

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 POTOMAC AERIAL SURVEYS, DATED MARCH, 1998.
- THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83 '91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 34CD AND 34FD. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON DRAWINGS ARE:
 GEODETIC SURVEY CONTROL 34CD (N 561,461.630 E 1,323,850.413)
 BRASS DISC SET ON TOP OF A CONCRETE MONUMENT.
 GEODETIC SURVEY CONTROL 34FD (N 560,162.580 E 1,325,180.368)
 BRASS DISC SET ON TOP OF A CONCRETE MONUMENT.
- 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
 BGE (CONSTRUCTION SERVICES) 410-637-8713
 BGE (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 THE CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-7474 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(a) OF THE HOWARD COUNTY CODE.

PART II - WATER

- ALL WATER MAINS TO BE PVC DIP UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-6" 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 RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAIL. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED 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.
- FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE 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, SEVENTEEN (17) POUND 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. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. 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.

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 COVER, STANDARD DETAIL G5.52. 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.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND WITH SITE DEVELOPMENT PLAN SDP-16-021.

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

John R. Chilton 9/1/16
 SOIL CONSERVATION DISTRICT DATE

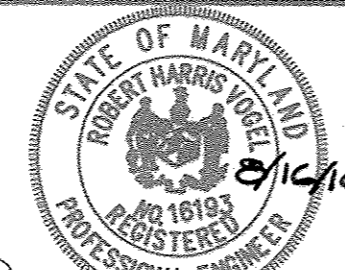
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

Steve C. ... 9-7-16
 CHIEF, BUREAU OF UTILITIES DATE

John R. Chilton 9-7-16
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET, ELICOTT CITY, MD 21043 TEL: 410.461.7666
 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: 09-27-2018.
 DRN: KG DES: RHV/DZE
 CHK: RHV
 DATE: AUGUST 2016

REVISIONS TO SHOW CORRECTIOUS WMC AND INCREASE WMC TO MR TIRE 06/12/17
 BY NO. REVISION DATE

FINAL WATER AND SEWER CONSTRUCTION PLAN
CONTRACT 24-4956-D

ANTWERPEN PROPERTIES - PARCEL D
 TEN OAKS ROAD AND MD ROUTE 108
 ZONED: B-1/B-2

TAX MAP 34 GRID 12 PARCELS 35, 161 & 361
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 1 OF 2

FINAL WATER AND SEWER PLAN
ANTWERPEN PROPERTIES
TEN OAKS ROAD AND MD ROUTE 108
RETAIL, FAST FOOD AND AUTOMOTIVE MAINTENANCE
L.15600 / F.254, L.15633 / F.280, L.15676 / F.277
CONTRACT 24-4956-D
HOWARD COUNTY, MARYLAND



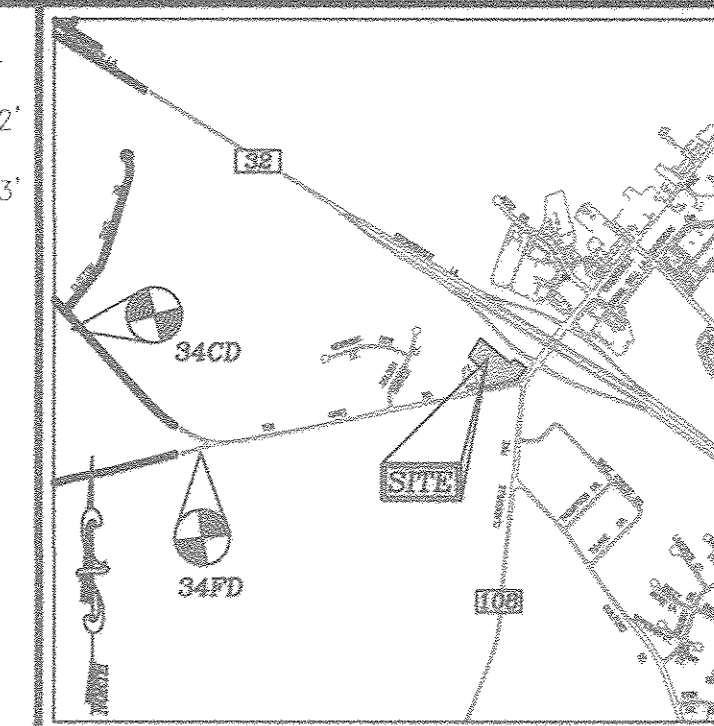
VICINITY MAP
 SCALE: 1"=600'

