

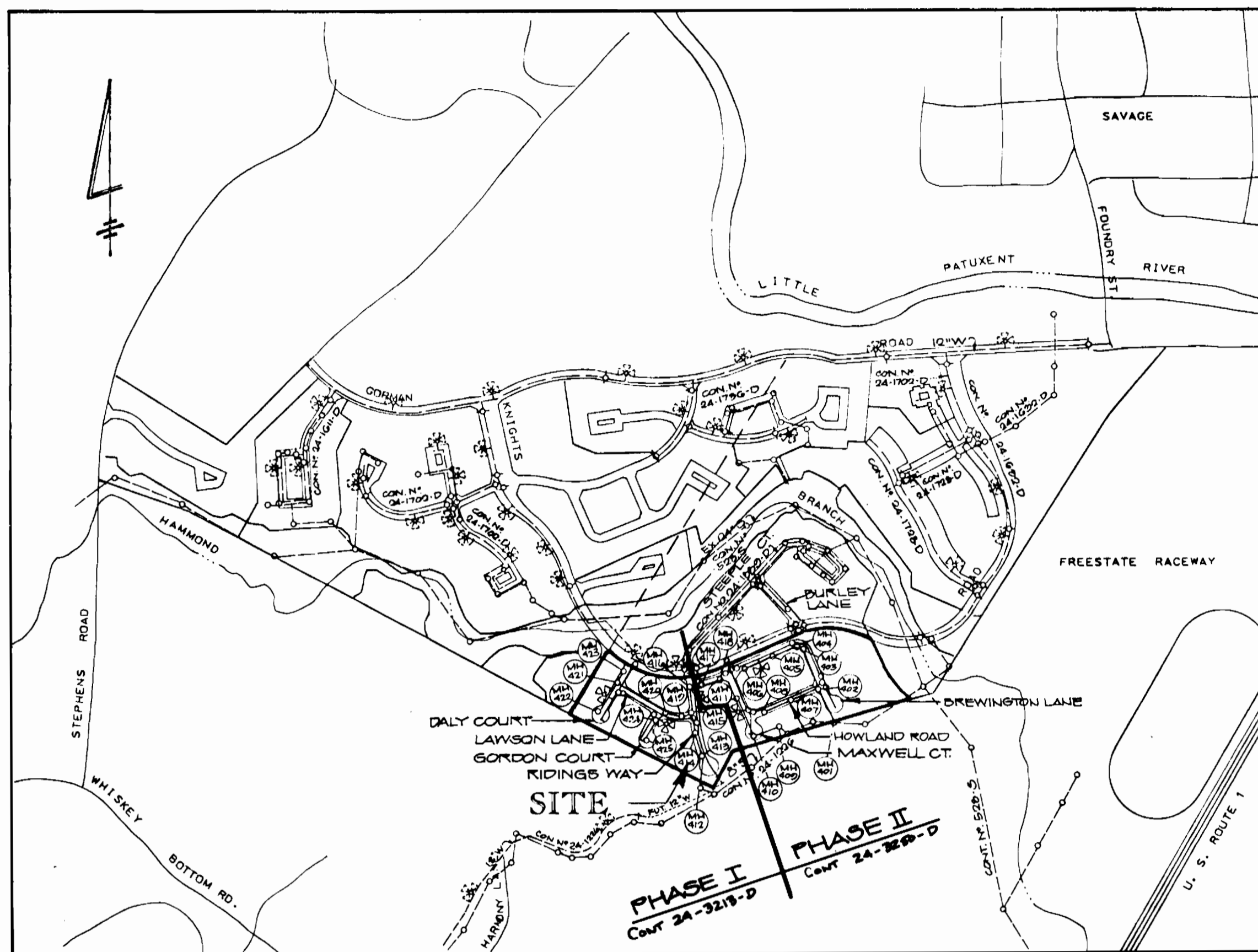
QUANTITIES

ITEMS	QUANTITIES ESTIMATES	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
MANHOLE	16 EA	15	Pre-Cast	Atlantic Concrete Products Inc.
8" S	1027 L.F.	1735	P.V.C.	J.M. Manufacturing Co.
12" S	2951 L.F.	3028	S.D. 35	Belair Rd. Supply Co.
12" W	0 L.F.	None	C.L. 52	Griffin Pipe Products Co.
8" W	1072 L.F.	1120.24	C.L. 52	Griffin Pipe Products Co.
6" W	205 L.F.	235.31	C.L. 52	Griffin Pipe Products Co.
12" V	0 EA	None	R.S.O.R.	Moeller Co.
8" V	6 EA	6	R.S.O.R.	Moeller Co.
6" V	5 EA	5	R.S.O.R.	Moeller Co.
F.H.	5 EA	5	M.T. Orange	Belair Rd. Supply Co.
1" W.H.C.	1 EA	1	Tapping Sleeve	Moeller Co.
2" W.H.C.	2 EA	2	Reducer	Moeller Co.
1 1/2" W.H.C.	1022 L.F.	267.5	Copper	Howell Metals
1" W.H.C.	206 L.F.	1235.5	Copper	Howell Metals
4" V	1	1	R.S.O.R.	Moeller Co.
4" W	27.07	27.07	P.I.P.	Griffin Pipe Products Co.
3" BLOWOFF	1 EA	1	Hydrant	Moeller Co.
1/2" BLOWOFF	0 EA	None	Ball Valve	Belair Rd. Supply Co.
1/2" VENT	2 EA	4	D.I.P.	J.M. Manufacturing Co.
1/2" VENT	1 EA	1	V.I.P.	Belair Rd. Supply Co.
1/2" VENT	0 EA	None	R.S.O.R.	Moeller Co.
1/2" VENT	0 L.F.	17	C.L. 52	Griffin Pipe Products Co.
4" STANDPIPE	0 V.F.	None	L-52	Griffin Pipe Products Co.
4" REDUCER	1	1	D.I.P.	Moeller Co.

