

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.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED IN MARCH 2006 BY ROBERT H. VOGEL ENGINEERING, INC.
- 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 37AA AND 37AB.
ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON DRAWINGS ARE:
GEODETIC SURVEY CONTROL 3044005R (N. 578233.92, E. 1473142.33)
BRASS DISC SET ON TOP OF A CONCRETE MONUMENT, LOCATED IN THE GRASS MEDIAN ALONG ROUTE 175, 1000+/- WEST OF TAMAR DRIVE, 4.3' OFF EXISTING PAVING OF NB LANE OF 175, AND 45' WEST AND DIRECTLY SIDE OF THE WEST 175 SHOW RTE SIGN.
GEODETIC SURVEY CONTROL 3044004R (N. 578128.03, E. 1473460.71)
BRASS DISC SET ON TOP OF A CONCRETE MONUMENT, LOCATED IN THE GRASS MEDIAN ALONG ROUTE 175, 0.1+/- MILE EAST OF TAMAR DRIVE, 4.3' OFF EXISTING PAVING OF NB LANE OF 175.
- 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 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 THESE PLANS:
AT&T 1-800-252-1133
BOE (CONSTRUCTION SERVICES) 410-637-8713
BOE (EMERGENCY) 410-685-0123
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
- 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 ANY 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 TO BE PVC C-900 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 RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE HOWARD COUNTY CODE.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

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 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.

7. FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 9.1 OF THE PAVING STANDARD SPECIFICATIONS FOR PAVEMENTS 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.

8. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SEVENTEEN (17) POUND 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. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSING ANODES. 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.

FOR FIRE SPRINKLER SYSTEM, ALL SINGLE FAMILY DWELLINGS WILL HAVE A MINIMUM OF A 1-1/2" WHD WITH A 1" OUTSIDE METER SETTING.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND WITH FINAL ROAD CONSTRUCTION PLAN F-10-067.

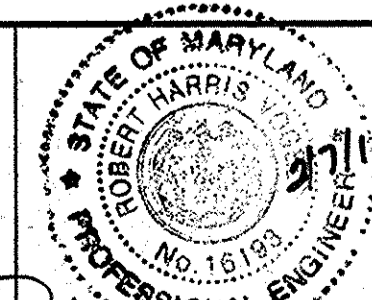
THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John L. Robinson 3/9/14
SOIL CONSERVATION DISTRICT DATE

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
ELLICOTT 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: 09-27-2012

NO.	REVISION	DATE
3	MODIFY WATER & SEWER DESIGN PER CHANGES TO LOTS 109 THRU 107	10-25-15
2	REVISE WATER TO C-900 PVC	3/16/12
1	DESIGNATE LOTS 104 THRU 107 AS FUTURE	10/29/11
	AND REMOVE WATER AND SEWER SERVICE	

FINAL WATER & SEWER PLAN
CONTRACT 14-4520-D
COVER SHEET

AS BUILTS

BY: DFI DATE: 11-6-2014

DEVELOPER

AUTUMN DEVELOPMENT CORPORATION
C/O LAND DESIGN & DEVELOPMENT, INC.
5300 DORSEY HALL DR STE 102
ELLICOTT CITY, MD 21042-7819
ATTN: MR. DONALD R. REUWER
(443) 367-0422

AUTUMN RIVER PHASE III
LOTS 72-86, 88-102, 104-107
OPEN SPACE LOTS 71, 87, 93, 103, 108 AND 109
RESUBDIVISION OF BULK PARCEL B AND
NON-BUILDABLE BULK PARCEL A-1 AND A-2
TAX MAP 25 GRID 14 & 21 PARCELS 172, 279
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 5

FINAL WATER AND SEWER PLAN

AUTUMN RIVER PHASE III

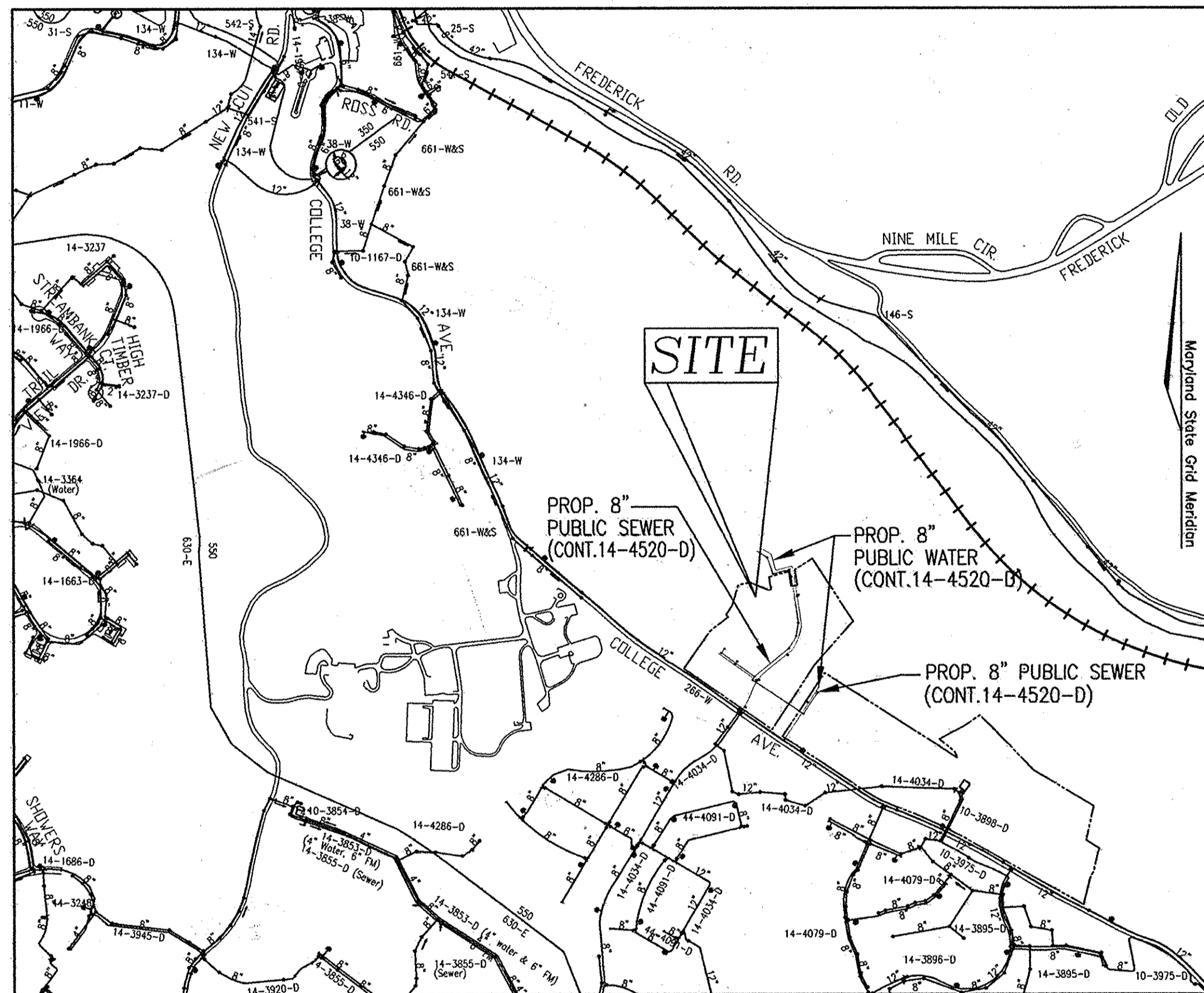
LOTS 72-86, 88-102, 104-107, 109 AND 110

