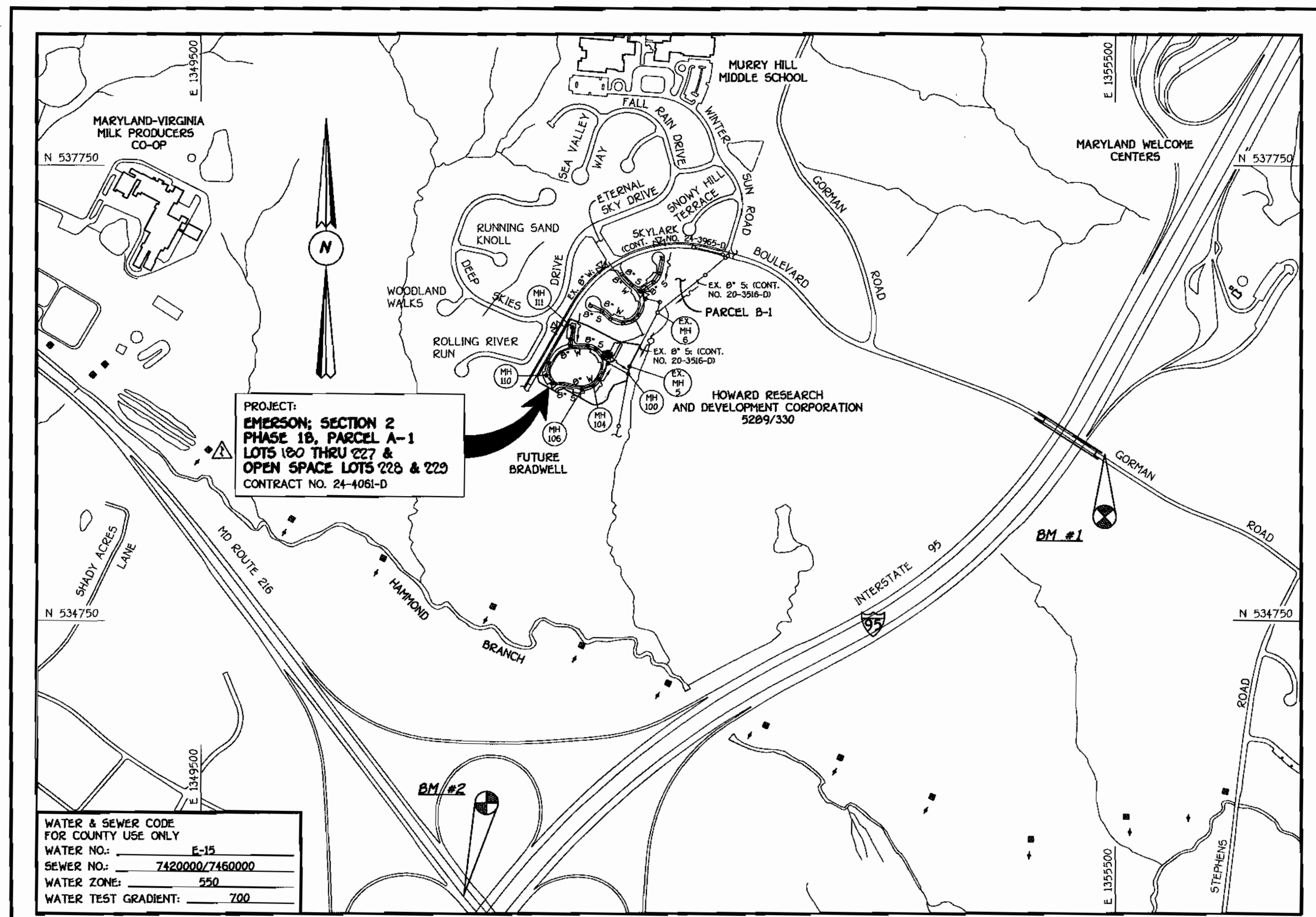


QUANTITIES				
ITEM	ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	SUPPLIER
8" WATER	1,311.23 L.F.	1,419 L.F.	D.I.P. CLASS 52	GRIFFIN
6" WATER	152.60 L.F.	151 L.F.	D.I.P. CLASS 52	GRIFFIN
1" WATER	1,057 L.F.	1,200 L.F.	COPPER	BELAIR ROAD SUPPLY
FIRE HYDRANTS	1 EACH	1 EA.	MUELLER	BELAIR ROAD SUPPLY
8" X 8" TEE	3 EACH	3 EA.	D.I.P.	BELAIR ROAD SUPPLY
8" X 6" TEE	2 EACH	2 EA.	D.I.P.	BELAIR ROAD SUPPLY
8" VALVE	6 EACH	6 EA.	MUELLER/GATE V.	BELAIR ROAD SUPPLY
6" VALVE	2 EACH	2 EA.	MUELLER/GATE V.	BELAIR ROAD SUPPLY
8"-1/8 H.B.	1 EACH	1 EA.	D.I.P.	BELAIR ROAD SUPPLY
8"-1/16 H.B.	17 EACH	17 EA.	D.I.P.	BELAIR ROAD SUPPLY
8"-1/32 H.B.	2 EACH	1 EA.	D.I.P.	BELAIR ROAD SUPPLY
8" PLUG & BUTTRESS	2 EACH	2 EA.	D.I.P.	BELAIR ROAD SUPPLY
6" PLUG & BUTTRESS	1 EACH	1 EA.	D.I.P.	BELAIR ROAD SUPPLY
8" SEWER (D.I.P.)	149.57 L.F.	145.5 L.F.	D.I.P.	GRIFFIN
8" SEWER	1,007.32 L.F.	926.4 L.F.	P.V.C.	BELAIR ROAD SUPPLY
4" SEWER	1157 L.F.	1,220 L.F.	P.V.C.	BELAIR ROAD SUPPLY
MANHOLES	12 EACH	12 EA.	PRE-CAST CONC.	ATLANTIC CONC. PRODUCTS

NAME OF UTILITY CONTRACTOR: **GAINES AND COMPANY**
 SURVEY & DRAFTING DIVISION AS-BUILT DATE:



WATER & SEWER CODE FOR COUNTY USE ONLY	
WATER NO.:	E-15
SEWER NO.:	7420000/7450000
WATER ZONE:	550
WATER TEST GRADIENT:	700

TYPE OF BUILDING:	RESIDENTIAL: TOWNHOUSES
NUMBER OF LOTS & PARCELS:	50 (48 BUILDABLE)
NO. OF WATER HOUSE CONNECTIONS:	48
NO. OF SEWER HOUSE CONNECTIONS:	48
DRAINAGE AREA:	LITTLE PATUXENT
TREATMENT PLANT:	LITTLE PATUXENT WATER RECLAMATION PLANT, SAVAGE, MD.

PLAN REFERENCE NUMBERS:
SP02-II-F03-34

VICINITY MAP
SCALE: 1"=600'

GENERAL NOTES

- PART I
- APPROXIMATE LOCATIONS 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, NAD 83/91.
 - ALL VERTICAL CONTROLS ARE BASED ON NAVD 88.
 - 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 THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF THE 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 SITE.
 - 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 ON THESE PLANS:
 - AT&T 1-800-252-1133
 - BGE (CONTRACTOR SERVICES) 410-850-4620
 - BGE (UNDERGROUND DAMAGE CONTROL) 410-787-9068
 - 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 1-800-743-0033/410-224-9210
 - 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.
 - 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 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 18.10(d) OF THE HOWARD COUNTY CODE.
- PART II: WATER
- ALL WATER MAINS SHALL BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
 - TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TREES SHALL BE STRAPPED TO TREES.
 - ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH 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 STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
 - 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 18" WALLS ARE FOR BRICK MANHOLES ONLY.
 - MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.22. 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.

DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

Paul W. Ruedel FOR:
COLUMBIA BUILDERS, INC. 11/22/02
 SIGNATURE OF DEVELOPER DATE

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Michael D. Tuck 11/22/02
 SIGNATURE OF ENGINEER DATE

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

Jim Maus 12/12/02
 U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

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

APPROVED:
John R. Roberts 12/12/02
 HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AND AS SHOWN ON F03-34.

