Contract No. 24-4562-D

QUANTITIES				
ITEMS	ESTIMATED QUANTITIES	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
4"Cap&Buttress		1	MJ	Star Pipe
8" WATER	31 LF	28 LF	Class54DIP	US Pipe
6" WATER	7 LF	4 LF	Class54DIP	US Pipe
4" WATER	248 LF	248 LF	Class54DIP	US Pipe
FIRE HYDRANT	1 EA.	1	6'Mueller	Mueller
8"x 8" Tapping Sleeve & Valve	1 EA.	1	FAST-970-	FG Style Ford
1-1/2" WHC	185 LF	70 LF	K CopperTubing	Cambridge Lee
8" SEWER	271 LF	271 LF	SDR-35	Diamond
4' MH	2 EA.	2 EA		Blacksburg Pre-Cast
4" SHC	149 LF	70 LF	SDR-35	Diamond
NAME OF UTILITY CONTRACTOR:				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE:				

Water House Connection As-built Location Table			
Lot Number	Address	Loccation Dimension 1	Location Dimension 2
Lot 3		SMH 10 - 102'	SHC 3 - 9'
Lot 5		SMH 11 - 44'	SHC 5 - 10'
Lot 7		SMH 11 - 19'	SHC 6 - 20'
Lot 8		SMH 11 - 54'	SHC 7 - 9'-6"
LOT 9			

Sewer House Connection As-built Location Table			
Lot Number	Address	Location Dimension 1	Location Dimension 2
Lot 3		SMH 10 - 93'	WHC 3 - 9'
Lot 5		SMH 11 - 52'-6"	WHC 5 - 10'
Lot 7		SMH 11 - 24'	WHC 6 - 20'
Lot 8		SMH 11 - 64'	WHC 7 - 9'-6"
LOT 9			

GENERAL NOTES

1. Approximate location 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.
2. Topographic and Boundary surveys were performed in February 2013 by Shanaberger & Lane.
3. 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. 38A4 and No. 0021.
   All vertical controls are based on NAVD '88. Vertical controls provided on the drawings are based on Howard County Geodetic Control Stations No. 38A4 and No. 0021.
4. All pipe elevations shown are invert elevations unless otherwise noted on the plans.
5. 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 the monies owed by the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.
6. 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.
7. 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 in 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 working days before starting the work shown on these plans:

AT&T	1-800-252-1133
BGE(Contractor 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

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 the line of excavation. Payment for such removal shall be included in the unit price bid for 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 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.

Note: No improvements shall be constructed or placed within the Public Water, Sewer and Utility Easements, which will impede or hinder access to the public water and sewer mains. Improvements such as air-conditioning units, fireplace chimneys, decks, fencing, foundation plantings and trees shall not be placed within the easement.

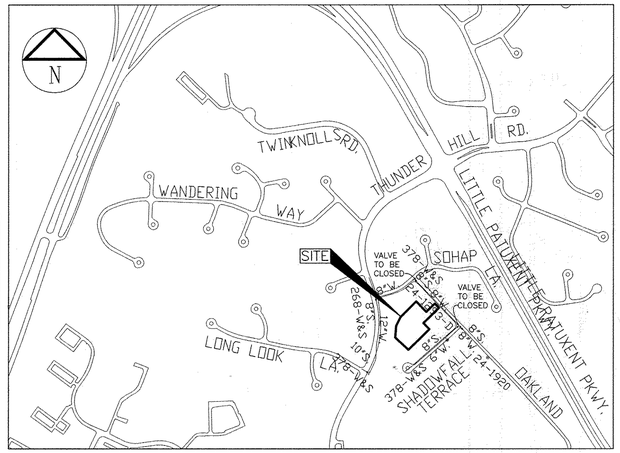
F-08-121

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

John R. Robertson 16. 4/5/15
SIGNATURE DATE

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED ACCORDANCE WITH SECTION 219 OF SPECIFICATION AND WITH THIS PLAN

Item	1 Location Dim.	2 Location Dim.
Tap Sleeve Valve	Fire Hydrant 24'-6"	SMH 10 20'
In-Line Valve	Fire Hydrant 4'-6"	SMH 10 22'
F. H. Valve	Fire Hydrant 1'-6"	SMH 10 20'



VICINITY MAP

SCALE :1"=600'

WATER MAIN GENERAL NOTES

1. All water mains shall be C900 PVC DR-14 unless otherwise noted.
2. Tops of all water mains shall have a minimum of 3'-6" 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 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 DIP and 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 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.
9. 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 m 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.
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 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 (1 1/2- degree on either end of the coupling), shall berated 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 AW WA C900 and shall be Multi Fittings (Ipex) 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 AW Wa 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 incorporates 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 approved equal.

