

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.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES 83/91.
- ALL VERTICAL CONTROLS ARE BASED ON NAVD 88 UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- 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 NOTES 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) 410-787-9068
 BUREAU OF UTILITIES 410-313-4900
 COLONIAL PIPELINE CO. 410-785-1390
 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 ANY OPEN CUTTING OR BORING JACKING OF ANY COUNTY ROAD FOR LAYING BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAIN OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(g) OF THE HOWARD COUNTY CODE.

PART II - WATER

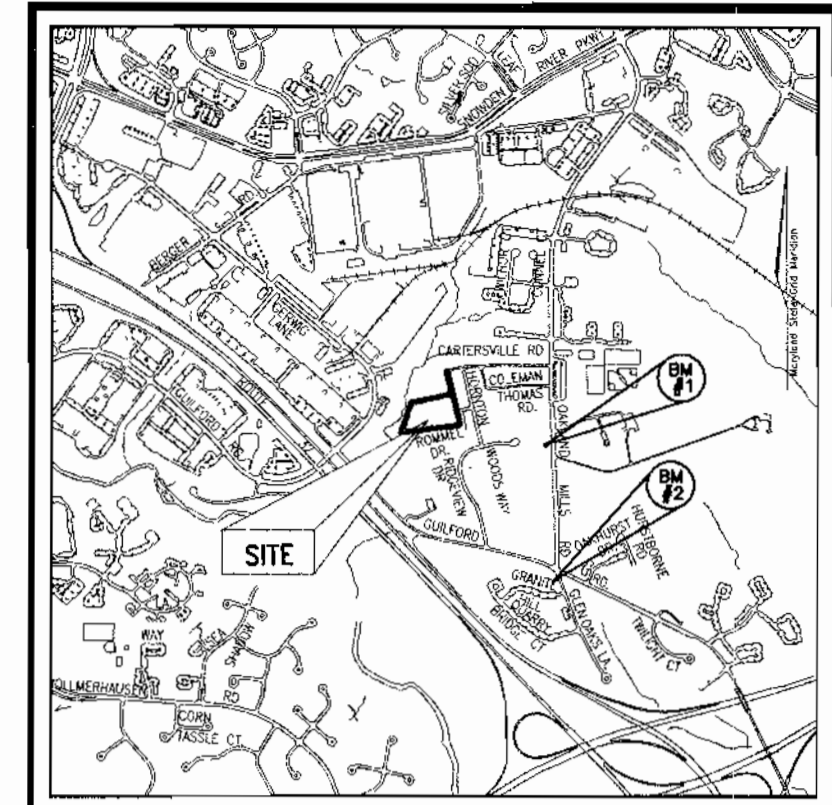
- ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-6" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS 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 CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND 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.

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 MAIN 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 CELLAR CANNOT BE SERVED.

TYPE OF BUILDING:	RESIDENTIAL
NO. OF UNITS/PARCELS:	10
NO. OF WATER HOUSE CONNECTIONS:	10
NO. OF SEWER HOUSE CONNECTIONS:	10
DRAINAGE AREA:	LITTLE PATUXENT
TREATMENT PLANT:	LITTLE PATUXENT WRF

