

**GENERAL NOTES**

**PART 1 - GENERAL**

- 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. DATA.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A 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 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 DETAIL 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 UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

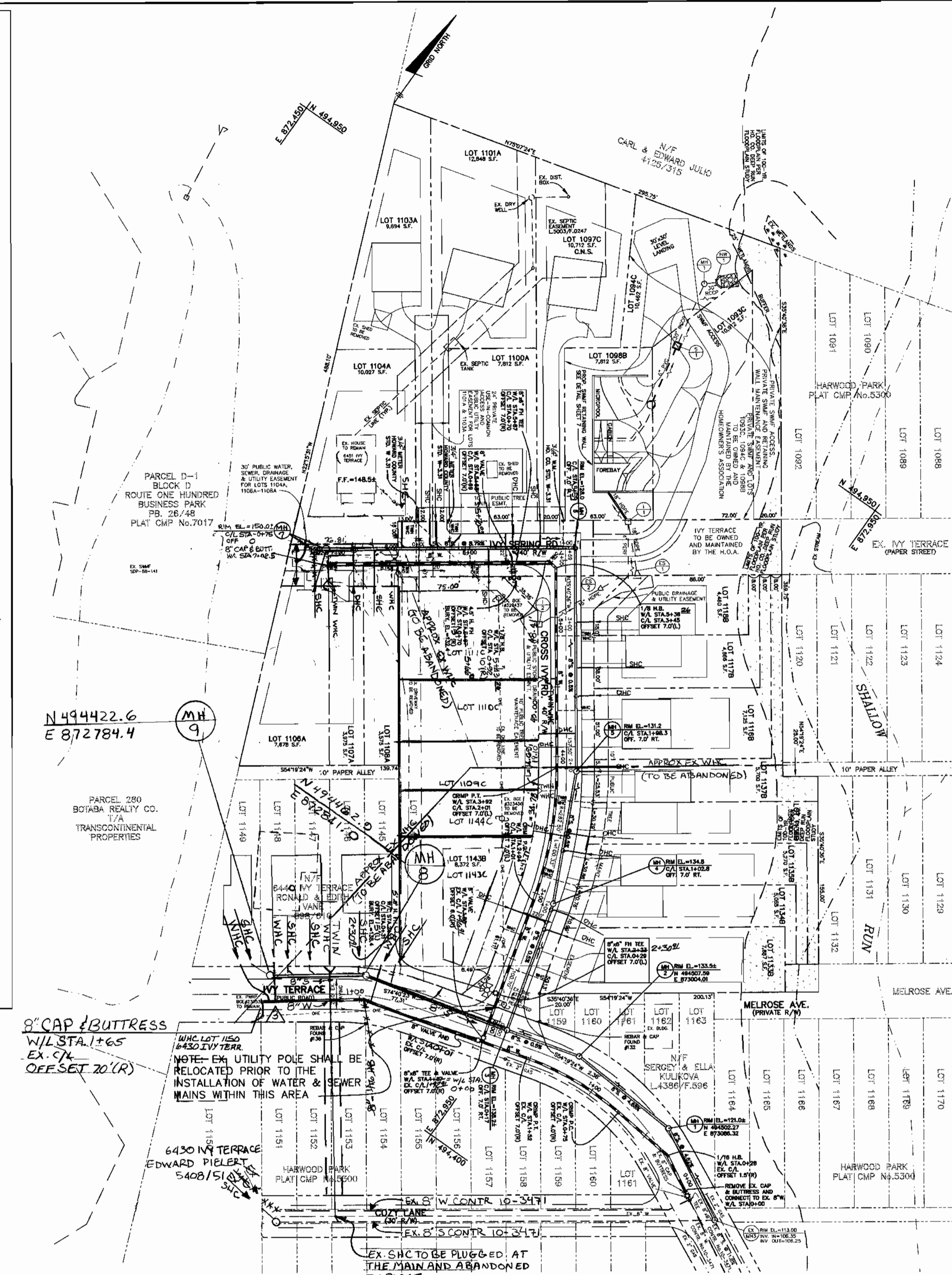
- STATE HIGHWAY ADMINISTRATION.....531-5533  
 BALTIMORE GAS & ELECTRIC CO.  
 CONTRACTOR SERVICES.....850-4620  
 BALTIMORE GAS & ELECTRIC CO.  
 UNDERGROUND DAMAGE CONTROL.....787-9068  
 MISS UTILITY.....1-800-257-7777  
 CLONALIA PIPELINE CO.....795-1390  
 HOWARD CO. DEPT. OF PUBLIC WORKS  
 BUREAU OF UTILITIES.....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.
  - PLACE REGULATORY "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY MAINTENANCE OPERATIONS.
  - 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(G) OF THE HOWARD COUNTY CODE.

