

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 TOPOGRAPHIC INFORMATION FROM HOWARD COUNTY GIS, COUNTY RECORDS, AND UTILITIES FROM PREVIOUSLY APPROVED SDP-02-113 AND CONTRACT DRAWINGS.
- THE PROPERTY LINES SHOWN HEREON ARE BASED ON RECORD PLAT 15803.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS:**
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 248A AND 2485.
ALL VERTICAL CONTROLS ARE BASED ON NAVD 88.
VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE:
HOWARD COUNTY BENCHMARK 248A (CONC. MON.)
N 586,783.2418 E 1,359,211.6588 ELEV. 385.66'
RT-40 ABOUT 200' EAST OF PLUM TREE DR.
HOWARD COUNTY BENCHMARK 2485 (CONC. MON.)
N 586,956.2257 E 1,356,570.8028 ELEV. 390.25'
ISLE AT CORNER RT-40 AND DOGWOOD DR.
- 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 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 DETAIL 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:
ATA&T 1-800-252-1133
BGE (CONSTRUCTION SERVICES) 410-637-8713
BGE (EMERGENCY) 410-685-0123
BUREAU OF UTILITIES 410-313-4900
COLONIAL PIPELINE COMPANY 410-795-1390
MISSISSIPPI 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 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 18.11(k) 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 WIRES 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 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, 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 HARNESSES. 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 (1.5-DEGREE ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM 200 PSI MEETING THE REQUIREMENTS OF AWWA C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTEE 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 AWWA C900 AND SHALL BE MULTI FITTINGS (IPX) BLUE BRUTE DR18 OR EQUAL.
- WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C900 PVC PIPELINES, THE CONTRACTOR SHALL INSTALL DEVICES FOR THE INSERTION OF OVER-INSERTION OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE FUSH 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 MECA-STOP, AS MANUFACTURED BY EGMA IRON, INC., OR APPROVED EQUAL.

FINAL WATER PLAN

ARCADIA SQUARE

9525 BALTIMORE NATIONAL PIKE RESTAURANT AND RETAIL

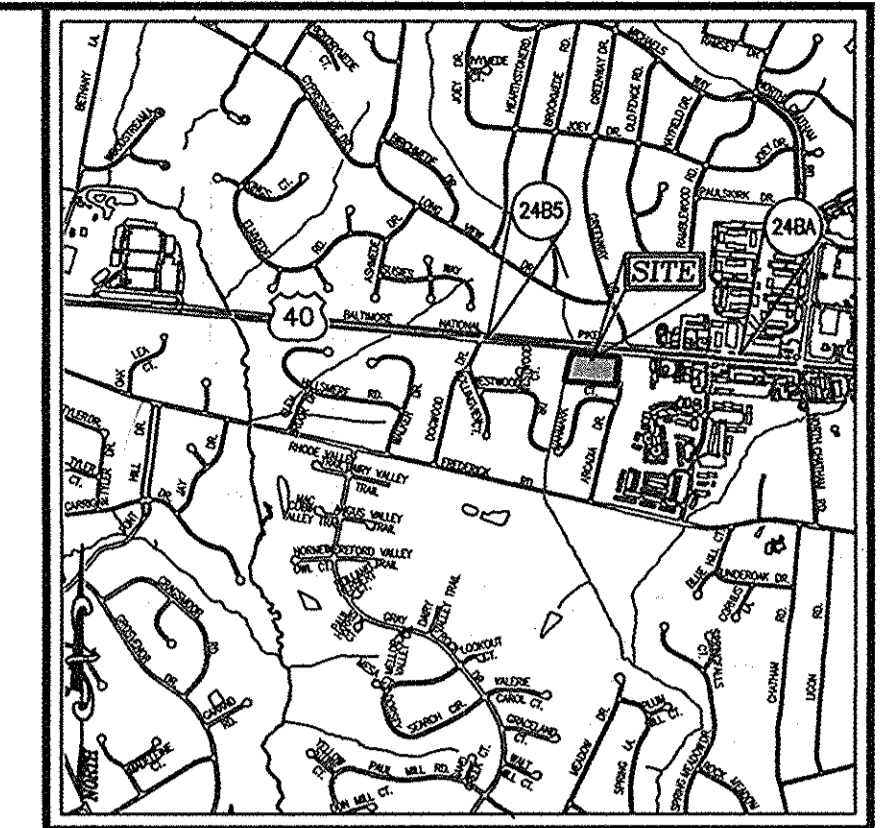
L. 1551 / F. 89 (PLAT 15803)