OPEN SPACE LOTS 71, 87, 93, 103, 108

RESUBDIVISION OF BULK PARCEL B AND NON-BUILDABLE BULK PARCEL A-1 AND A-2

HOWARD COUNTY, MARYLAND

CONTRACT 14-4520-D

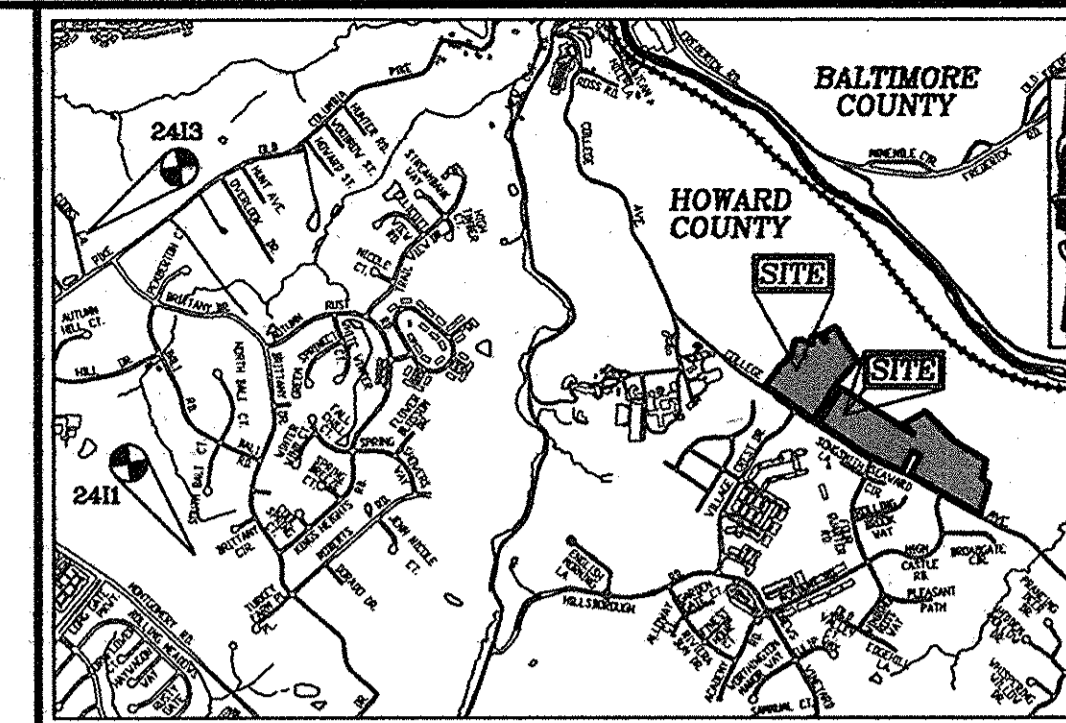


LOCATION MAP

SCALE: 1"=600'

TYPE OF BUILDING :	SINGLE FAMILY DETACHED
NO. OF LOTS/PARCELS :	33
NO. OF SINGLE WATER HOUSE CONNECTIONS :	30
NO. OF TWIN WATER HOUSE CONNECTIONS :	2
NO. OF SEWER HOUSE CONNECTIONS :	30
NO. OF TWIN SEWER HOUSE CONNECTIONS :	2
WATER SHED :	PATAPSCO RIVER
TREATMENT PLANT :	PATAPSCO RIVER

- 8"-5" HORIZONTAL SWEED - 2EA
- 6"-1/2" VERTICAL BEND - 2EA
- 6"-1/2" VERTICAL BEND - 4EA
- 6"-1" VERTICAL COUPLING - 3EA
- 6"-5" VERTICAL SWEED - 4EA
- 4"-1" HORIZONTAL COUPLING - 1EA
- 4"-5" VERTICAL SWEED - 1EA



VICINITY MAP

SCALE: 1"=2000'

ADC MAP COORDINATES:
ADC MAP PAGE: 4816
ADC MAP GRID: D9 AND E10

BENCHMARKS

HOWARD COUNTY BENCHMARK #2411 (CONC. MON.)
N. 577298.65, E. 1366075.16 ELEV. = 437.12
HOWARD COUNTY BENCHMARK #2413 (CONC. MON.)
N. 580648.90, E. 1364947.47 ELEV. = 463.77

