

GENERAL NOTES

PART I

- 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.
- THE TOPOGRAPHY SHOWN HEREON IS BASED ON HOWARD COUNTY TOPOGRAPHY AND FIELD RUN TOPOGRAPHY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED AUGUST 2004.
- 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 380A AND 380S.
ALL VERTICAL CONTROLS ARE BASED ON (NAVD' 27). VERTICAL CONTROLS PROVIDED ON DRAWINGS ARE:
GEODETIC SURVEY CONTROL 380A (N 556796.292', E 1390721.486')
BRASS DISC SET ON TOP OF A CONCRETE MONUMENT LOCATED AT SOUTH EAST SIDE OF INTERSECTION BETWEEN RYAN AVENUE AND KRISTIN DRIVE, 12.7' WEST OF CABLETV & 0.8' TO BACK OF CURB.
GEODETIC SURVEY CONTROL 380S (N 558378.575', E 1386524.158')
BRASS DISC SET ON TOP OF A CONCRETE MONUMENT LOCATED NORTH SIDE OF ROUTE 1 BETWEEN AUTO & TIRE AND HOUSE# 6620, 5.6' BACK OF CONCRETE CURB AND 38.3' FROM FIRE HYDRANT.
- 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 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 DRAWINGS, 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 LOCATION OF THE TEST PIT. 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 OPERATION AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN THESE PLANS:
AT & T _____ 1-800-252-1133
BGE (CONTRACTOR SERVICE) _____ 410-850-4620
BGE (UNDERGROUND DAMAGE CONTROL) _____ 410-685-1400
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 _____ 1-800-743-0033/410-224-9210
- 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 THE 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

- EXCEPT AS INDICATED ON THE PLANS, ALL PUBLIC WATER MAINS SHALL BE POLYVINYLCHLORIDE (PVC) PIPE MEETING THE REQUIREMENTS OF AWWA C900 DRIB, PRESSURE CLASS 150 AND THE HOWARD COUNTY DESIGN MANUAL VOLUME IV-STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND ALL SUBSEQUENT AMENDMENTS THERETO.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-6" COVER UNLESS OTHERWISE NOTED.
- 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.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.
- FOR SPRINKLER SYSTEM FOR ALL TOWN HOMES OR MULTIFAMILY DWELLING UNITS SHOULD HAVE A MINIMUM OF 1" CONNECTION WITH A 3/4" METER.
- VALVES ARE TO BE ATTACHED WITH IRON FITTINGS OR CONCRETE ACHORS.
- THE DIMENSION RATIO FOR THE PVC MAIN SHALL BE DR 18.
- WATER MAIN CONSTRUCTION SHALL CONSIST OF PVC MAIN WITH EPOXY COATED DIP FITTINGS OR PVC MAIN WITH PVC FITTINGS.

PART III - SEWER

- ALL SEWER MAINS SHALL BE 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.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH FINAL PLAN F-10-049.

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

John R. Robertson 3/4/10
HOWARD SOIL CONSERVATION DISTRICT DATE

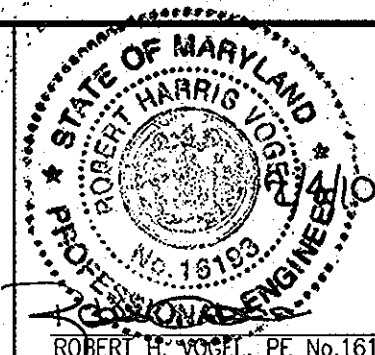
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

John R. Robertson 2/10/10
CHIEF, BUREAU OF UTILITIES DATE

Michael L. Pfaus 3/9/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION, N.G. DATE

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



PROFESSIONAL CERTIFICATE
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. 16193, EXPIRATION DATE: 10-27-2010.
DRN: KG DES: JOC
CHK: RHV
DATE: FEBRUARY 2010