HOWARD COUNTY, MARYLAND

CONTRACT 44-4826-D

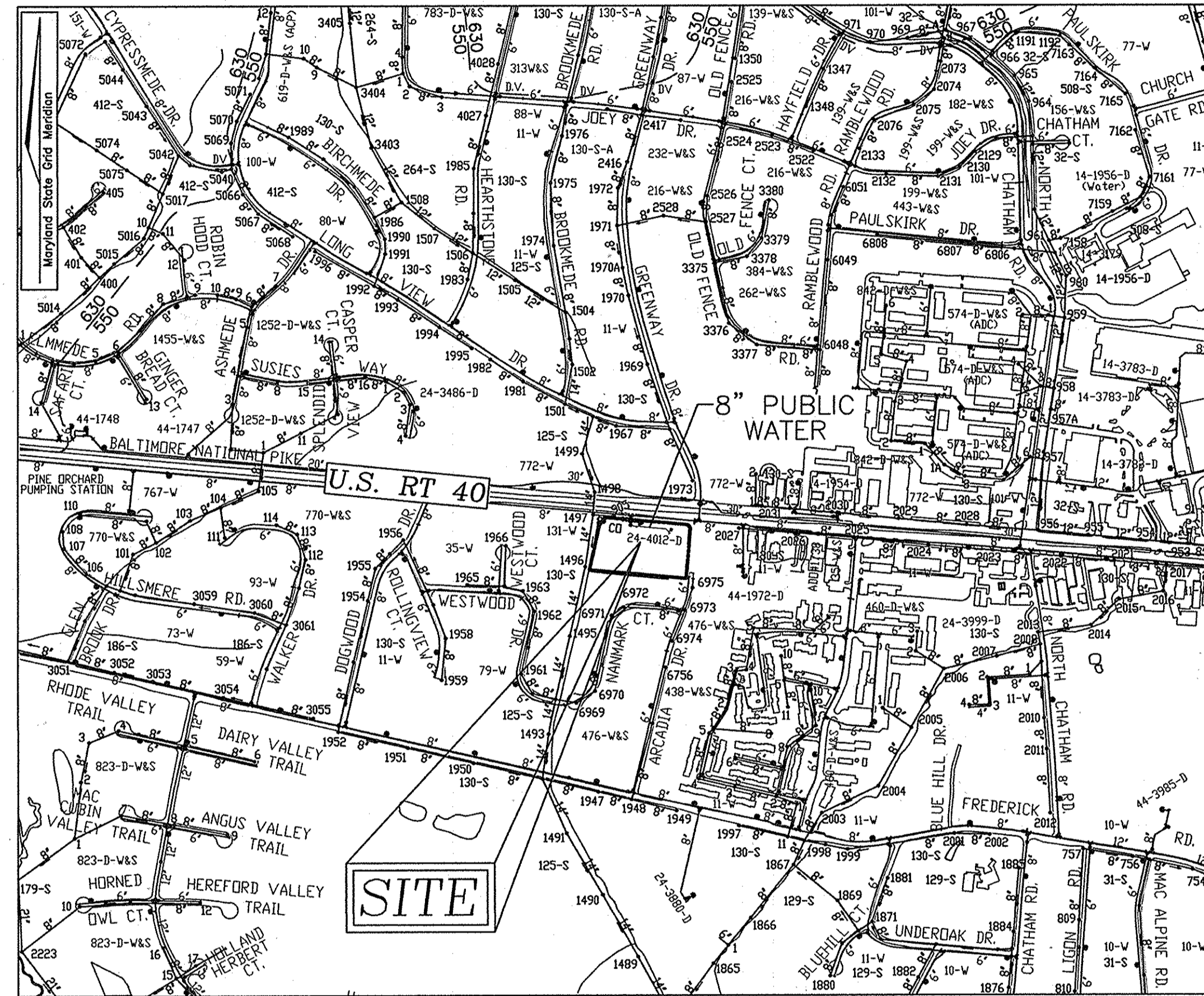
LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- PROPOSED WATER MAIN
- FIRE HYDRANT
- PROPOSED VALVE
- PROPOSED TEE



