,	OLIANTITIES	AS-BUILT					
ITEMS	QUANTITIES ESTIMATED	QUANTITIES	TYPE	MANUFACTURER/ SUPPLIER			
8" WATER MAIN (D.I.P.)	838 L.F.	855 L.F.	D. I. P.	U.S. PIPE /LB WATER			
6" WATER MAIN (ロルア)	69 L.F.	69 L.F.	D.1.P.	U.S. PIPE / LB WATE			
8" I/8 HB	2 EA.	2	D.I.P. M348	TYLER UNION /LB WATE			
8"X8" TEE	I EA.	1		TYLERUNION LE WATE			
8"x6" TEE	2 EA.	2	M.J. TEE	TYLER UNION/LB WATEL			
8"x6" FHT	2 EA.	2.	M.J. HYDRANT	TYLER UNION ! LB WATE			
8" VALVE	l EA.	1	M.J. GATE VALVE	AMERICAN FLOW/LBWATE			
8" AIR RELEASE VALVE	EA.	DELETED	DELETED	DELETED			
6" VALVE	4 EA.	4	M.J GATE VALVE	AMERICAN FLOW LB WATER			
HYDRANT		2		AMERICAN FLOW / LB WATE			
NAME OF UTILITY CO	NTRACTOR: SEH	EXCAVATING	CONTRACT	ors.inc			

# LEGEND CONNECTION -PUBLIC SEWER EASEMENT

### SHEET INDEX I WATER and SEWER TITLE SHEET 2 WATER and SEWER PLAN

3 WATER AND SEWER PROFILE

Date

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT. THIS DEVELOPMENT PLANTS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED

SPECIFICATIONS AND WITH THE SITE DEVLOPMENT PLAN

SDP 13-079; FOR SEDIMENT AND EROSION CONTROL.

IN ACCORDANCE WITH SECTION 308 OF THE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

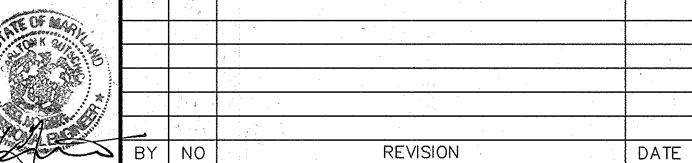
CHIEF, DEVELOPMENT ENGINEERING DIVISION CDATE

GLWGUTSCHICK LITTLE &WEBER, PA CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE SUITE 250 - BURTONSVILLE OFFICE PARK BURTONSVILLE, MARYLAND 20866 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

\CADD\DRAHINGS\10004\PLANS BY GLV\Woter\10004-Woter\_CS.dwg | DES. DEV | DRN. dev | CHK. DEV

