

# FINAL WATER & SEWER PLAN MOUNT HEBRON OVERLOOK

LOTS 1-25 AND OPEN SPACE LOT 26  
A RE-SUBDIVISION OF THE "KEIM PROPERTY" LOT 2,  
AND A SUBDIVISION OF PARCELS 78 AND 416  
HOWARD COUNTY, MARYLAND

## 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.
- TOPOGRAPHICAL FIELD SURVEYS WERE PERFORMED ON MARCH 6TH 2010 BY POTOMAC AERIAL SURVEYS, INC.
- THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC. DATED APRIL 2010.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS:  
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM AND '83/81' AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 17EA AND 17EB.  
ALL VERTICAL CONTROLS ARE BASED ON (NAVD' 88).  
VERTICAL CONTROLS PROVIDED ON DRAWINGS ARE:  
GEODETIC SURVEY CONTROL 17EA (N 594357.62, E 1357519.37)  
ELEVATION: 478.77  
CONCRETE MONUMENT  
GEODETIC SURVEY CONTROL 17EB (N 593813.86, E 1355731.85)  
ELEVATION: 453.48  
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 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 ON THESE PLANS:  
AT&T ..... 1-800-252-1133  
BGE (CONSTRUCTION SERVICES) ..... 410-850-4620  
BGE (EMERGENCY) ..... 410-685-1400  
BUREAU OF UTILITIES ..... 410-313-4900  
COLONIAL PIPELINE COMPANY ..... 410-795-1390  
MISS UTILITY ..... 1-800-287-7777  
STATE HIGHWAY ADMINISTRATION ..... 410-531-5533  
VERIZON ..... 1-800-743-0033/410-224-9210
- 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 SHALL BE D.I.P. CLASS 54 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 SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL WHC'S TO BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.

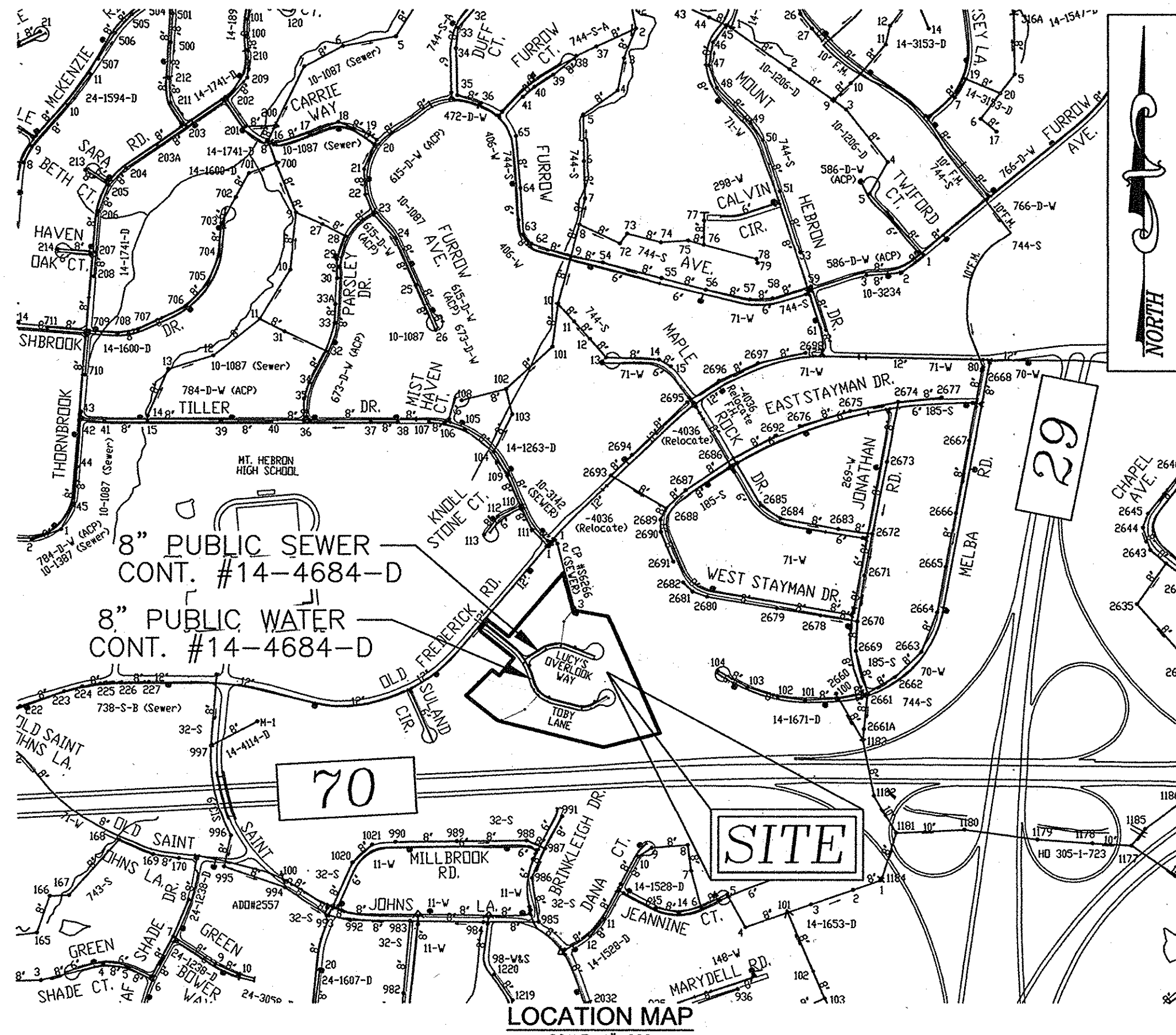
### PART III - SEWER

- ALL SEWER MAINS SHALL BE D.I.P. CLASS 52 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.I.T. IN PLAN AND PROFILE SHALL HAVE WATER-TIGHT FRAME AND COVER. STANDARD DETAIL G5.52, 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.

### PART II - WATER

FOR P.V.C. WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE ANVVA STANDARD SPECIFICATIONS FOR P.V.C. 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 MATERIAL TO BE INSTALLED UNDER THIS CONTRACT. ALL P.V.C. PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE REST OF THE RECORDS RECEIVED.

UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SEVENTEEN (17) FOUND SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH P.V.C. WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. NON-FERROUS ANODES SHALL BE INSTALLED ON ALL VALVES AND CASTLE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSSES. ZINC ANODES SHALL BE INSTALLED ON ALL STRAINLESS STEEL FITTINGS USED WITH P.V.C. MAINS. ALL TEES, OR SPRINKLER SYSTEMS ALL SINGLE FAMILY DWELLINGS SHALL HAVE A MINIMUM OF A 1/2" WHC WITH A 1" OUTSIDE METER SETTING.

