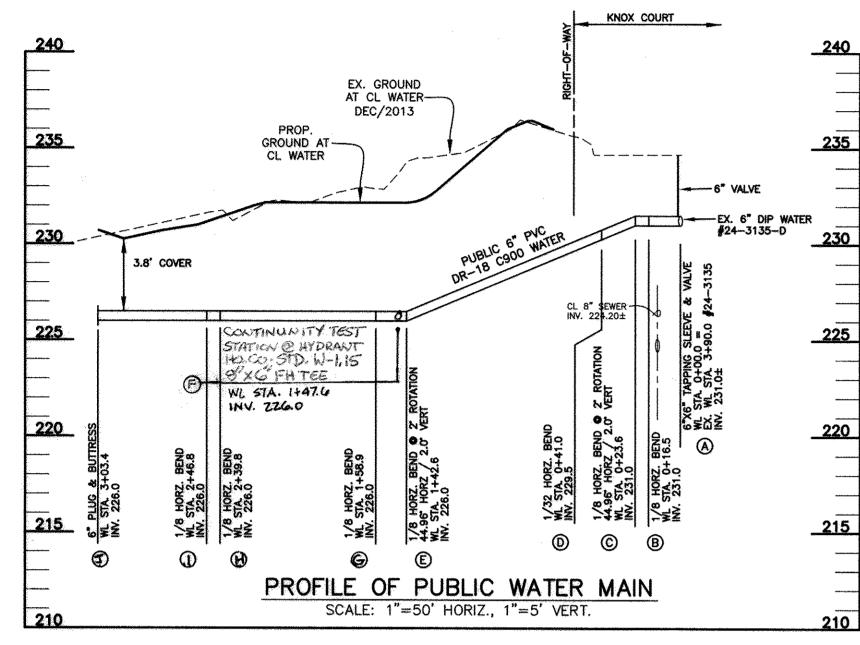
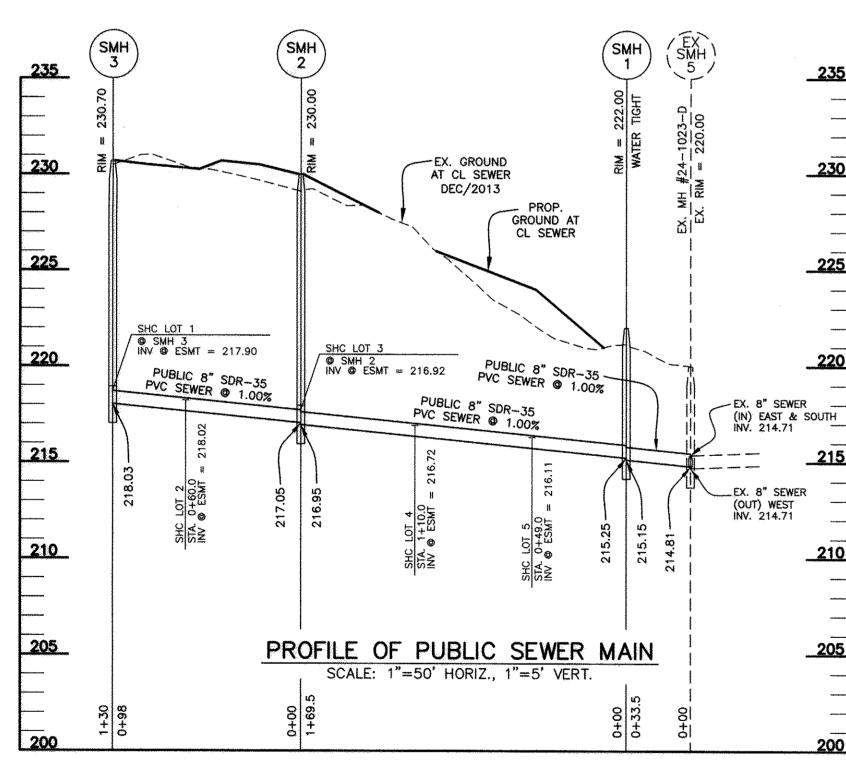
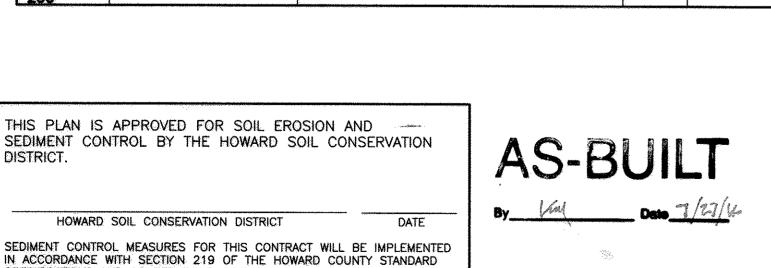
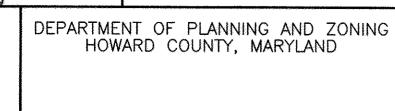
QUANTITIES AS-BUILT QUANTITIES ESTIMATED QUANTITIES TYPE MANUF./SUPPLIER PVC C900 DR-18 WATE 6"x6" TS&V Mueller Cooper Mueller Concrete Horne FIRE HYDRANT WITEESVALVE 6'6" Bury Mueller Spring Pyc North American Plac Controles Cons. Precess NAME OF UTILITY CONTRACTOR: Utilities Unlimited

