

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.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD RUN TOPOGRAPHIC SURVEY WITH 2-FOOT CONTOUR INTERVALS PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED APRIL 08, 2014.
- THE PROJECT BOUNDARY SHOWN HEREON IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED APRIL 08, 2014.
- 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. 35DA AND 35DB.
ALL VERTICAL CONTROLS ARE BASED ON (NAVD' 88).
VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE:
HOWARD COUNTY BENCHMARK 35DA (CONC. MON.)
N 558918.62 E 1333137.33 ELEV. 350.98
LOCATION: 420' SOUTH OF TIDES TERRACE
HOWARD COUNTY BENCHMARK 35DB (CONC. MON.)
N 557698.15 E 1333974.58 ELEV. 400.99
LOCATION: CORNER OF GREAT STAR DR. & SUMMER SUNRISE DR.
- 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 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.
- 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 PIT. 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 (CONSTRUCTION SERVICES) 410-637-8713
BOE (EMERGENCY) 800-885-0123
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(c) OF THE HOWARD COUNTY CODE.

PART II - WATER

- ALL WATER MAINS SHALL BE D.I.P. CLASS 54 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF 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 SECTION 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 SETTINGS UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.
- SPRINKLER SYSTEMS FOR SINGLE RESIDENTIAL DWELLING UNITS SHALL HAVE WATER HOUSE CONNECTIONS AND WATER METERS THAT ARE SIZED IN ACCORDANCE WITH THE DESIGN OF THE SPRINKLER SYSTEMS. SPRINKLER SYSTEMS FOR SINGLE RESIDENTIAL DWELLINGS SHALL HAVE A MINIMUM OF 1 1/2" SERVICE CONNECTION WITH A 1" OUTSIDE METER SETTING.
- TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.

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 05.52. WHERE WATERTIGHT MANHOLE 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 THE CELLAR CANNOT BE SERVED.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND WITH FINAL PLAN F-15-111.

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

John R. [Signature]
HOWARD SOIL CONSERVATION DISTRICT

12/1/15

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Steve C. [Signature]
CHIEF, BUREAU OF UTILITIES

Chad [Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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

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. 16193, EXPIRATION DATE: 09-27-2016



DES:	RHV				
DRN:	JMR				
CHK:	RHV				
DATE:	NOVEMBER 2015	BY	NO.	REVISION	DATE

FINAL WATER & SEWER PLAN
CONT. 34-4899-D
COVER SHEET

THE PRESERVE AT RIVER HILL
LOTS 1-8 AND OPEN SPACE LOTS 9 & 10
TAX MAP: 35 PARCEL: 64
HOWARD COUNTY, MARYLAND

TAX MAP: 35 GRID: 14
5TH ELECTION DISTRICT
DPZ REF'S: ECP-14-089, SP-15-009,
CONT. #30-3096-D, CONT. #34-4275-D
ZONED: R-ED
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 3