Paul W. Ruedel FOR:
COLUMBIA BUILDERS, INC. 11/22/02
 SIGNATURE OF DEVELOPER DATE

CONTRACT NO. 24-4061-D

EMERSON

SECTION 2, PHASE 1B, PARCEL A-1
 LOTS 180 THRU 227 AND OPEN SPACE LOTS 228 & 229
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

AS BUILT
 DATE: JULY 8, 2003

CONTRACT NO. 24-4061-D
 SECTION 2, PHASE 1B, PARCEL A-1
 LOTS 180 THRU 227 & OPEN SPACE LOTS 228 & 229
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTRAL SQUARE OFFICE PARK - 10725 BALTIMORE NATIONAL FEE SILVERCOTT CITY, MARYLAND 20916 410-481-2995	DESIGNED BY: M.D.T. DRAWN BY: M.D.T. CHECKED BY: P.W.K. DATE: NOVEMBER, 2002	REVERSE LOT NUMBERS OF PROJECT TITLE	800' SCALE MAP NO. 47 BLOCK NO. B F.C.C. WORK ORDER NO. 40360 FILE NAME: FINAL WATER AND SEWER MAINS TITLE SHEET	EMERSON SECTION 2, PHASE 1B, PARCEL A-1, LOTS 180 THRU 227 & OPEN SPACE LOTS 228 & 229 CONTRACT NO. 24-4061-D SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE: AS SHOWN SHEET 1 of 4
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AS-BUILT WATER HOUSE CONNECTIONS

CHARMED DAYS

- Lot 223: 20.0' from MH-105/52.0' from MH-109/22.0' from Lot 222 WHC
- Lot 222: 26.0' from MH-105/33.0' from MH-109/20.0' from Lot 221 WHC
- Lot 221: 52.5' from MH-105/18.0' from MH-109/20.5' from Lot 220 WHC
- Lot 220: 19.5' from MH-103/118.5' from MH-101/21.0' from Lot 219 WHC
- Lot 219: 34.0' from MH-103/98.0' from MH-101/19.5' from Lot 218 WHC
- Lot 218: 54.0' from MH-103/76.0' from MH-101/19.5' from Lot 217 WHC
- Lot 217: 72.0' from MH-103/56.0' from MH-101/19.5' from Lot 216 WHC
- Lot 216: 25.5' from MH-101/138.0' from MH-102/22.5' from Lot 208 WHC
- Lot 208: 45.5' from MH-101/78.0' from MH-102/22.0' from Lot 207 WHC
- Lot 207: 72.0' from MH-101/53.0' from MH-102/23.5' from Lot 206 WHC
- Lot 206: 96.0' from MH-101/34.5' from MH-102/19.5' from Lot 205 WHC
- Lot 205: 115.5' from MH-101/26.5' from MH-102/19.5' from Lot 204 WHC
- Lot 204: 34.5' from MH-102/49.5' from MH-104/23.5' from Lot 203 WHC
- Lot 203: 49.0' from MH-102/29.5' from MH-104/23.5' from Lot 202 WHC
- Lot 202: 19.5' from MH-104/77.0' from MH-106/13.0' from Lot 201 WHC
- Lot 201: 26.5' from MH-104/64.5' from MH-106/32.0' from Lot 200 WHC
- Lot 200: 54.0' from MH-104/37.0' from MH-106/32.0' from Lot 199 WHC
- Lot 199: 58.0' from MH-107/162.0' from MH-105/34.0' from Lot 198 WHC
- Lot 198: 31.0' from MH-107/126.5' from MH-105/25.0' from Lot 197 WHC
- Lot 197: 34.0' from MH-107/101.5' from MH-105/18.0' from Lot 196 WHC

CHARMED DAYS

- Lot 196: 46.0' from MH-107/85.0' from MH-105/20.0' from Lot 195 WHC
- Lot 195: 64.0' from MH-107/66.0' from MH-105/20.0' from Lot 194 WHC
- Lot 194: 82.0' from MH-107/48.5' from MH-105/24.0' from Lot 193 WHC
- Lot 193: 104.0' from MH-107/29.0' from MH-105/24.0' from Lot 192 WHC
- Lot 192: 59.0' from MH-101/89.0' from MH-102/24.0' from Lot 191 WHC
- Lot 191: 76.5' from MH-101/60.0' from MH-102/16.0' from Lot 190 WHC
- Lot 190: 99.0' from MH-101/44.0' from MH-102/30.0' from Lot 189 WHC
- Lot 189: 102.0' from MH-101/29.0' from MH-102/29.5' from Lot 188 WHC
- Lot 188: 30.0' from MH-102/56.0' from MH-104/28.5' from Lot 187 WHC
- Lot 187: 49.0' from MH-101/35.0' from MH-102/29.5' from Lot 186 WHC
- Lot 186: 61.5' from MH-106/149.0' from MH-108/20.5' from Lot 185 WHC
- Lot 185: 79.0' from MH-106/129.5' from MH-108/20.0' from Lot 184 WHC
- Lot 184: 97.5' from MH-106/110.0' from MH-108/22.0' from Lot 183 WHC
- Lot 183: 117.5' from MH-106/99.5' from MH-108/22.0' from Lot 182 WHC
- Lot 182: 36.5' from MH-110/82.5' from MH-112/27.5' from Lot 181 WHC
- Lot 181: 44.5' from MH-110/56.0' from MH-112/28.5' from Lot 180 WHC
- Lot 180: 70.0' from MH-110/34.0' from MH-112/30.0' from Lot 179 WHC
- Lot 179: 99.5' from MH-110/37.5' from MH-112/30.0' from Lot 178 WHC

AS-BUILT WATER HOUSE CONNECTIONS

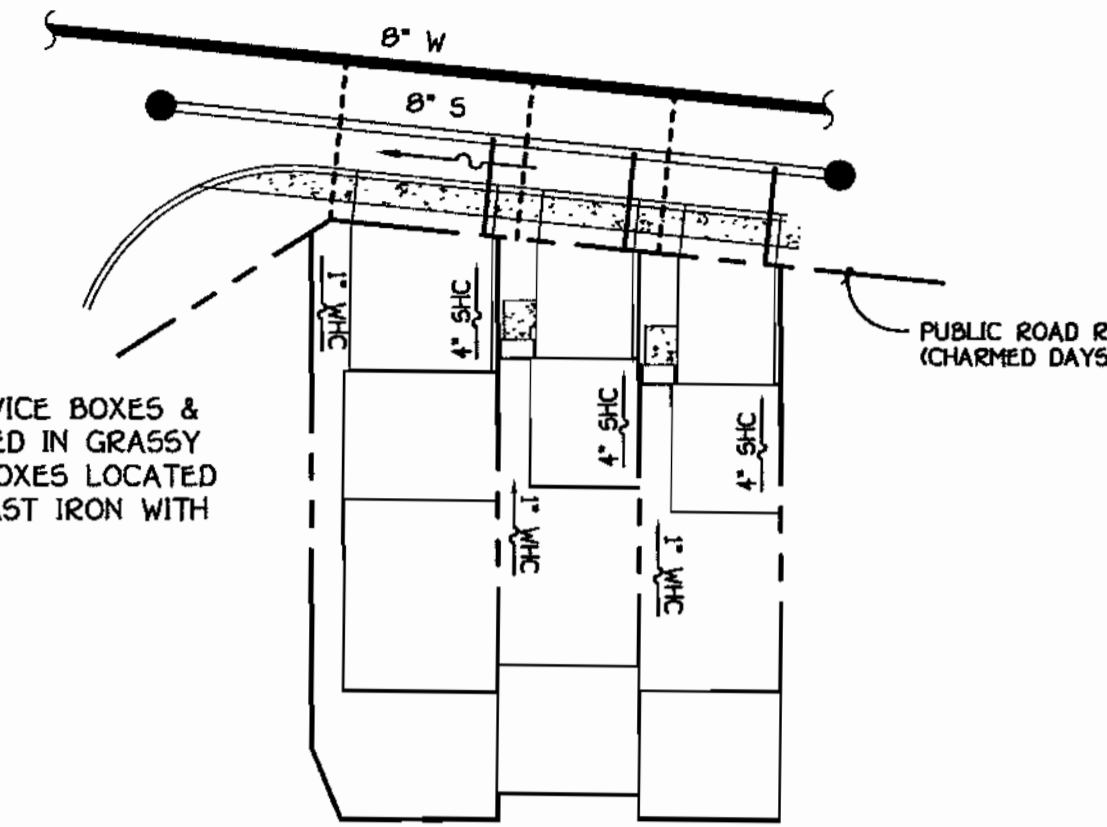
ROAD 'B'