WATER ZONE: 630W
 TEST GRADIENT: 780

Type of Building :	RETAIL, FAST FOOD AND AUTOMOTIVE MAINTENANCE
No. of Lots/Parcels :	1
No. of single Water House Connections :	3
No. of Sewer House Connections :	3
Sewer Shed :	MIDDLE PATUXENT RIVER
Treatment Plant :	MIDDLE PATUXENT RIVER

BENCHMARKS

HOWARD COUNTY BENCHMARK 34CD
 N 561,461.630 E 1,323,850.413 ELEV.: 491.282'
 HOWARD COUNTY BENCHMARK 34FD
 N 560,162.580 E 1,325,180.368 ELEV.: 437.493'



VICINITY MAP
 SCALE: 1"=2000'
 ADC MAP COORDINATES: 31/D1

LEGEND

EXISTING WATER MAIN	
PROPOSED WATER MAIN	
FIRE HYDRANT	
PROPOSED VALVE	
PROPOSED TEE	
PROPOSED STORM DRAIN	
EXISTING STORM DRAIN	
EXISTING SEWER	
SEWER MANHOLE	
PRIVATE WATER HOUSE CONNECTION	
PROPOSED PUBLIC SEWER MAIN	
PRIVATE SEWER HOUSE CONNECTION	
PROPOSED SIGN	
PROPOSED LIGHT	