NAME OF UTILITY CONTRACTOR: CROUSE CONSTR.

SURVEY AND DRAFTING DIVISION AS-BUILT DATE: 12-22-93

8" W	100 L.F.	0 L.F.	D.I.P.
6" W	100 L.F.	100 L.F.	D.I.P.
4" W	40 L.F.	104 L.F.	K-COPPER
2" W	40 L.F.	104 L.F.	K-COPPER
1 1/2" W	20 L.F.	18 L.F.	P.V.C.
1" W	20 L.F.	37 L.F.	K-COPPER
1/2" W	10 EA	1 EA	K-COPPER



VICINITY MAP  
SCALE: 1" = 600'

WATER CODE: C03  
SEWER CODE: 720000  
TEST GRADIENT 5.50

TYPE OF BUILDING - TOWNHOUSES  
NO. OF LOTS - 64  
NO. OF WATER HOUSE CONNECTIONS 64  
NO. OF SEWER HOUSE CONNECTIONS 64  
DRAINAGE AREA - LITTLE PATUXENT  
TREATMENT PLANT - LITTLE PATUXENT WATER  
QUALITY MANAGEMENT CENTER, SAVAGE, MD

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 A MINIMUM OF 6".
- 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. 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 [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 VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN IN THESE PLANS:  
STATE HIGHWAY ADMINISTRATION: 531-5633  
BALTIMORE GAS & ELECTRIC CO.-CONTRACTOR SERVICES: 850-4620  
C. & P. TELEPHONE CO.: 1-800-257-7777  
BALTIMORE GAS & ELECTRIC CO.  
UNDERGROUND DAMAGE CONTROL: 859-9004  
BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING: 298-9001  
MISS UTILITY: 1-559-0100  
COLONIAL PIPELINE CO.: 795-1390  
BUREAU OF UTILITIES, HOWARD COUNTY  
DEPT. OF PUBLIC WORKS: 313-4900
- 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.
- 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 RESTRAINED AND BUTTRESSED AS PER STANDARD DETAIL W-219 AND W-111. 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 CONNECTION SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS (STD. DETAIL W-3.21).
- WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED SO AS TO HAVE AT LEAST ONE (1) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS STANDARD DETAIL G-5.52. WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- ALL SEWER MAINS SHALL BE C.S.P.X., R.C.S.P., V.C.P.X., OR P.V.C. UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR WALL.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES LOCATED WITHIN PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAME AND COVER, STANDARD DETAIL G-5.51.
- MINIMUM CELLAR ELEVATION = M.C.E.
- 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 (c) OF THE HOWARD COUNTY CODE.
- THE SEWER HOUSE CONNECTION FOR LOTS 85 & 84 ARE TO BE CONSTRUCTED THROUGH A SUBVEIN IN THE FOOTER PER THE DETAIL ON SHEET 3 OF 5.

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL AND THE STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AND ALSO AS SHOWN ON THE GRADING AND SEDIMENT CONTROL PLAN F 92-150. REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

James M. [Signature] / 1/16/93  
SOIL CONSERVATION SERVICE

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

APPROVED: [Signature] / 1/16/93  
HOWARD SOIL CONSERVATION DISTRICT

CONTRACT NO. 24-3250-D

PARCEL 'C'

LOTS 77 THRU 160 PHASE II

BOWLING BROOK FARMS

WATER AND SEWER MAIN EXTENSIONS

HOWARD COUNTY, MARYLAND

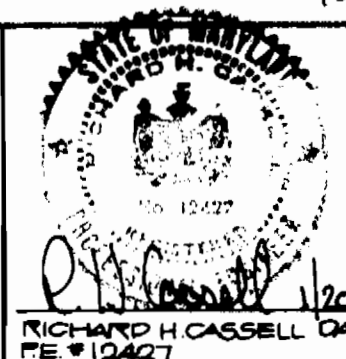
DEPARTMENT OF PUBLIC WORKS

B.M. HOWARD COUNTY CONTROL STATIONS  
1941002 ELEV. 291.797  
1941003 ELEV. 299.438

[Signature] 10.12.93  
FOR REV. #1 Rev #2/23/94

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

HARRIS, SMARIGA, MATZ, INC.  
PLANNERS / ENGINEERS / SURVEYORS  
104 CHURCH LANE, SUITE 100  
BALTIMORE, MARYLAND 21208  
(410) 488-1511  
FAX (410) 488-2513



DES: DQG				
DRN: GADD				
CHK: AMV				
DATE: 1/20/93				
WAD 2	REVISED QUANTITIES	0-22-04		
WAD 1	ADDED NOTE 27	0-10-93		
BY NO.	REVISION	DATE		