- Lot 216: 119.0' from Hydrant/140.0' from MH-101/28.0' from Lot 215 WHC
- Lot 215: 94.0' from Hydrant/112.0' from MH-101/21.5' from Lot 214 WHC
- Lot 214: 77.0' from Hydrant/91.5' from MH-101/21.5' from Lot 213 WHC
- Lot 213: 62.5' from Hydrant/70.5' from MH-101/21.5' from Lot 212 WHC
- Lot 212: 51.5' from Hydrant/49.0' from MH-101/24.5' from Lot 211 WHC
- Lot 211: 99.5' from Hydrant/24.5' from MH-101/24.5' from Lot 210 WHC

ROAD 'C'

- Lot 227: 120.0' from MH-107/35.0' from MH-109/13.0' from Lot 226 WHC
- Lot 226: 107.0' from MH-107/32.0' from MH-109/29.5' from Lot 225 WHC
- Lot 225: 78.0' from MH-107/42.0' from MH-109/20.5' from Lot 224 WHC
- Lot 224: 59.0' from MH-107/26.0' from MH-109/20.5' from Lot 223 WHC

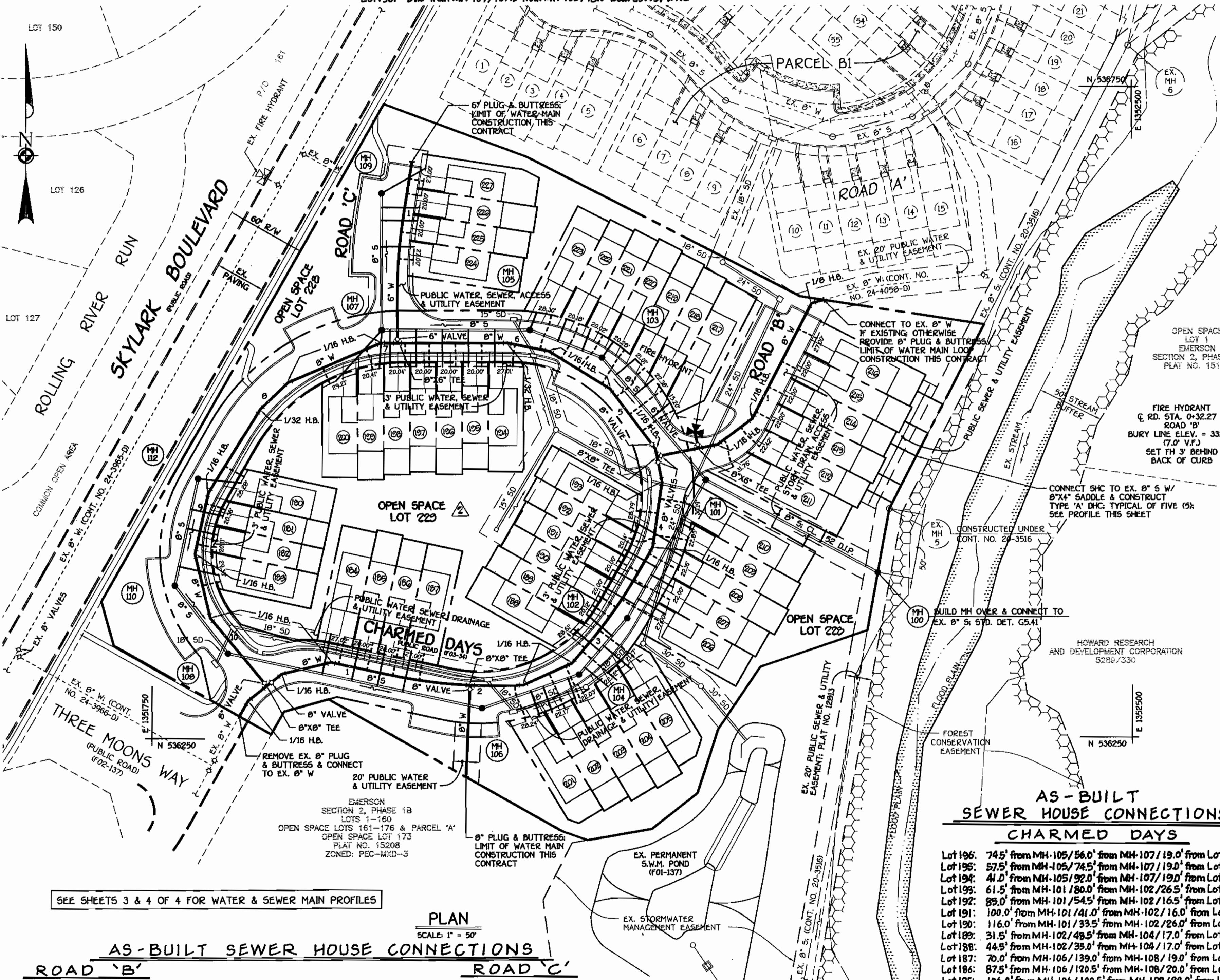
NOTE: WHEREVER POSSIBLE CURB SERVICE BOXES & CLEAN-OUTS HAVE BEEN LOCATED IN GRASSY AREAS, THOSE CURB SERVICE BOXES LOCATED WITHIN DRIVEWAYS SHALL BE CAST IRON WITH CAST IRON COVERS.



