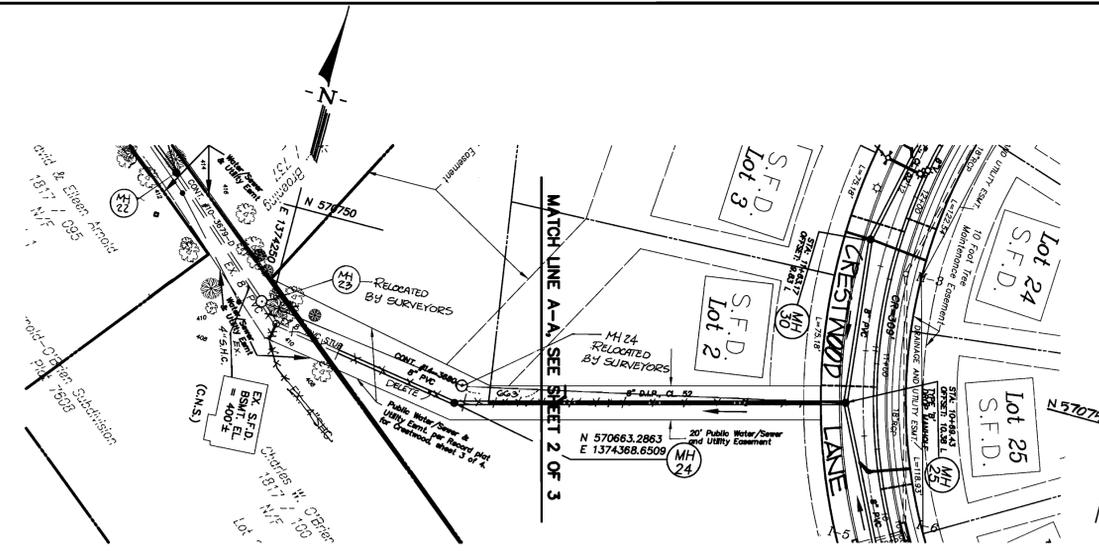


QUANTITIES				
ITEM	QUANTITIES EST'D	AS-BUILT		
		QUANTITIES	TYPE	SUPPLIER/MANUFACTURER
8" S (PVC)	1080	9	PVC	U.S. FILTER / J.M. MANUFACTURING
8" S (D.I.P.) CL. 52	722	854	D.I.P.	GRIFFIN PIPE PRODUCTS CO.
4" MANHOLE	10	10		ATLANTIC CONCRETE
4" SHC	725	943		U.S. FILTER / J.M. MANUFACTURING
8" W	2159	2,166	DIP	GRIFFIN PIPE PRODUCTS CO.
1" WHC	725	713	COPPER TYPE K	U.S. FILTER/READING TUBE
8" V	7	5EA		" " MUELLER CO.
FIRE HYDRANT	4 EACH	4EA		" " MUELLER CO.
TAPPING SLEEVE	1 EACH	1		U.S. FILTER/UNION FOUNDRY
6" F.H.V.	4 EACH	4EA		" " MUELLER CO.
NAME OF UTILITY CONTRACTOR:		UTILITIES UNLIMITED		
CHECKBOX:				
AS-BUILT DATE:		9/17/99 (FIELD)		
SURVEY AND DRAFTING DIVISION				