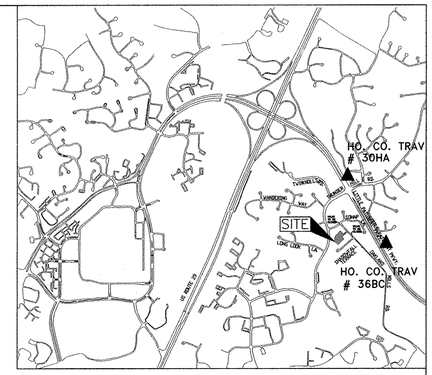
TYPE OF BUILDING: SINGLE FAMILY DETACHED
NO. OF LOTS / PARCELS: 5
NO. OF WATER HOUSE CONNECTIONS: 5
NO. OF SEWER HOYUSE CONNECTIONS: 5
DRAINAGE AREA: LITTLE PATUXENT
TREATMENT PLANT:
LITTLE PATUXENT WATER RECLAMATION PLANT
SAVAGE, HOWARD COUNTY
WATER ZONE : 550
TEST GRADIENT: 700

INSIDE WATER METERS TO BE USED

PURPOSES OF RESUBDIVISION PLAT:
1. TO RESUBDIVIDE LOT 6 INTO LOTS 8 AND NON-BUILDABLE PARCEL A, CREATING NO ADDITIONAL BUILDING LOTS. WHEN SCHOOLS ARE OPEN PARCEL A IS INTENDED TO BE RECORDED AS LOT 9 PER F-17-105

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. 14230, Expiration Date: 12/09/16.

For Revision #3 only

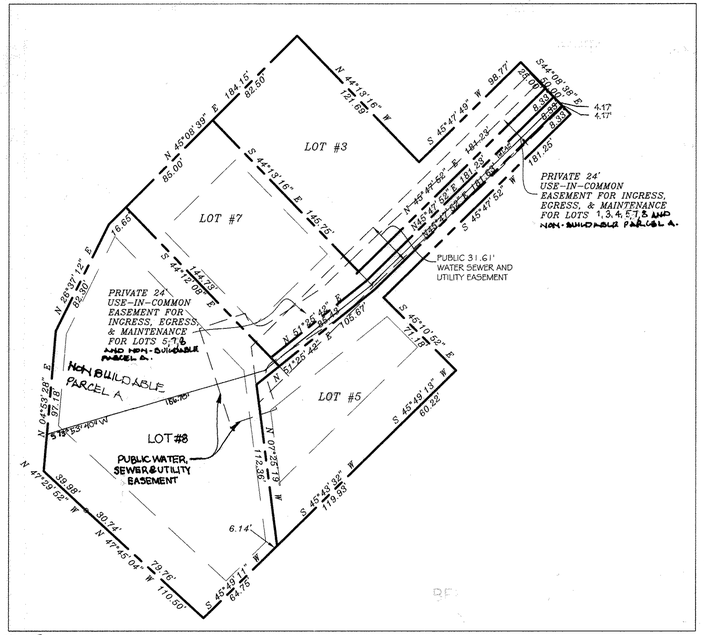


LOCATION MAP
SCALE :1"=2,000' ADC MAP 15 K-6

BENCHMARK DESCRIPTIONS

The courses and coordinates shown hereon are based on the following Howard County monuments:

Point	Northing	Easting	Elevation
30HA	566,030.6022	1,357,989.5726	387.036
36BC	563,264.1031	1,359,585.7446	410.028



SITE BOUNDARY EXHIBIT
SCALE :1"=50'

SHEET INDEX

SHEET NO.	TITLE
1	Cover Sheet
2	Water and Sewer Plan
3	Water & Sewer Profiles and Erosion Control Plan

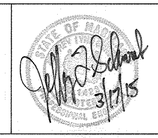
OWNER /DEVELOPER:
Michael Balakirsky
11755 Bragdon Wood
Clarksville, MD 21029
Phone: 410-340-7823

SITE ADDRESS: 5626 OAKLAND MILLS ROAD, COLUMBIA MD, 21045

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF-BUREAU OF UTILITIES-DATE 5/30/15

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE 4/29/15

Tesseract
TESSERACT SITES, INC
401 Washington Ave. Suite 303
Towson, Maryland, 21204
p. 410.321.7600
F. 410.321.7601



