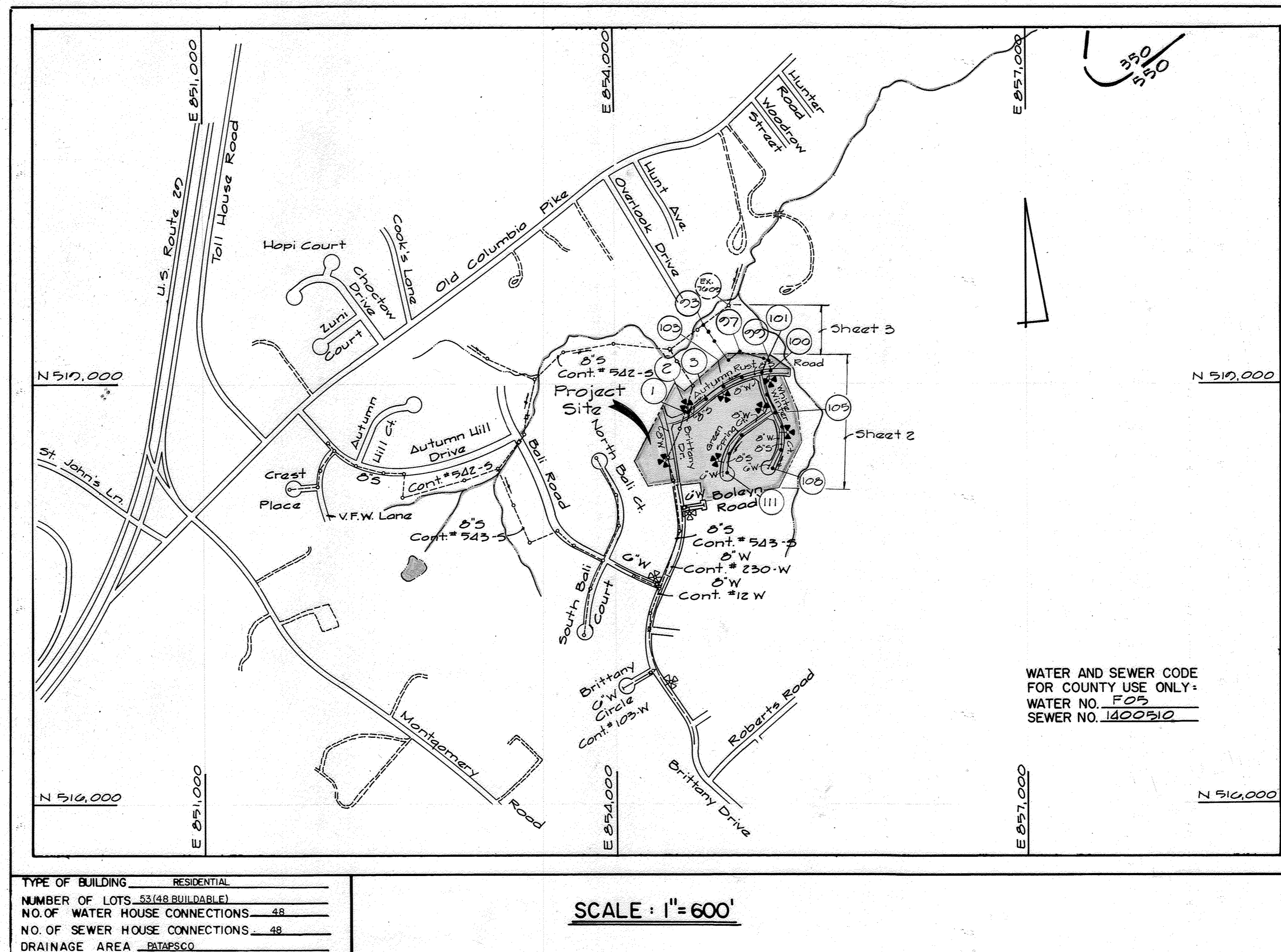


Item	Quantities		Supplier
	Estimated	As-Built	
8" Water	2021 L.F.	2653 L.F.	GRIFFIN PIPE
6" Water	347 L.F.	396 L.F.	"
Fire Hydrant	7 Each	7 EA.	U.S. PIPE & FOUNDRY
8" Valves	8 Each	9 EA.	"
8" Sewer	2370 L.F.	2378 L.F.	J.M. CORPORATION
6" Sewer (D.I.P.)	320 L.F.	396 L.F.	GRIFFIN PIPE
Manholes	22 Each	23 EA.	ATLANTIC PRECAST
1" W.H.C.	300 L.F.	360 L.F.	HOWELL METALS
3/4" W.H.C.	780 L.F.	780 L.F.	"
1 1/2" Drain	3 Each	3 EA.	"
6" Sewer	1440 L.F.	1113 L.F.	J.M. CORPORATION
3/4" GLOBBALL VALVE		48 EA.	AY McDONALD
CURB BOX		48 EA.	AMETEK/PLYMOUTH
12" METE FRAME & COVER		3 EA.	FORD METER BOX