LEGEND

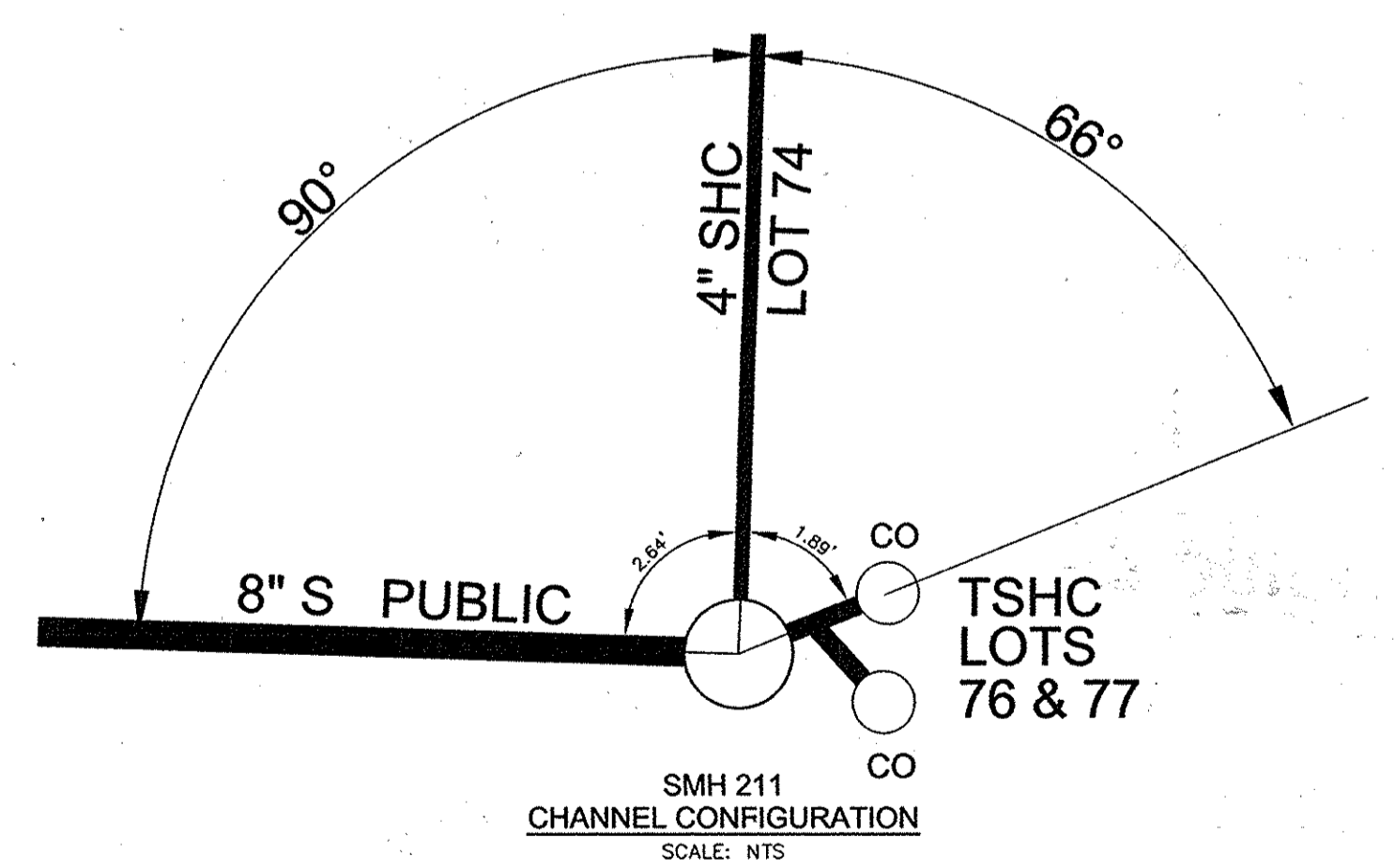
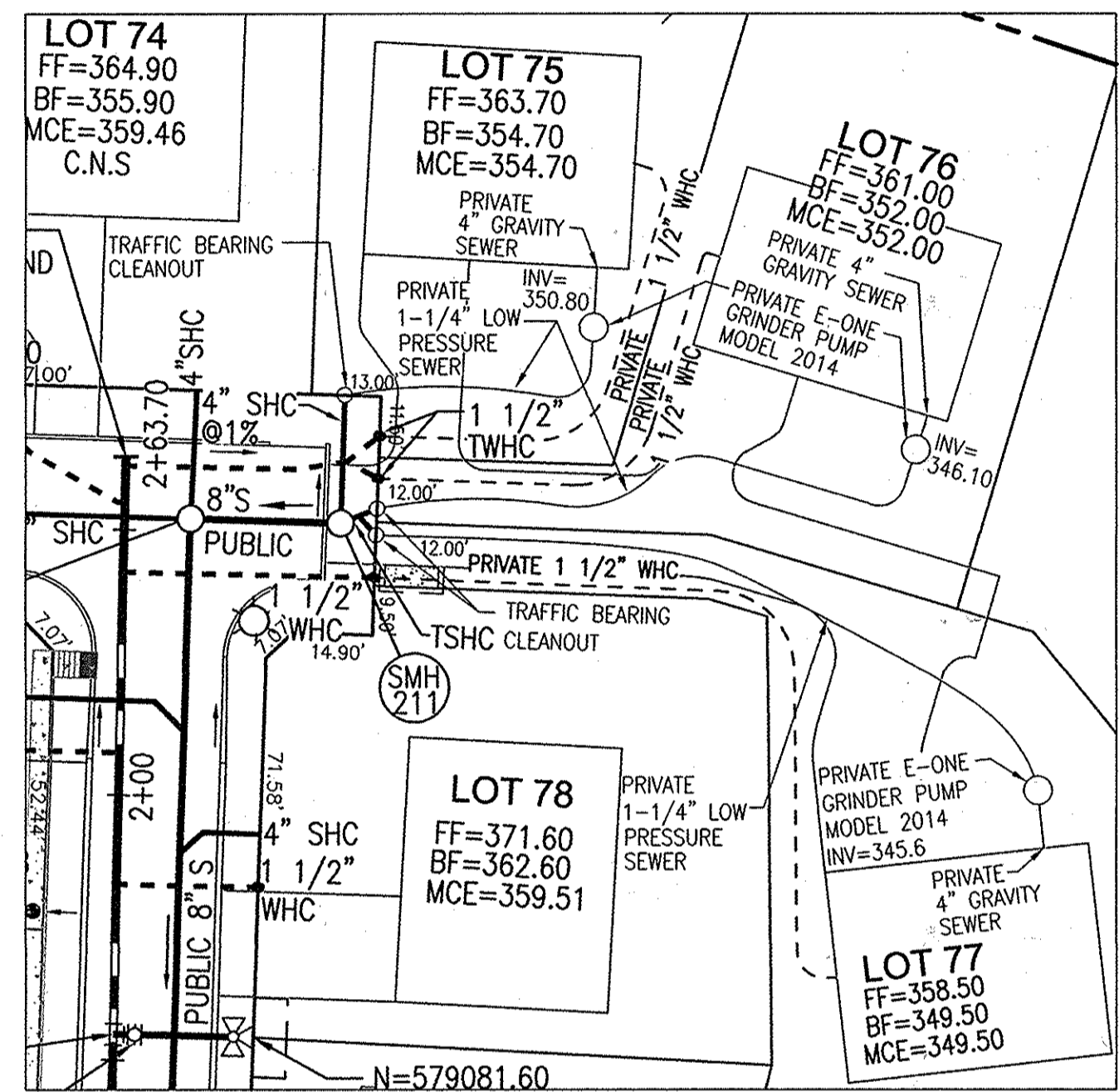
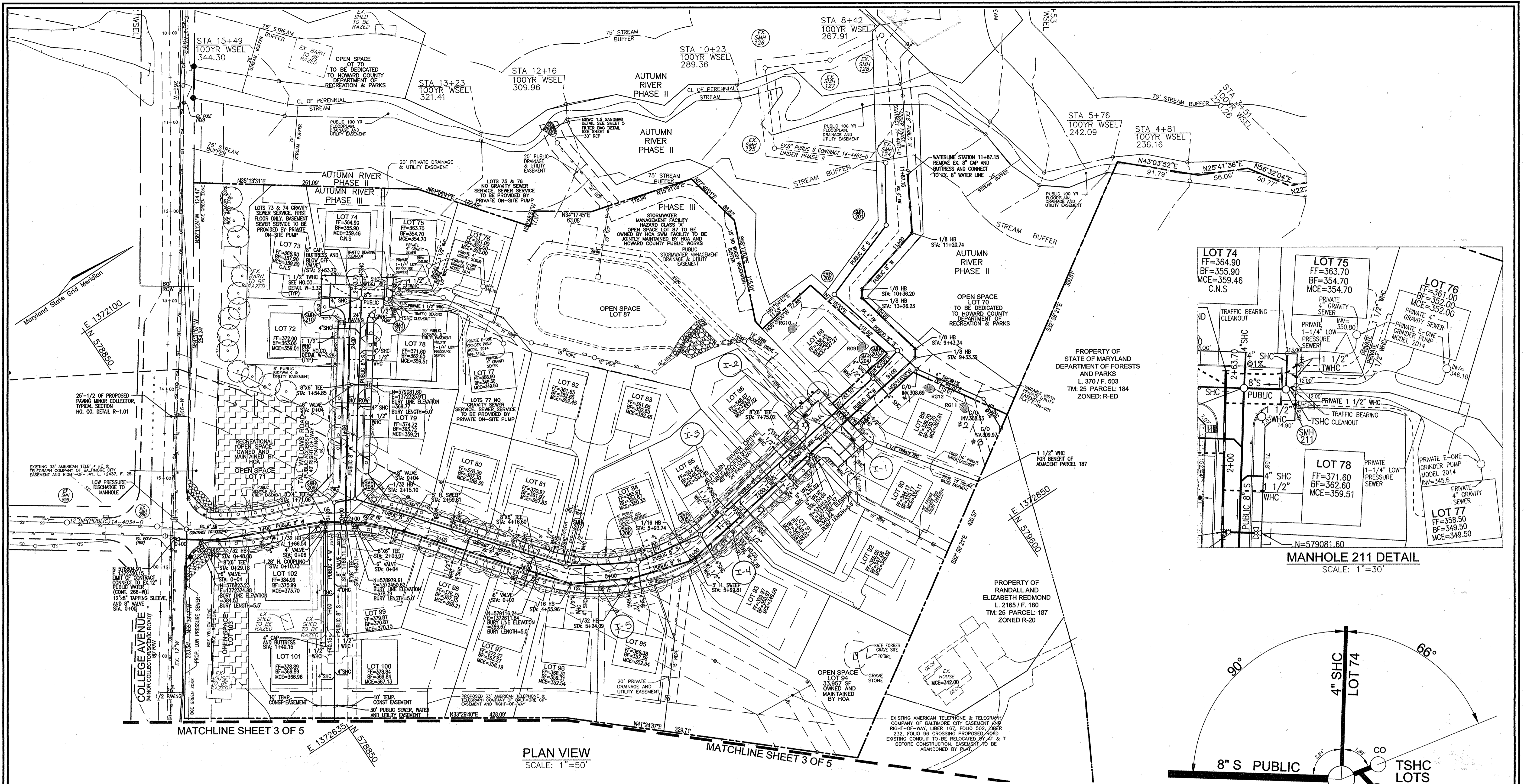
- EXISTING WATER MAIN - W
- PROPOSED WATER MAIN - [Symbol]
- FIRE HYDRANT - [Symbol]
- PROPOSED VALVE - [Symbol]
- PROPOSED TEE - [Symbol]
- PROPOSED STORM DRAIN - [Symbol]
- EXISTING STORM DRAIN - SD
- PROPOSED SEWER - [Symbol]
- EXISTING SEWER - SS
- SEWER MANHOLE - [Symbol]
- WATER HOUSE CONNECTION - [Symbol]
- SEWER HOUSE CONNECTION - [Symbol]
- PROPOSED SIGN - [Symbol]
- PROPOSED LIGHT - [Symbol]

SHEET INDEX

DESCRIPTION	SHEET NO.
COVER SHEET	1 OF 5
LAYOUT PLAN	2 OF 5
LAYOUT PLAN	3 OF 5
WATER PROFILES	4 OF 5
SEWER PROFILES	5 OF 5

QUANTITIES

ITEMS	ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
WATER				
12" x 8" TAPPING SLEEVE	2 EA	2 EA		SMITH BLAIR
8" WATER C-900 PVC	1805 LF	1840 LF		DIAMOND PLASTICS
6" WATER C-900 PVC	87 LF	75 LF		DIAMOND PLASTICS
4" WATER C-900 PVC	140 LF	135 LF		DIAMOND PLASTICS
8" x 8" TEE	1 EA	1 EA		TYLER UNION FOUNDRY
8" x 6" TEE	5 EA	6 EA		"
8" x 4" TEE	1 EA	1 EA		"
8" VALVE	5 EA	5 EA		"
6" VALVE	6 EA	6 EA		"
4" VALVE	1 EA	1 EA		"
FIRE HYDRANT	6 EA	6 EA		MUELLER INDUSTRIES
8"-1/8" HORIZONTAL BEND	5 EA	5 EA		MULTI FITTINGS
8"-1/16" HORIZONTAL BEND	2 EA	2 EA		"
8"-1/32" HORIZONTAL BEND	4 EA	4 EA		"
8"-1/16" VERTICAL BEND	2 EA	4 EA		"
8" C/P AND BUTTRESS	2 EA	2 EA		"
4" C/P AND BUTTRESS	1 EA	1 EA		"
SEWER				
8" SEWER (DIP)	839 LF	835 LF		AMSTEAD/ GRIFFIN
8" SEWER (PVC)	995 LF	995 LF		DIAMOND PLASTICS
MANHOLE	13 EA	13 EA		ATLANTIC
4" S/C (PVC)	762 LF	790 LF		DIAMOND PLASTICS