QUANTITIES

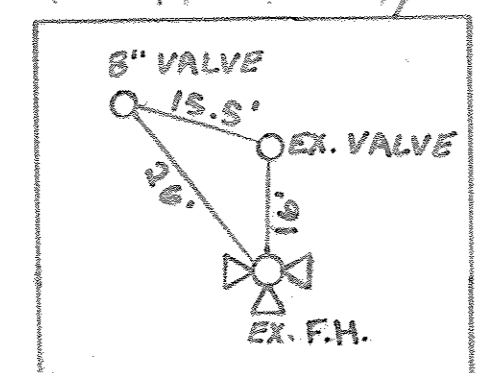
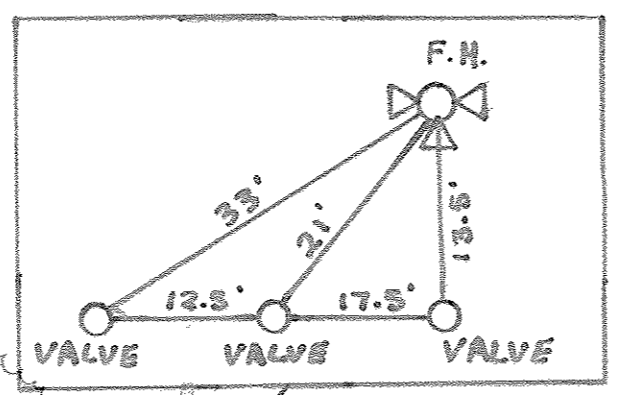
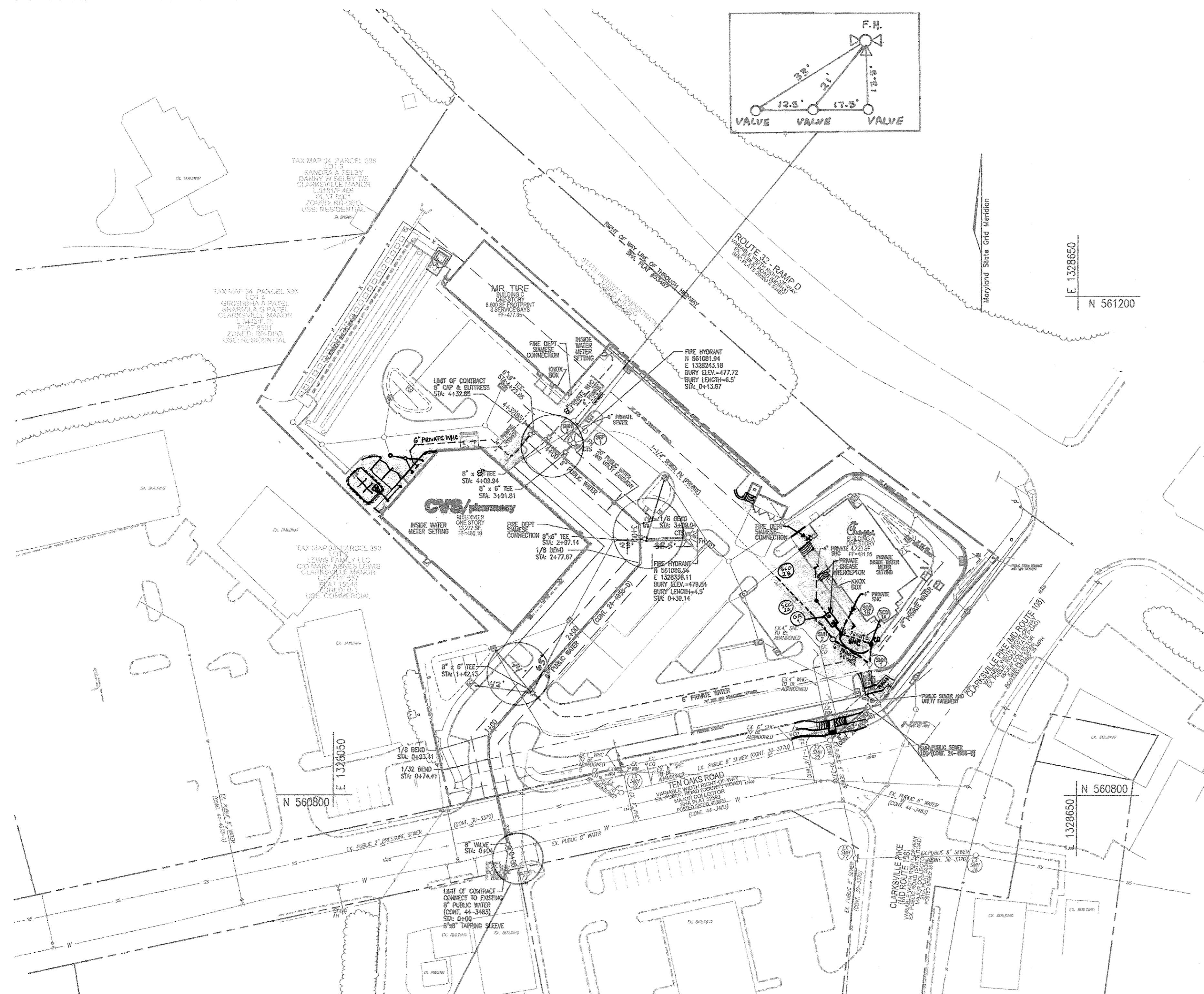
NAME OF UTILITY CONTRACTOR : SEH EXCAVATING CONTRACTORS INC				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE : 7-26-17				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
WATER				
8" WATER (DIP)	442.85 LF	432 LF	DIP CLASS 54	US PIPE 1 LB WATER
8" WATER (DIP)	15 LF	53 LF	DIP CLASS 54	US PIPE 1 LB WATER
8" X 8" TEE	4 EA	4	C 153	TYLER UNION 1 LB WATER
8" VALVE	2 EA	2	RW GATE	TYLER UNION 1 LB WATER
8" VALVE	4 EA	4	RW GATE	TYLER UNION 1 LB WATER
8" FIRE HYDRANT	2 EA	2	B 84	AMERICAN FLOW CONTROL 1 LB WATER
8" CAP	2 EA	2	MJ	TYLER UNION 1 LB WATER
8" CAP	2 EA	2	MJ	TYLER UNION 1 LB WATER
8" X 8" TEE	1 EA	1	C 153	TYLER UNION 1 LB WATER
SEWER				
STANDARD 4" PRECAST MANHOLE	1 EA	1	PRECAST	ATLANTIC CONCRETE 1 LB WATER
8" PVC SEWER	40 LF	40 LF	SDR 35	NORTH AMERICAN 1 LB WATER