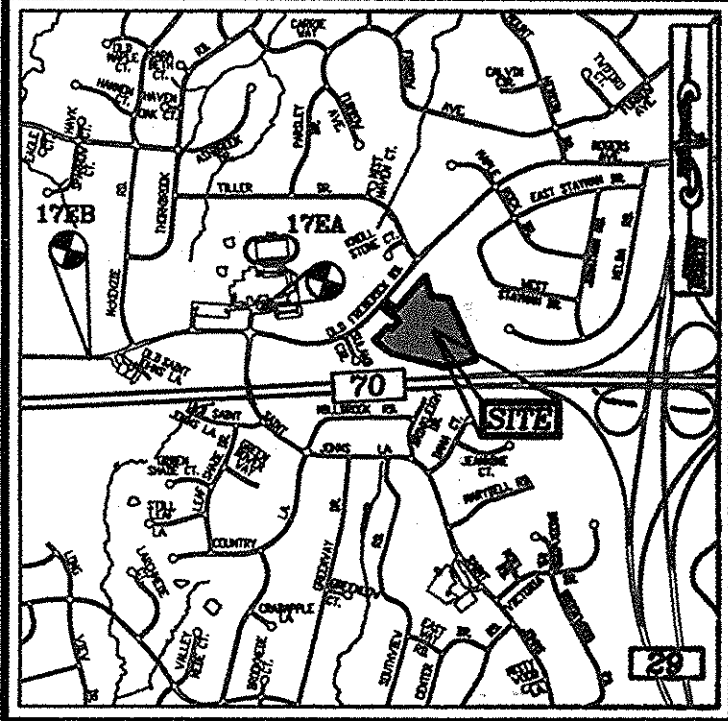


TYPE OF BUILDING:	SINGLE FAMILY DETACHED
NO. OF LOTS/PARCELS:	26
NO. OF SINGLE WATER HOUSE CONNECTIONS:	25
NO. OF TWIN WATER HOUSE CONNECTIONS:	0
NO. OF SEWER HOUSE CONNECTIONS:	25
NO. OF TWIN SEWER HOUSE CONNECTIONS:	0
DRAINAGE AREA:	PATAPSCO RIVER
TREATMENT PLANT:	PATAPSCO RIVER
WATER ZONE:	630W
TEST GRADIENT:	780

PROPERTIES WITH WELL AND SEPTIC		
ADDRESS	EXISTING SEPTIC	EXISTING WELL
9315 OLD FREDERICK ROAD	TO BE REMOVED	TO BE REMOVED
9305 OLD FREDERICK ROAD	TO BE REMOVED	TO BE REMOVED

## BENCHMARKS

HOWARD COUNTY BENCHMARK - 17EA (CONC. MONUMENT)  
N 594357.62 E 1357519.37 ELEV. 478.77  
LOCATION: FRONT OF MT. HEBRON H.S. (ROUTE 99 AND ST. JOHN'S LA.)  
HOWARD COUNTY BENCHMARK - 17EB (CONC. MONUMENT)  
LOCATION: ROUTE 99, 0.35 MILES WEST OF ST. JOHN'S LA.  
N 593813.86 E 1355731.85 ELEV. 453.48



## VICINITY MAP

SCALE: 1"=2000'  
ADC MAP COORDINATE: PG. 4815 G3

## LEGEND

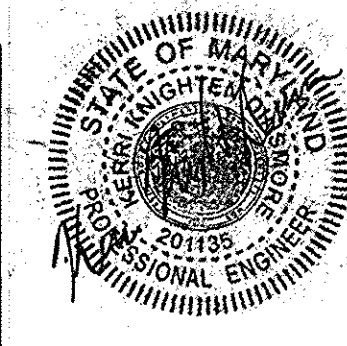
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- EXISTING FENCE
- CENTERLINE OF EXISTING STREAM
- EXISTING TREES (FIELD LOCATED)
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED WATER MAIN
- FIRE HYDRANT
- PROPOSED VALVE
- PROPOSED STORM DRAIN
- PROPOSED SEWER
- WATER HOUSE CONNECTION
- SEWER HOUSE CONNECTION
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED STORMDRAIN INLET
- PROPOSED SIDEWALK
- PROPOSED CURB

## QUANTITIES

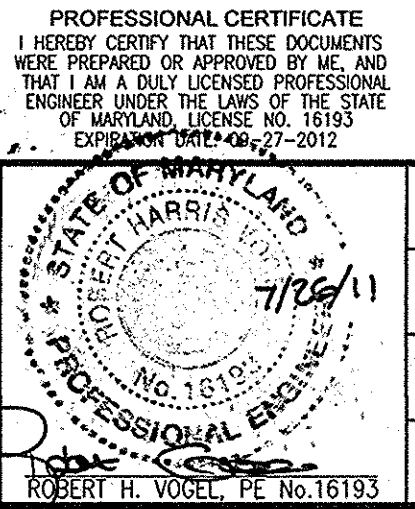
NAME OF UTILITY CONTRACTOR : W.F. WILSON AND SONS					
SURVEY AND DRAFTING DIVISION AS-BUILT DATE : 6/24/2012					
ITEMS	QUANTITIES ESTIMATED	AS-BUILT			
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER	
WATER					
8" WATER C900 PVC	1,137 LF	1,120.5 LF	DR-18	JM EAGLE / LIB WATER SERVICE	
6" WATER C900 PVC	271.480 LF	268.5 LF	DR-18	JM EAGLE / LIB WATER SERVICE	
12"X8" TAPPING SLEEVE	1 EA	1 EA	120-BA	FOOD / LIB WATER SERVICE	
8"X8" TEE	1 EA	1 EA	MS	TYLER PIPE / LIB WATER SERVICE	
8"X6" TEE	3 EA	3 EA	MS	TYLER PIPE / LIB WATER SERVICE	
8" VALVE	3 EA	3 EA	MS	AMERICAN FLOW CONTROL / LIB WATER SERVICE	
6" VALVE	3 EA	3 EA	MS	AMERICAN FLOW CONTROL / LIB WATER SERVICE	
FIRE HYDRANT	3 EA	3 EA	C-502	AMERICAN FLOW CONTROL / LIB WATER SERVICE	
1 1/2" WHC	735 LF	717 LF	K	CAMBRIDGE LEE / LIB WATER SERVICE	
8"-1/16" HORIZ. BEND	7 EA	7 EA	MS	TYLER PIPE / LIB WATER SERVICE	
8"-1/32" HORIZ. BEND	3 EA	3 EA	MS	TYLER PIPE / LIB WATER SERVICE	
6"-1/8" HORIZ. BEND	1 EA	1 EA	MS	TYLER PIPE / LIB WATER SERVICE	
8"X6" REDUCER	2 EA	2 EA	MS	TYLER PIPE / LIB WATER SERVICE	
6" CAP AND BUTTRESS	2 EA	2 EA	MS	TYLER PIPE / LIB WATER SERVICE	
6" SWEEP	2 EA	0			
8" SEWER (PVC)	852 LF	843.5 LF	CDR-25	JM EAGLE / LIB WATER SERVICE	
8" SEWER (DIP)	650 LF	641 LF	CL-52	JM EAGLE / LIB WATER SERVICE	
MANHOLES	13 EA	13 EA		AMERICAN FLOW CONTROL	
4" SHC	700 LF	654 LF	SOR-25	JM EAGLE 2/24/012	
FOR REVISION: NAME OF UTILITY CONTRACTOR: H.T.L. CONTRACTORS AS-BUILT DATE 10-8-2013					
8" SEWER (PVC)	230 LF	230 LF	PVC SDR-35	NATIONAL PIPE/REPAIR ROAD SUPPLY	
MANHOLE	1 EA	1 EA	PRECAST CON.	SUPERIOR STRUCTURES/BLACK RIVER SUPPLY	
4" SHC	2 LF	2 LF	PVC SDR-35	NATIONAL PIPE/REPAIR ROAD SUPPLY	

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND WITH FINAL PLAN F-11-064

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*John R. Robertson* 8/18/11  
HOWARD SOIL CONSERVATION DISTRICT DATE



FOR REVISION NO. 3  
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO: 201135, EXPIRATION DATE 7/24/2014.