PLAN REFERENCE NUMBERS	
P-98-04	F-98-115

# WATER AND SEWER MAIN EXTENSION CRESTWOOD PHASE 2 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT NO. 14-3680-D



### GENERAL NOTES

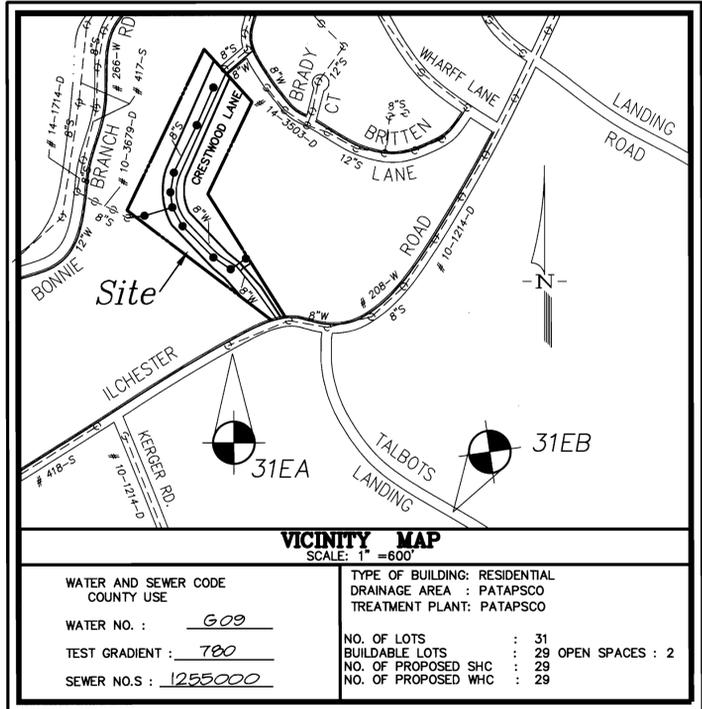
- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. 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 BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY OWNED BY 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 OPERATIONS AT HIS OWN EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS: STATE HIGHWAY ADMINISTRATION: 531-5533 BALTIMORE GAS & ELECTRIC CO.-CONTRACTOR SERVICES: 850-4620 BALTIMORE GAS & ELECTRIC CO. UNDERGROUND DAMAGE CONTROL: 787-9088 BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING: 286-9001 MISS UTILITY: 1-800-257-7777 COLONIAL PIPELINE COMPANY: 795-1390 BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS: 313-4900 C & P TELEPHONE COMPANY: 1-800-257-7777
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG 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) 313-2450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS 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.

### SEWER NOTES

- ALL SEWER MAINS SHALL BE D.I.P. AND 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 WATER-TIGHT FRAME AND COVERS STANDARD DETAIL G5.52, WHERE WATER-TIGHT MANHOLE FRAME AND COVER IS USED. SET TOP OF FRAME 1'-0" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.
- ALL SEWER HOUSE CONNECTIONS ARE 2X UNLESS OTHERWISE NOTED ON PLAN.

### WATER NOTES

- ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-1/2" 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 STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. 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 SETTINGS, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS. ALL PROPOSED WATER HOUSE CONNECTIONS SHALL BE 1-INCH WITH 3/4-INCH INSIDE METER SETTING.



