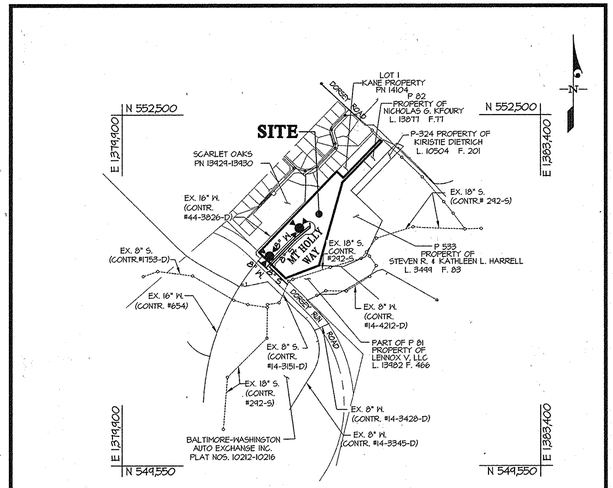
QUANTITIES

ITEMS	QUANTITIES ESTIMATED	AS-BUILT QUANTITIES	AS-BUILT TYPE	AS-BUILT MANUFACTURER/ SUPPLIER
8" WATER MAIN (C900 PVC DR 18)	606 L.F.			
1 1/2" WHC	501 LF			
16"x 8" T.S.&V.	1 EA.			
8"x 8" T.	1 EA.			
8"x 6" F.H.T.	2 EA.			
8" VALVE	2 EA.			
6" VALVE	2 EA.			
FIRE HYDRANT	2 EA.			
8" 5° SWEEP	3 EA.			
8" 1/16 V.B.	2 EA.			
8" 1/32 V.B.	2 EA.			
8" 1° HDC	1 EA.			
8" CAP	2 EA.			
CONTINUITY TEST STATION	2 EA.			
8" SEWER MAIN (PVC)	708 LF			
4" SHC	454 LF			
4' MANHOLE	5 EA.			

NAME OF UTILITY CONTRACTOR:

SURVEY AND DRAFTING DIV. — CHECKBOX: AS-BUILT DATE:

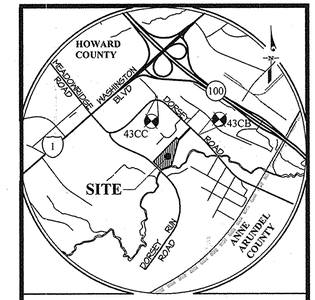


WATER ZONE: 400
TEST GRADIENT: 550

VICINITY MAP

SCALE: 1" = 600'

TYPE OF BUILDING	RESIDENTIAL
NUMBER OF UNITS	15
NUMBER OF S.H.C.'s	15
NUMBER OF W.H.C.'s	9 SINGLES 3 TWINS
AREA OF COMMERCIAL LOT/PARCEL	6.55 ACRES
SEWER SHED	PATAPSCO
PUMPING STATION	PATAPSCO



LOCATION MAP

SCALE: 1" = 2,000'

BENCHMARKS			
43CB	ELEV. 144.401	N = 552,084.2453	E = 1,382,282.4118
43CC	ELEV. = 169.866	N = 553,201.4676	E = 1,381,152.8123

ADC MAP: 35 GRID: A6

GENERAL NOTES

Revised - October 2013

Part I

1. 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.
2. Topographic AIR surveys were performed on DECEMBER, 2008 by MCKENZIE SNYDER.
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. 4TDC, and No. 4TEB.
   All vertical controls are based on NAVD '88. Vertical controls provided on the drawings are STANDARD DISCS ON CONCRETE MONUMENTS.
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 monies 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 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 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 working days before starting work shown on these plans:
   AT&T 1-800-252-1133
   BGE (Construction Services) 410-637-8713
   BGE (Emergency) 410-685-0123
   Bureau of Utilities 410-313-4900
   Colonial Pipeline Co 410-785-1940
   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.

