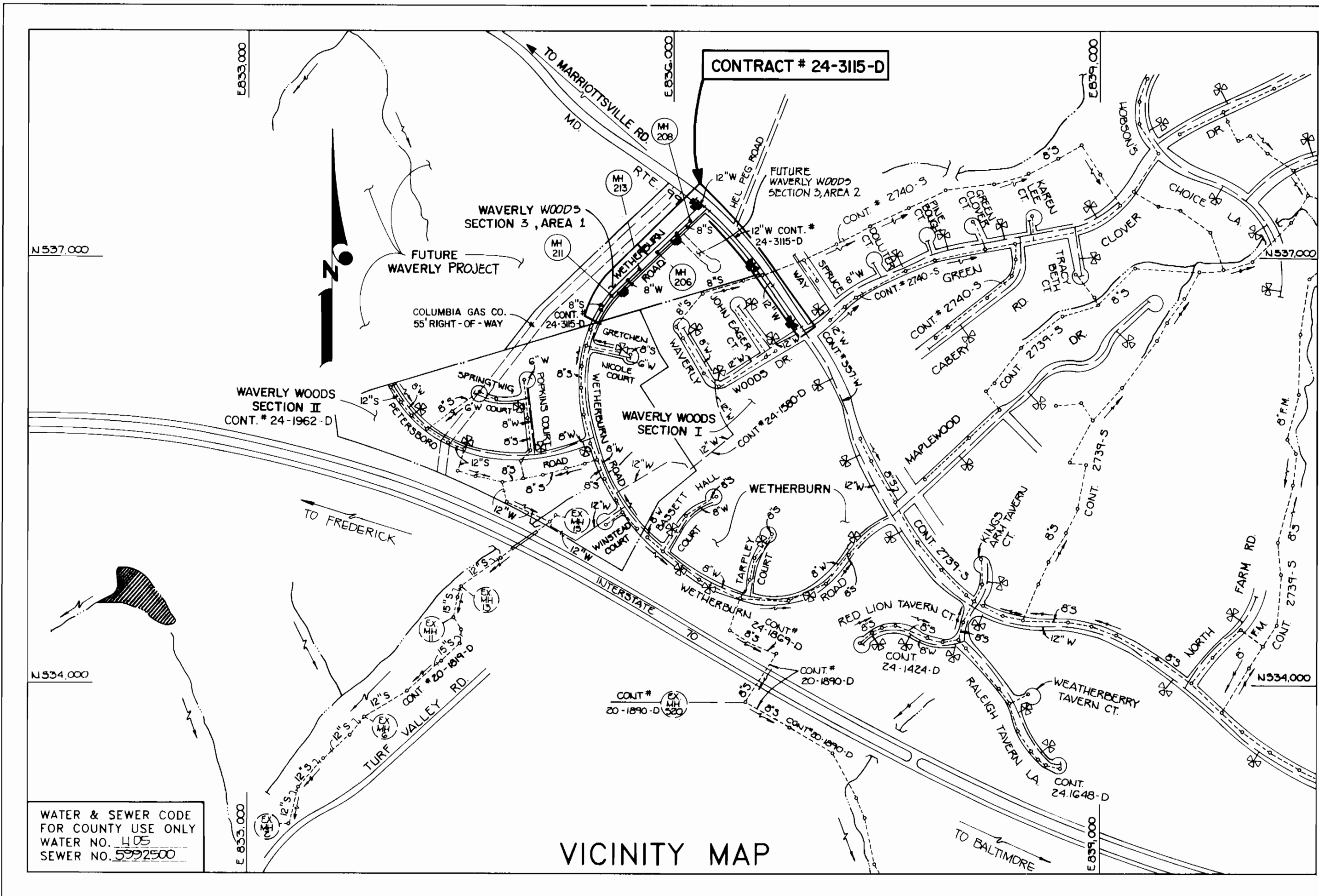


**GENERAL NOTES**

- 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 DAMAGED 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 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 (1989 AMENDMENTS) 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 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 ON THESE PLANS:  
 C. & P. TELEPHONE COMPANY - 1-800-257-7777  
 STATE HIGHWAY ADMINISTRATION - 531-5533  
 BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES - 850-4620  
 BALTIMORE GAS & ELECTRIC CO. - UNDER GROUND DAMAGE CONTROL - 859-9004  
 BALTIMORE GAS & ELECTRIC CO. - TROUBLE SHOOTING - 298-9001  
 MISS UTILITY - 1-800-559-0100  
 COLONIAL PIPELINE CO. - 795-1390  
 BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT 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 TREE, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- ALL SEWER MAINS SHALL BE C.S.P.X., R.C.S.P., V.C.P.X., OR P.V.C. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- T.B. DENOTES TEST BORING.
- 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 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 WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTINGS, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CAN NOT BE SERVED.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN SPECIFICATIONS.
- MANHOLES LOCATED WITHIN THE PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLES, FRAMES AND COVERS STANDARD DETAIL G.5.15
- THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
- WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED SO AS TO HAVE ONE (1) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.
- 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 ELEVATION 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 1002 OF THE STANDARD SPECIFICATIONS.
- CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH AWWA SPECIFICATIONS C-153; DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH 12-INCH FOR WATER AND OTHER LIQUIDS.

QUANTITIES			
ITEM	ESTIMATED	AS-BUILT	SUPPLIER
12" WATER	1,218 L.F.	1,040 L.F.	AAP SUPPLIES
8" WATER	1,182 L.F.	1,120 L.F.	"
6" WATER	68 L.F.	68 L.F.	"
1" WATER	263 L.F.	337 L.F.	HOWELL METALS
3/4" WATER	318 L.F.	330 L.F.	"
FIRE HYDRANTS	5 EACH	5 EA.	U.S. PIPE
8" VALVES	2 EACH	2 EA.	MUELLER
6" VALVES	5 EACH	5 EA.	"
8" SEWER	948 L.F.	890 L.F.	BEAR PD/Howard Co.
4" SEWER	442 L.F.	409 L.F.	"
MANHOLES	8 EACH	8 EA.	B&E UTILITY
12"x8" TEES	1 EACH	1 EA.	GRIFFIN PIPE BRODS.
8"x6" TEES	2 EACH	2 EA.	"
8"x8" TEES	1 EACH	1 EA.	"
12"x6" TEES	3 EACH	3 EA.	"
1 1/2" WATER	121 L.F.	105 L.F.	HOWELL METALS



TYPE OF BUILDING: SINGLE FAMILY RESIDENTIAL  
 NUMBER OF LOTS: 11, BALDARE-19  
 NO. OF WATER HOUSE CONNECTIONS: 27  
 NO. OF SEWER HOUSE CONNECTIONS: 17  
 DRAINAGE AREA: LITTLE PATUXENT

TREATMENT PLANT: PATAPSCO WASTEWATER TREATMENT PLANT VIA THE ROUTE 108 PUMPING STATION.