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. 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 UTILITIES 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 THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 AT&T COMPANY: 922-2196
 BALTIMORE GAS & ELECTRIC COMPANY-CONTRACTOR SERVICES: 561-2585
 BALTIMORE GAS & ELECTRIC COMPANY-UNDER GROUND DAMAGE CONTROL: 234-5621
 BALTIMORE GAS & ELECTRIC COMPANY-TROUBLE SHOOTING: 298-9013
 COLONIAL PIPELINE COMPANY: 795-1390
 "MISS UTILITY": 1-559-0100
 CHESAPEAKE & POTOMAC TELEPHONE COMPANY: 725-9976
 BUREAU OF UTILITIES-HOWARD COUNTY: 992-2366
- TREES ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES LOCATED WITHIN THE CONSTRUCTION SITE ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION AS DIRECTED BY THE ENGINEER. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS.
- ALL SEWER MAINS SHALL BE C.S.P.X., R.C.S.P., P.V.C., V.C.P.X. OR A C.P. CLASS 2400 UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALLS.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER, UNLESS OTHERWISE NOTED.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE BRICK MANHOLES ONLY.
- ALL WATER MAINS TO BE D.I.P. UNLESS OTHERWISE NOTED.
- TOP OF WATER MAINS TO HAVE A MINIMUM OF 3'-6" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- BURY LINE ELEVATIONS ON FIRE HYDRANTS SHALL BE SET TO THE 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 TO BE COMPACTED IN ACCORDANCE WITH SECTION 1003 AND 1008 OF THE STANDARD SPECIFICATIONS.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR AN INSDMETER SETTING.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING SYSTEM.
- 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 LOCATED WITHIN PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAME AND COVER, STANDARD DETAIL 05-51.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS. STANDARD DETAIL 05-52. WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- FOR ALL COPPER WATER HOUSE CONNECTIONS, UTILIZE FLARED TYPED FITTINGS ONLY. 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 [] 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.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.



CONTRACT NO. 14-1324-D
AUTUMN MANOR- SECT. 1 AREA 1
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

(EP 85-20)
 SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 15 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 F85-124.

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEET'S TECHNICAL REQUIREMENTS.

James M. Helm 8/1/85
 US SOIL CONSERVATION SERVICE DATE

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

APPROVED:
Stephen L. Helm 8/1/85
 HOWARD SOIL CONSERVATION DISTRICT DATE

CONTRACT NO. 14-1324-D
 AUTUMN MANOR SECT. 1 AREA 1
 WATER AND SEWER EXTENSION
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>R. M. Berger</i> 8-7-85 DIRECTOR OF PUBLIC WORKS DATE <i>Robert Wood</i> 8/6/85 CHIEF, BUREAU OF UTILITIES DATE	FISHER, COLLINS, AND CARTER, INC. CONSULTING ENGINEERS AND LAND SURVEYORS 8388 COURT AVENUE ELLICOTT CITY, MARYLAND 21043 TERRELL A. FISHER DATE	DES. D.E.V. DRN. D.E.V. CHK. T.A.F. DATE: 4/8/85	TITLE SHEET	AUTUMN MANOR-SECT. 1 AREA 1 WATER AND SEWER MAIN EXTENSION CONTRACT NO. 14-1324-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 1 OF 5
		BY NO. REVISION DATE	600' SCALE MAP NO. 25 BLOCK NO.	AS-BUILT 7-3-86 PRELIMINARY 4/8/85	

Property of
RALPH SCOTT HEBBERT
T.M.# 24 P# 651
Note: Set top of 12" Meter Frame
and Cover at existing ground.