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

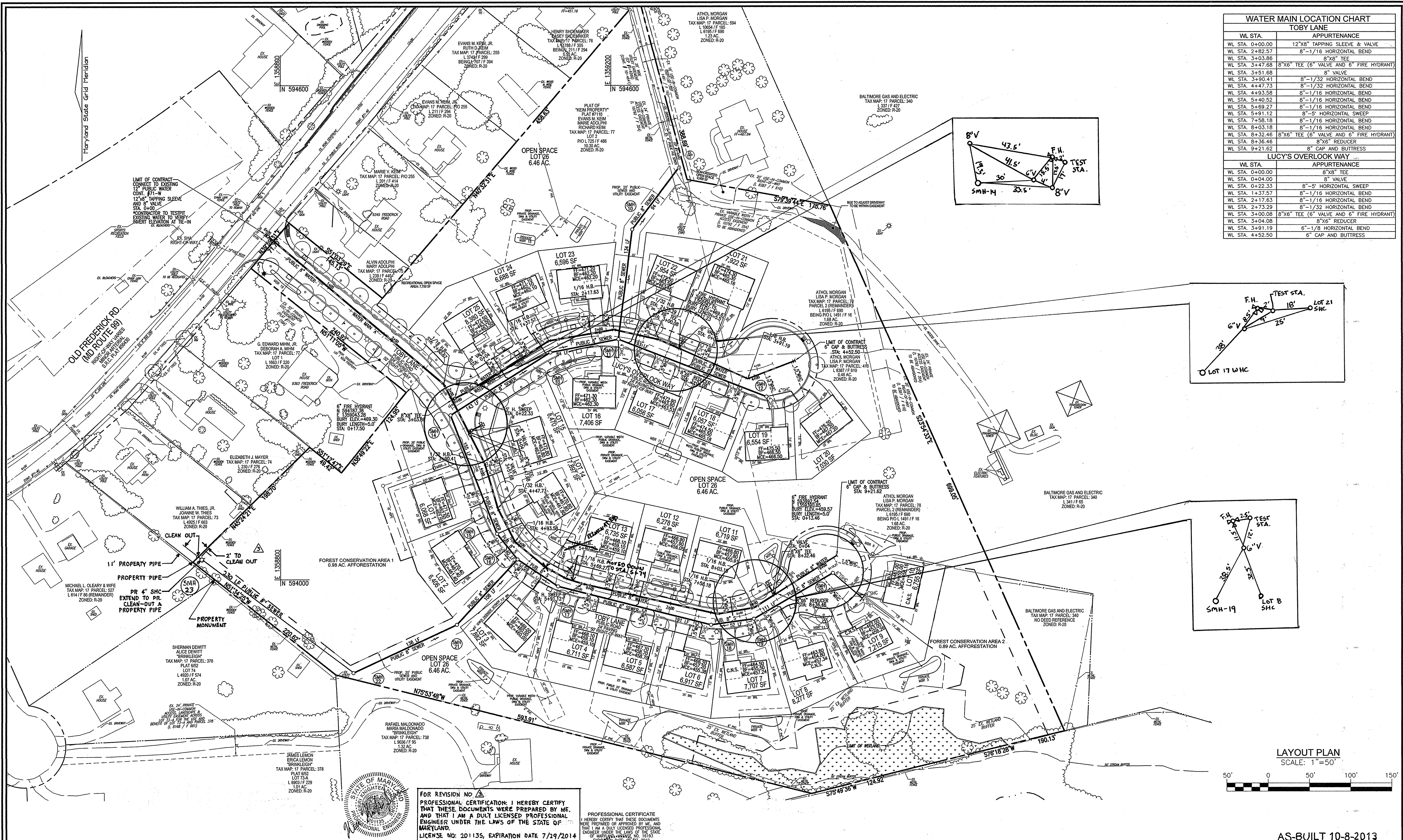
DES:	RHV				
DRN:	JMR				
CHK:	RHV	DPW 3. EXTEND PUBLIC SEWER TO PARCEL 73	9/13/13		
		KCI 2 AS-BUILT	7/18/12		
		1 REVISE WATER TO C-900 PVC	5/24/12		
DATE:	JULY 2011	BY NO.	REVISION	DATE	

FINAL WATER & SEWER PLAN  
COVER SHEET

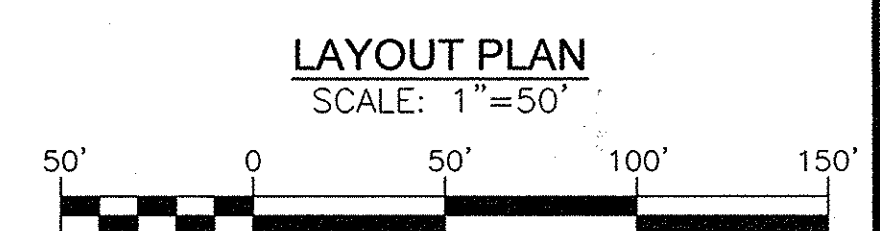
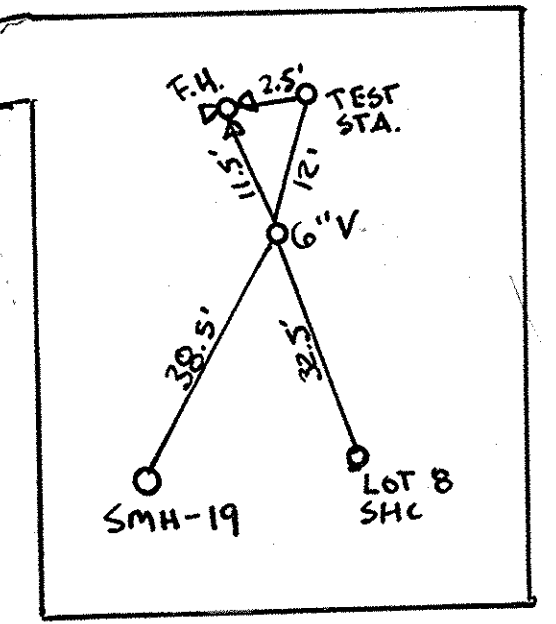
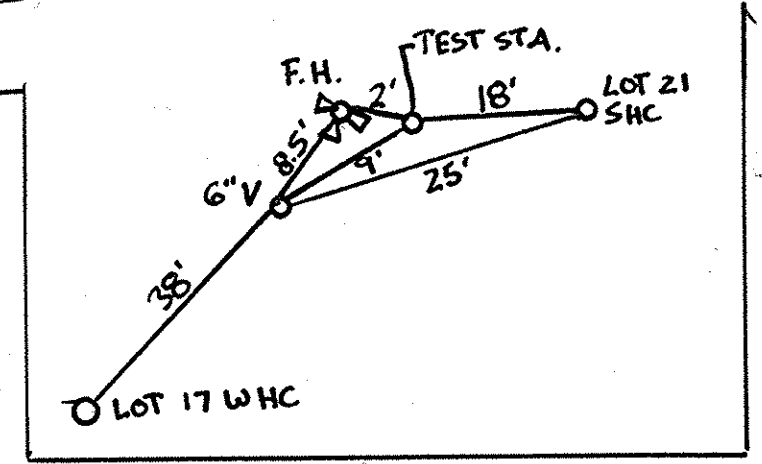
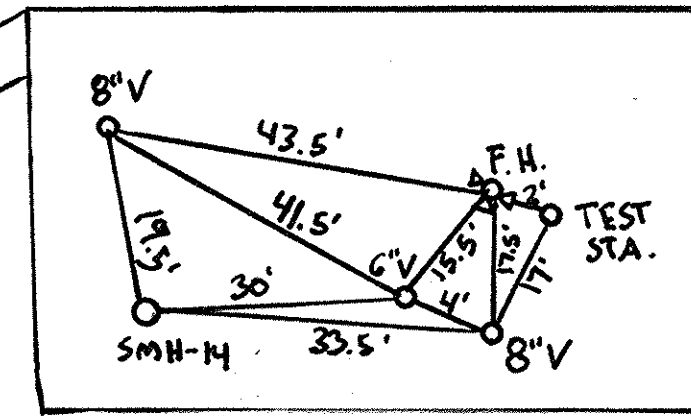
AS-BUILT 10-8-2013  
**MOUNT HEBRON OVERLOOK**  
LOTS 1-25, & OPENSPACE LOT 26  
A RE-SUBDIVISION OF THE "KEIM PROPERTY"  
LOT 2, AND A SUBDIVISION OF PARCELS 78 AND 416  
CONTRACT #14-4684-D  
TAX MAP: 17 GRID: 16 ZONING: R-20  
2ND ELECTION DISTRICT DPZ REF'S: F-87-100, ECP-10-013 PARCELS: 77, 78, & 416  
HOWARD COUNTY, MARYLAND  
SCALE AS SHOWN  
SHEET 1 OF 4

