


GENERAL NOTES

PART I

- APPROXIMATE LOCATION 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.
 - TOPOGRAPHY SHOWN HEREON IS OBTAINED FROM AERIAL PHOTOGRAMMETRY COMPILED BY POTOMAC AERIAL SURVEYS INC. JANUARY 12, 2012.
 - THE PROPERTY OUTLINE SHOWN HEREON IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING INC., DATED FEBRUARY 2012.
 - THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM AND 83.791 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 47H2 AND 47CC.
- ALL VERTICAL CONTROLS ARE BASED ON (NAVD' 88). VERTICAL CONTROLS PROVIDED ON DRAWINGS ARE:
- GEODETIC SURVEY CONTROL 47H2 (N 529706.4221 E 1355445.3364)
BRASS DISC SET ON TOP OF A CONCRETE MONUMENT.
- GEODETIC SURVEY CONTROL 47CC (N 528939.7281 E 1354223.5536)
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 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 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 MADE 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 SHOWING THESE PLANS:
- | | |
|------------------------------|----------------|
| A&E (CONSTRUCTION SERVICES) | 1-800-252-1133 |
| BCE (EMERGENCY) | 410-637-8713 |
| BUREAU OF UTILITIES | 410-685-0123 |
| COLUMBIA PIPELINE COMPANY | 410-319-4900 |
| 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 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/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(G) OF THE HOWARD COUNTY CODE.

PART II - WATER

- ALL WATER MAINS TO BE C-900 PVC (DR-18) UNLESS OTHERWISE NOTED.
 - TOPS OF ALL WATER MAINS TO 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 THE 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 ANWA 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. SOUND 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.
 - 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 200 PSI MEETING THE REQUIREMENTS OF ANWA C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTIED 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 ANWA C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DR18 OR EQUAL.

PART II - WATER CONTINUED

- WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF ANWA C-900 PVC PIPELINES, THE CONTRACTOR SHALL INSTALL DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE PVC PIPE SPIGOTS OR HIGH DEFLECTION 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 EBMA IRON INC. OR APPROVED EQUAL.

- 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.

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 WATER TIGHT FRAME AND COVER, STANDARD DETAIL GS.52. WHERE WATER TIGHT 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 CELLAR CANNOT BE SERVED.

FINAL WATER AND SEWER PLAN

HIGH RIDGE MEADOWS-SECTION 2-PHASE 1

LOTS 82-95 (SFD RESIDENTIAL), 116-125 (SFA RESIDENTIAL), AND OPEN SPACE LOTS 145-146

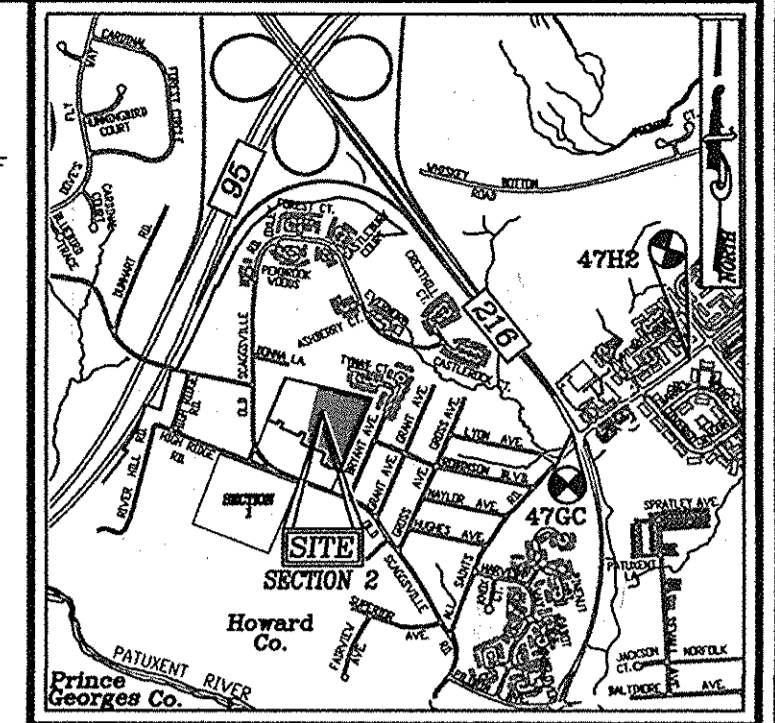
OLD SCAGGSVILLE ROAD PARCEL 363 HOWARD COUNTY, MARYLAND

CONTRACT 24-4839-D

BENCHMARKS






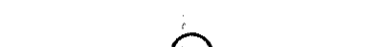


HOWARD COUNTY BENCHMARK 47H2 (CONC. MON.)
N 529706.4221 E 1355445.3364 ELEV. 256.088
LOCATION: ALL SAINTS ROAD, 240'+/- SOUTH OF NORTH LAUREL ROAD, 2.89 FEET FROM STORM DRAIN INLET; 1' EAST OF CURB, 0.6 FEET BELOW SURFACE.

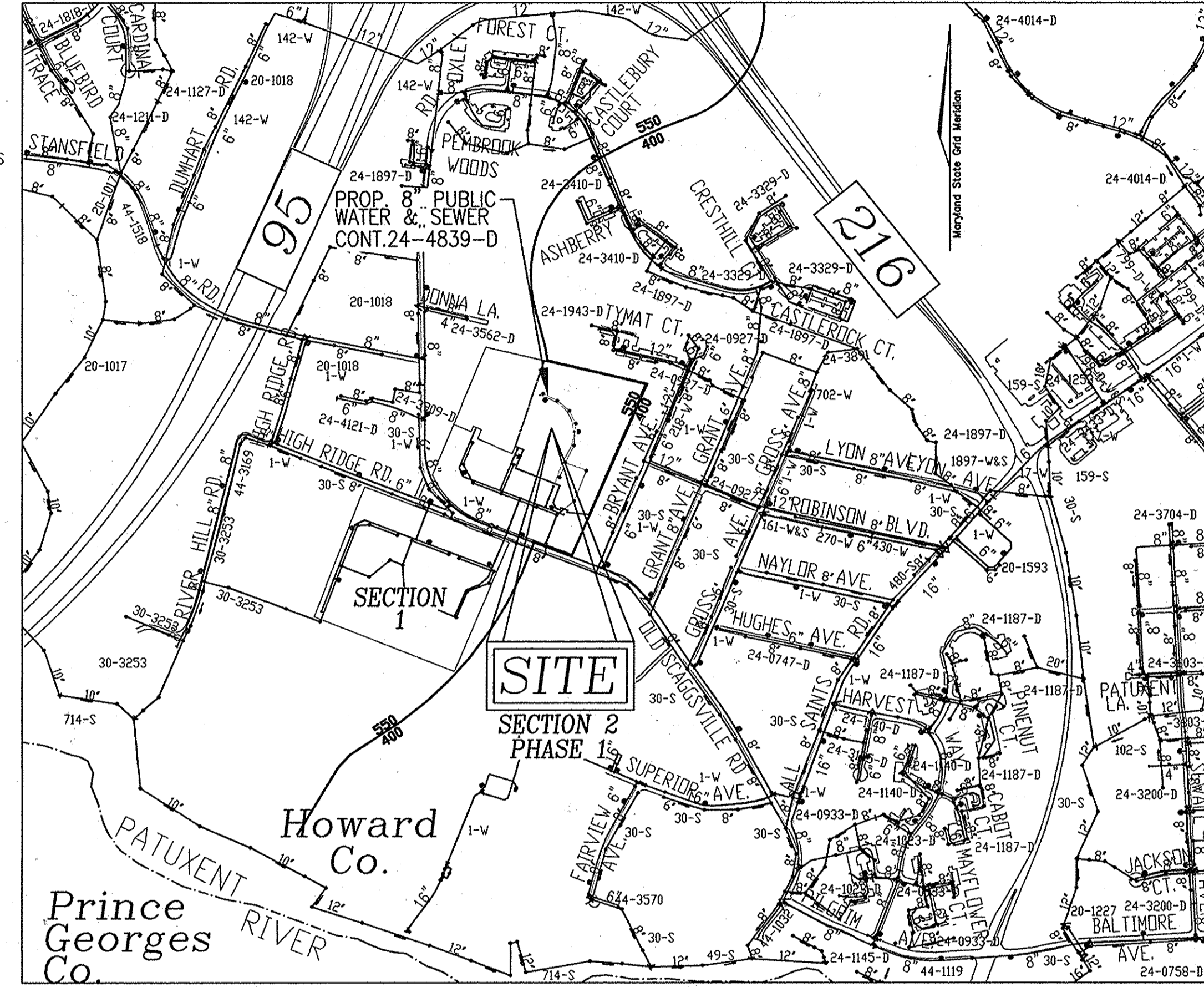
HOWARD COUNTY BENCHMARK 47CC (CONC. MON.)
N 528939.7281 E 1354223.5536 ELEV. 226.272
LOCATION: MEDIAN 29 FEET WEST OF ALL SAINTS RD RT 216 INTERSECTION; 1.4 FEET WEST OF SOUTHWEST INLET CORNER