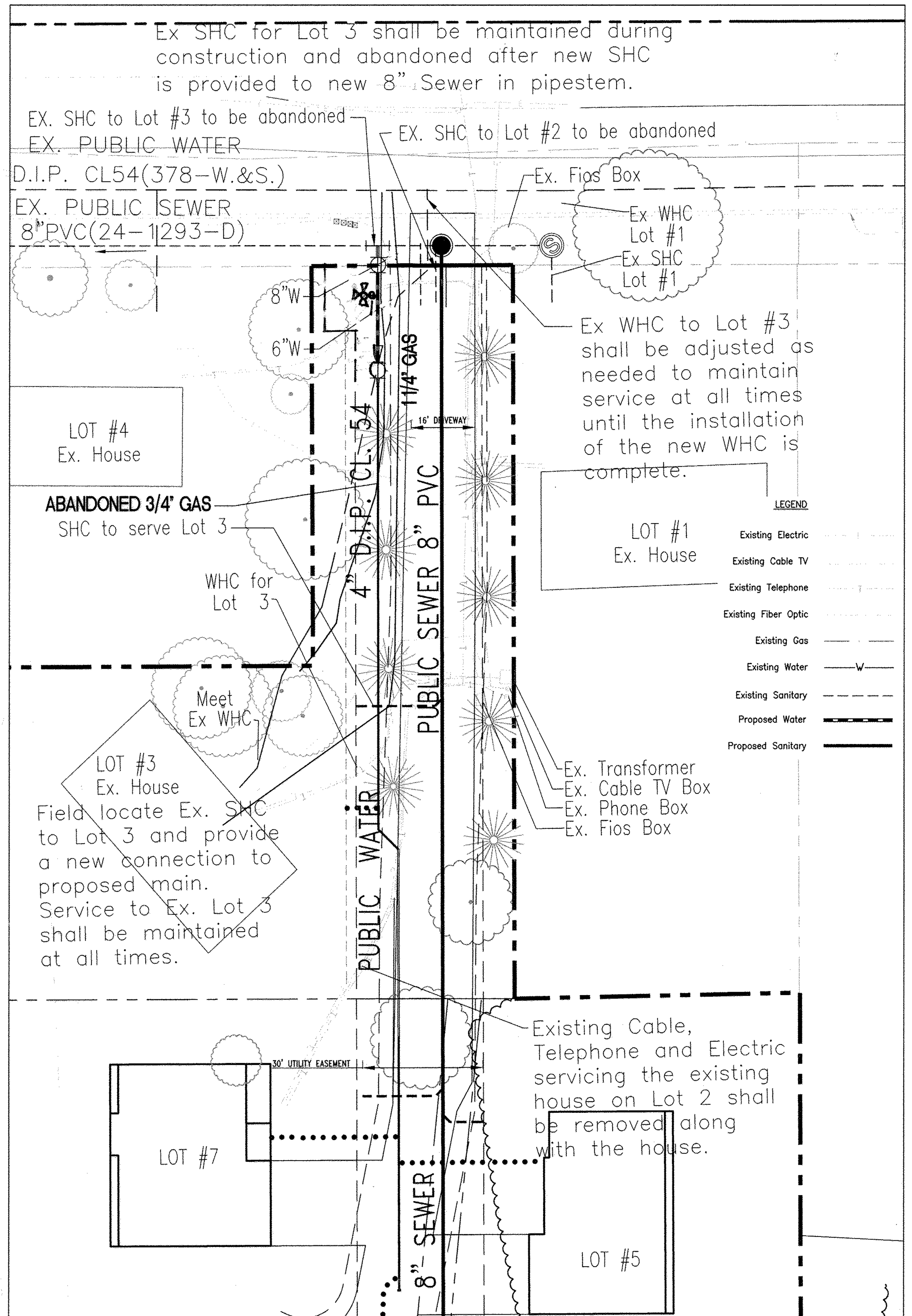
3/7/15

DESIGN BY: CVS					
DRAWN BY: MAS					
CHECKED BY: JLS	SEG	3	REVISE SITE BOUNDARY & QTY CHART	4/20/18	COVER SHEET
	TSI	2	Revised Quantitys & 4" Water	3/24/15	
DATE: 12/11/08	TSI	1	REVISED LOT LAYOUT AND WATER & SEWER	3/12/15	600 SCALE MAP NO. 36 BLOCK NO. F2
	BY	NO.	REVISION	DATE	

MILL HAVEN
LOTS 3, 5, 7, 8 & NON-BUILDABLE PARCEL A
Contract No. 24-4562-D
2nd ELECTION DISTRICT-Howard County, Maryland
PARCEL 2 ZONING R-12

