

**GENERAL NOTES**

**PART I - GENERAL**

1. Approximate location of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the Contractor's expense.
2. Onsite topography based on field survey performed in October 2016 by FSH Associates. Offsite topography derived from Howard County GIS.
3. Horizontal and Vertical 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. 42EF and 42EC. All vertical controls are based on NAVD '88 based off Howard County Geodetic Control Stations No. 42EF and 42EC.
4. All pipe elevations shown are invert elevations unless otherwise noted on the plans.
5. Clear all utilities by a minimum of 12". 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 money owed the Contractor. The Contractor shall coordinate with the utility companies to schedule the bracing of the poles.
6. 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.
7. Where test pits have been made on existing utilities, they are noted by the symbol [ ] at the location 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.
8. The Contractor shall notify the following utility companies or agencies at least five(5) working days before starting work shown on these plans:

AT&T	800-252-1133
BGE(Contractor Services)	410-637-8713
BGE(Emergency)	410-685-0123
Bureau of Utilities	410-313-4900
Colonial Pipeline Company	410-798-1390
Miss Utility	800-257-7777
State Highway Administration	410-531-5533
Verizon	800-749-0033

9. 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.
10. The Contractor shall remove trees, stumps and roots along line of excavation. Payment for such removal shall be included in the unit price bid for the construction of the main.
11. The Contractor shall notify the Bureau of Highways, Howard County, at 410-313-7450 at least five working days before any open cutting or boring/jacking of any County roads 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.
12. The 6" valve at the intersection of Oakland Mills Road and the Private Drive and the 6" valve shown on W & S Contract #24-3351-D at the tie-in to the existing 6" water line within the Private Drive (labeled Clary Road on Contr. #24-3351-D) shall be closed prior to connecting water for this contract. The following parcel names and addresses will be affected by this shut down:
  - Brianna M. Frost 7426 Oakland Mills Road, Columbia, MD 21046
  - Roseline and Godwin Okoro 9545 Ridgeview Drive, Columbia, MD 21046-1945
  - Glenn E. and Mary C. Sharp Marang 9547 Ridgeview Drive, Columbia, MD 21046-1945

**PART II - WATER**

1. All water mains to be **PVC C900 DR-18** unless otherwise noted.
2. Tops of all water mains to have a minimum of 3'-6" 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 the Standard Details unless otherwise provided for on the drawings.
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 Specifications.
6. The Contractor shall not operate any water main valves on the existing water system.
7. Tracer wire and continuity test stations shall be installed on all PVC water mains in accordance with the Howard County Design Manual.
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 pipes 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.
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. 17 pound Magnesium anodes shall be installed on all valves and ductile iron fittings including restraints and harnesses. 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.
10. 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 the PVC pipe.
11. 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 a 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 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.