LOCATION MAP
SCALE: 1"=2,000'
ADC MAP COORDINATE: 5169 C2

LEGEND

- EXISTING WATER MAIN 
- PROPOSED WATER MAIN 
- FIRE HYDRANT 
- PROPOSED VALVE 
- PROPOSED TEE 
- EXISTING SEWER MAIN 
- SEWER MANHOLE 
- PROPOSED SEWER MAIN 



VICINITY MAP
SCALE: 1"=600'

WATER ZONE: 550
TEST GRADIENT: 700

TYPE OF BUILDING :	SFD & SFA RESIDENTIAL
NO. OF BUILDABLE LOTS :	24
NO. OF OPEN SPACE LOTS :	2
NO. OF SINGLE WATER HOUSE CONNECTIONS :	16
NO. OF TWIN WATER HOUSE CONNECTIONS :	4
NO. OF SEWER HOUSE CONNECTIONS :	16
NO. OF TWIN SEWER HOUSE CONNECTIONS :	4
SEWER SHED :	PATUXENT RIVER
TREATMENT PLANT :	PATUXENT

QUANTITIES

NAME OF UTILITY CONTRACTOR : GAINES & CO.		SURVEY AND DRAFTING DIVISION AS-BUILT DATE :		AS-BUILT	
ITEMS	QUANTITIES ESTIMATED	QUANTITIES	TYPE	MANUFACTURER/SUPPLIER	
WATER					
8" WATER (C-900 PVC) (DR-18)	620.0 LF	620 LF	C-900 DR18	NORTH AMERICAN NATIONAL PIPE	
6" WATER (C-900 PVC) (DR-18)	43.55 LF	44 LF	C-900 DR18	NORTH AMERICAN NATIONAL PIPE	
4" WATER (C-900 PVC) (DR-18)	212.79 LF	213 LF	C-900 DR 18	NORTH AMERICAN NATIONAL PIPE	
1.5" WVC	517.0 LF	517 LF	COPPER	CAMBRIDGE LEE	
8"x6" TEE	2 EA	2 EA	M5 EPOXY	STAR PIPE	
8"x4" TEE	1 EA	1 EA	M5 EPOXY	STAR PIPE	
8" VALVE	6 EA	1 EA	GATE VALVE	KENNEDY	
8" VALVE	2 EA	2 EA	GATE VALVE	KENNEDY	
4" VALVE	1 EA	1 EA	GATE VALVE	KENNEDY	
FIRE HYDRANT	2 EA	2 EA	FIRE HYDRANT	KENNEDY	
8" - 1/16 HORIZONTAL BEND	3 EA	3 EA	M5 EPOXY	STAR PIPE	
8" - 1/32 HORIZONTAL BEND	4 EA	4 EA	M5 EPOXY	STAR PIPE	
4" - 1/8 HORIZONTAL BEND	2 EA	2 EA	M5 EPOXY	STAR PIPE	
8" CAP AND BUTTRESS	1 EA	1 EA	M5 EPOXY	STAR PIPE	
4" CAP AND BUTTRESS	1 EA	NA	NA	NA	
SEWER					
8" PVC SEWER	713.0 LF	713 LF	SDR 35	NORTH AMERICAN NATIONAL PIPE	
8" DIP SEWER	256 LF	256 LF	DIP CL 52	US PIPE GRIFFIN	
4" SMC	391.0 LF	391 LF	SDR 35	NORTH AMERICAN NATIONAL PIPE	
MANHOLES	10 EA	10 EA	CONCRETE	CONCRETE PIPE & PRECAST	

OWNER/DEVELOPER
BEAZER HOMES
MARYLAND DIVISION
8965 GUILFORD ROAD - SUITE 290
COLUMBIA, MARYLAND
21046
(410) 720-5071

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

John R. Robert 3/10/15
SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND WITH FINAL PLAN F-14-023.

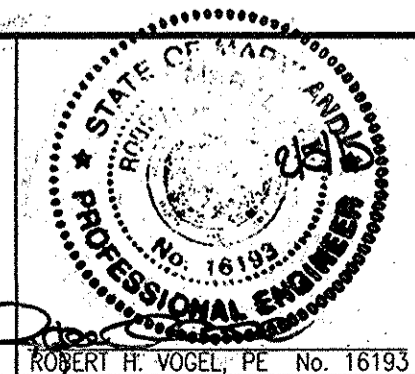
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Sheila C. O'Brien 2/25/15
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Ullrich 3.12.15
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELLCOTT CITY, MD 21043 FAX: 410.461.8961



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 09-29-2016

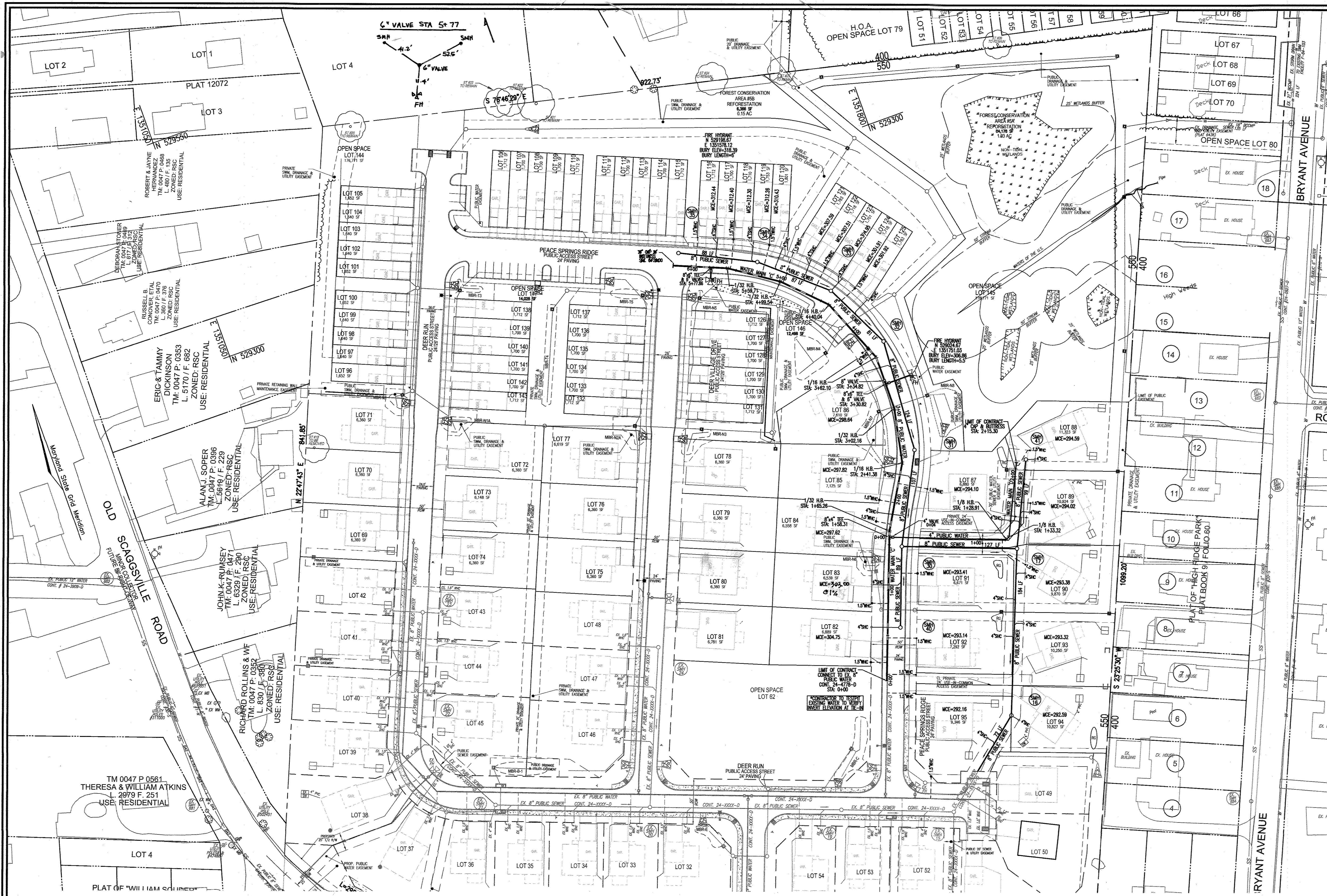
DRN: JMR/KG DES: EDS	OCS	Z	RCI AS-BUILTS	10-26-15
CHK: RHV	KG	1	REVISED WATER AND SEWER MAINS PER PHASE 1.	12/2014
DATE: JANUARY 2015	BY	NO.	REVISION	DATE