FINAL WATER AND SEWER PLAN

THE PRESERVE AT RIVER HILL

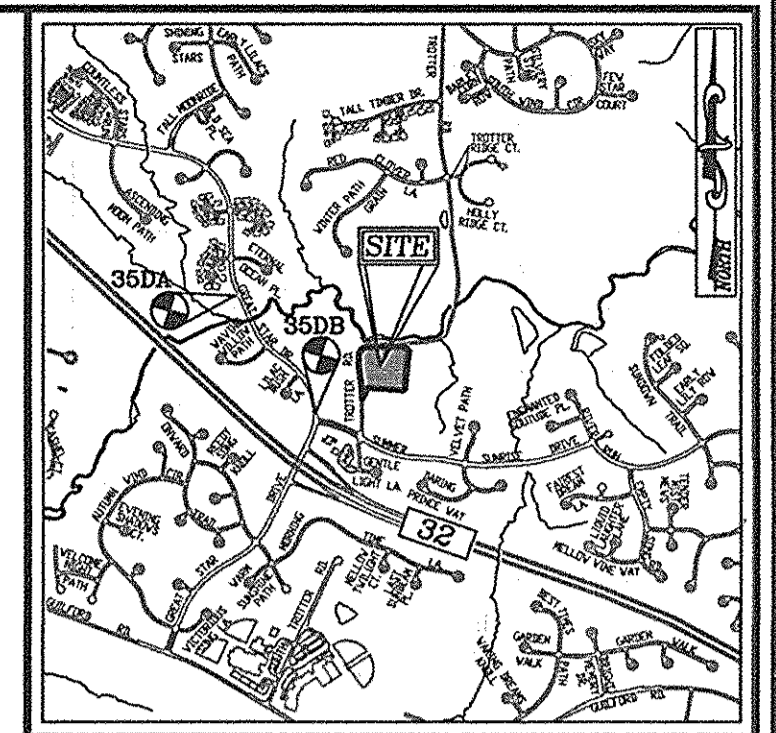
TAX MAP: 35 PARCEL: 64

HOWARD COUNTY, MARYLAND

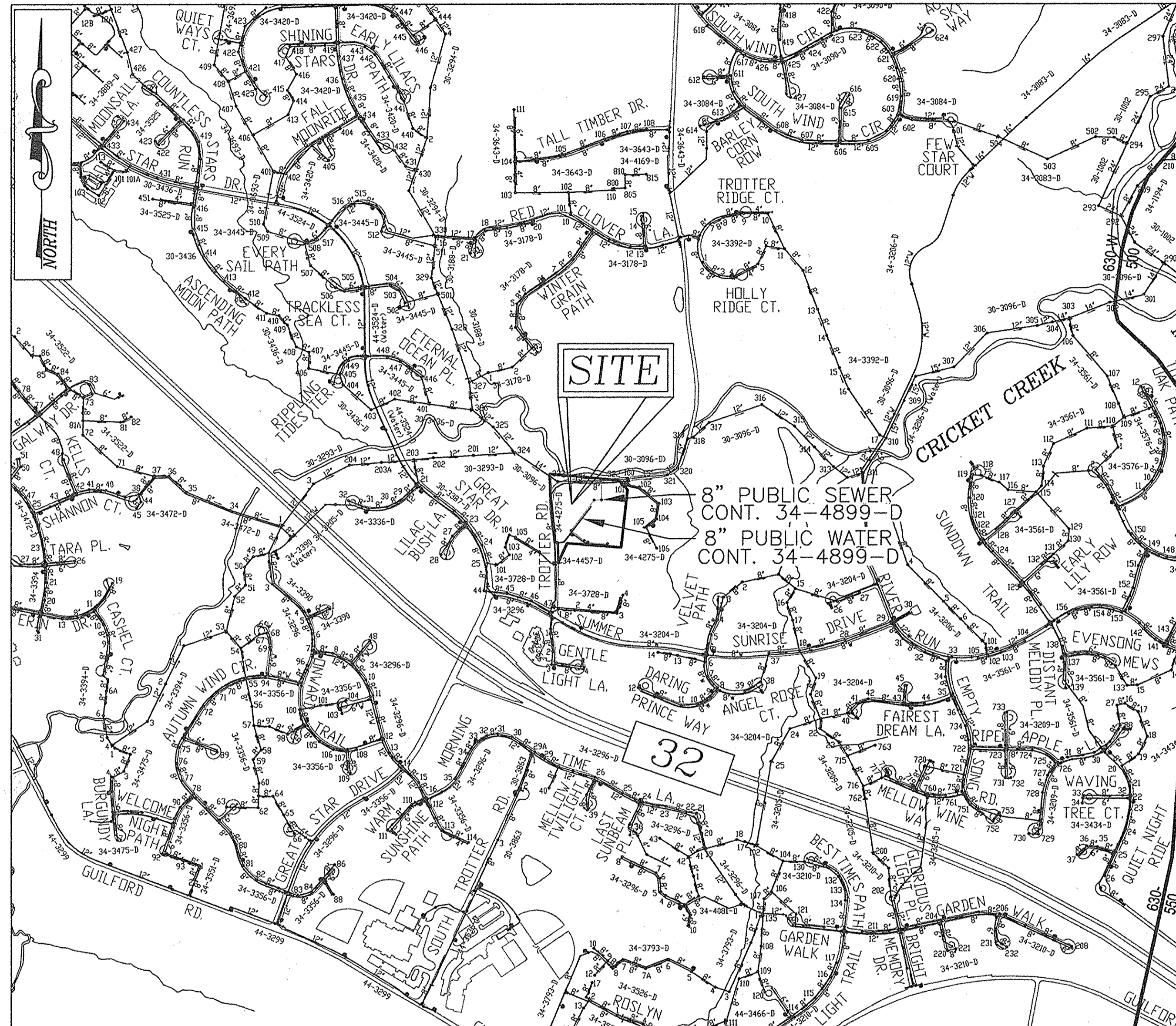
CONT. 34-4899-D

BENCHMARKS

HOWARD COUNTY BENCHMARK 35DA (CONC. MON.)
N 558918.62 E 1333137.33 ELEV. 350.98
LOCATION: 420' SOUTH OF TIDES TERRACE
HOWARD COUNTY BENCHMARK 35DB (CONC. MON.)
N 557698.15 E 1333974.58 ELEV. 400.99
LOCATION: CORNER OF GREAT STAR DR. & SUMMER SUNRISE DR.



VICINITY MAP
SCALE: 1"=2,000'
ADC MAP COORDINATE: 4934, C-9



LOCATION MAP
SCALE: 1"=600'

TYPE OF BUILDING:	SINGLE FAMILY DETACHED
NO. OF LOTS/PARCELS:	10
NO. OF SINGLE WATER HOUSE CONNECTIONS:	8
NO. OF TWIN WATER HOUSE CONNECTIONS:	0
NO. OF SEWER HOUSE CONNECTIONS:	8
NO. OF TWIN SEWER HOUSE CONNECTIONS:	0
DRAINAGE AREA:	MIDDLE PATUXENT RIVER
TREATMENT PLANT:	LITTLE PATUXENT WRP