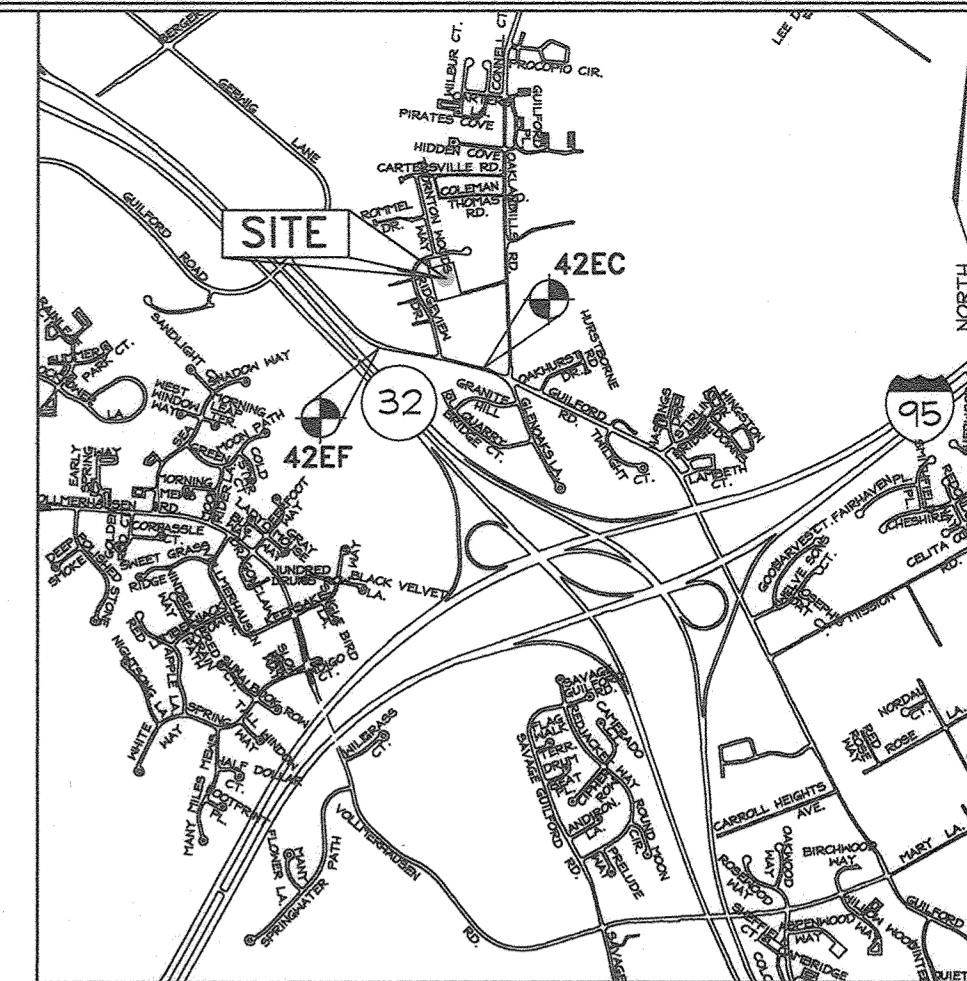
Five degree sweeps shall be bell by spigot, rated for a minimum 225 psi, DR 18 meeting the requirements of AWWA C900 and shall be Multi Fittings (1px) Blue Brute DR18 or equal.

12. When PVC high deflection couplings or PVC 5-degree sweeps are used to facilitate changes in horizontal or vertical alignments of AWWA 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 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 EBAA Iron, Inc. or approval equal.

**PART III - SEWER**

1. All sewer mains shall be D.I.P. or P.V.C. unless otherwise noted.
2. All manholes shall be 4'-0" inside diameter unless otherwise noted.
3. Force mains shall be D.I.P. only.
4. Manholes shown with 12" and 16" walls are for brick manholes only.
5. Manholes designated W.T. in plan and profile shall have watertight frame & covers, Standard Detail G-5.52. Where watertight manhole frame and covers are used, set top of frame 18" above finished grade unless otherwise noted on the drawings.
6. House(s) with the symbol "C.N.S." indicates that cellar cannot be served.

# PUBLIC WATER AND SEWER FINAL PLANS CONTRACT #24-5058-D **BRICKLEY MILLS** HOWARD COUNTY, MARYLAND 6th ELECTION DISTRICT



VICINITY MAP  
SCALE: 1"=2000'

HOWARD COUNTY ADC MAP 5053-G4

**GEODETIC SURVEY CONTROL**

Denotes Howard County Geodetic Survey Control  
42EF N 545,623.351 E 1,359,044.500 (NAD 83/91) Elev. 347.010 (NGVD 88)  
42EC N 545,416.990 E 1,360,140.442 (NAD 83/91) Elev. 365.383 (NGVD 88)  
See Sheet 2 for On-Site Traverse Points.



**LOCATION PLAN**  
SCALE: 1"=600'

**WATER & SEWER COUNTY CODE**

WATER ZONE: 550  
TEST GRADIENT: .827  
TEST PRESSURE: .20% psi

TYPE OF BUILDING:	RESIDENTIAL
NO. OF LOTS/PARCELS:	6
NO. OF WATER HOUSE CONNECTIONS:	6
NO. OF SEWER HOUSE CONNECTIONS:	6
DRAINAGE AREA:	LITTLE PATUXENT
TREATMENT PLANT:	PATUXENT

**PROFESSIONAL CERTIFICATION**  
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. #34689, Expiration Date: 7/08/2021.