FINAL WATER AND SEWER PLAN
CONTRACT 24-4839-D
COVER SHEET

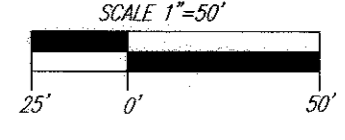
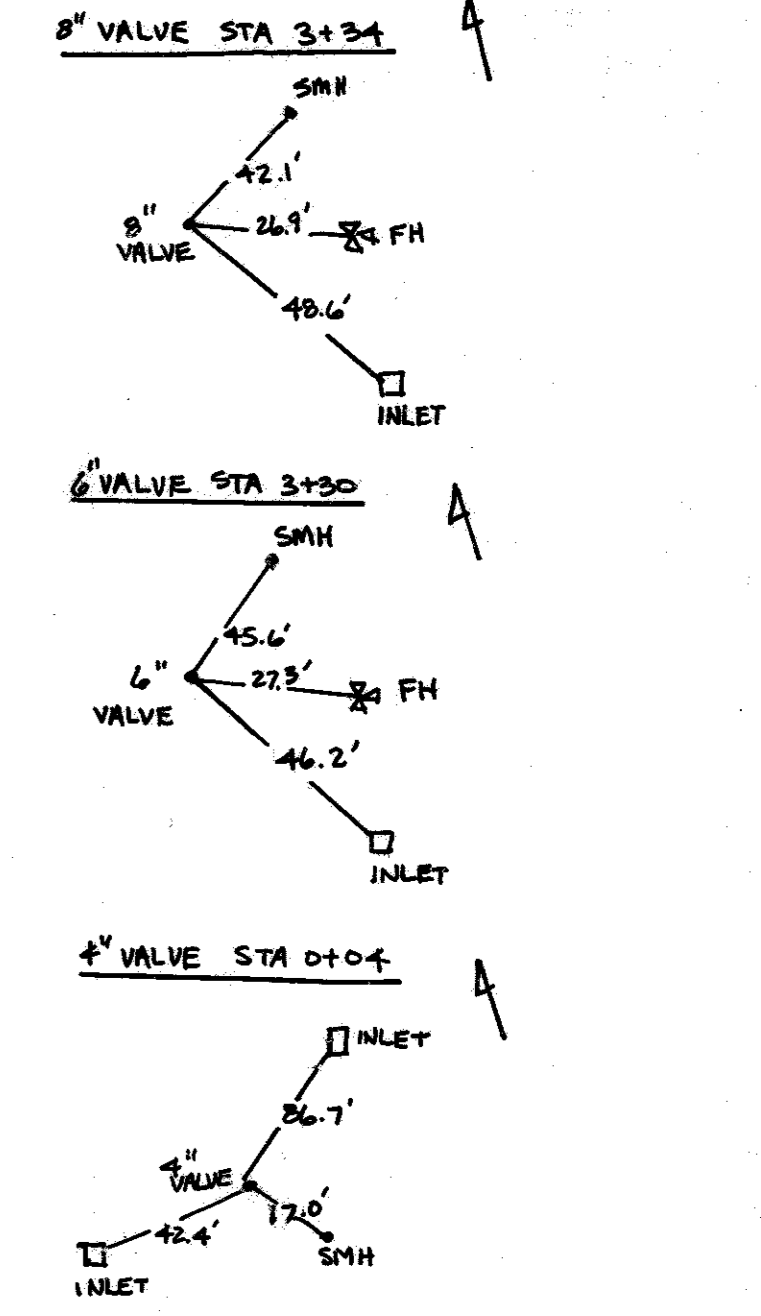
HIGH RIDGE MEADOWS-SECTION 2-PHASE 1
LOTS 82-95 (SFD RESIDENTIAL), 116-125 (SFA RESIDENTIAL), AND OPEN SPACE LOTS 145-146
OLD SCAGGSVILLE ROAD
PARCELS 363
HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 1 OF 4
ZONING R-SC PARCELS: 363 21046
HOWARD COUNTY, MARYLAND

600' SCALE MAP NO. 50 BLOCK NO. 1 TAX MAP 50 GRID 1 2ND ELECTION DISTRICT



- LEGEND:**
- PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - ADJACENT PROPERTY LINE
 - EXISTING CURB AND GUTTER
 - EXISTING UTILITY POLE
 - EXISTING LIGHT POLE
 - EXISTING MAILBOX
 - EXISTING SIGN
 - EXISTING SANITARY MANHOLE
 - EXISTING SANITARY LINE
 - EXISTING CLEANOUT
 - EXISTING FIRE HYDRANT
 - EXISTING WATER LINE
 - EXISTING TREE LINE
 - EXISTING TREES
 - PROP. PERMEABLE CONCRETE
 - EXISTING FENCE
 - CENTERLINE OF EXISTING STREAM
 - PROPOSED STORMDRAIN
 - PROPOSED STORMDRAIN INLET
 - PROPOSED SIDEWALK
 - PROPOSED TREE LINE
 - PROPOSED CURB
 - PROPOSED STREET LIGHT
 - PROPOSED WATER MAIN
 - FIRE HYDRANT
 - PROPOSED VALVE
 - PROPOSED TEE
 - PROPOSED SEWER
 - WATER HOUSE CONNECTION
 - SEWER HOUSE CONNECTION

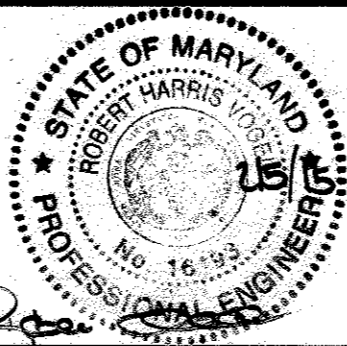


LAYOUT PLAN
SCALE: 1"=50'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELlicott CITY, MD 21043 FAX: 410.461.8961



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. 16183, EXPIRATION DATE: 09-27-2016