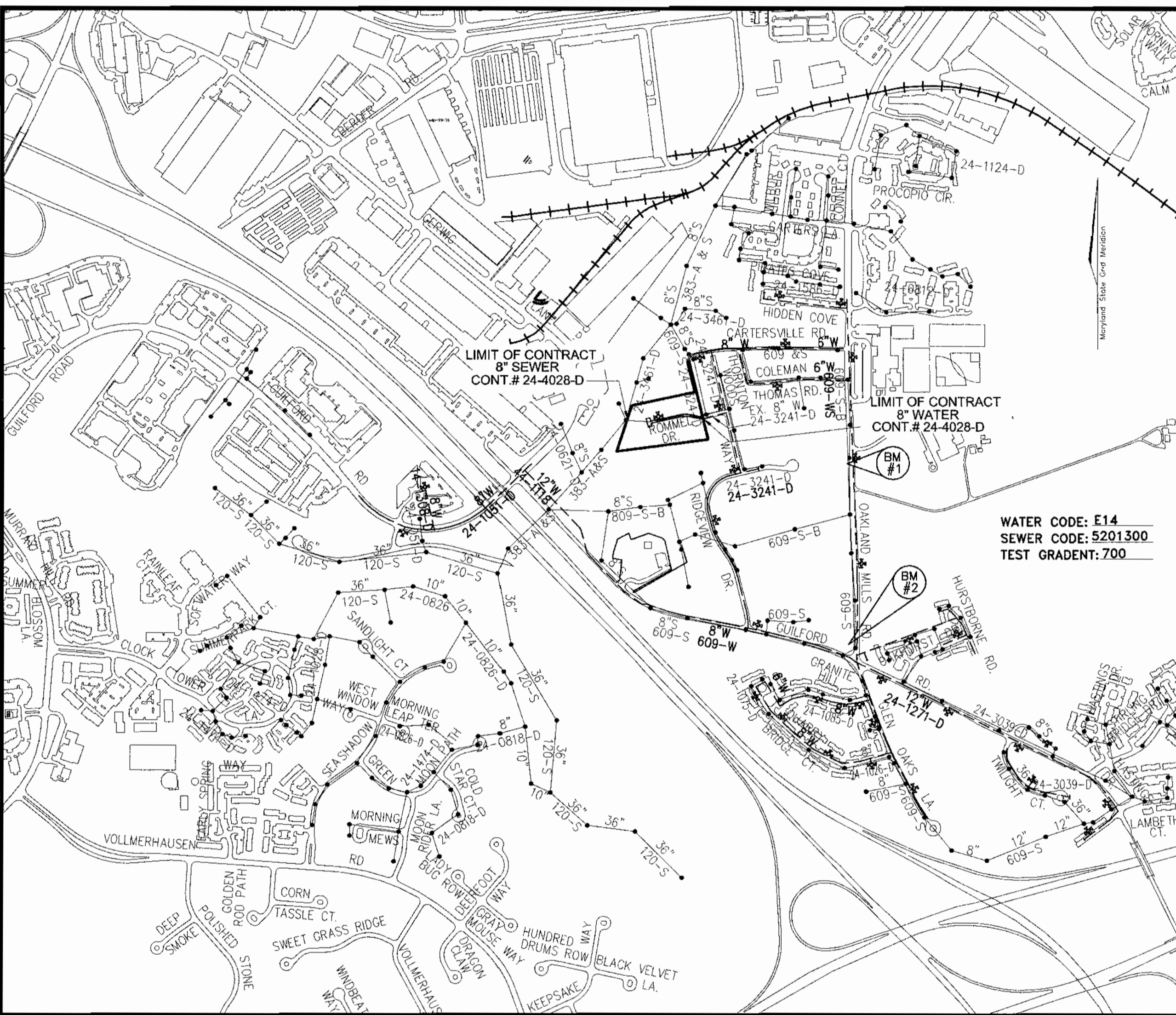
THORNTON WOODS OVERLOOK CONTRACT NO. 24-4028-D HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE: 1"=2000'

BENCHMARKS

- BENCHMARK NO. 1: COUNTY CONTROL #42R5**
N. 548,777.0609, E. 1,360,3609768
ELEV. = 391.54
- BENCHMARK NO. 2: COUNTY CONTROL #42R6**
N. 546,822.0895, E. 1,360,340.6529
ELEV. = 389.12



LOCATION MAP
SCALE : 1"=600'

QUANTITIES				
NAME OF UTILITY CONTRACTOR : CONSOLIDATED CONSTRUCTION SERVICE INC.				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE :				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
MANHOLE	3 EA.	3 EA.		ATLANTIC CONCRETE PRODUCTS
8" SEWER	500 LF	500 LF.		JM MANUFACTURE/BRB.
6" VALVE	1 EA.	1 EA.		MUELLER CO./BRB.
8"x6" TEE	1 EA.	1 EA.		U.S. PIPE/BRB.
FIRE HYDRANT	1 EA.	1 EA.		MUELLER CO./BRB.
8" CAP & BUTTRESS	1 EA.	1 EA.		U.S. PIPE/BRB.
1" W.H.C.	34 LF	34 LF.		READING TUBE/BRB.
6" WATER	4 LF	4 LF.		GRIFFIN PIPE
8" WATER	330 LF	330 LF.		GRIFFIN PIPE
1 1/2" T.W.H.C.	68 LF	68 LF.		READING TUBE/BRB.
4" S.H.C.	160 LF	160 LF.		J.M. MANUFACTURING/BRB.

