

PUBLIC WATER AND SEWER MAIN EXTENSIONS

TOWNS AT PATUXENT ORCHARD

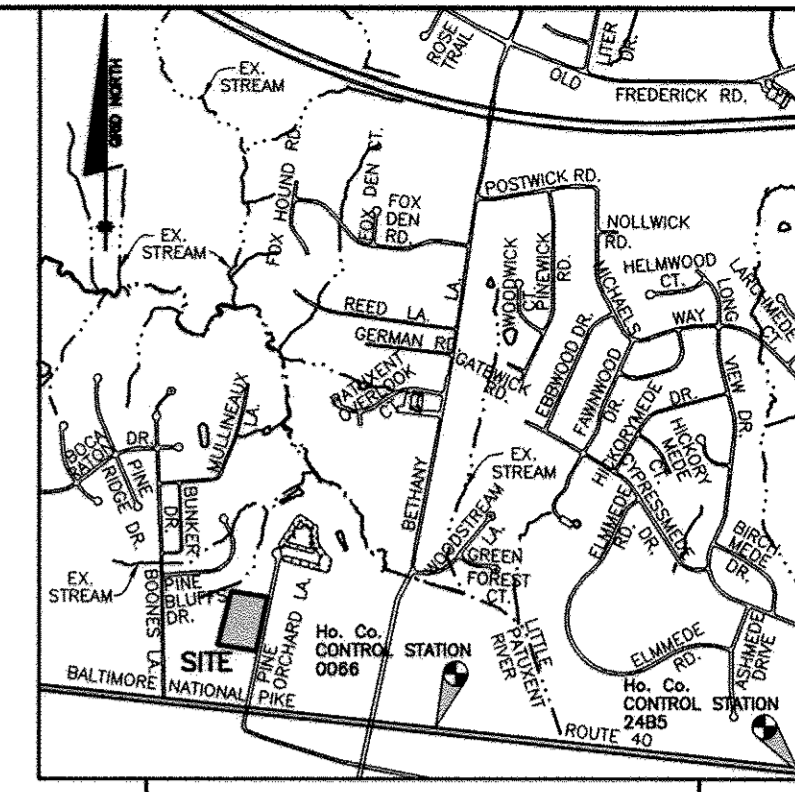
LOT 2 OF ROMANIK PROPERTY

TAX MAP 24; PARCEL 674; GRID 1

2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

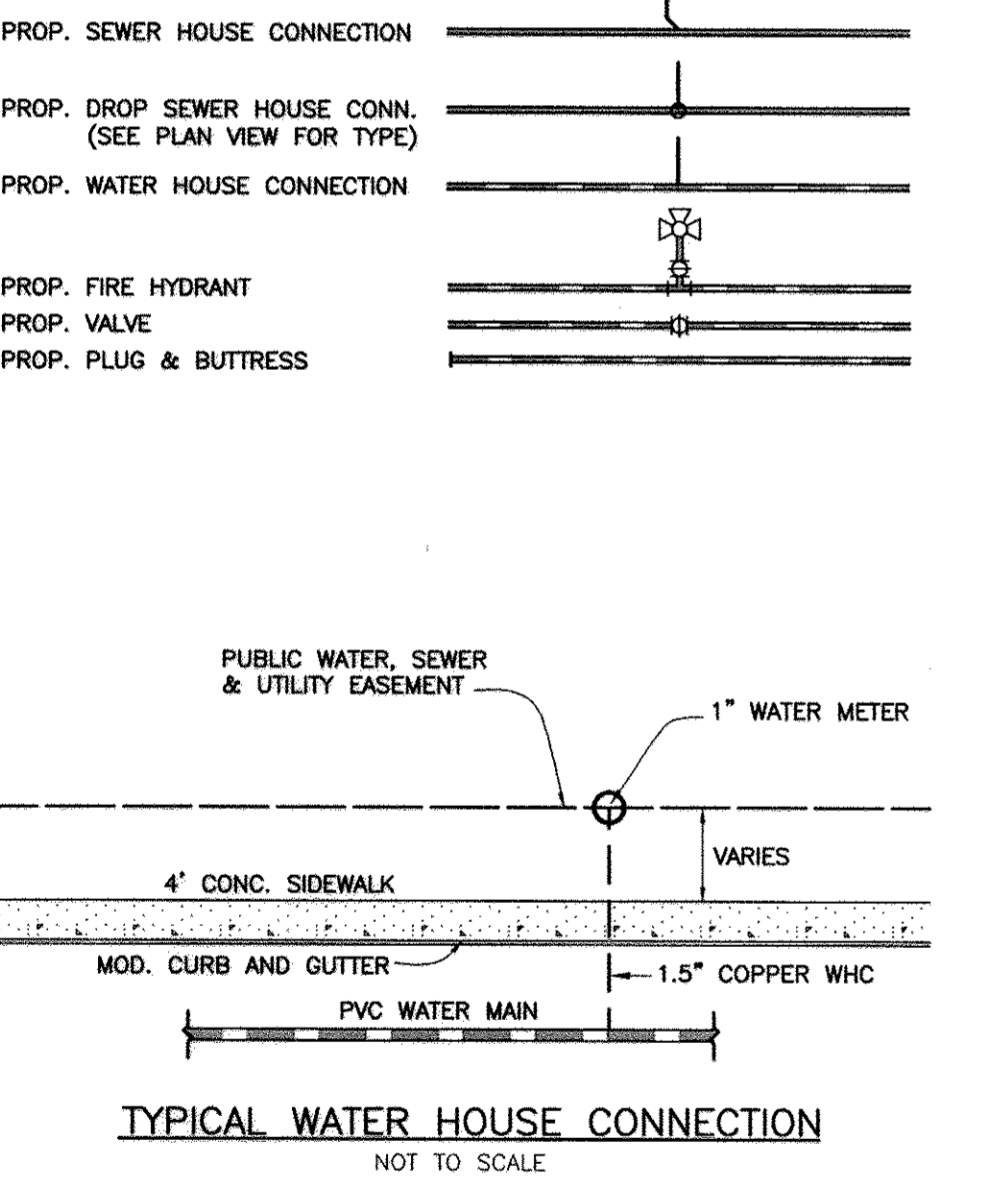
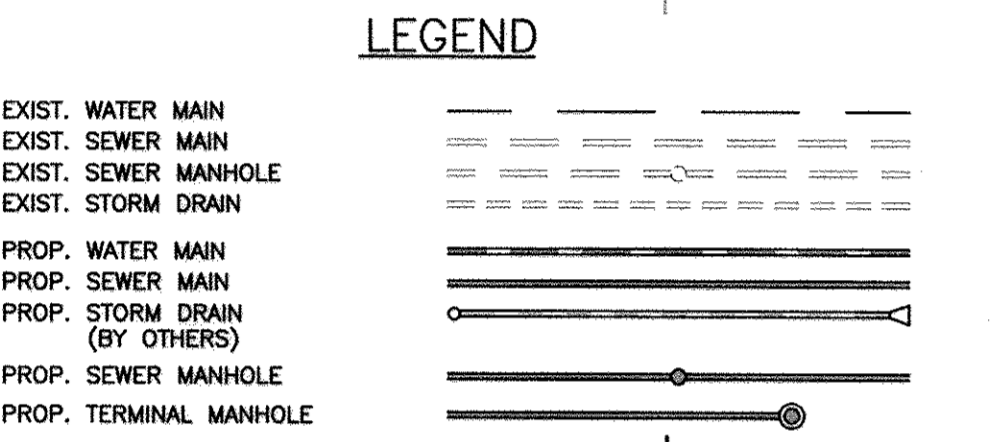
CONTRACT No.14-4797-D