**OWNER/DEVELOPER**  
7440 Oakland Mills Road, LLC  
c/o Mr. Joe Encarnacao  
19901 Belle Chase Drive  
Laytonsville, Maryland 20882  
Phone No. 301-252-2870

**QUANTITIES**

NAME OF UTILITY CONTRACTOR :  
SURVEY AND DRAFTING DIVISION AS-BUILT DATE :

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
8" P.V.C. SEWER	600 L.F.	568	SDR-35	J M EAGLE BR 5
4" SHC	88 L.F.	84	SDR-35	NORTH AMERICAN PIPE BR 5
SHC Connections	6 Ea.	6		GPK PRODUCTS BR 5
SEWER MANHOLE	7 Ea.	7	PRECAST	CPC
6" P.V.C. WATER <sup>C900</sup> <sub>DR-18</sub>	328 L.F.	35	C-900	NORTH AMERICAN PIPE BR 5
6" VALVE	1 Ea.	1	MJ GATE	HORNE BR 5
1.5" WHC	80 L.F.	67	COPPER	CAMBRIDGE LEE IND. BR 5
WHC Connections	6 ea.	6		MUELLER CO. BR 5
FIRE HYDRANT W/ 6" VALVE	2 Ea.	2		MUELLER CO. BR 5
6" CAP & BUTTRESS	1 Ea.	1	MJ CAP	STAR PIPE PRODUCTS BR 5
1/8" HB	2 Ea.	2		STAR PIPE PRODUCTS BR 5

**WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE**

LOT NUMBER	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1	7440 OAKLAND MILLS ROAD	FH STA. 0+62	57' SMH-7 19'
2	7438 OAKLAND MILLS ROAD	FH STA. 0+62	135' SMH-7 60'
3	7436 OAKLAND MILLS ROAD	FH STA. 3+24	71' SMH-7 141'
4	7434 OAKLAND MILLS ROAD	FH STA. 3+24	55' SMH-7 139'
5	7432 OAKLAND MILLS ROAD	FH STA. 0+62	132' SMH-7 58'
6	7430 OAKLAND MILLS ROAD	FH STA. 0+62	66' SMH-7 27'

**SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE**

LOT NUMBER	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1	7440 OAKLAND MILLS ROAD	FH STA. 0+62	78' SMH-7 14'
2	7438 OAKLAND MILLS ROAD	FH STA. 0+62	156' SMH-7 80'
3	7436 OAKLAND MILLS ROAD	FH STA. 3+24	59' SMH-7 158'
4	7434 OAKLAND MILLS ROAD	FH STA. 3+24	44' SMH-7 150'
5	7432 OAKLAND MILLS ROAD	FH STA. 0+62	146' SMH-7 70'
6	7430 OAKLAND MILLS ROAD	FH STA. 0+62	66' SMH-7 21'

**SHEET INDEX**

DESCRIPTION	SHEET No.
Water and Sewer Title Sheet	1 of 3
Water and Sewer Plan Sheet	2 of 3
Water and Sewer Profile Sheet	3 of 3

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 306 OF THE STANDARD SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-18-085

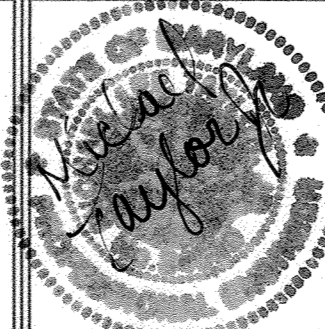
THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

*John K. Reduta* 8/28/19  
SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
8-9-19  
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND  
9-6-19  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**FSH Associates**  
Engineers Planners Surveyors  
6339 Howard Lane Elkridge, MD 21075  
Tel: 410-587-5200 Fax: 410-796-1562  
E-mail: info@fsher.com