**PART 2 - 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'-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 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 SETTING UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.

**PART 3 - SEWER**

- ALL SEWER MAINS SHALL BE DIP OR P.V.C. UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2' - 0" OF EXTERIOR MANHOLE WALL.
- 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 05.2, WHERE WATER-TIGHT MANHOLE FRAME AND COVER IS 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.

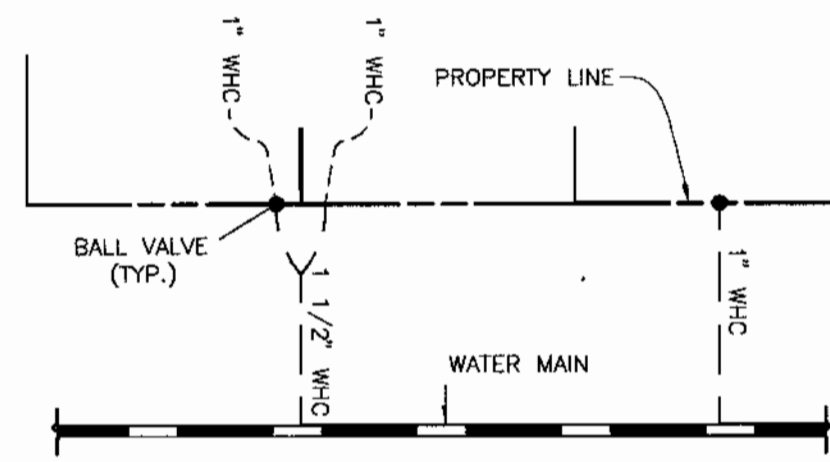


**PLAN**

SCALE: 1" = 50'

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUF./SUPPLIER
8" WATER	868 L.F.	868 L.F.	DIP CLASS 52	U.S. PIPE & FOUNDRY BELAIR RD. SUPPLY
8" VALVES	3 EACH	3 EA.	R.S.O.R. GATE VALVE	MUELLER CO. BELAIR RD. SUPPLY
1-1/2" WHC	208 L.F.	208 L.F.	COPPER TYPE W	" " " "
1" WHC	322 L.F.	322 L.F.	" " " "	" " " "
8" x 6" FH TEE	2 EACH	2 EA.	DIP MS	U.S. PIPE & FOUNDRY BELAIR RD. SUPPLY
6" FH VALVE	2 EACH	2 EA.	R.S.O.R. GATE VALVE	MUELLER CO. BELAIR RD. SUPPLY
FIRE HYDRANT	2 EACH	2 EA.	" " " "	" " " "
8" CAP & BUTT.	2 EACH	2 EA.	DIP MS	U.S. PIPE & FOUNDRY BELAIR RD. SUPPLY
1" BALL VALVE	27 EACH	27 EA.	FIX PL N1602-2	MUELLER CO. BELAIR RD. SUPPLY
4" DHC	64 V.F.	64 V.F.	PVC SDR 35	J.M. MFG. BELAIR RD. SUPPLY
8" SEWER	973 L.F.	973 L.F.	" " " "	" " " "
MANHOLES	9 EACH	9 EA.	PRECAST CONCRETE	ATLANTIC CONCRETE PRODUCTS
4" SHC	393 L.F.	393 L.F.	PVC SDR 35	J.M. MFG. BELAIR RD. SUPPLY

NAME OF UTILITY CONTRACTOR: BURSEMEISTER BELL  
 SURVEY AND DRAFTING DIVISION AS-BUILT DATE:

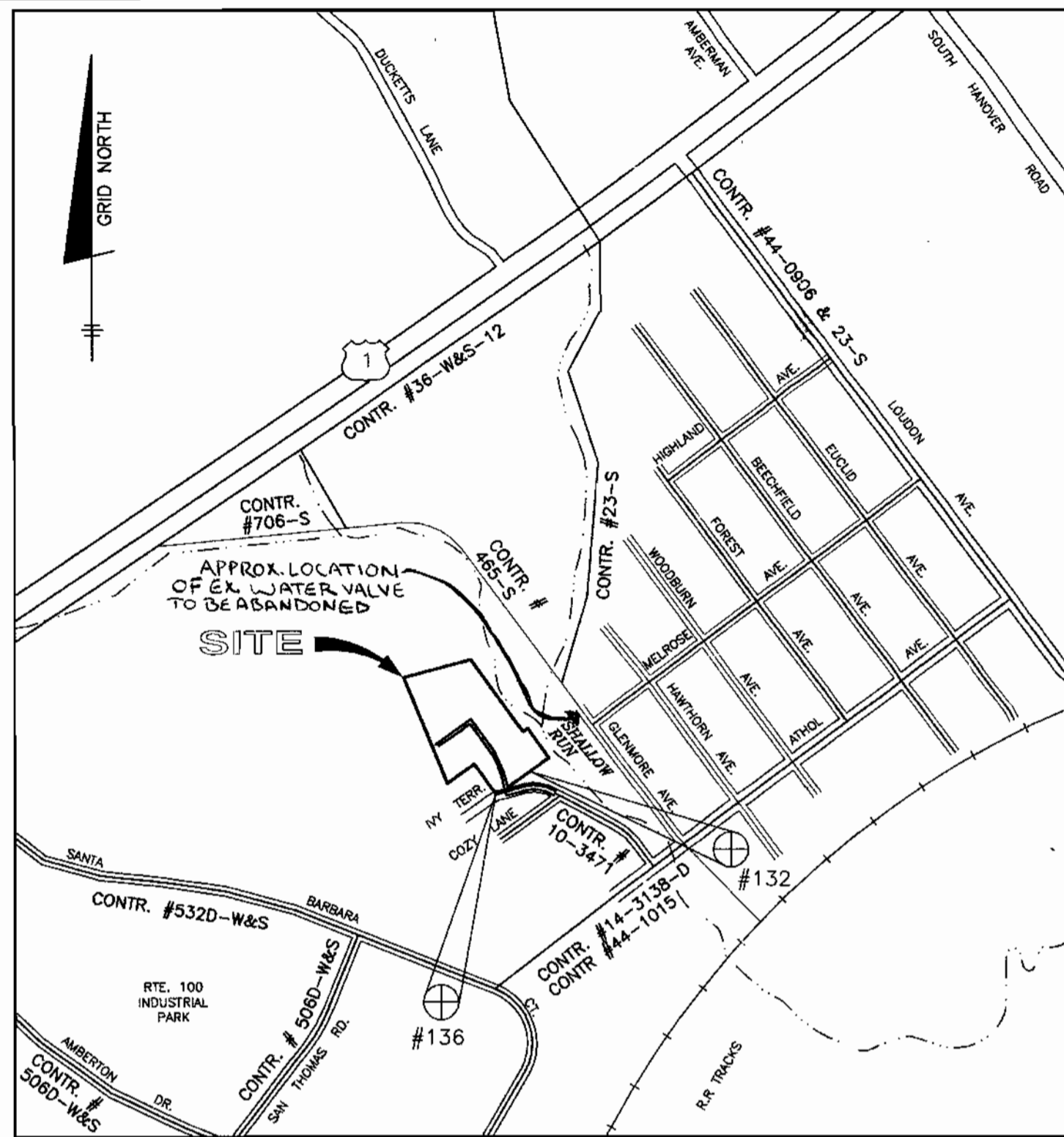


**TYPICAL WATER HOUSE CONNECTIONS**  
 NOT TO SCALE

SHC TABLE				
LOT NO.	INVERT AT MAIN	INVERT AT P/L OR ESMT.	MCE	REMARKS
1097C	118.70	118.96	125.40*	CNS
1100A	120.46	126.5	130.3	DHC
1101A	125.29	125.55	132.20	
1103A	125.64	125.90	132.54	
1104A	128.54	128.70	132.64	
1106A	132.77	139.1	142.8	
1107A	130.38	137.5	141.3	DHC
1108A	129.15	129.59	133.7	
1109C	115.48	118.0	122.0	
1110C	115.53	116.0	122.0	
1111C	121.95	122.49	126.6	
1116B	115.83	118.0	121.8	DHC
1117B	115.93	116.2	120.3	
1118B	116.10	116.36	120.40	
1133B	114.79	124.5	128.4	DHC
1134B	114.86	122.9	126.4	DHC
1135B	115.17	122.0	125.9	DHC
1136B	115.07	121.0	124.9	DHC
1137B	115.39	120.3	124.2	
1143B	114.81	127.9	131.4	DHC
1144C	115.05	121.0	124.9	DHC
1145	124.69	124.95	129.05	
1146	126.07	126.21	140.31	
1147	139.08	139.2	143.3	
1148	140.40	140.5	144.6	
1149	142.00	142.2	146.3	

- CONTRACTOR NOTES:**
- 1) MAINTAIN A MINIMUM OF ONE LANE OPEN ON EX. IVY TERRACE AT ALL TIMES DURING CONSTRUCTION ACTIVITY.
  - 2) MAINTAIN ACCESS TO EX. HOUSE VIA EX. DRIVEWAY AT ALL TIMES DURING CONSTRUCTION ACTIVITY.
  - 3) EXERCISE EXTREME CAUTION WHEN WORKING IN THE AREA OF EX. OVERHEAD ELECTRIC LINES.
  - 4) A PRIVATE WHO EXISTS CROSSING THE PROPERTY TO SERVE THE RESIDENCES AT 6420, 6440 AND 6541 IVY TERRACE; THE EXACT LOCATION IS UNKNOWN; TEST PIT FOR LOCATION AND MAINTAIN SERVICE UNTIL SUCH TIME AS A CONNECTION TO THE PROP. WATERLINE WITHIN IVY TERRACE CAN BE MADE.