AS-BUILT
NO. _____ REVISION _____ DATE 5/2012

**FINAL WATER & SEWER PLAN
COVER SHEET
CONTRACT 14-4639-D**

TAX MAP 38 GRID 14
1ST ELECTION DISTRICT

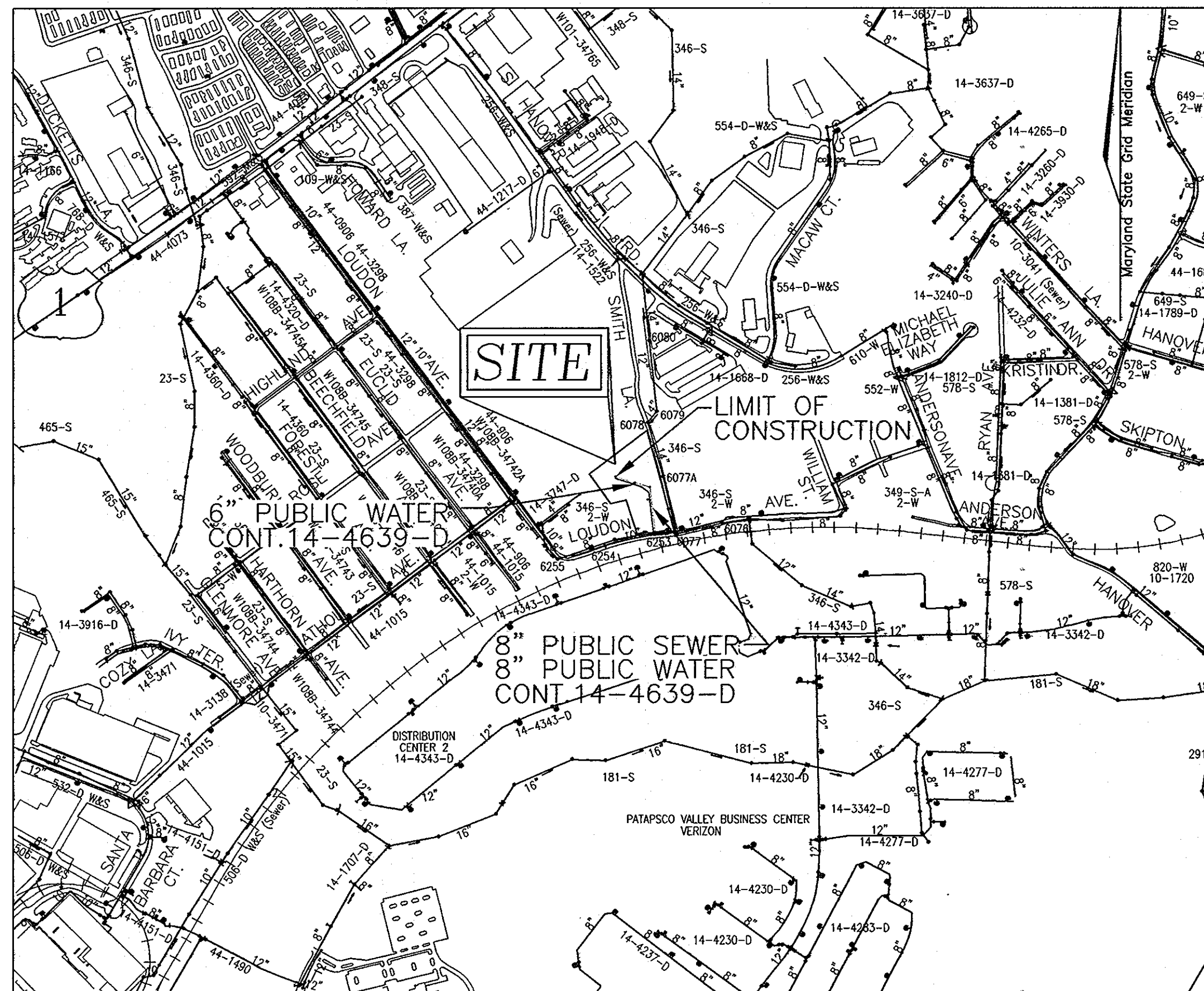
**EAGLE VALLEY
LOTS 1-9 AND OPEN SPACE LOT 10**