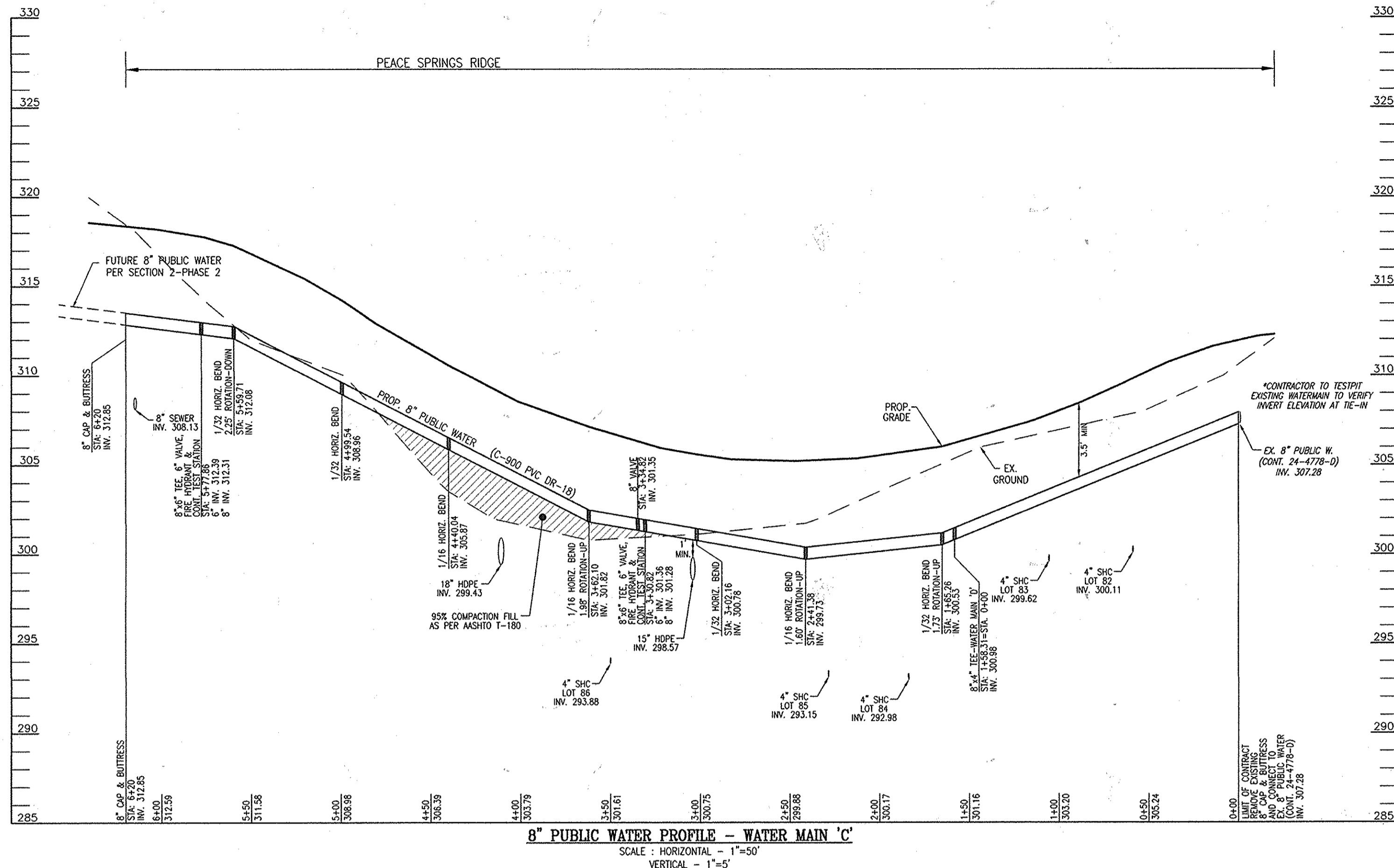
DRN:	JMR/KG	DES:	EDS	RVE:	3	AMEND MCE FOR LOT B3	11/1/16
CHK:	RHV	KG:	1	CLS:	2	KCI AS-BUILTS	10-26-15
DATE:	JANUARY 2015	BY:	NO.	REVISION:		REVISED WATER AND SEWER MAINS PER PHASE 1.	12/2014

**FINAL WATER AND SEWER PLAN
CONTRACT 24-4839-D
LAYOUT PLAN**

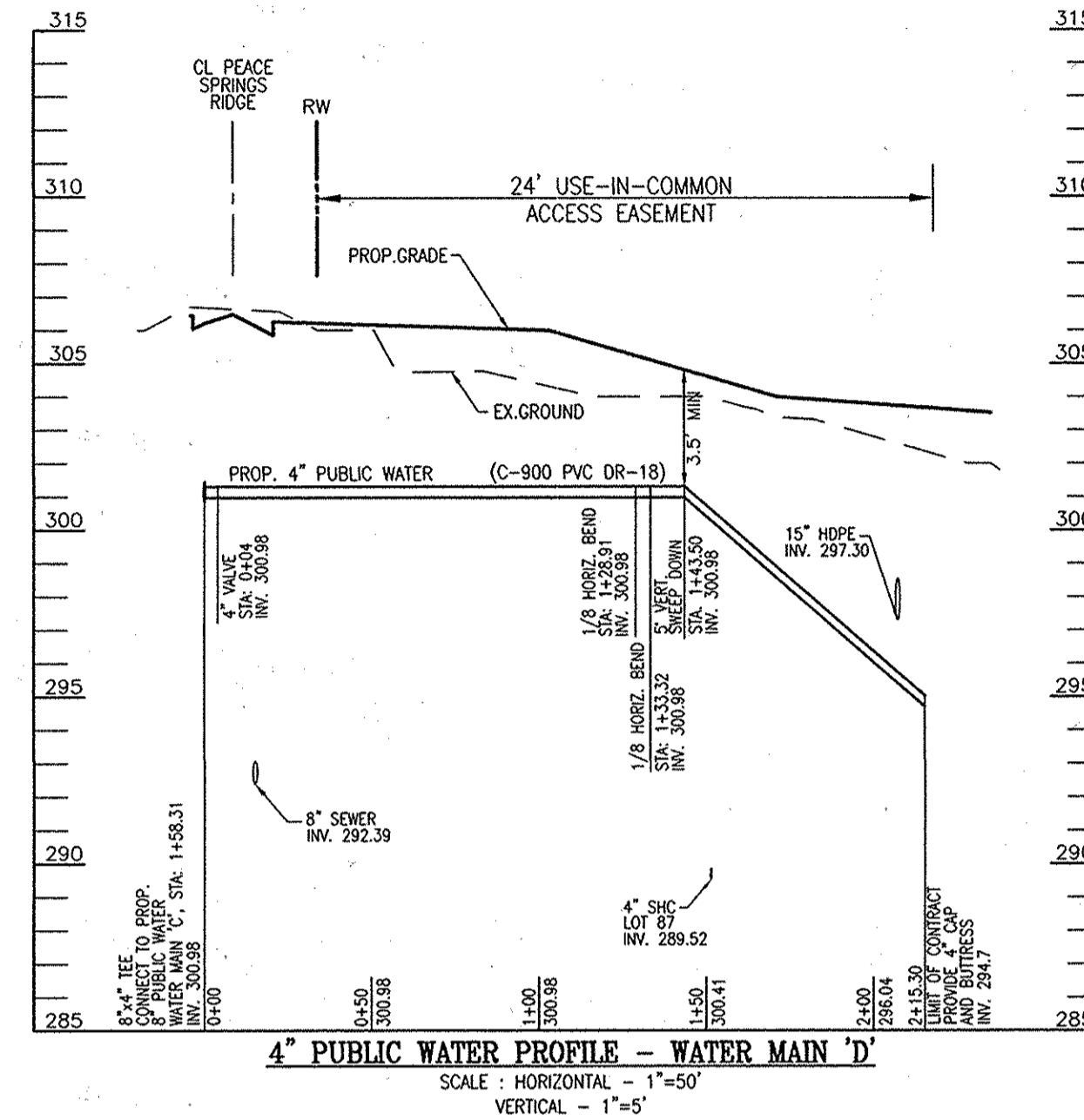
HIGH RIDGE MEADOWS-SECTION 2-PHASE 1
LOTS 82-95 (SFD RESIDENTIAL), 116-125 (SFA RESIDENTIAL),
AND OPEN SPACE LOTS 145-146
OLD SCAGGSVILLE ROAD
PARCELS 363
HOWARD COUNTY, MD