DETAIL: TYPICAL WHC & SHC @ TOWNHOUSE LOTS

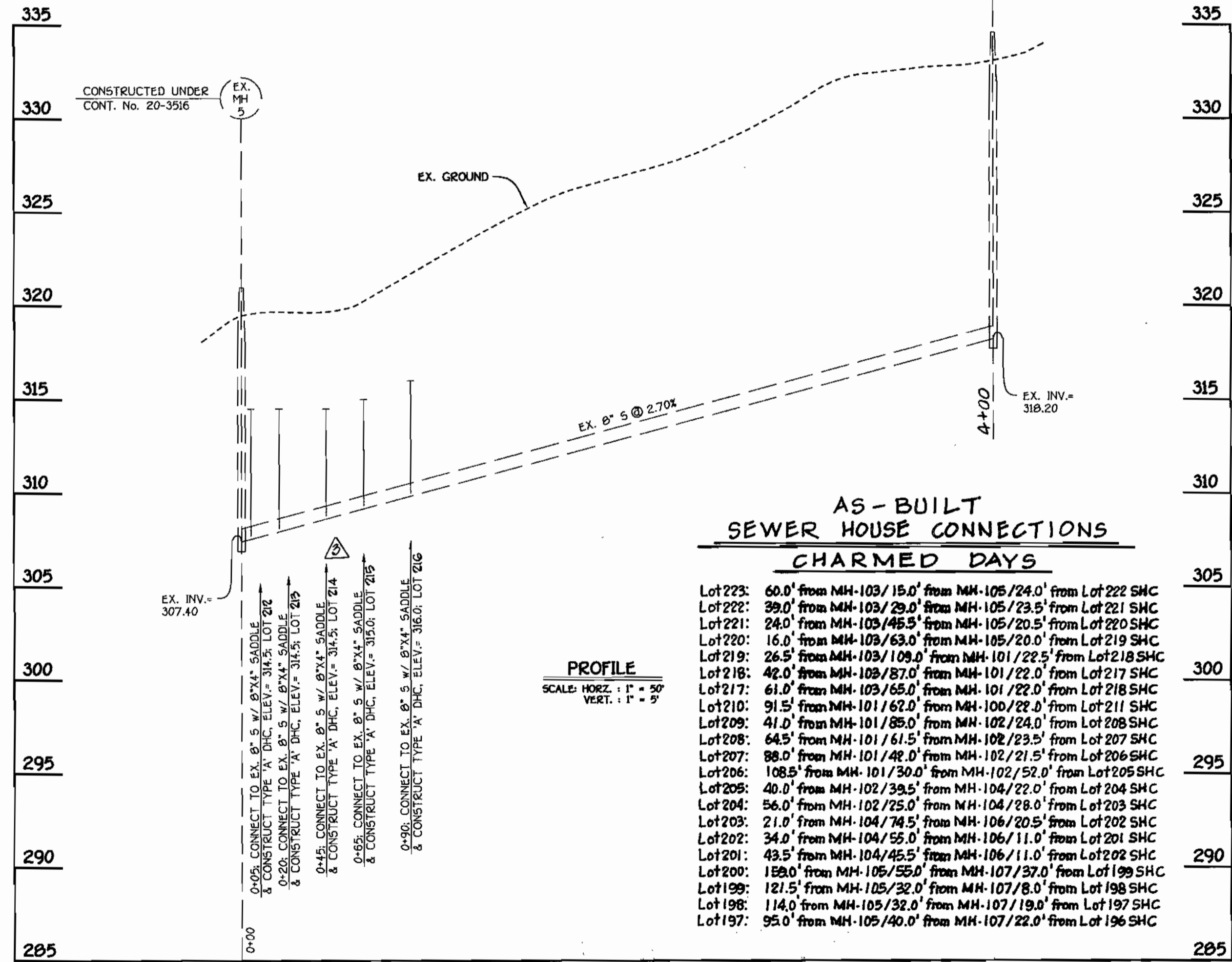
NO SCALE

- SEE SHEET 3 OF 4 FOR WATER MAIN TABULATION CHART
- SEE SHEET 4 OF 4 FOR TOWNHOUSE M.C.E. CHARTS
- SEE SHEET 4 OF 4 FOR MANHOLE TABULATION CHART
- SEE SHEET 3 OF 4 FOR SHC INVERT @ PROPERTY LINE CHARTS



AS-BUILT SEWER HOUSE CONNECTIONS CHARMED DAYS

- Lot 196: 74.5' from MH-105/56.0' from MH-107/19.0' from Lot 195 SHC
- Lot 195: 57.5' from MH-105/74.5' from MH-107/19.0' from Lot 194 SHC
- Lot 194: 41.0' from MH-105/92.0' from MH-107/19.0' from Lot 193 SHC
- Lot 193: 61.5' from MH-101/180.0' from MH-102/26.5' from Lot 192 SHC
- Lot 192: 89.0' from MH-101/154.5' from MH-102/16.5' from Lot 191 SHC
- Lot 191: 100.0' from MH-101/141.0' from MH-102/16.0' from Lot 190 SHC
- Lot 190: 116.0' from MH-101/33.5' from MH-102/26.0' from Lot 189 SHC
- Lot 189: 31.5' from MH-102/48.5' from MH-104/17.0' from Lot 188 SHC
- Lot 188: 44.5' from MH-102/35.0' from MH-104/17.0' from Lot 187 SHC
- Lot 187: 70.0' from MH-106/139.0' from MH-108/19.0' from Lot 186 SHC
- Lot 186: 87.5' from MH-106/120.5' from MH-108/20.0' from Lot 185 SHC
- Lot 185: 106.0' from MH-106/100.5' from MH-108/22.0' from Lot 184 SHC
- Lot 184: 127.0' from MH-106/80.5' from MH-108/22.0' from Lot 183 SHC
- Lot 183: 36.5' from MH-110/79.0' from MH-112/30.0' from Lot 182 SHC
- Lot 182: 51.0' from MH-110/50.0' from MH-112/18.5' from Lot 181 SHC
- Lot 181: 66.0' from MH-110/35.0' from MH-112/28.5' from Lot 180 SHC
- Lot 180: 95.0' from MH-110/34.0' from MH-112/28.5' from Lot 179 SHC



DHCs @ EX. 8" SEWER MAIN: LOTS 212 THRU 210

AS BUILT
DATE: JULY 8, 2003

- Lot 216: 178.0' from MH-101/94.0' from MH-5/26.0' from Lot 215 SHC
- Lot 215: 160.5' from MH-101/68.5' from MH-5/22.0' from Lot 214 SHC
- Lot 214: 146.5' from MH-101/49.0' from MH-5/22.0' from Lot 213 SHC
- Lot 213: 134.0' from MH-101/29.5' from MH-5/14.5' from Lot 212 SHC
- Lot 212: 128.0' from MH-101/20.5' from MH-5/14.5' from Lot 211 SHC
- Lot 211: 99.0' from MH-101/15.0' from MH-109/22.0' from Lot 210 SHC

- Lot 227: 129.0' from MH-107/39.0' from MH-109/31.0' from Lot 226 SHC
- Lot 226: 99.0' from MH-107/32.0' from MH-109/10.0' from Lot 225 SHC
- Lot 225: 88.5' from MH-107/36.0' from MH-109/19.0' from Lot 224 SHC
- Lot 224: 71.0' from MH-107/50.5' from MH-109/19.0' from Lot 223 SHC

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Ruth B... 12.4.02
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

... 12/20/02
DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

TERRELL A. FISHER

STATE OF MARYLAND
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: M.D.T.
DRAWN BY: M.D.T.
CHECKED BY: P.W.K.
DATE: NOVEMBER, 2002

REVISION

WATER AND SEWER MAINS
PLAN VIEW & PROFILE

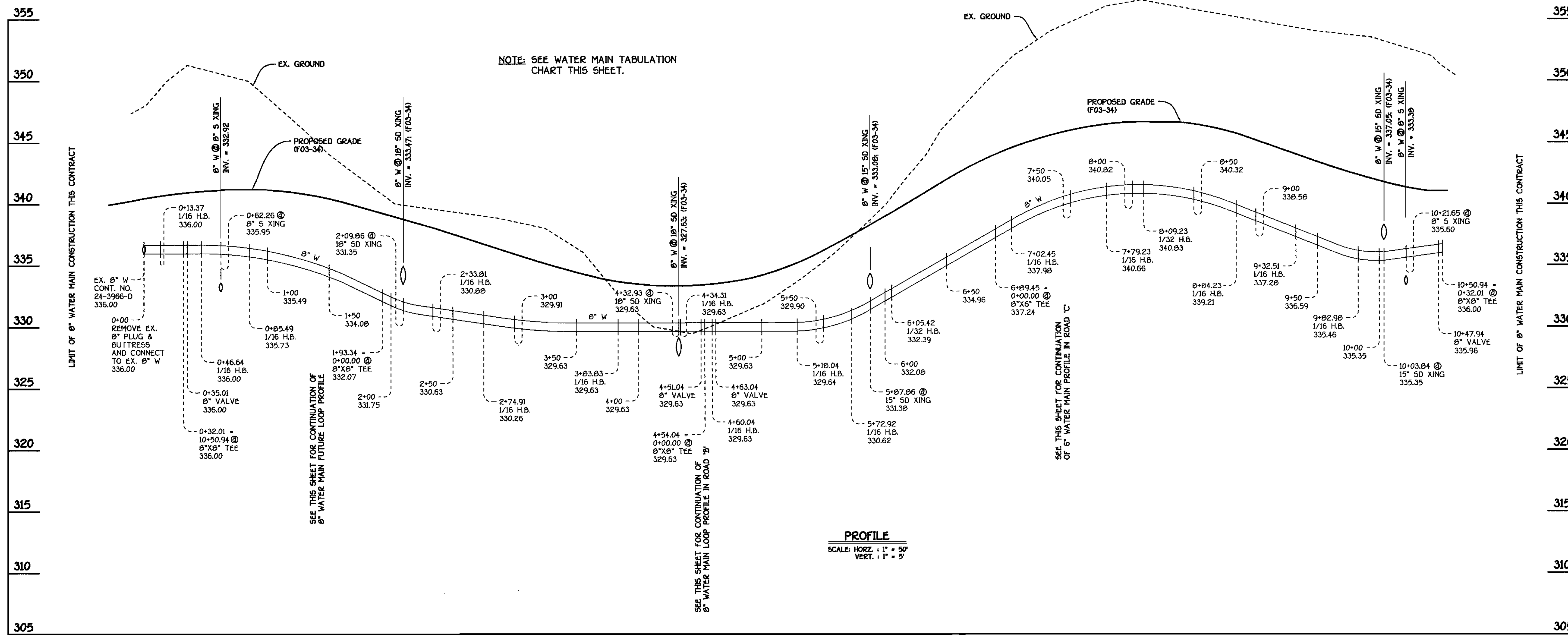
600' SCALE MAP NO. 47 BLOCK NO. 9
F.C.C. WORK ORDER NO. 40368

