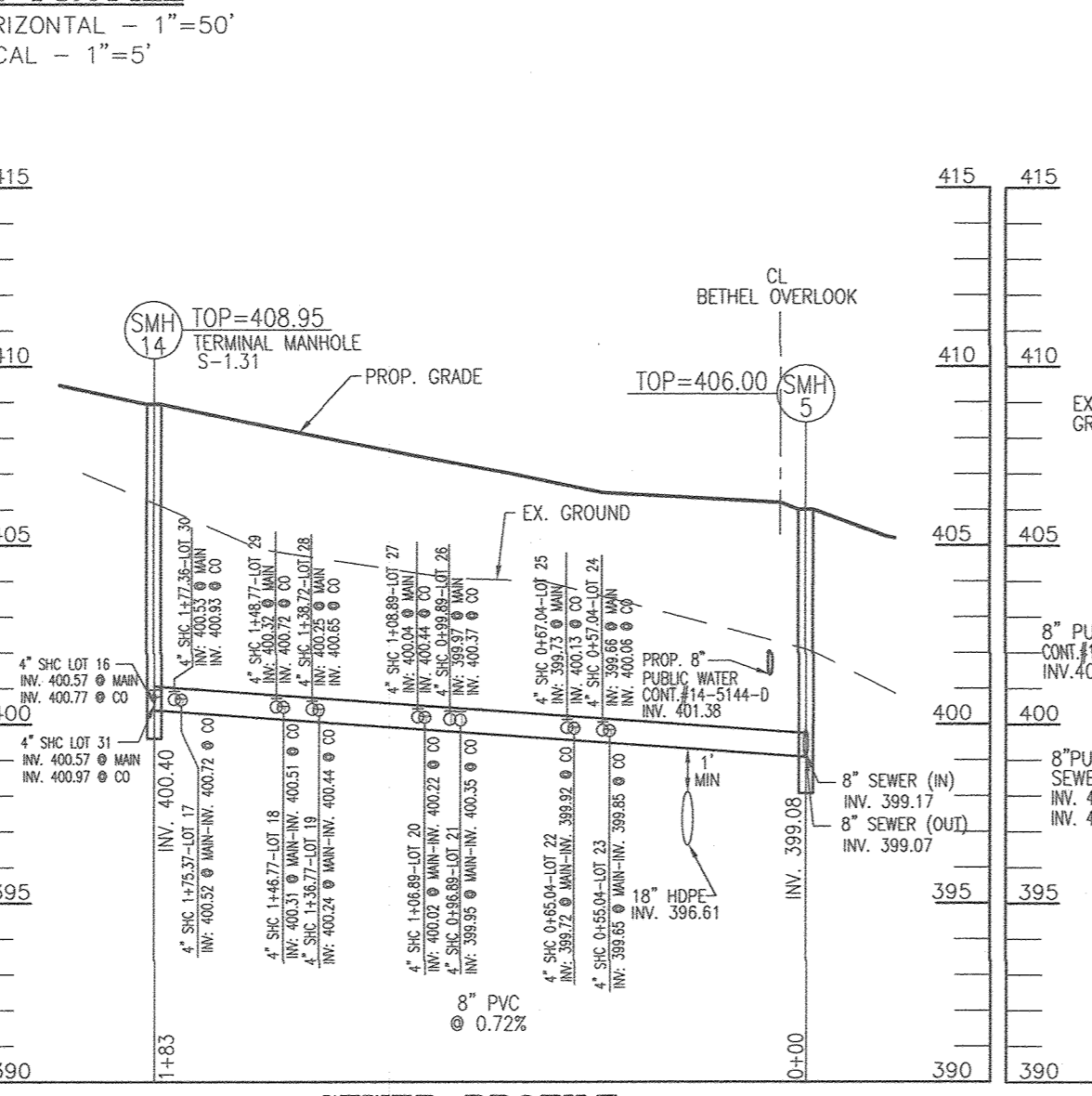
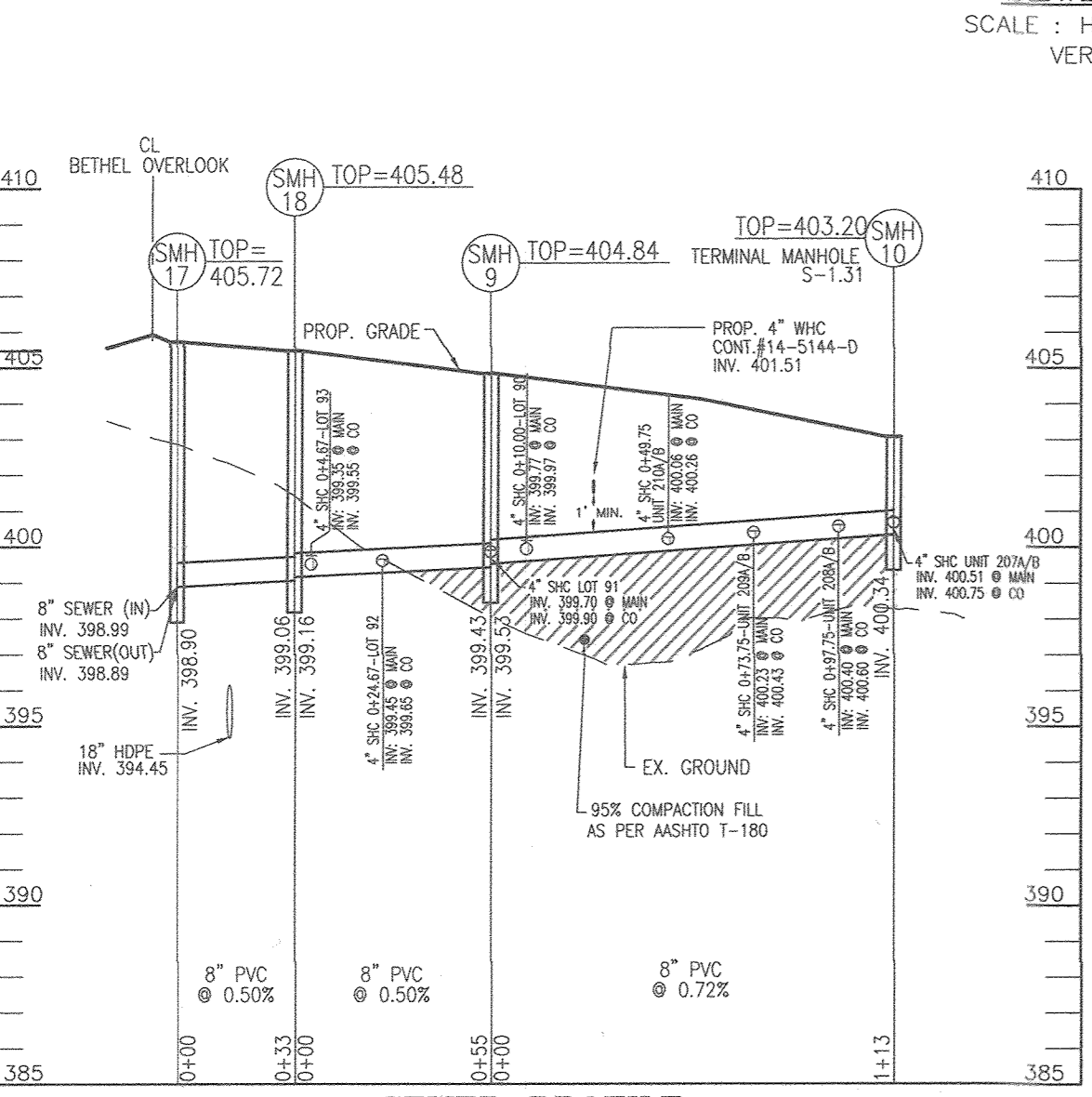
LONG GATE OVERLOOK-PHASE 2
LOTS 16-39, 82-99 AND PARCELS A & B (UNITS 200-210)
CONT. 14-5144-D