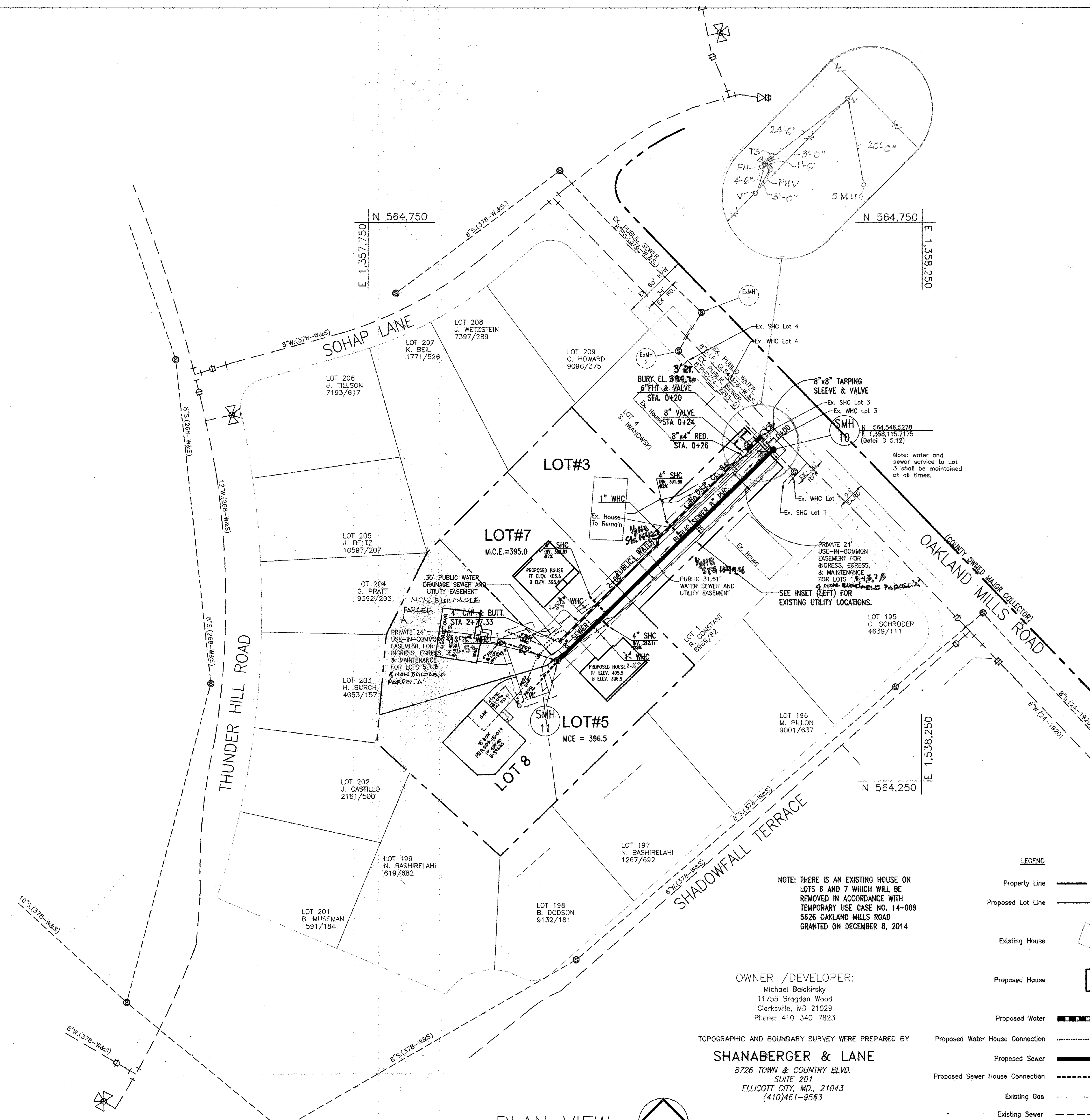
SCALE As Shown

SHEET 1 OF 3



UTILITY DETAIL
SCALE: 1"=20'
N

EX. UTILITIES FIELD DESIGNATED BY AI DATA AND FIELD LOCATED BY SHANABERGER & LANE.



NOTE: THERE IS AN EXISTING HOUSE ON LOTS 6 AND 7 WHICH WILL BE REMOVED IN ACCORDANCE WITH TEMPORARY USE CASE NO. 14-009 5626 OAKLAND MILLS ROAD GRANTED ON DECEMBER 8, 2014

OWNER /DEVELOPER:
Michael Balakirsky
11755 Bragdon Wood
Clarksville, MD 21029
Phone: 410-340-7823

TOPOGRAPHIC AND BOUNDARY SURVEY WERE PREPARED BY

SHANABERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 201
ELLICOTT CITY, MD., 21043
(410)461-9563

LEGEND

Symbol	
Property Line	
Proposed Lot Line	
Existing House	
Proposed House	
Proposed Water	
Proposed Water House Connection	
Proposed Sewer	
Proposed Sewer House Connection	
Existing Gas	
Existing Sewer	
Existing Water	W

PLAN VIEW
SCALE: 1"=50'
N

F-08-121

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

SIGNATURE DATE

For Revision #3 ONLY

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. 14230, Expiration Date: 12/09/16.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

1/8/16
CHIEF-BUREAU OF UTILITIES-DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

1·20·16
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

Tesseract
TESSERACT SITES, INC
401 Washington Ave. Suite 303
Towson, Maryland, 21204
p. 410.321.7600
f. 410.321.7601

DESIGN BY: CVS				
DRAWN BY: MAS	SEG	3	REVISE LOT 8 & 9 WHC & SHC	4/20/16
CHECKED BY: JLS	TSI	2	REVISED WATER LOCATION	11/20/15
	TSI	1	REVISED LOT LAYOUT AND WATER & SEWER	3/12/15
DATE: 12/11/08	BY	NO.	REVISION	DATE