DEVELOPER
MICHAEL L. PFAU
3875 PARK AVENUE
ELICOTT CITY, MD 21043
PHONE 410-480-0023

SCALE
AS
SHOWN

SHEET
1 OF 2

FINAL WATER & SEWER PLAN EAGLE VALLEY CONT. NO. 14-4639-D LOTS 1-9 AND OPEN SPACE LOT 10 HOWARD COUNTY, MARYLAND



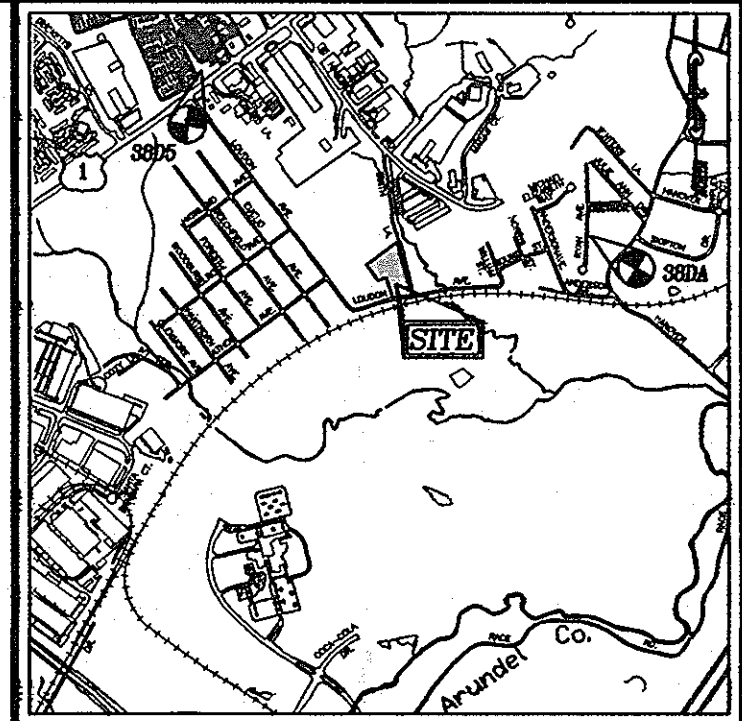
WATER CODE: 400
TEST GRADIENT: .550

LOCATION MAP
SCALE: 1"=600

Type of Building :	SINGLE FAMILY DETACHED
No. of Lots/Parcels :	10
No. of single Water House Connections :	9
No. of twin Water House Connections :	-
No. of Sewer House Connections :	9
No. of twin Sewer House Connections :	-
Drainage Area :	PATAPSCO RIVER

BENCHMARKS

HOWARD COUNTY BENCHMARK 380A (CONCRETE MONUMENT)
N 556796.292 E 1390721.486 ELEV. 126.075
HOWARD COUNTY BENCHMARK 380S (CONCRETE MONUMENT)
N 558378.575 E 1386524.158 ELEV. 192.964