HEREBY CERTIFY THAT THESE PLANS 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. 12975
EXP. DATE: MAY 26, 2016

PROFESSIONAL CERTIFICATION

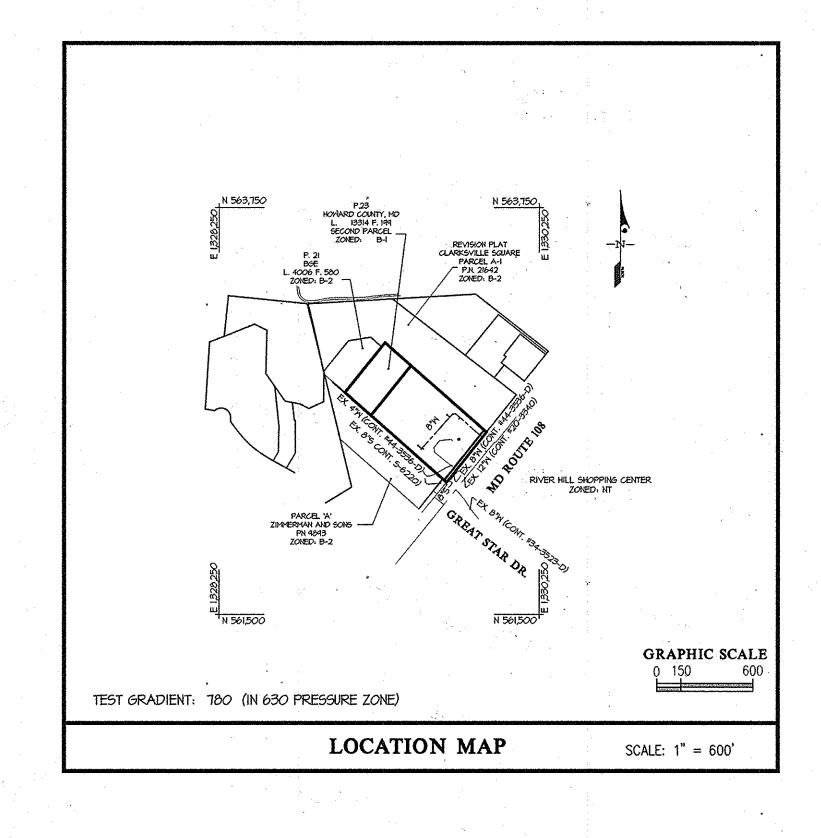


WATER TITLE SHEET CLARKSVILLE COMMONS CONTRACT No. 24-4808-D PARCEL 23

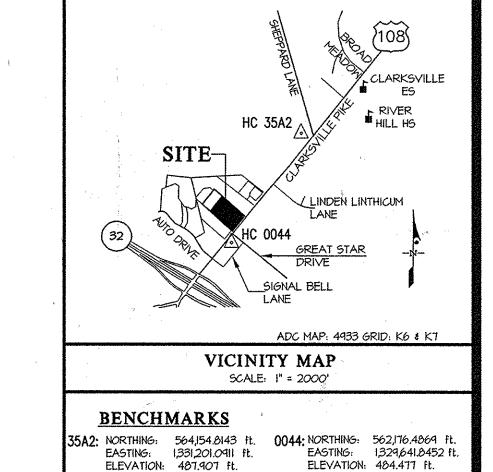
LIBER 13314 FOLIO 199 12240 CLARKSVILLE PIKE

SCALE AS SHOWN

CLARKSVILLE COMMONS PARCEL 23 CONT. # 24-4808-D HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS



SHOPPING CENTER NUMBER OF S.H.C.'s NUMBER OF W.H.C.'s \_\_\_\_2 AREA OF COMMERCIAL LOT/PARCEL 5.80 AC. LITTLE PATUXENT



## GENERAL NOTES

I. APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND

- 2. EXISTING TOPOGRAPHY IS SHOWN PER AERIAL TOPOGRAPHY PREPARED BY MCKENZIE/SNYDER ON MARCH 27, 2010, FIELD RUN INFORMATION BY GUTSCHICK, LITTLE
- ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE \_\_\_\_ SURVEY FIRM SHALL PROVIDE DESCRIPTION OF VERTICAL CONTROL POINTS, I.E., IRON BARS, CROSS CUTS ON CONCRETE STRUCTURES, ETC.).
- 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
- SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB. 8. 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

7. FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD

P	LANS:			
	AT&T		<i>&gt;</i>	
	BGE (CONSTRUCTION SERVICES)			
	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		
	VEDITON	1_900_743_0033		5

- IO. 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. II. THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION, PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT
- 12. 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

- ALL WATER MAINS SHALL BE D.I.P. CLASS 54 UNLESS OTHERWISE NOTED. 2. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-64 OF COVER UNLESS OTHERWISE NOTED.
- 3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- 4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE
- 5. 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
- 6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- 7. TRACER WIRES AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PYC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN
- 8. 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
- 9. 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 @TEESA USED WITH PVC MAINS SHALL BE DUCTILE IRON.
- IO. 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
- II. 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 DEFECTION 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 DEFECTION 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 DEFECTION OF 3-DEGREES (11/2-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 CERTAINTEED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL. FIVE DEGREE SMEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DRIØ MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DRIØ OR EQUAL
- 12. WHEN PVC HIGH DEFECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWMA 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 DEFECTION 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 ÉBAA ÍRON, INC. OR APPROVED EQUAL.

## PART III SEMER I. ALL SEMER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.

- 2. ALL MANHOLES SHALL BE 4'-OA INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- 3. FORCE MAINS SHALL BE D.I.P. ONLY.
- 4. MANHOLES SHOWN WITH 124 AND 164 WALLS ARE FOR BRICK MANHOLES ONLY.
- 5. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL 65.52. WHERE WATERTIGHT MANHOLE FRAMES
- AND COVERS ARE USED, SET TOP OF FRAME 1'-64 ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS. 6. HOUSE(S) WITH THE SYMBOL @C.N.S.A INDICATES THAT THE CELLAR CANNOT BE SERVED.