Property of
SAL CASCIARO & WIFE
T.M.# 25 P# 220

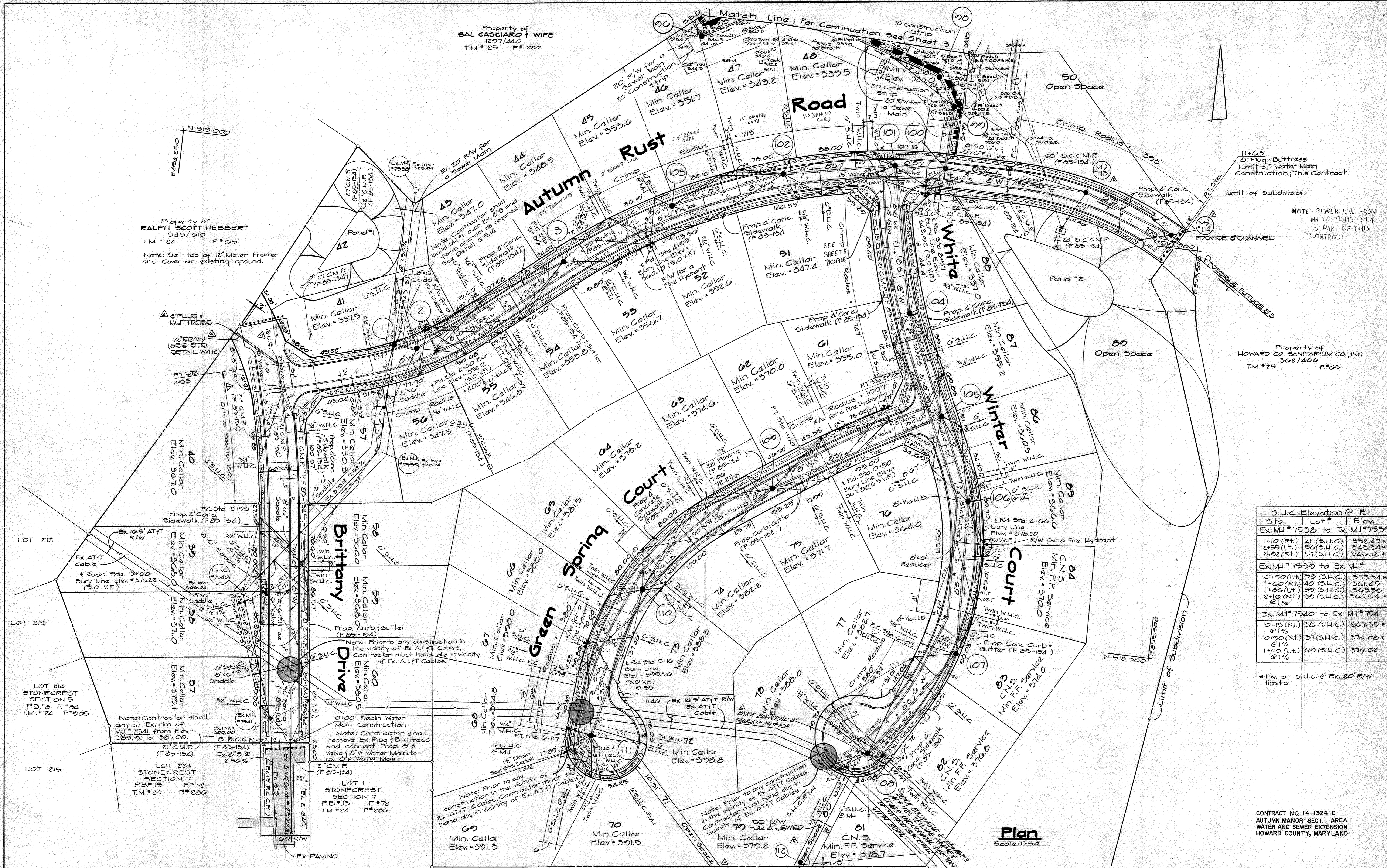
NOTE: SEWER LINE FROM
M# 100 TO 113 & 114
IS PART OF THIS
CONTRACT

