

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.
- AERIAL TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON MAY 15, 2009 BY POTOMAC AERIAL SURVEYS, INC.
- THE PROJECT BOUNDARY IS BASED ON A FIELD RUN BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC. DATED MAY 2009.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS:
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83/79 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 25A1 AND 25A2.
ALL VERTICAL CONTROLS ARE BASED ON NAVD 88.
VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE:
GEODETIC SURVEY CONTROL 25A1 (N 586,557.55, E 1366847.10) ELEVATION: 396.34
CONCRETE MONUMENT
GEODETIC SURVEY CONTROL 25A2 (N 587502.73, E 1366556.38) ELEVATION: 348.15
CONCRETE MONUMENT
- 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 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 DETAILS 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:
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 COMPANY 410-795-1390
MISS UTILITY 1-800-257-7777
STATE HIGHWAY ADMINISTRATION 410-531-5533
VERIZON 1-800-743-0033/410-224-9210
- 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 18.114(a) OF THE HOWARD COUNTY CODE.

PART II - WATER

- ALL WATER MAINS SHALL BE D.I.P. CLASS 56 UNLESS OTHERWISE NOTED.
- THE MAXIMUM COVER FOR WATER MAINS SHALL BE 4 FEET PER DESIGN MANUAL WATER DATED AUGUST 5, 2011, BY THE DPW - BUREAU OF ENGINEERING.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE 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 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL D.I.P. AND P.V.C. WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
- ALL APARTMENTS SHALL HAVE A MINIMUM 4" WHC WITH A 2" INSIDE METER SETTING.
- FOR SPRINKLER SYSTEM FOR ALL TOWN HOMES OR MULTI-FAMILY DWELLING UNITS SHOULD HAVE A MINIMUM OF 1 1/2" CONNECTION WITH A 1" OUTSIDE METER.

PART III - SEWER

- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- FORCE MAINS SHALL BE D.I.P. ONLY.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLES, FRAMES, AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

ADDRESSES TO BE OUT-OF-SERVICE DURING TIE-IN:

8501 CHAPEL VIEW ROAD
8502 CHAPEL VIEW ROAD
8506 CHAPEL VIEW ROAD
8507 CHAPEL VIEW ROAD
8511 CHAPEL VIEW ROAD
8514 CHAPEL VIEW ROAD
8515 CHAPEL VIEW ROAD
8519 CHAPEL VIEW ROAD
8523 CHAPEL VIEW ROAD
5525 NORTH BELFLOTT DR.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION).

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

Robert H. Vogel 6/7/11
HOWARD S.C.D. DATE

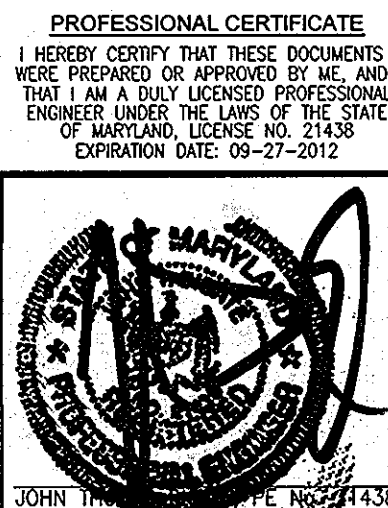
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

John T. ...
CHIEF, BUREAU OF UTILITIES DATE

Robert H. Vogel
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

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



DES:	JTD				
DRN:	JMR				
CHK:	JTD				
DATE:	JULY 2011				
BY:	NO.	1	REMOVE PHASE 1C	6/11/12	
NO.			REVISION	DATE	

FINAL WATER & SEWER PLAN
COVER SHEET

HILLTOP REDEVELOPMENT
L. 477 / F. 718, L. 456 / F. 448,
L. 448 / F. 46
CONTRACT #14-4709-D

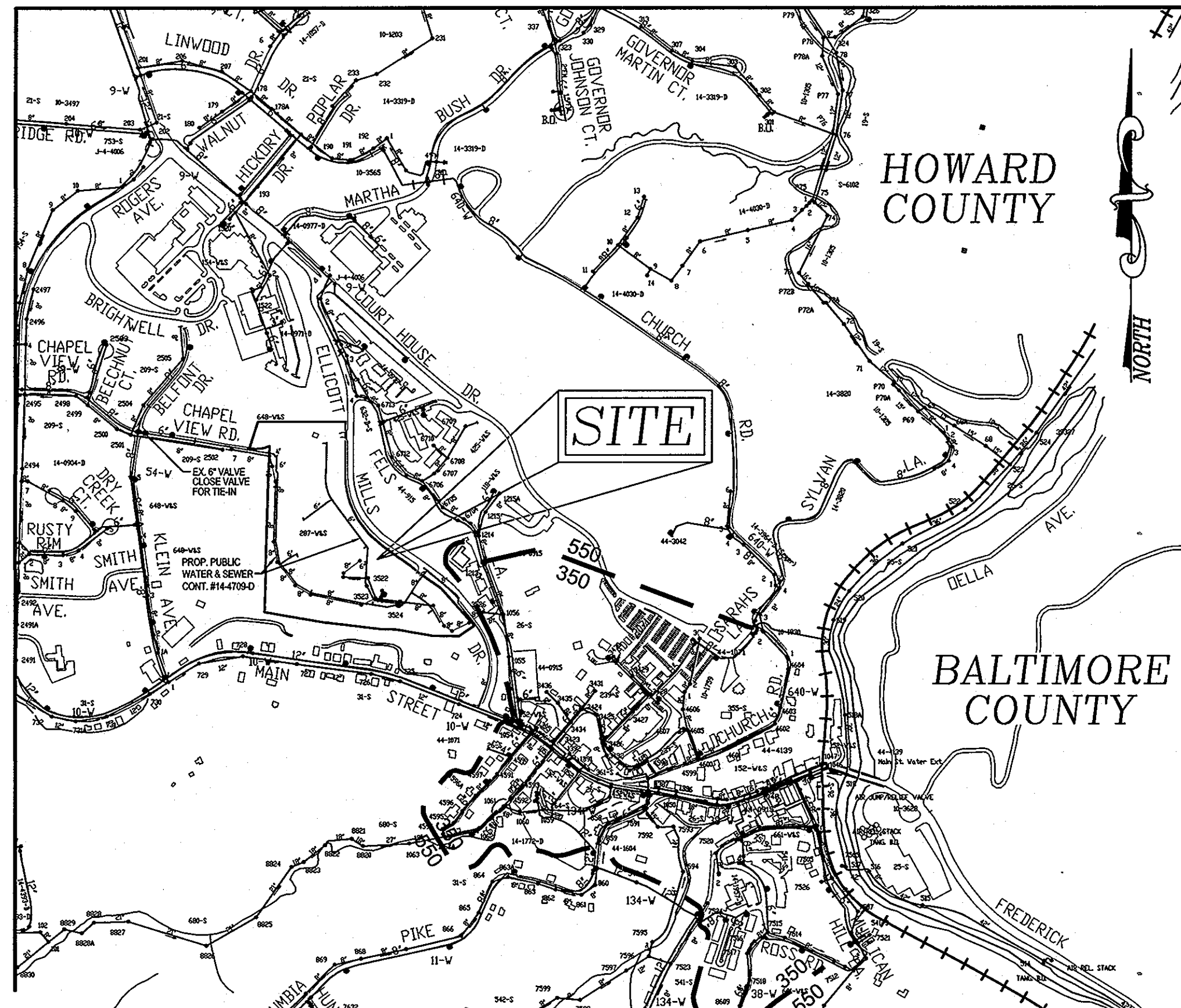
ZONING: R-HV, R-A-15, & POR
DPZ REF: ECP-11-051, F-12-008, SDP-11-051
F-68-092, SDP-77-013, SDP-04-027
26-S, 287 W&S, SDP-75-61, F-66-017
TAX MAP: 25 GRID: 07
PARCELS: 12 & 291
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 7

FINAL WATER AND SEWER PLAN HILLTOP REDEVELOPMENT

L. 477 / F. 718, L. 456 / F. 448, L. 448 / F. 46

CONT. #14-4709-D



VICINITY MAP
SCALE: 1"=600'

SEQUENCE OF CONSTRUCTION

PHASE 1A

- VACATE EXISTING BUILDINGS 1, 3, 5, 6 & 8, TURN OFF ALL UTILITIES SERVING THESE UNITS AND PREPARE FOR DEMOLITION. (2 WEEKS)
- ONCE BUILDINGS 1, 3, 5, 6 & 8 HAVE BEEN DISCONNECTED FROM ALL UTILITIES, DEMOLITION OF THESE BUILDINGS THEIR ROADS AND UTILITIES CAN COMMENCE. (3 WEEKS)
- BRING PROPOSED 8" WATER MAIN (Contract 14-4709D) FROM THE 12" WATER MAIN FOUND ON MAIN STREET UP ELLCOTT MILLS ROAD TO SOUTHERN ENTRANCE OF MT. IDA DRIVE AND UP INTO THE SITE. AT THE SAME TIME, THE TEMPORARY 6" WATERMAIN CAN BE TAPPED INTO THE EXISTING 6" WATER MAIN LOCATED NEAR EX. SMH 3521 AND CONSTRUCTED ALONG THE WESTERN PROPERTY LINE UNTIL IT MEETS THE EXISTING 6" WATER IN CHAPEL VIEW ROAD. THE TIE IN TO THE EXISTING 6" WATER LINE WILL BE PERFORMED AT A TIME THAT WILL LEAST DISRUPT THE REMAINING RESIDENTS OF THE HILLTOP DEVELOPMENT. (6 WEEKS)
- SIMULTANEOUS WITH STEP #3 BUILD SEWER LINE (Contract 14-4709D) FROM PROPOSED SMH 36A TO PROPOSED SMH 39. WHEN THIS RUN IS COMPLETED, TIE INTO THE EXISTING DOWNSTREAM SMH 3521. THEN MAKE CONNECTION INTO THE EXISTING UPSTREAM SYSTEM WITH PROPOSED DOG HOUSE MANHOLE SMH 40. THE EFFLUENT FROM THE CLOSEST UPSTREAM SANITARY MANHOLE (EX. SMH 4) WILL NEED TO BE PLUGGED AND PUMPED TO PROPOSED SMH 39 WHILE THE FINAL CONNECTION IS BEING MADE. (4 WEEKS)
- ONCE THE PROPOSED SEWER BYPASS (SMH 40 THRU EX. SMH 3521) IS COMPLETE, ALL EXISTING SEWER BETWEEN THESE TWO MANHOLES CAN BE REMOVED. THE PROPOSED SEWER FROM EX. SMH 3523 TO PROPOSED SMH 35 CAN BE CONSTRUCTED AT THIS TIME (2 WEEKS)
- ONCE THE PROPOSED 8" WATER IS BROUGHT TO THE SENIOR CENTER, THE EXISTING WATER MAIN UPSTREAM OF THE SENIOR CENTER CAN BE REMOVED TO THE VALVE CLOSEST TO THE PROPOSED TIE INTO THE HILLTOP SUBDIVISION ON THE NORTH WEST OF THE SITE NEAR SMH 40. (2 WEEKS)

PHASE 1B

(PHASE 1A WILL CONTINUE)

- VACATE EXISTING BUILDINGS 7, 9 & 10, TURN OFF ALL UTILITIES SERVING THESE UNITS AND PREPARE FOR DEMOLITION. (2 WEEKS)
- ONCE BUILDINGS 7, 9 & 10 HAVE BEEN DISCONNECTED FROM ALL UTILITIES, DEMOLITION OF THESE BUILDINGS THEIR ROADS AND UTILITIES CAN COMMENCE. THE VALVE AT THE WESTERN END OF THE TEMPORARY 6" WATER LINE CAN BE SHUT OFF AND THE TEMPORARY 6" WATER LINE AND THE EXISTING 6" WATER LINE CAN BE REMOVED. CONSTRUCT THE PROPOSED 8" WATERLINE FROM THE SENIOR CENTER TIE IN TO THE TEMPORARY 6" TIE. THIS WILL COMPLETE THE CONNECTION FROM MAIN STREET TO THE CHAPEL VIEW DRIVE TIE IN. (3 WEEKS)
- CONSTRUCT THE 8" SEWER CONNECTION BETWEEN SMH 35 AND SMH 36B. CONSTRUCT DOG HOUSE MANHOLE SMH 42 TO SMH 43. ONCE THIS THIS LINE BUILT, THE TEMPORARY CONNECTION TO EX. SMH 3521 CAN BE REMOVED ALONG WITH THE EXISTING 8" SEWER FROM EX. SMH 3521 TO PROPOSED SMH 42. (2 WEEKS)