PLAN  
WATER & SEWER

BOWLING BROOK FARMS

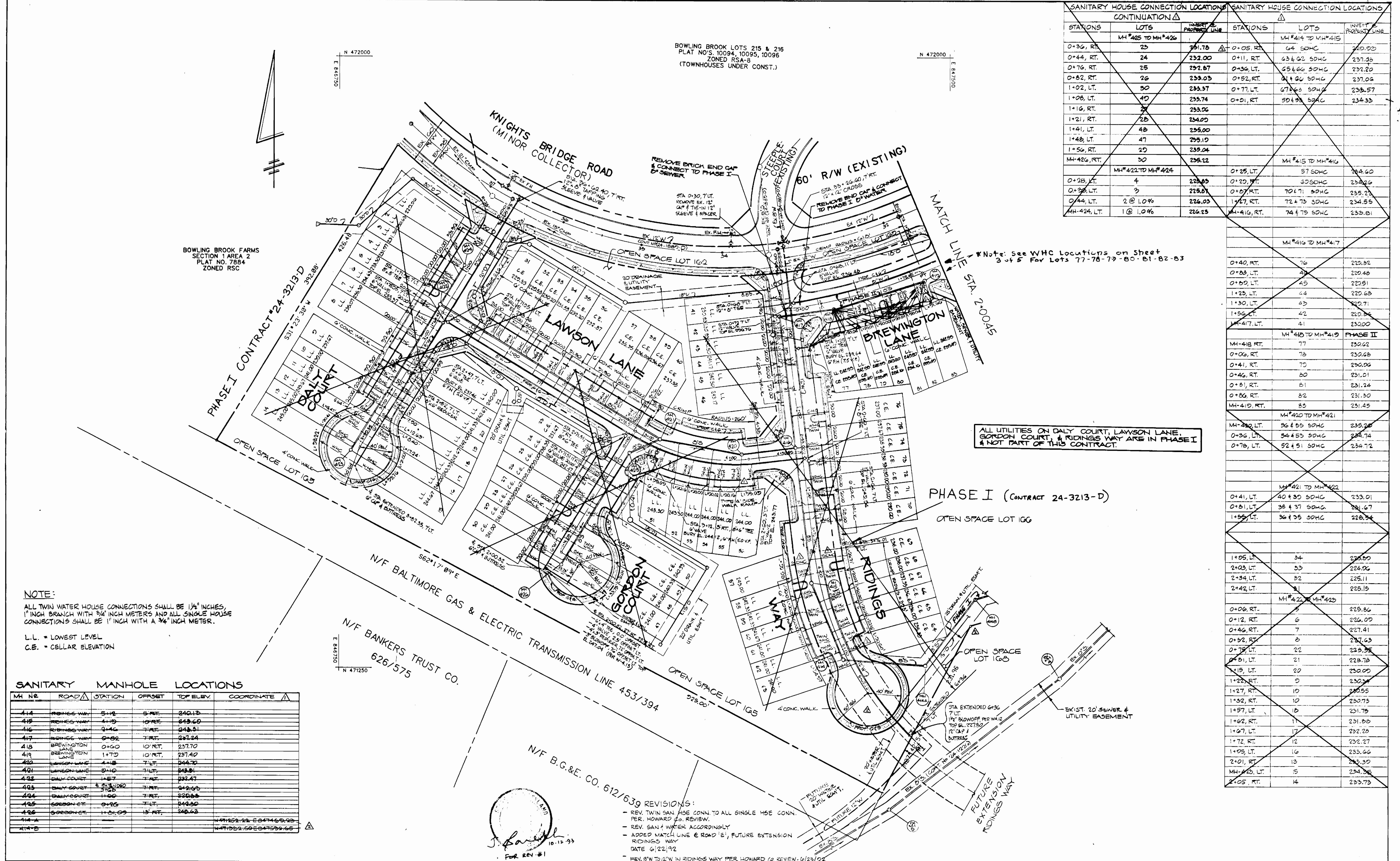
PARCEL 'C'  
LOTS 77 THRU 160, 100, 104, & 106 THRU 170 PHASE II  
CONTRACT NO. 24-3250-D  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 1 OF 3

SANITARY HOUSE CONNECTION LOCATIONS CONTINUATION			SANITARY HOUSE CONNECTION LOCATIONS		
STATIONS	LOTS	INVERT PROPERTY LINE	STATIONS	LOTS	INVERT PROPERTY LINE
0+36, RT.	25	251.78	0+05, RT.	MH#414 TO MH#415	250.00
0+44, RT.	24	252.00	0+11, RT.	64 SDHC	237.35
0+76, RT.	25	252.87	0+36, LT.	65 & 66 SDHC	237.20
0+82, RT.	26	253.03	0+52, RT.	61 & 62 SDHC	237.06
1+02, LT.	30	253.37	0+77, LT.	67 & 68 SDHC	235.57
1+06, LT.	40	253.74	0+91, RT.	50 & 51 SDHC	234.33
1+16, RT.	2	253.06			
1+21, RT.	28	254.00			
1+41, LT.	48	255.00			
1+48, LT.	47	255.10			
1+56, RT.	20	255.04			
MH#426, RT.	30	255.12			
	MH#422 TO MH#424		0+25, LT.	57 SDHC	224.60
			0+20, RT.	80 SDHC	230.26
			0+57, RT.	70 & 71 SDHC	235.23
			1+27, RT.	72 & 73 SDHC	234.55
			MH#416, RT.	74 & 75 SDHC	232.81
			MH#416 TO MH#417		
			0+40, RT.	76	223.32
			0+53, LT.	4	220.48
			0+50, LT.	45	220.51
			1+23, LT.	44	220.68
			1+30, LT.	43	220.71
			1+56, LT.	42	220.84
			MH#417, LT.	41	230.00
			MH#418 TO MH#419	PHASE II	
			MH#418, RT.	77	230.62
			0+06, RT.	78	230.68
			0+41, RT.	70	230.06
			0+46, RT.	80	231.01
			0+81, RT.	81	231.24
			0+86, RT.	82	231.30
			MH#419, RT.	83	231.45
			MH#420 TO MH#421		
			MH#420, LT.	36 & 55 SDHC	235.20
			0+36, LT.	56 & 53 SDHC	234.74
			0+78, LT.	52 & 51 SDHC	234.72
			MH#421 TO MH#422		
			0+41, LT.	40 & 30 SDHC	233.01
			0+81, LT.	38 & 37 SDHC	231.67
			1+56, LT.	36 & 35 SDHC	228.34
			1+05, LT.	34	228.50
			2+03, LT.	33	224.06
			2+34, LT.	32	225.11
			2+42, LT.	31	225.15
			MH#422 TO MH#423		
			0+06, RT.	5	225.86
			0+12, RT.	6	226.00
			0+46, RT.	7	227.41
			0+52, RT.	8	227.63
			0+75, LT.	22	229.35
			0+81, LT.	21	228.78
			1+15, LT.	20	230.00
			1+22, RT.	9	230.34
			1+27, RT.	10	230.55
			1+32, RT.	10	230.73
			1+57, LT.	18	231.78
			1+62, RT.	1	231.88
			1+67, LT.	17	232.28
			1+72, RT.	12	232.27
			1+93, LT.	16	233.66
			2+01, RT.	13	233.30
			MH#423, LT.	15	234.36
			2+05, RT.	14	233.73