Property of
HOWARD CO. SANITARIUM CO., INC.
T.M.# 25 302/400 P# 65

S.H.C. Elevation @ R/W		
Sta.	Lot#	Elev.
Ex. M# 7538 to Ex. M# 7539		
+10 (RT.)	41 (S.H.C.)	332.47*
+55 (LT.)	56 (S.H.C.)	343.34*
+202 (RT.)	57 (S.H.C.)	346.12*
Ex. M# 7539 to Ex. M# 7541		
+200 (LT.)	58 (S.H.C.)	353.54*
+100 (RT.)	40 (S.H.C.)	361.45
+100 (LT.)	59 (S.H.C.)	363.38
+210 (RT.)	39 (S.H.C.)	364.54*
Ex. M# 7540 to Ex. M# 7541		
+0+15 (RT.)	38 (S.H.C.)	367.35*
+0+90 (RT.)	37 (S.H.C.)	374.08*
+1+00 (LT.)	60 (S.H.C.)	374.02

* Inv. of S.H.C. @ Ex. 20' R/W limits

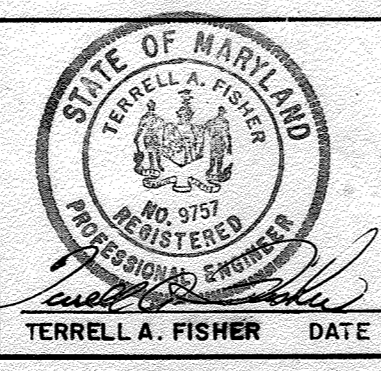
CONTRACT NO. 14-1324-D
AUTUMN MANOR-SECT. I AREA I
WATER AND SEWER EXTENSION
HOWARD COUNTY, MARYLAND



Plan
Scale: 1"=50'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert W. Wood, Director of Public Works
Robert W. Wood, Chief, Bureau of Utilities

FISHER COLLINS, AND CARTER, INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
8388 COURT AVENUE
ELLICOTT CITY, MARYLAND 21043
Terrell A. Fisher, Chief, Land Development Division

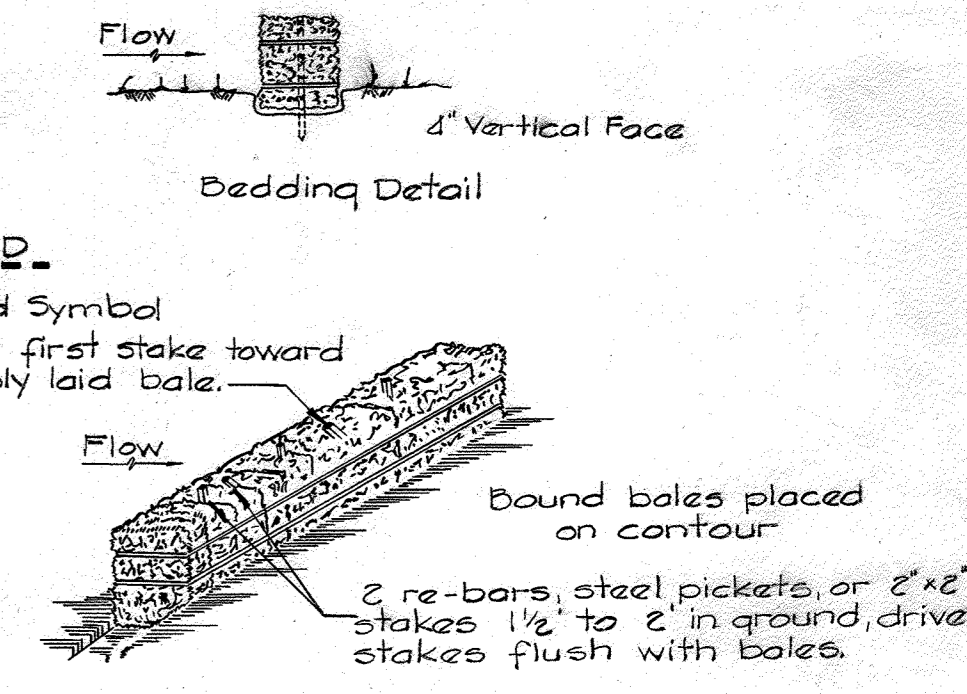


DES-DEV.	D.A.N.	DATE
DRN-DEV.		8-19-86
CHK-T.A.F.		8-19-86
DATE: 4/8/85	BY NO.	DATE

PLAN
WATER AND SEWER MAIN
600' SCALE MAP NO. 25 BLOCK NO.