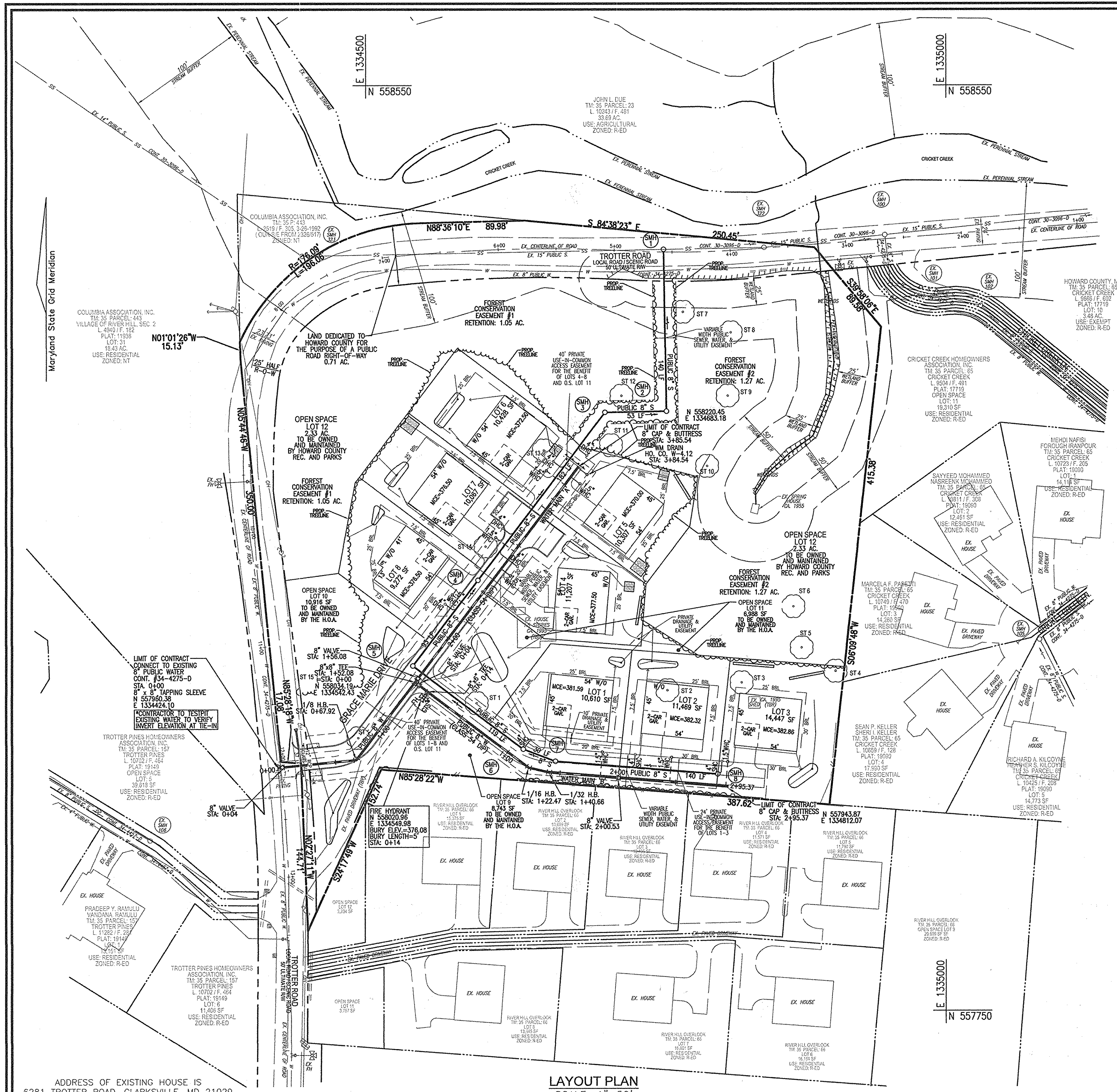
WATER ZONE:	630W
TEST GRADIENT:	780

LEGEND

EXISTING WATER MAIN	
PROPOSED WATER MAIN	
FIRE HYDRANT	
EXISTING SEWER MAIN	
SEWER MANHOLE	
PROPOSED SEWER MAIN	

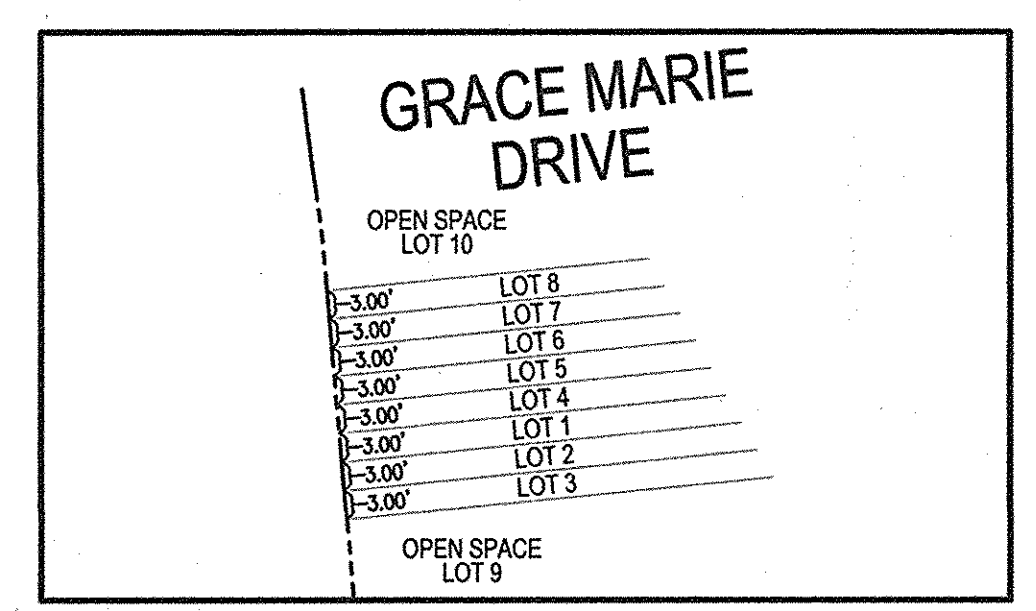
QUANTITIES

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
WATER				
8" WATER (DIP CLASS 54)	681 LF			
6" WATER (DIP CLASS 54)	6 LF			
8"x8" TAPPING SLEEVE	1 EA			
8" VALVE	4 EA			
6" VALVE	1 EA			
8"x8" TEE	1 EA			
8"x6" TEE	1 EA			
FIRE HYDRANT	1 EA			
8" 1/8 HORIZONTAL BEND	1 EA			
8" 1/16 HORIZONTAL BEND	1 EA			
8" 1/32 HORIZONTAL BEND	1 EA			
1 1/2" WHC	175 LF			
CONTINUITY TEST STATION	1 EA			
WATER MAIN DRAIN	1 EA			
8" CAP AND BUTTRESS	2 EA			
SEWER				
8" SEWER (PVC)	482 LF			
8" SEWER (DIP CLASS 54)	275 LF			
STANDARD MANHOLES	7 EA			
TYPE "B" DROP MANHOLE	1 EA			
4" SHC	102 LF			



WATER MAIN LOCATION CHART	
PROP. WATER MAIN 'A'	
WL STA. 0+00.00	CONNECT TO EXISTING 8" WATER (8"x8" TEE)
WL STA. 0+04.00	8" VALVE
WL STA. 0+67.92	1/8 HORIZONTAL BEND
WL STA. 1+52.08	8" x 8" TEE
WL STA. 1+56.08	8" VALVE
WL STA. 3+84.54	WATER MAIN DRAIN
WL STA. 3+85.54	8" CAP AND BUTTRISS
PROP. WATER MAIN 'B'	
WL STA. 0+00.00	8" x 8" TEE
WL STA. 0+04.00	8" VALVE
WL STA. 0+14.00	8" x 6" TEE (6" VALVE AND FIRE HYDRANT)