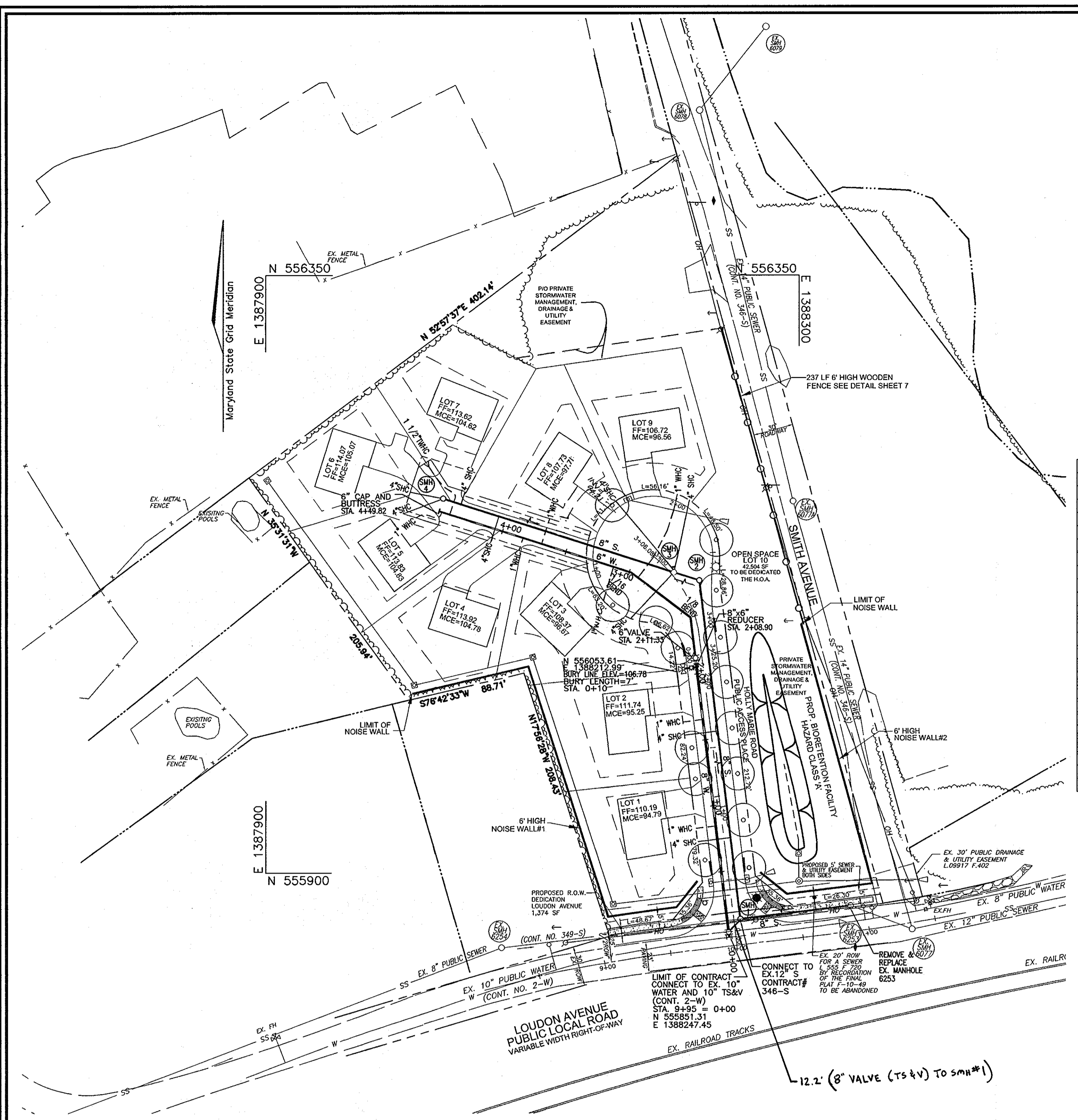
VICINITY MAP
SCALE: 1"=2000'
ADC MAP COORDINATE: 17 / F10

LEGEND

- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- FIRE HYDRANT
- PROPOSED VALVE
- PROPOSED TEE
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED SEWER
- EXISTING SEWER
- SEWER MANHOLE
- WATER HOUSE CONNECTION
- SEWER HOUSE CONNECTION
- PROPOSED SIGN
- PROPOSED LIGHT
- PROP. 24" USE-IN-COMMON ACCESS EASEMENT
- PROP. 30" SEWER AND WATER EASEMENT