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*John C. Coon* 8/11/11  
CHIEF, BUREAU OF UTILITIES DATE

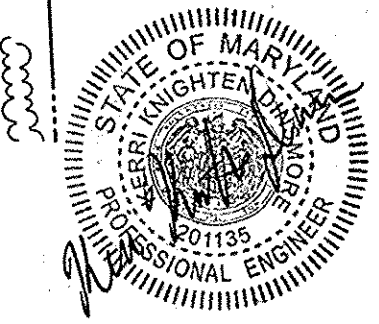
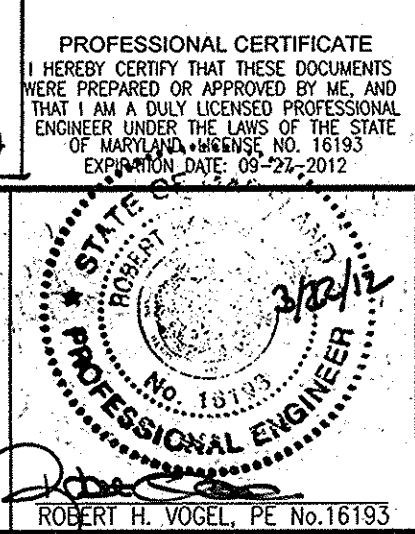
DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND  
*Robert H. Vogel* 8/26/11  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



WATER MAIN LOCATION CHART	
TOBY LANE	
WL STA.	APPURTENANCE
WL STA. 0+00.00	12"x8" TAPPING SLEEVE & VALVE
WL STA. 2+82.57	8"-1/16" HORIZONTAL BEND
WL STA. 3+03.85	8"x8" TEE
WL STA. 3+47.88	8"x6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 3+51.88	8" VALVE
WL STA. 3+90.41	8"-1/32" HORIZONTAL BEND
WL STA. 4+47.73	8"-1/32" HORIZONTAL BEND
WL STA. 4+93.58	8"-1/16" HORIZONTAL BEND
WL STA. 5+40.52	8"-1/16" HORIZONTAL BEND
WL STA. 5+69.27	8"-1/16" HORIZONTAL BEND
WL STA. 5+91.12	8"-5" HORIZONTAL SWEEP
WL STA. 7+58.18	8"-1/16" HORIZONTAL BEND
WL STA. 8+03.18	8"-1/16" HORIZONTAL BEND
WL STA. 8+32.46	8"x6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 8+36.46	8"x6" REDUCER
WL STA. 9+21.62	8" CAP AND BUTTRISS
LUCY'S OVERLOOK WAY	
WL STA.	APPURTENANCE
WL STA. 0+00.00	8"x8" TEE
WL STA. 0+04.00	8" VALVE
WL STA. 0+22.33	8"-5" HORIZONTAL SWEEP
WL STA. 1+37.57	8"-1/16" HORIZONTAL BEND
WL STA. 2+17.63	8"-1/16" HORIZONTAL BEND
WL STA. 2+73.29	8"-1/32" HORIZONTAL BEND
WL STA. 3+00.08	8"x6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 3+04.08	8"x6" REDUCER
WL STA. 3+91.19	6"-1/8" HORIZONTAL BEND
WL STA. 4+52.50	6" CAP AND BUTTRISS



FOR REVISION NO. 3  
 PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
 LICENSE NO: 201135, EXPIRATION DATE 7/19/2014



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Chief, Bureau of Utilities  
 Date: 4/12/12

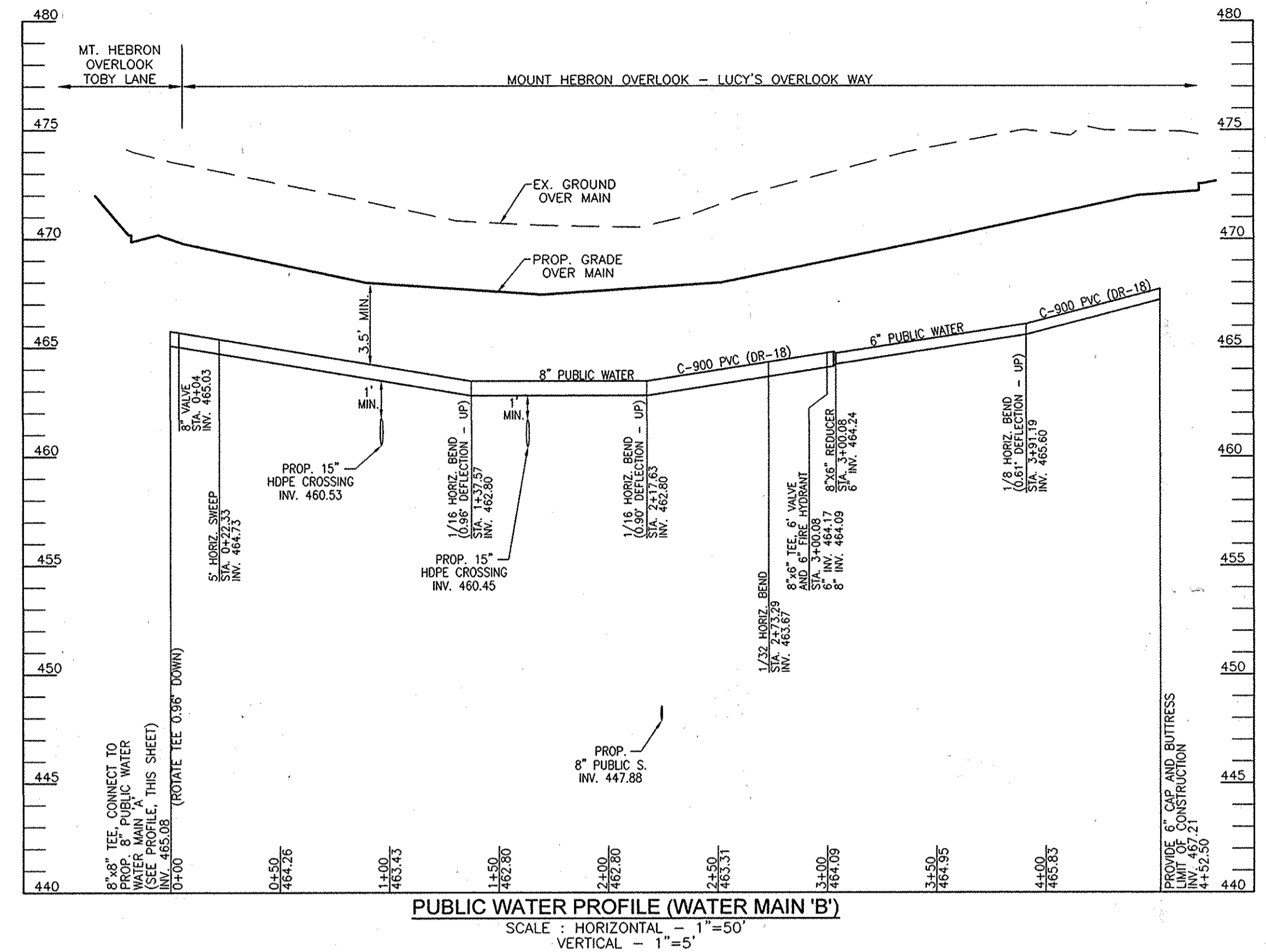
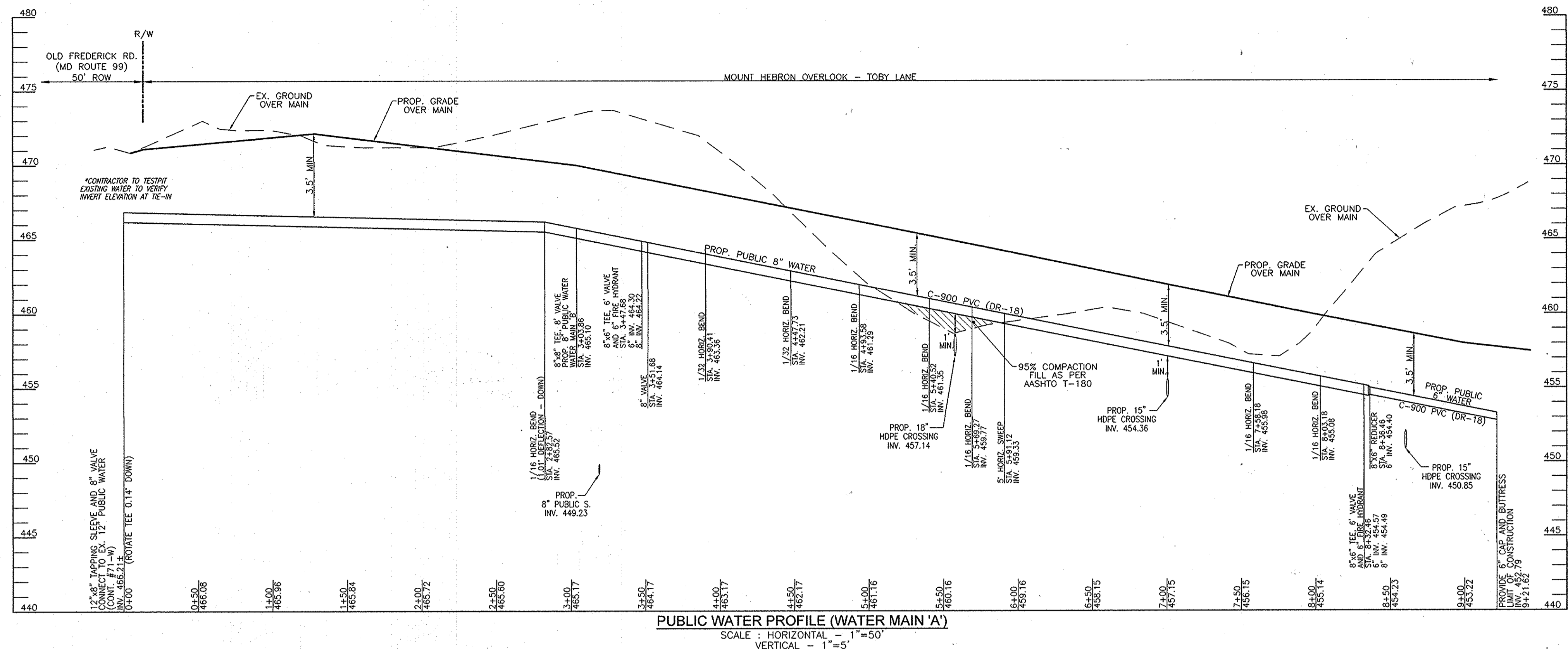
DEPARTMENT OF PLANNING & ZONING  
 HOWARD COUNTY, MARYLAND  
 Chief, Development Engineering Division  
 Date: 4/12/12