# CONTRACT NO. 24-3115-D WAVERLY WOODS: LOTS 152 THRU 162 SECTION 3 AREA 1 WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

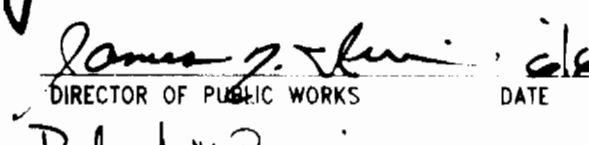
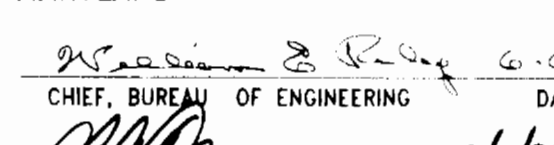

THE WATER & SEWER HOUSE CONNECTIONS PROPOSED ON WETHERBURN ROAD WITHIN THE LIMIT OF THE SUBDIVISION ARE FOR FUTURE LOTS.

PLAN REFERENCE NUMBERS:  
 F-94-125  
 WETHERBURN ROAD: FROM LIMITS OF WAVERLY WOODS, SECTION II TO MARYLAND ROUTE 99 ONLY.


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

APPROVED:  5/30/91  
 HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AND ALSO AS SHOWN ON THE GRADING AND SEDIMENT CONTROL PLAN F-90-126 AND REVISIONS FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
 5/30/91  
 HOWARD SOIL CONSERVATION SERVICE DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 5-23-91  
 DIRECTOR OF PUBLIC WORKS DATE  
 6/5/91  
 CHIEF, BUREAU OF ENGINEERING DATE  
 6/5/91  
 CHIEF, LAND DEVELOPMENT DIVISION DATE

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 SUITE 100, 9171 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21043  
 (301) 461-2855

#9757  
  
 TERRELL A. FISHER

DES: MJM  
 DRWN: DLH  
 CHK: PWK  
 DATE: 3/15/91

REVISIONS:  
 SFH  
 BY NO. REVISION DATE

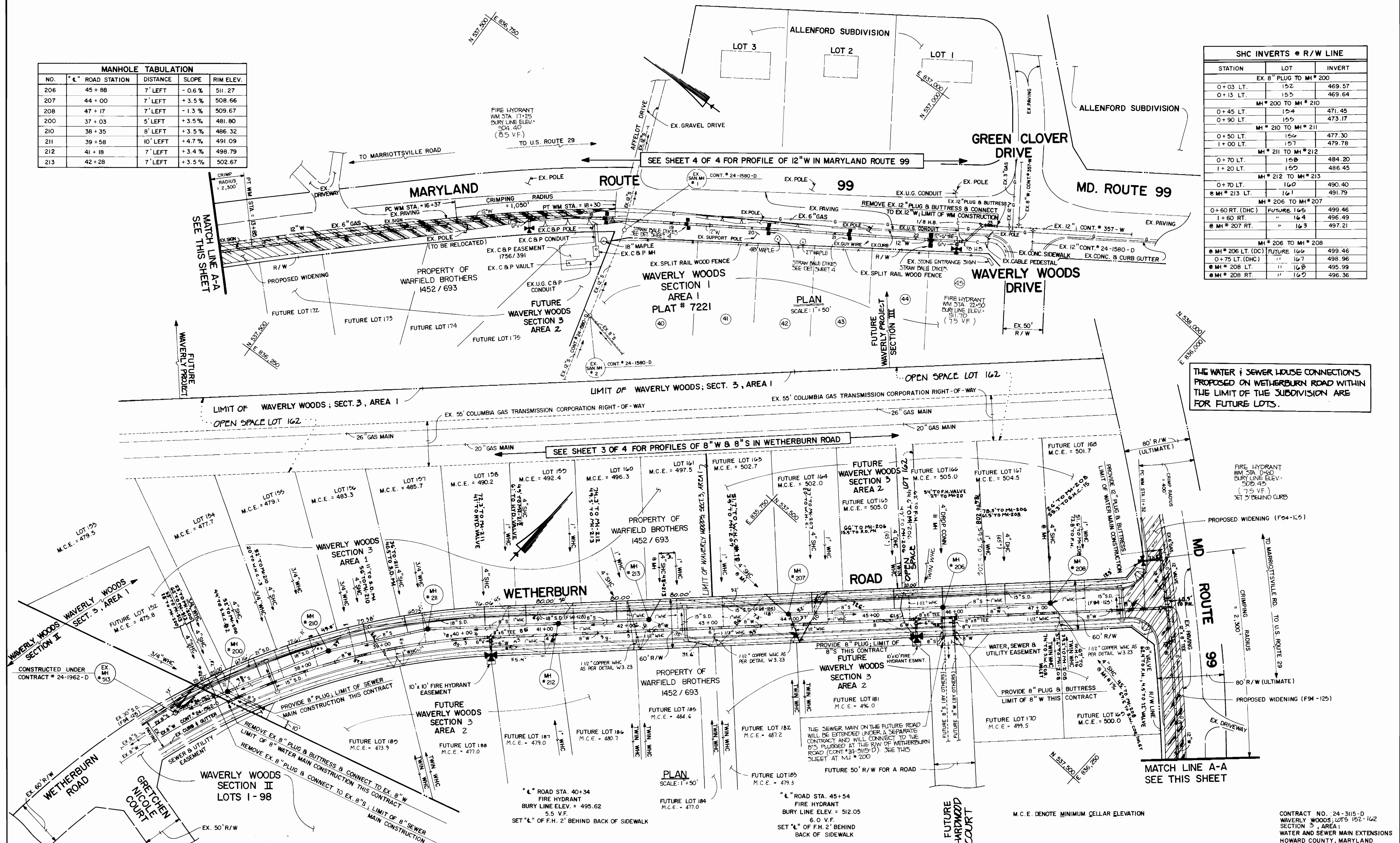
TITLE SHEET  
 WAVERLY WOODS; LOTS 152 THRU 162  
 SECTION 3 AREA 1  
 CONTRACT NO. 24-3115-D  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 SCALE AS SHOWN  
 SHEET 1 OF 4