SCALE AS SHOWN
SHEET 2 OF 3

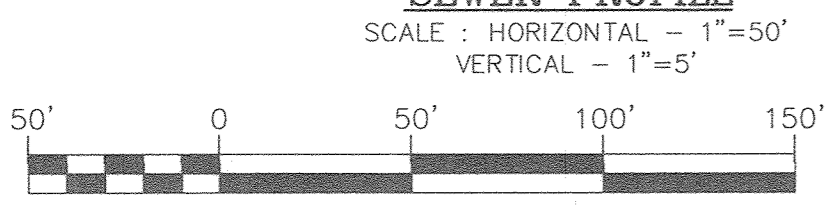


NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT	COMMENTS
SMH 5	PRECAST MH HO. CO. STD. DET. G-5-12	N 577768.01 E 1364615.07	406.00	399.08	399.07	
SMH 6	PRECAST MH HO. CO. STD. DET. G-5-12	N 577663.49 E 1364754.88	406.75	400.15	400.05	
SMH 7	PRECAST MH HO. CO. STD. DET. G-5-12	N 577729.44 E 1364804.19	406.48	400.66	400.56	
SMH 8	PRECAST MH HO. CO. STD. DET. G-5-12	N 577808.69 E 1364846.78	404.94		401.24	TERMINAL MANHOLE S-1.31
SMH 9	PRECAST MH HO. CO. STD. DET. G-5-12	N 577835.23 E 1364667.18	404.84	399.53	399.43	
SMH 10	PRECAST MH HO. CO. STD. DET. G-5-12	N 577872.14 E 1364773.72	403.20		400.34	TERMINAL MANHOLE S-1.31
SMH 12	PRECAST MH HO. CO. STD. DET. G-5-12	N 577506.64 E 1364663.15	410.42		401.53	TERMINAL MANHOLE S-1.31
SMH 13	PRECAST MH HO. CO. STD. DET. G-5-12	N 577621.42 E 1364748.99	406.63	400.50	400.40	
SMH 14	PRECAST MH HO. CO. STD. DET. G-5-12	N 577621.35 E 1364505.39	408.95		400.40	TERMINAL MANHOLE S-1.31
SMH 17	PRECAST MH HO. CO. STD. DET. G-5-12	N 577777.84 E 1364601.92	405.72	398.90	398.89	
SMH 18	PRECAST MH HO. CO. STD. DET. G-5-12	N 577804.58 E 1364621.91	405.48	399.16	399.06	

LOT UNIT#	EL @ MAIN	SHC/DHSC	DIST TO RW.	EL @ RW	DIST ON LOT	EL @ HOUSE	MCE*	SHC SLOPE
16	400.57	SHC	10	400.77	55	401.87	404.37	2.00%
17	400.52	SHC	10	400.72	58	401.88	404.38	2.00%
18	400.31	SHC	10	400.51	55	401.81	404.11	2.00%
19	400.24	SHC	10	400.44	58	401.80	404.10	2.00%
20	400.02	SHC	10	400.22	55	401.32	403.82	2.00%
21	399.95	SHC	10	400.15	58	401.31	403.81	2.00%
22	399.72	SHC	10	399.92	55	401.02	403.52	2.00%
23	399.65	SHC	10	399.85	58	401.01	403.51	2.00%
24	399.86	SHC	20	400.06	58	401.22	403.72	2.00%
25	399.73	SHC	20	400.13	55	401.23	403.73	2.00%
26	399.97	SHC	20	400.37	58	401.53	404.03	2.00%
27	400.44	SHC	20	400.44	55	401.54	404.04	2.00%
28	400.25	SHC	20	400.65	58	401.81	404.31	2.00%
29	400.32	SHC	20	400.72	55	401.82	404.32	2.00%
30	400.53	SHC	20	400.93	58	402.06	404.58	2.00%
31	400.57	SHC	20	400.97	55	402.07	404.57	2.00%
32	401.77	SHC	10	401.97	55	403.07	405.57	2.00%
33	401.73	SHC	10	401.93	58	403.09	405.59	2.00%
34	401.51	SHC	10	401.71	55	402.81	405.31	2.00%
35	401.44	SHC	10	401.64	58	402.80	405.30	2.00%
36	401.21	SHC	10	401.41	55	402.51	405.01	2.00%
37	401.13	SHC	10	401.33	58	402.49	404.99	2.00%
38	400.90	SHC	10	401.10	55	402.20	404.70	2.00%
39	400.82	SHC	10	401.02	58	402.18	404.67	2.00%
40	400.78	SHC	20	401.18	61	402.40	404.90	2.00%
41	400.76	SHC	20	401.26	55	402.36	404.86	2.00%
42	400.78	SHC	20	401.28	55	402.36	404.86	2.00%
43	400.78	SHC	20	401.28	55	402.36	404.86	2.00%
44	401.09	SHC	20	401.49	58	402.65	405.15	2.00%
45	401.17	SHC	20	401.57	55	402.67	405.17	2.00%
46	401.43	SHC	20	401.83	58	402.99	405.49	2.00%
47	401.47	SHC	20	401.87	65	402.97	405.47	2.00%
48	401.70	SHC	20	402.10	58	403.26	405.76	2.00%
49	401.77	SHC	20	402.17	55	403.27	405.77	2.00%
200	400.47	SHC	10	400.85	66	402.17	404.67	2.00%
201	400.99	SHC	15	400.89	66	402.21	404.71	2.00%
202	400.71	SHC	10	400.91	66	402.23	404.73	2.00%
203	400.94	SHC	10	401.14	66	402.46	404.96	2.00%
204	401.09	SHC	10	401.29	66	402.61	405.11	2.00%
205	401.25	SHC	10	401.45	66	402.77	405.27	2.00%
206	401.41	SHC	14	401.69	66	403.01	405.51	2.00%
207	400.51	SHC	12	400.75	66	402.07	404.67	2.00%
208	400.40	SHC	10	400.60	66	401.92	404.42	2.00%
209	400.23	SHC	10	400.43	66	401.75	404.25	2.00%
210	400.06	SHC	10	400.26	66	401.58	404.08	2.00%
90	399.77	SHC	10	399.97	60	401.17	403.87	2.00%
91	399.70	SHC	10	399.90	60	401.10	403.80	2.00%
92	399.45	SHC	10	399.65	58	400.77	403.27	2.00%
93	399.35	SHC	10	399.55	58	400.71	403.21	2.00%
94	400.04	SHC	21	400.46	54	401.54	404.04	2.00%
95	399.81	SHC	21	400.33	52	401.37	403.87	2.00%
96	399.81	SHC	21	400.23	54	401.31	403.81	2.00%
97	399.71	SHC	21	400.13	52	401.17	403.67	2.00%
98	399.61	SHC	21	400.03	54	401.11	403.61	2.00%
99	399.51	SHC	21	399.93	52	400.97	403.47	2.00%