  - 5) CONTRACTOR SHALL REPAIR PAVING ALONG THE LINES OF EXCAVATION ON IVY TERRACE AFTER CONSTRUCTING PROPOSED WATER AND SEWER MAINS.

- NOTES CONTINUED**
- 6) THE EXISTING WHO SERVING 6440 6430 AND 6541 IVY TERRACE SHALL REMAIN IN SERVICE UNTIL THE PROPOSED WATER MAIN IS PLACED IN SERVICE. THE PROP. WHO TO 6541 IVY TERRACE SHALL BE INSTALLED AND THE EX. WHO CAPPED AT THE SPLIT. THE WHO FOR 6430 IVY TERRACE SHALL BE CONNECTED TO THE EX. WHO LOCATED ON COZY LANE. AND THE EX. PRIVATE WHO SHALL BE CAPPED AT THE SPLIT. A NEW 1" WHO AND BALL VALVE SHALL BE INSTALLED WITHIN EX. R/W OF IVY TERRACE FOR 6440 IVY TERRACE. THEN THE EX. WHO SHALL BE DUG UP AT THE WATER MAIN AT MELROSE AVE AND THE CONNECTION REMOVED. THE EXISTING VALVE BOX SHOULD BE REMOVED AND THE VALVE AND WHO ABANDONED IN PLACE.



**VICINITY MAP**

SCALE: 1" = 600'

**BENCH MARKS (NAD27)**

- No. 132 REBAR AND CAP FOUND ON THE NORTHERN RIGHT-OF-WAY LINE OF IVY TERRACE AT THE LEFT FRONT CORNER OF LOT 1159 N.494510.8884 E.872966.8690  
 No. 136 REBAR AND CAP FOUND AT THE CORNER OF LOT 1154, 1155 AND THE SOUTHERN RIGHT-OF-WAY LINE OF IVY TERRACE N.494438.0155 E.872865.3084

**LEGEND**

- EXIST. WATER MAIN
- EXIST. SEWER MAIN
- EXIST. SEWER MANHOLE
- PROP. WATER MAIN
- PROP. SEWER MAIN
- PROP. STORM DRAIN (BY OTHERS)
- PROP. SEWER MANHOLE
- PROP. TERMINAL MANHOLE
- PROP. SEWER HOUSE CONNECTION
- PROP. WATER HOUSE CONNECTION (DOUBLE - 1 1/2")
- PROP. WATER HOUSE CONNECTION (SINGLE - 1")
- PROP. FIRE HYDRANT
- PROP. VALVE
- PROP. PLUG & BUTTRESS