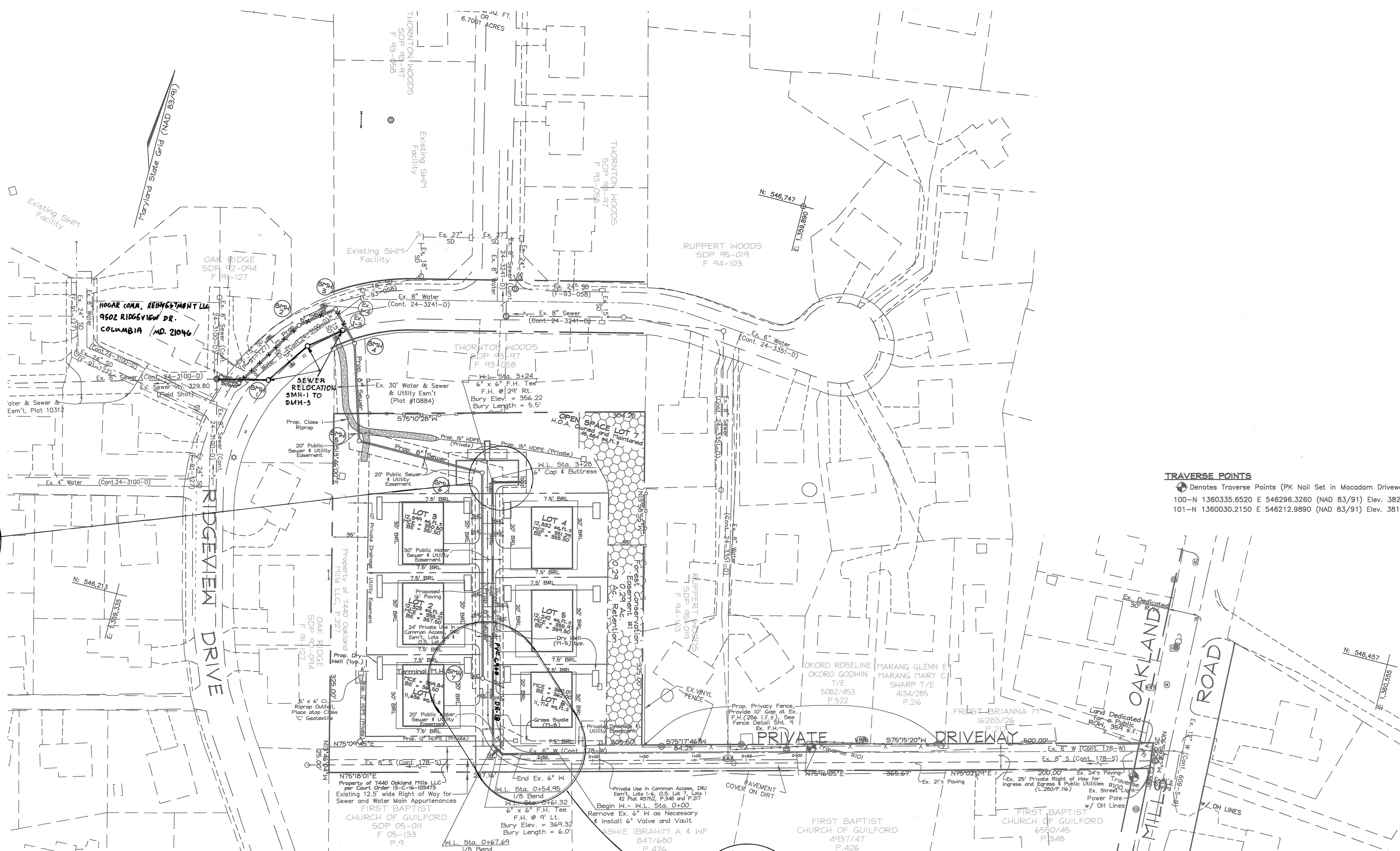
DESIGN BY: MLT	
DRAWN BY: MLT	
CHECKED BY: ZYF	
DATE: May 10, 2019	
WRA	A5 BUILT
BY NO.	REVISION
	7/11/22
	DATE