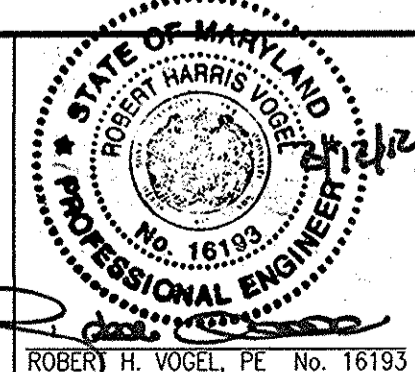
PLAN VIEW
SCALE: 1"=50'

MANHOLE 211 DETAIL
SCALE: 1"=30'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

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ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND, LICENSE NO. 16193
EXPIRATION DATE: 09-27-2012

FINAL WATER & SEWER PLAN
CONTRACT 14-4520-D
LAYOUT PLAN

AS BUILT
DATE: 11-6-2014

DEVELOPER
AUTUMN DEVELOPMENT CORPORATION
C/O LAND DESIGN & DEVELOPMENT, INC.
5300 DORSEY HALL DR STE 102
ELLICOTT CITY MD 21042-7819
ATTN: MR. DONALD R. REUWER
(443) 367-0422

AUTUMN RIVER PHASE III
LOTS 72-86, 88-102, 104-107,
OPEN SPACE LOTS 71, 87, 93, 103, 108 AND 109
RESUBDIVISION OF BULK PARCEL B AND
NON-BUILDABLE BULK PARCEL A-1 AND A-2

TAX MAP 25 GRID 14 & 21
1ST ELECTION DISTRICT

PARCELS 172, 279
HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN

SHEET
2
OF
5

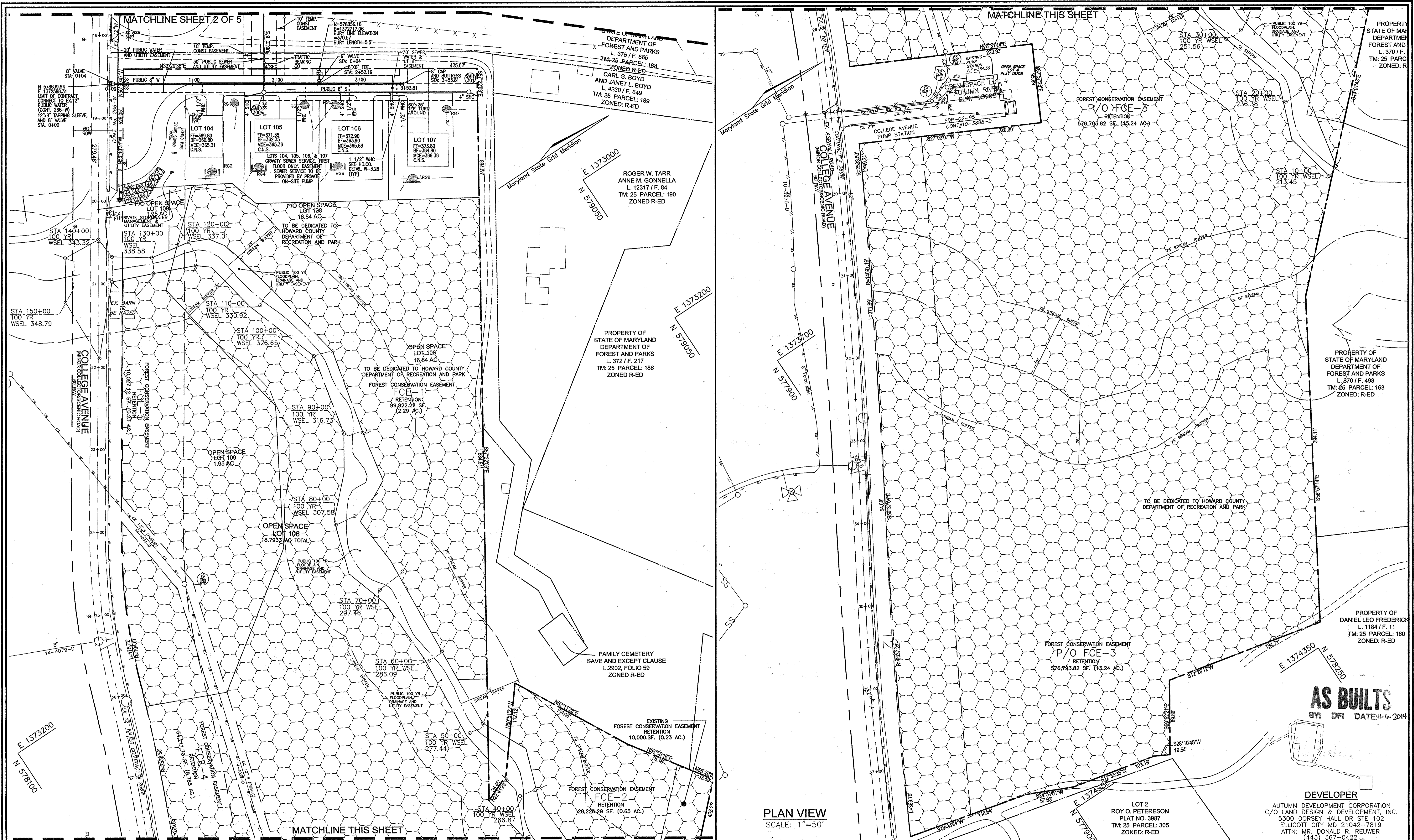
NO.	REVISION	DATE
1	REVISE WATER TO C-900 PVC	01/24/12

CHIEF, BUREAU OF UTILITIES
DATE: 4/15/14

CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 4/15/14

ROBERT H. VOGEL, P.E. No. 16193

600' SCALE MAP NO. 25 BLOCK NO. 14 & 21



PLAN VIEW
SCALE: 1"=50'

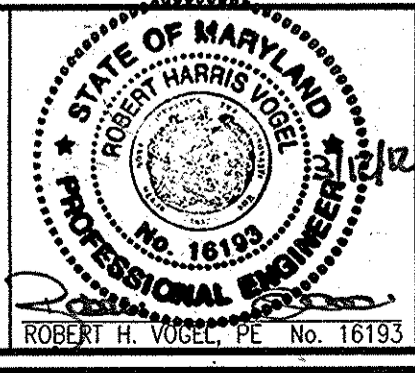
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Steve Chen
CHIEF, BUREAU OF UTILITIES
4/16/12

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Michael Dawson
CHIEF, DEVELOPMENT ENGINEERING DIVISION
4/16/12

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7556 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: 09-27-2012	
DES: RHV	
DRN: KG	5
CHK: RHV	1
DATE: FEBRUARY 2011	NO.
REVISION	DATE
1	10/25/13
REVISE WATER TO C-900 PVC	01/24/12