WL STA. 1+22.47	1/16 HORIZONTAL BEND
WL STA. 1+40.66	1/32 HORIZONTAL BEND
WL STA. 2+00.53	8" VALVE
WL STA. 2+95.37	8" CAP AND BUTTRISS

LEGEND:			
	PROPERTY LINE		PROP. PERMEABLE CONCRETE
	RIGHT-OF-WAY LINE		EXISTING FENCE
	ADJACENT PROPERTY LINE		PROP. STORM DRAIN
	EXISTING CURB AND GUTTER		EXISTING STEEP SLOPES
	EXISTING UTILITY POLE		PROP. WATER MAIN
	EXISTING LIGHT POLE		FIRE HYDRANT
	EXISTING MAILBOX		PROP. VALVE
	EXISTING SIGN		PROP. TEE
	EXISTING SANITARY MANHOLE		PROP. SEWER
	EXISTING SANITARY LINE		WATER HOUSE CONNECTION
	EXISTING CLEANOUT		SEWER HOUSE CONNECTION
	EXISTING FIRE HYDRANT		
	EXISTING WATER LINE		
	EXISTING TREES		

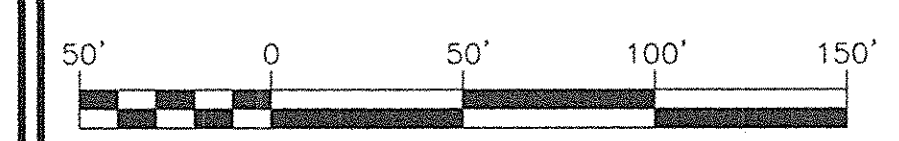


PRIVATE WELL AND SEPTIC CHART		
PROPERTY	ADDRESS	WATER AND SEWER
EXISTING HOUSE	6281 TROTTER ROAD	TO BE ABANDONED

NOTE:
WATER METERS WILL NOT BE RELEASED BY HOWARD COUNTY TO ANY NEW BUILDING UNTIL THE EXISTING WELL AND SEPTIC SYSTEM HAVE BEEN ABANDONED IN ACCORDANCE WITH HOWARD COUNTY HEALTH DEPARTMENT REGULATIONS AND THE EXISTING BUILDINGS ARE CONNECTED TO THE PUBLIC WATER AND SEWER MAINS.

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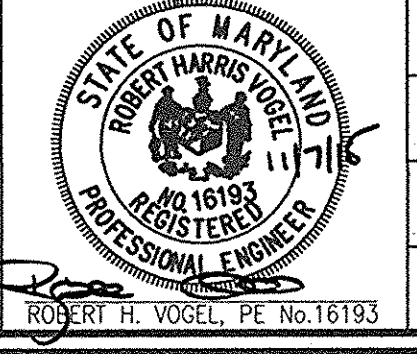
ADDRESS OF EXISTING HOUSE IS 6281 TROTTER ROAD, CLARKSVILLE, MD 21029