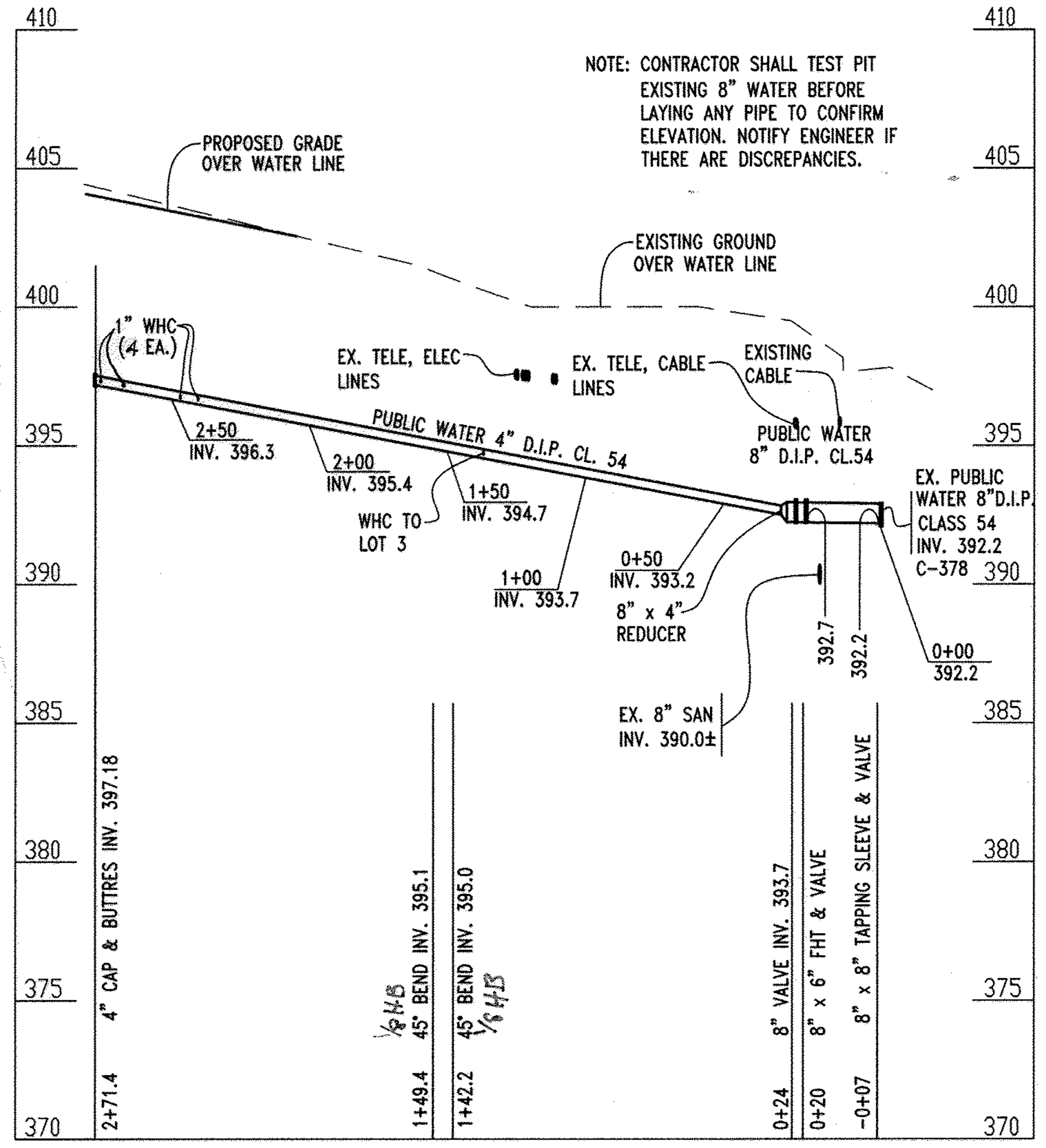
WATER & SEWER PLAN

600 SCALE MAP NO. 36 BLOCK NO. F2

MILL HAVEN
LOTS 3, 5,7,8 & NON BUILDABLE PARCEL A.
Contract No. 24-4562-D
2nd ELECTION DISTRICT-Howard County, Maryland
PARCEL 2 ZONING R-12