PHASE 1C

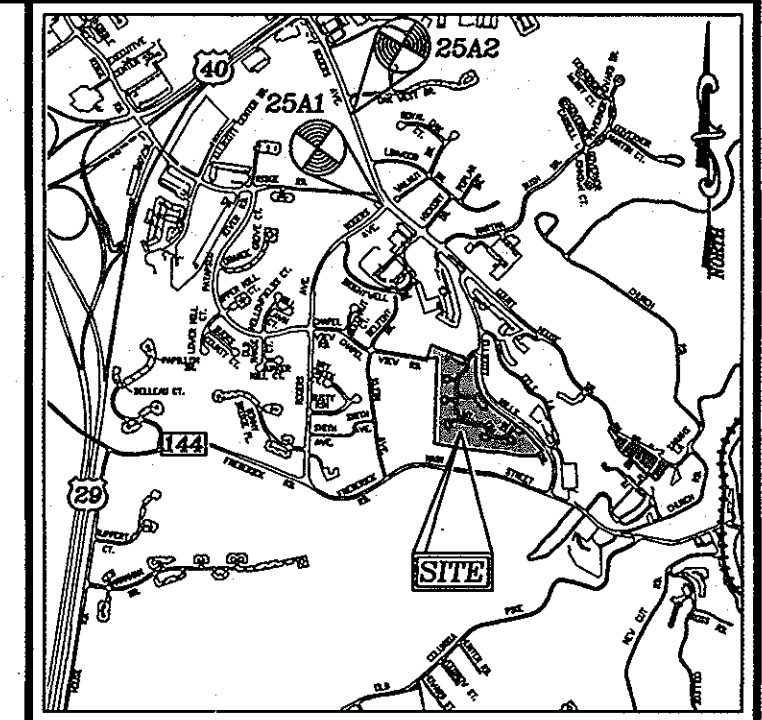
(PHASE 1A & 1B WILL CONTINUE)

- ONCE ALL THE REMAINING APARTMENTS (BUILDINGS 11, 12 & 13) BECOME VACANT, THEY CAN BE DEMOLISHED. THIS PHASE 1C CAN BEGIN.
- THE SEWER BYPASS (EX. SMH 3526 - SMH 33) FOR THIS PHASE MUST BE CONSTRUCTED SO THE REMAINING EXISTING SEWER IN THIS PHASE CAN BE REMOVED. SERVICE FOR ALL UPSTREAM RESIDENTS MUST BE MAINTAINED DURING CONSTRUCTION. (2 WEEKS)
- REMOVE REMAINING WATER TO BE REMOVED FOR THIS PHASE. (1 WEEK)
- BUILD THE 8" WATER LINE SERVING BUILDINGS M5, M6 AND T4. (2 WEEKS)

TYPE OF BUILDINGS:	MULTI-FAMILY APARTMENTS AND RECREATION CENTER
NO. OF LOTS/PARCELS:	2
NO. OF SINGLE WATER HOUSE CONNECTIONS:	12
NO. OF TWIN WATER HOUSE CONNECTIONS:	0
NO. OF SEWER HOUSE CONNECTIONS:	13
NO. OF TWIN SEWER HOUSE CONNECTIONS:	0
DRAINAGE AREA:	PATAPSCO RIVER
TREATMENT PLANT:	PATAPSCO RIVER
TOTAL NO. OF UNITS:	198
WATER ZONE:	550
TEST GRADIENT:	700

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- EXISTING FENCE
- CENTERLINE OF EXISTING STREAM
- EXISTING TREES (FIELD LOCATED)
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED WATER MAIN
- FIRE HYDRANT
- PROPOSED VALVE
- PROPOSED TEE
- PROPOSED STORM DRAIN
- PROPOSED SEWER
- WATER HOUSE CONNECTION
- SEWER HOUSE CONNECTION
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED STORM DRAIN INLET
- PROPOSED SIDEWALK
- PROPOSED CURB



LOCATION MAP
SCALE: 1"=2000'
ADC MAP COORDINATES: 4816 / 87

BENCHMARKS

HOWARD COUNTY BENCHMARK 25A1	N 586,557.546	E 1,366,847.098	ELEV.: 396.343'
HOWARD COUNTY BENCHMARK 25A2	N 587502.729	E 1,366556.377	ELEV.: 348.145'

QUANTITIES				
NAME OF UTILITY CONTRACTOR :				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE :				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
WATER				
8" WATER (DIP) (CLASS 56)	396	1	LF	
6" WATER (DIP) (CLASS 56)	241	1	LF	
8" X8" TEE	5	EA		
8" X6" TEE	11	EA		
8" X4" TEE	1	EA		
6" X6" TEE	1	EA		
8" VALVE	17	EA		
6" VALVE	12	EA		
4" VALVE	7	EA		
FIRE HYDRANT	7	EA		
8" X6" REDUCER	2	EA		
8"-1/32 HORIZ. BEND	6	EA		
8"-1/16 HORIZ. BEND	6	EA		
8"-1/8 HORIZ. BEND	13	EA		
6"-1/16 HORIZ. BEND	1	EA		
6"-1/8 HORIZ. BEND	1	EA		
4"-1/16 HORIZ. BEND	1	EA		
8"-CAP AND BUTTRISS	3	EA		
6"-CAP AND BUTTRISS	1	EA		
SEWER				
8" SEWER (PVC)	1,442	1	LF	
6" SEWER (PVC)	34	1	LF	
4" SEWER (PVC)	21	1	LF	
STANDARD MANHOLES	9	EA		
TYPE 'A' DROP MANHOLES	1	EA		
TYPE 'B' DROP MANHOLES	3	EA		
4" SHC	273	1	LF	

OWNER

MILTOWNE ASSOCIATES LP
BY: HCH PARTNERS III LLC, GENERAL PARTNER
BY: HOWARD COUNTY HOUSING COMMISSION, MEMBER
BY: STACY SPANN, EXECUTIVE DIRECTOR
300 FLOOR
6751 COLUMBIA GATEWAY DR.
COLUMBIA, MD 21046
(410) 313-6320

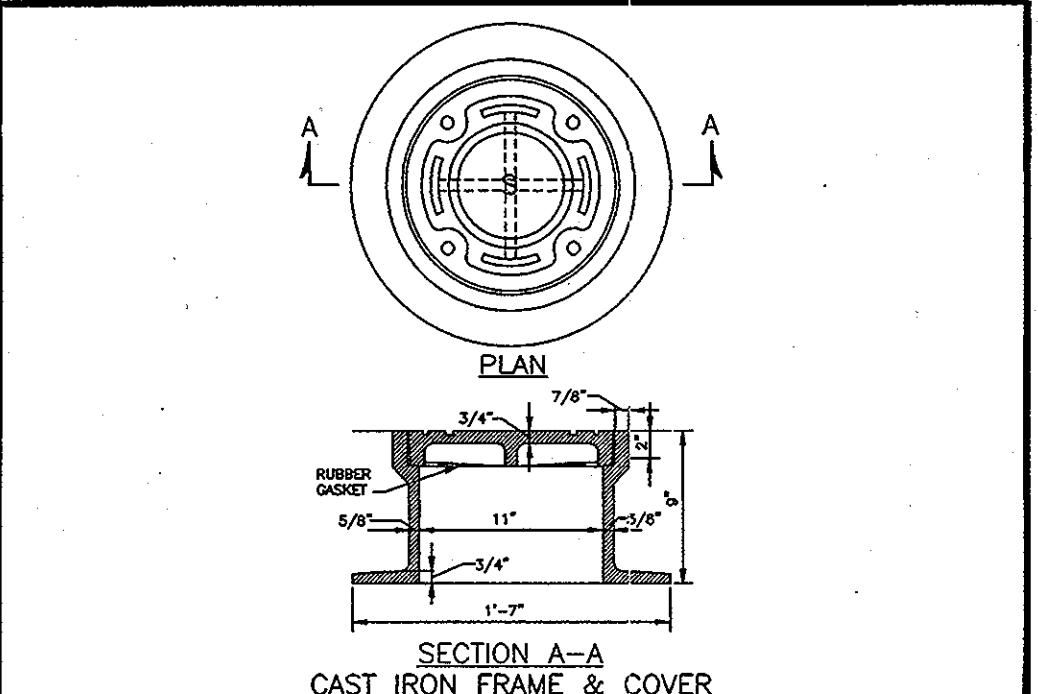
DEVELOPER

STAVROU ASSOCIATES, INC.
2661 RIVA ROAD
BUILDING 300
ANNAPOLIS, MD 21401
C/O STEPHEN J. MOORE
(410) 571-6610



WATER MAIN LOCATION CHART	
WATER MAIN 'A'	
WL STA. 0+00.00	12"X8" TAPPING SLEEVE
WL STA. 0+04.00	8" VALVE
WL STA. 0+94.92	PC OF 360' CRIMP RADIUS
WL STA. 3+00.00	8" VALVE
WL STA. 4+70.52	PT OF 360' CRIMP RADIUS
WL STA. 6+00.00	8" VALVE
WL STA. 6+18.57	8"-1/8" HORIZONTAL BEND
WL STA. 6+46.18	8"-1/8" HORIZONTAL BEND
WL STA. 6+64.68	8"-1/32" HORIZONTAL BEND
WL STA. 8+71.59	8"X6" TEE
WL STA. 8+92.80	8" CAP AND BUTTRISS
WATER MAIN 'B'	
WL STA. 0+00.00	8"X6" TEE
WL STA. 0+04.00	8" VALVE
WL STA. 0+41.74	PC OF 250' CRIMP RADIUS
WL STA. 0+76.16	PT OF 250' CRIMP RADIUS
WL STA. 1+45.74	8"X6" TEE
WL STA. 2+13.12	8"-1/8" HORIZONTAL BEND
WL STA. 2+55.84	8"X6" TEE
WL STA. 2+62.04	8"-1/32" HORIZONTAL BEND
WL STA. 2+66.04	8" VALVE
WL STA. 3+54.47	8"-1/32" HORIZONTAL BEND
WL STA. 3+87.81	8"X6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 4+11.85	8"-1/16" HORIZONTAL BEND
WL STA. 4+19.62	8"-1/16" HORIZONTAL BEND
WL STA. 5+58.03	8" VALVE
WL STA. 7+24.09	8"-1/16" HORIZONTAL BEND
WL STA. 7+28.31	8"X6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 8+16.15	8"-1/16" HORIZONTAL BEND
WL STA. 8+54.99	8" VALVE
WL STA. 9+28.24	8"X6" TEE (TEMPORARY WATER MAIN)
WL STA. 9+54.46	8"X6" TEE
WL STA. 9+66.72	8"-1/16" HORIZONTAL BEND
WL STA. 10+79.42	8"-1/32" HORIZONTAL BEND
WL STA. 11+54.99	8" VALVE
WL STA. 13+18.85	8"X6" TEE
WL STA. 14+51.47	8" VALVE
WL STA. 14+50.13	8"-1/8" HORIZONTAL BEND
WL STA. 14+63.97	8"-1/8" HORIZONTAL BEND
WL STA. 15+20.87	8"X6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 15+36.94	8"-1/8" HORIZONTAL BEND
WL STA. 15+43.86	8"X4" TEE
WL STA. 15+47.94	8" VALVE
WL STA. 15+64.21	8"-1/8" HORIZONTAL BEND
WL STA. 16+95.18	8"X6" REDUCER
WATER MAIN 'C'	
WL STA. 0+00.00	8"X6" TEE
WL STA. 0+04.00	8" VALVE
WL STA. 0+32.99	PC OF 250' CRIMP RADIUS
WL STA. 0+71.33	PT OF 250' CRIMP RADIUS
WL STA. 0+99.24	8"X6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 1+02.24	8" CAP AND BUTTRISS
WATER MAIN 'D'	
WL STA. 0+00.00	6"X6" TEE
WL STA. 0+04.00	6" VALVE
WATER MAIN 'E'	
WL STA. 0+00.00	8"X6" TEE
WL STA. 0+04.00	8" VALVE
WL STA. 0+56.57	PC OF 250' CRIMP RADIUS
WL STA. 1+54.93	8"X6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 1+84.92	PT OF 250' CRIMP RADIUS
WL STA. 1+93.25	8" CAP AND BUTTRISS
WATER MAIN 'F'	
WL STA. 0+04.00	8"X6" REDUCER
WL STA. 0+10.76	8"-1/16" HORIZONTAL BEND
WL STA. 0+20.45	8"-1/32" HORIZONTAL BEND
WL STA. 1+28.45	8"X6" TEE
WL STA. 2+04.96	8"-1/8" HORIZONTAL BEND
WL STA. 2+16.66	8"X6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 3+00.00	8" VALVE
WL STA. 5+18.10	PC OF 210' CRIMP RADIUS
WL STA. 5+33.03	8"X6" TEE
WL STA. 6+00.00	8" VALVE
WL STA. 6+58.00	PT OF 210' CRIMP RADIUS
WL STA. 8+34.32	8"-1/8" HORIZONTAL BEND
WL STA. 8+77.52	8"X6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 8+82.52	8" CAP AND BUTTRISS
WATER MAIN 'G'	
WL STA. 0+00.00	8"X4" TEE
WL STA. 0+04.00	4" VALVE
WL STA. 0+08.31	4"-1/16" HORIZONTAL BEND
WATER MAIN 'H'	
WL STA. 0+00.00	8"X6" TEE
WL STA. 0+04.00	6" VALVE
WL STA. 0+09.53	6"-1/16" HORIZONTAL BEND
WL STA. 0+14.58	6"X6" TEE
WATER MAIN 'I'	
WL STA. 0+00.00	8"X6" TEE
WL STA. 0+04.00	8" VALVE
WL STA. 0+22.06	PC OF 210' CRIMP RADIUS
WL STA. 0+37.00	PT OF 210' CRIMP RADIUS
WL STA. 1+67.91	8"-1/8" HORIZONTAL BEND
WL STA. 1+80.64	8"-1/8" HORIZONTAL BEND
WL STA. 2+11.46	8"X6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 2+14.75	8"-1/16" HORIZONTAL BEND
WL STA. 2+42.28	8"-1/32" HORIZONTAL BEND
WL STA. 2+73.43	8"-1/8" HORIZONTAL BEND
WL STA. 2+99.93	8"-1/8" HORIZONTAL BEND
WL STA. 3+98.78	8" VALVE
WL STA. 4+02.78	8"X6" TEE
TEMPORARY 6" WATER LINE	
WL STA. 0+00.00	8"X6" TEE
WL STA. 0+04.00	6" VALVE
WL STA. 0+15.57	6"-1/8" HORIZONTAL BEND
WL STA. 1+00.76	6" VALVE
WL STA. 1+04.78	6"X6" TAPPING SLEEVE