FINAL WATER & SEWER PLAN
CONTRACT 14-4520-D
LAYOUT PLAN

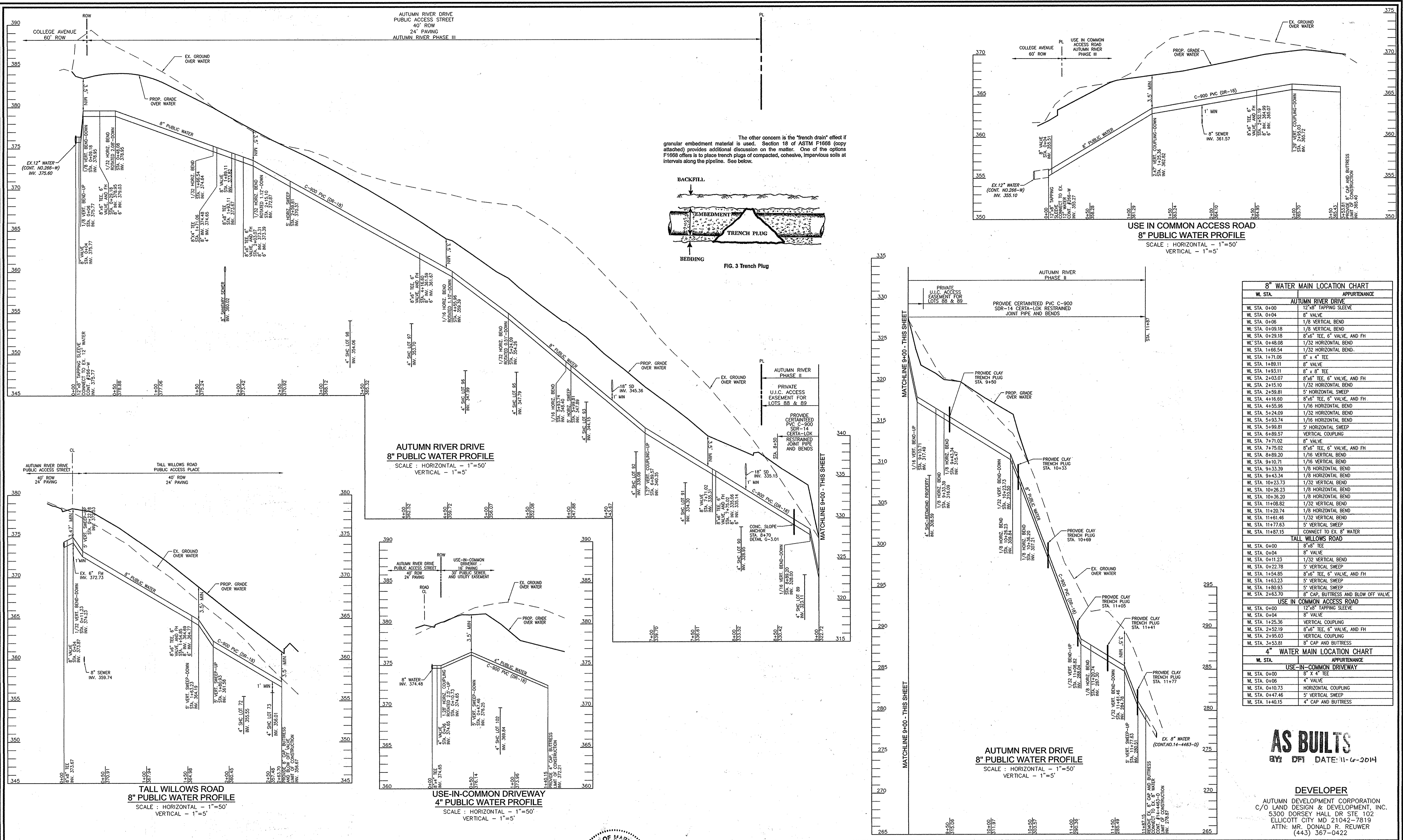
600' SCALE MAP NO. 25 BLOCK NO. 14 & 21

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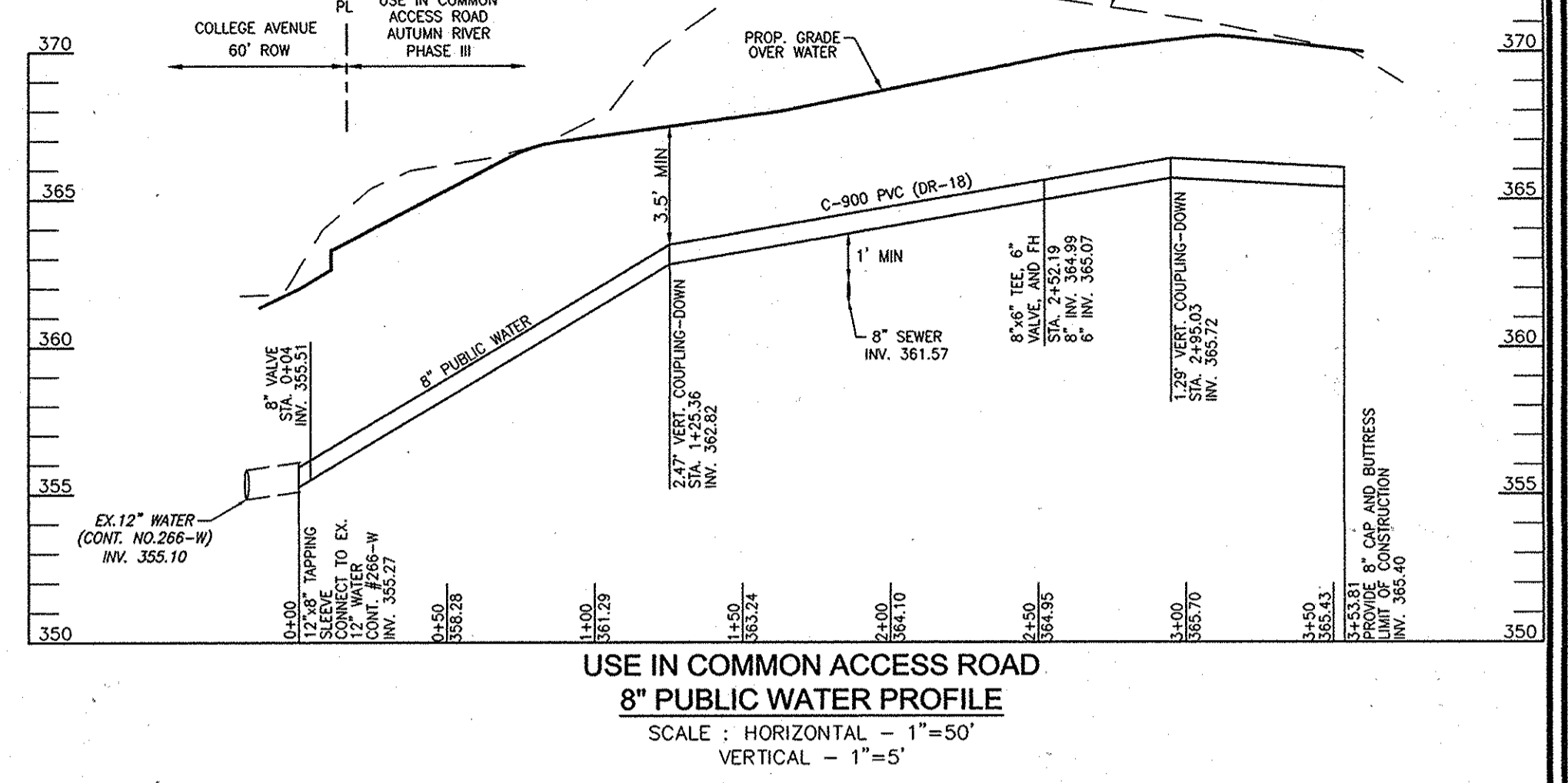
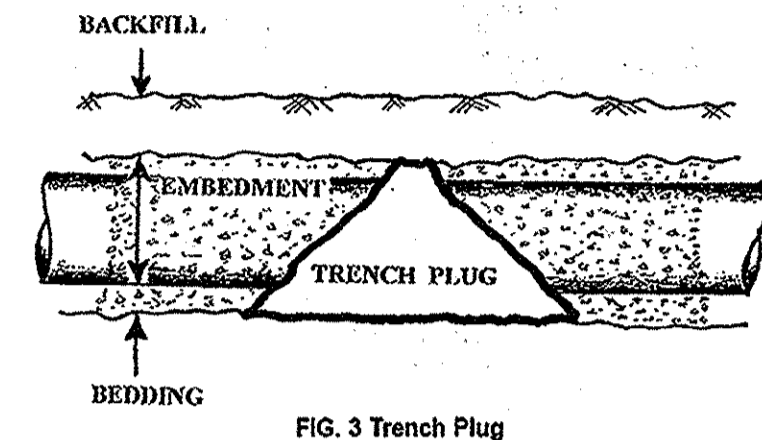
SCALE AS SHOWN
SHEET 3 OF 5

DEVELOPER
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TAX MAP 25 GRID 14 & 21 PARCELS 172, 279
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND



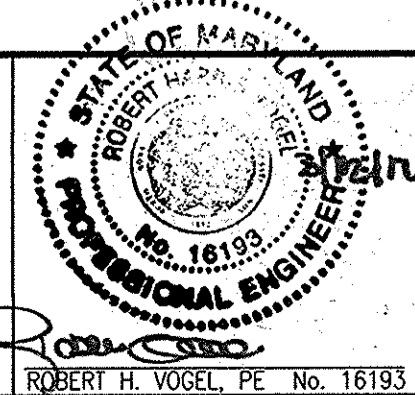
The other concern is the "trench drain" effect if granular embedment material is used. Section 18 of ASTM F1688 (copy attached) provides additional discussion on the matter. One of the options F1688 offers is to place trench plugs of compacted, cohesive, impervious soils at intervals along the pipeline. See below.