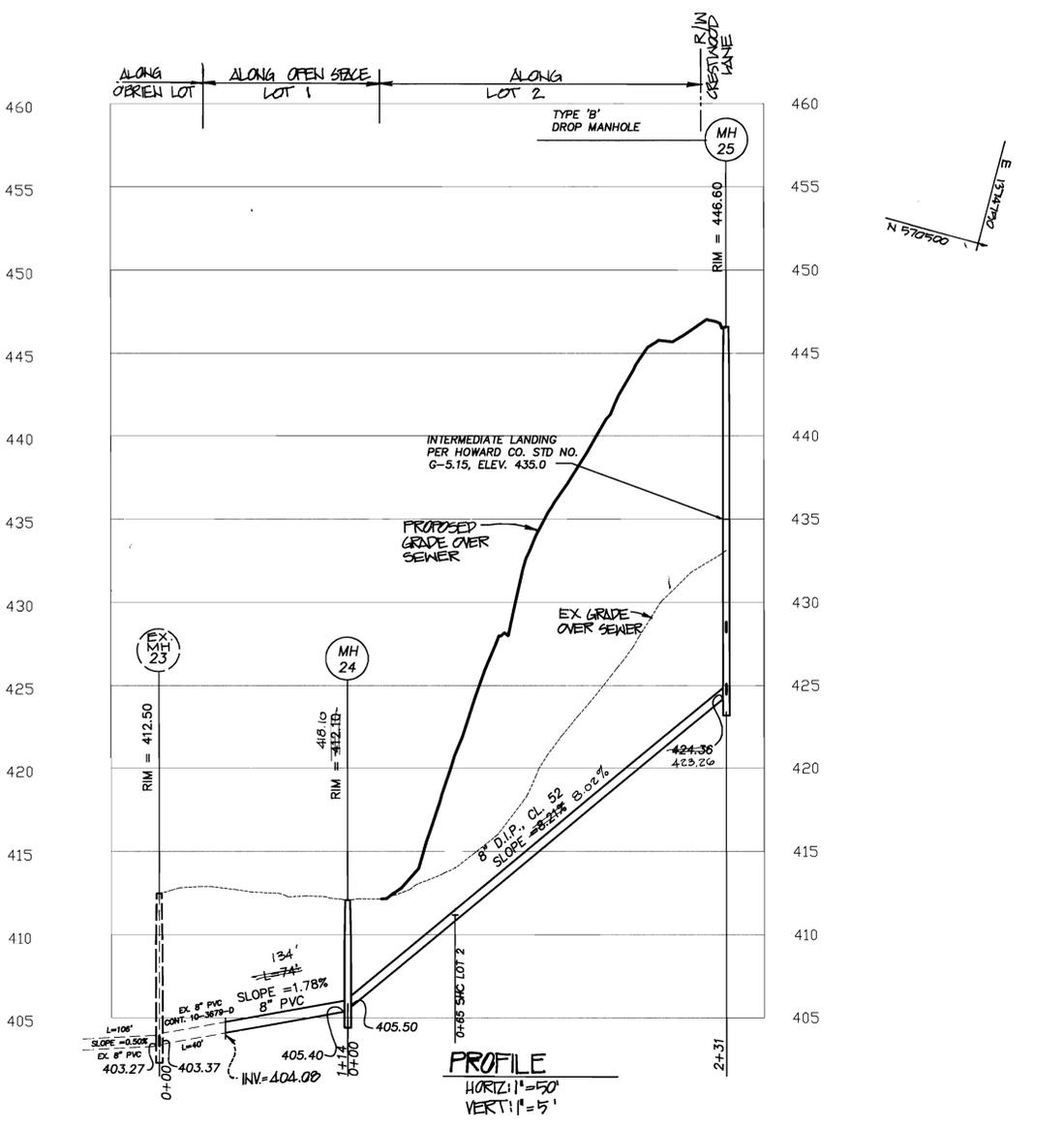
WATER AND SEWER CODE COUNTY USE	TYPE OF BUILDING: RESIDENTIAL
WATER NO.: 609	DRAINAGE AREA: PATAPSCO
TEST GRADIENT: 780	TREATMENT PLANT: PATAPSCO
SEWER NO.S: 1255000	NO. OF LOTS: 31
	BUILDABLE LOTS: 29
	NO. OF PROPOSED SHC: 29
	NO. OF PROPOSED WHC: 29

THE COORDINATES SHOWN HEREON ARE BASED UPON HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS Nos. 31EA AND 31EB.

31EA North 569641.149 East 1374916.064 Elev. 469.628

31EB North 568731.012 East 1376273.619 Elev. 453.420

- NOTES:
- UNLESS OTHERWISE SHOWN ALL PROPOSED SHC ARE 4" AND ALL PROPOSED WHC ARE 1"
  - UNLESS OTHERWISE SHOWN ALL PROPOSED SEWER MANHOLES ARE HO.CO. STD. G.5.12.
  - UNLESS OTHERWISE SHOWN ALL PROPOSED SEWER HOUSE CONNECTIONS ARE 2X.



SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL AND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AND ALSO AS SHOWN ON THE GRADING AND SEDIMENT CONTROL PLAN.