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

DES:	RHV			
DRN:	JMR			
CHK:	RHV	DPW 3	EXTEND PUBLIC SEWER TO PARCEL 73	9/13/13
		KCE 2	AS-BUILT	7/18/12
		DZ 1	REVISE WATER TO C-900 PVC	03/10/12
DATE:	JULY 2011	BY NO.		
		REVISION		

**FINAL WATER & SEWER PLAN**  
**LAYOUT PLAN**  
 600' SCALE MAP NO. 17 BLOCK NO. 16

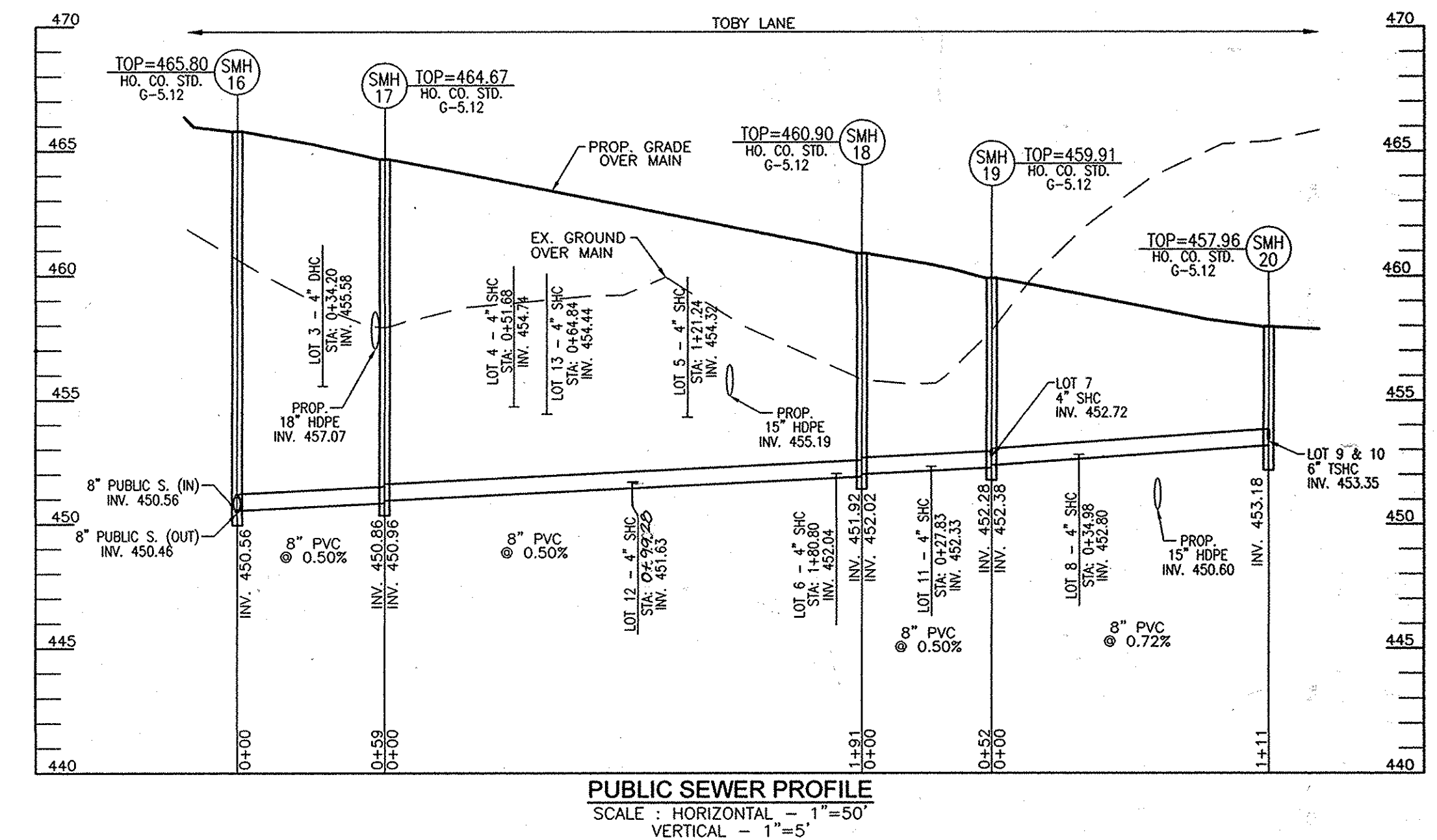
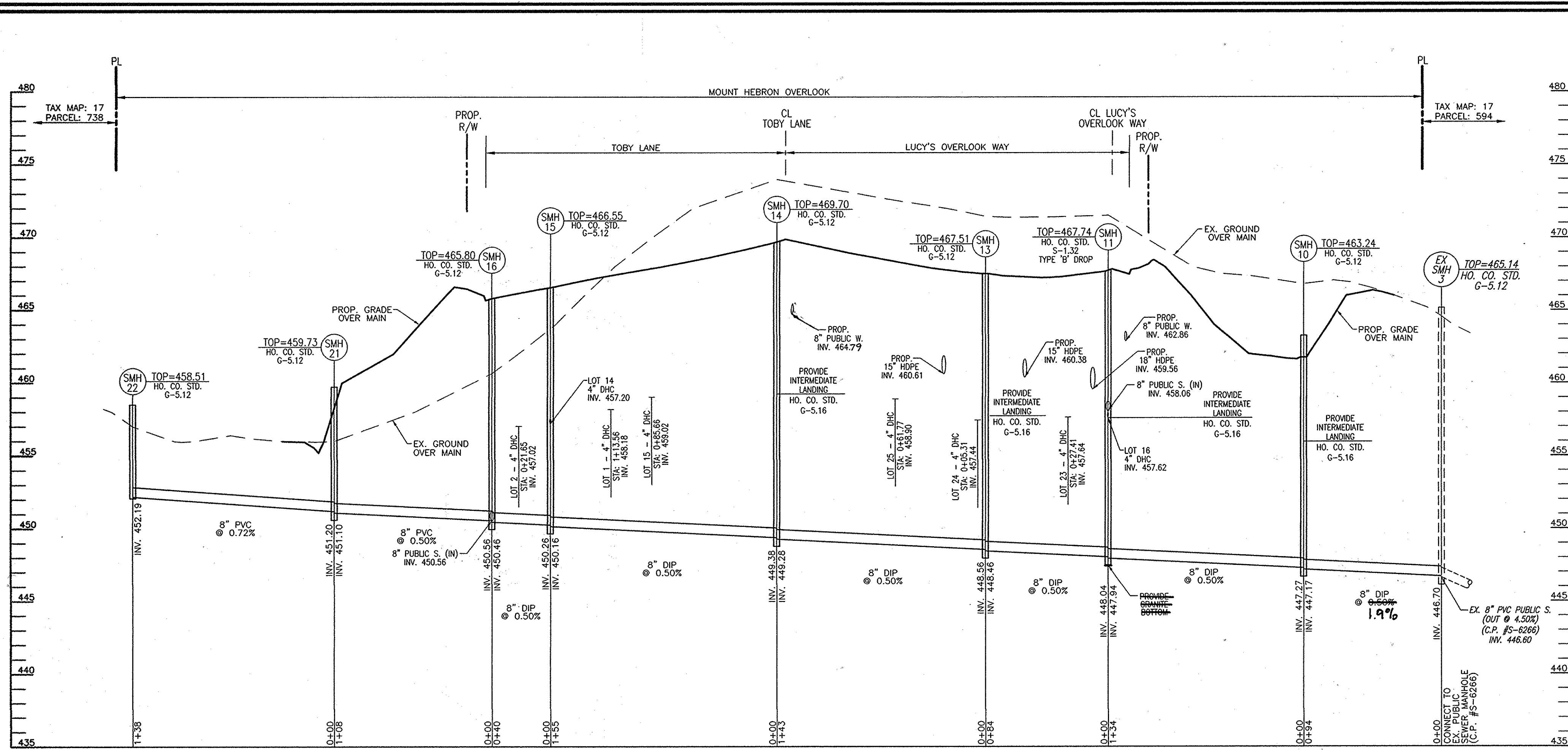
**MOUNT HEBRON OVERLOOK**  
 LOTS 1-25, & OPENSACE LOT 26  
 A RE-SUBDIVISION OF THE "KEIM PROPERTY"  
 LOT 2, AND A SUBDIVISION OF PARCELS 78 AND 416  
 CONTRACT #14-4684-D  
 TAX MAP: 17 GRID: 16 ZONING: R-20  
 2ND ELECTION DISTRICT PARCELS: 77, 78, & 416  
 DP2 REF'S: F-87-100, ECP-10-113 HOWARD COUNTY, MARYLAND  
 SHEET 2 OF 4



LOT #	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
LOT 1	11' TO LOT 1 SHC	53' TO LOT 15 SHC	77.5' TO 8" V (STA 3451)
LOT 2	21.5' TO SMH-15	12' TO LOT 2 SHC	36' TO SMH-16
LOT 3	34.6' TO LOT 2 SHC	22' TO SMH-16	26.5' TO LOT 3 SHC
LOT 4	47' TO SMH-17	10' TO LOT 4 SHC	54.5' TO LOT 13 WHC
LOT 5	59' TO LOT 4 SHC	10' TO LOT 5 SHC	56.5' TO LOT 12 WHC
LOT 6	32.5' TO SDM-6	10.5' TO LOT 6 SHC	28' TO SMH-18
LOT 7	60.6' TO LOT 6 SHC	21' TO SMH-19	12.5' TO LOT 7 SHC
LOT 8	16' TO LOT 7 SHC	24' TO SMH-19	21.5' TO LOT 8 SHC
LOT 9	18' TO LOT 9 SHC	48.5' TO SMH-20	79.5' TO LOT 8 SHC
LOT 10	31' TO LOT 10 SHC	46' TO SMH-20	20' TO I-6
LOT 11	10.5' TO LOT 11 SHC	44.5' TO SMH-19	35' TO SMH-18
LOT 12	15' TO LOT 12 SHC	56.5' TO LOT 5 WHC	20' TO LOT 13 SHC