WATERMAIN 'A' - BETHEL OVERLOOK		WATERMAIN 'C' - BATHGATE COURT	
WL STA.	APPURTENANCE	WL STA.	APPURTENANCE
WL STA. 4+05.31	EX. 8" CAP & BUTTRISS	WL STA. 0+00.00	8"x8" TEE, CONNECT TO WATERMAIN 'A'
WL STA. 4+30.16	1/32 VERT. BEND - UP	WL STA. 0+04.00	8" VALVE
WL STA. 4+37.14	1/32 VERT. BEND - DOWN	WL STA. 0+06.98	1/8" HORIZ. BEND
WL STA. 5+56.36	0.93" COUPLING - DOWN	WL STA. 0+21.28	1/8" HORIZ. BEND
WL STA. 5+65.16	8"x8" TEE, CONNECT TO WATERMAIN 'E'	WL STA. 0+33.52	1.3" COUPLING UP
WL STA. 5+75.58	8" VALVE	WL STA. 1+00.29	3.5" COUPLING UP
WL STA. 5+77.36	5" VERT. SWEEP	WL STA. 2+54.61	5" VERT. SWEEP
WL STA. 5+81.58	8"x8" TEE, CONNECT TO WATERMAIN 'B'	WL STA. 2+55.61	8" VALVE
WL STA. 5+85.58	8" VALVE	WL STA. 2+58.81	16"x8" TAPPING SLAVE & VALVE, CONNECT TO EX. 16" PUBLIC W. CONT. #12-W
WL STA. 5+98.89	5" VERT. SWEEP		
WL STA. 6+08.56	5" VERT. SWEEP		
WL STA. 6+36.32	5" VERT. SWEEP		
WL STA. 7+46.56	8" VALVE		
WL STA. 7+56.14	8"x8" TEE, CONNECT TO WATERMAIN 'F'		
WL STA. 7+66.50	8"x8" TEE, CONNECT TO WATERMAIN 'C'		
WL STA. 7+70.50	8" CAP AND BUTTRISS		

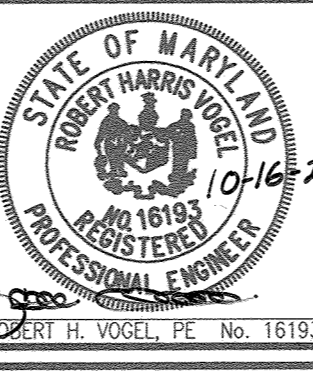


DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

11.13.20

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 AN EXERCISING PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2022

DRN: JMR/KC DES: EDS
CHK: RHV
DATE: SEPTEMBER 2020

BY	NO.	REVISION	DATE

FINAL WATER AND SEWER CONSTRUCTION PLAN
WATER AND SEWER PROFILES

LONG GATE OVERLOOK-PHASE 2
LOTS 16-39, 82-99 AND PARCELS A & B (UNITS 200-210)
CONT. 14-5144-D

SCALE AS SHOWN

SHEET 3 OF 3

ZONED: R-A-15
HOWARD COUNTY, MARYLAND
PARCELS 322, 323, 324, 325, 326 & 327