PREPARED FOR: GREENSTONE VENTURES II, LLC 13220 WESTMEATH LANE CLARKSVILLE, MD 20129 ATTN.: GEORGE & HOLLY STONE 301-854-2090

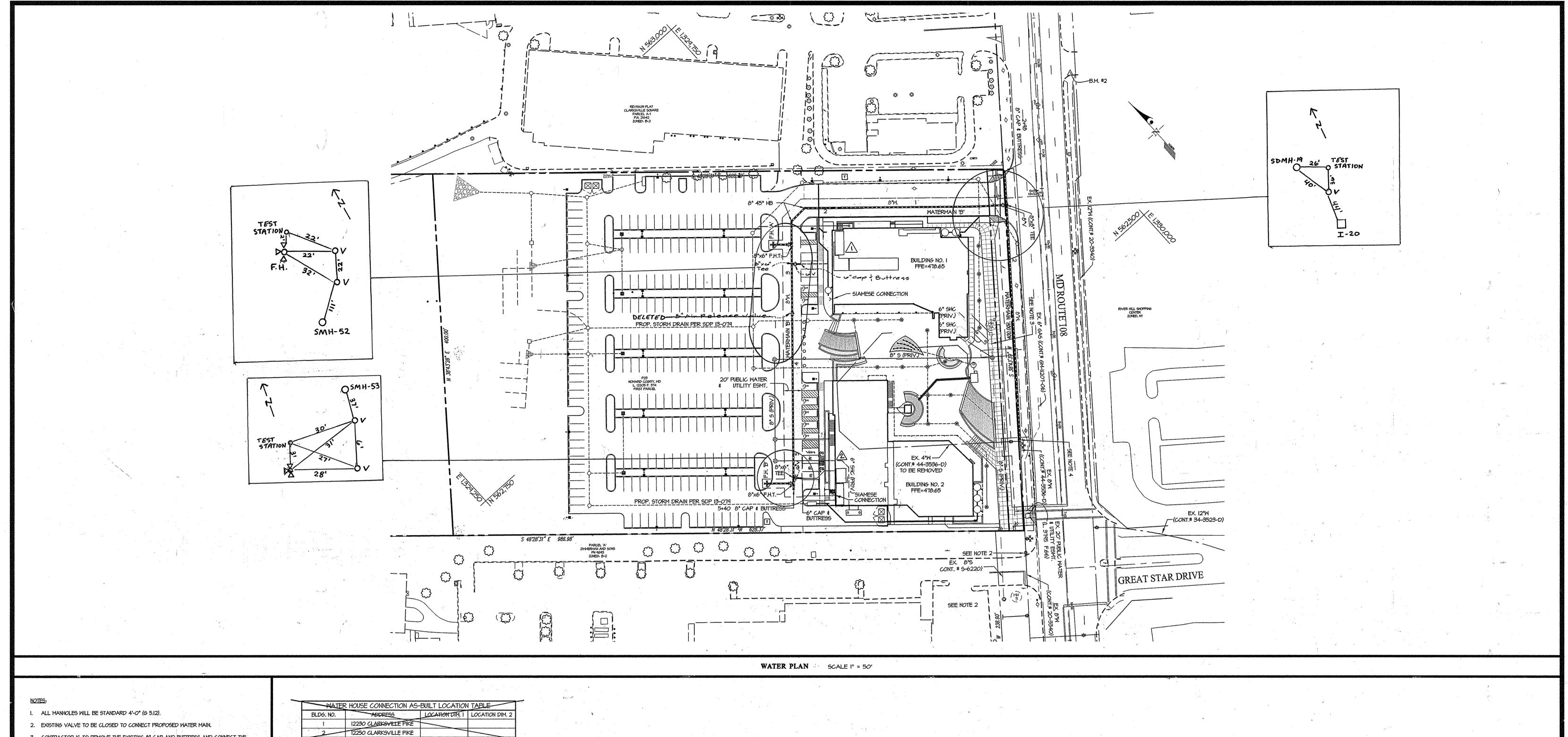
HOWARD COUNTY, MARYLAND ELECTION DISTRICT No. 5

SHEET 1 OF 3

© GLW 2014

HOWARD S.C.D.