AUTUMN MANOR-SECT. I AREA I
WATER AND SEWER MAIN EXTENSION
CONTRACT NO. 14-1324-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 2 OF 5
AS-BUILT 7-3-86
PRELIMINARY 4/8/85

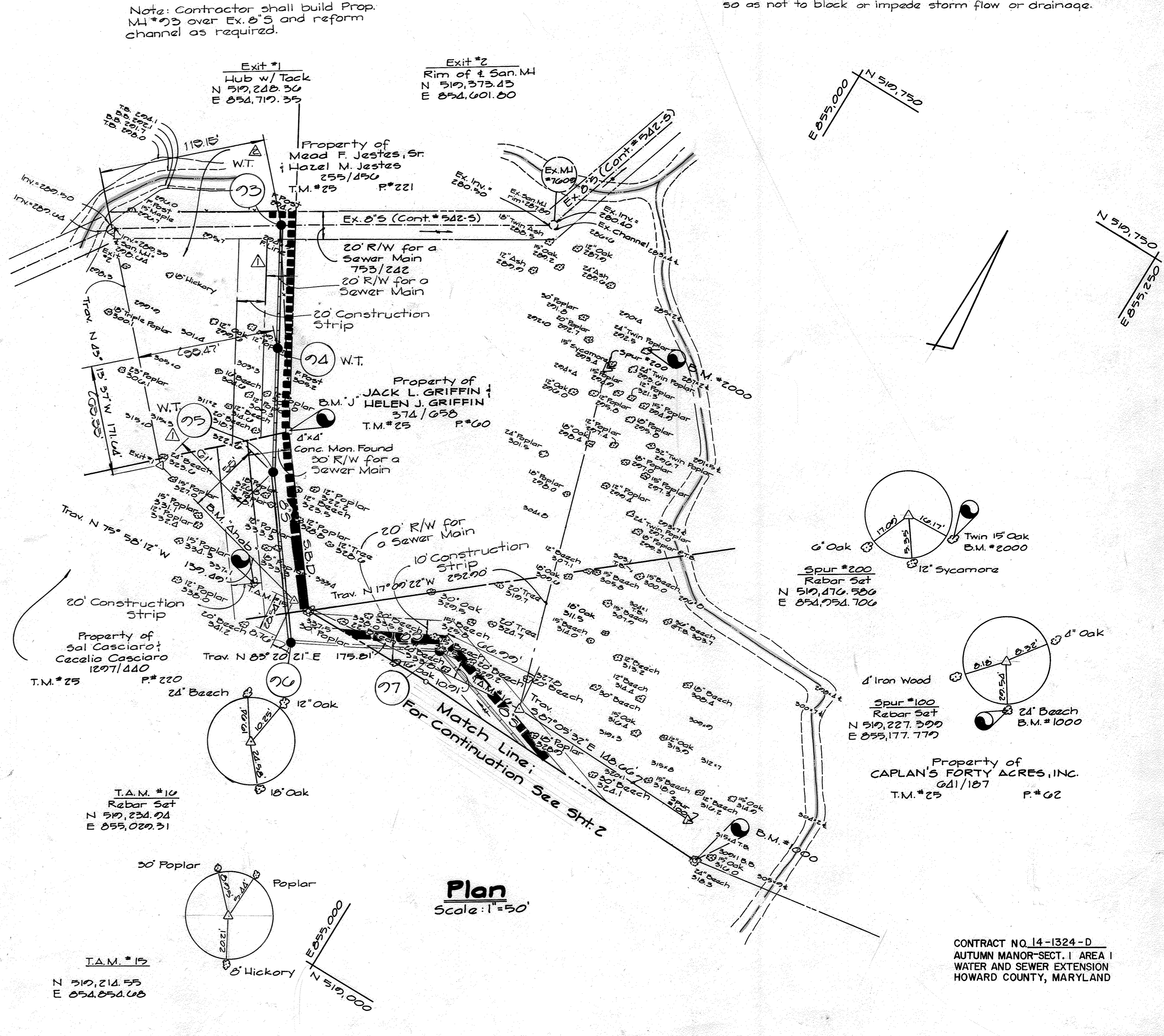
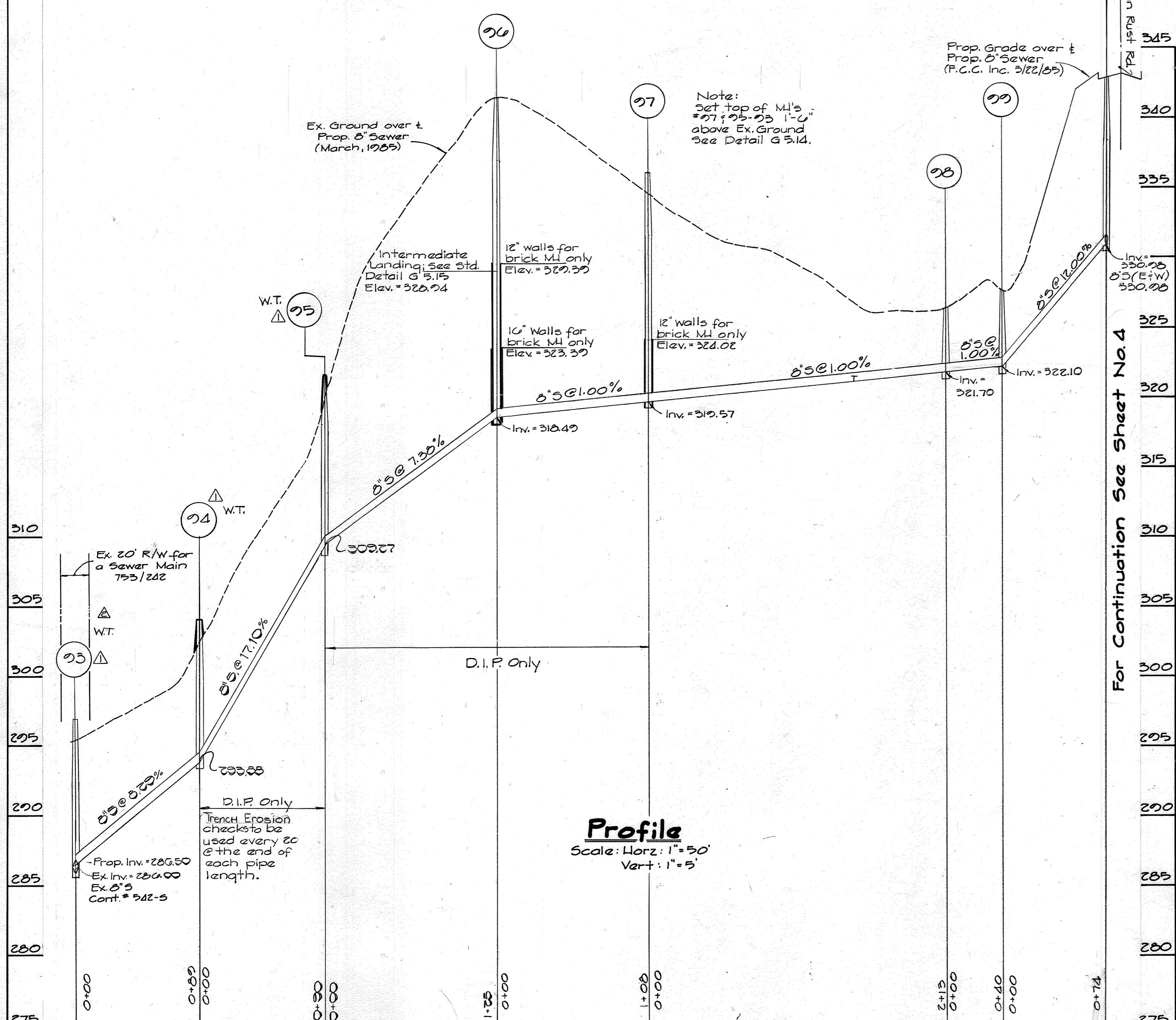
Benchmarks
 B.M. #2000 Elev. = 323.85
 P.K. nail set in root of 2d' Poplar 10' N.E. of Spur #200
 B.M. #1000 Elev. = 318.75
 P.K. nail set in root of 2d' Beach 20.5' East of Spur #100
 B.M. "J" Elev. = 314.92
 4" x 4" Concrete Monument w/ pin @ center.
 B.M. "Ahab" Elev. = 337.68
 Twin P.K. Cluster @ root base of 10" Red Oak.