\*Note: See WHC Locations on Sheet 3 of 5 For Lots 77-78-79-80-81-82-83

ALL UTILITIES ON DALY COURT, LAWSON LANE, GORDON COURT, & RIDINGS WAY ARE IN PHASE I & NOT PART OF THIS CONTRACT.



NOTE:  
ALL TWIN WATER HOUSE CONNECTIONS SHALL BE 1 1/2" INCHES, 1" INCH BRANCH WITH 3/4" INCH METERS AND ALL SINGLE HOUSE CONNECTIONS SHALL BE 1" INCH WITH A 3/4" INCH METER.

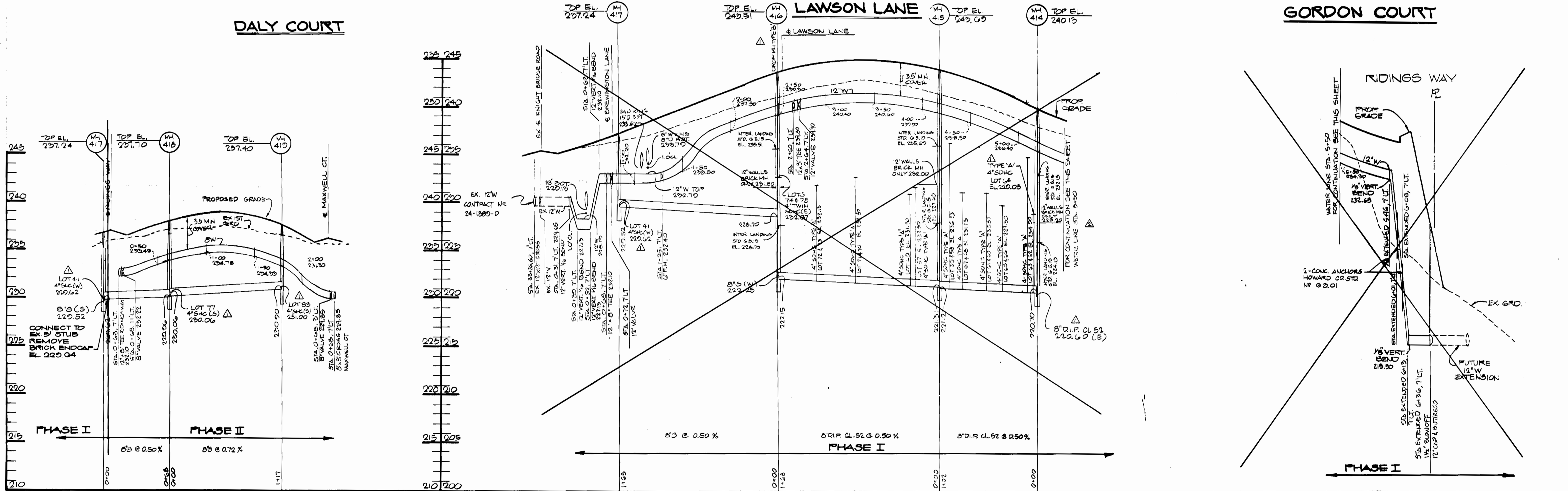
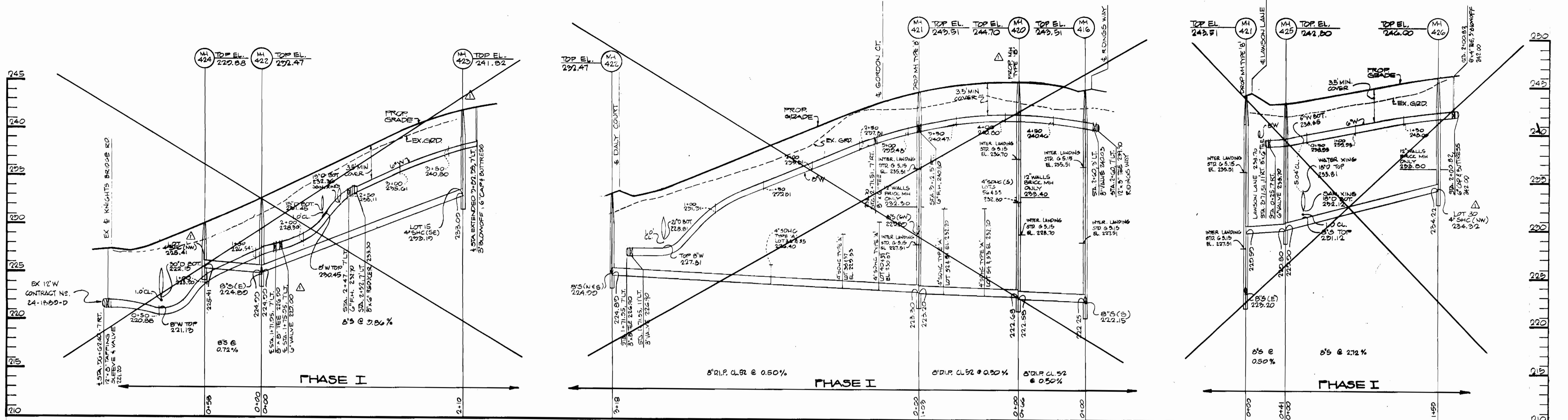
L.L. = LOWEST LEVEL  
C.E. = CELLAR ELEVATION