8" WATER MAIN LOCATION CHART	
WL STA.	APPURTENANCE
WL STA. 0+00	12"x8" TAPPING SLEEVE
WL STA. 0+04	8" VALVE
WL STA. 0+06	1/8" VALVE
WL STA. 0+09.18	1/8" VALVE
WL STA. 0+29.18	8"x6" TEE, 6" VALVE, AND FH
WL STA. 0+48.08	1/32" HORIZONTAL BEND
WL STA. 1+66.54	1/32" HORIZONTAL BEND
WL STA. 1+71.06	8" x 4" TEE
WL STA. 1+89.11	8" VALVE
WL STA. 1+93.11	8" x 8" TEE
WL STA. 2+03.07	8"x6" TEE, 6" VALVE, AND FH
WL STA. 2+15.10	1/16" HORIZONTAL BEND
WL STA. 2+59.81	5" HORIZONTAL SWEEP
WL STA. 4+16.60	8"x6" TEE, 6" VALVE, AND FH
WL STA. 4+55.96	1/16" HORIZONTAL BEND
WL STA. 5+24.09	1/32" HORIZONTAL BEND
WL STA. 5+93.74	1/16" HORIZONTAL BEND
WL STA. 5+99.81	5" HORIZONTAL SWEEP
WL STA. 6+89.57	VERTICAL COUPLING
WL STA. 7+71.02	8" VALVE
WL STA. 7+75.02	8"x6" TEE, 6" VALVE, AND FH
WL STA. 8+89.20	1/16" HORIZONTAL BEND
WL STA. 9+10.71	1/16" HORIZONTAL BEND
WL STA. 9+33.39	1/8" HORIZONTAL BEND
WL STA. 9+43.34	1/8" HORIZONTAL BEND
WL STA. 10+23.73	1/32" HORIZONTAL BEND
WL STA. 10+26.23	1/8" HORIZONTAL BEND
WL STA. 10+36.20	1/8" HORIZONTAL BEND
WL STA. 11+08.82	1/32" HORIZONTAL BEND
WL STA. 11+20.74	1/8" HORIZONTAL BEND
WL STA. 11+61.46	5" HORIZONTAL SWEEP
WL STA. 11+71.83	8" VALVE
WL STA. 11+87.15	CONNECT TO EX. 8" WATER
TALL WILLOWS ROAD	
WL STA. 0+00	8"x8" TEE
WL STA. 0+04	8" VALVE
WL STA. 0+11.23	1/32" HORIZONTAL BEND
WL STA. 0+22.78	5" HORIZONTAL SWEEP
WL STA. 1+54.85	8"x6" TEE, 6" VALVE, AND FH
WL STA. 1+63.23	5" HORIZONTAL SWEEP
WL STA. 1+80.83	5" HORIZONTAL SWEEP
WL STA. 2+63.70	8" CAP, BUTTRESS AND BLOW OFF VALVE
USE IN COMMON ACCESS ROAD	
WL STA. 0+00	12"x8" TAPPING SLEEVE
WL STA. 0+04	8" VALVE
WL STA. 1+25.36	VERTICAL COUPLING
WL STA. 2+52.19	8"x6" TEE, 6" VALVE, AND FH
WL STA. 2+95.03	VERTICAL COUPLING
WL STA. 3+53.81	8" CAP AND BUTTRESS
4" WATER MAIN LOCATION CHART	
USE-IN-COMMON DRIVEWAY	
WL STA. 0+00	8" x 4" TEE
WL STA. 0+08	4" VALVE
WL STA. 0+10.73	HORIZONTAL COUPLING
WL STA. 0+47.46	5" HORIZONTAL SWEEP
WL STA. 1+40.15	4" CAP AND BUTTRESS

AS BUILTS
BY DFI DATE: 11-6-2014

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DES:	RHV
DRN:	KG
CHK:	RHV
DATE:	FEBRUARY 2011
NO.	1
REVISION	REVISE WATER TO C-900 PVC
DATE	01/24/12

FINAL WATER & SEWER PLAN
CONTRACT 14-4520-D
WATER PROFILE

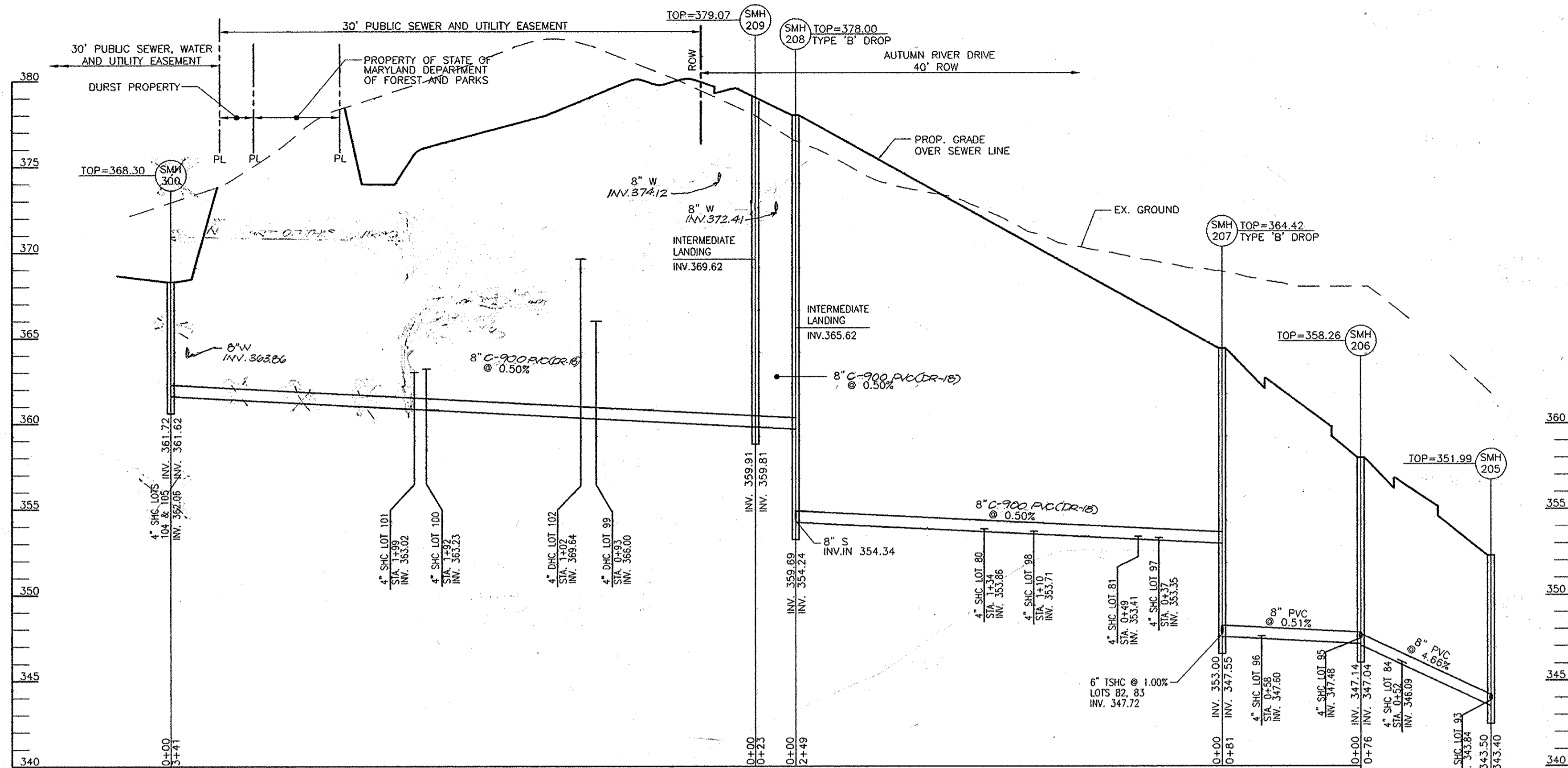
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1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 4 OF 5