# DATE 600' SCALE MAP NO. 34 BLOCK NO. 06



3. CONTRACTOR IS TO REMOVE THE EXISTING 8" CAP AND BUTTRESS AND CONNECT THE

4. ALL OF THE WORK REFERENCED ON THIS PLAN REGARDING THE SEWER WILL BE PERFORMED AS PART OF THE WORK ON SDP 13-079. \$5 CO INDICATED A CHARGING STATION.

	FITTING INFO	RMATION	1
WATER MAIN 'A'		-	
M.M. STATION	FITTING	L	OCATION
2+62	8"X8" TEE	N 562609	E 1,329,895
WATER MAIN 'B'		·	
1 2+91	8"x6" TEE	N542,718	E1,329,676
2+22	8"-1/8 H.B.	N 562,756	E 1,329,727
2+43	8"-1/8 H.B.	N 562,754	E 1,329,706
2+52	8"x6" F.H. TEE	N 562,748	E 1,329,701
-3+45	8" AIR RELEAGE VALVE	N-562,678	E 1,329,639
5+27	8"x6" TEE	N 562,542	E 1,329,519
5+33	8*x6* F.H. TEE	N 562,537	E 1,329,515
5+40	8" CAP & BUTTRESS	N 562,532	E 1,329,510

	FIRE HYDRANT INFORMATION								
	HYDRANT	BURY LINE ELEV.	STACK HEIGHT						
	Α	472.38	5.0'						
. 4	В	476.01	5.0'						

:	В.М.	ELEV.	DESCRIPTION
	J	484.48	HO. CO. MONUMENT 0044
	2	477.51	GLW MAV. SM. 9611 MAG NAIL SET IN PAVEMENT

9V: DFI DATE: 5-25-16

PREPARED FOR: GREENSTONE VENTURES II, LLC 13220 WESTMEATH LANE CLARKSVILLE, MD 20129 ATTN.: GEORGE & HOLLY STONE 301-854-2090

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

8.1.14 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

GLWGUTSCHICK LITTLE & WEBER, P.A. CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

E-{CADD\DRANKICS\10004\PLANS BY QLY\Wole\10004-Wole\_PLAN & PROTILES.dvg | DES. DEV | DRN. gt

PROFESSIONAL CERTIFICATION 

<u> TIFICATION</u>		DEY	<u> </u>	Moved W.H.C.	10.12,100	
THESE PLANS		9+.	2	chowed the charging atations.	23.10.10	
PROVED BY ME,		-9+.	1	Revided Parking apaces and new location for utility rooms	20.10.10	WATER and SEWER
LY LICENSED R UNDER THE		i Cay				PLAN
F MARYLAND,						
2975 , 2016	1191					
7-31-14	Neje	BY	NO	REVISION	DATE	600' SCALE MAP NO. 34 BLOCK NO. 06