SCALE AS SHOWN
SHEET 2 OF 4

TAX MAP 50 GRID 1
2ND ELECTION DISTRICT



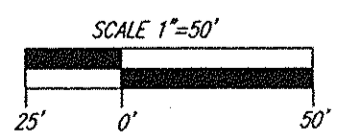
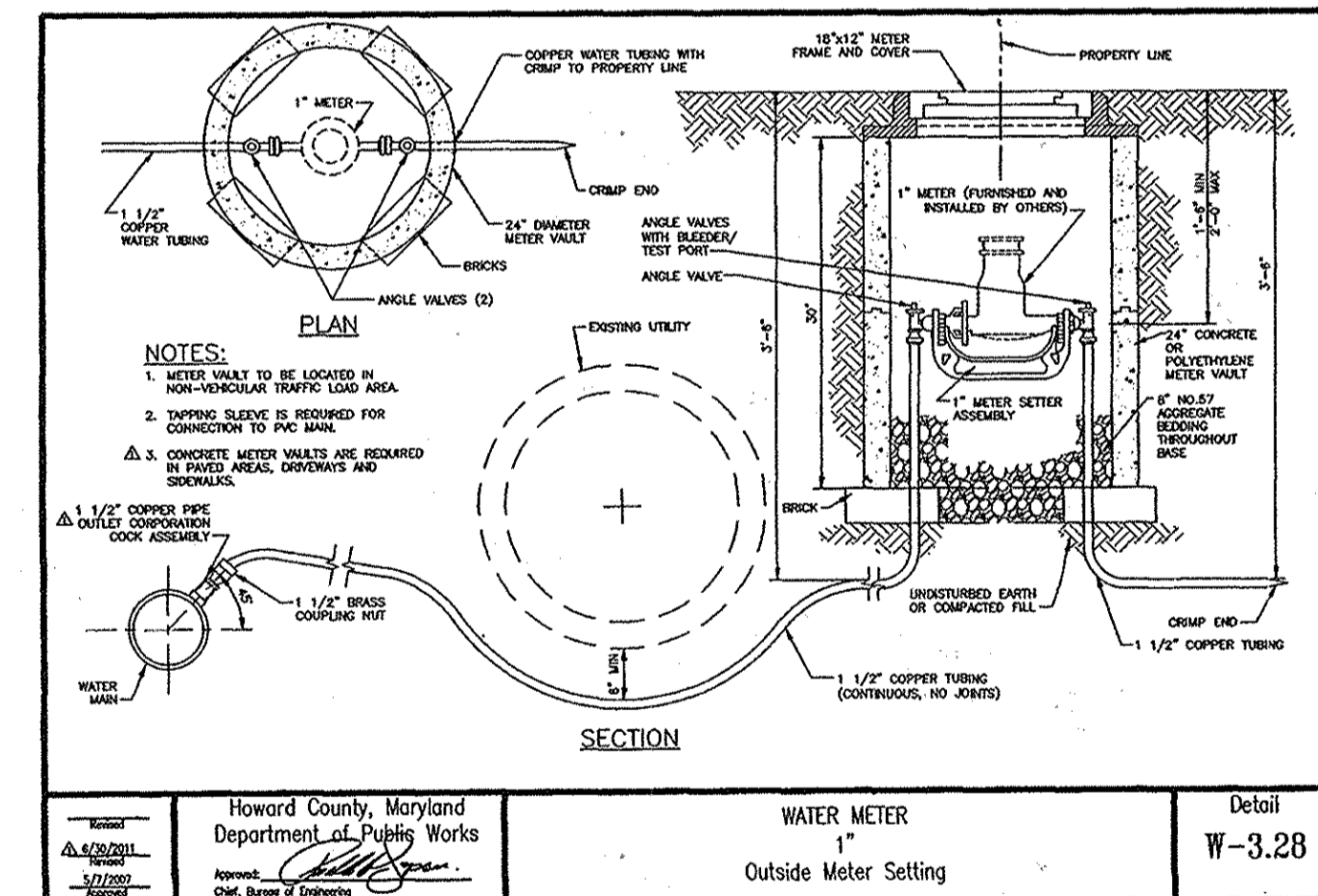
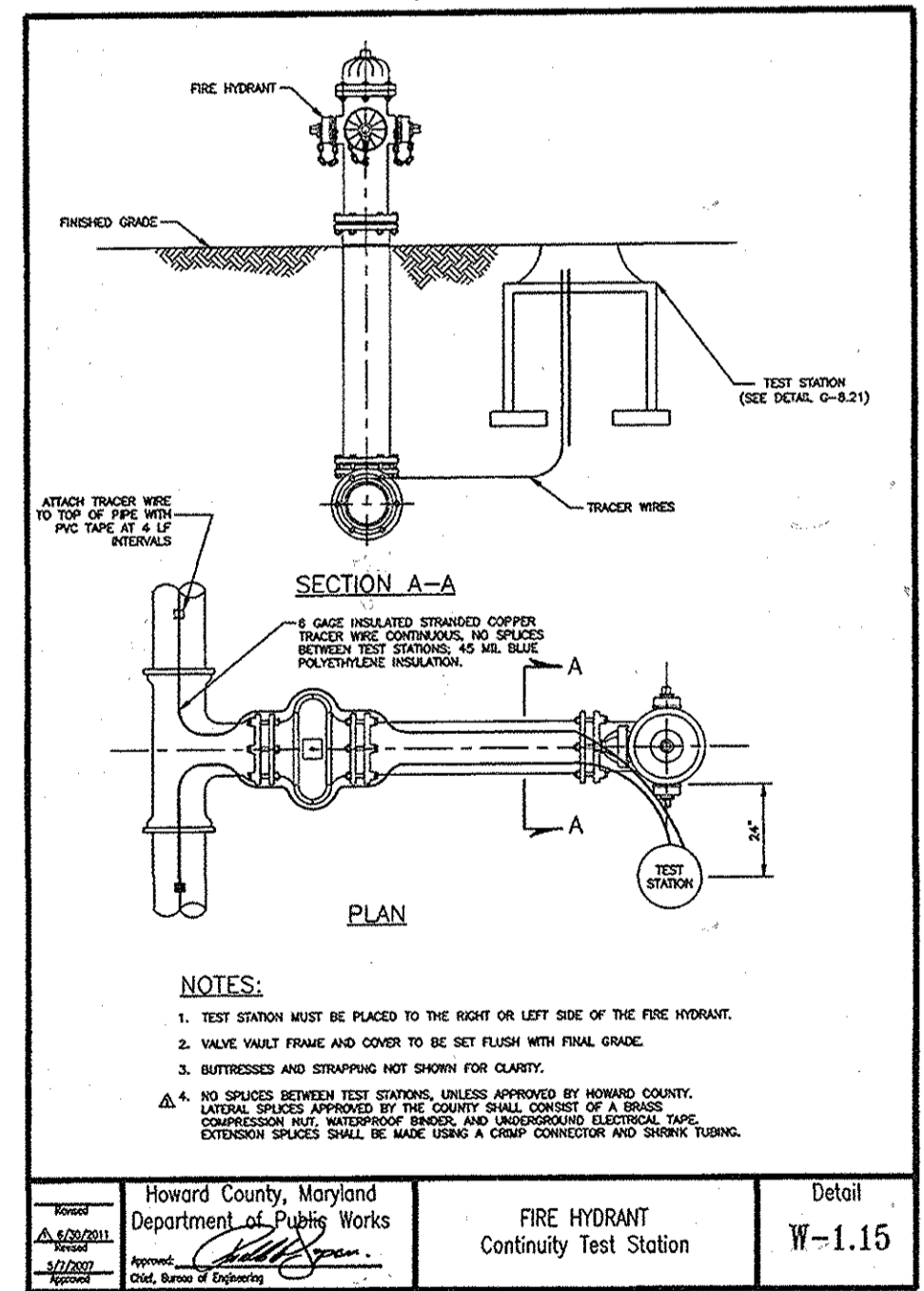
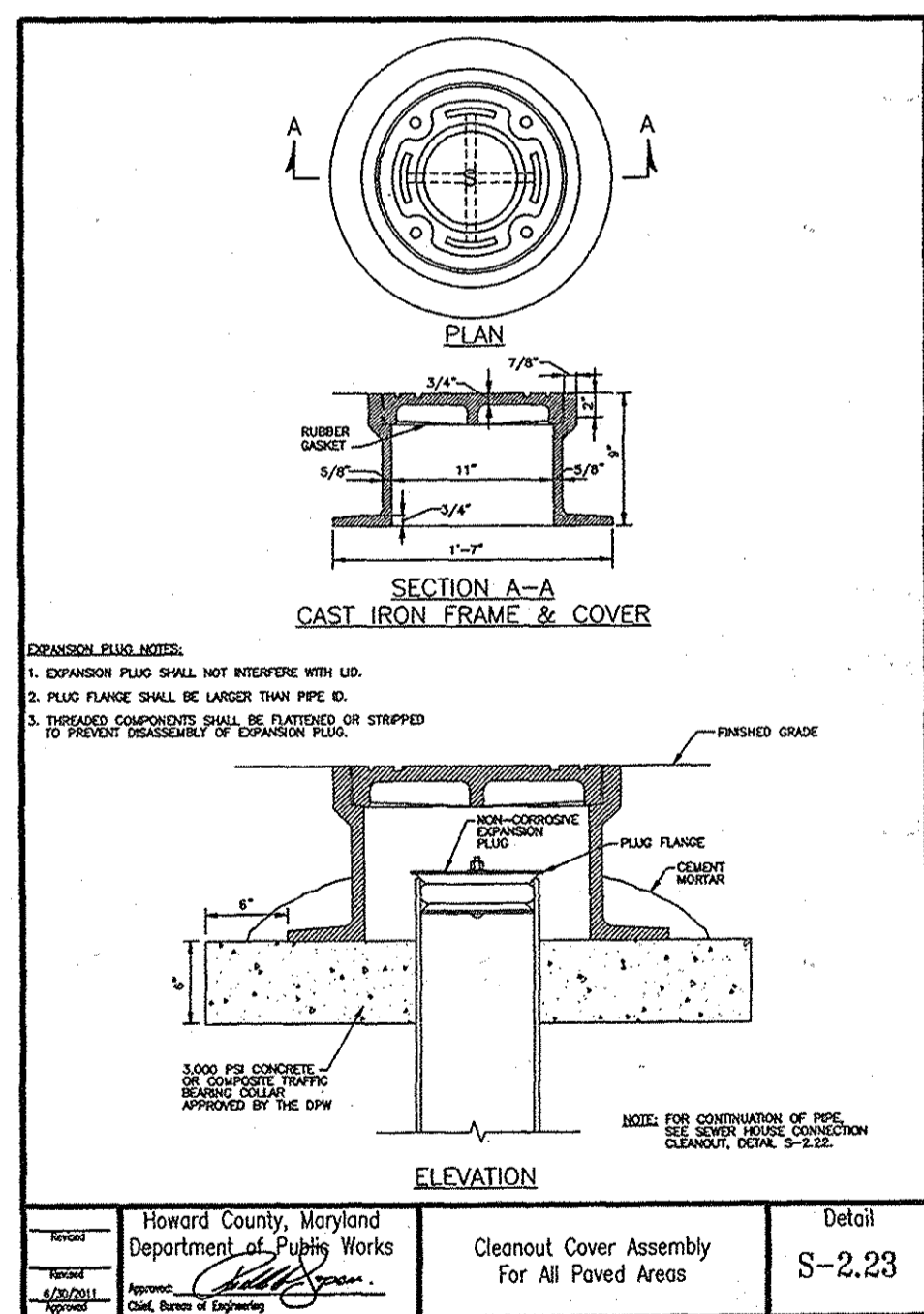
8" PUBLIC WATER PROFILE - WATER MAIN 'C'
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