LEGEND	
PROPERTY LINE	---
RIGHT-OF-WAY LINE	----
ADJACENT PROPERTY LINE	----
EXISTING CURB AND GUTTER	=====
EXISTING UTILITY POLE	○
EXISTING LIGHT POLE	☀
EXISTING MAILBOX	☐
EXISTING SIGN	○
EXISTING SANITARY MANHOLE	○
EXISTING SANITARY LINE	---
EXISTING CLEANOUT	○
EXISTING FIRE HYDRANT	☀
EXISTING WATER LINE	---
EXISTING STORM DRAIN	---
EXISTING FENCE	- - -
CENTERLINE OF EXISTING STREAM	- - -
EXISTING TREES	○
EXISTING TREELINE	~~~~~
PROPOSED TREELINE	~~~~~
PROPOSED WATER MAIN	---
FIRE HYDRANT	☀
PROPOSED VALVE	○
PROPOSED TEE	+
PROPOSED STORM DRAIN	---
PROPOSED SEWER	---
WATER HOUSE CONNECTION	---
SEWER HOUSE CONNECTION	---
PROPOSED SIGN	○
PROPOSED LIGHT	☀
PROPOSED STORMDRAIN INLET	○
PROPOSED SIDEWALK	---
PROPOSED CURB	=====



Howard County, Maryland Department of Public Works	Cleanout Cover Assembly For All Paved Areas	S-2.23
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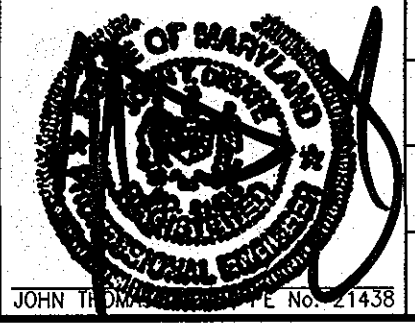
OWNER
MILLTOWNE ASSOCIATES LP
BY: HCH PARTNERS III LLC, GENERAL PARTNER
BY: HOWARD COUNTY HOUSING COMMISSION, MEMBER
BY: STACY SPANN, EXECUTIVE DIRECTOR
6751 COLUMBIA GATEWAY DR.
3RD FLOOR
COLUMBIA, MD 21046
(410) 313-6320

DEVELOPER
STAVROU ASSOCIATES, INC.
2651 RIVA ROAD
BUILDING 300
ANNAPOLIS, MD 21401
C/O STEPHEN J. MOORE
(410) 571-6610

NOTE: UNITS M1, T1 AND M2 WILL HAVE WATER SHUT OFF VALVES AND SANITARY CLEANOUTS CLOSER THAN 5' FROM THE FACE OF THE BUILDINGS. THE CONTRACTOR IS TO COORDINATE THE INSTALLATION OF THE FOOTERS, SHUT OFF VALVES AND CLEANOUTS TO AVOID CONFLICTS.

LAYOUT PLAN
SCALE: 1"=50'

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. 21438
EXPIRATION DATE: 09-27-2012



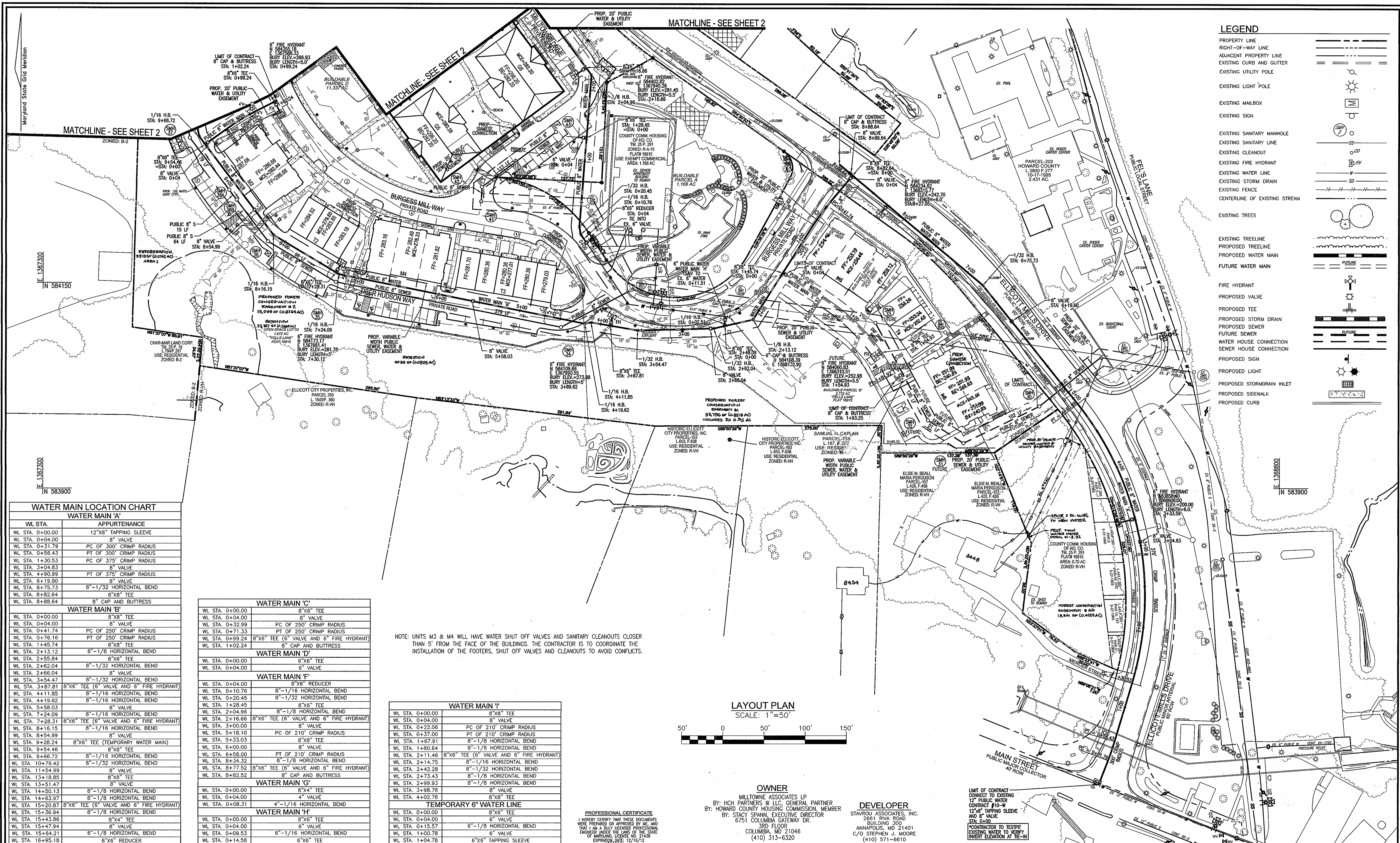
ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELICOTT CITY, MD 21043 FAX: 410.461.8961

DES: JTD			
DRN: JMR			
CHK: JTD			
DATE: JULY 2011			
BY: NO.	1	MOVE WHC ON M1, ADD 4" V ON WHC'S	6/11/12
		REVISION	DATE

FINAL WATER & SEWER PLAN
LAYOUT PLAN
600' SCALE MAP NO. 25 BLOCK NO. 7

HILLTOP REDEVELOPMENT
L. 477 / F. 718, L. 456 / F. 448,
L. 448 / F. 46
CONTRACT #14-4709-D
ZONING: R-HV, R-A-15, & POR
DPZ REF'S: ECP-11-051, F-12-008, SDP-11-051
F-68-092, SDP-77-013, SDP-04-027
26-S, 287 W&S, SDP-75-61, F-66-017
TAX MAP: 25 GRID: 07
PARCELS: 12 & 291
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 2 OF 7

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
Silva C. ...
CHIEF, BUREAU OF UTILITIES
Robert H. Vogel
CHIEF, DEVELOPMENT ENGINEERING DIVISION



LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- EXISTING FENCE
- CENTERLINE OF EXISTING STREAM
- EXISTING TREES
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED WATER MAIN
- FUTURE WATER MAIN
- FIRE HYDRANT
- PROPOSED VALVE
- PROPOSED TEE
- PROPOSED STORM DRAIN
- PROPOSED SEWER
- FUTURE SEWER
- WATER HOUSE CONNECTION
- SEWER HOUSE CONNECTION
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED SIDEWALK INLET
- PROPOSED SIDEWALK
- PROPOSED CURB

WATER MAIN LOCATION CHART

WL STA.	APPURTENANCE
WL STA. 0+00.00	12"x8" TAPPING SLEEVE
WL STA. 0+04.00	8" VALVE
WL STA. 0+31.79	PC OF 300' CRIMP RADIUS
WL STA. 0+56.43	PT OF 300' CRIMP RADIUS
WL STA. 1+30.53	PC OF 375' CRIMP RADIUS
WL STA. 3+04.83	8" VALVE
WL STA. 4+90.99	PT OF 375' CRIMP RADIUS
WL STA. 6+19.60	8" VALVE
WL STA. 6+75.73	8"-1/32 HORIZONTAL BEND
WL STA. 8+82.64	8"x8" TEE
WL STA. 8+88.64	8" CAP AND BUTTRISS

WATER MAIN 'A'

WL STA. 0+00.00	8"x8" TEE
WL STA. 0+04.00	8" VALVE
WL STA. 0+41.74	PC OF 250' CRIMP RADIUS
WL STA. 0+76.16	PT OF 250' CRIMP RADIUS
WL STA. 1+45.74	8"x8" TEE
WL STA. 2+13.12	8"-1/8 HORIZONTAL BEND
WL STA. 2+55.84	8"x8" TEE
WL STA. 2+62.04	8"-1/32 HORIZONTAL BEND
WL STA. 2+66.04	8" VALVE
WL STA. 3+54.47	8"-1/32 HORIZONTAL BEND
WL STA. 3+87.81	8"x6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 4+11.85	8"-1/16 HORIZONTAL BEND
WL STA. 4+19.62	8"-1/16 HORIZONTAL BEND
WL STA. 5+58.03	8" VALVE
WL STA. 7+24.09	8"-1/16 HORIZONTAL BEND
WL STA. 7+23.31	8"x6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 8+16.15	8"-1/16 HORIZONTAL BEND
WL STA. 8+54.99	8" VALVE
WL STA. 9+28.24	8"x6" TEE (TEMPORARY WATER MAIN)
WL STA. 9+54.46	8"x8" TEE
WL STA. 9+66.72	8"-1/16 HORIZONTAL BEND
WL STA. 10+79.42	8"-1/32 HORIZONTAL BEND
WL STA. 11+54.99	8" VALVE
WL STA. 13+18.85	8"x8" TEE
WL STA. 13+51.47	8" VALVE
WL STA. 14+50.13	8"-1/8 HORIZONTAL BEND
WL STA. 14+53.97	8"-1/8 HORIZONTAL BEND
WL STA. 15+20.87	8"x6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 15+36.94	8"-1/8 HORIZONTAL BEND
WL STA. 15+43.86	8"x4" TEE
WL STA. 15+47.94	8" VALVE
WL STA. 15+64.21	8"-1/8 HORIZONTAL BEND
WL STA. 16+95.18	8"x6" REDUCER