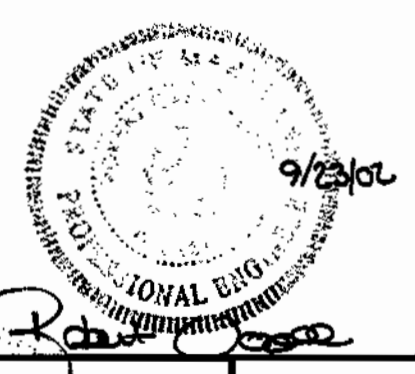
SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH F-02-126.

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

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

John B. Robertson 11/11/02
SOIL CONSERVATION DISTRICT DATE

Lisa Myers 11/17/02
SOIL CONSERVATION DISTRICT DATE



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
R. B. Robertson 10-11-02
CHIEF, BUREAU OF UTILITIES DATE

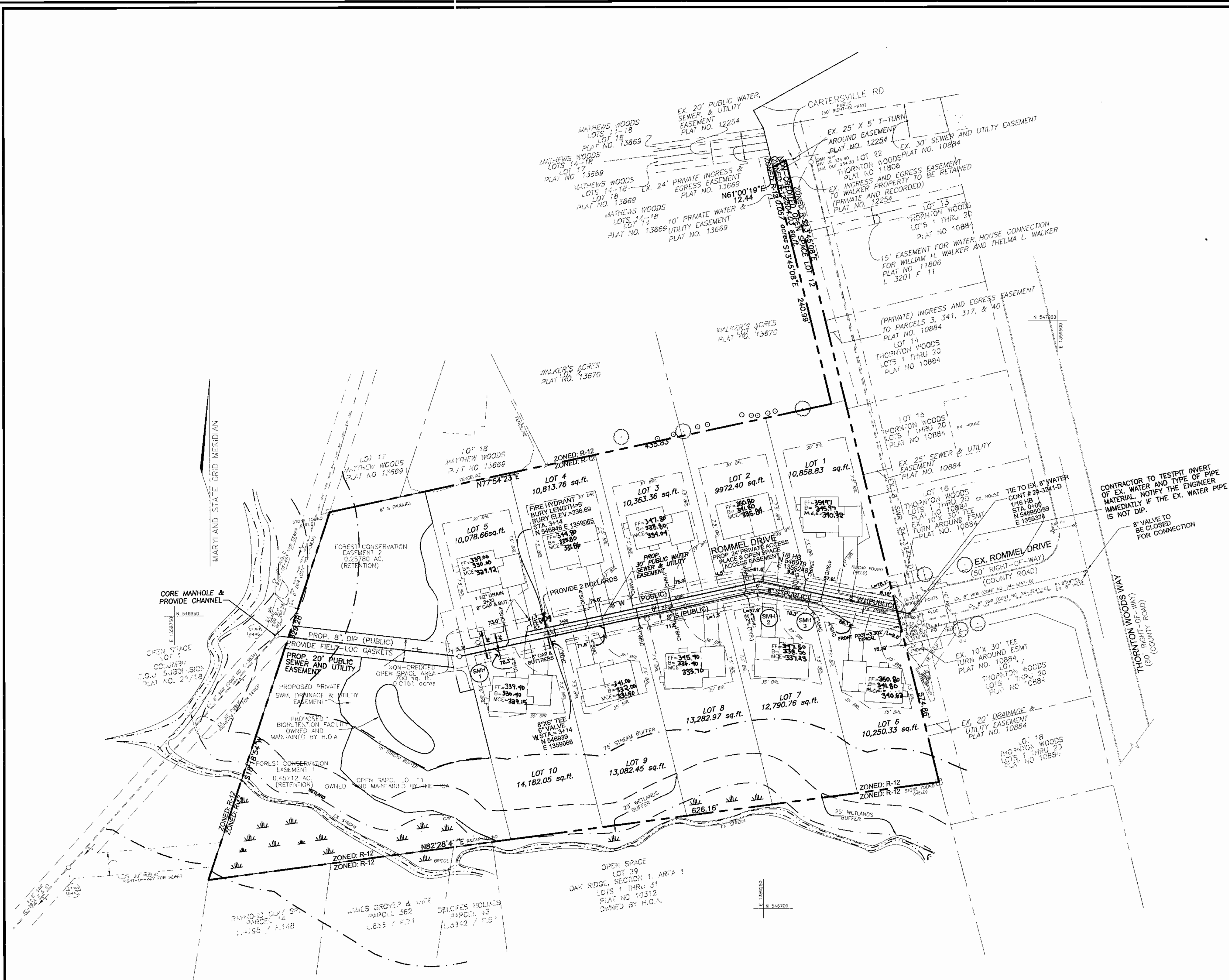
DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
Michael Danner 11/21/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