EMERSON
SECTION 2, PHASE 1B; PARCEL A-1,
LOTS 180 THRU 227 & OPEN SPACE LOTS 220 & 223
CONTRACT NO. 24-4061-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 4

J:\50001 Emerson Property\dwg\0368-ColumbiaWater and Sewer\Plan_Sht_2.dwg, 11/22/02 01:38:11 PM

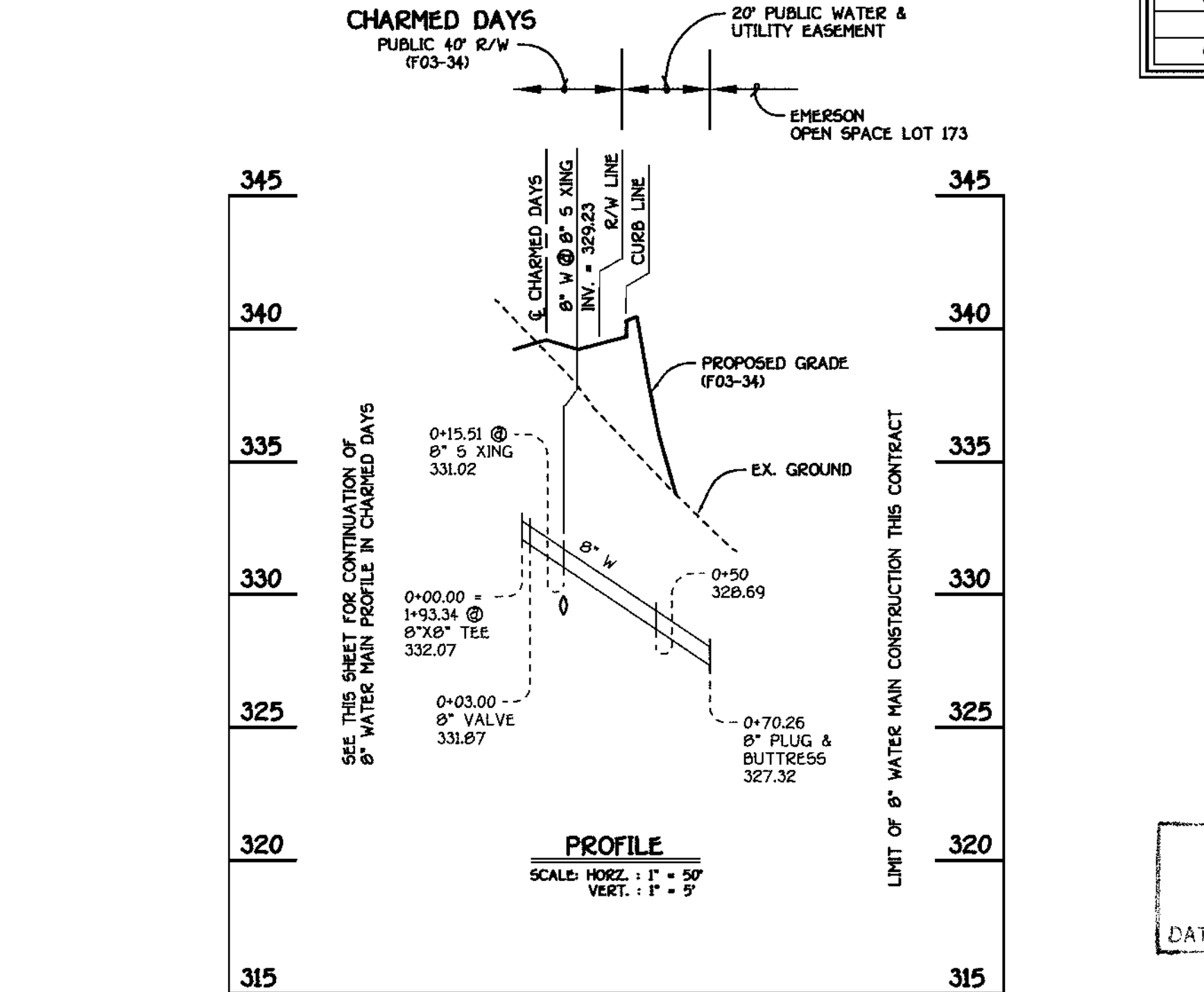
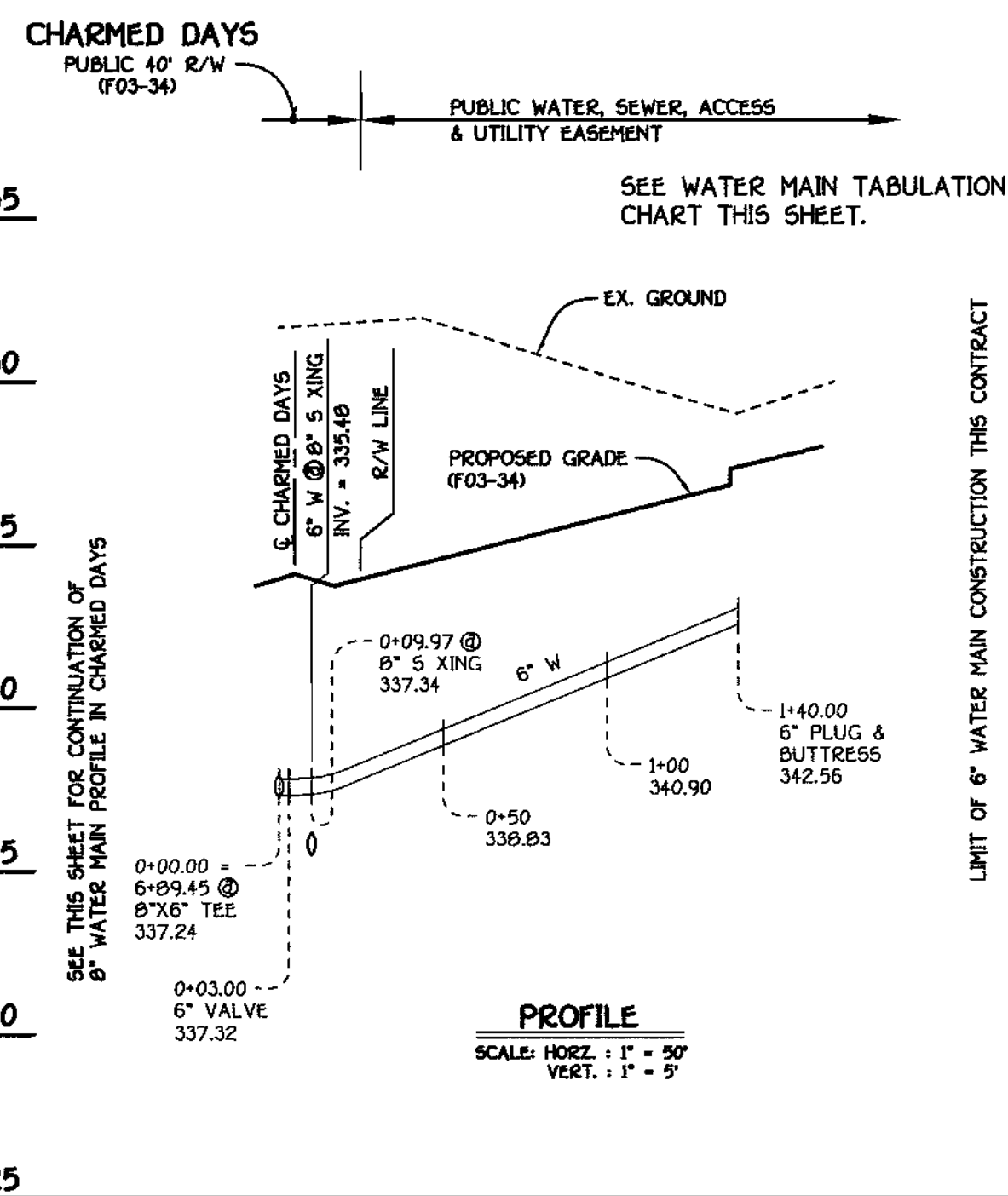
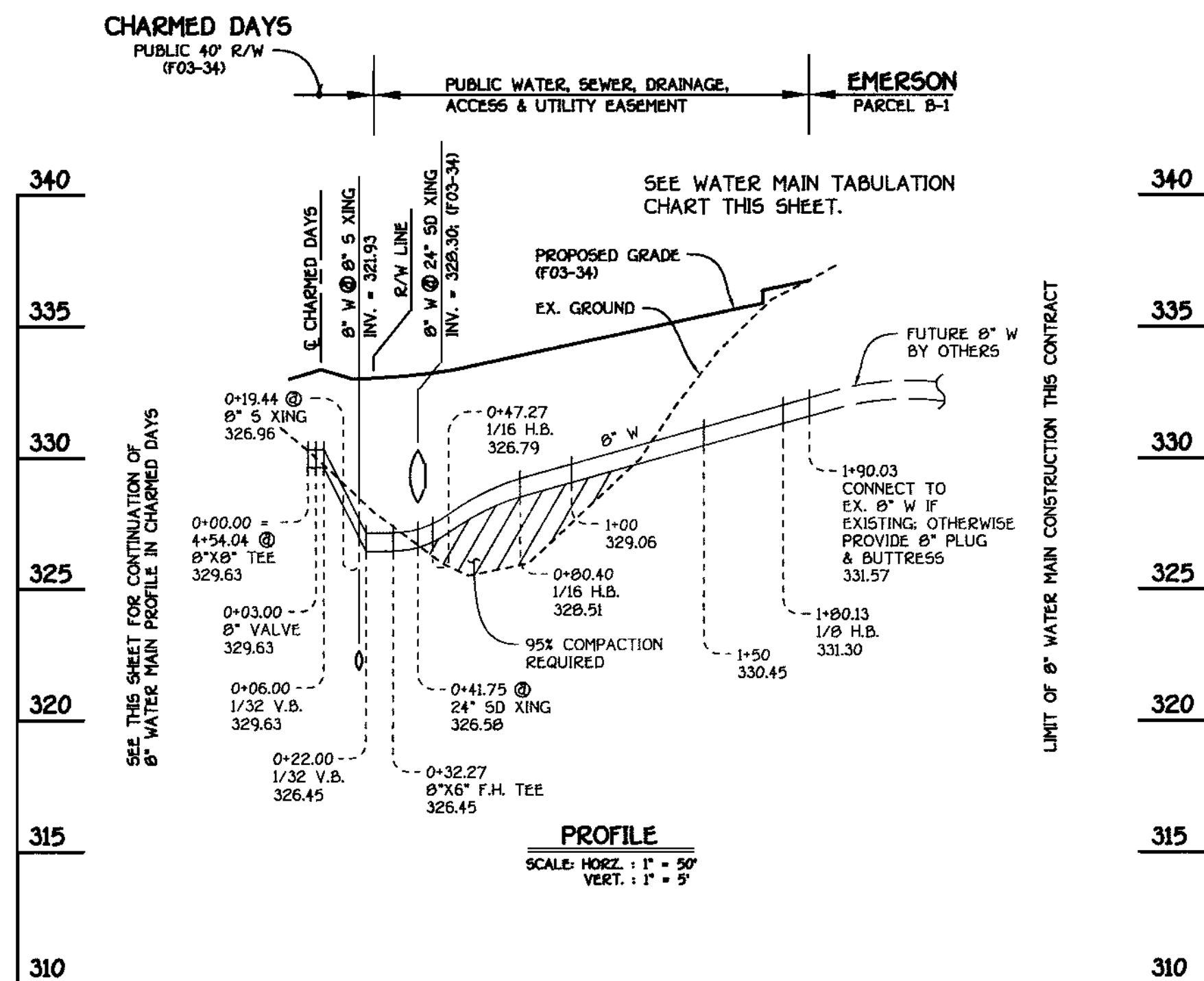
CHARMED DAYS
PUBLIC 40' R/W
(F03-34)