BENCH MARKS
HO. CO. #0086 (NAD '83) ELEV. 396.52
STANDARD DISC ON CONCRETE MONUMENT
RT. 40 BY ENCHANTED FOREST SHOPPING CENTER
N 587380.50 E 1.352603.44
HO. CO. #2485 (NAD '83) ELEV. 390.17
STANDARD DISC ON CONCRETE MONUMENT
ISLAND AT CORNER OF RT. 40 AND DORWOOD DR.
N 586956.27 E 1356570.78"

ITEMS	QUANTITIES		AS-BUILT TYPE	MATERIAL/SUPPLIER
	ESTIMATED QUANTITIES	QUANTITIES		
8" WATER (PVC C900)	1258 LF.	1258 LF.	C900	NAP/LEW
6" WATER (PVC C900)	172 LF.	172 LF.	C900	NAP/LEW
1.5" WHC	906	722.41	TYPE 15	CAMBRIDGE/LEW
1.5" WHC	3 EACH	3	CONCRETE	AY MCD/LBW
1.5" THWC	34 EACH	34	CONCRETE	AY MCD/LBW
8"x8" FHT	3 EACH	3	8"x8" FHT	TU/LEW
FIRE HYDRANT	3 EACH	3	8"x8" FHT	AI/LEW
8"x6" TEE	2 EACH	2	8"x6" TEE	TU
8"x6" TEE	2 EACH	2	8"x6" TEE	TU
8"x6" TSV	2 EACH	2	8"x6" TSV	FMB/LEW
8" WATER VALVES	4 EACH	4	8" WATER VALVES	ATZ/LEW
6" WATER VALVES	2 EACH	2	6" WATER VALVES	ATZ/LEW
6" CAP & BUTTRISS	2 EACH	2	6" CAP & BUTTRISS	TU/LEW
1" OUTSIDE METER VAULT	37 EACH	37	CONCRETE	HC/LEW
TEST STATION	3 EACH	3	CONCRETE	HC/LEW
8" SEWER (PVC C900)	1087 LF.	1087 LF.	SBR 35	NAP/LEW
8" D.I.P. SEWER	300 LF.	284.58	CL 82	USP/LEW
MH (S-1.12)	6 EACH	6	CONCRETE	CPC/LEW
MH (S-1.32)	2 EACH	2	CONCRETE	CPC/LEW
MH (S-1.31)	4 EACH	4	CONCRETE	CPC/LEW
4" SHC	581 LF.	667.73	SBR-35	AP/LEW
6" TSHC	408 LF.	249.08	SBR-35	AP/LEW
4" SHC	2 EACH	2	SBR-35	PT/DBW
6" TSHC	21 EACH	21	SBR-35	PT/DBW
4" SHC	71 EACH	71	SBR-35	PT/DBW

LEGEND
AD = AMERICAN DARLING
AP = AMERICAN PIPE
AY MCD = AY McDONALD
CAM LEE = CAMBRIDGE LEE
CPC = CONCRETE PRECAST CORP.
DBW = DB WATER
FMB = FREDMETER BOX
HC = HOLOGE CONCRETE
LEW = L.B. WATER
NAP = NORTH AMERICAN
PT = PLASTIC TILE
PP = PLASTIC PRECAST
TU = TYLER UNION
USP = U.S. PIPE