SURVEY AND DRAFTING DIVISION AS-BUILT DATE:













220.38

Location (NAD '83)

1/8 HORIZONTAL BEND

1/8 HORIZONTAL BEND (ROTATE 2°)

1/32 HORIZONTAL BEND

1/8 HORIZONTAL BEND

1/8 HORIZONTAL BEND

1/8 HORIZONTAL BEND

6" PLUG AND BUTTRESS

6"X6"FHTEE&VALVE

N 526,800

SHC CHART

216.52 216.72

5 215.91 216.11 219.69

218.02

216.92

1/8 HORIZONTAL BEND (ROTATE 2°)

Number

Invert

Location (NAD '83)

N 527074.98 E 1353337.05

N 527078.10 E 1353320.81

N 527073.91 E 1353314.92

N 527057.02 E 1353311.67

N 526961.33 E 1353277.48

N 526954.30 E 1353262.86

N 526982 18 E 1353186 93

N 526979.20 E 1353180.51

N 526926.09 E 1353161.02

1526959.17E1353272.98

BSMT=225.40

Out

N 526833.56 E 1353296.96 215.25 215.15 222.00

N 526891.97 E 1353137.84 217.05 216.95 230.00

WL Station

0+16.5

0+23.6

1+42.6

1+58.9

3+03.4

11+147.6

LOT 1

LOT 3 ·

N 526983.59 E 1353171.47 - 218.03 230.70

Water Appurtenance Schedule

	DATE:	8/2015	BY	NO.	REVISIONS		
	T		BEI	/	ADD FIRE HYDRANTAT WLSTA 1+47.6	. [1
	CHK:	CAM					
	DRAFT:	DBT					
	DES:	DBT					

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE

SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE

KNOX COURT 37'TO LOT 2 WHC

KNOX COURT 10' TO SMH - 2

KNOX COURT 64' TO SMH-2

KNOX COURT 14.5'TO LOT 2 WHC

KNOX COURT 14.5 TO LOT 2 SHC 45.5 TO SMH - 2

LOCATION DIMENSION 1

KNOX COURT 43' TO LOT 5 WHE 20' TO LOT I WHE

KNOX COURT 10' TO EH @STA.I+47 17' TO G"VALYE@STA.I+4

LOCATION DIMENSION 1 LOCATION DIMENSION 2

14.5'TO LOT 3 WHC 44,5'TO LOT 3 WHC.

74' TO LOT 3 SHO

KNOX LANDING II

LOTS 1-5 AND OPEN SPACE LOTS 6-7

CONTRACT NO. 24-4896-D

THL ST

6"x6" TAPPING

5MH-3

N.T.S.

CONTRACTOR TO VERIFY LOCATIONS OF

COURT, CONNECTION TO EXISTING MAIN

BE ALTERED AT CONTRACTORS DISCRETION

EXISTING CONNECTIONS SHOWN BASED ON

EXISTING WHC AND SHC WITHIN KNOX

SHOULD ANY CONFLICTS WITH THESE

EXISTING CONNECTIONS ARISE.

AS-BUILT CONTRACT DRAWINGS.