WATER MAIN TABULATION CHART

W.M. STATION	APPURTENANCE	± ROAD STATION	DISTANCE
CHARMED DAYS			
0+00.00	CONNECT TO EX. 8" W	0+00.00	5.00' RT.
0+13.37	1/16 H.B.	0+13.92	4.65' RT.
0+32.01	8" X 8" TEE	0+34.46	6.40' RT.
0+35.01	8" VALVE	0+37.79	6.08' RT.
0+46.64	1/16 H.B.	0+50.09	3.34' RT.
0+85.49	1/16 H.B.	0+88.55	5.00' LT.
1+29.90	P.C. (CRIMP RADIUS = 380')	1+32.96	5.01' LT.
1+93.34	8" X 8" TEE	1+97.53	8.96' LT.
2+22.49	P.T. (CRIMP RADIUS = 380')	2+28.65	6.88' LT.
2+33.81	1/16 H.B.	2+40.26	4.59' LT.
2+74.91	1/16 H.B.	2+82.92	3.43' LT.
2+91.21	P.C. (CRIMP RADIUS = 380')	2+99.63	6.35' LT.
3+62.52	P.T. (CRIMP RADIUS = 380')	3+72.95	5.00' LT.
3+83.83	1/16 H.B.	3+94.88	3.74' LT.
4+34.31	1/16 H.B.	4+47.47	4.06' LT.
4+51.04	8" VALVE	4+64.85	4.89' LT.
4+54.04	8" X 8" TEE	4+67.98	5.00' LT.
4+60.04	1/16 H.B.	4+74.21	4.48' LT.
4+63.04	8" VALVE	4+77.16	5.47' LT.
5+18.04	1/16 H.B.	5+36.34	9.92' LT.
5+72.92	1/16 H.B.	5+98.06	7.45' LT.
6+05.42	1/32 H.B.	6+30.25	5.00' LT.
6+89.45	8" X 6" TEE	7+14.43	4.90' LT.
7+02.45	1/16 H.B.	7+27.79	3.91' LT.
7+79.23	1/16 H.B.	8+07.90	5.13' LT.
8+09.23	1/32 H.B.	8+39.04	5.39' LT.
8+84.23	1/16 H.B.	9+15.25	5.15' LT.
9+32.51	1/16 H.B.	9+67.14	6.78' LT.
9+82.98	1/16 H.B.	10+21.09	4.08' LT.
10+47.94	8" VALVE	0+34.17	3.41' RT.
10+50.94	8" X 8" TEE	0+34.46	6.40' RT.
8" WATER MAIN LOOP: ROAD 'B'			
0+00.00	8" X 8" TEE	-0+05.00	5.00' LT.
0+03.00	8" VALVE	-0+02.00	5.00' LT.
0+06.00	1/32 V.B.		
		NORTHING	EASTING
0+22.00	1/32 V.B.		
0+32.27	8" X 6" F.H. TEE	536472.24	1352168.28
0+47.27	1/16 H.B.	536475.17	1352182.99
0+80.40	1/16 H.B.	536494.99	1352209.53
1+80.13	1/8 H.B.	536583.70	1352255.11
1+90.03	8" PLUG & BUTTRESS	536586.30	1352264.66
8" WATER MAIN: ROAD 'C'			
0+00.00	8" X 6" TEE	-0+04.92	2.13' RT.
0+03.00	8" VALVE	-0+01.92	2.27' RT.
		NORTHING	EASTING
0+36.80	P.C. (CRIMP RADIUS = 380')	536590.38	1351938.21
0+95.95	P.T. (CRIMP RADIUS = 380')	536649.29	1351942.48
1+40.00	8" PLUG & BUTTRESS	536692.81	1351949.59
8" WATER MAIN: PARTIAL LOOP TO EASTERN MORNING WAY			
0+00.00	8" X 8" TEE	1+97.53	8.96' LT.
0+03.00	8" VALVE	1+97.58	5.96' LT.
		NORTHING	EASTING
0+70.26	8" PLUG & BUTTRESS	536220.28	1351990.04