FREDERICK WARD ASSOCIATES, INC.
ENGINEERS ARCHITECTS SURVEYORS
7125 Riverwood Drive Columbia, Maryland 21046-2354
Phone: 410-290-9550 Fax: 410-720-6226
Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DES: RJ					
DRN: RJ					
CHK: JCO					
DATE: SEPT. 2002	KCI	1	AS-BUILT DATA	06/06/03	
BY NO.			REVISION	DATE	

WATER & SEWER PLAN
600' SCALE MAP NO. 42 BLOCK NO. 16

**THORNTON WOODS OVERLOOK
LOTS 1 - 10
HOWARD COUNTY, MARYLAND
CONTRACT NO. 24-4028-D**
TAX MAP#42 GRID 16 6TH ELECTION DISTRICT
PARCEL #41 HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 1 OF 3

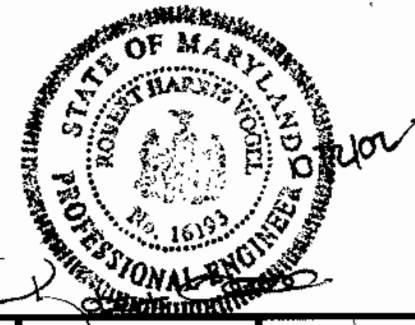


PLAN
SCALE: 1"=50'