AS BUILTS

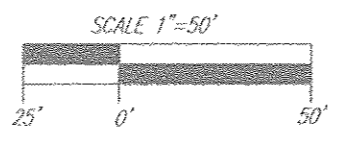
BY: DFI DATE: 8-29-17

DEVELOPER/OWNER

JA TEN OAKS LLC
 C/O ANTWERPEN AUTOMOTIVE
 6440 BALTIMORE NATIONAL PIKE
 BALTIMORE MD 21228
 410-938-5000

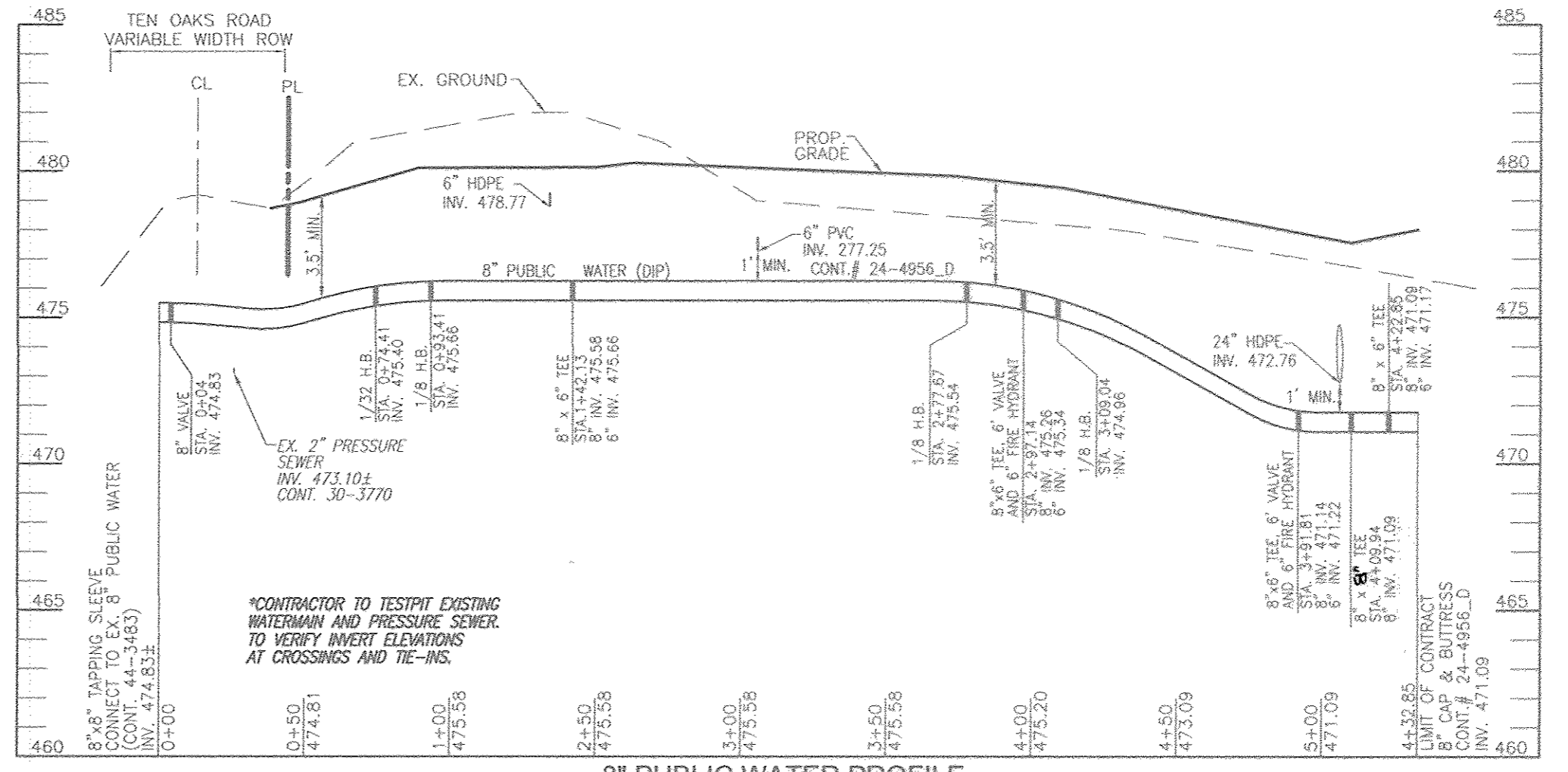


LAYOUT PLAN
SCALE: 1"=50'