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

*Clayton Simmons* 10/21/98  
U.S. NATURAL RESOURCES CONSERVATION SERVICES DATE

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

APPROVED:  
*John R. Poluto* 10/21/98  
HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Ruth Benner* 10-14-98  
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

*John R. Poluto* 10/21/98  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**R.M. MOCHI GROUP, P.C.**  
P.O. Box 10  
New Market, MD 21774-0010  
10120 A Old National Pike  
Jmansville, MD 21754-9706  
(301) 865-5858  
Fax: (301) 865-5111



DES: M.W.Z.	
DRN: A.R.M.	
CHK: R.M.M.	
PROJ: #98004.20	1
DATE: 5/5/98	12/1/99
DESCRIPTION	date
revisions	

WATER AND SEWER MAIN  
PLAN AND PROFILE

600' SCALE MAP NO. 31 BLOCK NO. 9 & 15

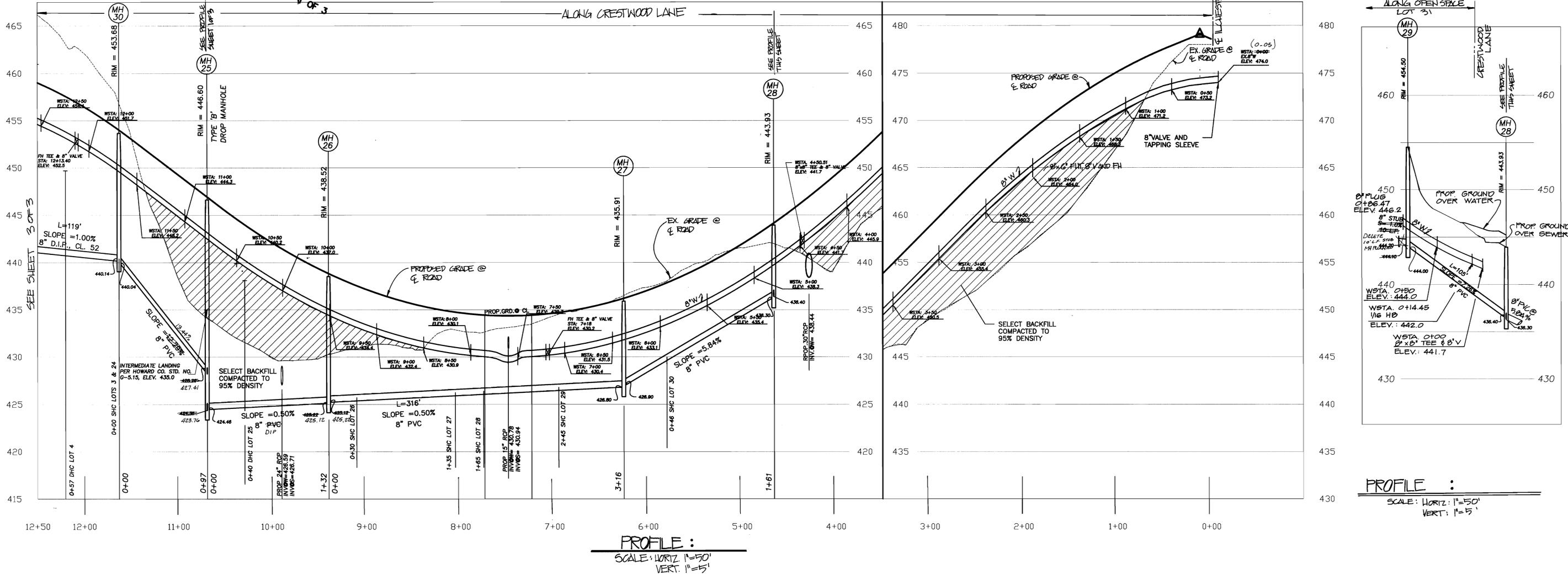
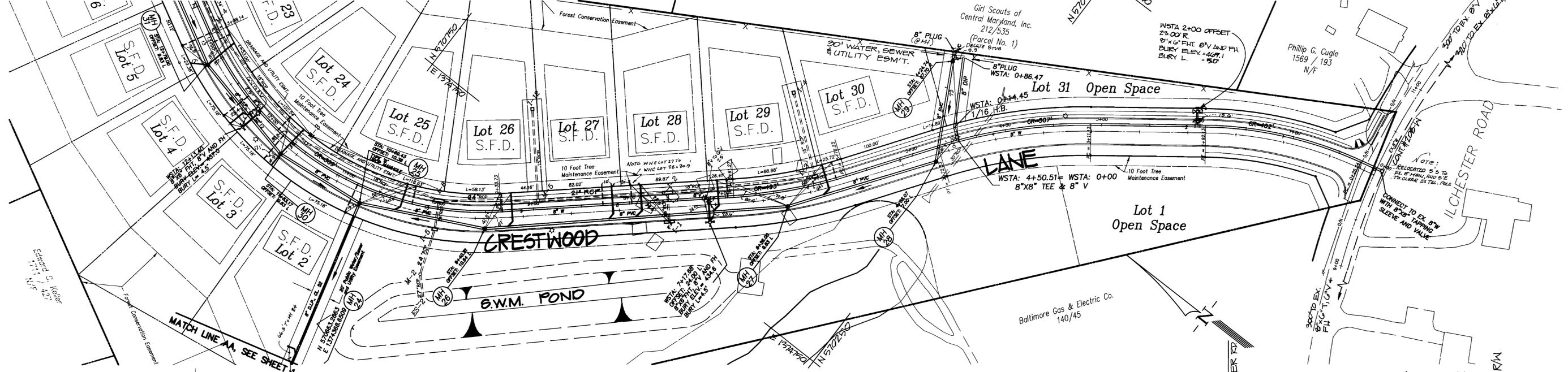
CONTRACT # 14-3680-D  
CRESTWOOD