**SHEET INDEX**

NO.	DESCRIPTION
1	WATER & SEWER PLAN AND DETAILS
2	WATER & SEWER PROFILES

HOWARD SOIL CONSERVATION DISTRICT: REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

*John P. Blanton* 8/14/01  
 NATURAL RESOURCES CONSERVATION SERVICE

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

*John P. Blanton* 8/14/01  
 HOWARD SOIL CONSERVATION DISTRICT

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER CONSTRUCTION PLANS F-01-35

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Robert M. Berger* 8-28-01  
 CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

*John P. Blanton* 9/7/01  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

**BENCHMARK**  
 ENGINEERS & LAND SURVEYORS & PLANNERS

*Donald M. Mann*  
**ENGINEERING, INC.**  
 8480 BALTIMORE NATIONAL PIKE, SUITE 418  
 ELICOTT CITY, MARYLAND 21043  
 PHONE: 410-465-8100 FAX: 410-465-6644

DES: DAM/MCR  
 DRN: MCR  
 CHK: DAM  
 DATE: 8/03/01

ASBUILT DATA ADDED TO PLAN  
 EX. 8" W & 8" S TO LOTS 1145-1149  
 REVISIONS TO ADDRESS WHO'S TO 6430, 6440 AND 6541 IVY TERRACE

BY: NO.  
 DATE: 8/03/01

**WATER AND SEWER PLAN AND DETAILS**

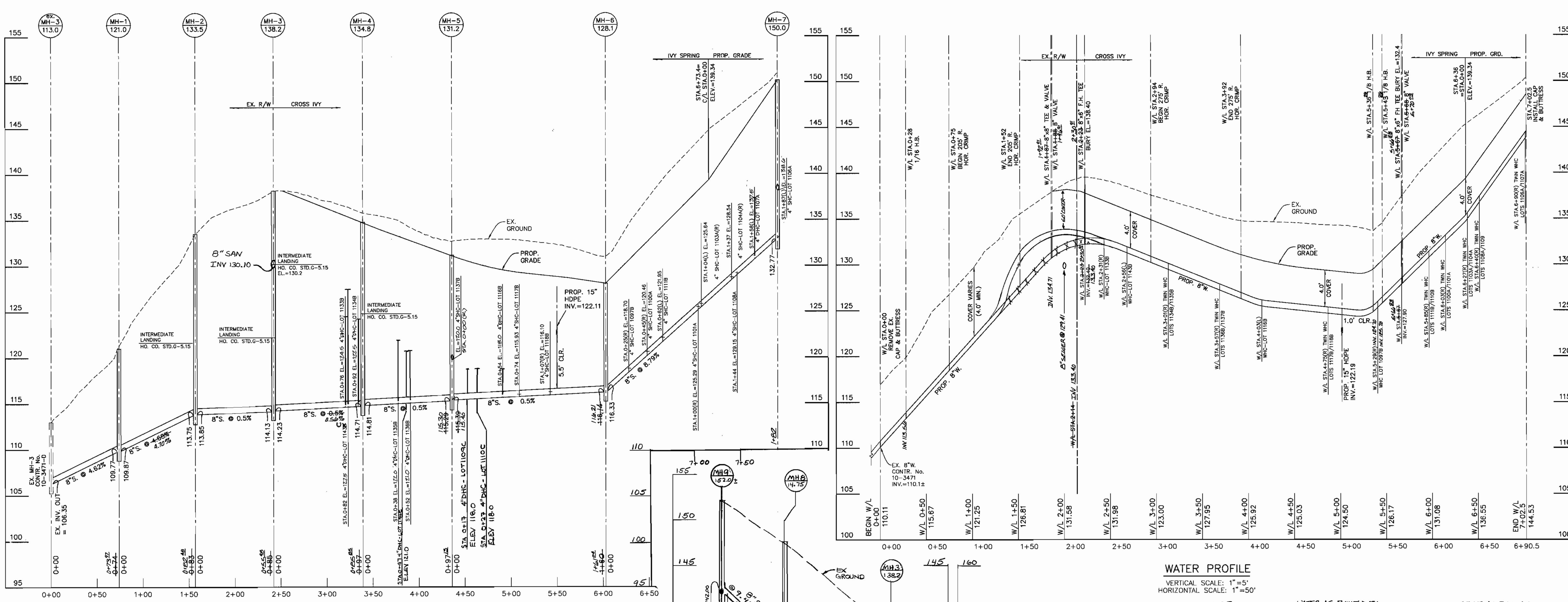
600 SCALE MAPS: W38 & S38  
 BLOCKS: 13 & 19