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
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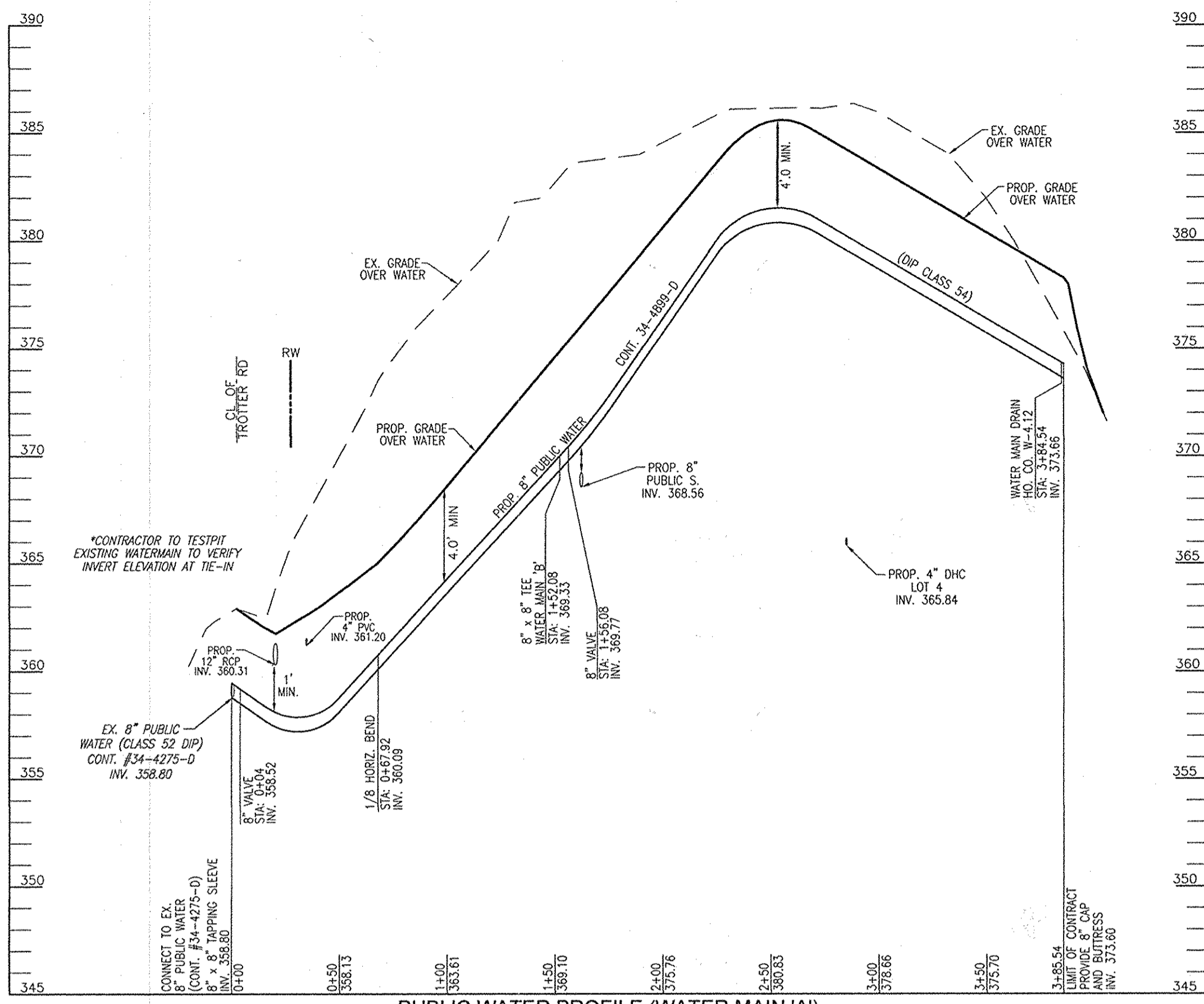
DES:	RHW				
DRN:	JMR				
CHK:	RHW				
DATE:	NOVEMBER 2015	BY:	NO.	REVISION	DATE

FINAL WATER & SEWER PLAN
CONT. 34-4899-D
LAYOUT PLAN
600' SCALE MAP NO. 35 BLOCK NO. 14

THE PRESERVE AT RIVER HILL
LOTS 1-8 AND OPEN SPACE LOTS 9 & 10
TAX MAP: 35 PARCEL: 64
HOWARD COUNTY, MARYLAND
TAX MAP: 35 GRID: 14
5TH ELECTION DISTRICT
DPZ REF'S: ECP-14-089, SP-15-009,
CONT. #30-3096-D, CONT. #34-4275-D
HOWARD COUNTY, MARYLAND
ZONED: R-ED
PARCEL: 64
SHEET 2 OF 3