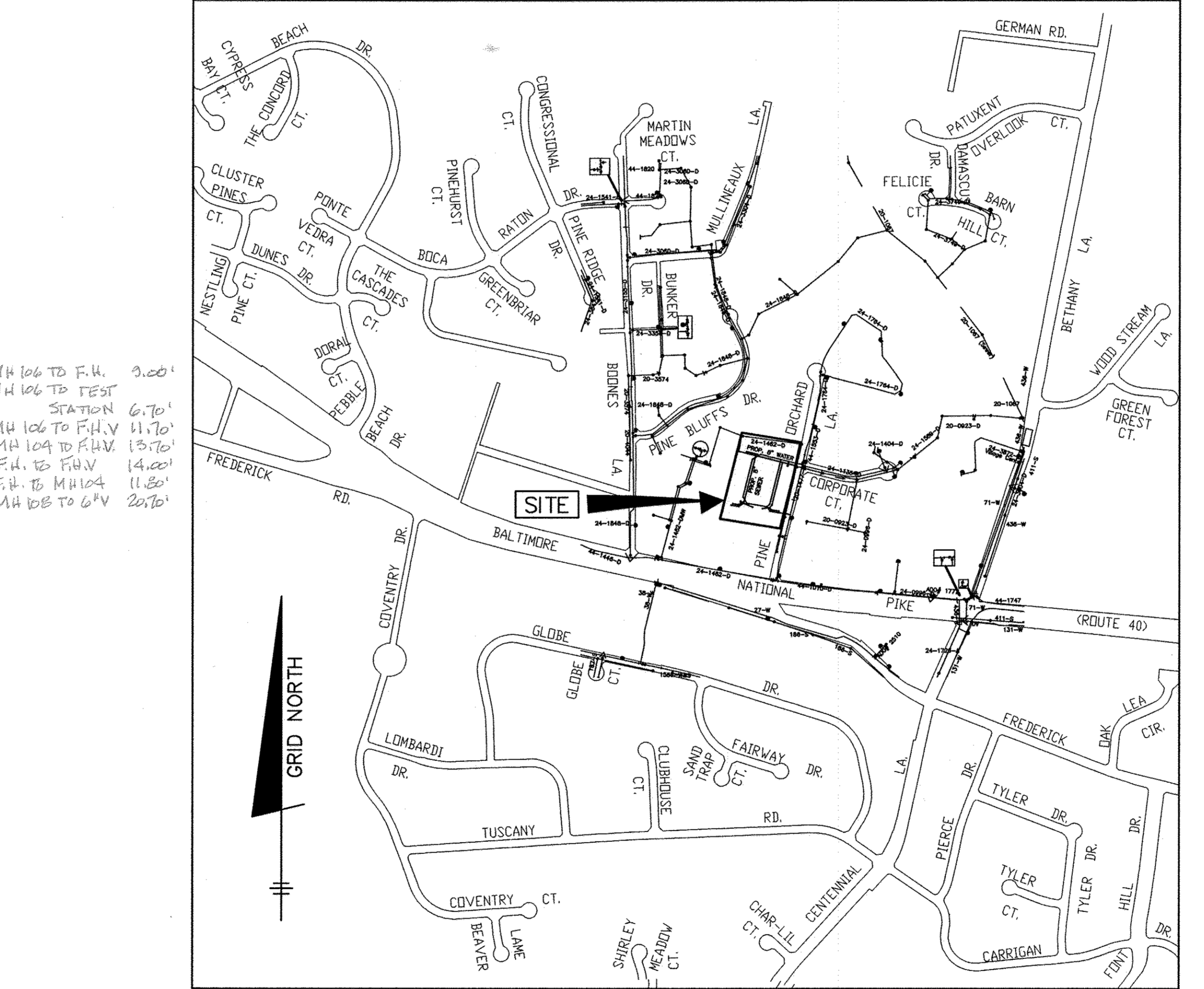
NOTE: ALL WATER HOUSE CONNECTIONS ARE TO BE 1.5" WITH A 1" METER (OUTSIDE SETTING).

LINE	ADDRESS	LOCATION DIMENSION #1	LOCATION DIMENSION #2
1	PATUXENT VALLEY LANE	WM 52753	MH 100
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NOTE: FOR THE PORTION OF EXISTING SEWER MAIN CONSTRUCTED UNDER #24-1462-D TO BE ABANDONED, SEWER SERVICE IS TO BE MAINTAINED AT ALL TIMES FOR THE UPSTREAM PROPERTIES DURING CONSTRUCTION.

NOTE: CONTRACTORS TO EXERCISE EXTREME CAUTION WHEN WORKING IN AREA OF EXISTING OVERHEAD LINES ALONG PINE ORCHARD LANE



NO.	DESCRIPTION
1	TITLE SHEET PUBLIC WATER & SEWER MAINS
2	PLAN VIEW PUBLIC WATER & SEWER MAINS
3	PROFILE VIEWS PUBLIC WATER & SEWER MAINS

TYPE OF BUILDING.....	SFA
NUMBER OF UNITS.....	71
DRAINAGE AREA.....	LITTLE PATUXENT
TREATMENT PLANT.....	LITTLE PATUXENT
WATER ZONE.....	650W
TEST GRADIENT.....	780

NUMBER OF SHC'S.....	29
NUMBER OF TSHC'S.....	21
TOTAL NUMBER OF SHC'S.....	3
NUMBER OF WHC'S.....	3
TOTAL NUMBER OF WHC'S.....	34

NOTE: HOUSE CONNECTIONS TO BE SIZED ACCORDINGLY:
SINGLE WHC = 1-1/2"
TWIN WHC = 1-1/2"
SINGLE SHC = 4"
TWIN SHC = 6"x4"

NOTE: HO. CO. STD. DETAILS W-3.32 FOR TWIN AND W-3.28 FOR SINGLE OUTSIDE METER SETTINGS

NOTE: ALL JOINTS AND CONNECTIONS LOCATED WITHIN STRUCTURAL FILL AREAS SHALL BE MECHANICALLY RESTRAINED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION)

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

HOWARD SOIL CONSERVATION DISTRICT
DATE: 1/26/14
SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND PER APPROVED DEVELOPMENT PLANS SDP-13-054

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 1/26/14
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
DATE: 1/26/14
CHIEF, DEVELOPMENT ENGINEERING DIVISION