**HARWOOD PARK**

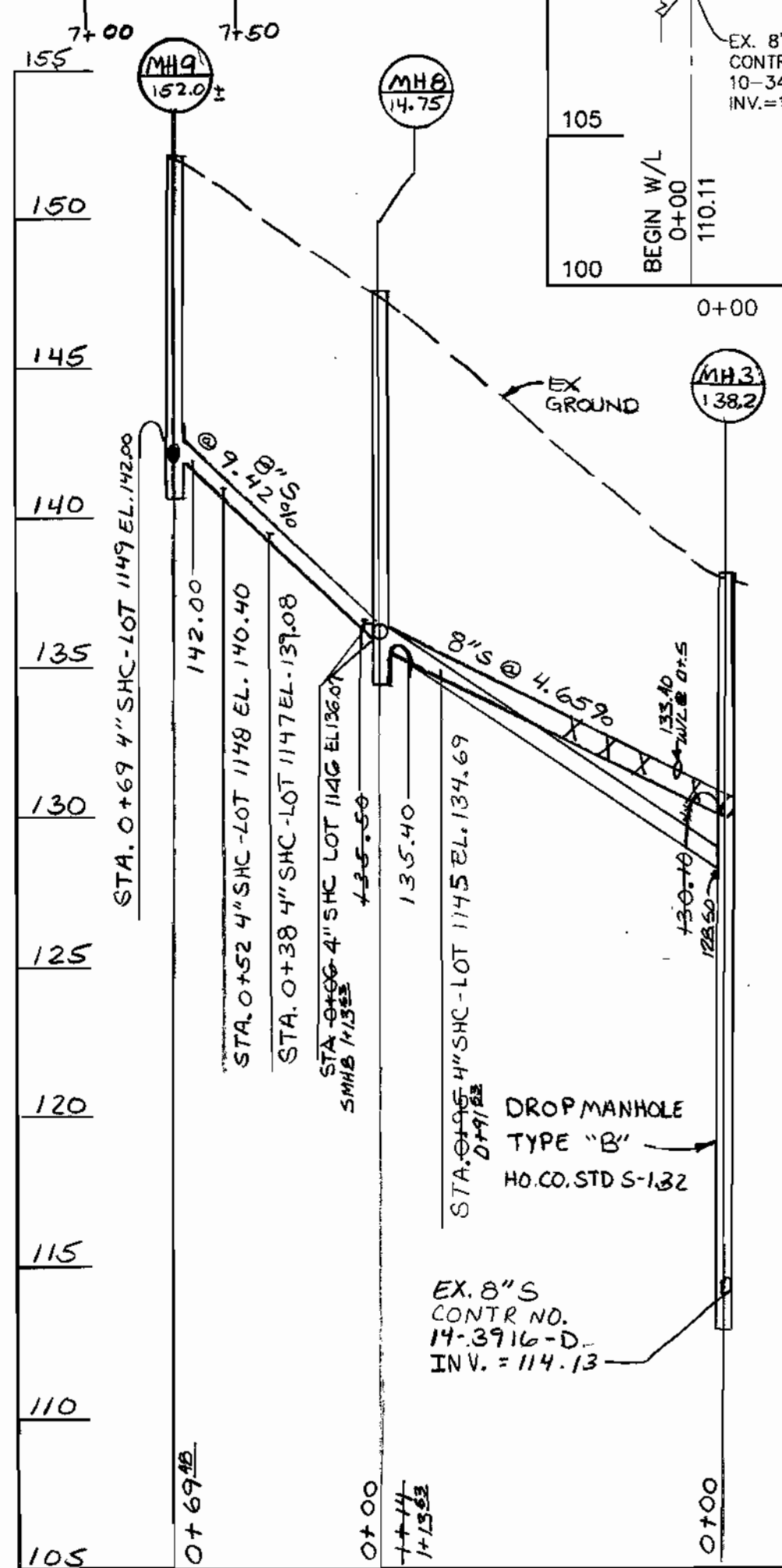
LOT NUMBERS 1093C, 1094C, 1097C, 1098B, 1100A, 1101A, 1103A, 1104A, 1106A-1108A, 1109C, 1110C, 1111C, 1116B-1118B, 1133B-1137B, 1141B AND 1143C AND 1144C  
 ELECTION DISTRICT NO. 1