MH NO	ROAD	STATION	OFFSET	TOP ELEV.	COORDINATE
414	RIDINGS WAY	5+12	5' RT.	240.15	
415	RIDINGS WAY	4+10	10' RT.	243.60	
416	RIDINGS WAY	0+46	7' RT.	243.51	
417	BREVIINGTON WAY	0+82	7' RT.	237.24	
418	LAWSON LANE	0+00	10' RT.	237.70	
419	BREVIINGTON LANE	1+70	10' RT.	237.40	
420	LAWSON LANE	4+18	7' LT.	244.30	
421	LAWSON LANE	0+10	7' LT.	243.81	
422	DALY COURT	1+57	7' RT.	232.47	
423	DALY COURT	5+25	7' RT.	243.65	
424	DALY COURT	1+00	7' RT.	228.88	
425	GORDON CT.	0+25	7' LT.	244.60	
426	GORDON CT.	1+01	13' RT.	240.63	
414-A					N 4152.22 E 8474.65 22
414-B					N 4102.56 E 6473.99 66

REVISIONS:  
- REV. TWIN SAN. HSE CONN. TO ALL SINGLE HSE CONN. PER. HOWARD CO. REVIEW.  
- REV. SAN. & WATER ACCORDINGLY  
- ADDED MATCH LINE @ ROAD 'E', FUTURE EXTENSION RIDINGS WAY  
DATE 6/22/92  
- REV. S'W TO 'E' IN RIDINGS WAY PER HOWARD CO REVIEW. 6/23/92

<b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND James M. Blum 1/21/93 DIRECTOR OF PUBLIC WORKS DATE Robert J. Danner 2-21-93 CHIEF, BUREAU OF UTILITIES DATE		<b>HARRIS, SMARIGA, MATZ, INC.</b> PLANNERS / ENGINEERS / SURVEYORS 104 CHURCH LANE, SUITE 100 BALTIMORE, MARYLAND 21208 (410) 486-1511 FAX (410) 486-2573				DES: DAG MAD: 1 REV. ELEV. FOR LOTS 77-80 9-10-92 DRN: KAS CHK: DAG, AMV. DATE: 1/20/93		<b>PLAN</b> <b>WATER &amp; SEWER</b> 800' SCALE NO. 47 BLOCK NO. 1011		<b>BOWLING BROOK FARMS</b> <b>PARCEL 'C'</b> LOTS 77 THRU 101, 102, 104, 106 THRU 170 PHASE II CONTRACT NO. 24-3225-D SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 2 OF 5	
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UTILITY PROFILES LABELED AS PHASE I & CROSSED OUT ARE NOT PART OF THIS CONTRACT.

PROFILES  
SCALE: HORIZ. 1"=30'  
VERT. 1"=5'

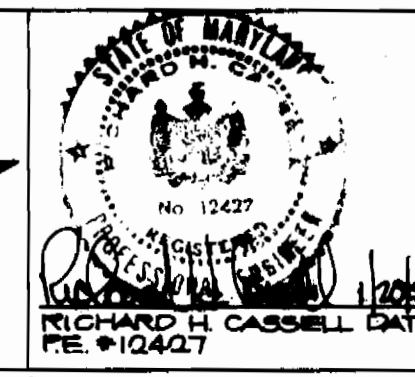
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James P. Blum* 1/14/93  
DIRECTOR OF PUBLIC WORKS DATE

*Richard H. Cassell* 1/21/93  
CHIEF, BUREAU OF UTILITIES DATE

*Richard H. Cassell* 1/21/93  
CHIEF, LAND DEVELOPMENT DIVISION DATE

HARRIS SMARIGA MATZ, INC.  
PLANNERS / ENGINEERS / SURVEYORS  
104 CHURCH LANE, SUITE 100  
BALTIMORE, MARYLAND 21208  
(410)-484-1511  
FAX (410)-484-2573