WATER MAIN 'C'

WL STA. 0+00.00	8"x8" TEE
WL STA. 0+04.00	8" VALVE
WL STA. 0+32.99	PC OF 250' CRIMP RADIUS
WL STA. 0+71.33	PT OF 250' CRIMP RADIUS
WL STA. 0+99.24	8"x6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 1+02.24	8" CAP AND BUTTRISS

WATER MAIN 'D'

WL STA. 0+00.00	6"x6" TEE
WL STA. 0+04.00	6" VALVE

WATER MAIN 'E'

WL STA. 0+04.00	8"x6" REDUCER
WL STA. 0+10.76	8"-1/16 HORIZONTAL BEND
WL STA. 0+20.45	8"-1/32 HORIZONTAL BEND
WL STA. 1+28.45	8"x6" TEE
WL STA. 2+04.98	8"-1/8 HORIZONTAL BEND
WL STA. 2+16.66	8"x6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 3+00.00	8" VALVE
WL STA. 5+18.10	PC OF 210' CRIMP RADIUS
WL STA. 5+33.03	8"x8" TEE
WL STA. 6+00.00	8" VALVE
WL STA. 6+58.00	PT OF 210' CRIMP RADIUS
WL STA. 8+34.32	8"-1/8 HORIZONTAL BEND
WL STA. 8+77.52	8"x6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 8+82.52	8" CAP AND BUTTRISS

WATER MAIN 'G'

WL STA. 0+00.00	8"x4" TEE
WL STA. 0+04.00	4" VALVE
WL STA. 0+08.31	4"-1/16 HORIZONTAL BEND

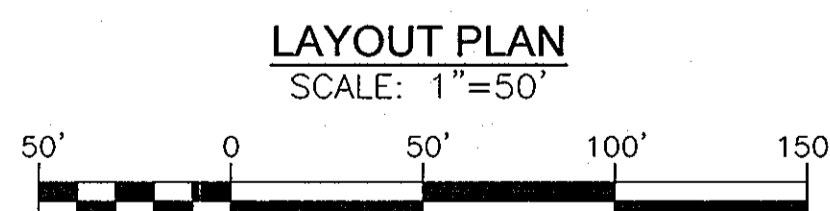
WATER MAIN 'H'

WL STA. 0+00.00	8"x6" TEE
WL STA. 0+04.00	6" VALVE
WL STA. 0+15.57	6"-1/8 HORIZONTAL BEND
WL STA. 1+00.78	6" VALVE
WL STA. 1+04.78	6"x6" TAPPING SLEEVE

TEMPORARY 6" WATER LINE

WL STA. 0+00.00	6" VALVE
WL STA. 0+04.00	6" VALVE
WL STA. 0+15.57	6"-1/8 HORIZONTAL BEND
WL STA. 1+00.78	6" VALVE
WL STA. 1+04.78	6"x6" TAPPING SLEEVE

NOTE: UNITS M3 & M4 WILL HAVE WATER SHUT OFF VALVES AND SANITARY CLEANOUTS CLOSER THAN 5' FROM THE FACE OF THE BUILDINGS. THE CONTRACTOR IS TO COORDINATE THE INSTALLATION OF THE FOOTERS, SHUT OFF VALVES AND CLEANOUTS TO AVOID CONFLICTS.



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. 21498 EXPIRATION DATE 12/16/12

OWNER
MILLTOWNE ASSOCIATES LP
BY: HCH PARTNERS III LLC, GENERAL PARTNER
BY: HOWARD COUNTY HOUSING COMMISSION, MEMBER
BY: STACY SPANN, EXECUTIVE DIRECTOR
5731 COLUMBIA GATEWAY DR.
3RD FLOOR
COLUMBIA, MD 21046
(410) 313-6320

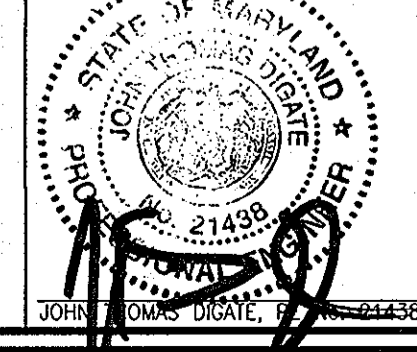
DEVELOPER
STAVROU ASSOCIATES, INC.
2651 RIVA ROAD
BUILDING 300
ANNAPOLIS, MD 21401
C/O STEPHEN J. MOORE
(410) 571-6610

LIMIT OF CONTRACT
CONNECT TO EXISTING
12" PUBLIC WATER
CONTRACT #10-W
12"x8" TAPPING SLEEVE
AND 8" VALVE
STA. 0+00
CONTRACTOR TO TESTPIT
EXISTING WATER TO VERIFY
INVERT ELEVATION AT THE...

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
12/14/12
DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
12/13
DATE

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



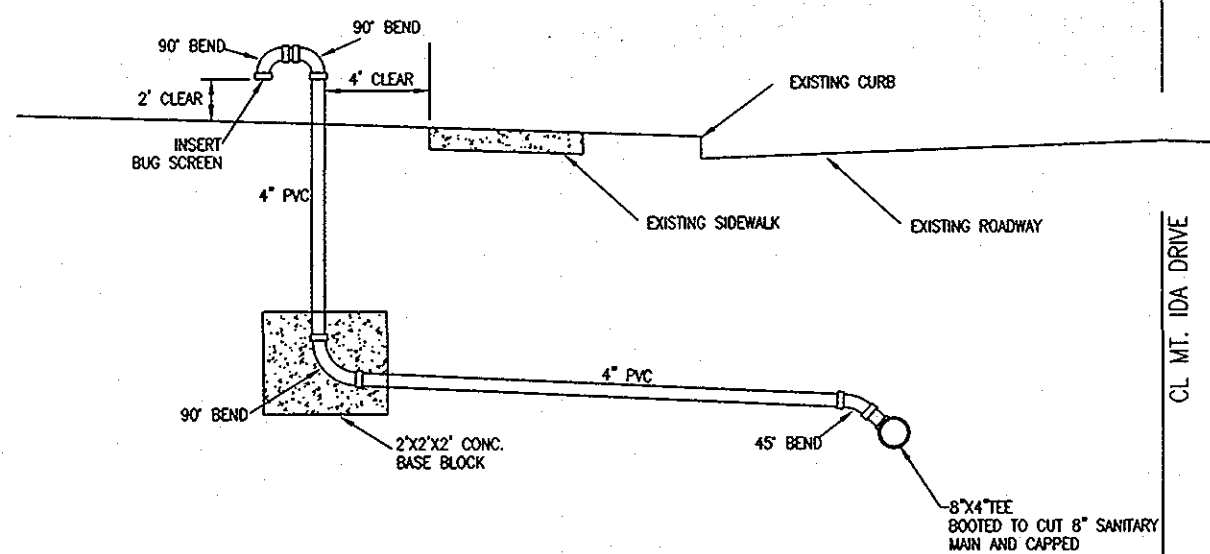
DES:	JTD	1	REMOVE WATER AND SEWER FORM CONTRACT	4/30/12
DRN:	JMR	2	PROVIDE NEW METERS FOR 8454 & 8468 WITH AT 211000 CITY, MD 21043	03/9/15
CHK:	JTD			
DATE:	APRIL 2012	BY NO.	REVISION	DATE

FINAL WATER & SEWER PLAN
LAYOUT PLAN
600' SCALE MAP NO. 25
BLOCK NO. 7

HILLTOP REDEVELOPMENT
L. 477 / F. 718, L. 456 / F. 448,
L. 448 / F. 46
CONTRACT #14-4709-D
ZONING: R-HV, R-A-15, & POR
DPZ REF: ECP-11-051, F-12-008, SDP-11-051
F-68-092, SDP-77-013, SDP-04-027
26-S, 287 W&S, SDP-75-61, F-66-017
TAX MAP: 25 GRID: 07
PARCELS: 12 & 291
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 3 OF 7

LEGEND:

- SS ——— EXISTING 8" SEWER TO BE REMOVED
- W ——— EXISTING 6" WATER TO BE REMOVED
- SS ——— EXISTING 8" SEWER TO REMAIN
- W ——— EXISTING 6" WATER TO REMAIN

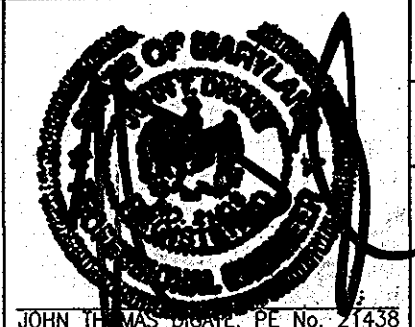


PLAN VIEW
SCALE: 1"=50'

OWNER
MILLTOWNE ASSOCIATES LP
BY: HCH PARTNERS III LLC, GENERAL PARTNER
BY: HOWARD COUNTY HOUSING COMMISSION, MEMBER
BY: STACY SPANN, EXECUTIVE DIRECTOR
6751 COLUMBIA GATEWAY DR.
3RD FLOOR
COLUMBIA, MD 21046
(410) 313-6320

DEVELOPER
STAVROU ASSOCIATES, INC.
2661 RVA ROAD
BUILDING 300
ANNAPOLIS, MD 21401
C/O STEPHEN J. MOORE
(410) 571-6610

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. 21438, EXPIRATION DATE: 09-27-2012



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

DES:	JTD	REV	2	PROVIDE NEW METERS FOR 8454 & 8448 MAIN ST. ELLICOTT CITY MD 21043	03/19/13
DRN:	JMR				
CHK:	JTD				
DATE:	JULY 2011	BY	NO.	REVISION	DATE

FINAL WATER & SEWER PLAN
EXISTING CONDITIONS & ABANDONMENT PLAN

HILLTOP REDEVELOPMENT
L. 477 / F. 718, L. 456 / F. 448,
L. 448 / F. 46
CONTRACT #14-4709-D

ZONING: R-HV, R-A-15, & POR
DPZ REF'S: ECP-11-051, F-12-008, SDP-11-051
F-68-092, SDP-77-013, SDP-04-027
26-S, 287 W&S, SDP-75-81, F-66-017

TAX MAP: 25 GRID: 07
PARCELS: 12 & 291
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