VICINITY MAP
SCALE: 1"=2000'
ADC MAP COORDINATES: 4815 F6

BENCHMARKS
HOWARD COUNTY BENCHMARK 248A
N 586,783.2418 E 1,359,211.6588 ELEV. 385.660'
HOWARD COUNTY BENCHMARK 2485
N 586,956.2257 E 1,356,570.7844 ELEV. 390.170'



LOCATION MAP
SCALE: 1"=600'

WATER ZONE: 550
TEST GRADIENT: 700

TYPE OF BUILDING:	COMMERCIAL RETAIL & RESTAURANT
NO. OF LOTS/PARCELS:	1
NO. OF SINGLE WATER HOUSE CONNECTIONS:	2
NO. OF TWIN WATER HOUSE CONNECTIONS:	0
NO. OF SEWER HOUSE CONNECTIONS:	0
NO. OF TWIN SEWER HOUSE CONNECTIONS:	0
DRAINAGE AREA:	LITTLE PATUXENT RIVER
TREATMENT PLANT:	LITTLE PATUXENT WRC

QUANTITIES

NAME OF UTILITY CONTRACTOR:		DIVISION AS-BUILT DATE:			
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		MANUFACTURER/SUPPLIER	
		QUANTITIES	TYPE		
WATER					
8" WATER (C-900 PVC DR-18)	272 LF	271 LF	C-900	NORTH AMERICAN	
6" WATER (C-900 PVC DR-18)	29 LF	30 LF	C-900	NORTH AMERICAN	
4" WATER (C-900 PVC DR-18)	20 LF	21 LF	C-900	NORTH AMERICAN	
8"x6" TEE	2 EA	2 EA	DIP	STAR PIPE PRODUCTS	
8"x4" TEE	2 EA	2 EA	DIP	STAR PIPE PRODUCTS	
8" VALVE	1 EA	1 EA	DIP	KENNEDY VALVE	
8" VALVE	2 EA	2 EA	DIP	KENNEDY VALVE	
4" VALVE	2 EA	2 EA	DIP	KENNEDY VALVE	
FIRE HYDRANT	2 EA	2 EA	DIP	KENNEDY VALVE	
8" 1/8" HORIZONTAL BEND	4 EA	2 EA	DIP	STAR PIPE PRODUCTS	
8" 1/32" VERTICAL BEND	2 EA	2 EA	DIP	STAR PIPE PRODUCTS	
8"-CAP AND BUTTRISS	1 EA	1 EA	DIP	STAR PIPE PRODUCTS	

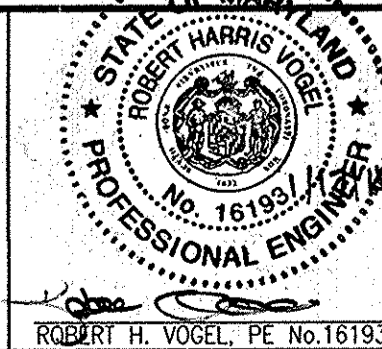
THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Roberts
HOWARD SOIL CONSERVATION DISTRICT

2/17/14
DATE

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND WITH SITE DEVELOPMENT PLAN SDP-13-073