DEVELOPER: TRINITY HOMES MARYLAND, LLC
3675 PARK AVENUE, SUITE 301
ELLICOTT CITY, MD 21043
(410) 480-0203

OWNER: ESTATES AT RIVER HILL, LLC
3675 PARK AVENUE, SUITE 301
ELLICOTT CITY, MD 21043
(410) 480-0023



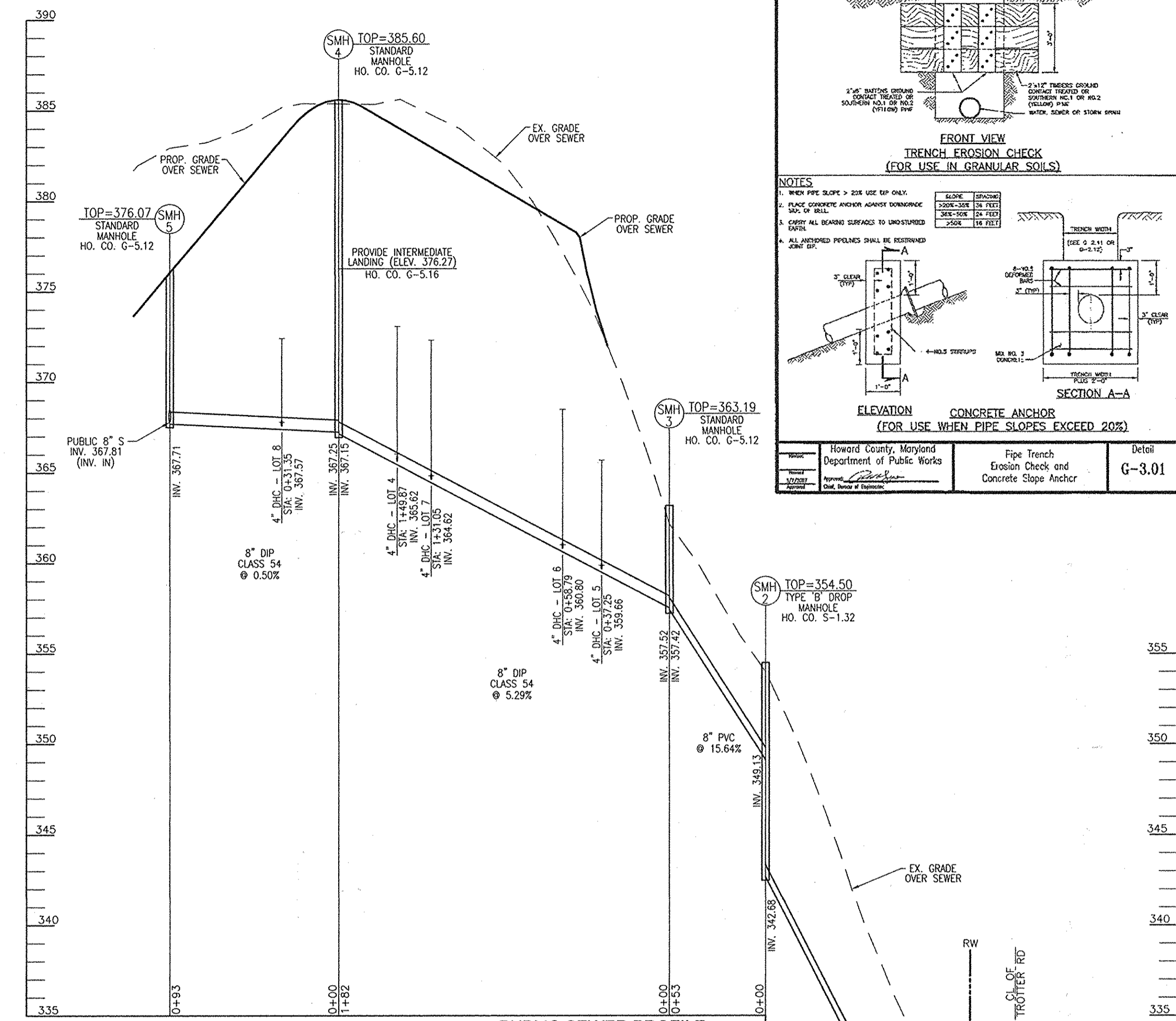
MCE CHART

DROP THRU SLAB = 2.5'

LOT#	EL @ MAIN	TYPE	DIST. TO ESMT.	EL @ ESMT.	DIST. ESMT. TO HOUSE	EL @ HOUSE	MCE
1	377.41	SHC	12	377.65	72	379.09	381.59
2	378.06	SHC	12	378.30	76	379.82	382.32
3	378.42	SHC	15	378.72	82	380.36	382.86
4	365.62	DHC	21	366.04/373.08	96	375.00	377.50
5	359.66	DHC	11	359.88/365.68	91	367.50	370.00
6	360.80	DHC	11	361.02/368.48	76	370.00	372.50
7	364.62	DHC	11	364.84/372.32	84	374.00	376.50
8	367.57	DHC	11	367.79/372.48	76	374.00	376.50

SEWER MANHOLE SCHEDULE

NO.	TYPE	LOCATION	TOP ELEV.	INV. IN.	INV. OUT.
SMH 1	PRECAST MH HO. CO. STD. DET. G-5.12	N 558408.25 E 1334756.60	326.83	315.26	314.58
SMH 2	TYPE 'B' DROP MH HO. CO. STD. DET. S-1.32	N 558268.35 E 1334759.17	354.50	349.13	342.68
SMH 3	PRECAST MH HO. CO. STD. DET. G-5.12	N 558267.37 E 1334706.10	363.19	357.52	357.42
SMH 4	PRECAST MH HO. CO. STD. DET. G-5.12	N 558122.29 E 1334596.47	385.60	367.25	367.15
SMH 5	PRECAST MH HO. CO. STD. DET. G-5.12	N 558048.20 E 1334540.48	376.07	367.81	367.71
SMH 6	PRECAST MH HO. CO. STD. DET. G-5.12	N 557976.39 E 1334635.51	387.66	376.83	376.73
SMH 7	PRECAST MH HO. CO. STD. DET. G-5.12	N 557965.84 E 1334663.23	389.94	377.08	376.98
SMH 8	PRECAST MH HO. CO. STD. DET. G-5.12	N 557954.62 E 1334803.17	390.70	378.42	378.09



NOTES

1. MIN. DEPTH TO TRENCH.
2. PLACE PROTECTIVE COVER OVER TRENCH TO PREVENT DAMAGE TO PIPES.

FRONT VIEW
TRENCH EROSION CHECK
(FOR USE IN GRANULAR SOILS)

NOTES

1. WHEN PIPE SLOPE > 2% USE UP ONLY 1/2" OF BELL.
2. PLACE CONCRETE ANCHOR AGAINST UNDERMINING.
3. COVER ALL BEARING SURFACES TO UNDERMINING.
4. ALL BEARING SURFACES SHALL BE REINFORCED.