QUANTITIES

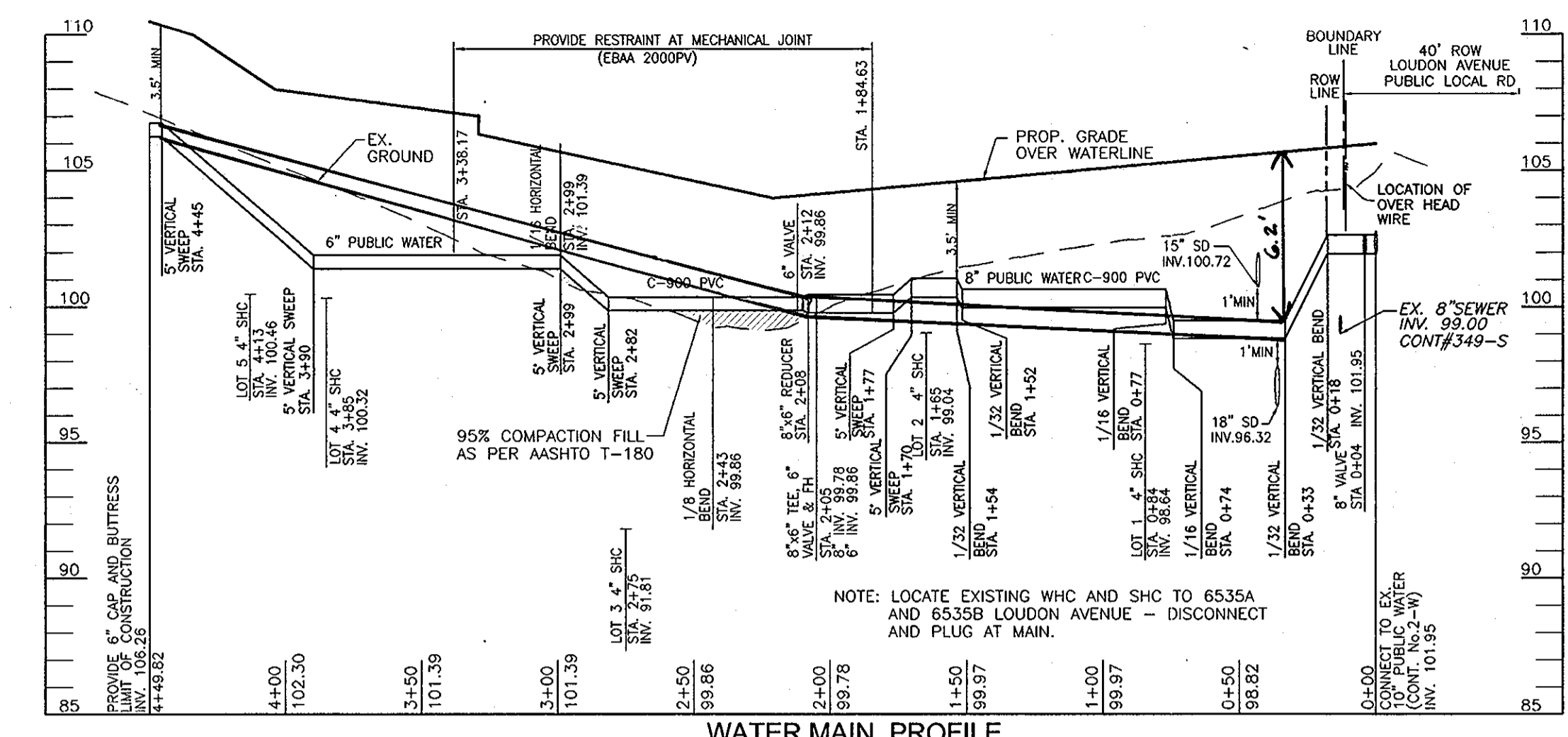
NAME OF UTILITY CONTRACTOR : S.E.H. CONTRACTING		SCOTT EDWARD HARE		
SURVEY AND DRAFTING DIVISION AS-BUILT DATE :				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
WATER				
8" WATER	209 LF	209	DR 18	NORTH AMERICAN
6" WATER	241 LF	241	DR 18	NORTH AMERICAN
1" WHC	189 LF	190	K COPPER	MUELLEN CO.
10" X 8" TAPPING SLEEVE	1 EA	-	T.S. & V	SMITH GLASS
8" X 8" TEE	1 EA	1	N.S. FITTING	TYLER UNION FOUNDRY
6" VALVE	1 EA	1	GATE (RL)	MUELLEN CO.
FIRE HYDRANT	1 EA	1	VA A-473	TYLER UNION FOUNDRY
8" - 1/8 BEND	1 EA	-	MSC 153	TYLER UNION FOUNDRY
8" - 1/16 BEND	1 EA	-	MSC 153	TYLER UNION FOUNDRY
6" CAP AND BUTTRESS	1 EA	1	MTC 153	TYLER UNION FOUNDRY
SEWER				
8" SEWER	542 LF	508	SDR 35	NORTH AMERICAN
MANHOLES	5 EA	4	PRECAST	CONTRACTOR PRECAST CORP.
4" SHC	192 LF	190	SDR 35	NORTH AMERICAN