**CONTRACT NO. 14-3916-D**

SCALE: AS SHOWN  
 SHEET NO. 1 OF 2

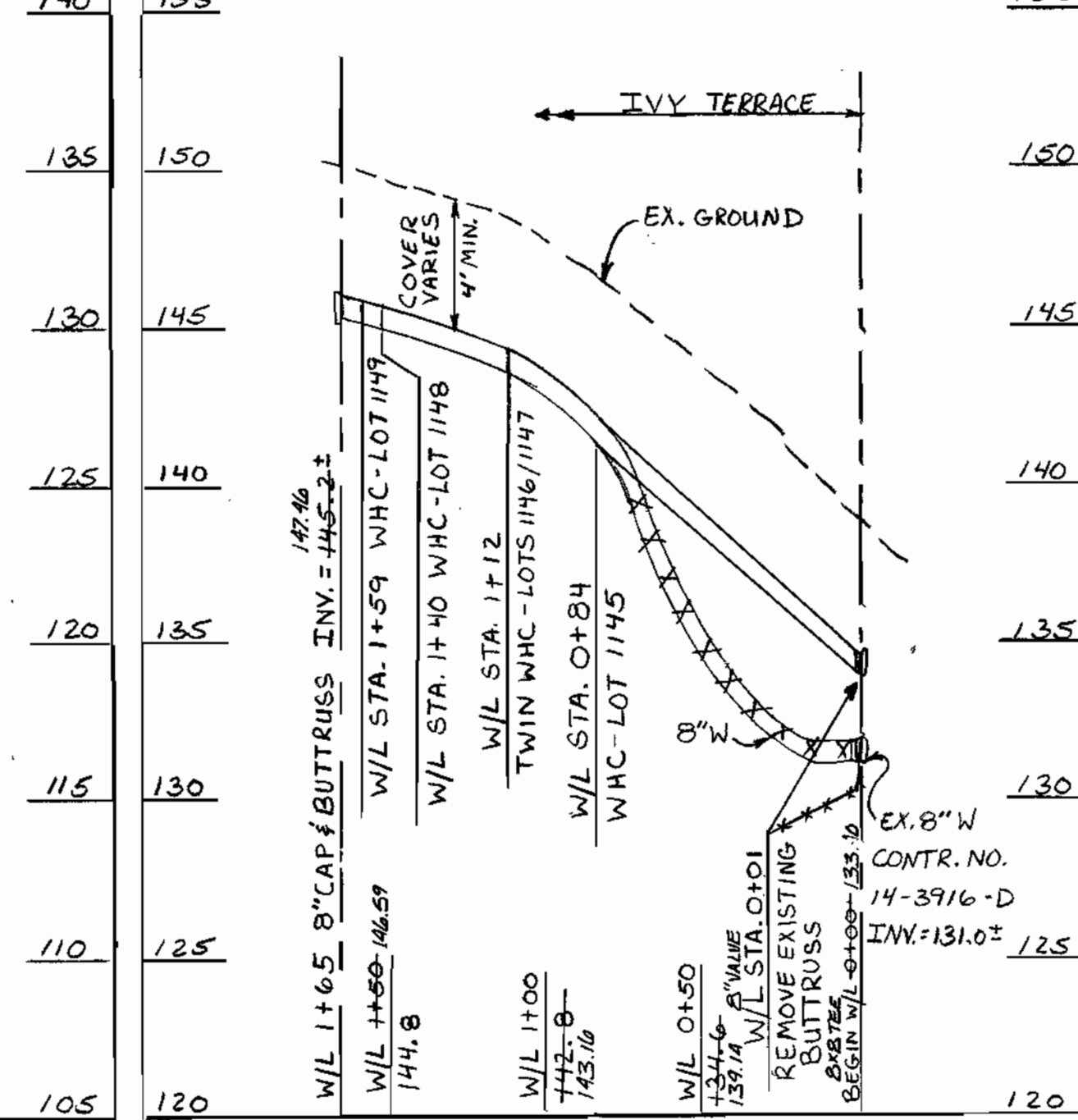


**SEWER PROFILE**  
 VERTICAL SCALE: 1"=5'  
 HORIZONTAL SCALE: 1"=50'



**SEWER PROFILE**  
 SCALE = HOR. 1"=50'  
 VERT. 1"=5'

**WATER PROFILE**  
 VERTICAL SCALE: 1"=5'  
 HORIZONTAL SCALE: 1"=50'



**WATER PROFILE**  
 SCALE = HOR. 1"=50'  
 VERT. 1"=5'

WATER AS-BUILT DATA				SEWER AS-BUILT DATA			
LOT	FROM	TO	DI	LOT	FROM	TO	DI
1103A	1103A	1103A	8"	1103A	1103A	1103A	8"
1103B	1103B	1103B	8"	1103B	1103B	1103B	8"
1103C	1103C	1103C	8"	1103C	1103C	1103C	8"
1103D	1103D	1103D	8"	1103D	1103D	1103D	8"
1103E	1103E	1103E	8"	1103E	1103E	1103E	8"
1103F	1103F	1103F	8"	1103F	1103F	1103F	8"
1103G	1103G	1103G	8"	1103G	1103G	1103G	8"
1103H	1103H	1103H	8"	1103H	1103H	1103H	8"
1103I	1103I	1103I	8"	1103I	1103I	1103I	8"
1103J	1103J	1103J	8"	1103J	1103J	1103J	8"
1103K	1103K	1103K	8"	1103K	1103K	1103K	8"
1103L	1103L	1103L	8"	1103L	1103L	1103L	8"
1103M	1103M	1103M	8"	1103M	1103M	1103M	8"
1103N	1103N	1103N	8"	1103N	1103N	1103N	8"
1103O	1103O	1103O	8"	1103O	1103O	1103O	8"
1103P	1103P	1103P	8"	1103P	1103P	1103P	8"
1103Q	1103Q	1103Q	8"	1103Q	1103Q	1103Q	8"
1103R	1103R	1103R	8"	1103R	1103R	1103R	8"
1103S	1103S	1103S	8"	1103S	1103S	1103S	8"
1103T	1103T	1103T	8"	1103T	1103T	1103T	8"