CONTRACT NO. 24-3115-D  
 WAVERLY WOODS; LOTS 152-162  
 SECTION 3 AREA 1  
 WATER AND SEWER EXTENSIONS  
 HOWARD COUNTY, MARYLAND



MANHOLE TABULATION				
NO.	"L" ROAD STATION	DISTANCE	SLOPE	RIM ELEV.
206	45+88	7' LEFT	-0.6%	511.27
207	44+00	7' LEFT	+3.5%	508.66
208	47+17	7' LEFT	-1.3%	509.67
200	37+03	5' LEFT	+3.5%	481.80
210	38+35	8' LEFT	+3.5%	486.32
211	39+58	10' LEFT	+4.7%	491.09
212	41+18	7' LEFT	+3.4%	498.79
213	42+28	7' LEFT	+3.5%	502.67

SHC INVERTS @ R/W LINE			
STATION	LOT	INVERT	
EX. 8" PLUG TO MH # 200			
0+03 LT.	152	469.57	
0+13 LT.	153	469.64	
MH # 200 TO MH # 210			
0+45 LT.	154	471.45	
0+90 LT.	155	473.17	
MH # 210 TO MH # 211			
0+50 LT.	156	477.30	
1+00 LT.	157	479.78	
MH # 211 TO MH # 212			
0+70 LT.	158	484.20	
1+20 LT.	159	486.45	
MH # 212 TO MH # 213			
0+70 LT.	160	490.40	
1+20 LT.	161	491.79	
MH # 206 TO MH # 207			
0+60 RT. (DHC)	FUTURE 165	499.46	
1+60 RT.	"	164	498.96
1+20 RT.	"	163	497.21
MH # 206 TO MH # 208			
0+20 RT. (D.C.)	FUTURE 166	499.46	
0+75 LT. (DHC)	"	167	498.96
1+20 LT.	"	168	495.99
1+20 RT.	"	169	496.36



THE WATER & SEWER HOUSE CONNECTIONS PROPOSED ON WETHERBURN ROAD WITHIN THE LIMIT OF THE SUBDIVISION ARE FOR FUTURE LOTS.

FIRE HYDRANT WM STA. DSGC BURY LINE ELEV. 508.45 (7.5 V.F.) SET 3' BEHIND CURB

CONTRACT NO. 24-3115-D WAVERLY WOODS, LOTS 152-162 SECTION 3, AREA 1 WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* DATE: 5/23/91  
Chief, Bureau of Engineering: *[Signature]* DATE: 6/5/91  
Chief, Bureau of Utilities: *[Signature]* DATE: 5/23/91  
Chief, Land Development Division: *[Signature]* DATE: 6/5/91

FISHER, COLLINS, AND CARTER, INC.  
CONSULTING ENGINEERS AND LAND SURVEYORS  
8388 COURT AVENUE  
ELLCOTT CITY, MARYLAND 21043

TERRELL A. FISHER DATE: 5/15/91

DES:	MJM				
DRN:	SFH				
CHK:	PWK	SFH	2	REVISE DHC TO 45" DHC ON FUTURE LOTS 13 & 15.	7/25/91
DATE:	5/15/91	SFH	1	REVISE WATER HOUSE CONNECTIONS	5/22/91
BY:	NO.			REVISION	

WATER & SEWER MAINS  
PLAN

600' SCALE MAP NO. 16 & 17 BLOCK NO.

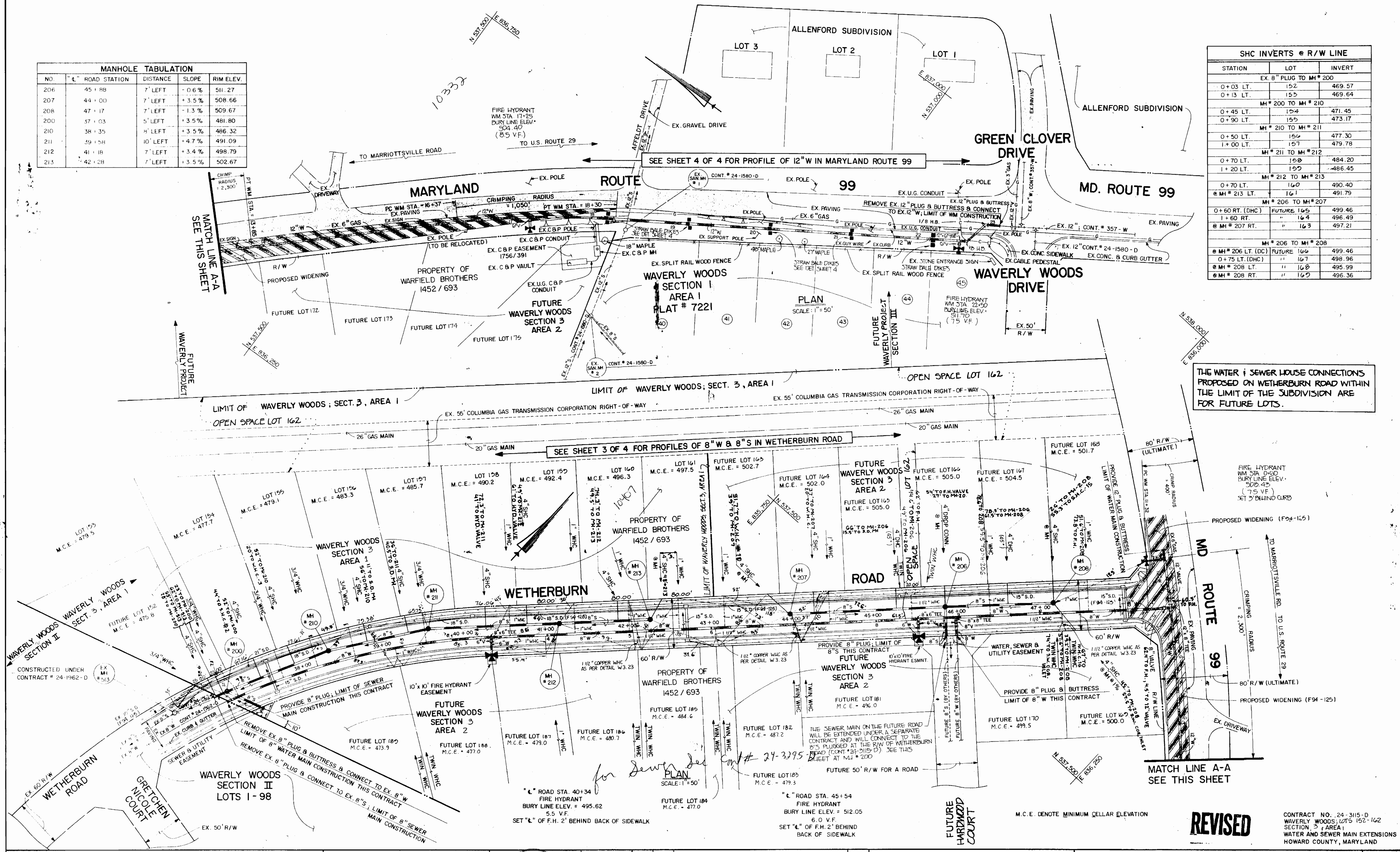
WAVERLY WOODS, LOTS 152 THRU 162  
SECTION 3 AREA 1  
CONTRACT NO. 24-3115-D  
3<sup>RD</sup> ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 2 OF 4