LAYOUT PLAN
SCALE: 1"=50'

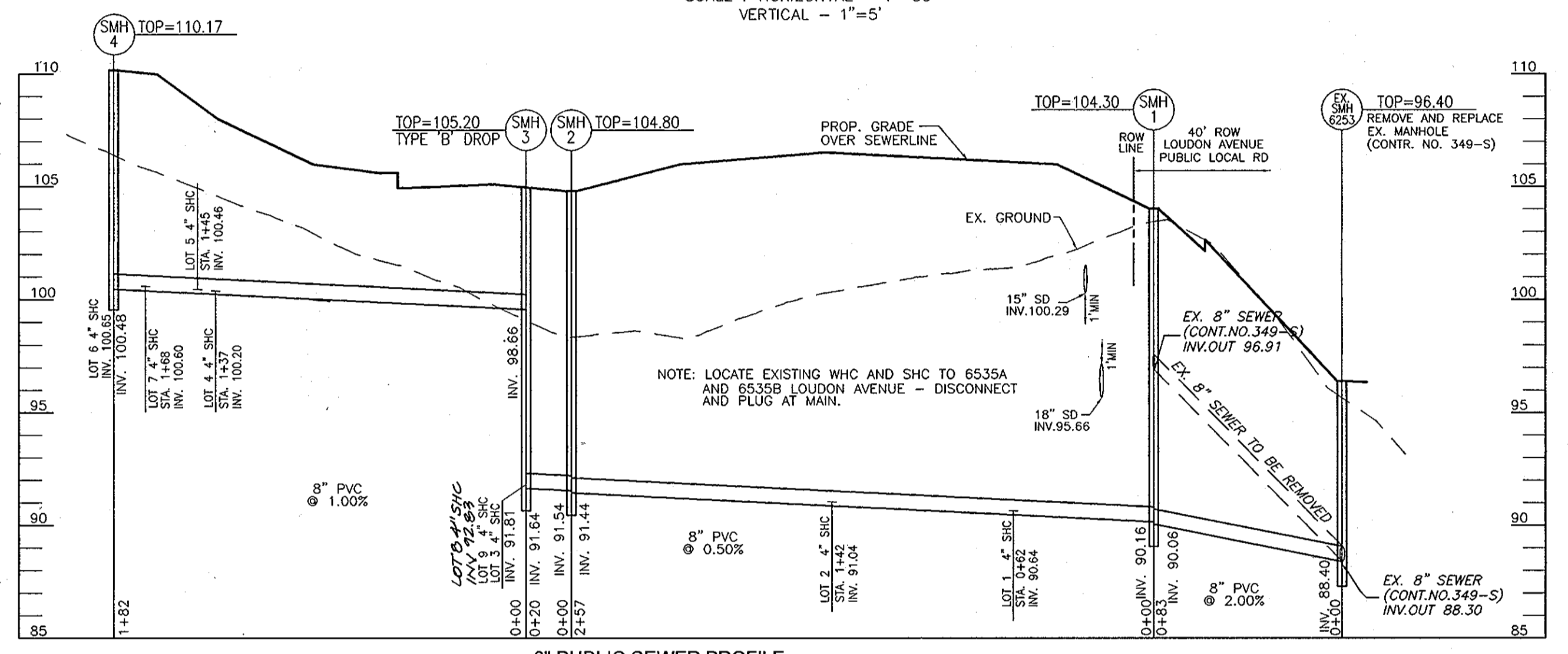
SEWER MANHOLE SCHEDULE						
NO.	TYPE	LOCATION		TOP ELEV.	INV. IN	INV. OUT
		NORTHING	EASTING			
SMH 1	STD. PRECAST MH HO. CO. STD. DET. G5.12	CL ROAD STA. 0+19.4, 5' RT		104.30	90.16	90.06
SMH 2	STD. PRECAST MH HO. CO. STD. DET. G5.12	CL ROAD STA. 2+71.6, 14.1' RT		104.80	91.54	91.44
SMH 3	STD. PRECAST MH HO. CO. STD. DET. S-1.32	CL ROAD STA. 2+86.4, 2.1' RT		105.20	98.66	91.64
SMH 4	STD. PRECAST MH HO. CO. STD. DET. G5.12	N. 556181.9 E. 1388033.0		110.17	-	100.48