ELECTION DISTRICT No. 1 HOWARD COUNTY

SCALE  
1" = 50'

SHEET  
1 OF 3

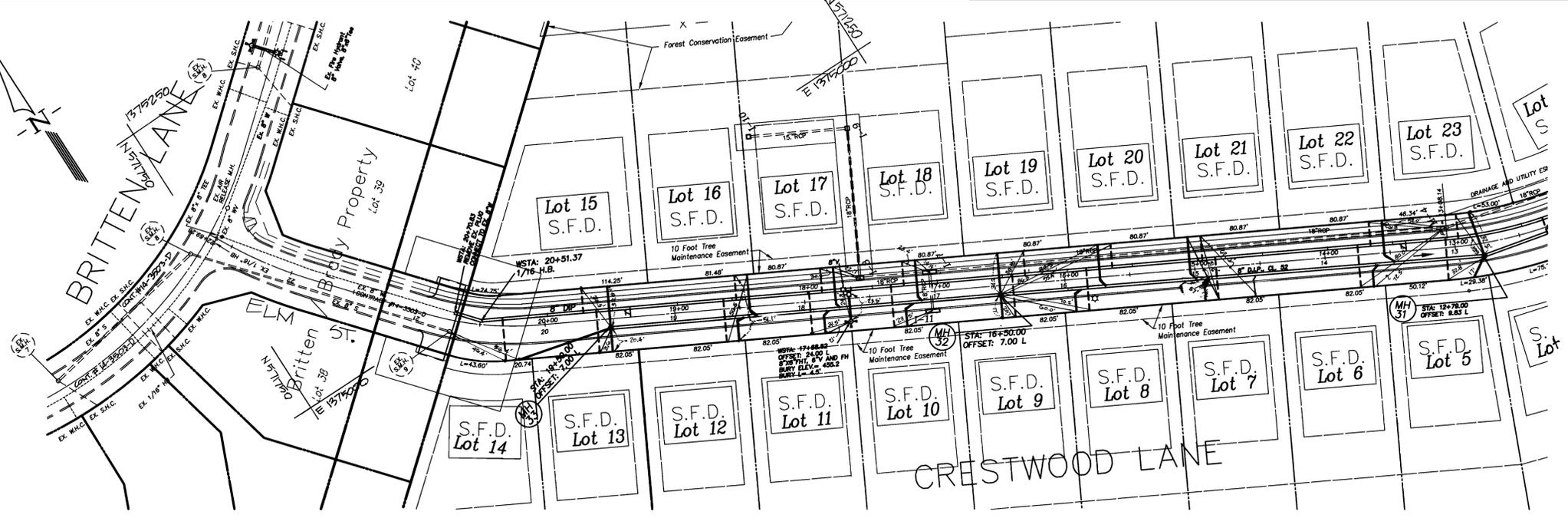
SEE SHEET 3 OF 3



PROFILE :  
SCALE: HORIZ: 1"=50'  
VERT: 1"=5'