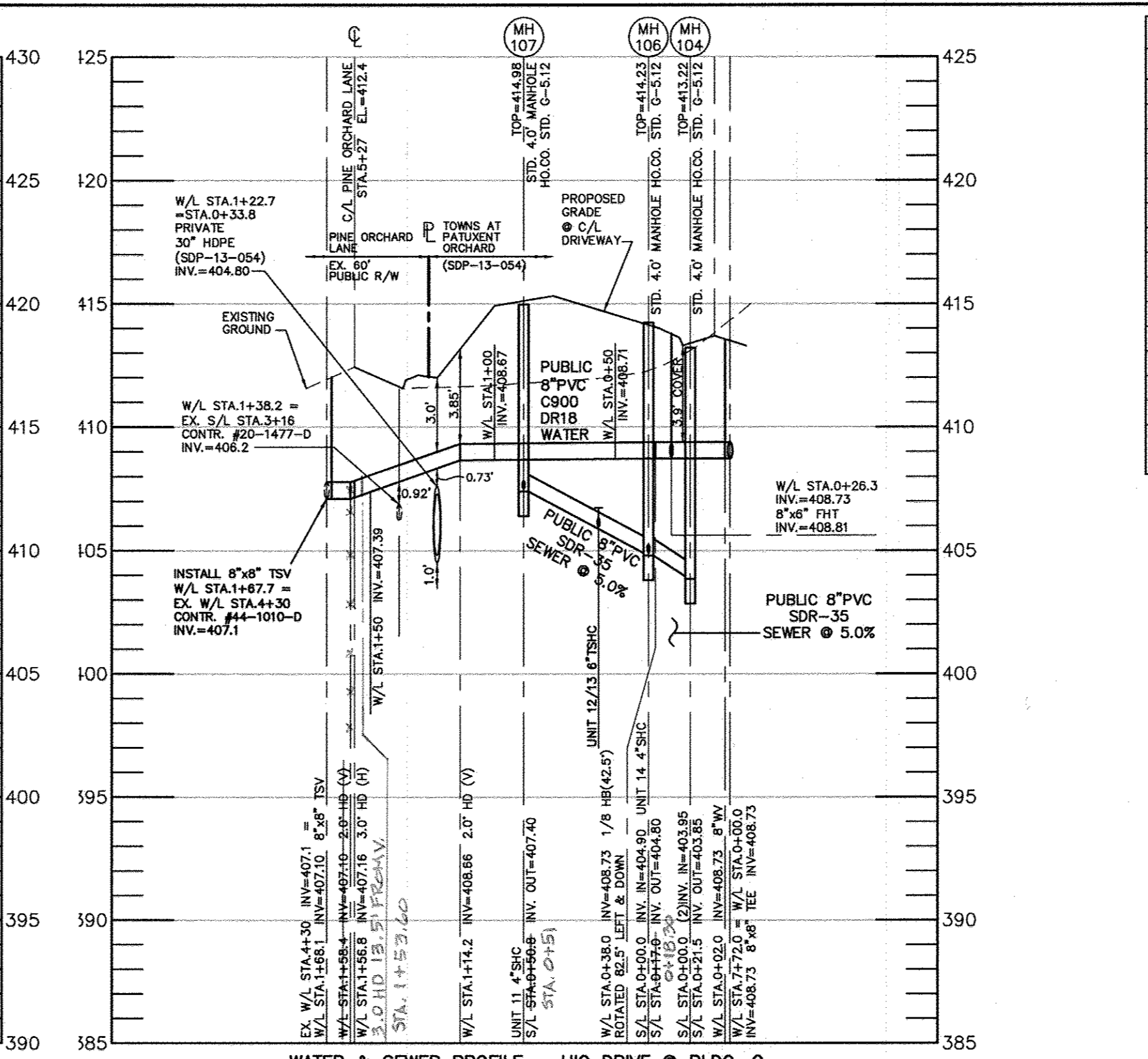
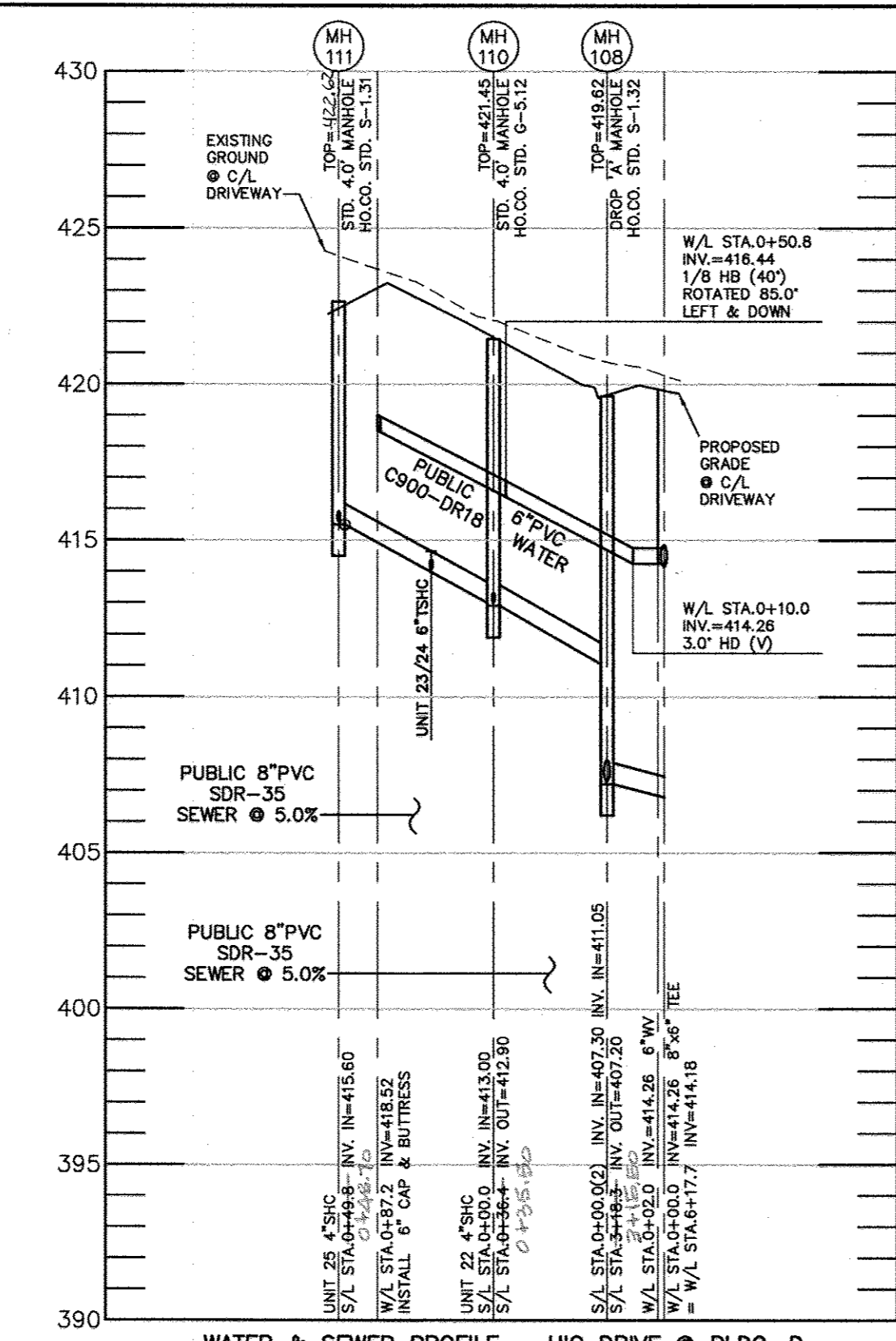
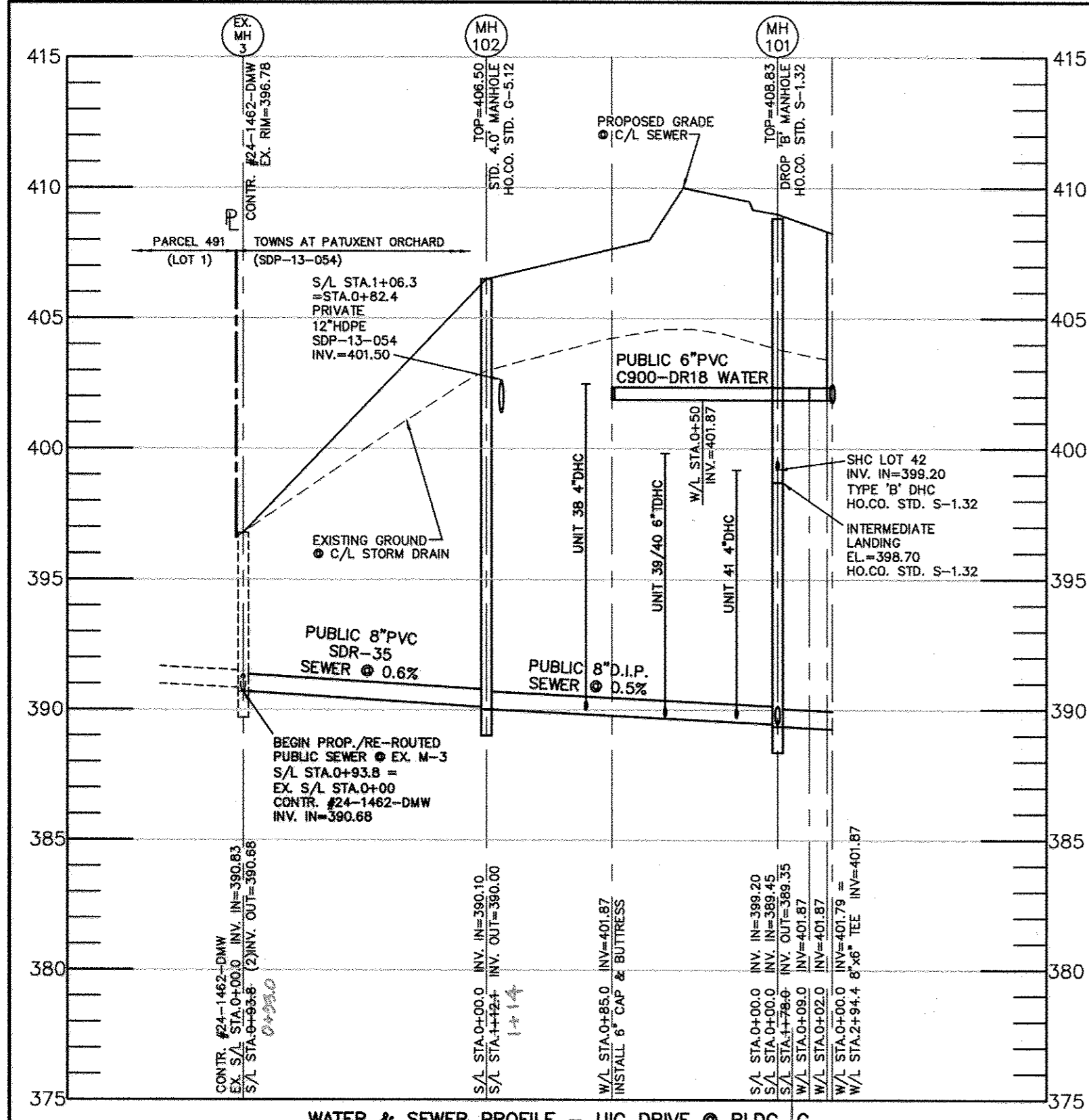
BENCHMARK ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE & SUITE 418 A ELLICOTT CITY, MARYLAND 21043
PH: 410-465-6105 (F) 410-465-6644
60 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702
PH: 301-371-3506 (F) 301-371-3508
WWW.BE-ENGINEERING.COM