8" WATER MAIN: CHARMED DAYS

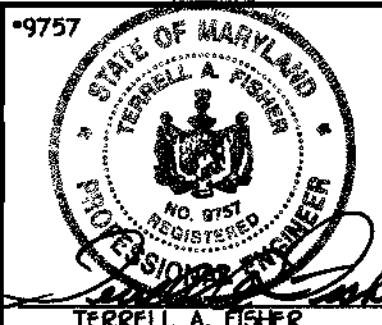


AS BUILT
DATE JULY 8, 2003

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SERVICE OFFICE: PARK 10272 BALTIMORE NATIONAL FIRE
ELICOTT CITY, MARYLAND 21042
(410) 461-2895



DESIGNED BY: M.D.T.
DRAWN BY: M.D.T.
CHECKED BY: P.W.K.
DATE: NOVEMBER 2002

NO.	REVISION	DATE
1	REVISE LOT NUMBERS OF PROJECT TITLE	6/2/03

WATER MAINS PROFILES
600' SCALE MAP NO. 47 BLOCK NO. 8
F.C.C. WORK ORDER NO. 40560
DATE: FILE NAME: FINAL WATER MAIN PROFILES SH1 3

EMERSON
SECTION 2; PHASE 1B; PARCEL A-1,
LOTS 180 THRU 227 & OPEN SPACE LOTS 228 & 229
CONTRACT NO. 24-4061-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 3 OF 4

J:\50001 Emerson\Project\dwg\40386-Columbia\Water and Sewer\Profiles\Sh1 3 8 4.dwg, 11/22/02 01:36:38 PM

MANHOLE TABULATION CHART					
NO.	ROAD STATION	NORTHING	EASTING	RIM ELEVATION	
100	---	536376.91	1392305.92	319.60*	
101	---	536448.04	1392173.95	333.60	
109	---	536668.55	1391926.27	346.68	
		DISTANCE	SLOPE		
102	3+37.20	CHARMED DAYS	5.00' RT.	-3.00%	335.23
103	5+56.46	CHARMED DAYS	5.00' RT.	+4.16%	335.40
104	2+82.29	CHARMED DAYS	6.80' RT.	-3.00%	336.83
105	6+13.56	CHARMED DAYS	5.88' RT.	+6.00%	338.19
106	2+07.03	CHARMED DAYS	8.44' RT.	-3.00%	339.04
107	7+25.60	CHARMED DAYS	5.87' RT.	+3.72%	344.43
108	10+51.43	CHARMED DAYS	2.02' RT.	-3.00%	341.86
110	9+88.81	CHARMED DAYS	11.63' RT.	-3.00%	343.45
112	9+09.78	CHARMED DAYS	7.00' RT.	-2.60%	345.90

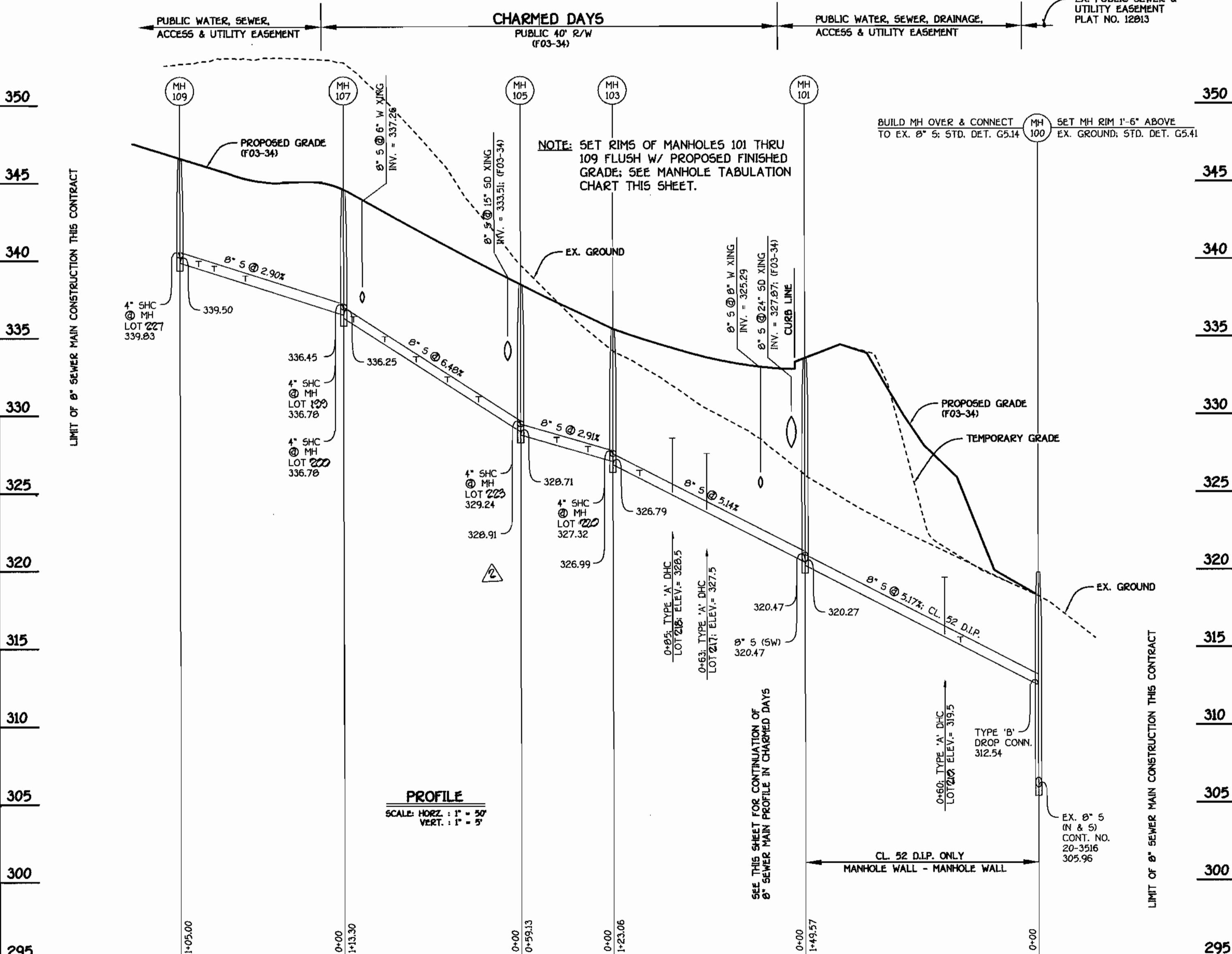
* SET RIM 1'-6" ABOVE EX. GROUND. ALL OTHER MANHOLE RIMS SHALL BE SET FLUSH W/ FINISHED GRADE.