**WATER AND SEWER  
TITLE SHEET**

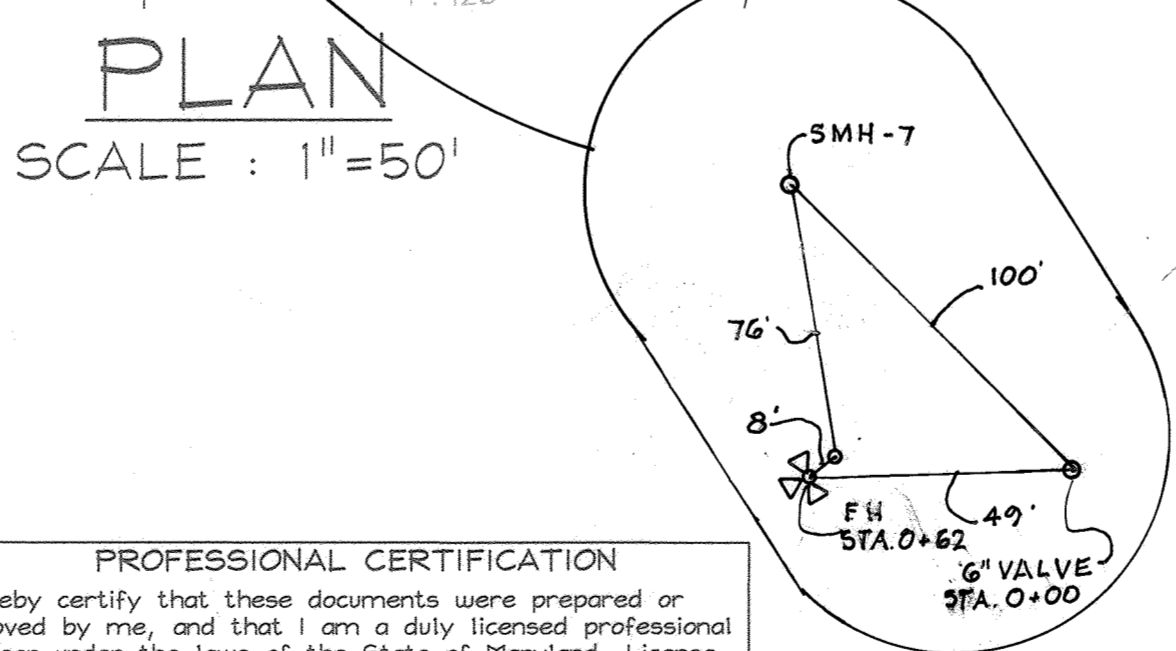
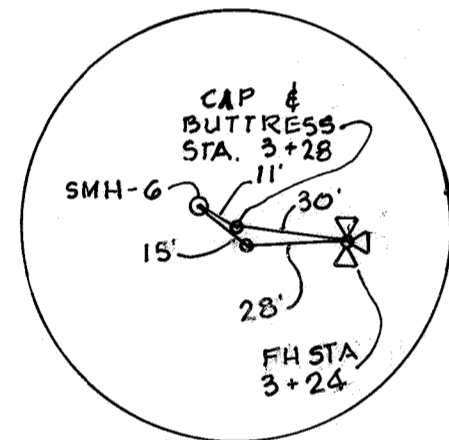
600' SCALE MAP NO.: 42 BLOCK NO.: 16

**BRICKLEY MILLS**  
LOTS 1 THRU 7  
CONTRACT NO. 24-5058-D  
PARCEL 277  
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

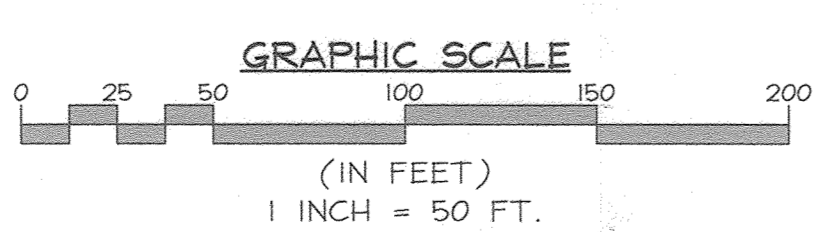
SCALE AS SHOWN  
SHEET NO. 1 OF 3



**TRAVERSE POINTS**  
 Denotes Traverse Points (PK Nail Set in Macadam Driveway)  
 100-N 1360335.6520 E 546296.3260 (NAD 83/91) Elev. 382.67 (NGVD 88)  
 101-N 1360030.2150 E 546212.9890 (NAD 83/91) Elev. 381.86 (NGVD 88)



**PLAN**  
 SCALE: 1"=50'



**PROFESSIONAL CERTIFICATION**  
 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. #34689, Expiration Date: 7/08/2021.

**OWNER/DEVELOPER**  
 7440 Oakland Mills Road, LLC  
 c/o Mr. Joe Encarnacao  
 19901 Belle Chase Drive  
 Laytonsville, Maryland 20882  
 Phone No. 301-252-2870

**NOTE:**  
 APPROVAL OF THIS PLAN IS NOT AUTHORIZATION TO DISTURB OFF SITE PROPERTY. NOTIFICATION AND AUTHORIZATION FROM THE PROPERTY OWNER IS REQUIRED PRIOR TO ANY DISTURBANCE.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 8-9-19  
 CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING  
 HOWARD COUNTY, MARYLAND  
 9-6-19  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

**FSH Associates**  
 Engineers Planners Surveyors  
 6338 Howard Lane Elkridge, MD 21075  
 Tel: 410-587-5200 Fax: 410-798-1582  
 E-mail: info@fshet.com