LOT 13	9.5' TO LOT 12 SHC	54.5' TO LOT 4 WHC	64' TO SMH-17
LOT 14	12' TO LOT 14 SHC	32.5' TO SMH-15	55' TO LOT 15 SHC
LOT 15	12' TO LOT 15 SHC	50' TO F.H. (STA 3441)	58.5' TO LOT 1 WHC
LOT 16	17.5' TO LOT 17 SHC	38' TO SMH-11	23.5' TO LOT 16 SHC
LOT 17	38' TO 6" V (STA 3400)	10' TO LOT 17 SHC	58.5' TO LOT 22 WHC
LOT 18	47.6' TO LOT 19 SHC	41' TO SMH-12	10' TO LOT 18 SHC
LOT 19	26' TO LOT 20 SHC	23' TO SMH-12	10' TO LOT 19 SHC
LOT 20	10' TO LOT 20 SHC	46' TO SMH-12	
LOT 21	10.5' TO LOT 21 SHC	33.5' TO 6" V (STA 3400)	65' TO LOT 18 SHC
LOT 22	14' TO LOT 22 SHC	43' TO SMH-11	43.5' TO F.H. (STA 3400)
LOT 23	20.5' TO LOT 23 SHC	32.5' TO SMH-11	44' TO LOT 22 SHC
LOT 24	19' TO I-13	21.5' TO LOT 24 SHC	40.5' TO SMH-13
LOT 25	9.5' TO LOT 25 SHC	58' TO 8" V (STA 3412)	76' TO F.H. (STA 3441)


AS-BUILT 10-8-2013

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND	<b>ROBERT H. VOGEL ENGINEERING, INC.</b> 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. 16193 EXPIRATION DATE 09-27-2012	DES: RHV DRN: JMR CHK: RHV DATE: JULY 2011	BY NO. KCI 2 DZ 1 REVISION	<b>FINAL WATER &amp; SEWER PLAN</b> <b>WATER PROFILES</b> CONTRACT #14-4684-D	<b>MOUNT HEBRON OVERLOOK</b> LOTS 1-25, & OPENSACE LOT 26 A RE-SUBDIVISION OF THE "KEIM PROPERTY" LOT 2, AND A SUBDIVISION OF PARCELS 78 AND 416 CONTRACT #14-4684-D	SCALE AS SHOWN SHEET 3 OF 4
---	--	---	---	---	----------------------------------	---	--	--------------------------------