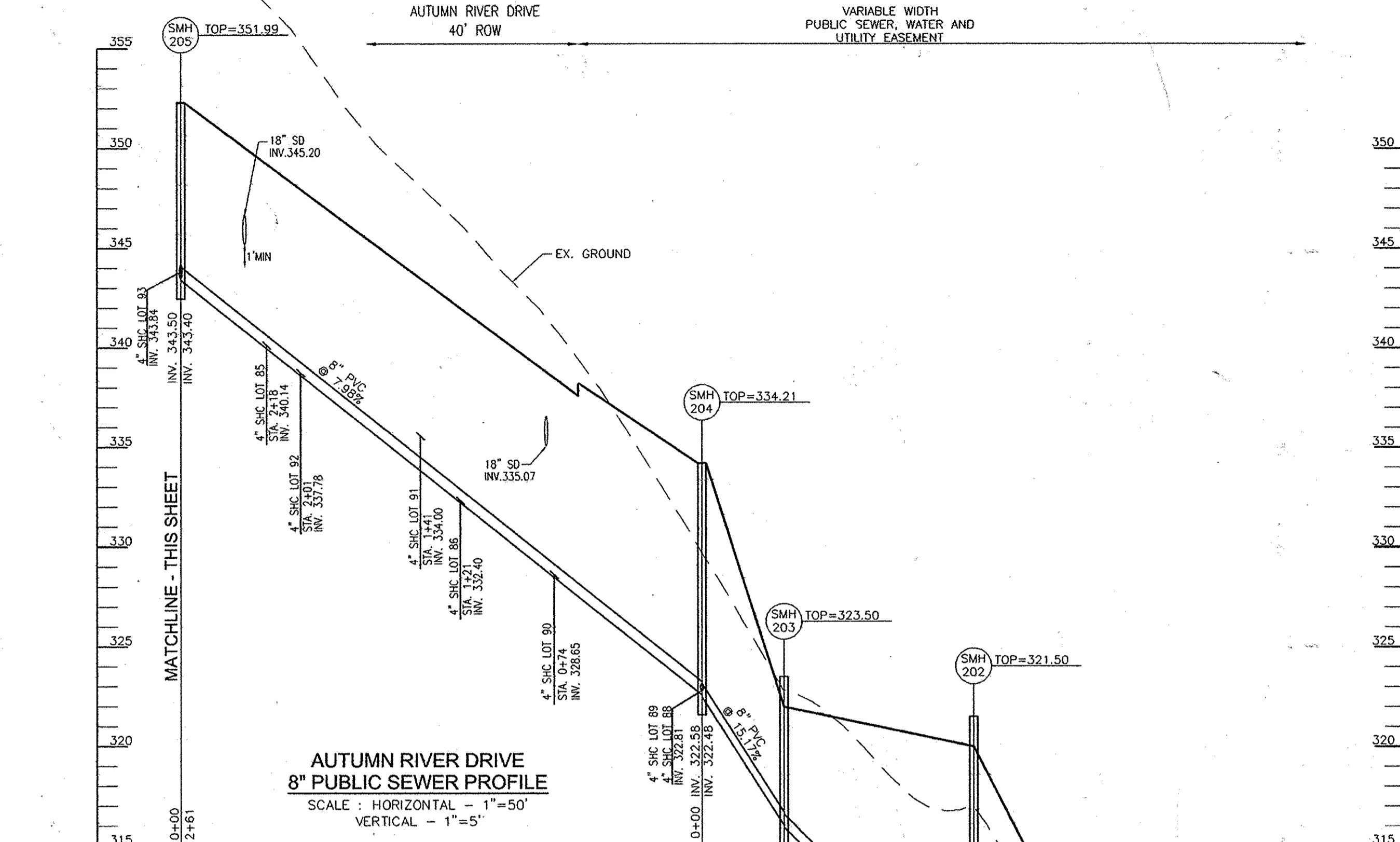
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES
DATE: 4/15/12

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 4/16/12

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



**AUTUMN RIVER DRIVE
8" PUBLIC SEWER PROFILE**
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



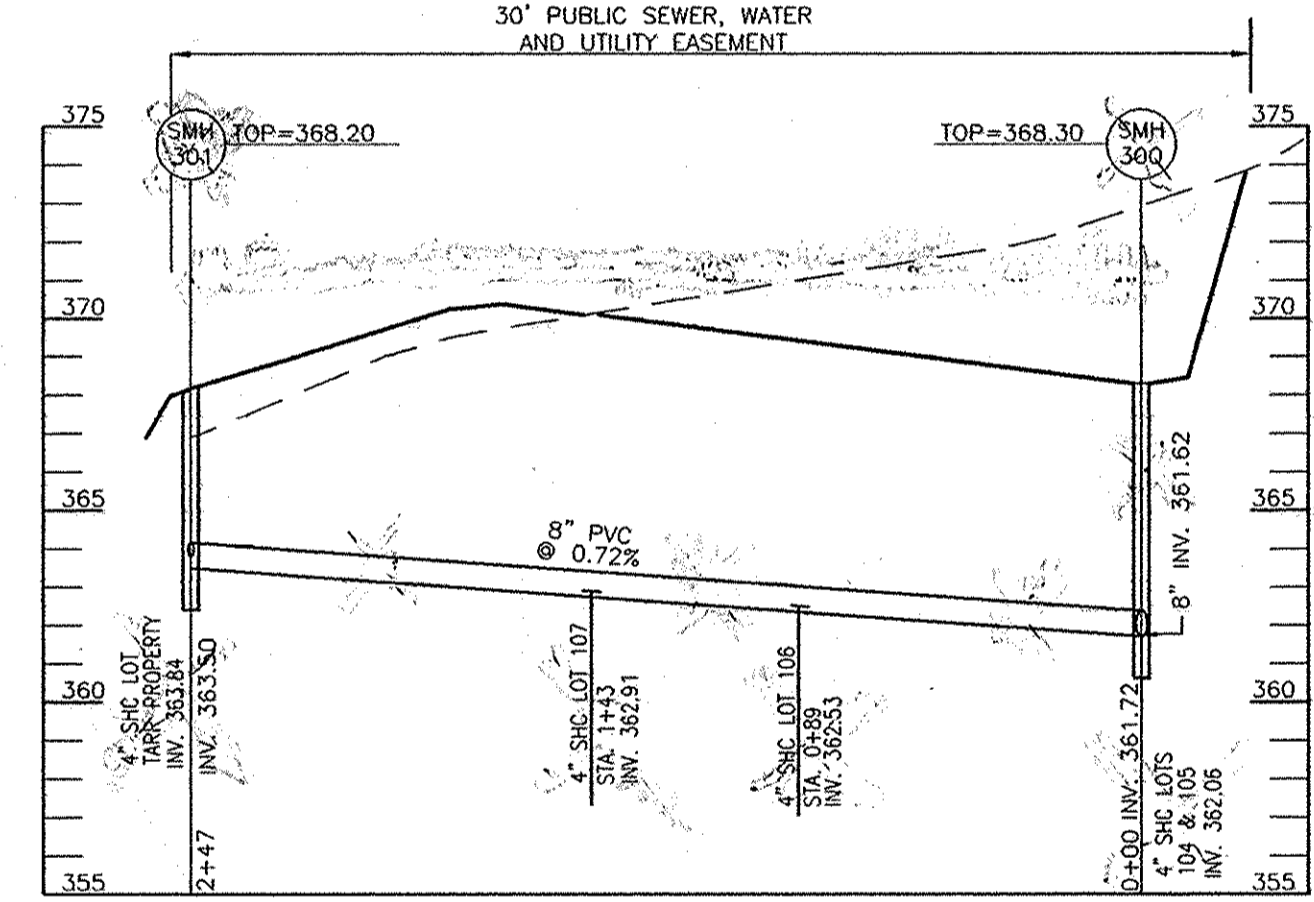
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8" PUBLIC SEWER PROFILE**
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SEWERHOUSE CONNECTION SCHEDULE