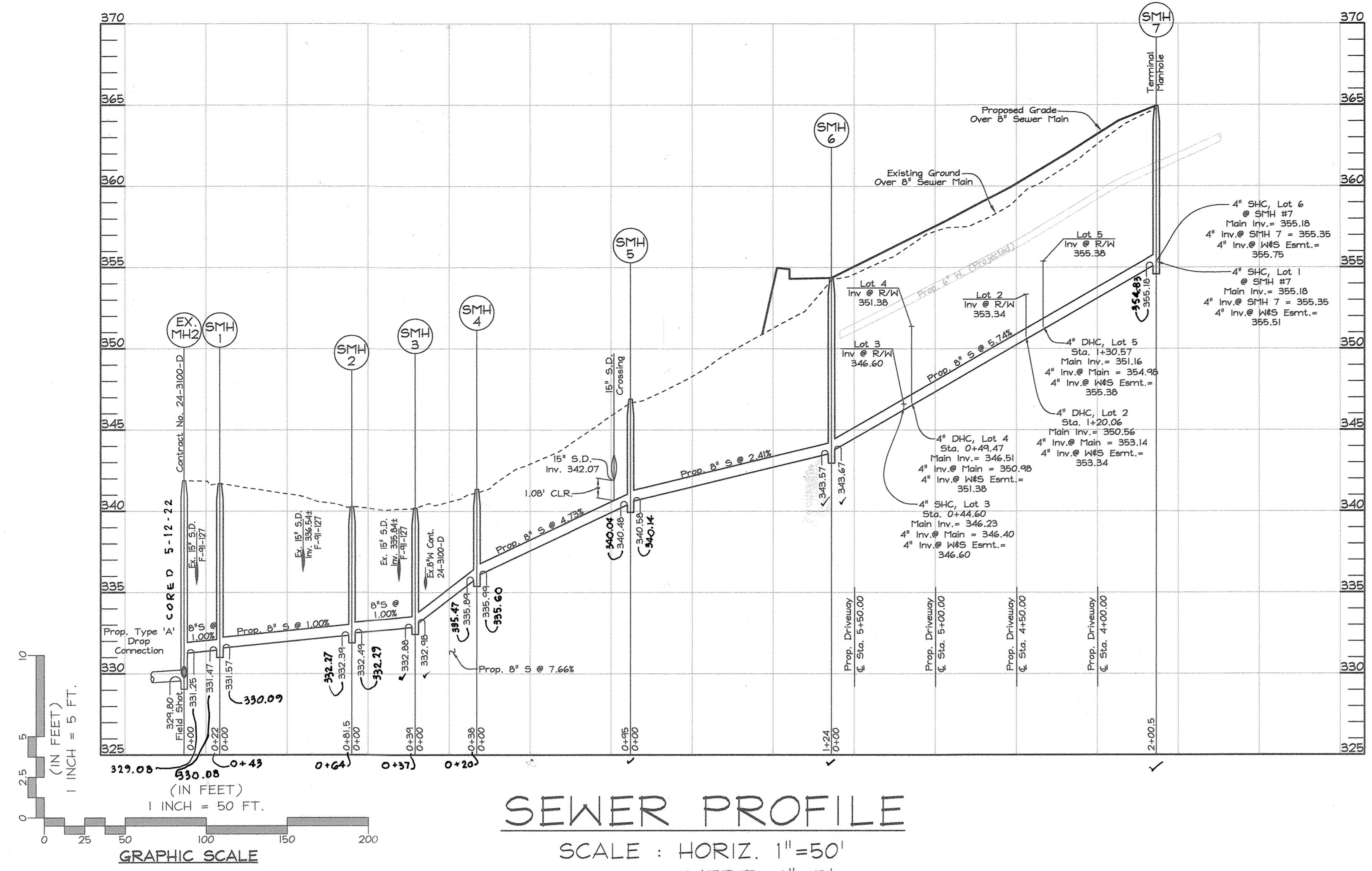
DESIGN BY: MLT  
 DRAWN BY: MLT  
 CHECKED BY: ZYP  
 DATE: May 10, 2018