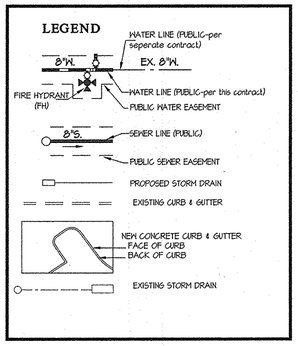
Part II WATER

1. All water mains shall be AWWA C-900 PVC.
2. Sprinkler systems for residential dwelling units shall have water house connections and water meters that are sized in accordance with the design of sprinkler systems. Sprinkler systems for single residential dwellings shall have a minimum of ½"-inch service connection with a 1" outside meter setting.
3. Tops of all water mains shall have a minimum of 3'-6" of cover unless otherwise noted.
4. Valves adjacent to tees shall be strapped to tees.
5. All fittings shall be buttressed or anchored with concrete in accordance with Standard Details unless otherwise provided for on the drawings.
6. 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.
7. The contractor shall not operate any water main valves on the existing water system.
8. Tracer wires and continuity test stations shall be installed on all DIP and PVC water mains in accordance with the Howard County Design Manual.
9. 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.
10. 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 "tees" used with PVC mains shall be ductile iron.
11. 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 PVC pipe.
12. 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 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 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 (1½-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, DR18 meeting the requirements of AWWA C900 and shall be Multi Fittings (Ipex) Blue Brute DR18 or equal.
13. 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 approved 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 and cover, Standard Detail G5.52. Where watertight manhole frames and covers are used, set top of frame 1'-6" above finished grade unless otherwise noted on the drawings.
6. House(s) with the symbol "C.N.S." indicates that the cellar cannot be served.



SHEET INDEX

1 - COVER SHEET
2- WATER & SEWER PLAN
3 - WATER & SEWER PROFILES

CONTRACT No. 14-4867-D
DORSEY GLEN
LOTS 1 THRU 15 AND OPEN SPACE LOTS 16-20, & NON BUILDABLE BULK PARCEL A
A RESUBDIVISION OF KANE PROPERTY LOT 2
PN.: 14104
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND F-16-027.

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

APPROVED: HOWARD S.C.D. — Date 6/23/16

PREPARED FOR:
ROBERTS REAL ESTATE DEVELOPMENT , LLLP
2124 PRIEST BRIDGE DRIVE
SUITE ONE
CROFTON , MD 21114
ATTN: BRIAN ROBERTS
240-461-9172

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES — DATE 6/14/16

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6.29.16

GLW GUTSCHICK 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\DRAWINGS\12064\PLANS BY GLW\WAT-SEW\FINAL\12064-WS1-CS.dwg | DES. WSJ | DRN. WSJ | CHK. DDS

DATE MAY, 2016
G.L.W. No. 12064

PROFESSIONAL CERTIFICATION
I 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, 2018 5/23/16

BY	NO	REVISION	DATE

COVER SHEET
600' SCALE MAP NO. 24 BLOCK NO. 11

DORSEY GLEN
CONTRACT No. 14-4867-D
LOTS 1-15, OPEN SPACE LOTS 16-20, & NON-BUILDABLE BULK PARCEL A
A RESUBDIVSION OF KANE PROPERTY LOT 2
PN.: 14104
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT No. 2

SCALE AS SHOWN
SHEET 1 OF 3

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NOTE: ALL LOTS REQUIRE A PRV FOR SERVICE CONNECTIONS

FITTING CHART			
STATION	FITTING	NAD '83/'91 COORDINATES	
8" WATERLINE "A"			
0+00	16"x 8" T.S.&V.	N 551274.17	E 1381037.90
0+26	8" 5° SWEEP	N 551257.27	E 1381058.15
0+89	8"x 8" T.	N 551214.21	E 1381103.24
1+09	8" CAP	N 551200.40	E 138117.69
8" WATERLINE "B"			
0+00	8"x 8" T.	N 551214.21	E 1381103.24
0+93	8"x 6" F.H.T.	N 551281.30	E 1381167.44
3+19	8" 5° SWEEP	N 551444.38	E 1381323.50
3+80	8" 5° SWEEP	N 551485.60	E 1381369.19
4+27	8"x 6" F.H.T.	N 551515.44	E 1381405.58
4+97	8" CAP	N 551559.49	E 1381459.28