LOT #	SLOPE	ELEV. AT MAIN DIS.	ELEV. @ ROW DIS	ELE. @ UNIT	M.C.E
1	0.02	90.64	25	91.19	80 92.29 94.79
2	0.02	91.04	25	91.54	83 92.7 95.2
3	0.02	91.81	48	92.77	118 94.17 96.67
4	0.02	100.2	20	100.6	104 102.28 104.78
5	0.02	100.55	20	100.95	89 102.33 104.83
6	0.02	100.65	3	100.71	96 102.57 105.07
7	0.02	100.6	10	100.8	76 102.12 104.62
8	0.02	92.83	69	94.21	112 95.07 97.71
9	0.02	91.78	54	92.86	114 94.06 96.56
10	OPEN SPACE				



WATER MAIN PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

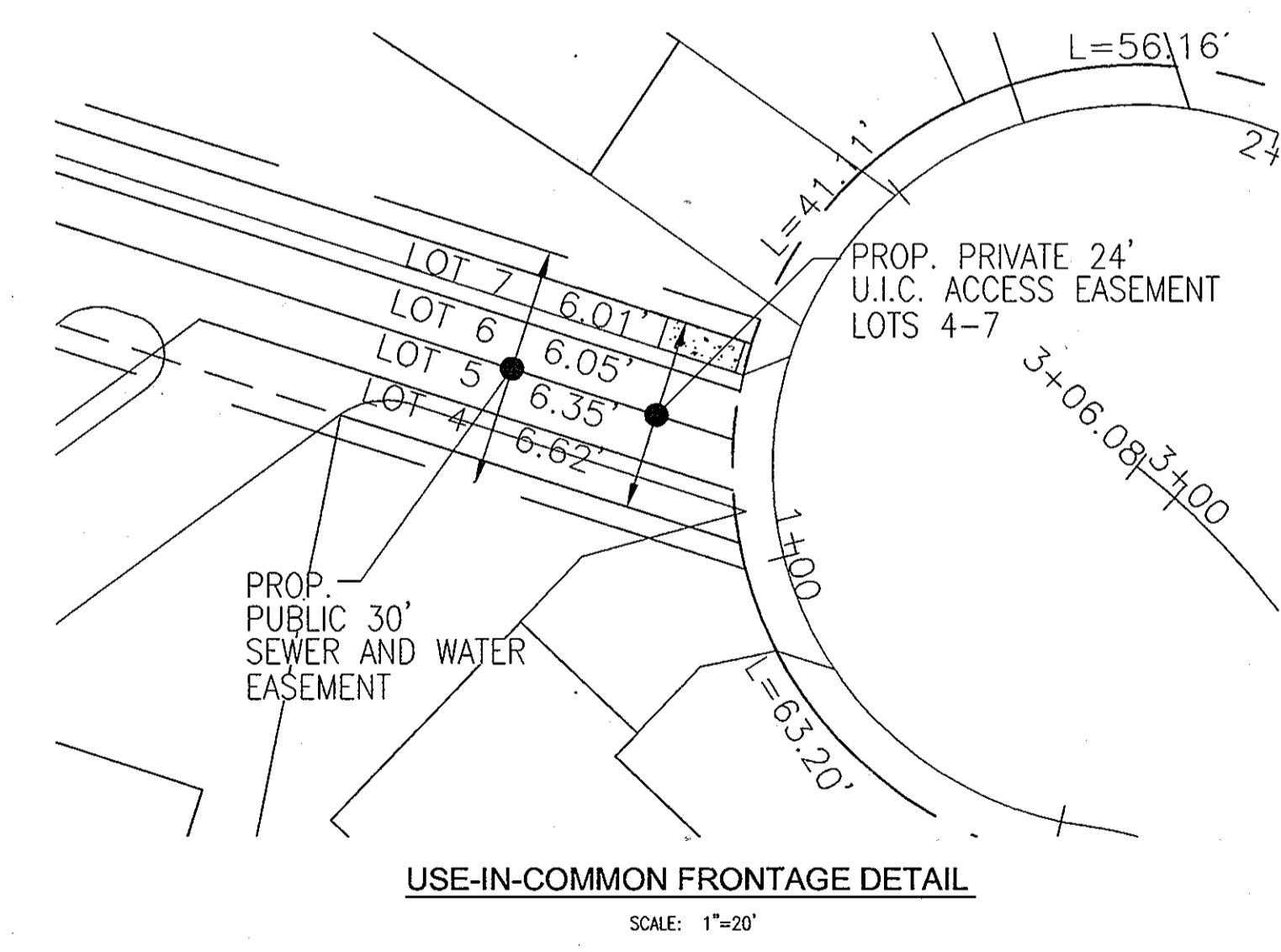
PUBLIC WATER MAIN	
STA.	FITTING
0+00	10"x8" TAPPING SLEEVE, AND 8" VALVE
2+05	8"x6" TEE, AND 6" VALVE AND FH
2+08	8"x6" REDUCER
2+12	6" VALVE
2+43	1/8" BEND
2+99	1/16" BEND
4+48.82	6" CAP & BUTTRESS