MANHOLE TABULATION				
NO.	"L" ROAD STATION	DISTANCE	SLOPE	RIM ELEV.
206	45+88	7' LEFT	-0.6%	511.27
207	44+00	7' LEFT	+3.5%	508.66
208	47+17	7' LEFT	-1.3%	509.67
200	57+03	5' LEFT	+3.5%	481.80
210	38+35	4' LEFT	+3.5%	486.32
211	39+54	10' LEFT	+4.7%	491.09
212	41+18	7' LEFT	+3.4%	498.79
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SHC INVERTS @ R/W LINE		
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EX. 8" PLUG TO MH # 200		
0+03 LT.	152	469.57
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MH # 210 TO MH # 211		
0+50 LT.	156	477.30
1+00 LT.	157	479.78
MH # 211 TO MH # 212		
0+70 LT.	158	484.20
1+20 LT.	159	486.45
MH # 212 TO MH # 213		
0+70 LT.	160	490.40
@ MH # 213 LT.	161	491.79
MH # 206 TO MH # 207		
0+60 RT. (DHC)	FUTURE 165	499.46
1+60 RT.	" 164	496.49
@ MH # 207 RT.	" 163	497.21
MH # 206 TO MH # 208		
@ MH # 206 LT. (DC)	FUTURE 166	499.46
0+75 LT. (DHC)	" 167	498.96
@ MH # 208 LT.	" 168	495.99
@ MH # 208 RT.	" 169	496.36



THE WATER & SEWER HOUSE CONNECTIONS PROPOSED ON WETHERBURN ROAD WITHIN THE LIMIT OF THE SUBDIVISION ARE FOR FUTURE LOTS.

**REVISED**

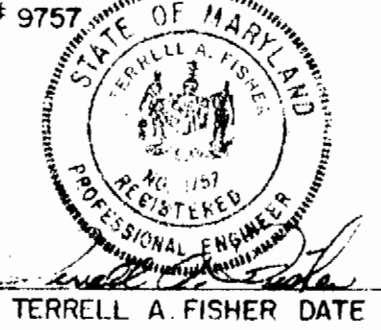
CONTRACT NO. 24-3115-D  
 WAVERLY WOODS; LOTS 152-162  
 SECTION 3, AREA 1  
 WATER AND SEWER MAIN EXTENSIONS  
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS: [Signature] DATE: 5/23/91  
 CHIEF, BUREAU OF UTILITIES

CHIEF, BUREAU OF ENGINEERING: [Signature] DATE: [Signature]  
 CHIEF, LAND DEVELOPMENT DIVISION: [Signature] DATE: [Signature]

FISHER, COLLINS, AND CARTER, INC.  
 CONSULTING ENGINEERS AND LAND SURVEYORS  
 8388 COURT AVENUE  
 ELLICOTT CITY, MARYLAND 21043