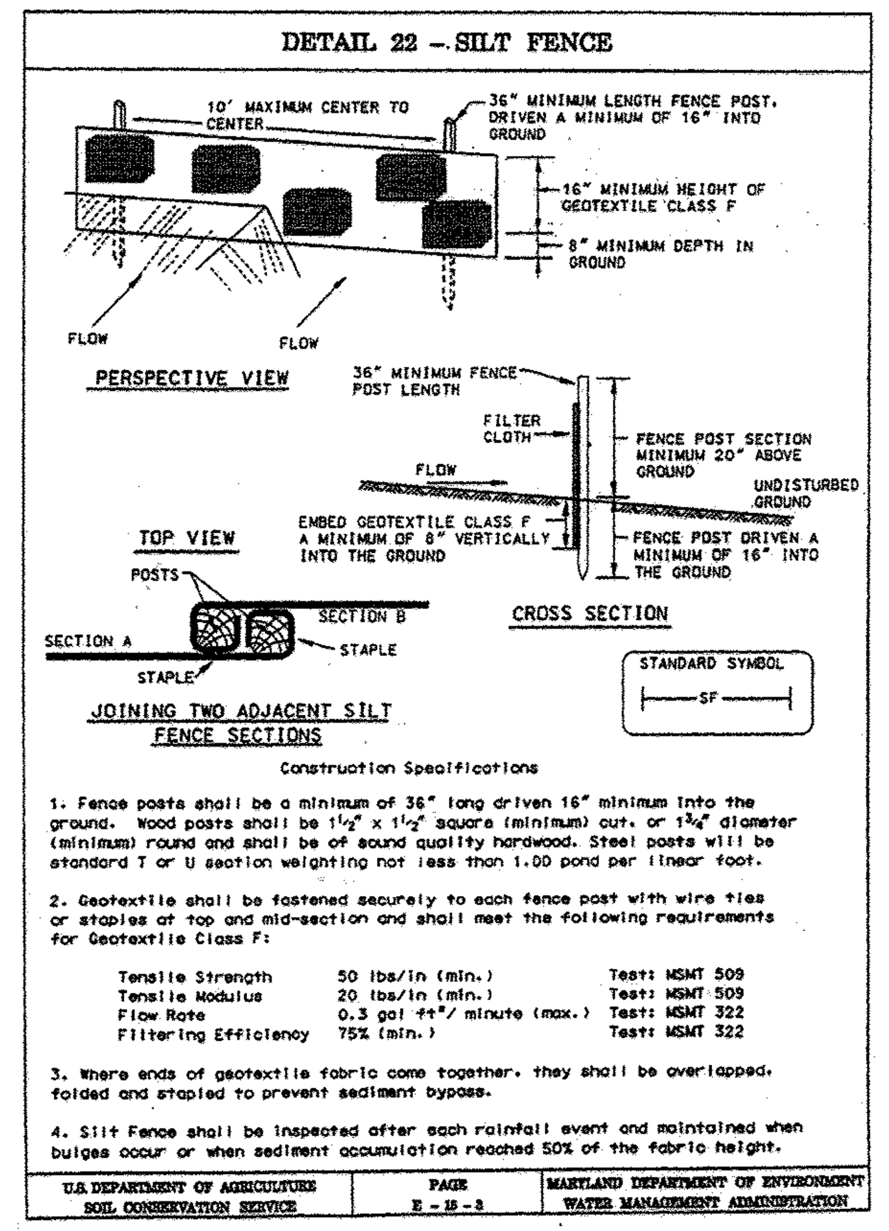
SCALE
AS SHOWN

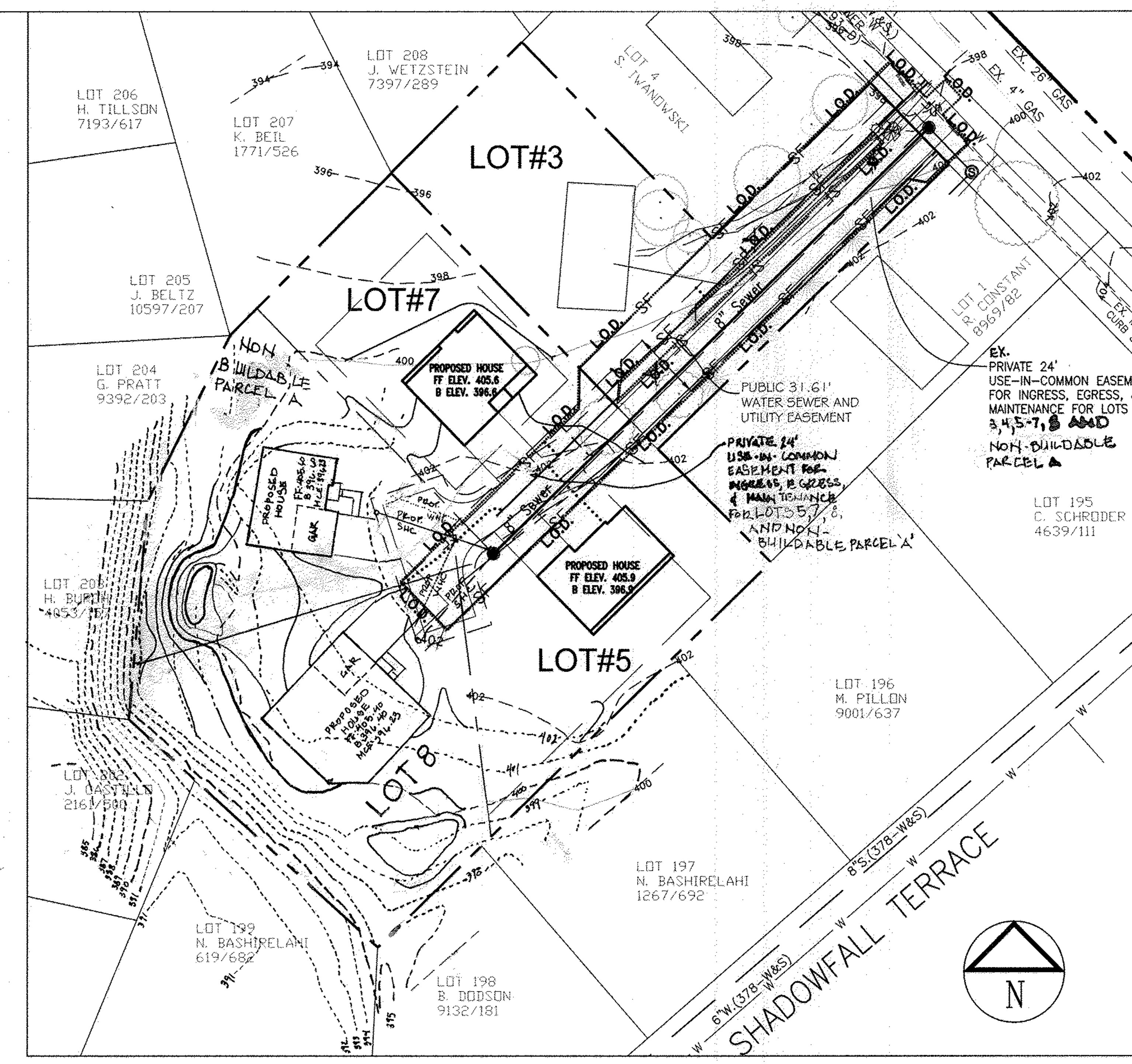
SHEET
2 OF 3



WATER PROFILE

SCALE: HORIZONTAL 1' = 50'
VERTICAL 1' = 5'





PLAN

SCALE: 1"=50'