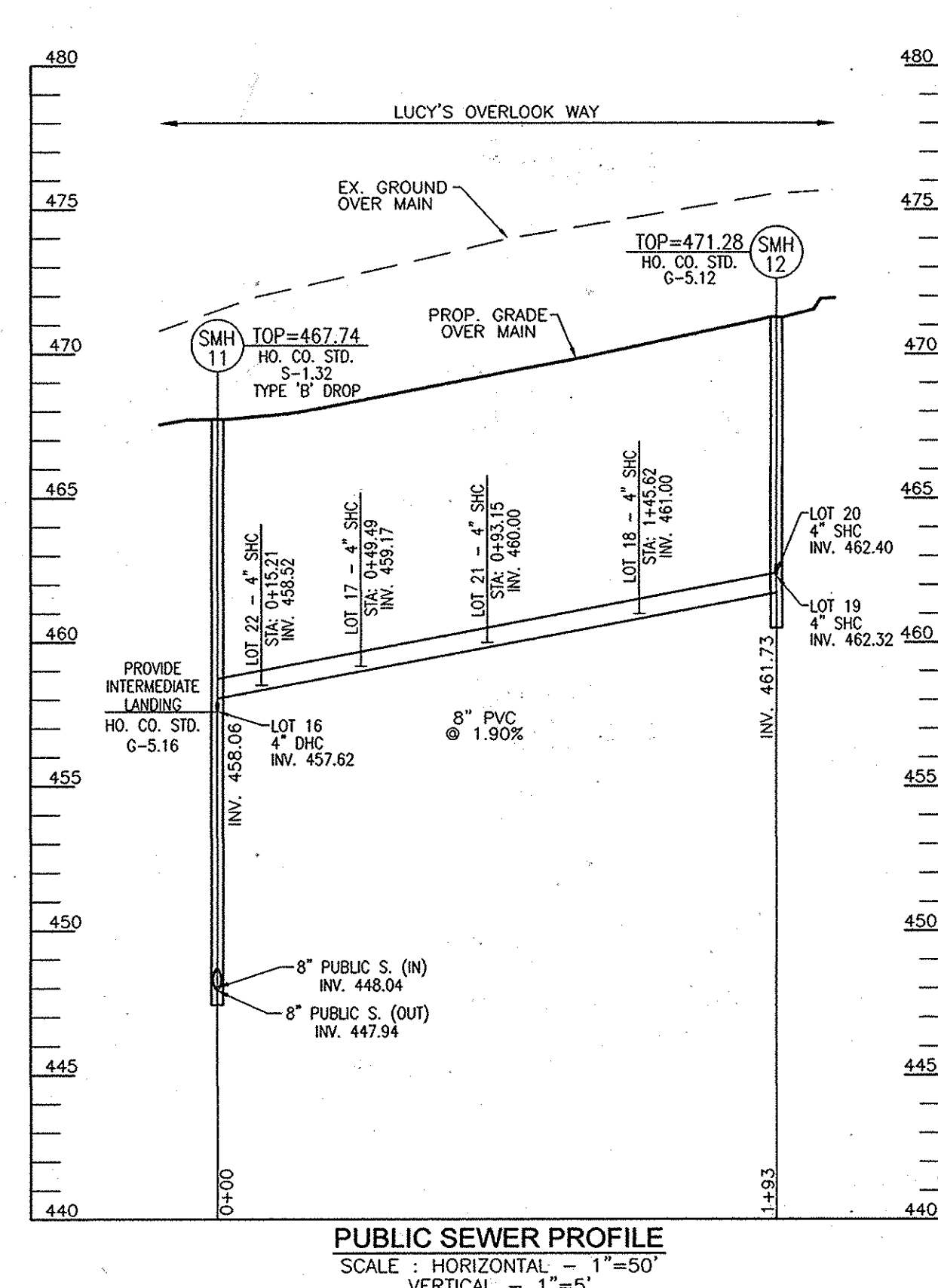
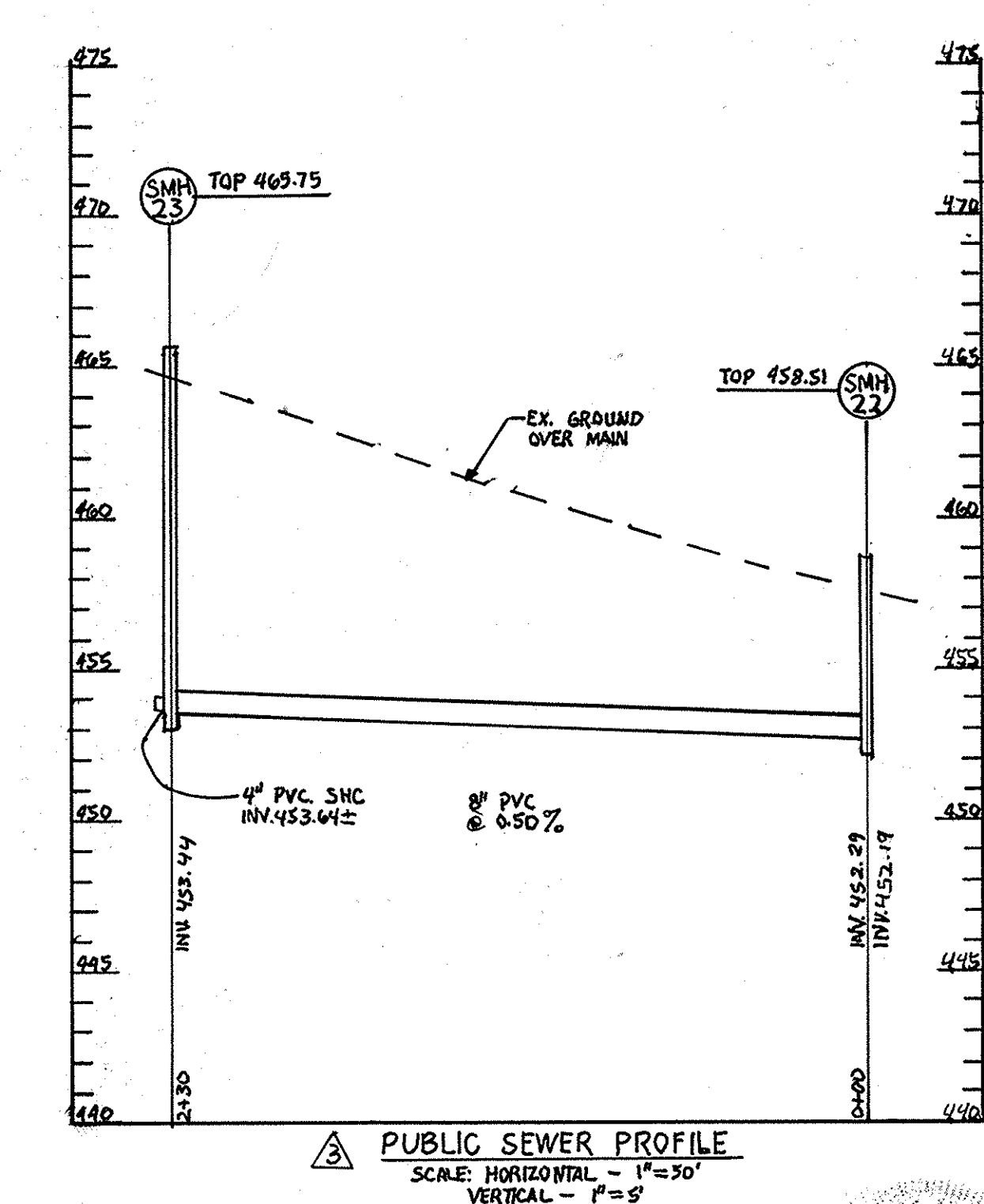
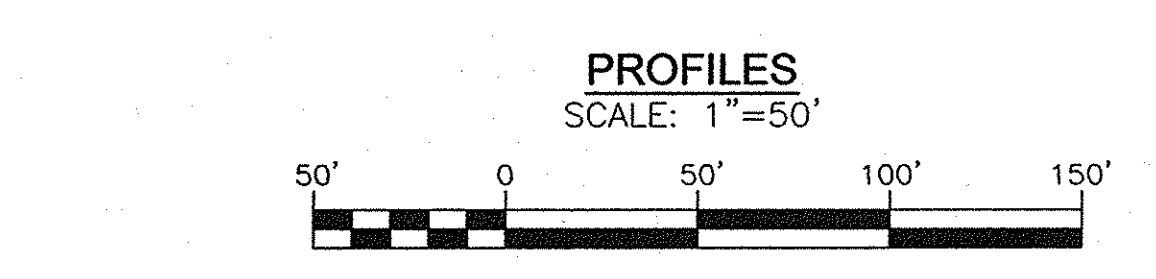