4" PUBLIC WATER PROFILE - WATER MAIN 'D'
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE			
LOT #	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
82		57' TO SDMH	48.7' TO SMH
83		35.3' TO INLET	11.4' TO SDMH
84		40.5' TO SMH	53.6' TO INLET
85		62.1' TO INLET	67.2' TO SMH
86		32.7' TO SMH	57.3' TO FH
87		36.2' TO INLET	44.6' TO SDMH
88		10.5' TO SMH	36.1' TO INLET
89		47.9' TO SMH	45.0' TO INLET
90		14.1' TO SMH	58.3' TO INLET
91		33.4' TO SMH	41.0' TO SDMH
92		20.2' TO SMH	24.9' TO SDMH
93		20.1' TO WKS 74	54.5' TO SMH
94		20.1' TO WKS 73	73.3' TO SMH
95		9.5' TO SMH	32.4' TO INLET
116		11.4' TO INLET	47.5' TO FH
117		51.0' TO FH	36.7' TO SMH
118		51.0' TO FH	34.7' TO SMH
119		24.3' TO SMH	24.9' TO INLET
120		24.3' TO SMH	24.9' TO INLET
121		14.4' TO INLET	41.4' TO SMH
122		44.6' TO INLET	26.7' TO SMH
123		44.6' TO INLET	26.7' TO SMH
124		27.2' TO SMH	46.4' TO SDMH
125		27.2' TO SMH	46.4' TO SDMH

PUBLIC WATER MAIN LOCATION CHART	
STA.	FITTING
WATER MAIN 'C'	
0+00	CONNECT TO EX. 8" PUBLIC WATER
1+58.31	8"x4" TEE - WATER MAIN 'D'
1+65.26	1/32 HORIZONTAL BEND, 1.73" ROTATION-UP
2+41.38	1/16 HORIZONTAL BEND, 1.60" ROTATION-UP
3+02.16	1/32 HORIZONTAL BEND
3+30.82	8"x5" TEE, 6" VALVE, AND FIRE HYDRANT
3+34.82	8" VALVE
3+62.10	1/16 HORIZONTAL BEND, 1.98" ROTATION-UP
4+40.04	1/16 HORIZONTAL BEND
4+99.54	1/32 HORIZONTAL BEND
5+59.71	1/32 HORIZONTAL BEND, 2.25" ROTATION-DOWN
5+77.86	8"x5" TEE, 6" VALVE, AND FIRE HYDRANT
6+20.00	8" CAP & BUTTRISS
WATER MAIN 'D'	
0+00	CONNECT TO PROP. 8" PUBLIC WATER
0+04	4" VALVE
1+28.91	1/8 HORIZONTAL BEND
1+33.32	1/8 HORIZONTAL BEND
1+43.50	5" VERTICAL SWEEP (DOWN)
2+12.79	4" CAP & BUTTRISS



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

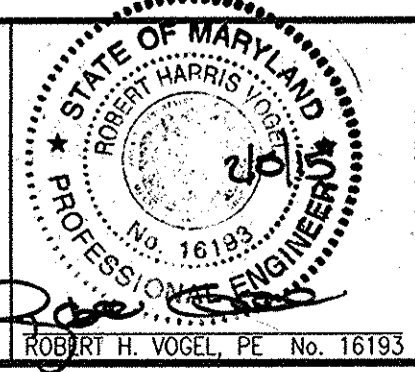
Steve Com
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Chief, Development Engineering Division
DATE 3/2/15

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL ENGINEER
ROBERT H. VOGEL, PE No. 16193