DES: MJM					
DRN: SPH					
CHK: PWK					
DATE: 8/5/91					
BY NO.					
REVISION					
DATE					

WATER & SEWER MAINS  
 PLAN

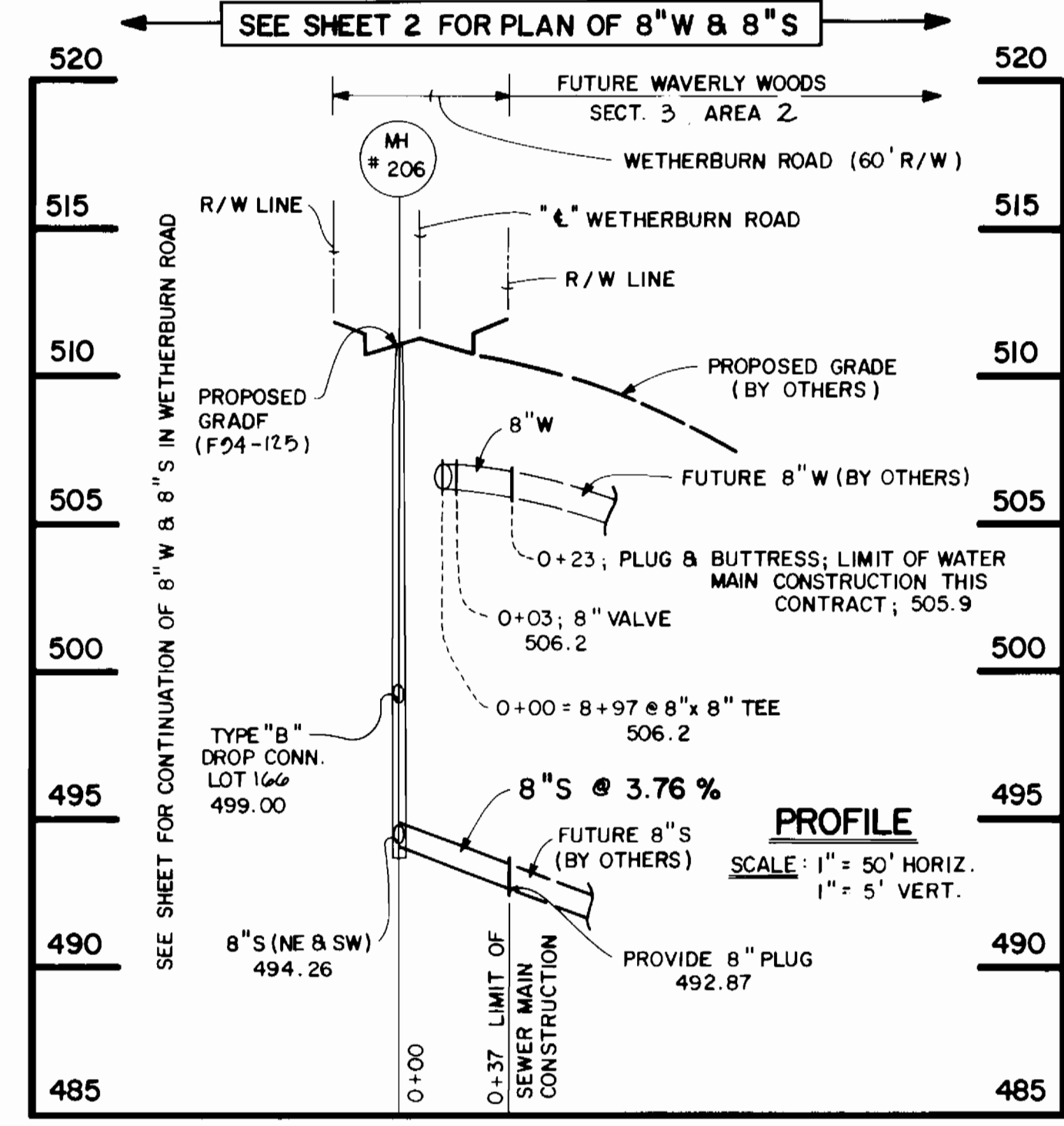
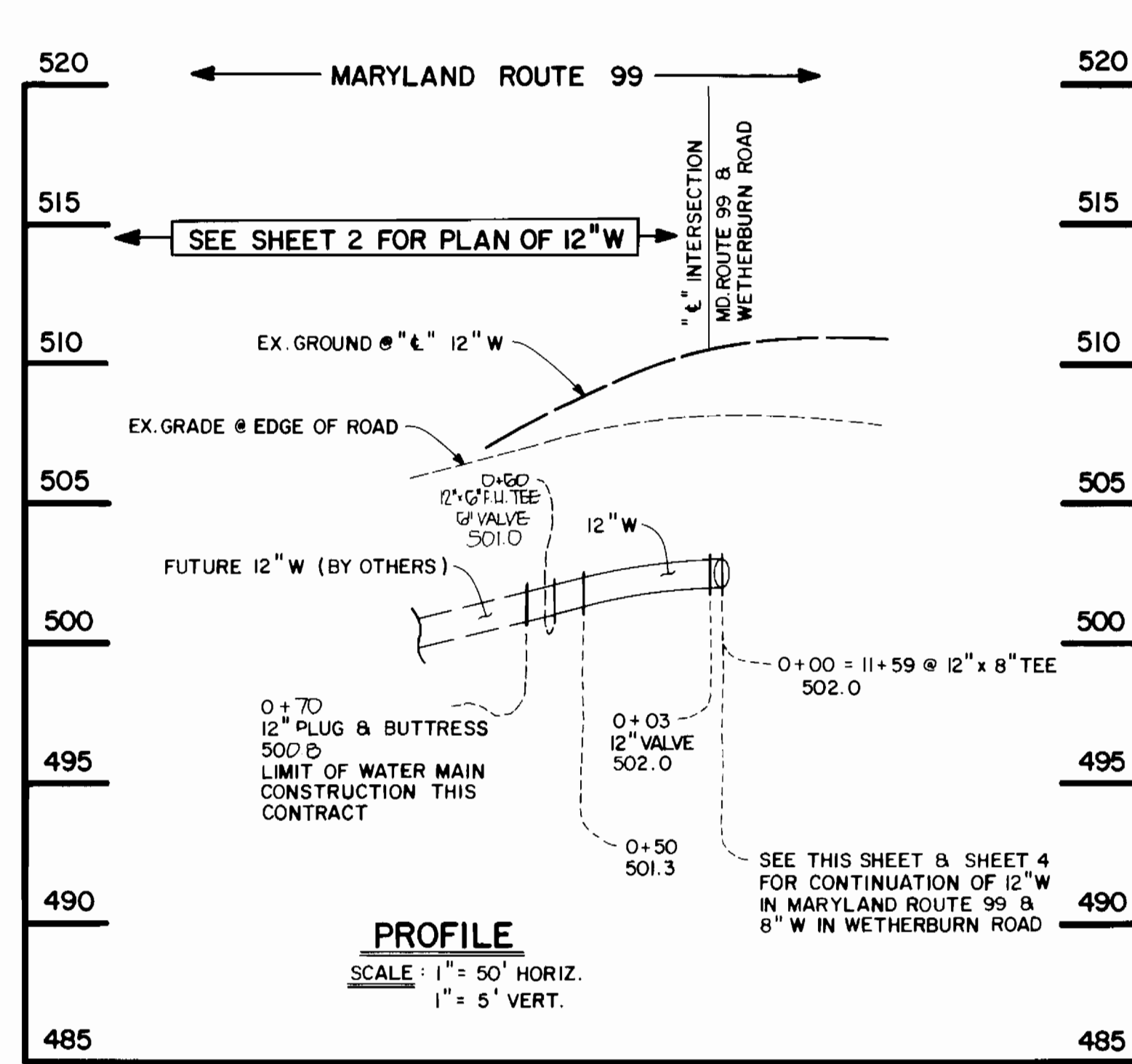
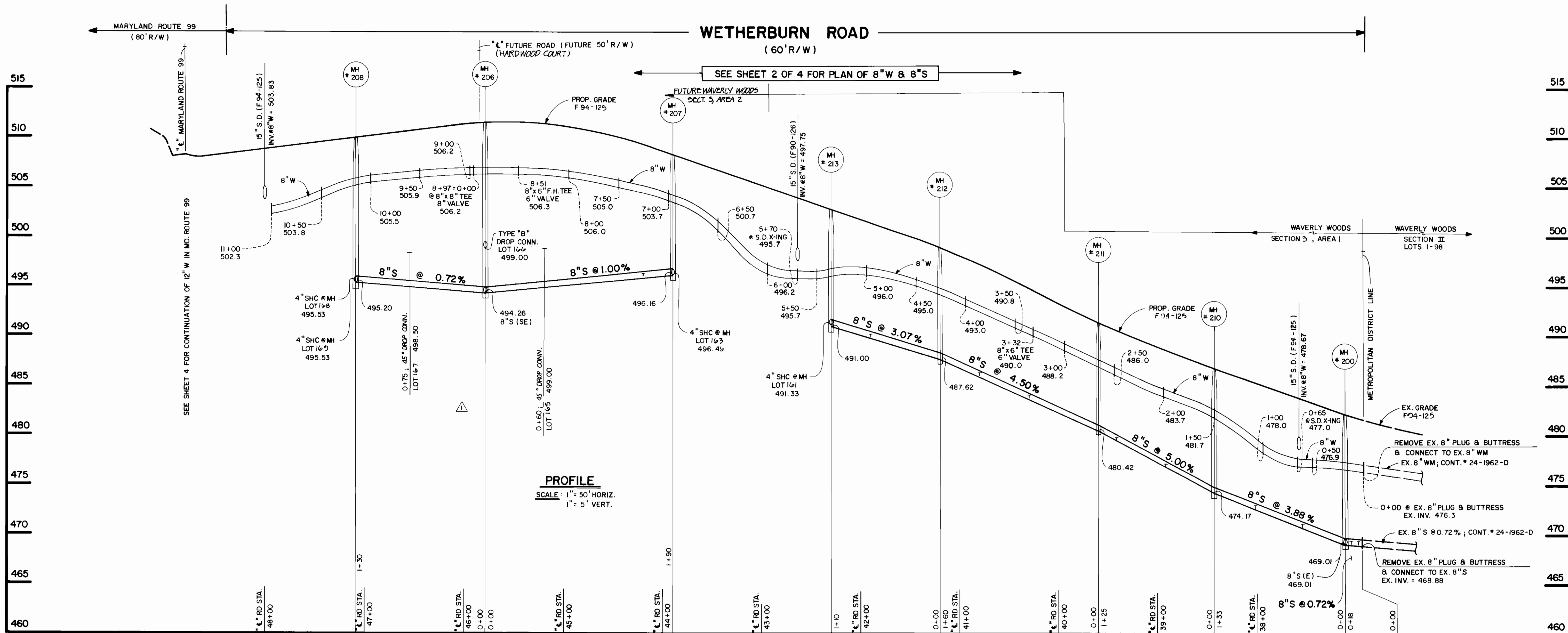
600' SCALE MAP NO. 16 & 17 BLOCK NO.