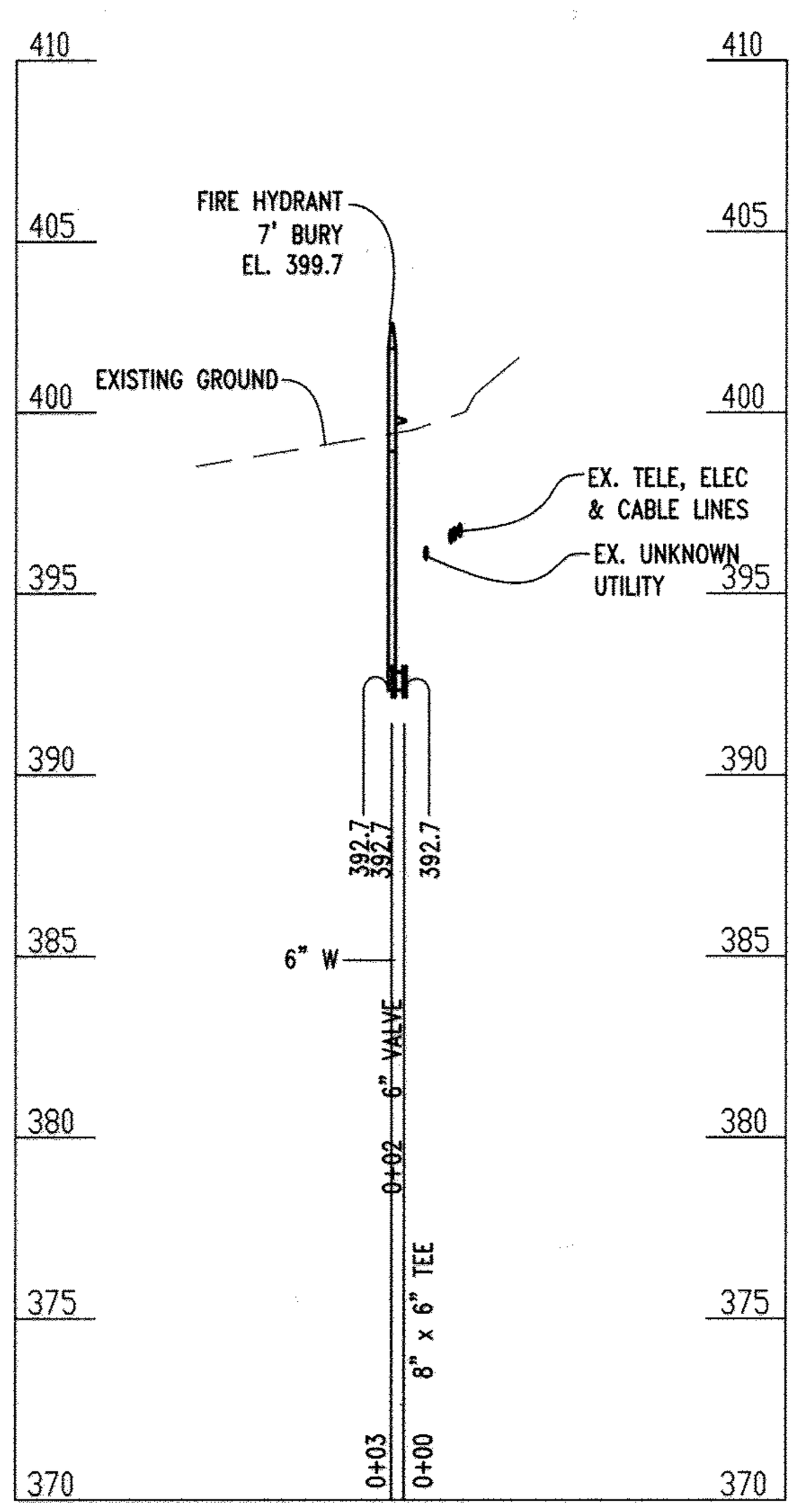
SEQUENCE OF CONSTRUCTION

	NO. OF DAYS
1. OBTAIN GRADING PERMIT.	1
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.	5
3. CLEAR AND GRUB MINIMUM AREA REQUIRED FOR INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES.	1
4. INSTALL SILT FENCE (SF).	1
5. WITH PERMISSION OF SEDIMENT CONTROL INSPECTOR, BEGIN CONSTRUCTION.	1
6. INSTALL SEWER FIRST THEN WATER AND ADJUST OTHER UNDERGROUND UTILITIES AS APPLICABLE. NOTE: INSTALL SEWER FIRST TO FACILITATE MAINTENANCE OF SERVICE TO LOT 3	21
7. COMPLETE SITE GRADING AND REPAIR EXISTING DRIVEWAY.	14
8. FINE GRADE AND STABILIZE REMAINING DISTURBED/UNPAVED AREAS WITH SEED AND MULCH.	7
9. AFTER SITE IS PROPERLY STABILIZED, AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE ALL REMINING DISTURBED AREAS.	14

Legend

Limit of Disturbance — . L.O.D.. —

Silt Fence —— SF ——



FIRE HYDRANT PROFILE

SCALE: HORIZONTAL 1' = 50'
VERTICAL 1' = 5'

OWNER /DEVELOPER:
Michael Balakirsky
11755 Bragdon Wood
Clarksville, MD 21029
Phone: 410-340-7823