1103U	1103U	1103U	8"	1103U	1103U	1103U	8"
1103V	1103V	1103V	8"	1103V	1103V	1103V	8"
1103W	1103W	1103W	8"	1103W	1103W	1103W	8"
1103X	1103X	1103X	8"	1103X	1103X	1103X	8"
1103Y	1103Y	1103Y	8"	1103Y	1103Y	1103Y	8"
1103Z	1103Z	1103Z	8"	1103Z	1103Z	1103Z	8"

WATER & SEWER AS-BUILT SET

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

*Ruth Bannister* 8-28-01  
 CHIEF, BUREAU OF UTILITIES

*Donald Moan* 9/7/01  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

**BENCHMARK**  
 ENGINEERS & LAND SURVEYORS & PLANNERS

**ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE & SUITE 418  
 ELICOTT CITY, MARYLAND 21043  
 PHONE: 410-485-8125 FAX: 410-485-8644

*Donald Moan*

DATE: 8/03/01

DES:	DAM/MCR		
DRN:	MCR	K.C.I.	AS-BUILT DATA ADDED TO PLAN
CHK:	DAM	MLV	EXTEND 8" W & 8" S TO LOTS 1145-1149
		JTC	REVISE SHCS TO LOTS 1103, 1109C, 1144C & 1143C
			REVISE TITLE BLOCK, ADDED "AND"
DATE:	8/03/01	BY:	NO.
			REVISIONS
		DATE:	

**WATER AND SEWER PROFILES**

600 SCALE MAPS: W38 & S38

BLOCKS: 13 & 19

**HARWOOD PARK**

LOT NUMBERS 1093C, 1094C, 1097C, 1098B, 1100A, 1101A, 1103A, 1104A, 1106A-1108A, 1109C, 1110C, 1111C, 1116B-1118B, 1133B-1137B, 1141B, 1143C AND 1144C

ELECTION DISTRICT NO. 1

CONTRACT NO. 14-3916-D

SCALE: AS SHOWN

SHEET NO. 2 OF 2