WATER AND SEWER FIELD MEASUREMENTS				
LOT #	FROM	TO	DISTANCE	REMARKS
1	SMH 3	WHC LOT 1	27.5	
1	SMH 3	SHC LOT 1	21.0	
1	SHC LOT 1	WHC LOT 1	13.0	
1	SHC LOT 6	SHC LOT 1	43.5	
2	WHC LOT 1	WHC LOT 2	4.5	
2	SMH 3	WHC LOT 2	31.5	
2	SMH 3	SHC LOT 2	75.5	
2	WHC LOT 2	SHC LOT 2	55.0	
2	SMH 2	WHC LOT 2	57.0	
2	SMH 2	SHC LOT 2	16.5	
3	SHC 2	SHC LOT 3	70.0	
3	SHC 2	WHC LOT 3	101.0	
3	F.H.	WHC LOT 3	77.5	
3	SHC LOT 2	SHC LOT 3	62.0	
3	SHC LOT 3	WHC LOT 3	32.5	
4	SHC LOT 3	WHC LOT 4	37.5	
4	SMH 2	WHC LOT 4	106.0	
4	WHC LOT 3	WHC LOT 4	5.0	
4	F.H.	WHC LOT 4	72.5	
4	SHC LOT 4	WHC LOT 4	28.0	
4	F.H.	SHC LOT 4	34.0	
4	F.H. VALVE	SHC LOT 4	36.0	
4	F.H.	F.H. VALVE	6.0	
4	F.H. VALVE	BLOW OFF	16.0	
4	F.H.	BLOW OFF	15.0	
5	F.H.	WHC LOT 5	11.5	
5	F.H. VALVE	WHC LOT 5	15.0	
5	BLOW OFF	WHC LOT 5	6.0	
5	WHC LOT 5	SHC LOT 5	24.5	
5	F.H.	SHC LOT 5	25.0	
5	BLOW OFF	SHC LOT 5	20.0	
6	SMH 2	WHC LOT 6	57.5	
6	SMH 2	SHC LOT 6	90.0	
6	SMH 3	WHC LOT 6	12.5	
6	SMH 3	SHC LOT 6	27.5	
6	SMH 3	WHC LOT 6	23.0	
7	SMH 2	SHC LOT 7	37.0	
7	SMH 2	WHC LOT 7	53.0	
7	SMH 2	SHC LOT 7	31.0	
7	SMH 3	WHC LOT 7	15.5	
7	WHC LOT 6	WHC LOT 7	4.5	
7	SHC LOT 7	WHC LOT 7	14.0	
8	F.H.	WHC LOT 8	82.5	
8	F.H. VALVE	WHC LOT 8	82.0	
8	WHC LOT 9	WHC LOT 8	3.5	
8	WHC LOT 8	SHC LOT 8	26.0	
8	WHC LOT 8	SHC LOT 8	22.0	
8	SMH 2	SHC LOT 8	73.0	
9	WHC LOT 10	SHC LOT 9	50.0	
9	F.H. VALVE	SHC LOT 9	53.5	
9	F.H.	WHC LOT 9	57.0	
9	F.H.	WHC LOT 9	80.5	
9	F.H. VALVE	WHC LOT 9	79.0	
9	SHC LOT 9	WHC LOT 9	32.0	
10	BLOW OFF	SHC LOT 10	42.0	
10	F.H.	WHC LOT 10	53.0	
10	F.H. VALVE	SHC LOT 10	50.0	
10	F.H. VALVE	WHC LOT 10	21.5	
10	F.H.	WHC LOT 10	27.5	
10	BLOW OFF	WHC LOT 10	22.5	

CURVE TABLE						
CURVE NO.	RADIUS	TANGENT	LENGTH	DELTA	CHORD BEARING	CHORD DISTANCE
C1	150.00'	30.61'	60.39'	23°04'00"	N 89°26'23"E	59.98'
C2	150.00'	30.61'	60.39'	23°04'00"	S 89°26'23"W	59.98'

Course	Bearing	Distance
L1	N 79°01'37" W	75.96'
L2	N 79°01'37" W	118.57'
L3	S 77°54'23" W	34.32'
L5	N 79°01'37" W	119.34'
L6	S 77°54'23" W	108.65'
L9	N 79°01'37" W	120.11'
L10	S 77°54'23" W	182.98'
L12	N 79°01'37" W	120.88'
L13	S 77°54'23" W	255.31'
L14	S 79°01'37" E	76.46'
L16	N 77°54'23" E	30.12'
L17	S 79°01'37" E	123.18'
L20	S 79°01'37" E	122.41'
L22	N 77°54'23" E	176.34'
L23	S 79°01'37" E	121.65'



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

John P. ... 10-11-02
CHIEF, DEVELOPMENT ENGINEERING DIVISION

FREDERICK WARD ASSOCIATES, INC.
7125 Riverwood Drive Columbia, Maryland 21046-2354
Phone: 410-290-9550 Fax: 410-720-6226
Bel Air, Maryland Columbia, Maryland Warrenton, Virginia