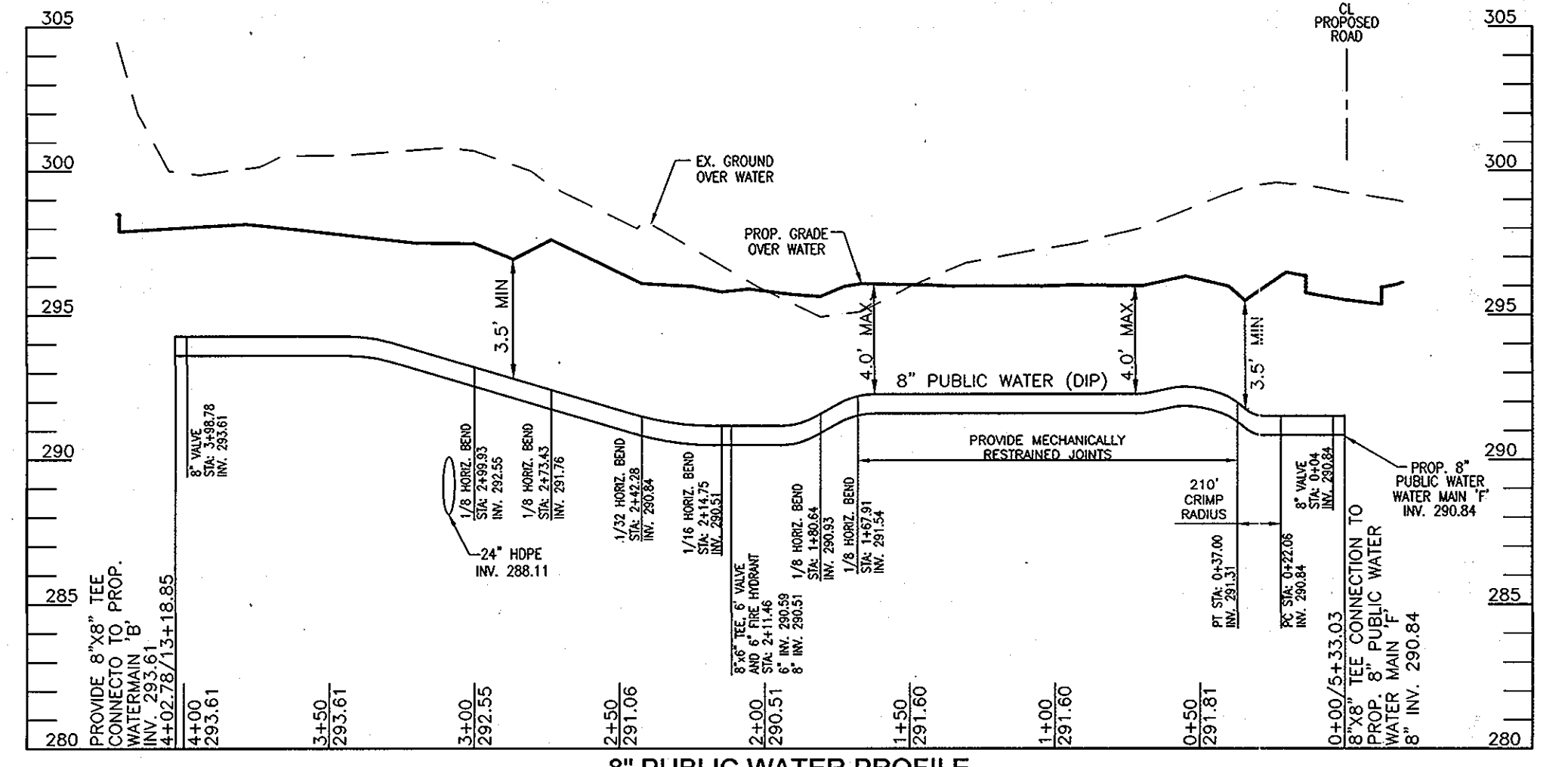
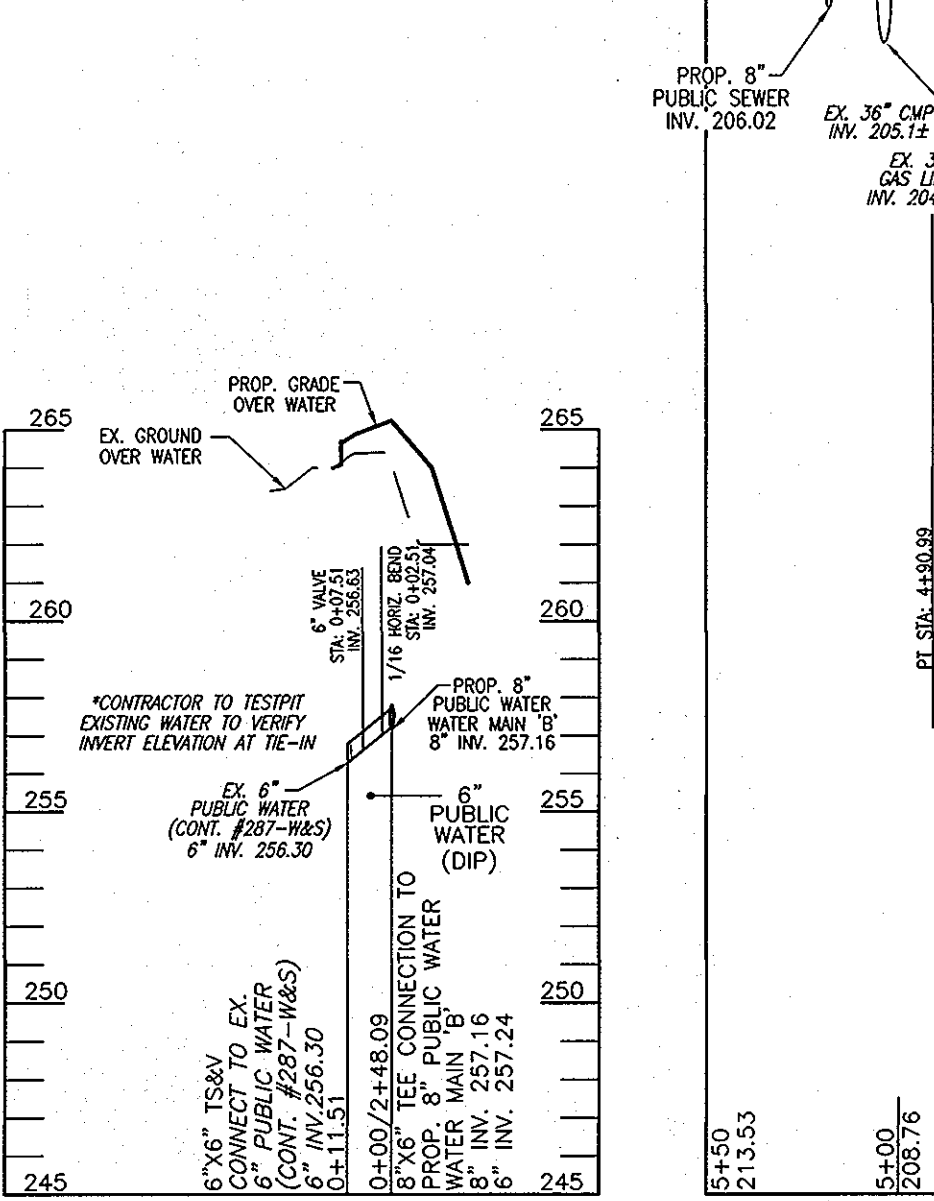
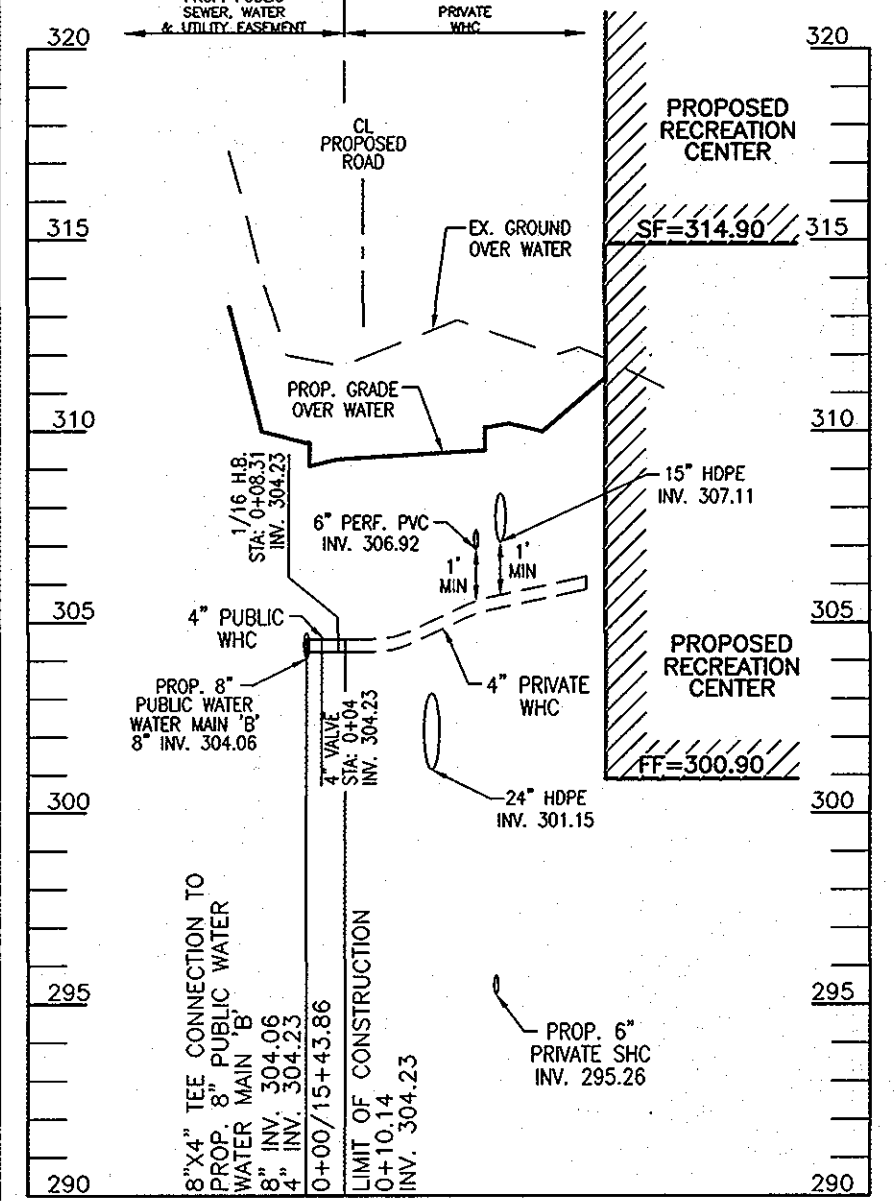
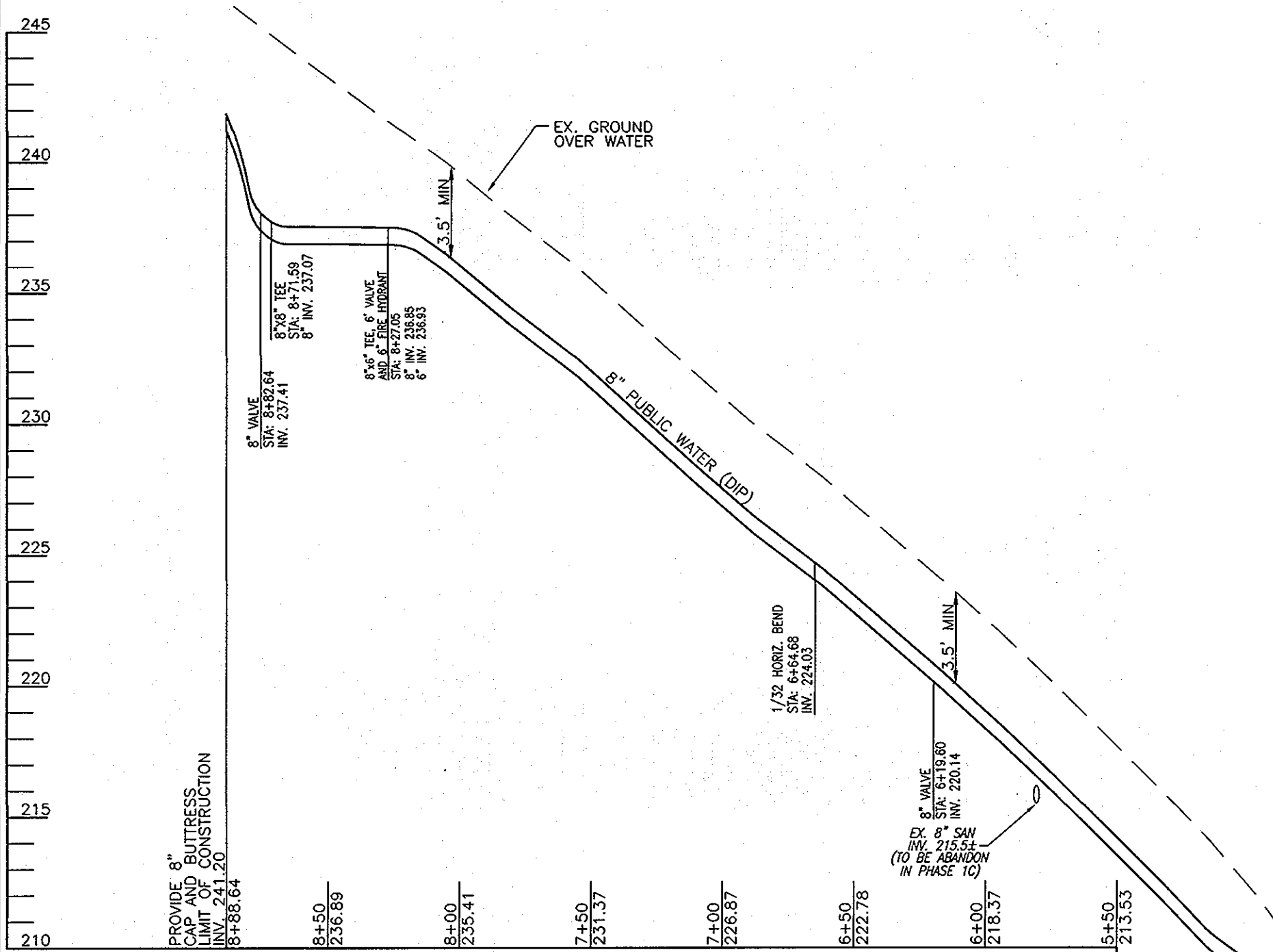
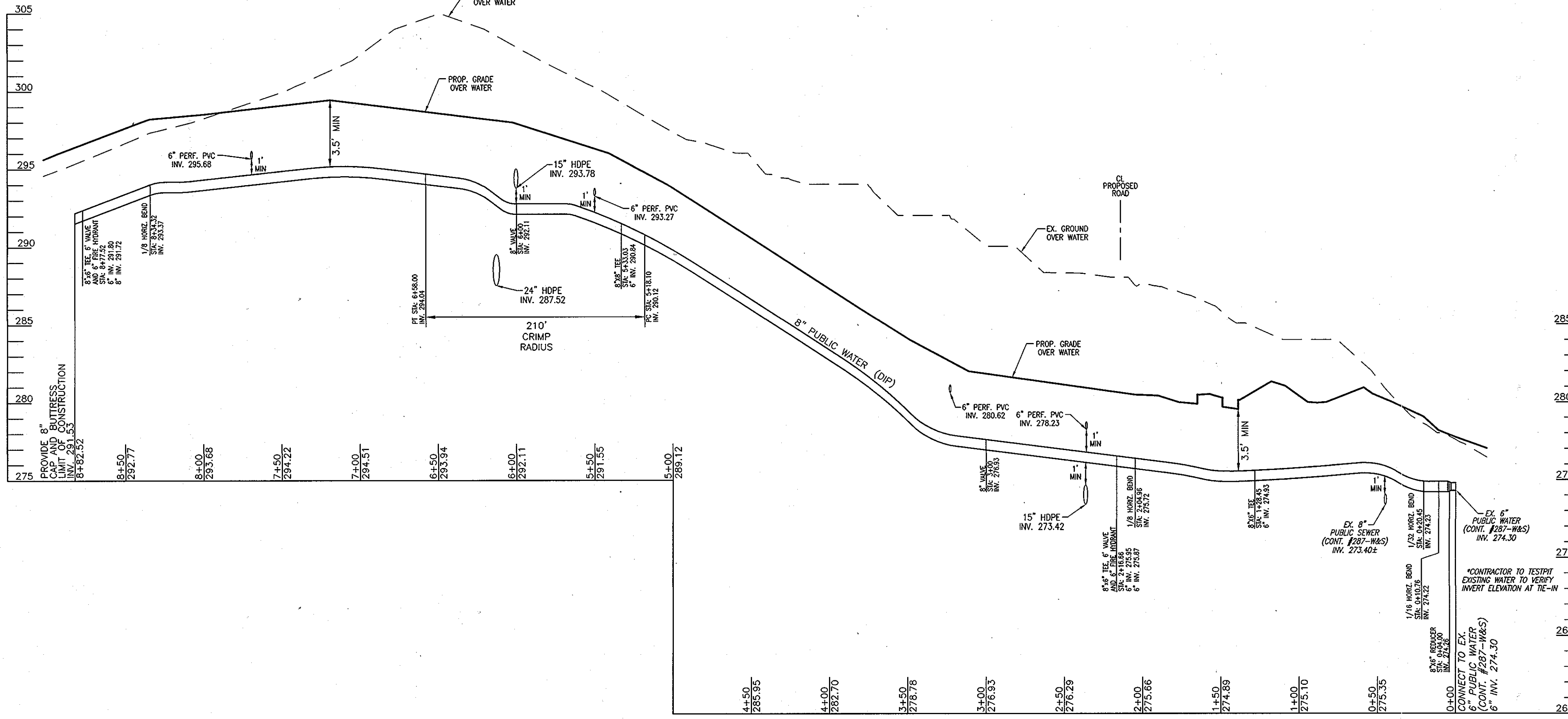
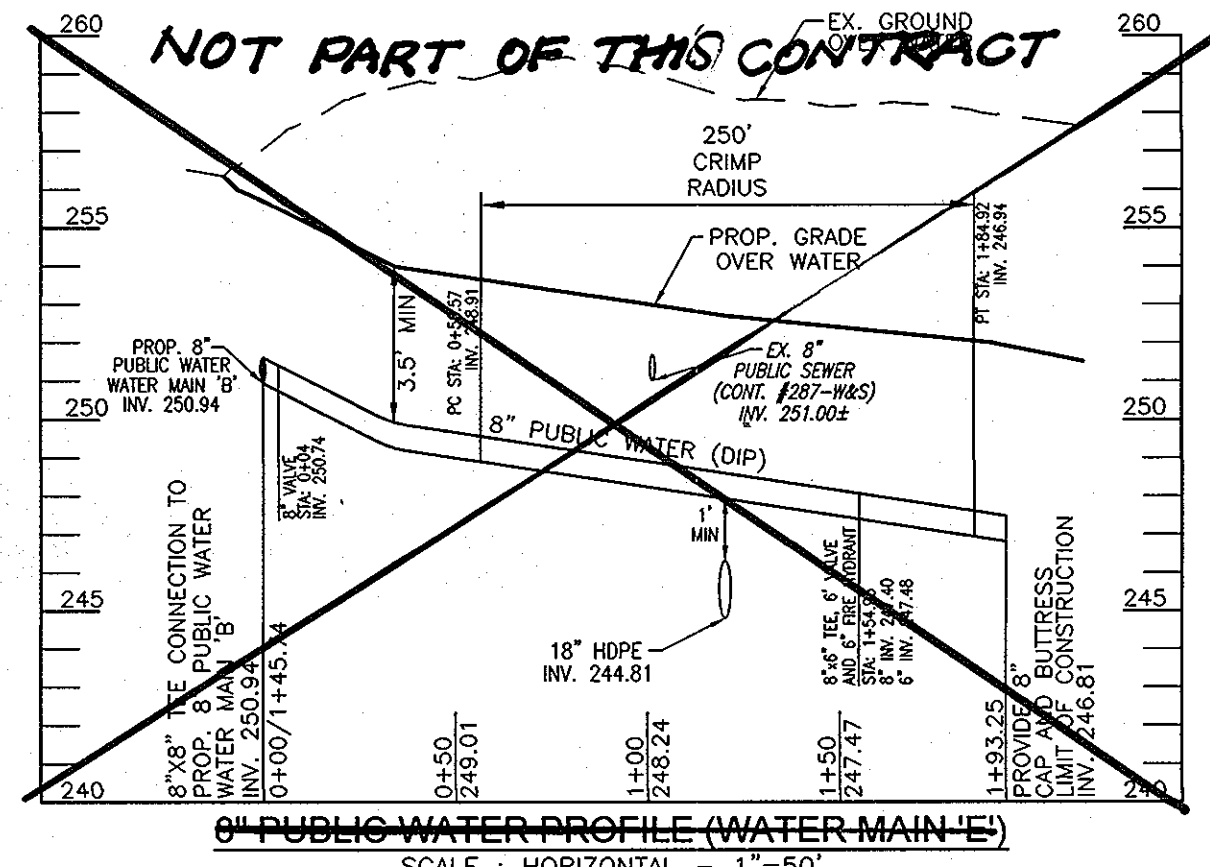
SCALE AS SHOWN
SHEET 4 OF 7