### "MCE CHART"

DROP THRU SLAB 2.5

LOT #	EL @ MAIN	TYPE	DIST TO RW	EL @ RW	DIST RW - HSE	EL @ HOUSE	MCE
1	458.18	DHC	19	458.56	72	460.00	462.50
2	457.02	DHC	18	457.38	76	458.90	461.40
3	455.58	DHC	20	455.98	76	457.50	460.00
4	454.74	DHC	19	455.12	74	456.60	459.10
5	454.32	DHC	19	454.70	75	456.20	458.70
6	452.04	SHC**	19	452.23	65	452.88	455.38
7	452.72	SHC	17	453.06	84	454.74	457.24
8	452.80	SHC	19	453.18	83	454.84	457.34
9	453.52	SHC	47	454.46	65	455.76	458.26
10	453.52	SHC	47	454.46	60	455.66	458.16
11	452.33	SHC**	30	452.63	78	453.41	455.91
12	451.63	SHC	31	452.25	65	453.55	456.05
13	454.44	DHC	31	455.06	77	456.60	459.10
14	457.20	DHC	33	457.86	72	459.30	461.80
15	459.02	DHC	33	459.68	81	461.30	463.80
16	457.62	DHC	22	458.06	63	459.32	461.82
17	459.17	SHC	18	459.53	75	461.03	463.53
18	461.00	SHC	18	461.36	66	462.68	465.18
19	462.32	SHC	15	462.62	69	464.00	466.50
20	462.40	SHC	45	463.30	70	464.70	467.20
21	460.00	SHC	32	460.64	101	462.66	465.16
22	458.52	SHC	31	459.14	91	460.96	463.46
23	457.64	DHC	34	458.32	69	459.70	462.20
24	457.44	DHC	31	458.06	64	459.34	461.84
25	458.90	DHC	31	459.52	74	461.00	463.50

\* C.N.S.  
\*\* 4"SHC @ 1.00%

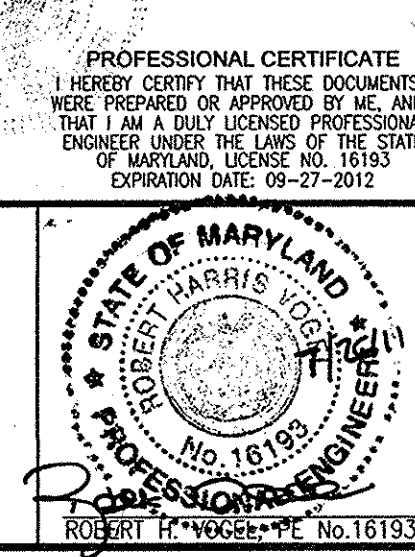


### SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE

LOT #	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
LOT 1	11' to LOT 1 WHC	58' to LOT 15 SHC	46' to SMH-15
LOT 2	12' to LOT 2 WHC	28' to SMH-16	34.5' to LOT 3 WHC
LOT 3	26.5' to LOT 3 WHC	20.5' to SMH-17	42.5' to SMH-16
LOT 4	10' to LOT 4 WHC	52' to LOT 13 SHC	59' to LOT 5 WHC
LOT 5	10' to LOT 5 WHC	56' to LOT 12 SHC	16' to SDM-6
LOT 6	10.5' to LOT 6 WHC	21.5' to SMH-18	60.5' to LOT 7 WHC
LOT 7	12.5' to LOT 7 WHC	19' to SMH-19	16' to LOT 8 WHC
LOT 8	21.5' to LOT 8 WHC	40.5' to SMH-19	32.5' to 6' V (STA. 3+32)
LOT 9	18' to LOT 9 WHC	5.5' to LOT 10 SHC	47' to SMH-20
LOT 10	46.5' to LOT 10 WHC	5.5' to LOT 9 SHC	31' to LOT 10 WHC
LOT 11	48' to F.H. (STA. 3+32)	37.5' to SMH-19	10.5' to LOT 11 WHC
LOT 12	56' to LOT 12 WHC	15' to LOT 12 WHC	38' to I-B
LOT 13	20' to LOT 13 WHC	52' to LOT 13 SHC	9.5' to LOT 13 WHC
LOT 14	41.5' to SMH-16	21.5' to SMH-15	12' to LOT 14 WHC
LOT 15	55' to LOT 15 WHC	53' to LOT 15 WHC	12' to LOT 15 WHC
LOT 16	23.5' to LOT 16 WHC	25' to SMH-11	54' to I-10
LOT 17	10' to LOT 17 WHC	42.5' to 6' V (STA. 3+00)	17.5' to LOT 16 WHC
LOT 18	10' to LOT 18 WHC	50.5' to SMH-12	65' to LOT 21 WHC
LOT 19	10' to LOT 19 WHC	19.5' to SMH-12	47.5' to LOT 18 WHC
LOT 20	10' to LOT 20 WHC	31.5' to SMH-12	26' to LOT 19 WHC
LOT 21	25' to 6' V (STA. 3+00)	10.5' to LOT 21 WHC	20.5' to F.H. (STA. 3+00)
LOT 22	34' to SMH-11	14' to LOT 22 WHC	44' to LOT 23 WHC
LOT 23	26' to I-14	20.5' to LOT 23 WHC	46' to SMH-11
LOT 24	21.5' to LOT 24 WHC	31.5' to SMH-13	43' to I-14
LOT 25	9.5' to LOT 25 WHC	17' to I-13	82.5' to F.H. (STA. 3+47)



FOR REVISION NO. 1  
 PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
 LICENSE NO: 201135, EXPIRATION DATE 7/29/2014



DES:	RHV
DRN:	JMR
CHK:	RHV
DATE:	JULY 2011
BY:	NO.
REVISION:	
DATE:	

DPW 3	EXTEND PUBLIC SEWER TO PARCEL 73	9/13/13
KCI 2	AS-BUILT	7/18/12
1	REVISE WATER TO C-900 PVC	2/24/12

FINAL WATER & SEWER PLAN  
 SEWER PROFILES  
 MOUNT HEBRON OVERLOOK  
 LOTS 1-25, & OPENSACE LOT 26  
 A RE-SUBDIVISION OF THE "KEIM PROPERTY"  
 LOT 2, AND A SUBDIVISION OF PARCELS 78 AND 416  
 CONTRACT #14-4684-D  
 SCALE AS SHOWN  
 SHEET 4 OF 4

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING  
 HOWARD COUNTY, MARYLAND  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

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

600' SCALE MAP NO. 17  
 BLOCK NO. 16  
 ZONING: R-20  
 PARCELS: 77, 78, & 416  
 HOWARD COUNTY, MARYLAND