PROFESSIONAL CERTIFICATION:
I hereby certify that the design was prepared or approved by me or under my direct supervision and that I am a duly licensed Professional Engineer in the State of Maryland.
DATE: 1/26/14
BY: [Signature]

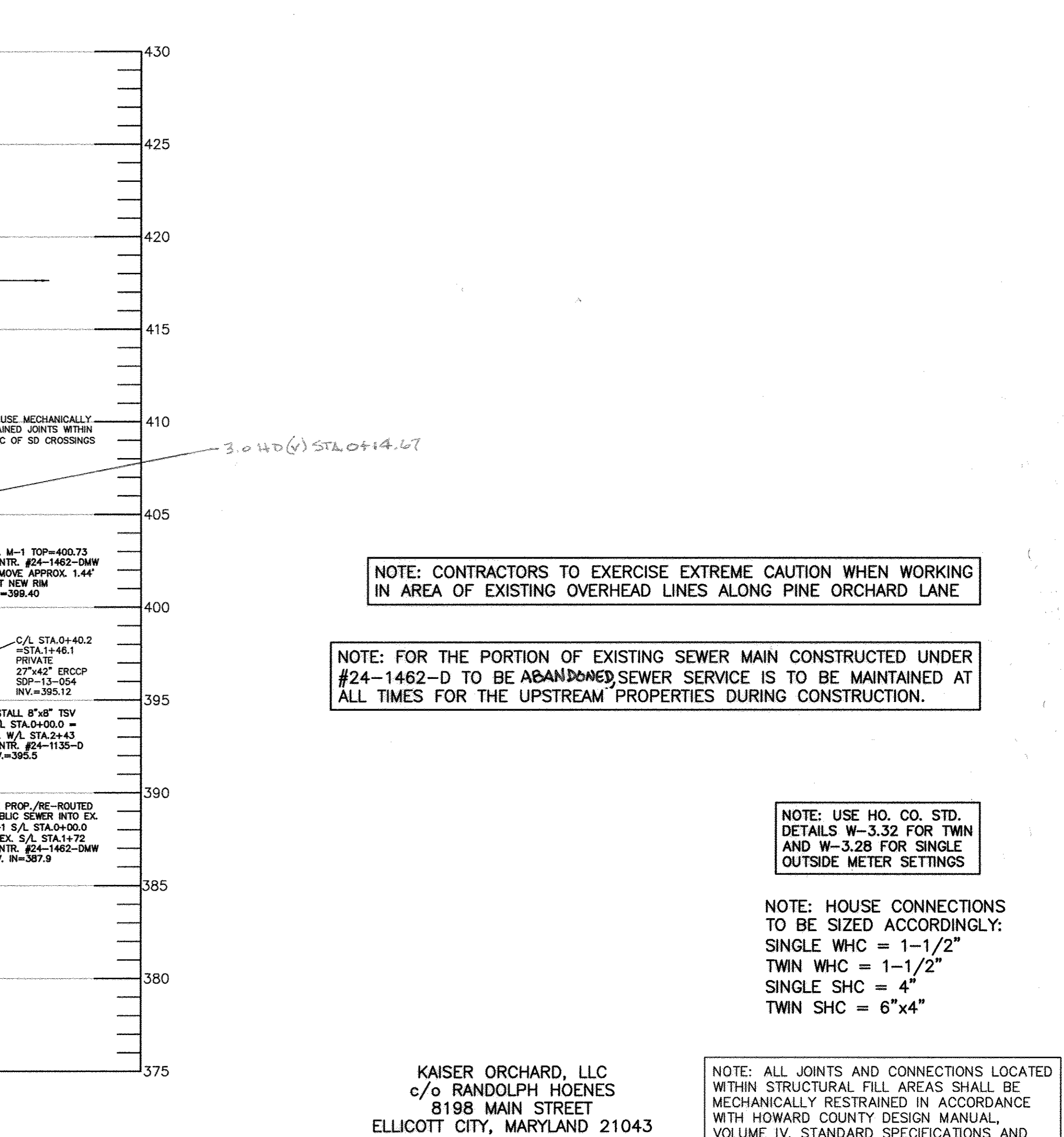