WAVERLY WOODS; LOTS 152 THRU 162  
 SECTION 3, AREA 1  
 CONTRACT NO. 24-3115-D  
 3RD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET 2 OF 4

AS-BUILT 4-7-92





CONTRACT NO. 24-3115-D  
WAVERLY WOODS; LOTS 152-162  
SECTION 3, AREA 1  
WATER AND SEWER MAIN EXTENSIONS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *Robert B. ...* DATE: 6/6/91  
Chief, Bureau of Engineering: *...* DATE: 6/6/91  
Chief, Bureau of Utilities: *...* DATE: 5-23-91  
Chief, Land Development Division: *...* DATE: 6/5/91

FISHER, COLLINS, AND CARTER, INC. \*9757  
CONSULTING ENGINEERS AND LAND SURVEYORS  
9171 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21043  
(301) 461-2855

TERRELL A. FISHER DATE: 3/15/91

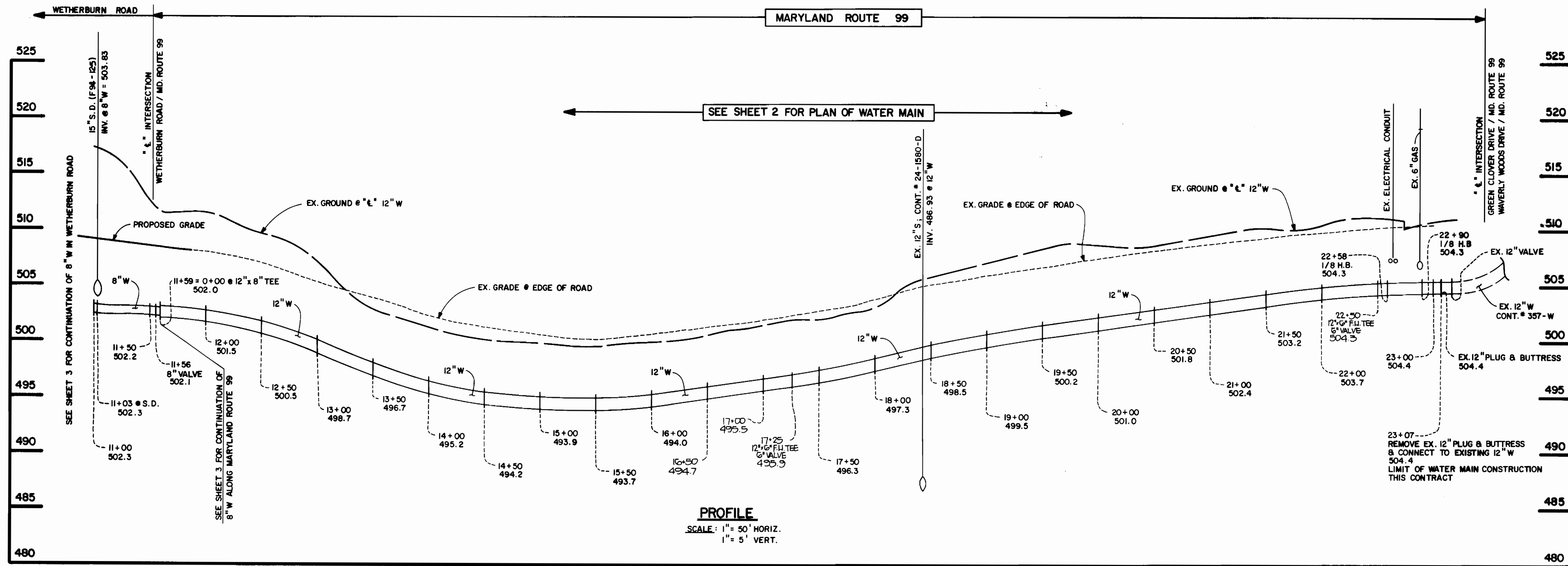
DES: MJM					
DRN: SFH					
CHK: PWK					
DATE: 3/15/91	S.F.H. Δ	REVISE DMC TO 45° DMC ON FUTURE LOTS 13 & 15.	7/25/91		
BY NO.		REVISION	DATE		