DES: RJ
DRN: RJ
CHK: JCO
DATE: SEPT. 2002

KCI 2
1
ASBUILT DATA
REVISE MCE AND HOUSE ELEV

06/06/03
16/06/03

WATER & SEWER PLAN

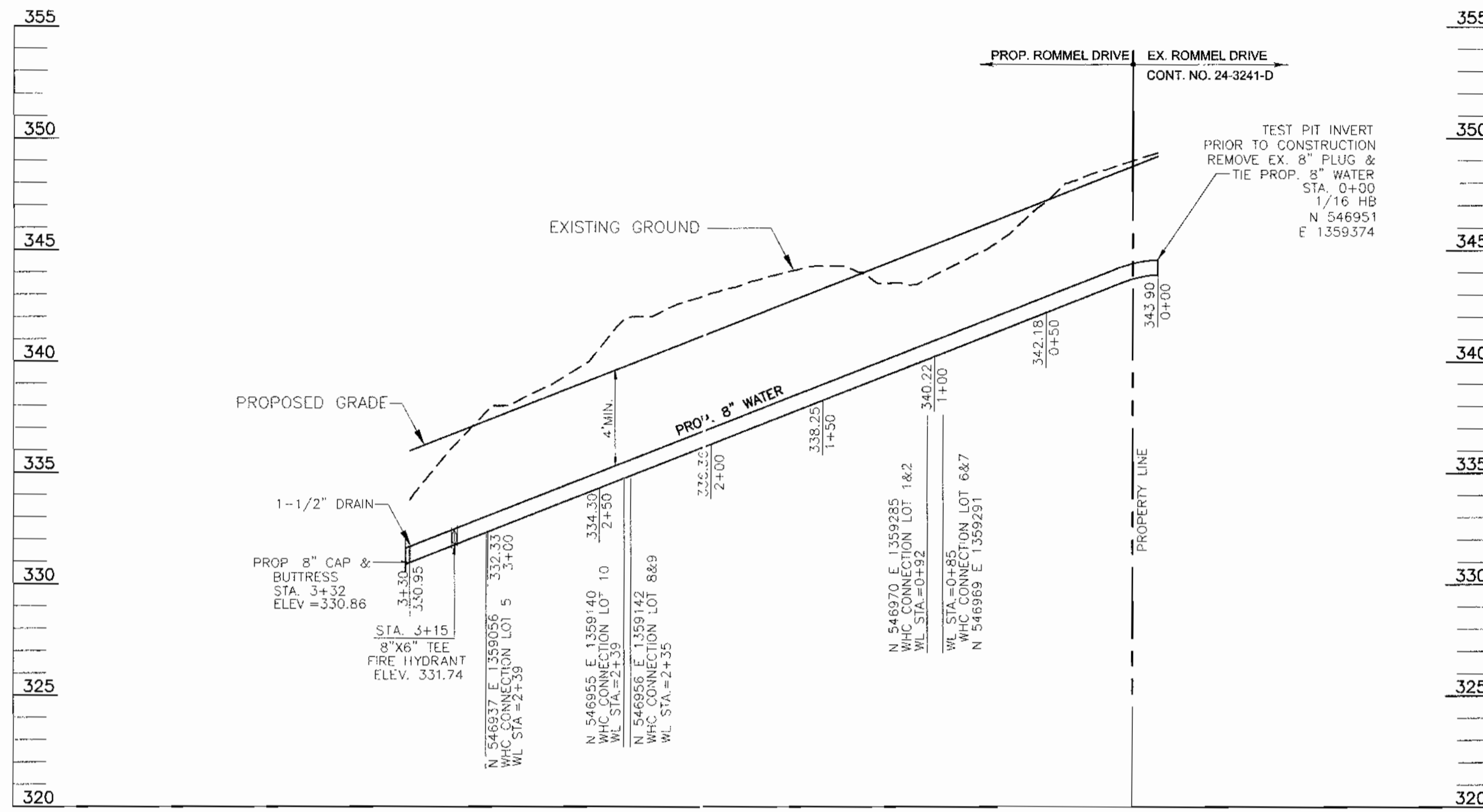
600' SCALE MAP NO. 42 BLOCK NO. 16

THORNTON WOODS OVERLOOK
LOTS 1 - 10
HOWARD COUNTY, MARYLAND
CONTRACT NO. 24-4028-D

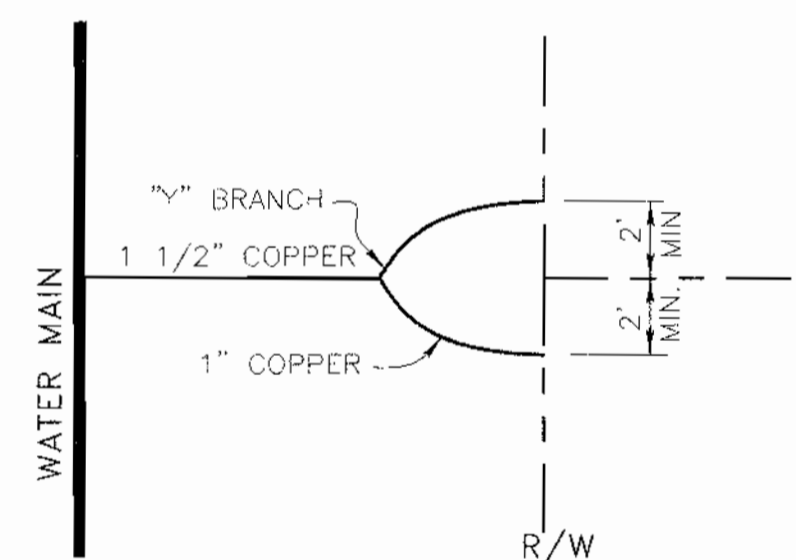
TAX MAP#42 GRID 16
6TH ELECTION DISTRICT