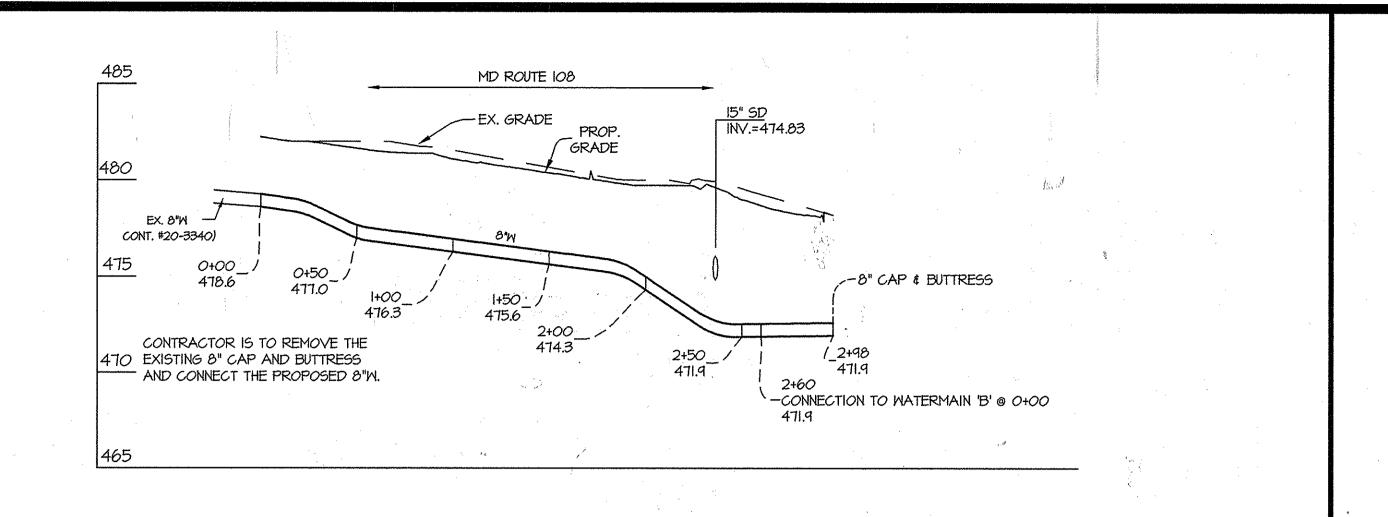
WATER and SEWER PLAN

CLARKSVILLE COMMONS CONTRACT No. 24-4808-D PARCEL 23

LIBER 13314 FOLIO 199 12240 CLARKSVILLE PIKE HOWARD COUNTY, MARYLAND ELECTION DISTRICT No. 5 SHEET 2 OF 3

SCALE

AS SHOWN



SCALE: VERT: 1" = 5' HORZ: 1" = 50' CLARKSVILLE COMMONS (PARCEL 23) MD ROUTE 108 A 104,=465,12 0+50\_ / 8"X8" TEE\_/ 5+40\_ 471.1 8" CAP & BUTTRESS — \_5+00 469.9 5+33 8"x6" F.H.Tーノ (\_4+50 470.5 2+69 | 8"x6" F.H.T— 2+42 467.23 8" 1/8 HB— 466° 470.93 4+00\_ / 467.3 2+22 CONTRACTOR TO 8" 1/8 HB-/ ENCASE 8" W IN 400.7 CONTRACTOR TO CONCRETE FOR 10' ON EITHER SIDE OF 6" SHC ENCASE 8" W IN CONCRETE FOR 10' ON EITHER SIDE OF 8" S

WATERMAIN 'A' PROFILE

WATERMAIN 'B' PROFILE

## NOTE TO CONTRACTOR

CONTRACTOR IS TO CENTER A SECTION OF WATER MAIN UNDER STORM DRAIN AND SEWER CROSSINGS. WATER MAIN JOINT SHALL NOT BE LOCATED DIRECLY UNDER SEWER OR STORM DRAIN CROSSINGS.

PREPARED FOR: GREENSTONE VENTURES II, LLC 13220 WESTMEATH LANE CLARKSVILLE, MD 20129 ATTN.: GEORGE & HOLLY STONE 301-854-2090

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

CHIEF, DEVELOPMENT ENGINEERING DIVISION MG. DATE

GLWGUTSCHICK LITTLE &WEBER, P.A. CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L'(CADD)(DRAHINGS)(10004)PLANS BY QLIN/Wole/(10004-Wole-PLAN & PROFILES.drg) DES. DEV DRN. gt CHK. DEV

SCALE: VERT: I" = 5' HORZ: I" = 50'

PROFESSIONAL CERTI I HEREBY CERTIFY THAT THE
WERE PREPARED OR APPROV
AND THAT I AM A DULY L
PROFESSIONAL ENGINEER UI
LAWS OF THE STATE OF M.
LICENSE NO. 1297
EXP. DATE: MAY 26, 20 10-004

<u>IFICATION</u>	
HESE PLANS	
OVED BY ME, 'LICENSED	
UNDER THE	
MARYLAND, 975,	
2016	17
7-8/-1/	LVK

- Pag Ot Mado		DEA		moved w.n.c.	s revised crossi	nas.	10.10.10				
SI WK W	5	•								,	
									WATER	₹	
	× 1/2			N. S. S. S. S.	-	-			PROFIL	ES	-
	fig.										
11/1/					*			,	•		
Man	يح	BY	NO		REVISION		DATE	600' SCALE MA	AP NO. 34	BLOCK NO.	06

CLARKSVILLE COMMONS CONTRACT No. 24-4808-D PARCEL 23

LIBER 13314 FOLIO 199 12240 CLARKSVILLE PIKE HOWARD COUNTY, MARYLAND ELECTION DISTRICT No. 5

SHEET 3 OF 3

SCALE

AS SHOWN