N 527,200

FX. FIRE HYDRANT

#24-3135-D

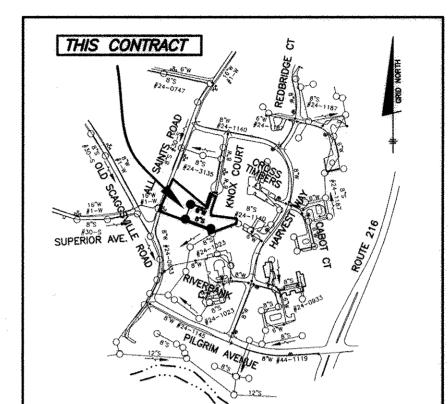
SLEEYE &VALVE

PUBLIC WATER AND SEWER PLAN. PROFILES, NOTES AND DETAILS 10-29-1 600 SCALE MAP #

BENCH MARKS (NAD83) HO. CO. No. 47GD ELEV. 312.32' NEAR 9028 OLD SCAGGSVILLE ROAD

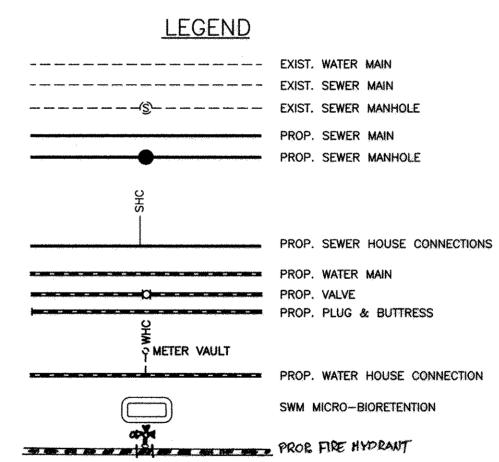
6 FEET FROM FIRE HYDRANT 33.9 FEET FROM BGE 315258 N 530494.447

HO. CO. No. 47GE BY 9160 OLD SCAGGSVILLE ROAD 19.8 FEET FROM WATER METER 76.5 FEET FROM BGE 31000 N 529044.964 E 1350854.953



1 inch = 600 ft.TYPE OF BUILDING: NUMBER OF WHC'S NUMBER OF SHC'S: LITTLE PATUXENT TREATMENT PLANT: _LITTLE PATUXENT WRP WATER ZONE: TEST GRADIENT:

FILE REFERENCES: ECP-14-054, WP-14-123, F-15-049



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

SEE HO. CO. STD. DETAIL W-3.28 FOR SINGLE OUTSIDE METER SETTING SEWER & UTILITY EASEMENT -N STA.1+47 1.5" COPPER WHC € c.T. S. @F.H. STA-1:47 STA 147 5.5', TYPICAL SINGLE WATER HOUSE CONNECTION (OUTSIDE METER SETTING)

GENERAL NOTES

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 FIELD SURVEYS WERE PERFORMED IN DECEMBER, 2013 BY BENCHMARK ENGINEERING, INC.

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. 47GD AND NO.

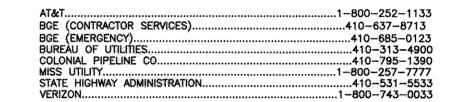
ALL VERTICAL CONTROLS ARE BASED ON NAVD '88, VERTICAL CONTROLS PROVIDED ON THE DRAWING

5. CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OF TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY 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:



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.

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 AN 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 TO BE PVC C900 DR-18 UNLESS OTHERWISE NOTED.

2. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE

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 THE 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

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. 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

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 INSERTIONLINE SHALL REMAIN VISIBLE, DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE HE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO

11. ALL CHANGES IN HORIZONTAL AND VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADI 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 (1 \(\frac{1}{2} \)
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.

5—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. 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 DEVICESFOR 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

- . 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.

- 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 CELLAR CANNOT BE SERVED.

KNOX LANDING II

LOTS 1-5 AND OPEN SPACE LOTS 6-7

TAX MAP: 50 - BLOCK: 2 - PARCEL: 75 AND 258 - ZONED: R-SC - ELECTION DISTRICT: 6

AS SHOWN SHEET NO.

SCALE:

CONTRACT NO. 24-4896-D of 1

SPECIFICATIONS AND AS PER F-15-049.

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER: CORNERSTONE HOLDINGS, L.L.C. 11807 WOLLINGFORD COURT CLARKSVILLE, MARYLAND 21029

410-792-2565

Professional Certification. I hereby certify that thes 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. 22390,

CHART

3 5.14'

4 4.97' 5 4.87'