WRA	A5 BUILT	7/11/22
BY NO.	REVISION	DATE

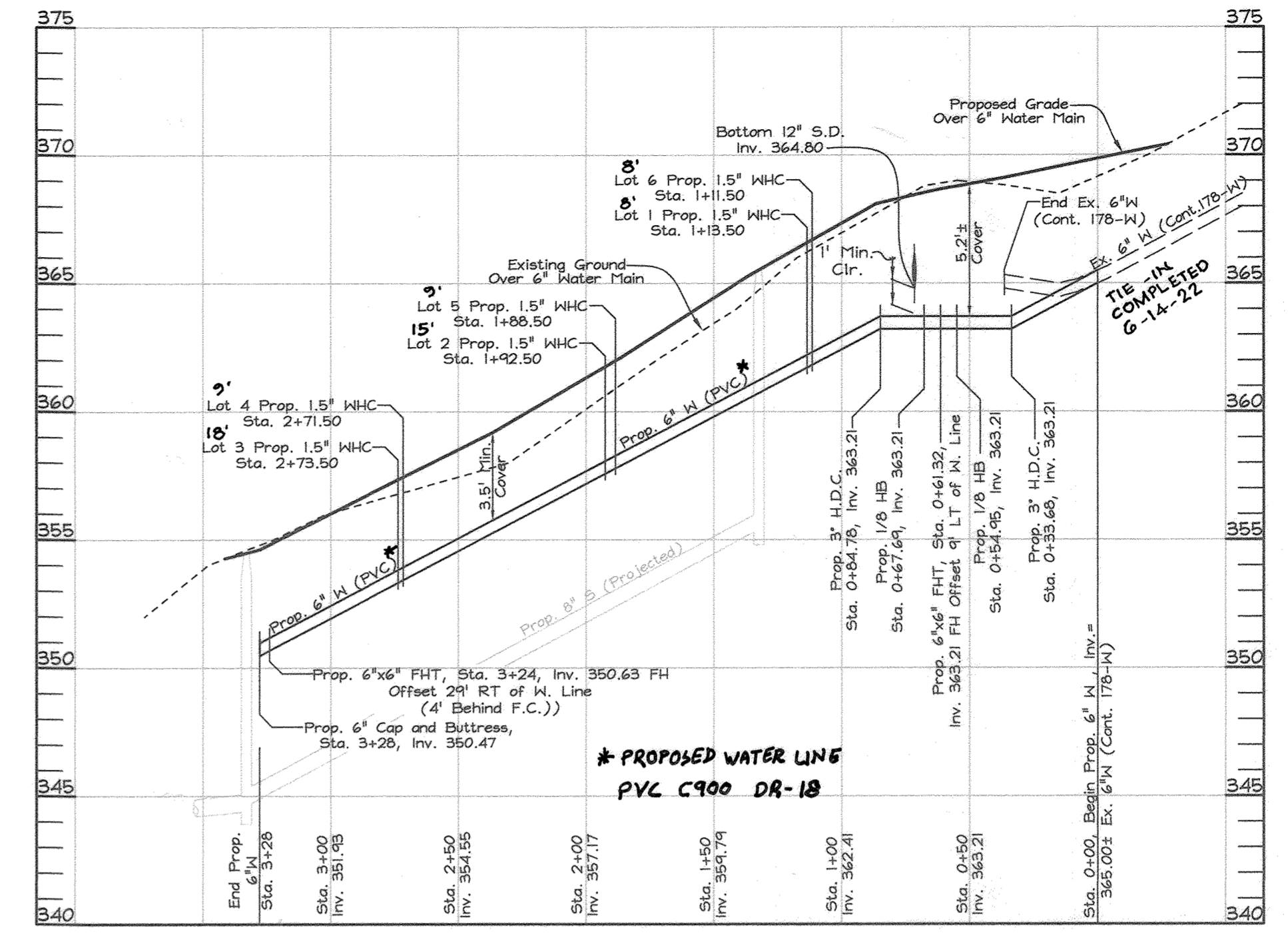
**WATER AND SEWER PLAN SHEET**  
 600' SCALE MAP NO.: 42 BLOCK NO.: 16

**BRICKLEY MILLS**  
 LOTS 1 THRU 7  
 CONTRACT NO. 24-5058-D  
 TAX MAP 42, GRID 16 PARCEL 277  
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET NO. 2 OF 3