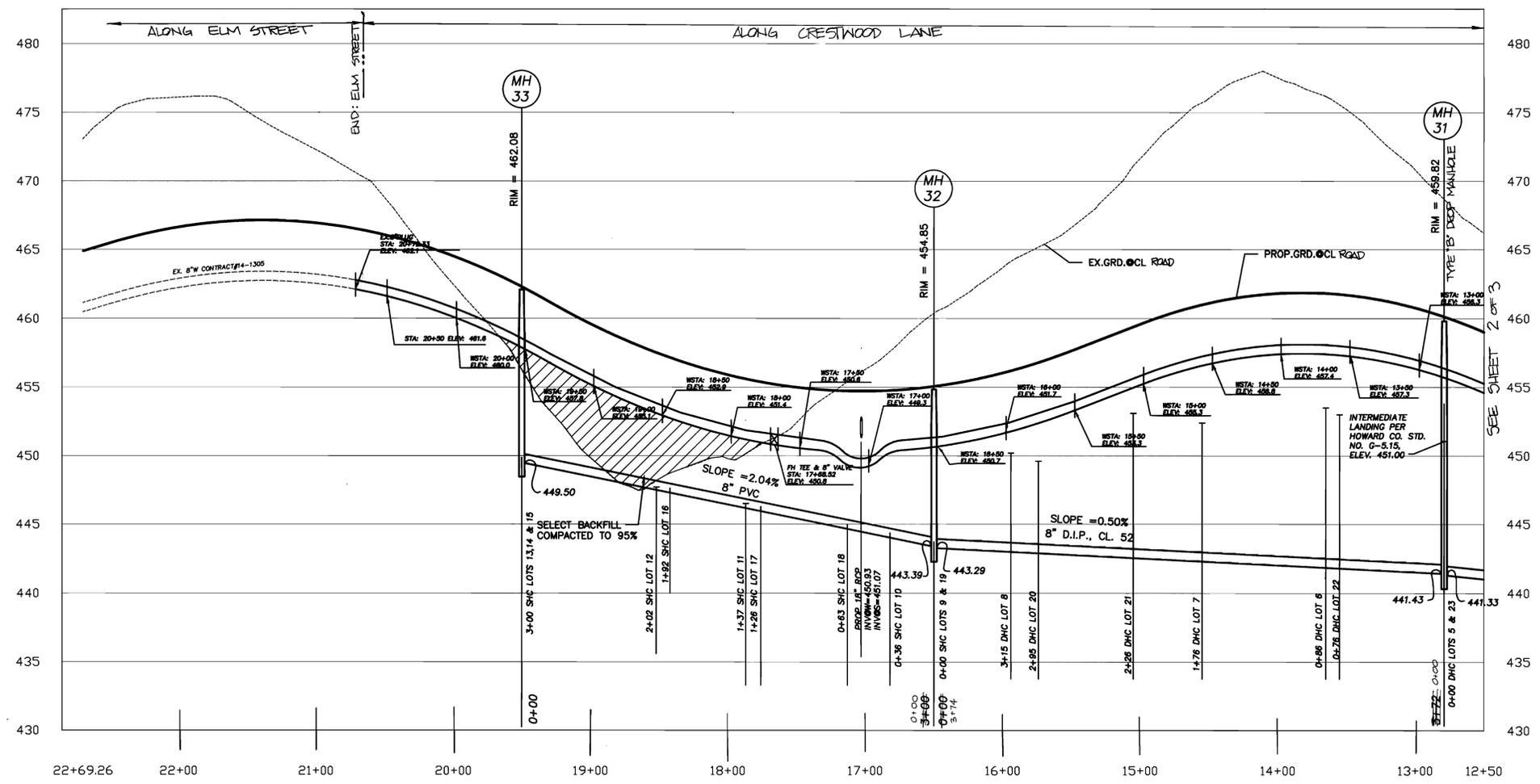
PROFILE :  
SCALE: HORIZ: 1"=50'  
VERT: 1"=5'