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES
DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE



PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS
 WERE PREPARED OR APPROVED BY ME, AND
 THAT I AM A FULLY LICENSED PROFESSIONAL
 ENGINEER UNDER THE LAWS OF THE STATE
 OF MARYLAND. LICENSE NO. 21438
 EXPIRATION DATE: 09-27-2012



OWNER
 MILLTOWNE ASSOCIATES LP
 BY: HCH PARTNERS III LLC, GENERAL PARTNER
 BY: HOWARD COUNTY HOUSING COMMISSION, MEMBER
 BY: STACY SPANN, EXECUTIVE DIRECTOR
 6751 COLUMBIA GATEWAY DR.
 3RD FLOOR
 COLUMBIA, MD 21046
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DEVELOPER
 STAVROU ASSOCIATES, INC.
 2661 RIVA ROAD
 BUILDING 300
 ANNAPOLIS, MD 21401
 C/O STEPHEN J. MOORE
 (410) 571-6610

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

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



DES:	JTD				
DRN:	JMR				
CHK:	JTD				
DATE:	JULY 2011				
BY:	NO.	REVISION	DATE		
		1	REMOVE WATER MAIN 'E' FROM CONTRACT	6/11/12	

FINAL WATER & SEWER PLAN
WATER PROFILE

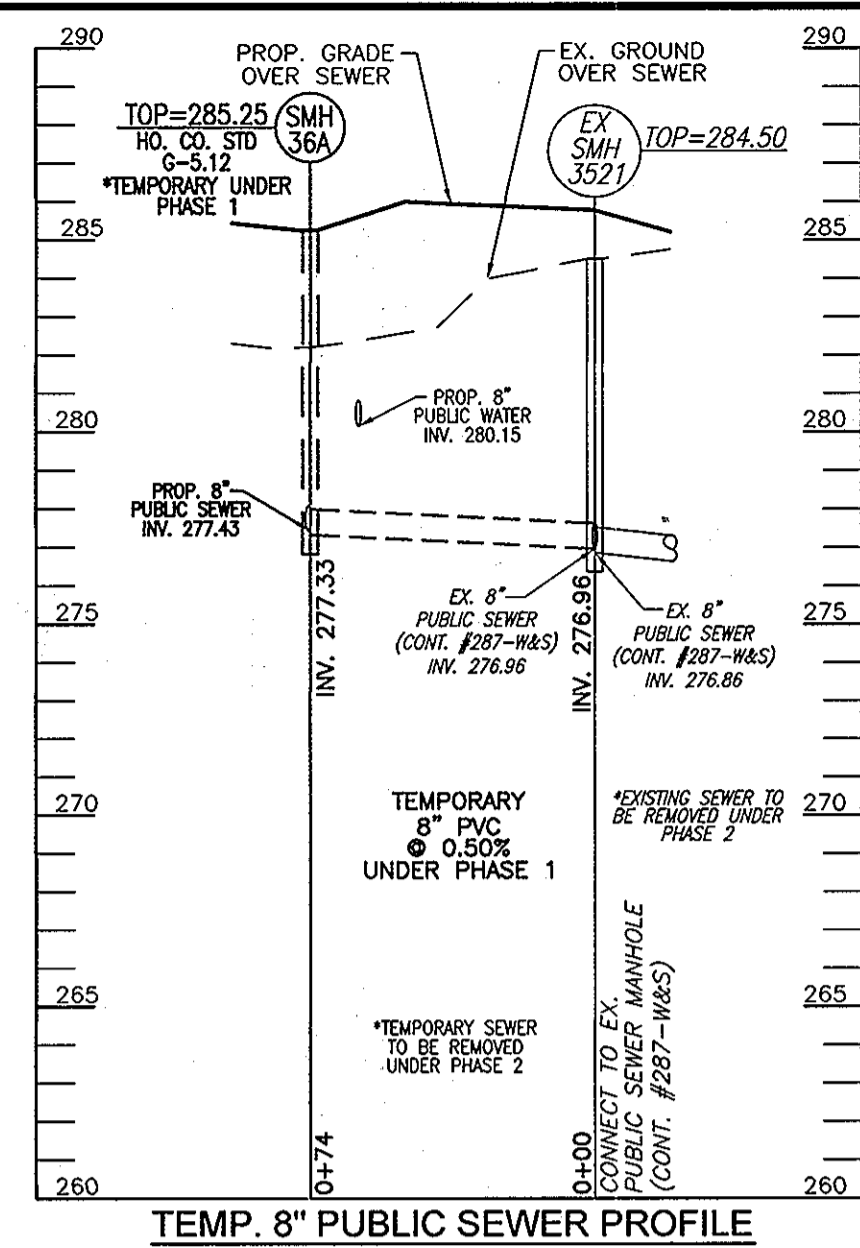
HILLTOP REDEVELOPMENT
 L. 477 / F. 718, L. 456 / F. 448,
 L. 448 / F. 46
CONTRACT #14-4709-D