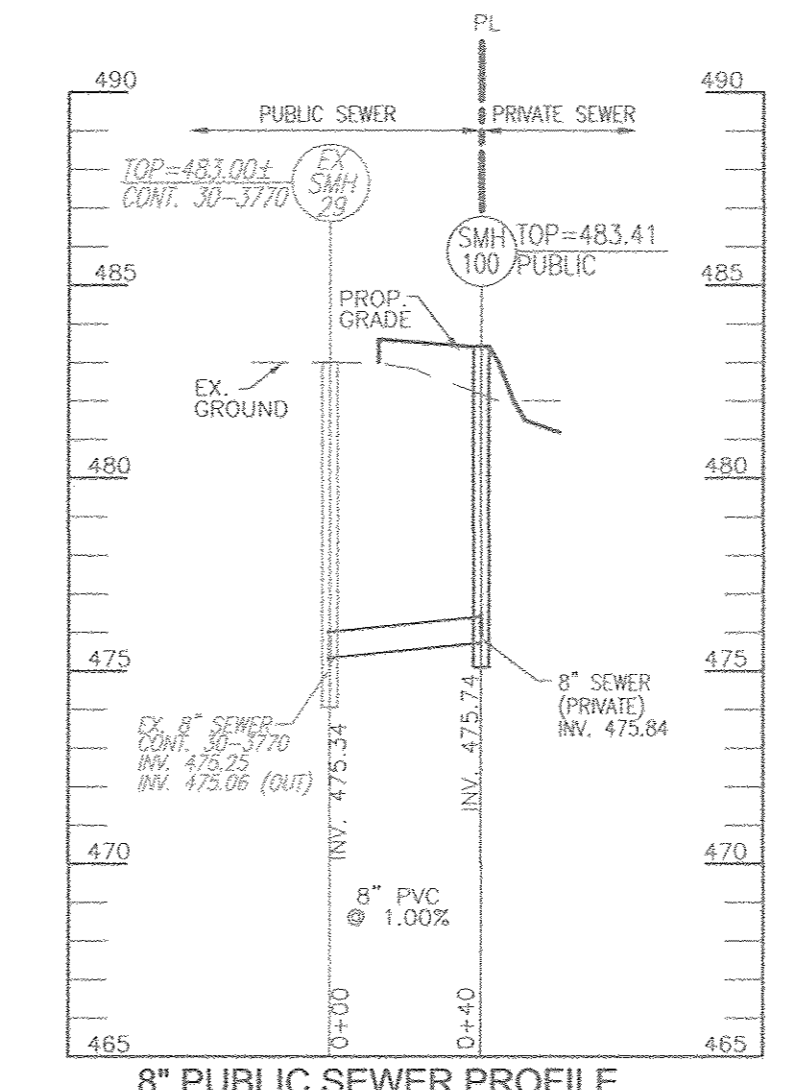


SEWER SERVICE NOTE:
GRAVITY SEWER SERVICE HAS BEEN PROVIDED TO BUILDING 'A' ONLY. GRAVITY SEWER SERVICE IS UNABLE TO BE PROVIDED FOR BUILDINGS 'B' AND 'C' AND THEREFORE WILL BE SERVICED BY AN ON-SITE PRIVATE LOW PRESSURE SEWER SYSTEM.

NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT	NOTES
EX. SMH-25	EXISTING MANHOLE	N 560844.05 E 1328450.92	483.002	475.34	475.08	
SMH 100	PRECAST MANHOLE	N 560870.64 E 1328481.36	483.41	475.84	475.74	HO. CO. STD. DET. G-5.12



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



8" PUBLIC SEWER PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

WATER MAIN LOCATION CHART	
WL STA.	APPURTENANCE
WL STA. 0+00.00	CONNECT TO EX. 8" WATER (8" TAPPING SLEEVE)
WL STA. 0+04.00	8" VALVE
WL STA. 0+74.41	1/32 HORIZONTAL BEND
WL STA. 0+93.41	1/8 HORIZONTAL BEND
WL STA. 1+42.13	8" x 6" TEE
WL STA. 2+77.67	1/8 HORIZONTAL BEND
WL STA. 2+97.14	8" x 6" TEE (6" VALVE AND FIRE HYDRANT)
WL STA. 3+09.04	1/8 HORIZONTAL BEND
WL STA. 3+91.81	8" x 6" TEE (6" VALVE AND FIRE HYDRANT)
WL STA. 4+09.94	8" x 6" TEE
WL STA. 4+22.85	8" x 6" TEE
WL STA. 4+32.85	8" CAP AND BUTTRISS

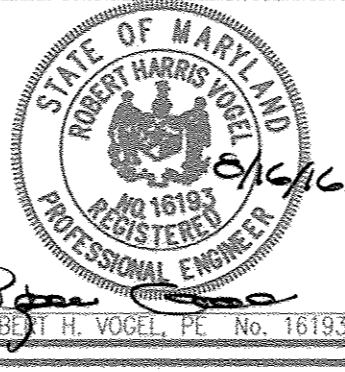
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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
S. C. C. Chief, Bureau of Utilities
Date: 9-7-16

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
Ch. E. Chief, Development Engineering Division
Date: 9-7-16

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DRN: KG DES: RHV/DZE
CHK: RHV
DATE: AUGUST 2016

BY	NO.	REVISION	DATE
RHV	1	REVISIONS TO SHOW CORRECT CVS/VWC, AND INCREASE WLG TO 1.00%	06/12/17

FINAL WATER AND SEWER CONSTRUCTION PLAN
CONTRACT 24-4956-D

ANTWERPEN PROPERTIES - PARCEL D
TEN OAKS ROAD AND MD ROUTE 108
ZONED: B-1/B-2

SCALE AS SHOWN
SHEET 2 OF 2

TAX MAP 34 GRID 12 5TH ELECTION DISTRICT
PARCELS 35, 161 & 361 HOWARD COUNTY, MARYLAND