DRN	CHK	DATE	DES	DATE
JMR/KG	RHV	JANUARY 2015	EDS	
2	1	2015	REVISED WATER AND SEWER MAINS PER PHASE 1.	12/2014

FINAL WATER AND SEWER PLAN
CONTRACT 24-4839-D
WATER PROFILES

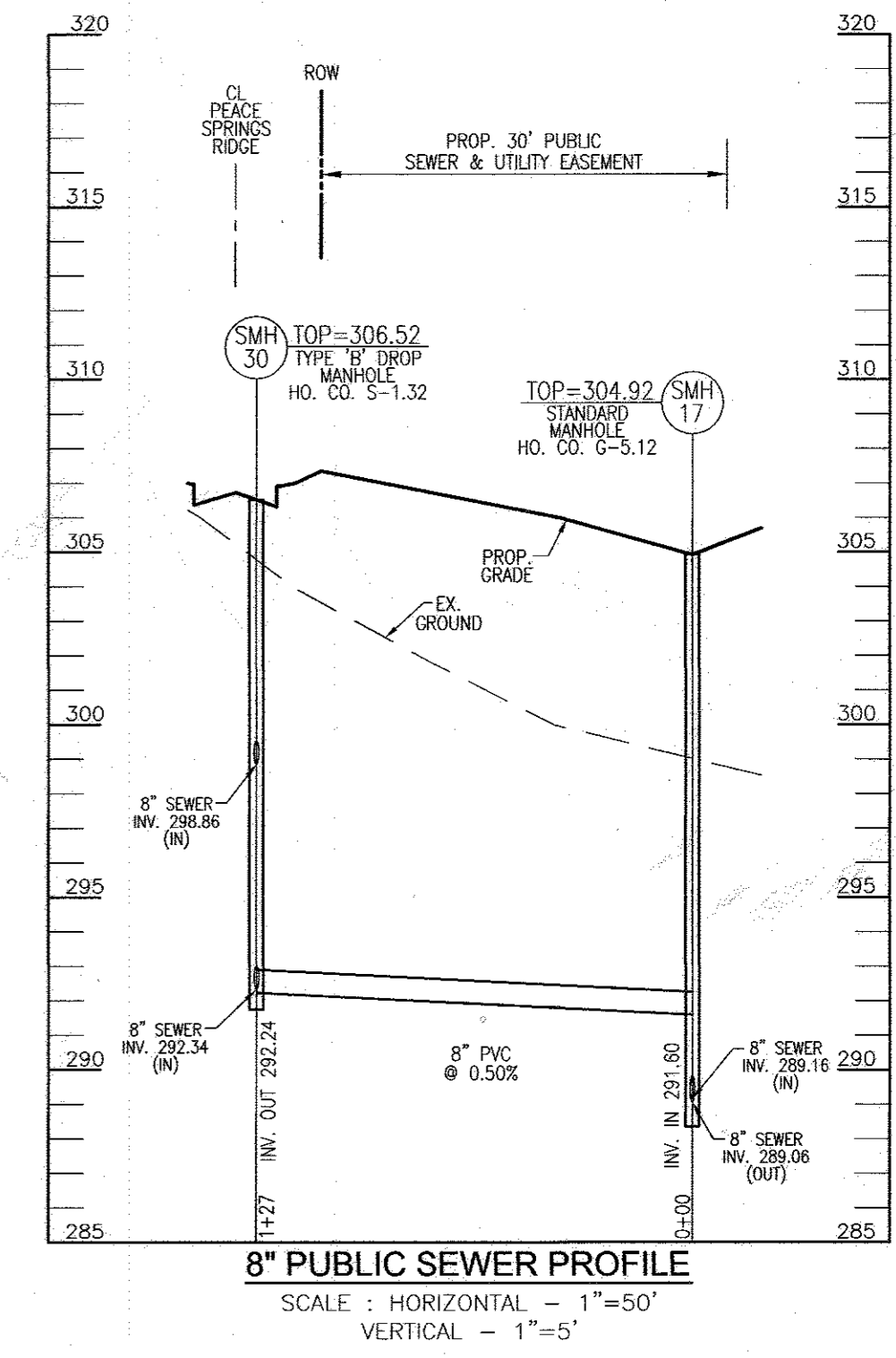
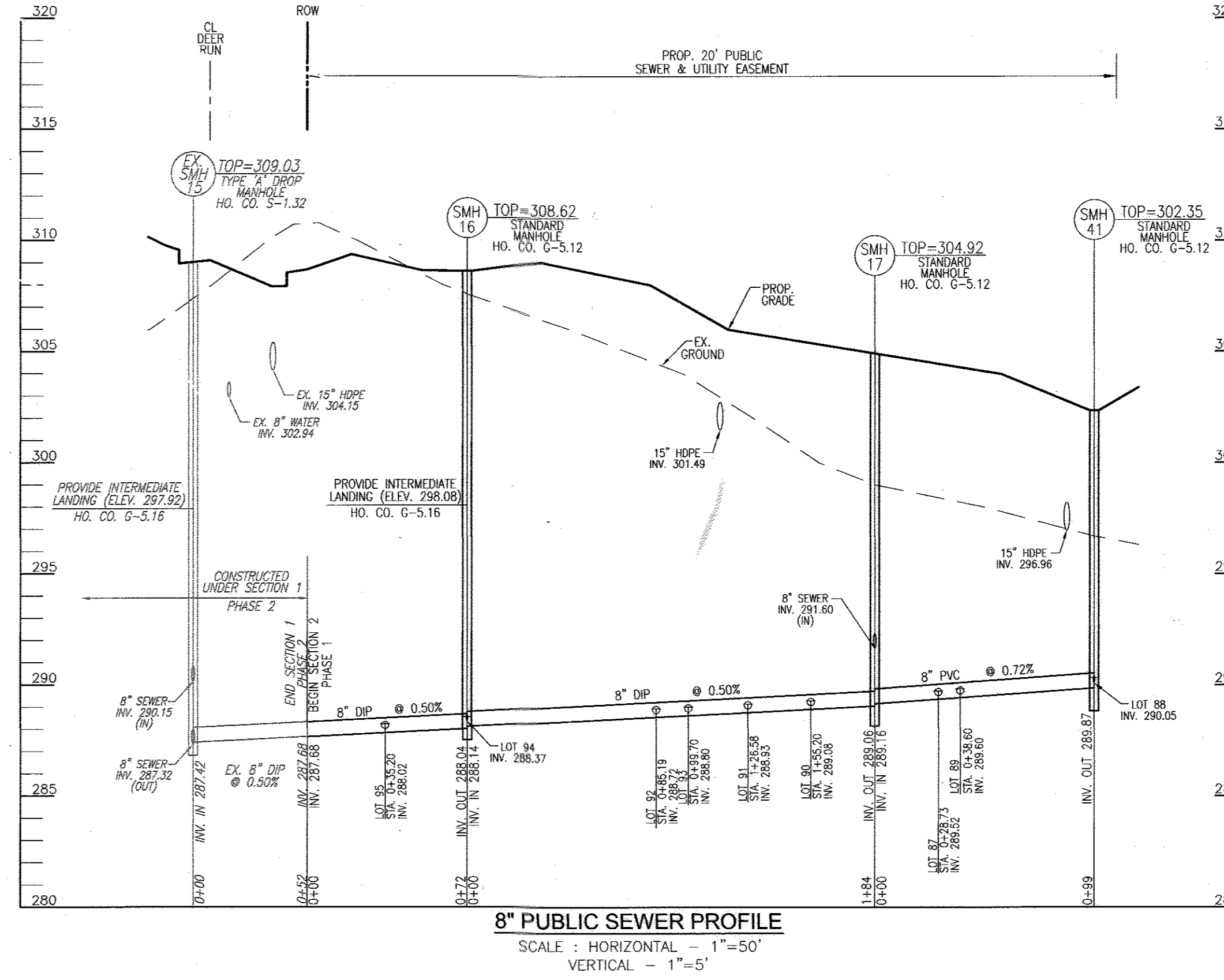
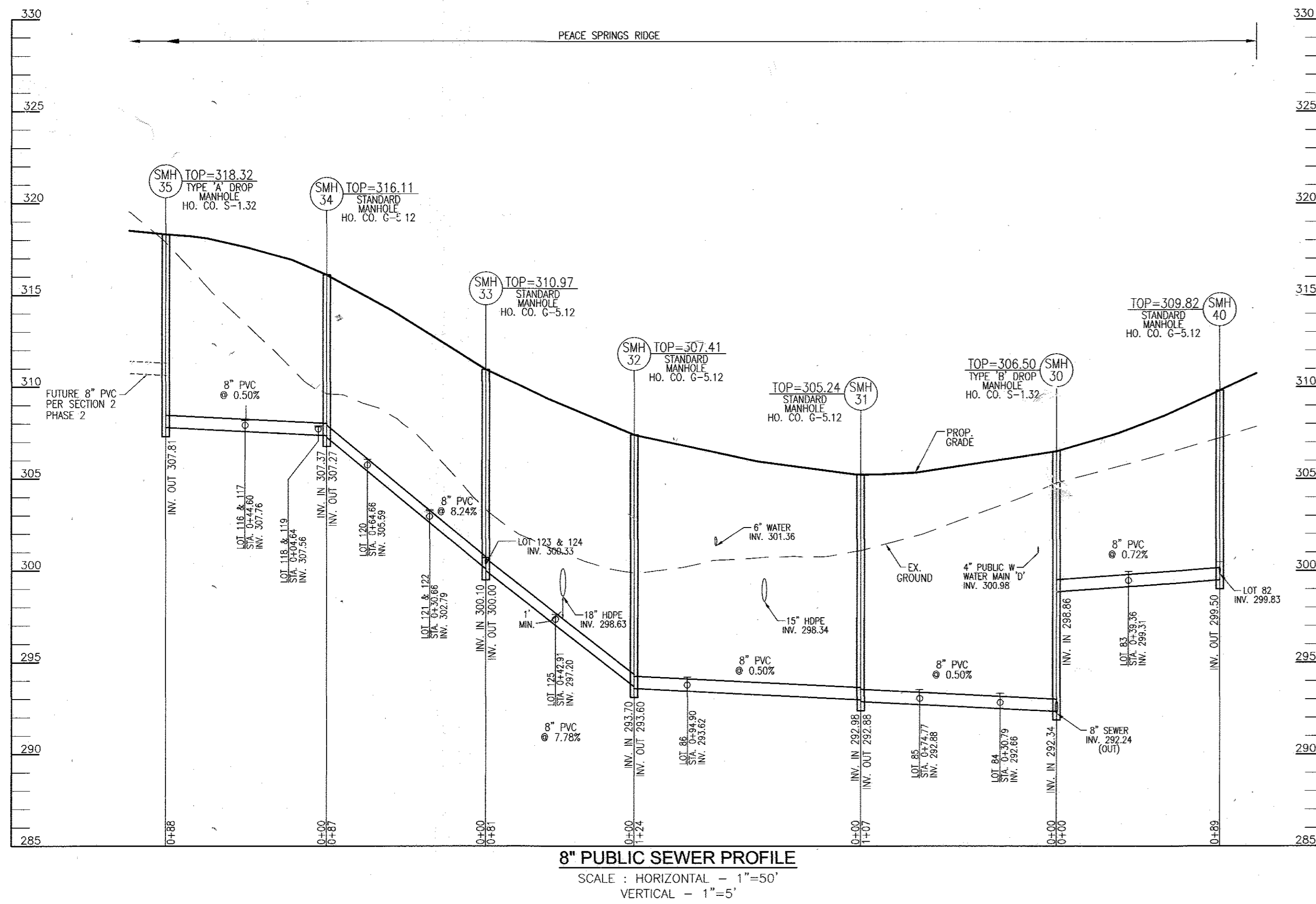
HIGH RIDGE MEADOWS-SECTION 2-PHASE 1
LOTS 82-95 (SFD RESIDENTIAL), 116-125 (SFA RESIDENTIAL), AND OPEN SPACE LOTS 145-146
OLD SCAGGSVILLE ROAD PARCELS 363 HOWARD COUNTY, MD