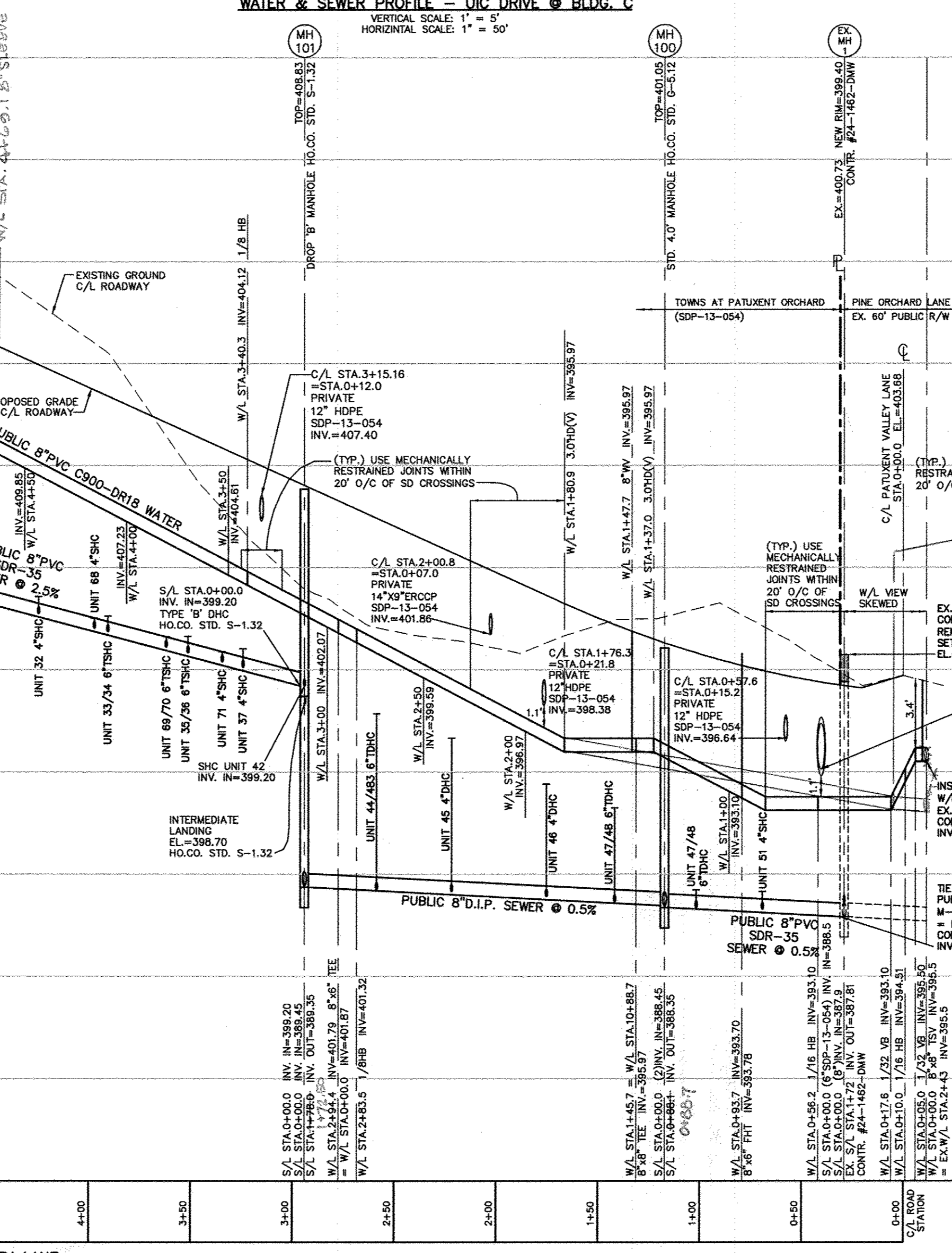
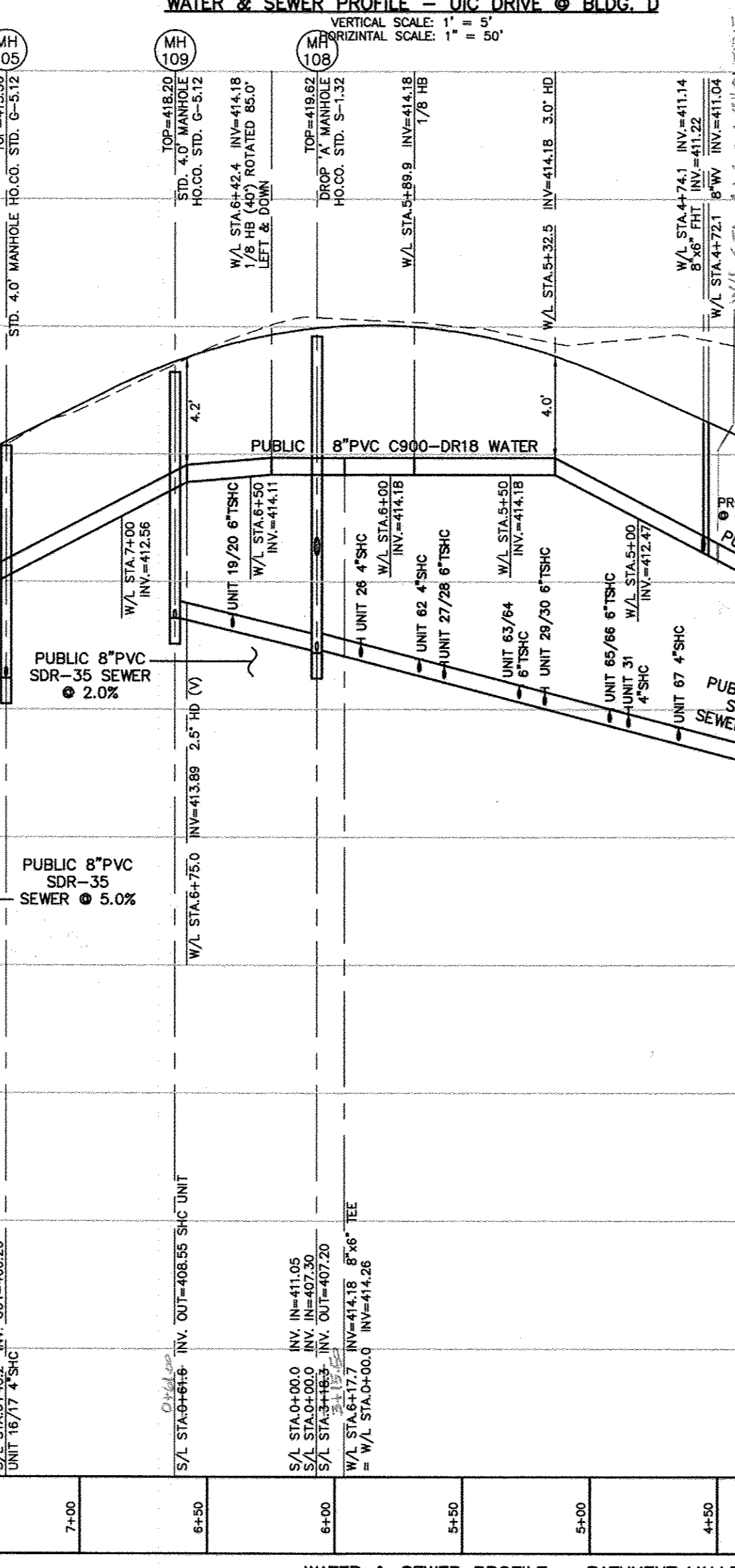
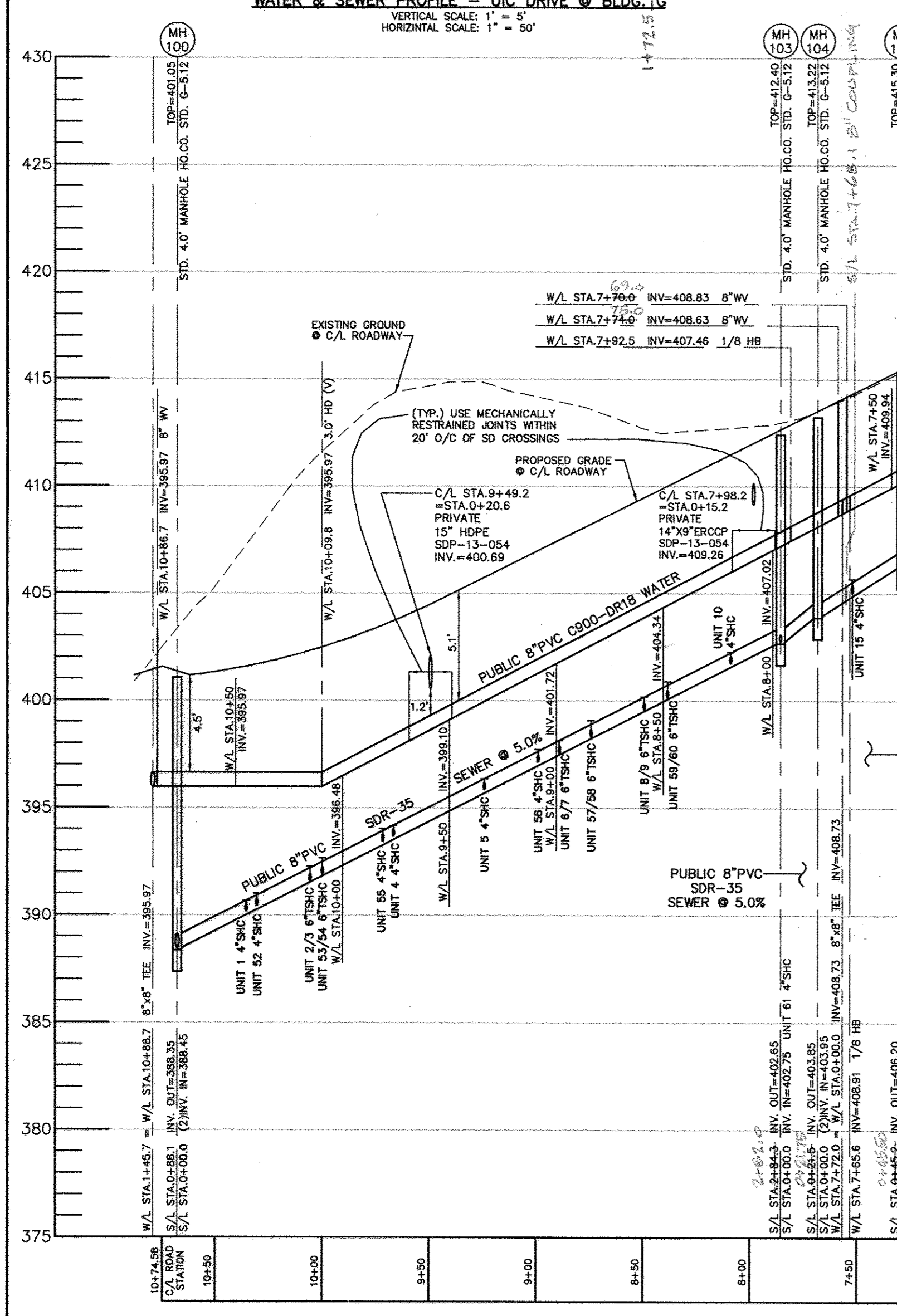
DES: MCR/BFC
DRN: MCR/ICO
CHK: BFC
DATE: 12/18/2013
BY: BEI | CHANGE 'REMOVED' TO 'ABANDONED' IN NOTE FOR ...
NO. 1
REVISIONS