M.C.E. CHART	
LOT	M.C.E.
CHARMED DAYS	
120	342.64
121	341.77
122	341.41
123	340.86
124	336.94
125	336.42
126	335.96
127	335.51
128	332.82
129	332.32
130	331.46
131	331.46
132	330.96
133	330.54
134	335.69
135	336.99
136	338.28
137	339.58
138	340.87
139	341.66
140	342.14
141	329.67
142	329.47
143	329.07
144	328.66

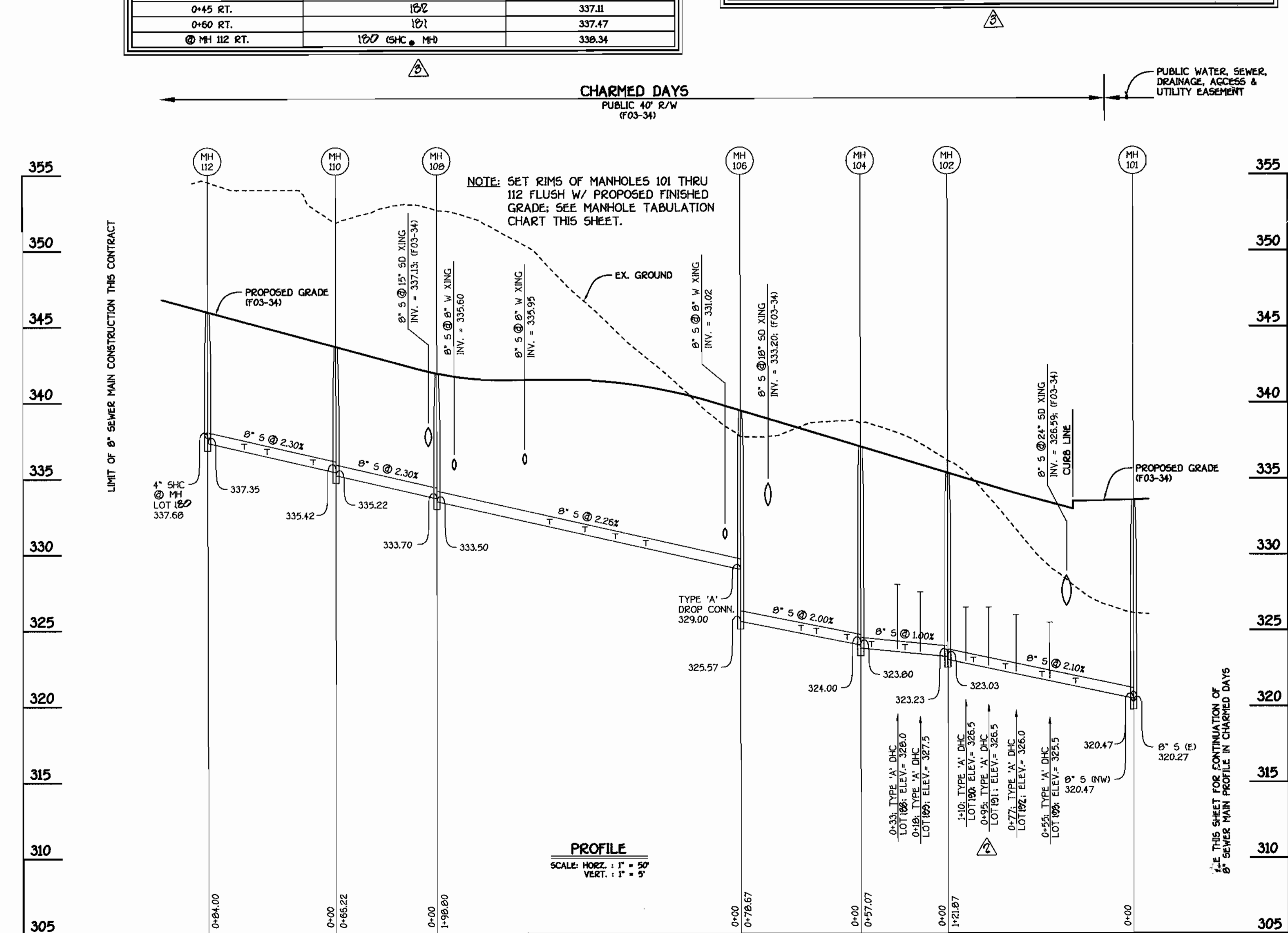
M.C.E. CHART	
LOT	M.C.E.
CHARMED DAYS	
205	328.54
206	327.73
207	327.18
208	326.56
209	326.04
210	324.00
211	332.24
212	333.30
213	330.87
214	332.02
215	332.39
216	332.97
217	333.94
ROAD 'B'	
211	319.80
212	319.34
213	319.42
214	319.34
215	319.42
216	320.84
ROAD 'C'	
224	343.25
225	343.89
226	344.20
227	344.91

SHC INVERT @ PROPERTY LINE CHART		
STATION	LOT	ELEVATION
MH 100 TO MH 101		
0+50 RT.	211	315.50
0+60 LT.	210 (DHC)	319.70
MH 101 TO MH 102		
0+38 LT.	209	321.64
0+55 RT.	193 (DHC)	326.14
0+60 LT.	208	322.16
0+77 RT.	192 (DHC)	326.56
0+84 LT.	207	322.78
0+95 RT.	191 (DHC)	327.06
1+05 LT.	206	323.33
1+10 RT.	190 (DHC)	327.06
MH 102 TO MH 104		
0+18 RT.	189 (DHC)	328.02
0+28 LT.	205	324.24
0+33 RT.	188 (DHC)	328.52
0+50 LT.	204	324.36
MH 104 TO MH 106		
0+09 LT.	203	324.77
0+29 LT.	202	325.17
0+39 LT.	201	325.37
MH 106 TO MH 108		
0+82 RT.	197	331.21
0+82 RT.	196	331.66
1+02 RT.	195	332.12
1+25 RT.	184	332.64
MH 110 TO MH 112		
0+15 RT.	183	336.56
0+45 RT.	182	337.11
0+60 RT.	181	337.47
0+ MH 112 RT.	180 (SHC @ MH)	338.34

SHC INVERT @ PROPERTY LINE CHART		
STATION	LOT	ELEVATION
MH 101 TO MH 103		
0+63 RT.	217 (DHC)	327.84
0+85 RT.	218 (DHC)	328.90
1+06 RT.	220	326.47
0+ MH 103 RT.	220 (SHC @ MH)	327.62
MH 103 TO MH 105		
0+16 RT.	221	327.99
0+36 RT.	222	328.57
0+ MH 105 RT.	222	329.34
MH 105 TO MH 107		
0+27 LT.	194	331.39
0+47 LT.	195	332.69
0+67 LT.	196	333.98
0+87 LT.	197	335.28
1+07 LT.	198	336.57
0+ MH 107 LT.	199	337.36
0+ MH 107 CT.	200	337.84
MH 107 TO MH 109		
0+63 RT.	204	338.95
0+83 RT.	205	339.59
0+93 RT.	206	339.90
0+ MH 109 RT.	207 (SHC @ MH)	340.61
EX. MH 5 TO EX. MH 6		
0+05 LT.	212 (DHC)	314.94
0+20 LT.	213 (DHC)	315.02
0+45 LT.	214 (DHC)	314.94
0+65 LT.	215 (DHC)	315.02
0+90 LT.	216 (DHC)	316.44



8" SEWER MAIN: CHARMED DAYS



8" SEWER MAIN: CHARMED DAYS

AS BUILT
DATE: JULY 8, 2003

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 12-4-02 CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING AND ZONING 12/20/02 CHIEF, DEVELOPMENT ENGINEERING DIVISION	FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS 1409 W. 11th St., Baltimore, MD 21204	DESIGNED BY: M.D.T. DRAWN BY: M.D.T. CHECKED BY: P.W.K. DATE: NOVEMBER, 2002	REVISIONS: 1. REVISE LOT NUMBERS IN CHARTS 2. REVISE LOT NUMBERS IN PROFILES 3. REVISE LOT NUMBERS OF PROJECT TITLE	SEWER MAINS PROFILES 600' SCALE MAP NO. 47 BLOCK NO. 8 F.C.C. WORK ORDER NO. 40368 FILE NAME: FINAL SEWER MAIN PROFILES SH1.4	EMERSON SECTION 2; PHASE 1B; PARCEL A-1 LOTS 180 THRU 227 & OPEN SPACE LOTS 228 & 229 CONTRACT NO. 24-4061-D SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 4 OF 4
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