AUTUMN RIVER PHASE III MCE's

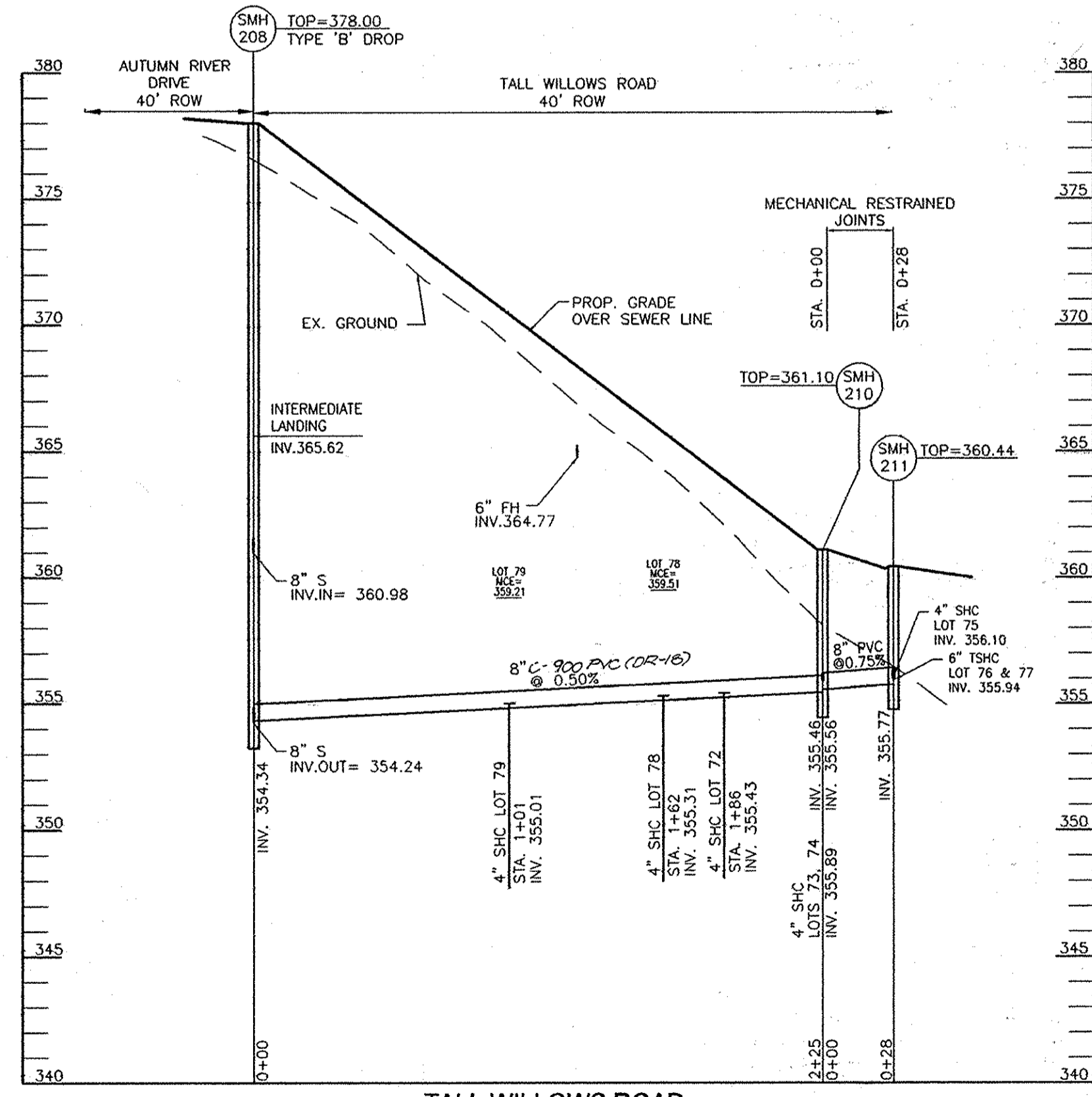
LOT #	EL @ MAIN	TYPE	DIST TO RW	EL @ RW	DIST RW - HSE	EL @ HOUSE	MCE
72	355.43	1% SHC**	25	355.68	83	356.51	359.01
73	355.89	1% SHC**	46	356.35	95	357.30	359.80
74	355.89	1% SHC**	25	356.14	82	356.96	359.46
75	356.10	1% SHC**	24	358.10	90	359.90	N/A
76	355.94	1% TSHC**	6	356.00	180	359.60	N/A
77	355.94	1% TSHC**	6	356.00	74	357.48	N/A
78	355.31	SHC	15	355.61	70	357.01	359.51
79	355.01	SHC	15	355.31	70	356.71	359.21
80	353.66	SHC	18	354.22	79	355.80	358.30
81	353.41	SHC	17	353.75	79	355.33	357.83
82	347.72	1% SHC**	19	347.91	204	349.95	352.45
83	347.72	1% SHC**	19	347.91	204	349.95	352.45
84	346.09	SHC	13	346.35	74	347.83	350.33
85	340.14	SHC	19	340.52	69	341.90	344.40
86	332.40	SHC	17	332.74	89	334.52	337.02
87							
88	322.81	SHC	8	322.97	90	324.77	327.27
89	322.81	SHC	25	323.31	100	325.31	327.81
90	328.65	SHC	48	328.61	100	331.61	334.11
91	334.00	SHC	33	334.66	69	336.04	338.54
92	337.78	SHC	33	338.44	204	342.52	345.02
93	343.84	SHC	34	344.52	99	346.50	349.00
94							
95	347.48	SHC	34	348.16	94	350.04	352.54
96	347.60	SHC	38	348.36	84	350.04	352.54
97	353.35	SHC	38	354.11	79	355.69	358.19
98	353.71	SHC	36	354.43	64	355.71	358.21
99	366.00	DHC	15	366.30	65	367.80	370.10
100	363.23	SHC	15	363.53	55	364.63	367.13
101	363.02	SHC	15	363.32	57	364.46	366.96
102	369.64	DHC	15	369.94	63	371.20	373.70
103							
104	362.06	1% SHC**	20	362.26	55	362.91	365.31
105	362.06	1% SHC**	20	362.26	60	362.96	365.36
106	362.53	1% SHC**	10	362.63	55	363.18	365.58
107	362.91	1% SHC**	20	363.11	75	363.68	366.08
TARR PROPERTY	363.84	SHC	11	364.06	TBD	TBD	N/A
REDMOND PROPERTY							342.00

*FIRST FLOOR GRAVITY SERVICE
**4" SHC @ 1.00%
***GRINDER PUMP REQUIRED



**AUTUMN RIVER DRIVE
8" PUBLIC SEWER PROFILE**
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NO.	TYPE	LOCATION	ROAD CENTER STATION	OFFSET	TOP ELEV.	INV. IN.	INV. OUT.
SMH 201	STD. PRECAST MH HO. CO. STD. DET. S1.32		N 579664.30	E 1372497.61	302.50	294.64	391.54
SMH 202	STD. PRECAST MH HO. CO. STD. DET. G5.12		N 579572.81	E 1372530.17	321.50	306.44	306.34
SMH 203	STD. PRECAST MH HO. CO. STD. DET. G5.12		N 579596.93	E 1372622.16	323.50	316.04	315.94
SMH 204	STD. PRECAST MH HO. CO. STD. DET. G5.12		N 579556.81	E 1372632.66	334.21	322.58	322.48
SMH 205	STD. PRECAST MH HO. CO. STD. DET. G5.12		AUTUMN RIVER DRIVE	6+58.6, 7.1' LT.	351.99	343.50	343.40
SMH 206	STD. PRECAST MH HO. CO. STD. DET. G5.12		AUTUMN RIVER DRIVE	5+48.6, 9.6' LT.	358.26	347.14	347.04
SMH 207	STD. PRECAST MH HO. CO. STD. DET. S1.32		AUTUMN RIVER DRIVE	4+63.6, 7.4' LT.	364.42	353.00	347.55
SMH 208	STD. PRECAST MH HO. CO. STD. DET. S1.32		TALL WILLOW ROAD	0+16.3, 5.0' RT.	378.00	359.69	354.24
SMH 209	STD. PRECAST MH HO. CO. STD. DET. G5.12		AUTUMN RIVER DRIVE	1+95.6, 11.9' LT.	379.07	359.91	359.81
SMH 210	STD. PRECAST MH HO. CO. STD. DET. G5.12		TALL WILLOW ROAD	2.41.8, 5.1' RT.	361.10	355.56	355.46
SMH 211	STD. PRECAST MH HO. CO. STD. DET. G5.12		N 579151.90	E 1372256.45	360.44	-	355.77
SMH 300	STD. PRECAST MH HO. CO. STD. DET. G5.12		N 578788.37	E 1372699.29	368.30	361.72	361.62
SMH 301	STD. PRECAST MH HO. CO. STD. DET. G5.12		N 578994.21	E 1372835.64	368.20	-	363.50

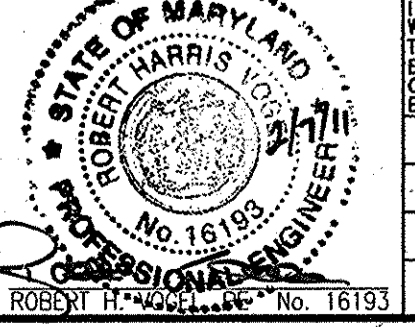


**TALL WILLOWS ROAD
8" PUBLIC SEWER PROFILE**
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
S. Clem
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
3/17/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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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: 09-27-2012

NO.	REVISION	DATE
3	MODIFY WATER & SEWER DESIGN FOR CHANGES TO LOTS 104 TO 107	10-26-13
2	REVISE WATER TO C-900 PVC	3/11/12
1	DESIGNATE LOTS 104 THRU 107 AS FUTURE AND REMOVE WATER AND SEWER SERVICE	10/29/11

DATE: FEBRUARY 2011

**FINAL WATER & SEWER PLAN
CONTRACT 14-4520-D
SEWER PROFILES**

AS BUILT
DEVELOPER
AUTUMN DEVELOPMENT CORPORATION
C/O LAND DESIGN & DEVELOPMENT, INC.
5300 DORSEY HALL DR STE. 102
ELLICOTT CITY MD 21042-7819
ATTN: MR. DONALD R. REUWER
(443) 367-0422

AUTUMN RIVER PHASE III
LOTS 72-86, 88-102, 104-107
OPEN SPACE LOTS 71, 87, 93, 103, 108 AND 109
RESUBDIVISION OF BULK PARCEL B AND
NON-BUILDABLE BULK PARCEL A-1 AND A-2
TAX MAP 25 GRID 14 & 21
1ST ELECTION DISTRICT

PARCELS 172, 279
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 5 OF 5