ZONING: R-HV, R-A-15, & POR
 DPZ REF: ECP-11-051, F-12-008, SDP-11-051
 F-68-092, SDP-77-013, SDP-04-027
 26-S, 287 W&S, SDP-75-61, F-66-017

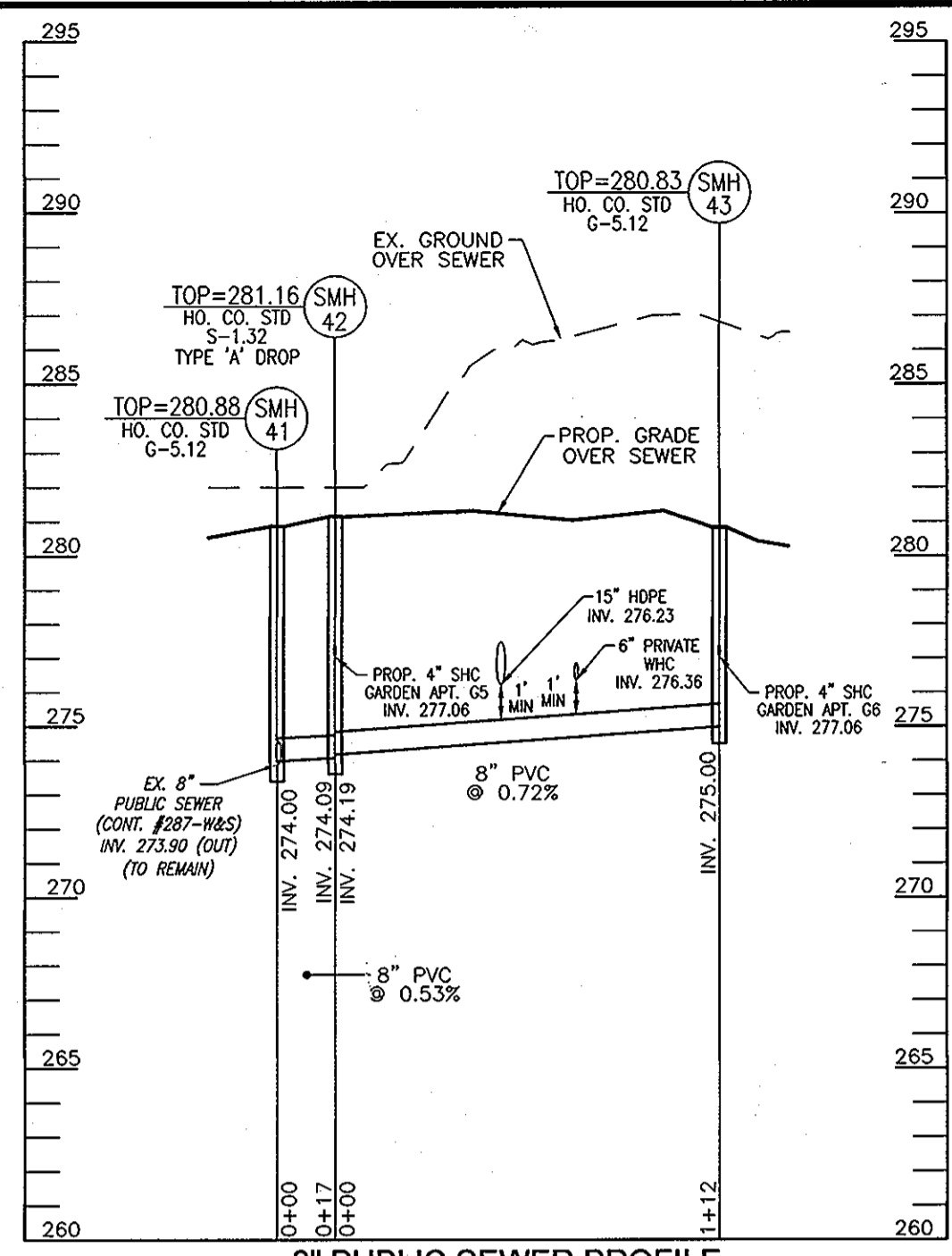
TAX MAP: 25 GRID: 07
 PARCELS: 12 & 291
 2ND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 5 OF 7

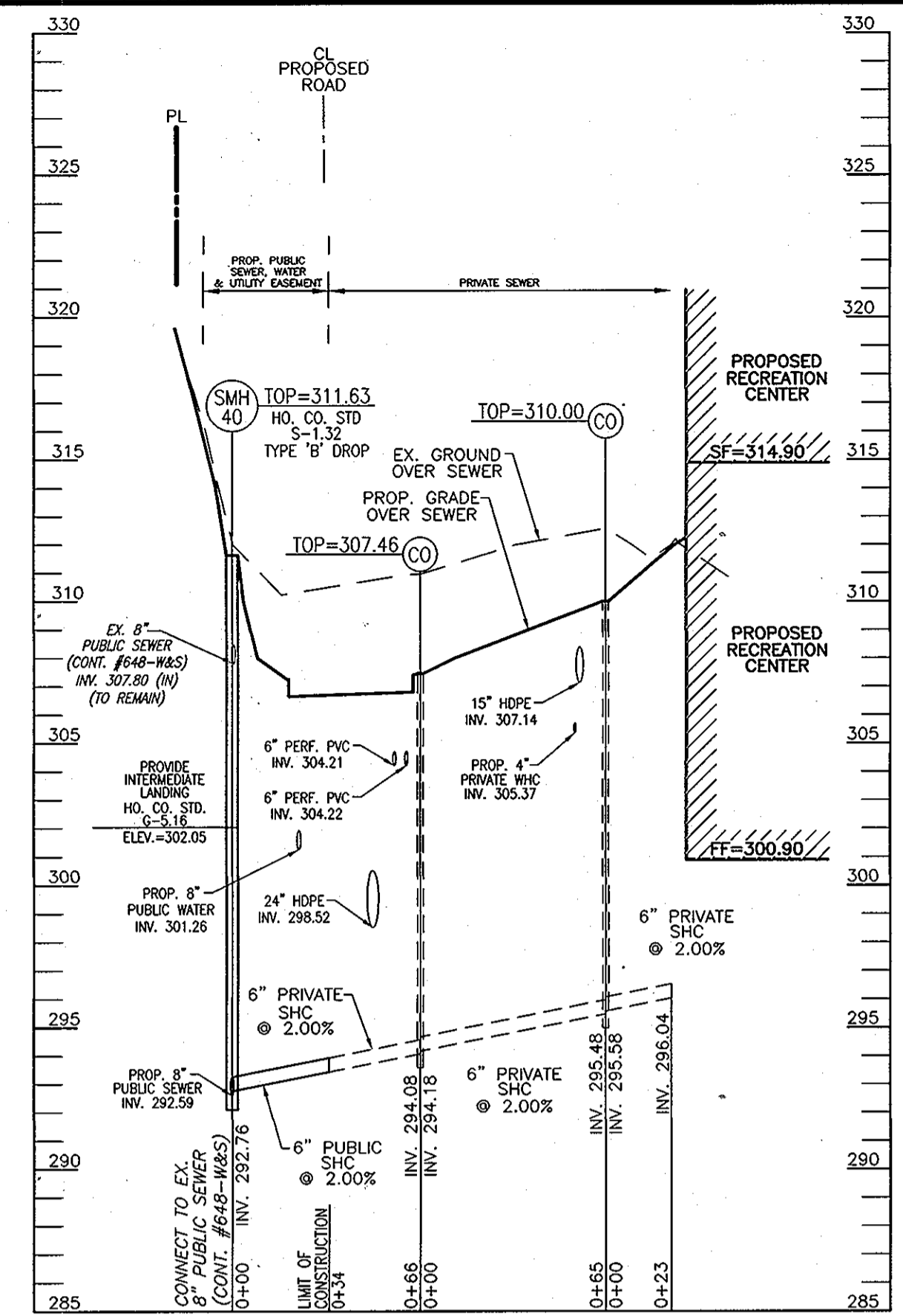
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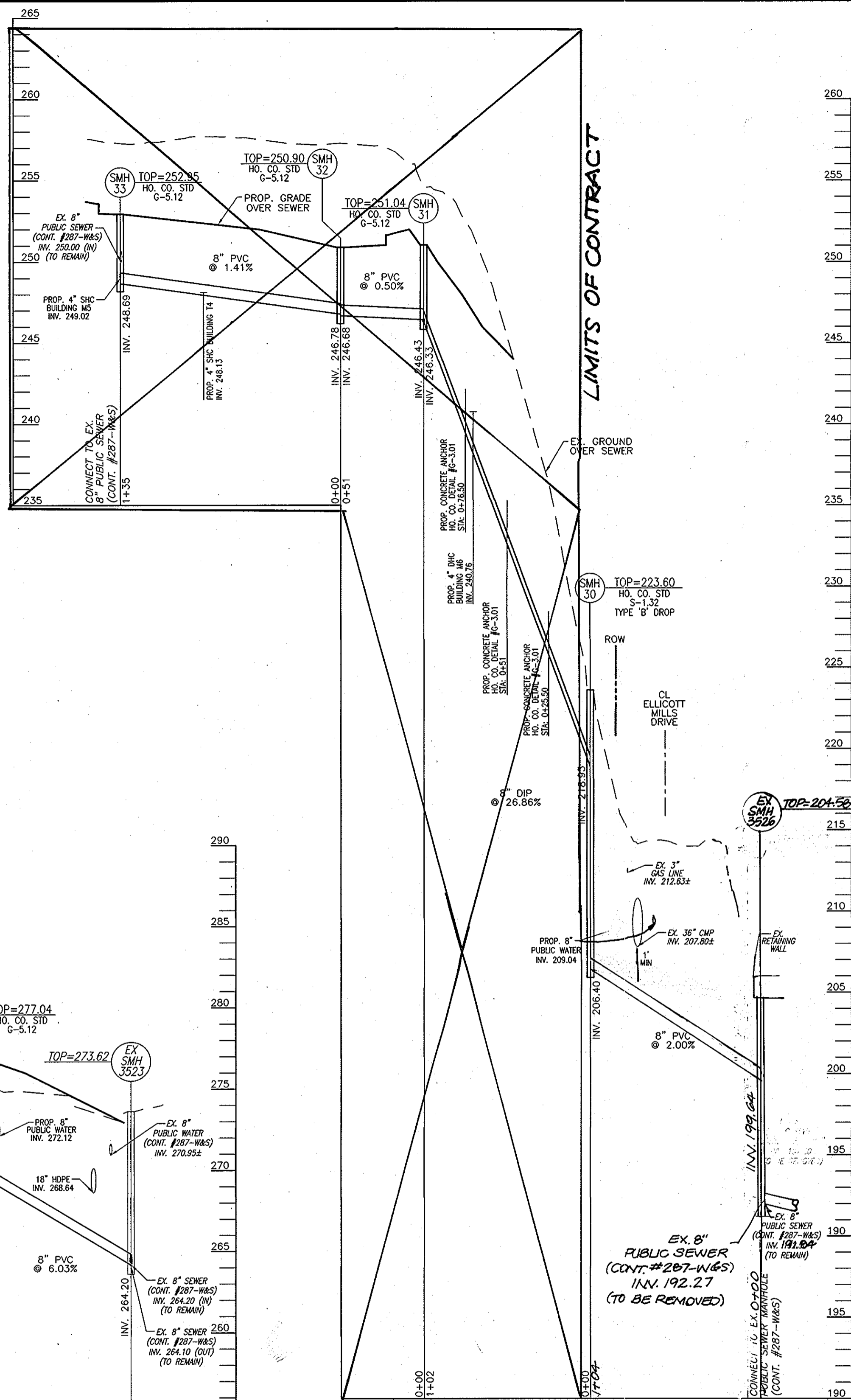
TEMP. 8" PUBLIC SEWER PROFILE
PHASE 1
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



8" PUBLIC SEWER PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



6" SHC PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



8" PUBLIC SEWER PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

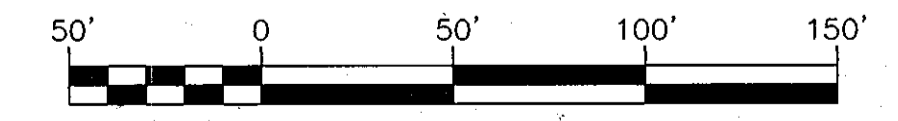
*NOTE: SMH 36A TO BE BUILT AS STANDARD G-5.12 MANHOLE TO BE IN PLACE FOR PHASE 1 AND REMOVED DURING PHASE 2.