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. 15193, EXPIRES 12/31/2014



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

DES:	RHV				
DRN:	JMR				
CHK:	RHV				
DATE:	JANUARY 2014	BY:	KCI	NO.	1
			AS-BUILT REVISIONS		2/15/16
			REVISION		

FINAL WATER PLAN
COVER SHEET

ARCADIA SQUARE
TAX MAP: 24 PARCEL 77
HOWARD COUNTY, MARYLAND
CONTRACT 44-4826-D

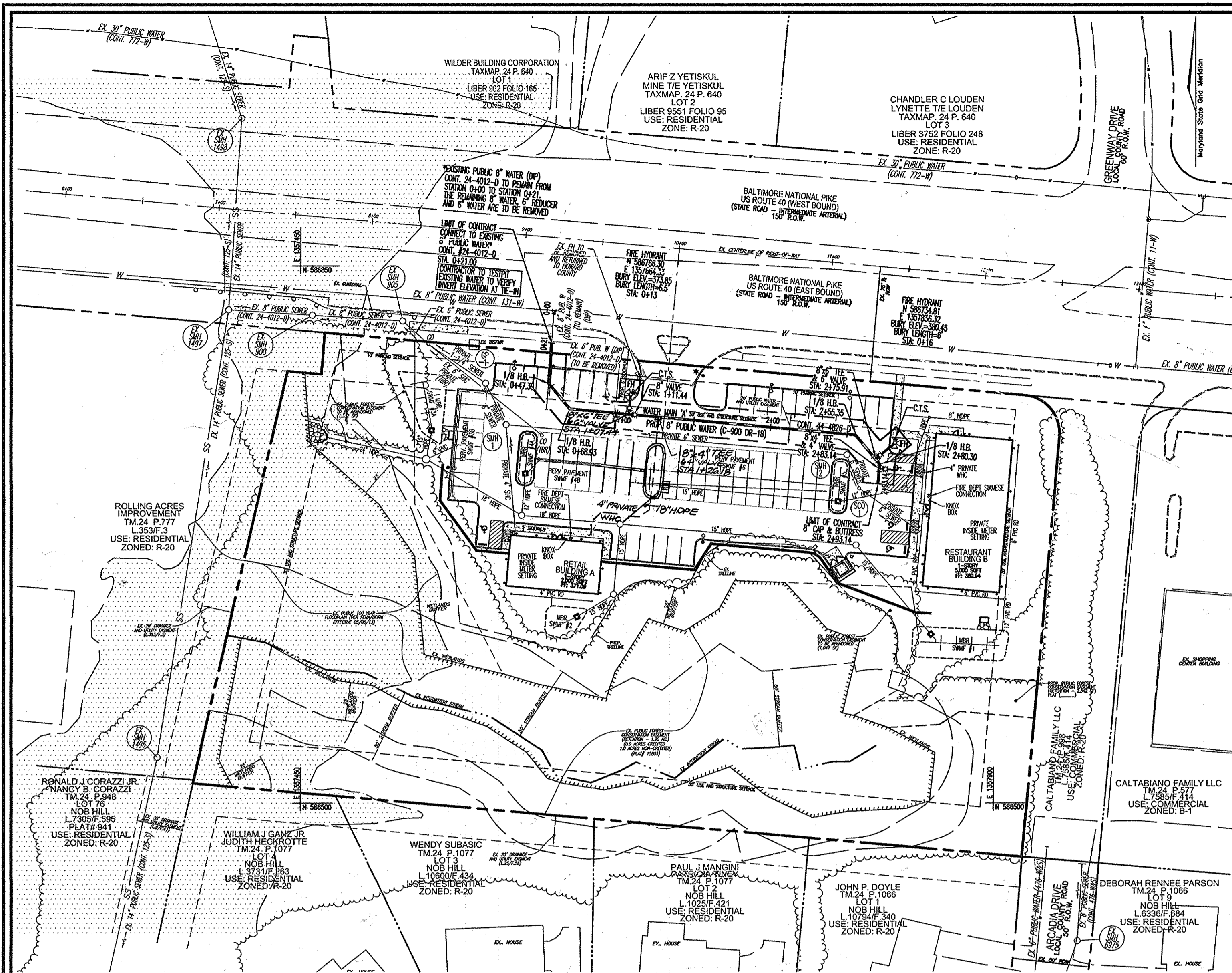
OWNER/DEVELOPER
LEWAL PARTNERSHIP
100 PAINTERS MILL ROAD
SUITE 900
OWINGS MILLS, MD 21117
(410) 363-3434