**SEWER PROFILE**  
SCALE : HORIZ. 1"=50'  
VERT. 1"=5'



**WATER PROFILE**  
SCALE : HORIZ. 1"=50'  
VERT. 1"=5'

SEWER HOUSE CONNECTION CHART						
STAND PIPE	MAIN TO CLEANOUT	Lot No.	Station	4" SHC Inv. @ 8" Sewer Main	SHC Inv. @ Easement Line	ACTUAL CELLAR ELEVATION
FROM SMH 6 TO SMH 7						
6"	10"	Lot 1	@ SMH 7	4" SHC INV.: 355.35 @ SMH 7	355.51	361.50
4"	10"	Lot 2	1+20.06 RT	4" DHC INV.: 353.14*	353.34	357.50
4"	10"	Lot 3	0+44.60 RT	4" SHC INV.: 346.40	346.60	351.50
4"	10"	Lot 4	0+49.47 LT	4" DHC INV.: 350.98*	351.38	355.50
4"	10"	Lot 5	1+30.57 LT	4" DHC INV.: 354.98*	355.38	359.50
7"	10"	Lot 6	@ SMH 7	4" SHC INV.: 355.35 @ SMH 7	355.75	362.00

Note: All S.H.C.'s are on a 2.0% slope, from sewer main to easement line. All S.H.C.'s are on a 2.0% slope from easement line to rear B.R.L. (for minimum cellar elevation) or to rear House (for actual cellar elevation), except for S.H.C.'s for Lot 1 (4.24%), Lot 3 (3.96%) and Lot 6 (4.83%).  
\* Invert elevation @ Type 'A' Drop House Connection, See Howard County Standard Detail S-2.12.

SEWER MANHOLE TABLE					
MH #	€ DRIVE STATION & OFFSET OR COORDINATE	TOP MH ELEVATION	REMARKS	TYPE OF M.H.	
1	N 546,442.04 E 1,359,398.80	341.80±	Ridgeview Drive	STD M.H. G-5.12	
2	N 546,511.32 E 1,359,441.63	340.10±	Ridgeview Drive	STD M.H. G-5.12	
3	N 546,535.56 E 1,359,472.33	340.20±	Ridgeview Drive	STD M.H. G-5.12	
4	N 546,508.02 E 1,359,498.70	341.36±	Yard MH	STD M.H. G-5.12	
5	N 546,416.95 E 1,359,526.99	346.90±	Yard MH	STD M.H. G-5.12	
6	€ Sta. 5+64.24 @ 5' Rt.	354.36±	Dunes Drive	STD M.H. G-5.12	
7	€ Sta. 3+63.74 @ 5' Rt.	365.54±	Dunes Drive	Terminal M.H. S-1.31	

WATER FITTING CHART		
STATION	FITTING	NAD '83/'91 COORDINATES
0+00	6" VALVE	N 546,170.17 E 1,359,791.54
0+54.95	6"-1/8" V.B.	N 546,156.34 E 1,359,739.13
0+61.32	6"x6" F.H.T.	N 546,159.56 E 1,359,733.63
0+67.69	6"-1/8" V.B.	N 546,162.77 E 1,359,728.13
3+23.93	6"x6" F.H.T.	N 546,410.66 E 1,359,663.21
3+27.93	6" CAP & BUTTRESS	N 546,414.53 E 1,359,662.20

**PROFESSIONAL CERTIFICATION**  
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. #34689, Expiration Date: 7/08/2021.

OWNER/DEVELOPER  
7440 Oakland Mills Road, LLC  
c/o Mr. Joe Encarnacao  
19901 Belle Chase Drive  
Laytonsville, Maryland 20882  
Phone No. 301-252-2870

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
8-9-19  
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND  
9-6-19  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

**FSH Associates**  
Engineers Planners Surveyors  
6339 Howard Lane Elkridge, MD 21075  
Tel: 410-587-5200 Fax: 410-796-1562  
E-mail: info@fsheri.com

DESIGN BY: MLT  
DRAWN BY: MLT  
CHECKED BY: ZYE  
DATE: May 10, 2019

WRA AS BUILT  
BY NO. REVISION  
7/11/22  
DATE

**WATER AND SEWER PROFILE SHEET**  
600' SCALE MAP NO.: 42 BLOCK NO.: 16

**BRICKLEY MILLS**  
LOTS 1 THRU 7  
CONTRACT NO. 24-5058-D  
TAX MAP 42, GRID 16 PARCEL 277  
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET NO. 3 OF 3