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

SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE			
LOT NUMBER	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
LOT 1		21.4 FT TO I-3	41.4' TO I-2
LOT 2		49.0 FT TO FIRE HYDRANT	51.6' TO FIRE HYDRANT VALVE
LOT 3		48.1' TO SMH #3	61.6' TO SMH #2
LOT 4		47.4' TO SMH #4	87.5' TO I-5
LOT 5		36.0' TO SMH #4	143.8' TO I-5
LOT 6		28.6' TO SMH #4	153.3' TO I-5
LOT 7		19.5' TO SMH #4	133.9' TO I-5
LOT 8		73.0' TO SMH #3	10.25' TO I-1
LOT 9		43.7' TO I-1	61.2' TO SMH #3

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE			
LOT NUMBER	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
LOT 1		39.5' TO I-3	52.3' TO I-2
LOT 2		40.3' TO FIRE HYDRANT	42.7' TO F.H. VALVE
LOT 3		56.5' TO SMH #3	73.5' TO SMH #2
LOT 4		69.6' TO SMH #4	22.5' TO SHC LOT #4
LOT 5		26.9' TO SMH #4	12.4' TO SHC LOT #5
LOT 6			
LOT 7		32.2' TO SHC LOT 7	29.7' SMH #4
LOT 8		61.9' TO I-1	102.5' SMH #3
LOT 9		35.3' TO I-1	62.5' SMH #3



USE-IN-COMMON FRONTAGE DETAIL
SCALE: 1"=20'

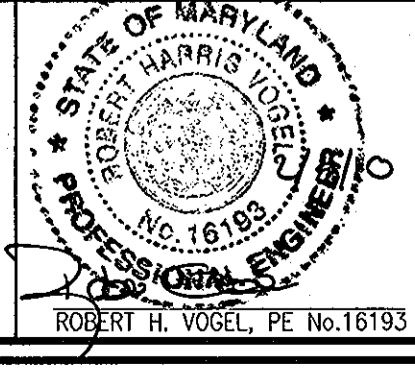
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John C. ...
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

John ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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PROFESSIONAL CERTIFICATE

HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 10-27-2010

DRN:	KG	DES:	JOC
CHK:	RHV		
DATE:	FEBRUARY 2010		

NO.	REVISION	DATE
1	AS-BUILT MODIFIED WHC AND SHC LOCATIONS FOR LOTS 3 AND 8	5/2012 1/24/11

FINAL WATER & SEWER PLAN LAYOUT VIEW & PROFILES
CONTRACT 14-4639-D

600' SCALE MAP NO. 38
BLOCK NO. 14

EAGLE VALLEY LOTS 1-9 AND OPEN SPACE LOT 10

TAX MAP 38 GRID 14
1ST ELECTION DISTRICT

PARCEL 215
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 2 OF 2