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>John B. ...</i> 10-14-98 CHIEF, BUREAU OF UTILITIES</p>	<p>DEPARTMENT OF PLANNING &amp; ZONING HOWARD COUNTY, MARYLAND</p> <p><i>...</i> 10/21/98 CHIEF, DEVELOPMENT ENGINEERING DIVISION</p>	<p><b>R.M. MOCHI GROUP, P.C.</b></p> <p>P.O. Box 10 New Market, MD 21774-0010 10120 A Old National Pike Jarnsville, MD 21754-9706</p> <p>(301) 865-5859 Fax: (301) 865-5111</p>		<p>DES: M.W.Z. DRN: A.R.M. CHK: R.M.M. PROJ: #98004.20 DATE: 04-14-98</p> <p>by: kci no: 1 description: AS BUILT CONDITIONS ADDED TO PLAN date: 12/21/98 revisions:</p>	<p><b>WATER AND SEWER MAIN PLAN AND PROFILE</b></p> <p>600' SCALE MAP NO. 31 BLOCK NO. 9 &amp; 15</p>	<p><b>CONTRACT # 14-3680-D CRESTWOOD</b></p> <p>ELECTION DISTRICT No. 1 HOWARD COUNTY</p>	<p>SCALE 1" = 50'</p> <p>SHEET 2 OF 3</p>
---	---	---	--	---	---	---	---



SEE SHEET 2 OF 3

DHC(*)	LOT	SHC INV @ R/W	MIN BSMT
*	2	411.29	439.10
*	3	440.72	444.79
*	4	449.73	454.20
*	5	452.87	457.30
*	6	453.49	457.90
*	7	452.39	456.70
*	8	450.17	454.60
*	9	444.03	448.10
*	10	445.52	449.58
*	11	446.82	450.89
*	12	448.14	452.21
*	13	450.14	454.21
*	14	451.26	455.33
*	15	450.42	454.49
*	16	448.22	452.29
*	17	446.88	450.94
*	18	445.61	449.68
*	19	444.31	448.38
*	20	449.59	454.30
*	21	453.07	457.80
*	22	453.03	457.80
*	23	452.73	457.50
*	24	441.14	445.21
*	25	438.13	442.80
*	26	426.35	430.42
*	27	426.86	430.92
*	28	427.01	431.07
*	29	427.41	431.47
*	30	430.51	434.57



SEE SHEET 2 OF 3

**WHC LOWERING SCHEDULE\***

LOT	DIST OFF PL	WHC INV.
18	8'-12'	451.27
19	8'-12'	450.04
25	3'-6'	439.23
29	6'-9'	431.46

\* THIS CHART SHOWS THE REQUIRED DIP IN THE WATER HOUSE CONNECTIONS TO PROVIDE THE MINIMUM CLEARANCE WITH THE PROPOSED STORM DRAIN.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 10-14-98 DATE	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND 12/29/98 DATE	<b>R.M. MOCHI GROUP, P.C.</b> P.O. Box 10 New Market, MD 21774-0010 10120 A Old National Pike Pjamasville, MD 21754-9706 (301) 865-5858 Fax: (301) 865-5111	DES: M.W.Z. DRN: A.R.M. CHK: R.M.M. PROJ: 98004.20 DATE: 04-14-98	AS BUILT CONDITIONS ADDED TO PLAN 12/28/98 date	<b>WATER AND SEWER MAIN          PLAN AND PROFILE</b> 600' SCALE MAP NO. 31 BLOCK NO. 9 & 15	<b>CONTRACT # 14-3680-D          CRESTWOOD</b> ELECTION DISTRICT No. 1 HOWARD COUNTY	SCALE 1" = 50' SHEET <b>3</b> OF <b>3</b>
---	--	---	---	---	---	---	--