SEWER MH CHART		
MH	NAD '83/'91 COORDINATES	
1	N 551073.72	E 1381282.50
2	N 551223.20	E 1381131.19
3	N 551444.73	E1381342.90
4	N 551552.11	E 1381472.10
5	N 551589.15	E 1381470.25

FIRE HYDRANT CHART		
FH	NAD '83/'91 COORDINATES	
A	N 551288.33	E 1381160.10
B	N 551522.92	E 1381399.44

CONTINUITY TEST STATION CHART			
STR.	STATION	OFFSET	REMARKS
WATERMAIN "B"			
1	0+95	10' LEFT	HO. CO. STD. DETAIL W-1.15
2	4+25	10' LEFT	HO. CO. STD. DETAIL W-1.15

MINIMUM CELLAR ELEVATIONS		INV. @ R/W/ESMT. ELEVATION
LOT NO.	ELEVATION	
MOUNT HOLLY WAY		
1	135.50	130.94
2	136.04	131.22
3	136.36	131.54
4	136.67	131.86
5	137.16	132.39
6	137.77	132.75
7	138.17	133.73
8	138.83	133.39
9	140.00	133.37
10	138.85	133.55
11	138.07	133.49
12	138.09	133.15
13	137.37	132.27
14	136.88	132.06
15	136.32	131.50

LOT FRONTAGE TABLE	
LOT No.	DISTANCE
MOUNT HOLLY WAY	
1	63.00'
2	63.00'
3	63.00'
4	62.53
5	61.39'
6	69.71'
7	41.73'
8	13.30'
9	12.29'
10	32.11'
11	30.34'
12	54.57'
13	77.72'
14	66.27
15	67.02'

FOR WATER AND SEWER PROFILES SEE SHEET 3 OF 3

PLAN SCALE:
1" = 50'

0 10 25 50 100
1 Inch = 50 ft.

PREPARED FOR:
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6/14/16
CHIEF, BUREAU OF UTILITIES — DATE

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HOWARD COUNTY, MARYLAND
6-29-16
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

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L:\CADD\DRAWINGS\12064\PLANS BY GLW\WAT-SEW\FINAL\12064-WS-2.dwg | DES. WsJ | DRN. WsJ | CHK. DDS

DATE: MAY, 2016
G.L.W. No. 12064

PROFESSIONAL CERTIFICATION
I 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, 2018
5/23/16

BY	NO	REVISION	DATE

WATER & SEWER EXTENSION PLAN

600' SCALE MAP NO. 24 — BLOCK NO. 11

DORSEY GLEN
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& NON-BUILDABLE BULK PARCEL A
A RESUBDIVSION OF KANE PROPERTY LOT 2
PN.: 14104
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT No. 2

SCALE 1"=50'