PARCEL '41'
HOWARD COUNTY, MARYLAND

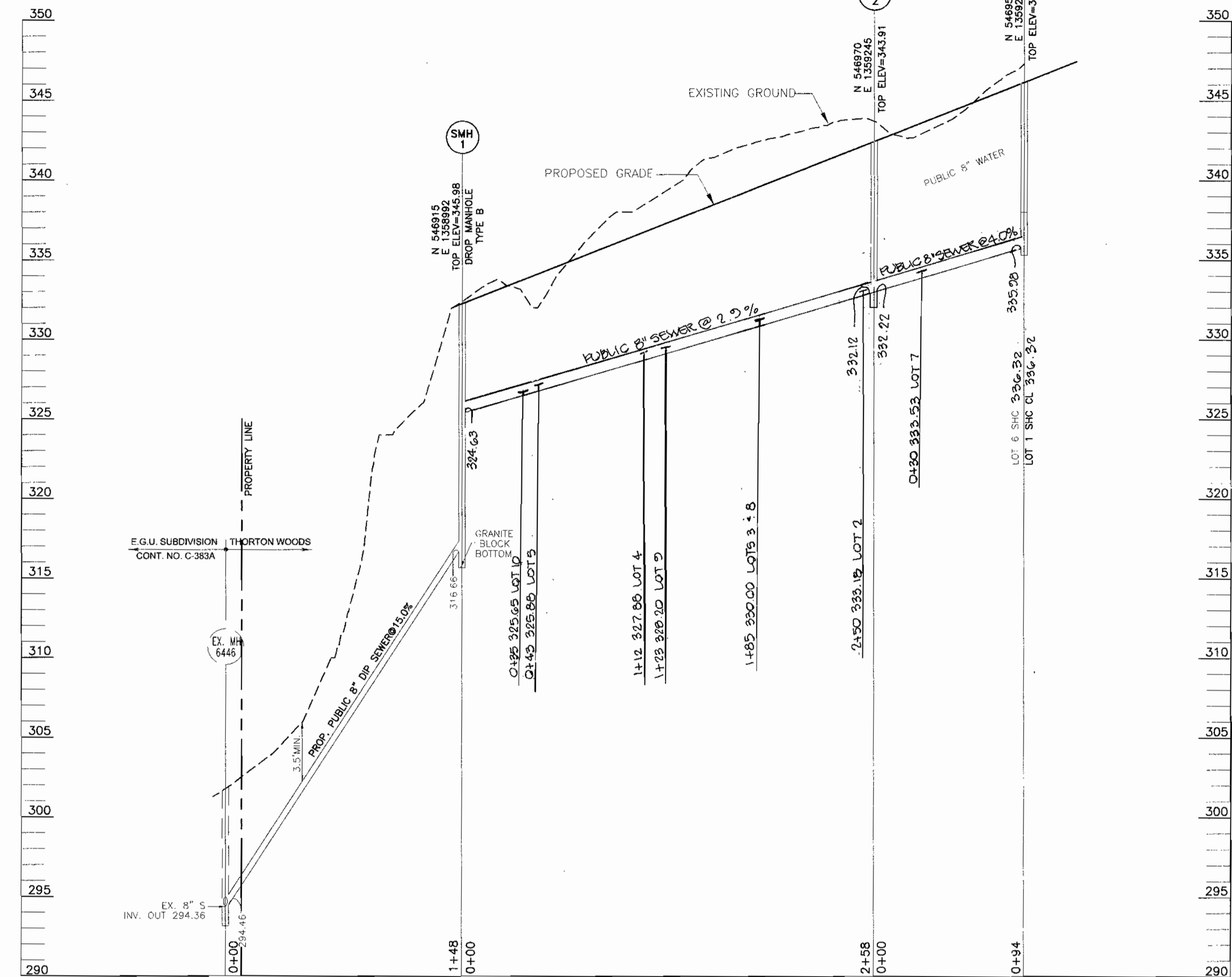
SCALE AS SHOWN
SHEET 2 OF 3



WATER PROFILE A
SCALE: 1" = 50' HORZ.
1" = 5' VERT.



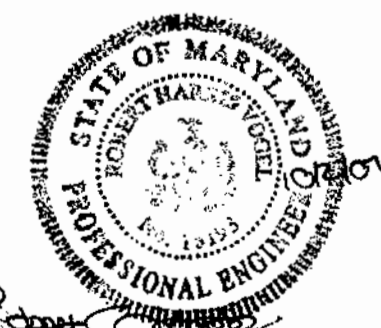
TYPICAL TWIN WATER HOUSE CONNECTION DETAIL
HOWARD COUNTY STANDARD DETAIL W3.23
NOT TO SCALE



SEWER PROFILE
SCALE: 1" = 50' HORZ.
1" = 5' VERT.

SEWER CONNECTION TABULATION				
LOT NO.	TYPE	ELEVATION @ MAIN	ELEVATION @ PUBLIC EASEMENT	M.C.E.
1	S.H.C.	336.32	336.72	346.32
2	S.H.C.	331.88	332.28	335.88
3	S.H.C.	330.00	330.40	334.00
4	S.H.C.	327.88	328.28	331.88
5	S.H.C.	325.88	326.28	329.88
6	S.H.C.	326.32	326.72	336.32
7	S.H.C.	325.53	325.93	331.53
8	S.H.C.	330.00	330.40	335.00
9	S.H.C.	328.20	328.60	331.20
10	S.H.C.	325.65	326.05	331.15

MANHOLE LOCATION CHART				
MAN-HOLE NO.	TYPE	LOCATION	TOP ELEVATION	
SMH 1	DROP MANHOLE TYPE 'B' HO. CO. STD. DET. S1.32	N 546915 E 1358992	345.98	
SMH 2	STD. PRECAST MH HO. CO. STD. DET. G5.12	N 546970 E 1359245	343.91	
SMH 3	STD. PRECAST MH HO. CO. STD. DET. G5.12	N 546959 E 1359298	333.58	



DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND R. J. ... CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND ... CHIEF, DEVELOPMENT ENGINEERING DIVISION	FREDERICK WARD ASSOCIATES, INC. ENGINEERS ARCHITECTS SURVEYORS 7125 Riverwood Drive Columbia, Maryland 21046-2354 Phone: 410-290-9550 Fax: 410-720-6226 Bel Air, Maryland Columbia, Maryland Warrenton, Virginia	DES: RJ DRN: RJ CHK: JCO DATE: SEPT. 2002	WATER & SEWER PLAN REVISE SEWER BETWEEN SMH-1 & SMH-3	THORNTON WOODS OVERLOOK LOTS 1 - 10 HOWARD COUNTY, MARYLAND CONTRACT NO. 24-4028-D	SCALE AS SHOWN SHEET 3 OF 3
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