PUBLIC WATER AND SEWER TITLE SHEET
SCALE: 1" = 600'
DATE: 600 SCALE MAP: 27
BLOCK: 1

TOWNS AT PATUXENT ORCHARD
LOT 2 OF THE ROMANIK PROPERTY
TAX MAP 24; PARCEL 674; GRID 1
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT No.14-4797-D
SCALE: AS SHOWN
SHEET NO. 1 OF 3



SEWER MANHOLE - STRUCTURE SCHEDULE										
NO.	TYPE	LOCATION	INVERT IN	INVERT OUT	SHC INV.	INVERT OUT	TOP ELEV.	HO.CO. STD.	REMARKS	
EX. MH-1	4.0'	PATUXENT VALLEY LANE STA.0+28.86 OFFS 7.71' LT.	387.9	(2 EX)387.9	-	387.8	400.73/399.46	-	EX. CONTR. #24-1462-DMW	
SM-100	STD. 4.0' PRE-CAST	PATUXENT VALLEY LANE STA.1+17.08 OFFS 7.00' RT.	388.45	388.45	-	388.35	401.05	G-5.12	PROP./RE-ROUTED PUBLIC SEWER	
SM-101	DROP TYPE 'B'	PATUXENT VALLEY LANE STA.2+93.93 OFFS 5.87' RT.	389.45	399.20('TYPE'B')	399.20	389.35	408.83	S-1.32	PROP./RE-ROUTED PUBLIC SEWER	
SM-102	STD. 4.0' PRE-CAST	N 588,424.34 E 1,350,409.59	390.10	-	-	390.00	408.50	G-5.12	PROP./RE-ROUTED PUBLIC SEWER	
EX. MH-3	4.0'	N 588,516.90 E 1,350,425.24	390.83	(1 EX)390.83	-	(2)390.68	385.02	-	EX. CONTR. #24-1462-DMW	
SM-103	STD. 4.0' PRE-CAST	PATUXENT VALLEY LANE STA.7+85.48 OFFS 8.86' RT.	402.85	-	-	402.75	412.40	G-5.12	-	
SM-104	STD. 4.0' PRE-CAST	PATUXENT VALLEY LANE STA.7+68.11 OFFS 10.00' RT.	403.95	403.95	-	403.85	413.22	G-5.12	-	
SM-105	TERMINAL	PATUXENT VALLEY LANE STA.7+29.05 OFFS 10.00' RT.	-	-	-	406.30	416.30	S-1.31	-	
SM-106	STD. 4.0' PRE-CAST	UIC DRIVEWAY N 588,046.85 E 1,350,617.37	404.90	-	-	404.80	414.23	G-5.12	-	
SM-107	TERMINAL	UIC DRIVEWAY N 588,038.59 E 1,350,667.50	-	-	-	407.50	417.40	S-1.31	-	
SM-108	DROP TYPE 'A'	PATUXENT VALLEY LANE STA.6+07.10 OFFS 10.36' RT.	407.30	411.05('TYPE'A')	-	407.20	419.82	S-1.32	-	
SM-109	TERMINAL	PATUXENT VALLEY LANE STA.6+62.82 OFFS 10.00' RT.	-	-	-	408.65	428.55	S-1.31	-	
SM-110	STD. 4.0' PRE-CAST	UIC DRIVEWAY N 588,099.96 E 1,350,409.28	413.00	-	-	413.00	412.90	G-5.12	-	
SM-111	TERMINAL	UIC DRIVEWAY N 586,077.85 E 1,350,360.10	-	-	-	415.80	415.50	S-1.31	-	



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NOTE: USE HO. CO. STD. DETAILS W-3.32 FOR TWIN AND W-3.28 FOR SINGLE OUTSIDE METER SETTINGS

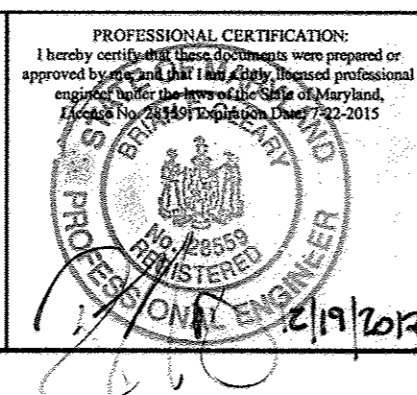
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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES
DATE: 11/14

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 11/30/14

BENCHMARK
ENGINEERING, INC.
2480 BALTIMORE NATIONAL PIKE SUITE 418 ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
60 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702
(P) 301-371-3505 (F) 301-371-3506
WWW.BE-ONLINEENGINEERING.COM



DES: MCR/BFC
DRN: MCR/BFC
CHK: BFC
DATE: 12/18/2013
REVISIONS: REV. ELEV. TOP OF MH 110 TO 422.2, REV. NOTE FOR EX. SEWER FROM 'REMOVED TO ABANDONED'
DATE: 6-6-14

PUBLIC WATER AND SEWER PROFILES
SCALE: AS SHOWN
SHEET NO. 3 OF 3

TOWNS AT PATUXENT ORCHARD
LOT 2 OF THE ROMANIK PROPERTY
TAX MAP 24; PARCEL 674; GRID 1
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT No. 14-4797-D
KAISER ORCHARD, LLC
c/o RANDOLPH HOENES
8198 MAIN STREET
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-900-9778