SCALE AS SHOWN
SHEET 1 OF 2

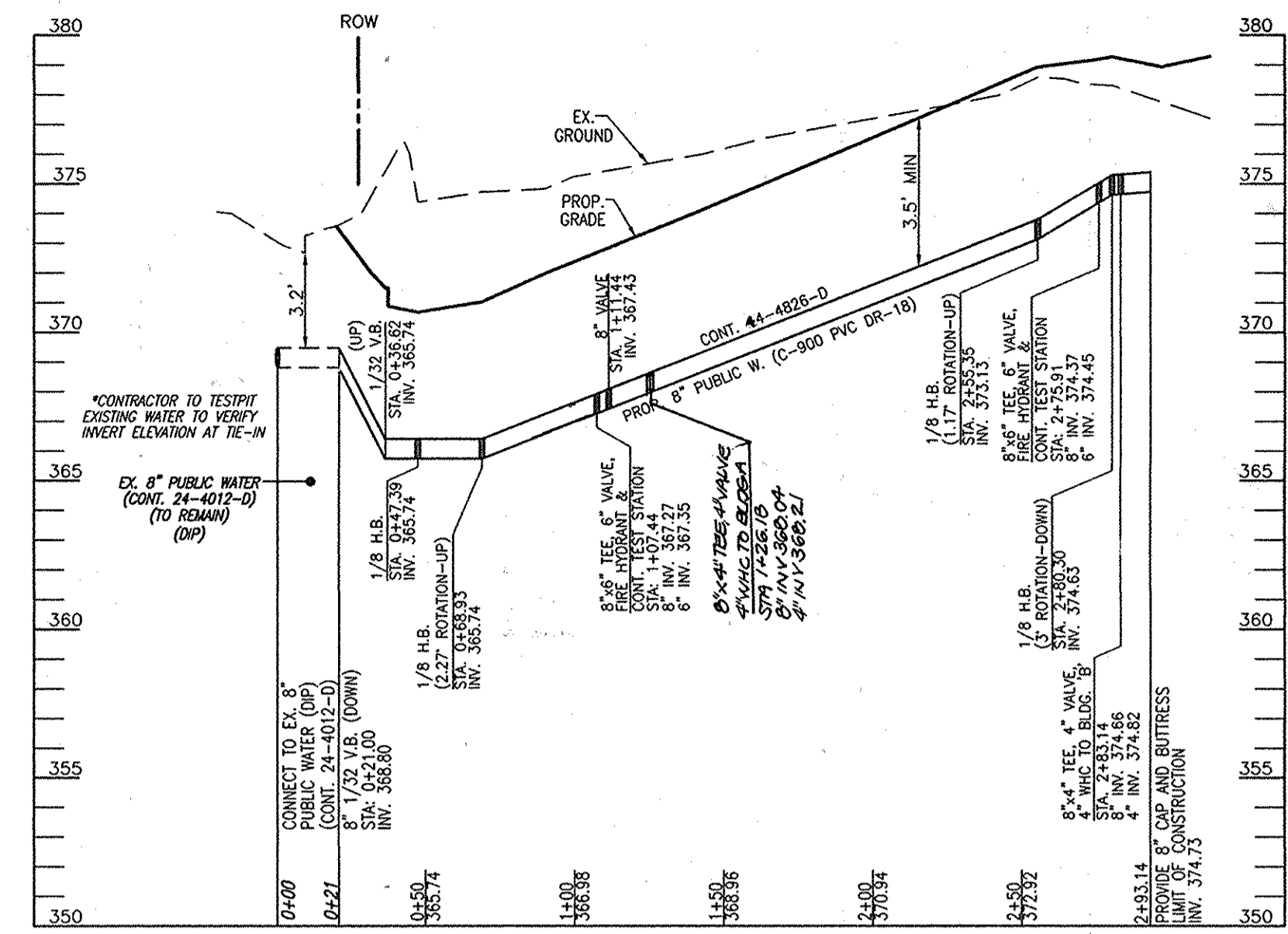
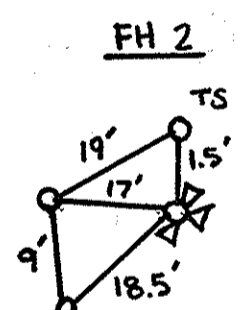
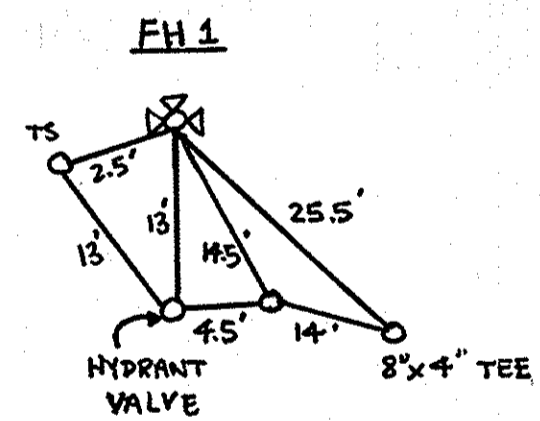
DPZ REF'S: L. 1551/F. 89,
PZ 15803, SDP-02-113,
ZB-1044M, ZB-1094, EOP-13-034,
SDP-13-073, CONT. 24-4012-D
PARCEL: 77
ZONING: B-1
TAX MAP: 24 GRID: A
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Steve Cron
CHIEF, BUREAU OF UTILITIES
DATE: 1/31/14