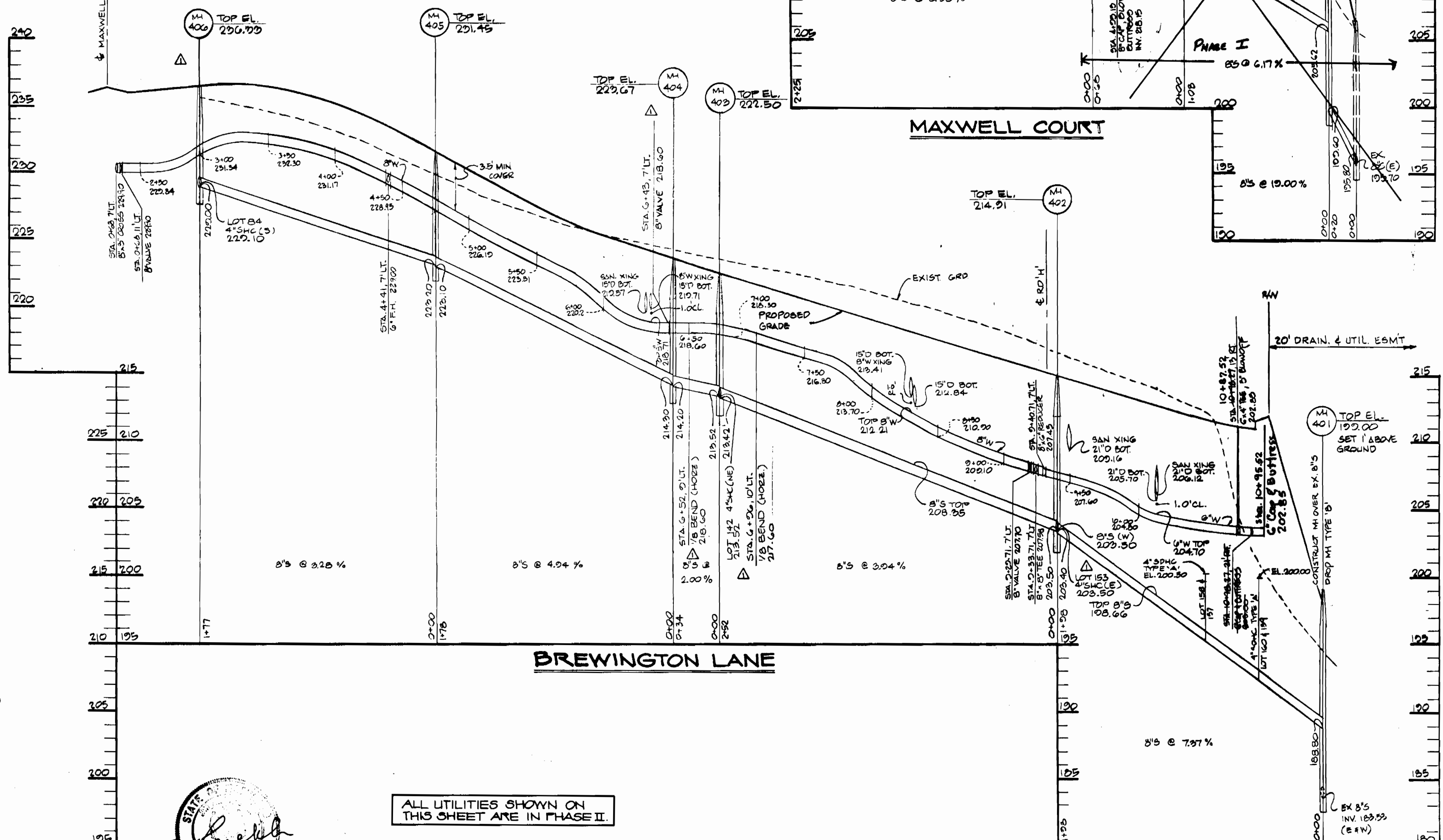
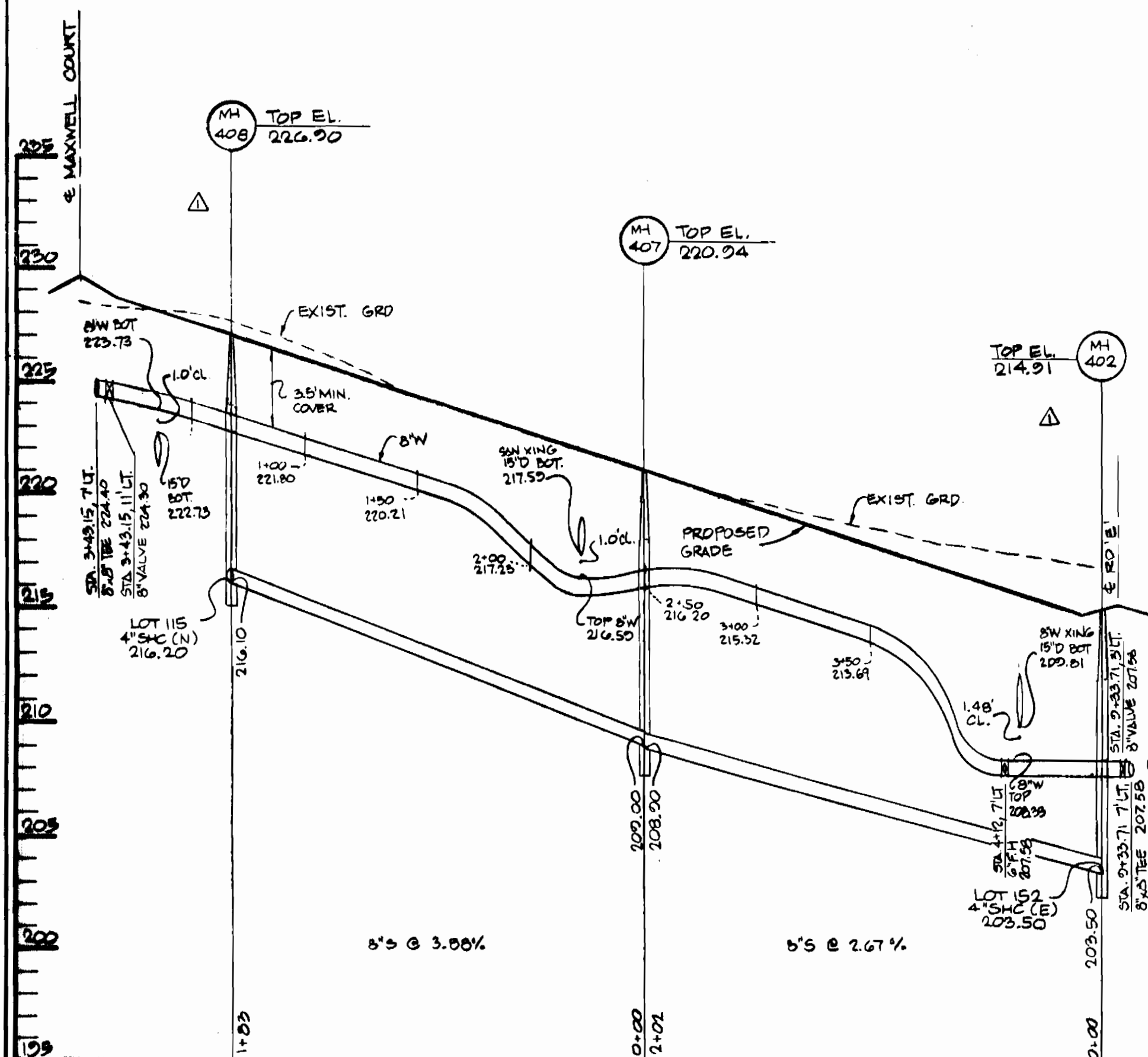
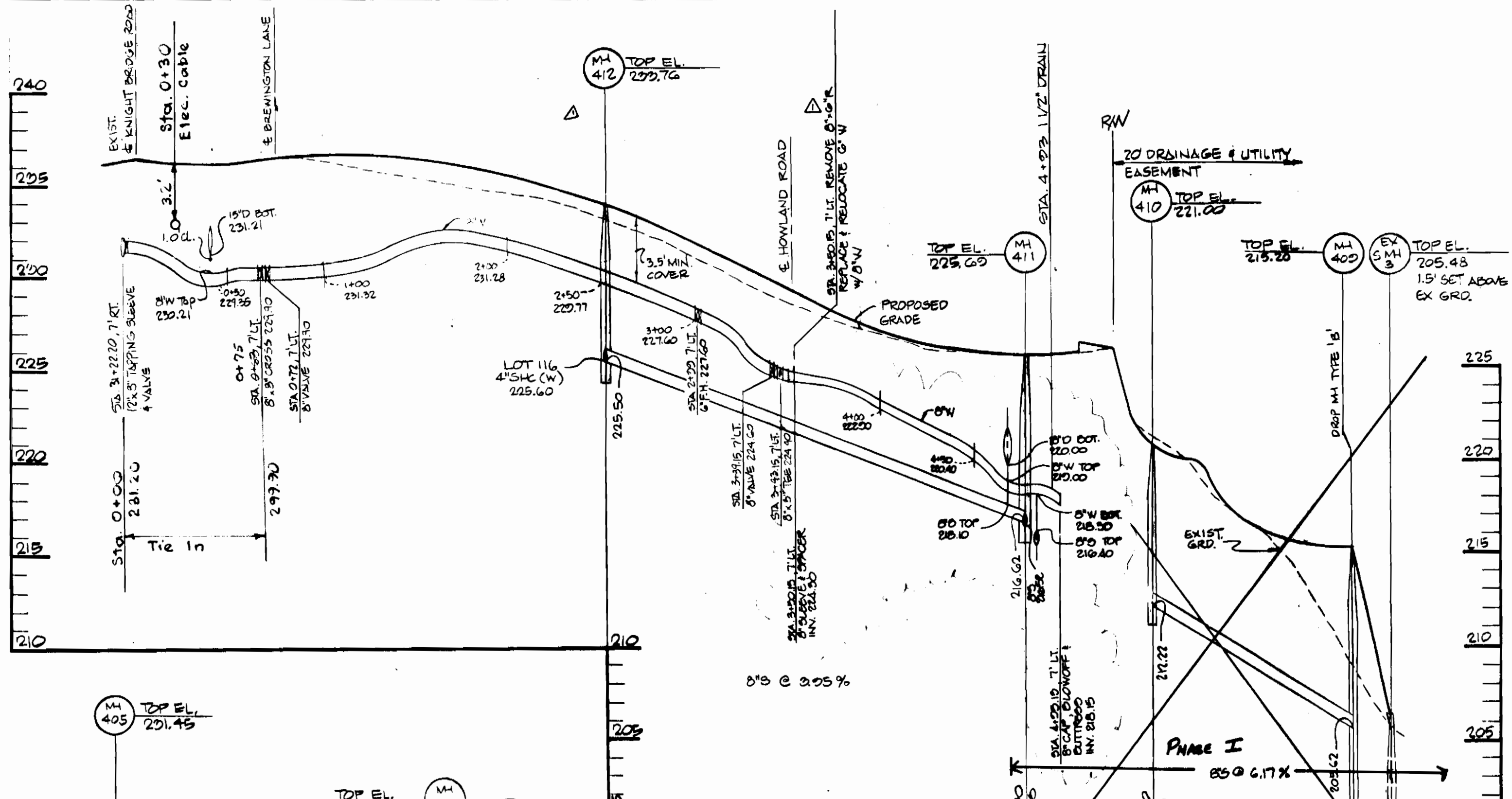