SHEET 2 OF 3

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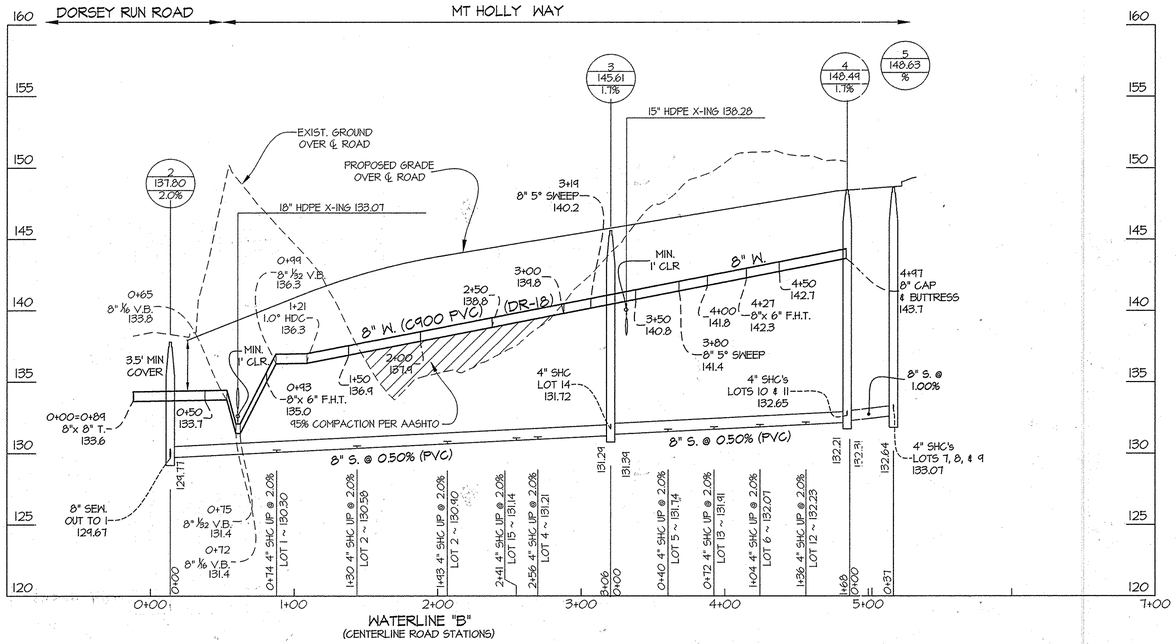

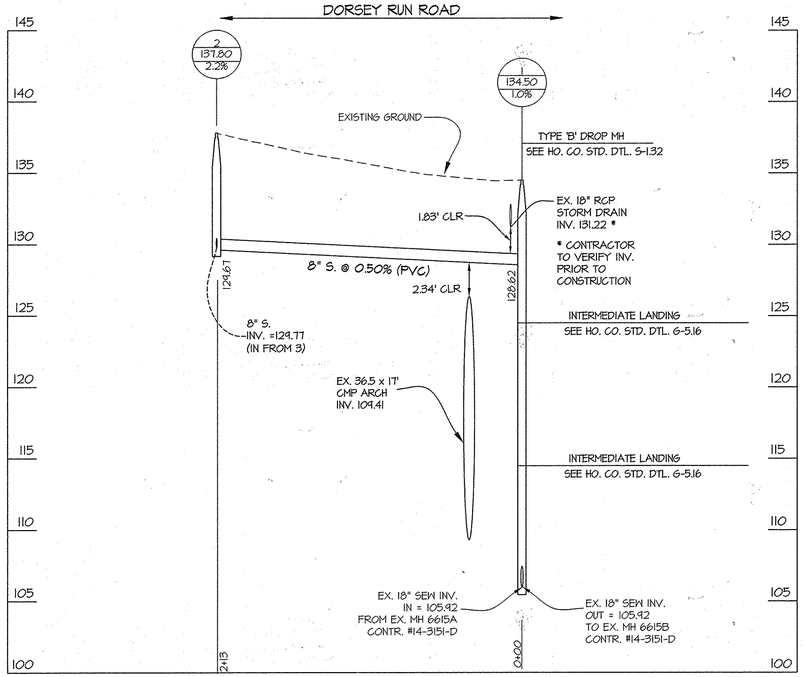

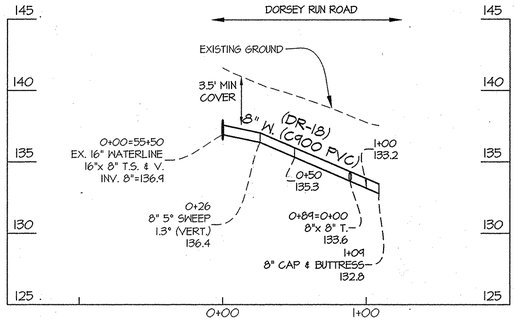

FOR WATER AND SEWER PLAN SEE SHEET 2 OF 3

PROFILE SCALES:

1" = 5' VERT.
1" = 50' HORZ.

0 10 25 50 100
1 inch = 50 ft.

PREPARED FOR:
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5/23/16

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600' SCALE MAP NO. 24 BLOCK NO. 11

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SCALE AS SHOWN
SHEET 3 OF 3

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