ELEVATION CONCRETE ANCHOR
(FOR USE WHEN PIPE SLOPES EXCEED 20%)

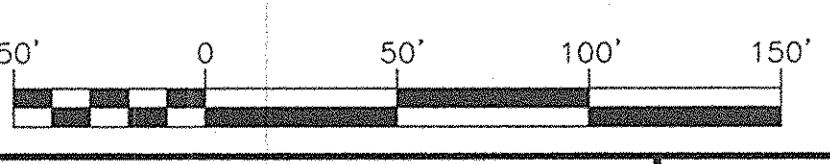
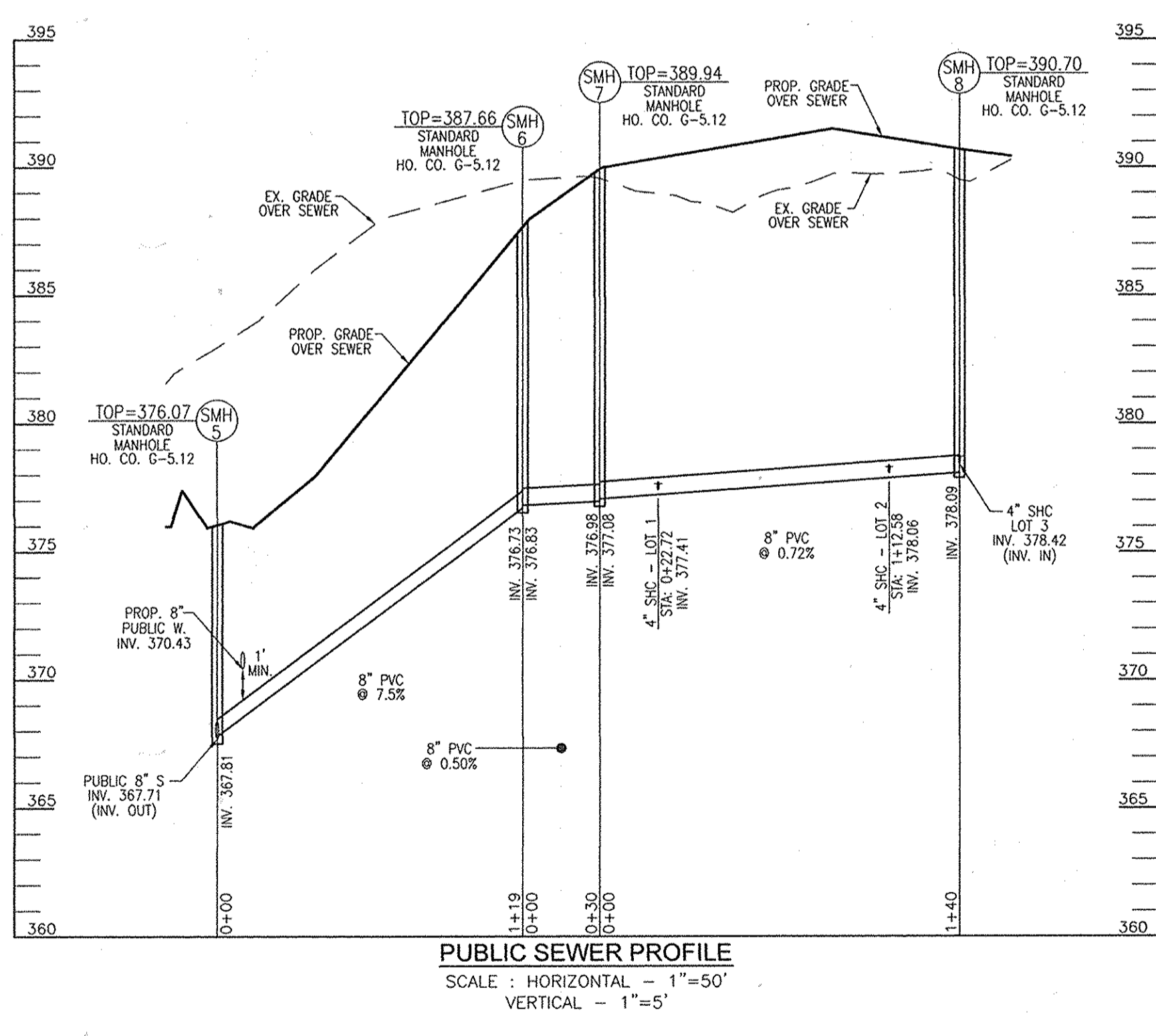
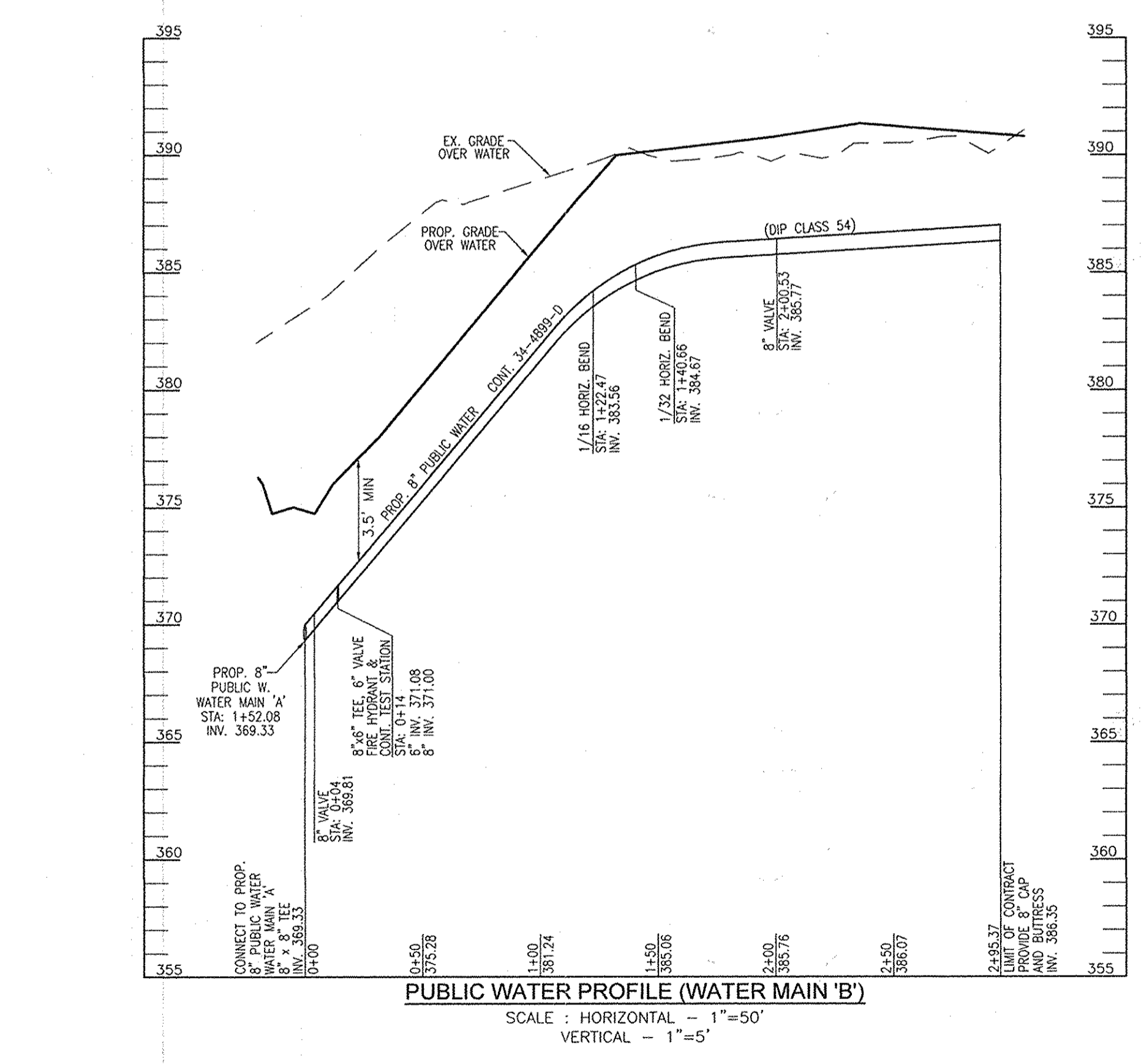
Howard County, Maryland Department of Public Works	Pipe Trench Erosion Check and Concrete Slope Anchor	Detail G-3.01
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WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE

LOT #	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
LOT 1			
LOT 2			
LOT 3			
LOT 4			
LOT 5			
LOT 6			
LOT 7			
LOT 8			

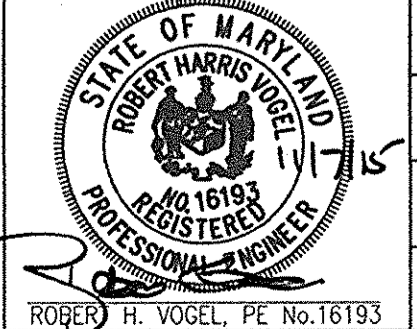
SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE

LOT #	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
LOT 1			
LOT 2			
LOT 3			
LOT 4			
LOT 5			
LOT 6			
LOT 7			
LOT 8			



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8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961



DES:	RHV		
DRN:	JMR		
CHK:	RHV		
DATE:	NOVEMBER 2015	BY	NO.
		REVISION	DATE

FINAL WATER & SEWER PLAN
CONT. 34-4899-D
WATER & SEWER PROFILES

THE PRESERVE AT RIVER HILL
LOTS 1-8 AND OPEN SPACE LOTS 9 & 10
TAX MAP: 35 PARCEL: 64
HOWARD COUNTY, MARYLAND

DEVELOPER
TRINITY HOMES MARYLAND, LLC
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TAX MAP: 35 GRID: 14
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DPZ REF'S: ECP-14-089, SP-15-009,
CONT. #30-3096-D, CONT. #34-4275-D
HOWARD COUNTY, MARYLAND

ZONED: R-ED
PARCEL: 64

SCALE AS SHOWN
SHEET 3 OF 3

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

12.8.15

CHIEF, BUREAU OF UTILITIES

CHIEF, DEVELOPMENT ENGINEERING DIVISION