SEWER MANHOLE SCHEDULE

NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT
SMH 30	PRECAST MH HO. CO. STD. DET. S-1.32 - TYPE 'B' DROP	N 583999.84 E 1368508.80	223.60	218.93	206.40
SMH 31	PRECAST MH HO. CO. STD. DET. G-5.12	N 583935.39 E 1368418.89	254.84	246.43	246.35
SMH 32	PRECAST MH HO. CO. STD. DET. G-5.12	N 583902.00 E 1366373.79	250.30	246.76	246.66
SMH 33	PRECAST MH HO. CO. STD. DET. G-5.12	N 584101.30 E 1366309.92	252.93	243.02	240.69
SMH 34	PRECAST MH HO. CO. STD. DET. G-5.12	N 584096.06 E 1367928.23	227.04	270.09	269.99
SMH 35	PRECAST MH HO. CO. STD. DET. G-5.12	N 584151.03 E 1367655.05	281.53	271.59	271.49
SMH 36	PRECAST MH HO. CO. STD. DET. G-5.12	N 584200.35 E 1367573.00	283.77	272.17	272.07
*SMH 36A	PRECAST MH HO. CO. STD. DET. G-5.12 (TEMPORARY)	N 584262.96 E 1367525.64	285.25	277.43	277.33
SMH 36B	PRECAST MH HO. CO. STD. DET. S-1.32 - TYPE 'B' DROP	N 584251.00 E 1367534.69	285.01	276.96	272.49
SMH 37	PRECAST MH HO. CO. STD. DET. G-5.12	N 584326.26 E 1367477.75	286.30	279.98	279.88
SMH 38	PRECAST MH HO. CO. STD. DET. G-5.12	N 584438.00 E 1367458.20	288.96	281.81	281.71
SMH 39	PRECAST MH HO. CO. STD. DET. G-5.12	N 584763.88 E 1367467.67	302.34	292.17	292.07
SMH 40	PRECAST MH HO. CO. STD. DET. S-1.32 - TYPE 'B' DROP	N 584845.12 E 1367447.85	311.63	307.80	292.59
SMH 41	PRECAST MH HO. CO. STD. DET. G-5.12	N 584249.26 E 1367831.24	280.88	274.00	273.90
SMH 42	PRECAST MH HO. CO. STD. DET. S-1.32 - TYPE 'A' DROP	N 584266.72 E 1367832.04	281.16	277.06	274.09
SMH 43	PRECAST MH HO. CO. STD. DET. G-5.12	N 584333.67 E 1367921.88	280.83	277.06	275.00

*SMH 36A TO BE TEMPORARY. TO BE INSTALLED UNDER PHASE 1, AND REMOVED UNDER PHASE 2.

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21436, EXPIRATION DATE: 09-27-2012



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
John C. Moore
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
John C. Moore
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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



DES:	JTD				
DRN:	JMR				
CHK:	JTD				
DATE:	JULY 2011	BY:	NO.	1	REVISION
					REMOVE SMH 31-33 FROM CONTRACT
					6/11/12

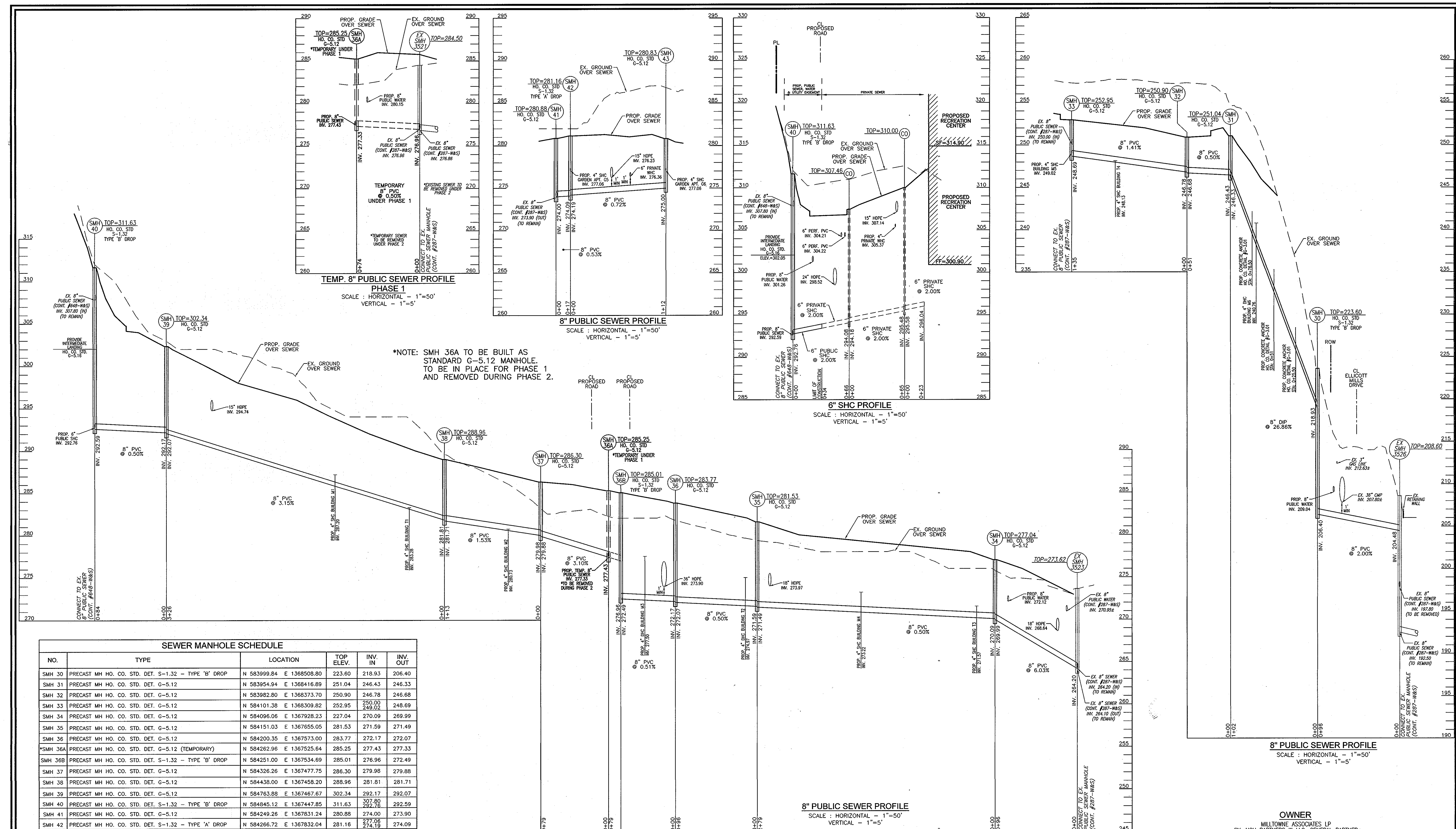
FINAL WATER & SEWER PLAN
SEWER PROFILE

HILLTOP REDEVELOPMENT
L 477 / F. 718, L. 456 / F. 448,
L. 448 / F. 46
CONTRACT #14-4709-D
ZONING: R-HV, R-A-15, & POR
DPZ REF#ECP-11-051, F-12-008, SDP-11-051
F-68-092, SDP-77-013, SDP-04-027
26-S, 287 W&S, SDP-75-61, F-86-017
TAX MAP: 25 GRID: 07
PARCELS: 12 & 291
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 7 OF 7

OWNER
MILLTOWNE ASSOCIATES LP
BY: HCH PARTNERS III LLC, GENERAL PARTNER
BY: HOWARD COUNTY HOUSING COMMISSION, MEMBER
BY: STACY SPANN, EXECUTIVE DIRECTOR
6751 COLUMBIA GATEWAY DR.
3RD FLOOR
COLUMBIA, MD 21046
(410) 313-6320

DEVELOPER
STAVROU ASSOCIATES, INC.
2661 RIVA ROAD
BUILDING 300
ANNAPOLIS, MD 21401
C/O STEPHEN J. MOORE
(410) 571-8610



TEMP. 8" PUBLIC SEWER PROFILE
PHASE 1
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

8" PUBLIC SEWER PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

6" SHC PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

8" PUBLIC SEWER PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

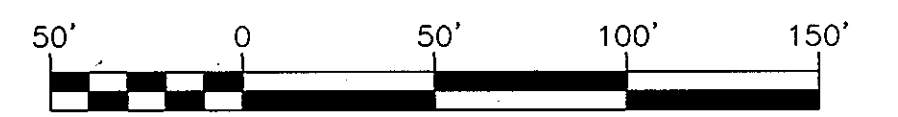
*NOTE: SMH 36A TO BE BUILT AS STANDARD G-5.12 MANHOLE TO BE IN PLACE FOR PHASE 1 AND REMOVED DURING PHASE 2.

SEWER MANHOLE SCHEDULE

NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT
SMH 30	PRECAST MH HO. CO. STD. DET. S-1.32 - TYPE 'B' DROP	N 583999.84 E 1368508.80	223.60	218.93	206.40
SMH 31	PRECAST MH HO. CO. STD. DET. G-5.12	N 583954.94 E 1368416.89	251.04	246.43	246.33
SMH 32	PRECAST MH HO. CO. STD. DET. G-5.12	N 583982.80 E 1368373.70	250.90	246.78	246.68
SMH 33	PRECAST MH HO. CO. STD. DET. G-5.12	N 584101.38 E 1368309.82	252.95	249.02	248.69
SMH 34	PRECAST MH HO. CO. STD. DET. G-5.12	N 584096.06 E 1367928.23	227.04	270.09	269.99
SMH 35	PRECAST MH HO. CO. STD. DET. G-5.12	N 584151.03 E 1367855.05	281.53	271.59	271.49
SMH 36	PRECAST MH HO. CO. STD. DET. G-5.12	N 584200.35 E 1367573.00	283.77	272.17	272.07
*SMH 36A	PRECAST MH HO. CO. STD. DET. G-5.12 (TEMPORARY)	N 584262.96 E 1367525.64	285.25	277.43	277.33
SMH 36B	PRECAST MH HO. CO. STD. DET. S-1.32 - TYPE 'B' DROP	N 584251.00 E 1367534.69	285.01	276.96	272.49
SMH 37	PRECAST MH HO. CO. STD. DET. G-5.12	N 584326.26 E 1367477.75	286.30	279.98	279.88
SMH 38	PRECAST MH HO. CO. STD. DET. G-5.12	N 584438.00 E 1367458.20	288.96	281.81	281.71
SMH 39	PRECAST MH HO. CO. STD. DET. G-5.12	N 584763.88 E 1367467.67	302.34	292.17	292.07
SMH 40	PRECAST MH HO. CO. STD. DET. S-1.32 - TYPE 'B' DROP	N 584845.12 E 1367447.85	311.63	307.80	292.59
SMH 41	PRECAST MH HO. CO. STD. DET. G-5.12	N 584249.26 E 1367831.24	280.88	274.00	273.90
SMH 42	PRECAST MH HO. CO. STD. DET. S-1.32 - TYPE 'A' DROP	N 584266.72 E 1367832.04	281.16	277.06	274.09
SMH 43	PRECAST MH HO. CO. STD. DET. G-5.12	N 584333.67 E 1367921.88	280.83	277.06	275.00

*SMH 36A TO BE TEMPORARY. TO BE INSTALLED UNDER PHASE 1, AND REMOVED UNDER PHASE 2.

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21458, EXPIRATION DATE: 09-27-2012



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
John J. Moore
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
Charles J. Moore
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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



DES:	JTD
DRN:	JMR
CHK:	JTD
DATE:	JULY 2011
BY:	NO.
REVISION:	
DATE:	

FINAL WATER & SEWER PLAN
SEWER PROFILE

OWNER
MILLTOWNE ASSOCIATES LP
BY: HCH PARTNERS III LLC, GENERAL PARTNER
BY: HOWARD COUNTY HOUSING COMMISSION, MEMBER
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HILLTOP REDEVELOPMENT
L. 477 / F. 718, L. 456 / F. 448,
L. 448 / F. 46
CONTRACT #14-4709-D

ZONING: R-HV, R-A-15, & POR
DPZ REF: S: ECP-11-051, F-12-008, SGP-11-051
F-68-092, SGP-77-013, SGP-04-027
26-S, 287 W&S, SGP-75-81, F-66-017
TAX MAP: 25 GRID: 07
PARCELS: 12 & 291
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 7 OF 7