TOPOGRAPHIC AND BOUNDARY SURVEY WERE PREPARED BY

SHANABERGER & LANE
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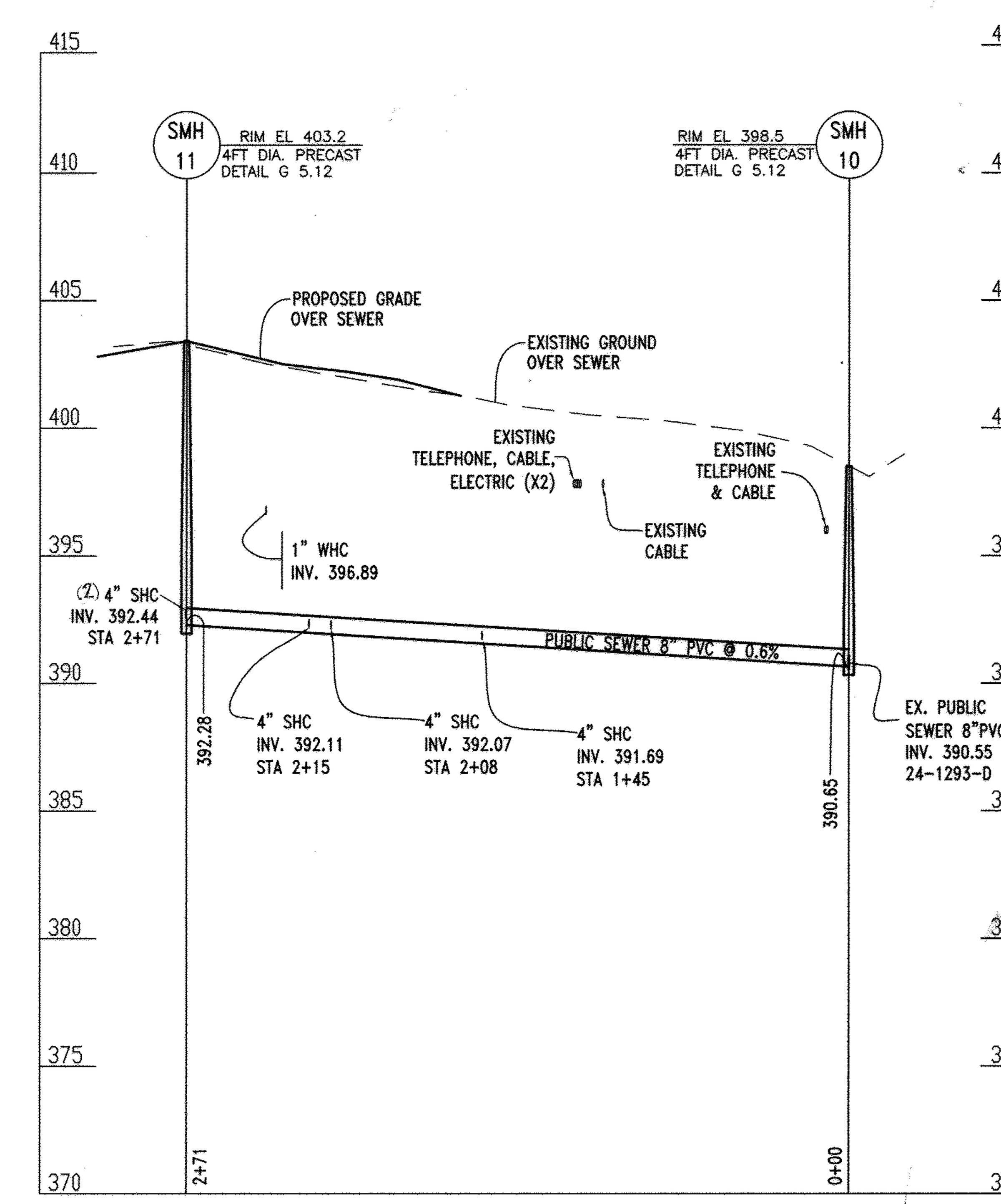

NOTE: CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT ALL CROSSINGS AND ADJUST AS NECESSARY.

SANITARY PROFILE

SCALE: HORIZONTAL 1' = 50'
VERTICAL 1' = 5'

F-08-121

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

SIGNATURE DATE

BY THE DEVELOPER:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF THE DEVELOPER *DATE*
PRINT NAME BELOW THE SIGNATURE
Michael Balakirsky

BY THE ENGINEER:

"I CERTIFY THAT HIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF HOWARD SOIL CONSEREVATION DISTRICT."

12/21/15
SIGNATURE OF THE ENGINEER *DATE*
PRINT NAME BELOW THE SIGNATURE
Jeffrey L. Schwab

STATE OF MARYLAND PAUL M. SILL No. 32025 PROFESSIONAL ENGINEER

FOR REVISION #3 ONLY

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. 14230, Expiration Date: 12/09/16.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF-BUREAU OF UTILITIES-DATE 1/21/16

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE 1.20.16

Tesseract™
TESSERACT SITES, INC
401 Washington Ave. Suite 303
Towson, Maryland, 21204
p. 410.321.7600
f. 410.321.7601

12/21/15

DESIGN BY: CVS	BY	NO.	REVISION	DATE
DRAWN BY: MAS				
CHECKED BY: JLS	SEG	3	REVISE LOT 8 & 9 WHC & SHC	4/20/18
	TSI	2	REVISED WATER AND FIRE HYDRANT LOCATION AND PROFILE	11/20/15
DATE: 12/11/08	TSI	1	REVISED LOT LAYOUT AND WATER & SEWER	3/12/15

WATER & SEWER PROFILES & SEDIMENT & EROSION CONTROL PLAN

600 SCALE MAP NO. 36 BLOCK NO. F2

MILL HAVEN
LOTS 3, 5,7,8 & NON BUILDABLE PARCEL A.
Contract No. 24-4562-D
2nd ELECTION DISTRICT-Howard County, Maryland
PARCEL 2 ZONING R-12

SCALE 1"=50'

SHEET 3 OF 3