TAX MAP 50 GRID 1
2ND ELECTION DISTRICT

ZONING R-SC
PARCELS: 363
HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER
BEAZER HOMES
MARYLAND DIVISION
8965 GUILFORD ROAD - SUITE 290
COLUMBIA, MARYLAND 21046
(410) 720-5071

SCALE AS SHOWN
SHEET 3 OF 4



MANHOLE LOCATION CHART

MH No.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT
SMH 16	STD. 4' PRECAST MANHOLE (G-5.12)	N 528634.28 E 1351728.08	308.62	288.37	288.04
SMH 17	STD. 4' PRECAST MANHOLE (G-5.12)	N 528805.25 E 1351796.12	304.92	289.14	289.06
SMH 30	TYPE 'B' DROP MANHOLE (S-1.32)	CL ROAD STA: 2+84.71 PEACE SPRINGS RIDGE, 6.09' RT.	306.50	289.58	292.24
SMH 31	STD. 4' PRECAST MANHOLE (G-5.12)	CL ROAD STA: 3+91.43 PEACE SPRINGS RIDGE, 7' RT.	305.24	292.98	292.88
SMH 32	STD. 4' PRECAST MANHOLE (G-5.12)	CL ROAD STA: 5+12.66 PEACE SPRINGS RIDGE, 9.82' RT.	307.41	293.70	293.60
SMH 33	STD. 4' PRECAST MANHOLE (G-5.12)	CL ROAD STA: 5+90.66 PEACE SPRINGS RIDGE, 7' RT.	310.97	300.33	300.00
SMH 34	STD. 4' PRECAST MANHOLE (G-5.12)	CL ROAD STA: 6+76.18 PEACE SPRINGS RIDGE, 4.03' RT.	316.11	307.37	307.27
SMH 35	TYPE 'A' DROP MANHOLE (S-1.32)	CL ROAD STA: 7+63.47 PEACE SPRINGS RIDGE, 7' RT.	318.32	310.64	307.81
SMH 40	STD. 4' PRECAST MANHOLE (G-5.12)	CL ROAD STA: 1+95.00 PEACE SPRINGS RIDGE, 7' RT.	309.82	299.83	299.50
SMH 41	STD. 4' PRECAST MANHOLE (G-5.12)	N 528996.62 E 1351833.37	302.35	290.05	289.87

"MINIMUM CELLAR ELEVATION CHART"

LOT #	EL @ MAIN	TYPE	DIST TO ESMT.	EL @ ESMT.	DIST ESMT. - HSE	SHC SLOPE	EL @ HOUSE	MCE
82	299.83	SHC	32	300.47	89	2%	302.25	304.76
83	299.31	SHC	33	299.97	50	1%	300.50	303.00
84	292.66	SHC	33	293.32	90	2%	295.12	297.62
85	292.88	SHC	32	293.52	90	2%	295.32	297.82
86	293.62	SHC	30	294.22	96	2%	296.14	298.64
87	289.52	SHC	20	289.92	84	2%	291.60	294.10
88	290.05	SHC	12	290.29	90	2%	292.09	294.59
89	289.60	SHC	11	289.82	85	2%	291.52	294.02
90	289.08	SHC	11	289.30	79	2%	290.88	293.38
91	288.93	SHC	11	289.15	88	2%	290.91	293.41
92	288.72	SHC	11	288.94	85	2%	290.64	293.14
93	288.80	SHC	11	289.02	90	2%	290.82	293.32
94	288.37	SHC	10	288.57	76	2%	290.09	292.59
95	288.02	SHC	11	288.24	71	2%	289.66	292.16
116	307.76	TSHC	23	308.22	86	2%	309.94	312.44
117	307.76	TSHC	21	308.18	86	2%	309.90	312.40
118	307.56	TSHC	25	308.06	87	2%	309.80	312.30
119	307.56	TSHC	22	308.00	88	2%	309.76	312.26
120	305.59	SHC	24	306.07	93	2%	307.93	310.43
121	302.79	TSHC	27	303.33	88	2%	305.09	307.59
122	302.79	TSHC	24	303.27	87	2%	305.01	307.51
123	300.33	TSHC	20	300.73	86	2%	302.45	304.95
124	300.33	TSHC	18	300.69	86	2%	302.41	304.91
125	297.20	SHC	21	297.62	90	2%	299.42	301.92

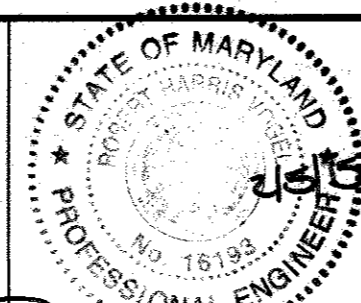
SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE

LOT #	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
82		32.6' TO SMH	20.8' TO SDMH
83		10.7' TO INLET	21.0' TO SDMH
84		46.4' TO SMH	41.7' TO INLET
85		40.4' TO INLET	39.6' TO SMH
86		37.3' TO SMH	41.2' TO FH
87		56.3' TO INLET	35.4' TO SMH
88		37.7' TO INLET	14.0' TO SMH
89		52.3' TO INLET	29.4' TO SMH
90		19.6' TO INLET	29.4' TO SMH
91		12.3' TO INLET	58.8' TO SMH
92		29.5' TO INLET	28.2' TO SHC 93
93		30.4' TO INLET	28.2' TO SHC 92
94		15.8' TO SMH	49.6' TO SDMH
95		36.5' TO SMH	25.5' TO SDMH
116		27.6' TO INLET	47.2' TO FH
117		29.1' TO INLET	47.4' TO FH
118		24.4' TO SMH	44.0' TO INLET
119		23.7' TO SMH	41.7' TO INLET
120		30.4' TO SMH	12.6' TO INLET
121		25.5' TO INLET	44.1' TO SMH
122		27.8' TO INLET	39.8' TO SMH
123		21.6' TO SMH	17.0' TO WHC 123
124		21.2' TO SMH	20.8' TO WHC 124
125		26.0' TO SMH	45.5' TO SDMH

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

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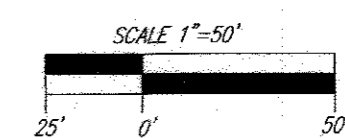
PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND (LICENSE NO. 16189) EXPIRATION DATE 09-27-2018

DRN:	JMR/KG	DES:	EDS	RVE	3	AMEND MCE FOR LOT 83	11/1/16
CHK:	RHV			OLS	2	KCI AS-BUILTS	11/24/15
DATE:	JANUARY 2015			KG	1	REVISED WATER AND SEWER MAINS PER PHASE 1.	12/2014
				BY	NO.	REVISION	DATE

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