WATER & SEWER MAINS  
PROFILES

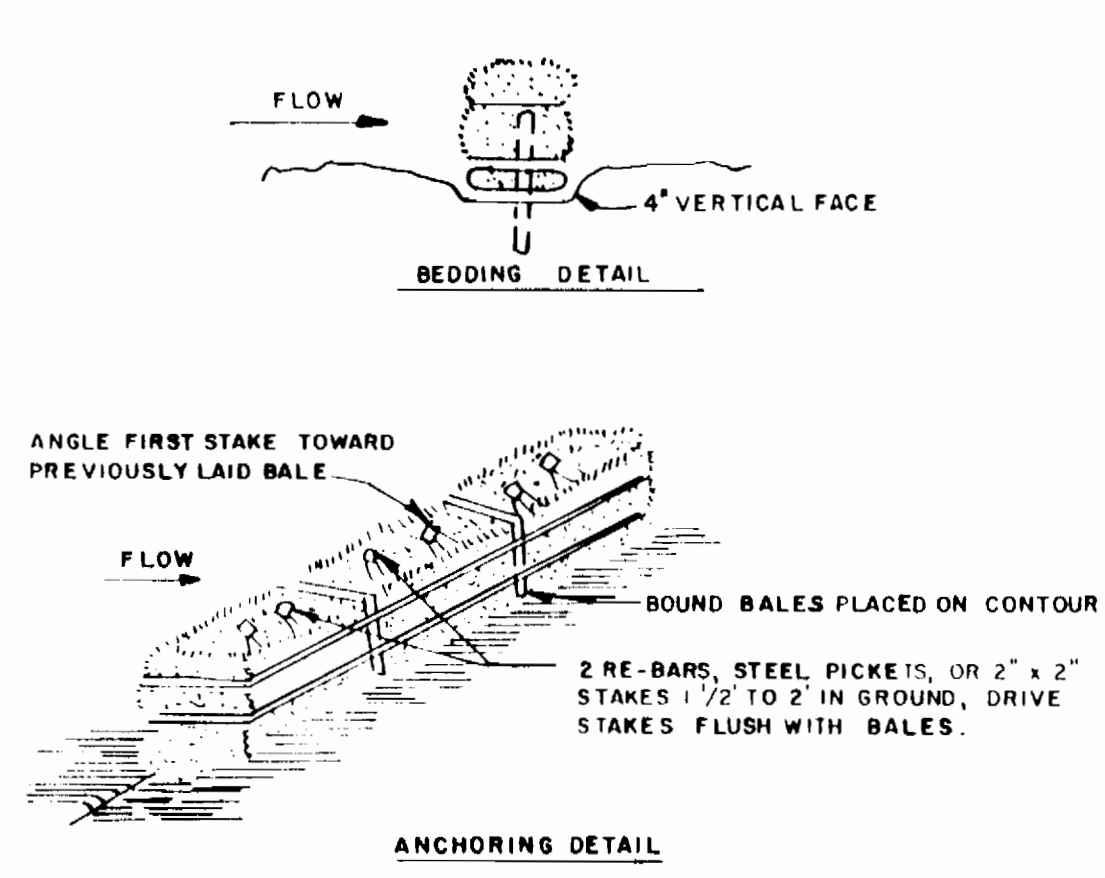
600' SCALE MAP NO. 16 & 17 BLOCK NO.

WAVERLY WOODS; LOTS 152 THRU 162  
SECTION 3 AREA 1  
CONTRACT NO. 24-3115-D  
3<sup>RD</sup> ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 3 OF 4



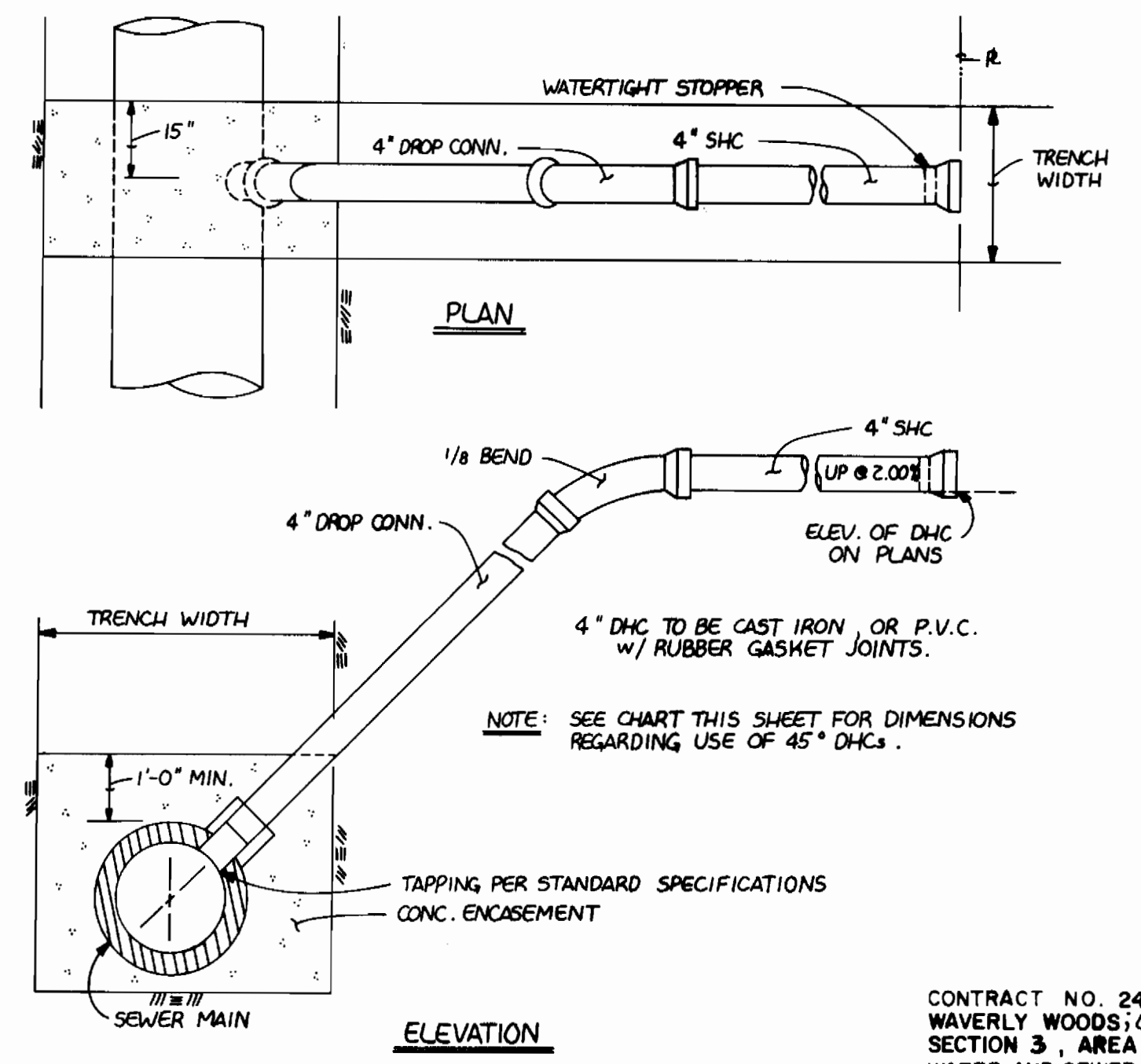
**PROFILE**  
SCALE: 1" = 50' HORIZ.  
1" = 5' VERT.