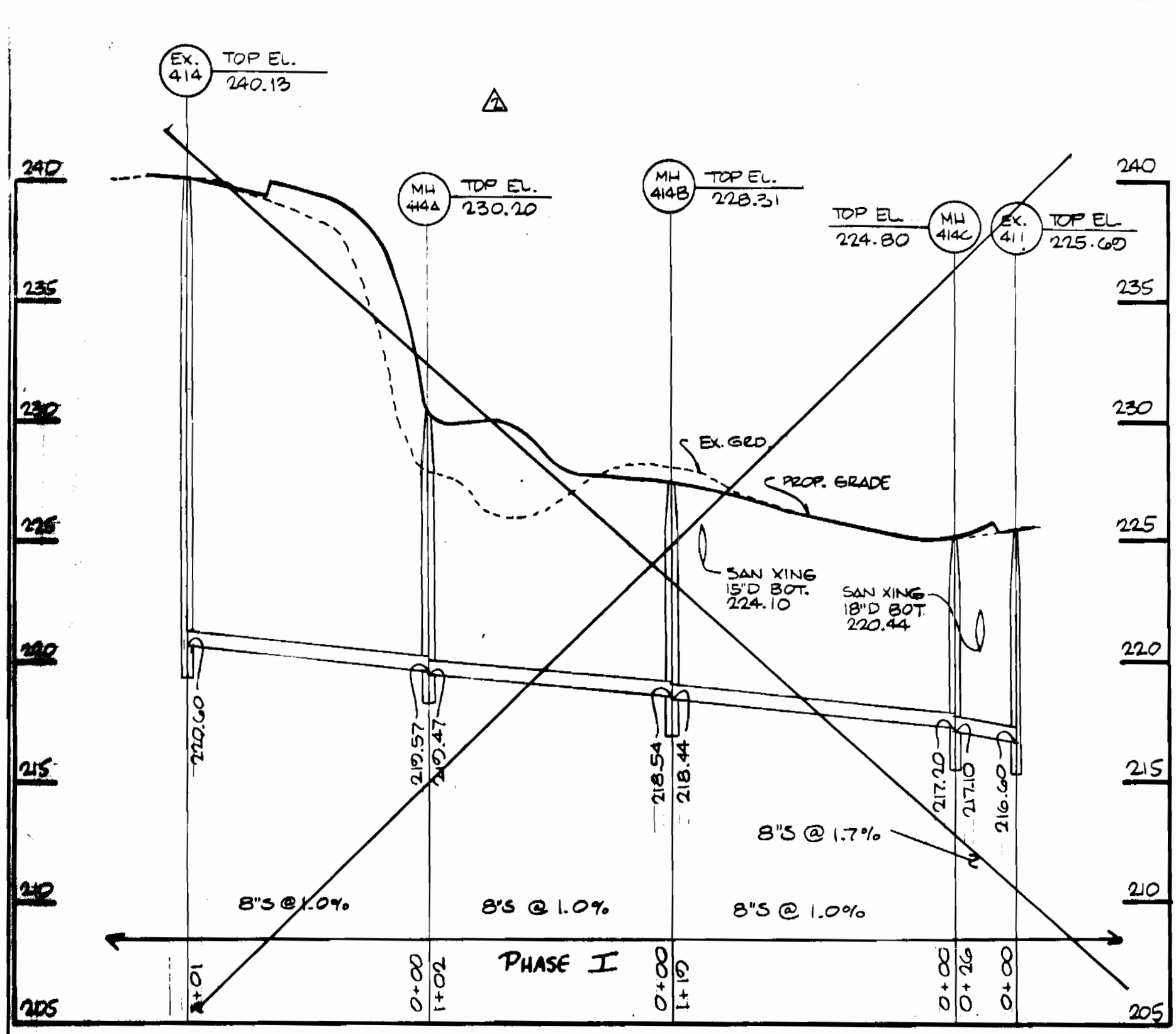
DES: DAG	BY: NO.	REVISION	DATE: 1/20/93
DRN: DAG/KLS			
CHK: DAG			