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
Chad Edmund
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 2/27/14



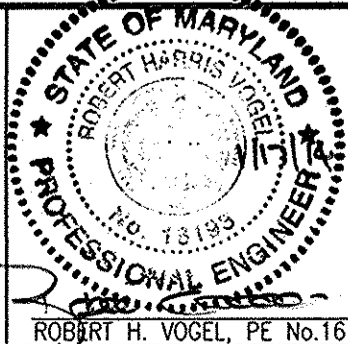
PLAN VIEW
SCALE: 1"=50'



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

WATER MAIN LOCATION CHART PROP. WATER MAIN 'A'	
WL STA.	APPURTENANCE
WL STA. 0+21.00	CONNECT TO EX. 8" PUBLIC WATER CONTRACT 24-4012-D
WL STA. 0+36.62	8"-1/32 VERTICAL BEND
WL STA. 0+47.39	8"-1/8 HORIZONTAL BEND
WL STA. 0+68.93	8"-1/8 HORIZONTAL BEND
WL STA. 1+26.78	8"x4" TEE; 4" WHC TO BUILDING 'A'
WL STA. 1+07.44	8"x6" TEE; 6" VALVE; AND 6" FIRE HYDRANT
WL STA. 1+11.44	8" VALVE
WL STA. 2+55.35	8"-1/8 HORIZONTAL BEND
WL STA. 2+75.91	8"x6" TEE; 6" VALVE; AND 6" FIRE HYDRANT
WL STA. 2+80.30	8"-1/8 HORIZONTAL BEND
WL STA. 2+83.14	8"x4" TEE; 4" WHC TO BUILDING 'B'
WL STA. 2+93.14	8" CAP AND BUTTRISS

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS
WERE PREPARED OR APPROVED BY ME AND
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ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND, LICENSE NO. 16193
EXPIRES 09-27-2014



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ELLCOTT CITY, MD 21043 FAX: 410.461.8961

DES:	RHV			
DRN:	JMR			
CHK:	RHV	KCI 2	AS-BUILT REVISIONS	2/15/16
DATE:	JANUARY 2014	RHV 1	REVISE LOCATION OF 4" WHC BUILDING 'A'	5/19/14
BY:	NO.		REVISION	DATE

FINAL WATER PLAN
LAYOUT AND PROFILES

ARCADIA SQUARE
TAX MAP: 24 PARCEL 77
HOWARD COUNTY, MARYLAND
CONTRACT 44-4826-D

OWNER/DEVELOPER
LEWAL PARTNERSHIP
100 PAINTERS MILL ROAD
SUITE 900
OWINGS MILLS, MD 21117
(410) 363-3434

SCALE
AS
SHOWN

DPZ REF'S: L. 1551/F. 89,
PLAT 15803, SDP-02-113,
ZB-1044M, ZB-1094, ECP-13-034,
SDP-13-073, CONT. 24-4012-D

PARCEL: 77
ZONING: B-1
TAX MAP: 24 GRID: 4
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SHEET
2 OF 2

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Chief, Bureau of Utilities
11/14/14

Chief, Development Engineering Division
2/27/16