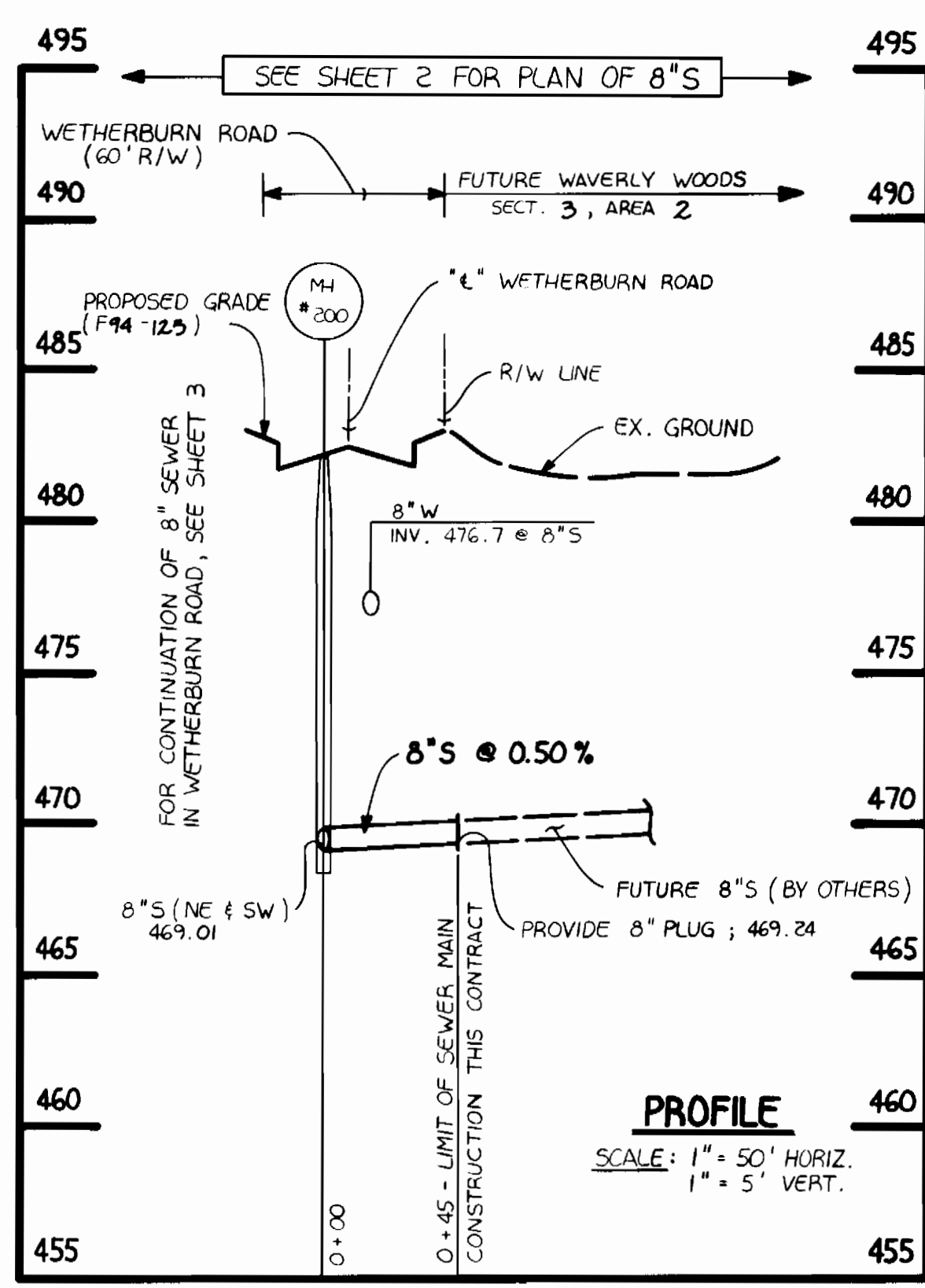
**STRAW BALE DIKE**

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4 INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

4 INCH - 45° DROP HOUSE CONNECTION CHART				
LOT NO.	INV. @ 8" SEWER	INV. @ 1/8 BEND	DISTANCE @ 0.8% TO 1/8 BEND	DISTANCE @ 2% 1/8 BEND TO R.L.
13	494.86	499.00	4.14	20.86
15	494.80	498.50	3.70	21.30



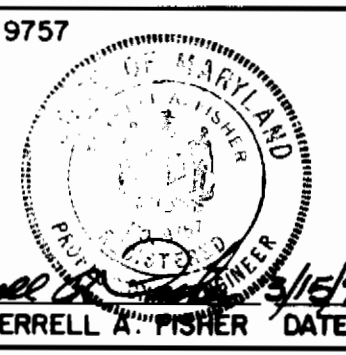
**4 INCH - 45° DROP HOUSE CONNECTION**



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

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
Director of Public Works: *James J. ...* DATE: 5-23-91  
Chief, Bureau of Utilities: *...* DATE: 5/23/91

FISHER, COLLINS, AND CARTER, INC. # 9757  
CONSULTING ENGINEERS AND LAND SURVEYORS  
9171 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21043  
Chief, Land Development Division: *...* DATE: 5/17/91



DES: MJM	DATE: 3/19/91	3.F.H. BY NO.	ADD DETAIL & CHART	DATE: 7/25/91
DRN: SFH				
CHK: PWK				
DATE: 3/19/91				

**WATER & SEWER MAINS PROFILES**  
600' SCALE MAP NO. 16 & 17 BLOCK NO.

**WAWERLY WOODS; LOTS 152 THRU 162**  
**SECTION 3, AREA 1**  
CONTRACT NO. 24-3115-D  
3<sup>RD</sup> ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 4 OF 4