PROFILES  
WATER & SEWER MAINS

800' SCALE NO. 47 BLOCK NO. 11

BOWLING BROOK FARMS  
PARCEL 'C'  
LOTS 77 THRU 101, 102, 104, & 106 THRU 170 PHASE II  
CONTRACT NO. 24-3250-D  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 4 OF 5



ALL UTILITIES SHOWN ON THIS SHEET ARE IN PHASE II.

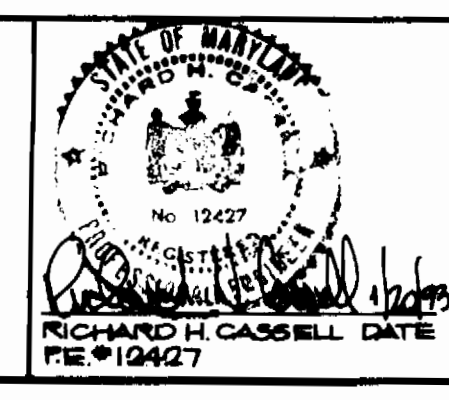
REV. #1 2/20/94

PROFILES  
SCALE: HORIZ. 1"=50'  
VERT. 1"=5'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works DATE 2-21-93  
Chief, Bureau of Engineering DATE 2-21-93  
Chief, Bureau of Utilities DATE

Chief, Land Development Division DATE



DES: D.A.G.	
DRN: K.L.C.	
CHK: D.A.G./A.M.Y.	
DATE: 1/20/93	
BY NO.	
REV. WATER PROFILE - MAXWELL CT	2-21-94
REVISION	

PROFILES  
WATER AND SEWER MAINS

600' SCALE MAP NO. 47 BLOCK NO. 1211

BOWLING BROOK FARMS  
PARCEL 'C'  
LOTS 77 THRU 101, 102, 104, & 106 THRU 170 PHASE II  
CONTRACT NO. 24-325A-D  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 5 OF 5