- Construction Specifications**
- 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' and placed so the bindings are horizontal.
 - 3) Bales shall be securely anchored in place by either 2 stakes or re-bars driven through the bales. 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 or 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.

Autumn Rust Road

Property of Mead F. Jastes, Sr; Hazel M. Jastes 255/450 T.M.#25 P.#221	Property of Sal Casciaro; Cecelia Casciaro 1207/440 T.M.#25 P.#220	46	47	Property of Caplan's Forty Acres, Inc 641/187 P.#62 T.M.#25	48	Lot 49	100
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DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Robert M. Brown / GEN 8-7-85
 DIRECTOR OF PUBLIC WORKS DATE

Robert M. Brown / RMB 8/6/85
 CHIEF, BUREAU OF UTILITIES DATE

Terrell A. Fisher / TAF 8-7-85
 CHIEF, LAND DEVELOPMENT DIVISION DATE

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

STATE OF MARYLAND
 TERRRELL A. FISHER
 DATE: 4/8/85

DES-DEV			
DRN-DEV			
CHK-T.A.F	DSP	DESIGNATE M# 93 WATERTIGHT	2/2/85
	000	DESIGNO SEWER OUTFALL ALIGNMENT BETWEEN M# 93 TO M# 95	9/24/85
DATE: 4/8/85	BY NO.	REVISION	DATE

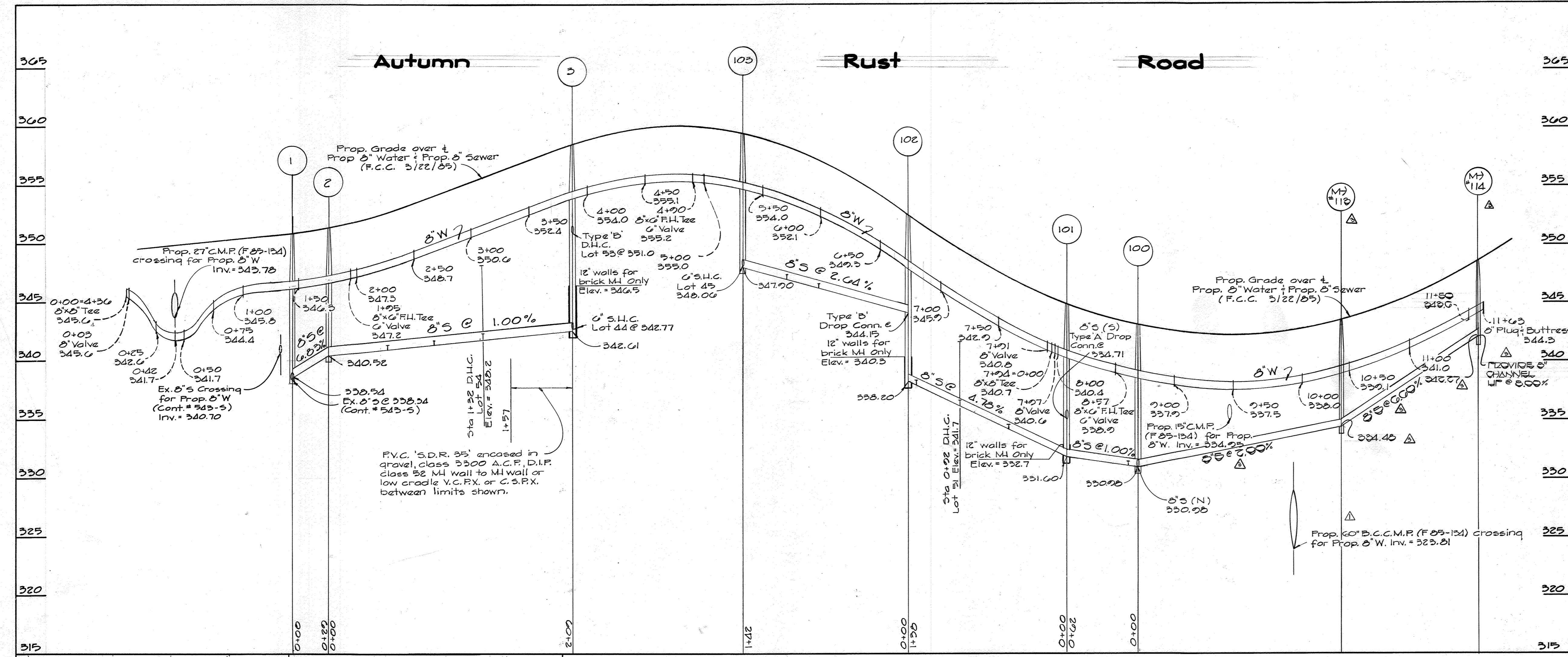
**PLAN AND PROFILES
 SEWER MAIN**

600' SCALE MAP NO. 25 BLOCK NO.

**AUTUMN MANOR-SECT. I AREA I
 WATER AND SEWER MAIN EXTENSION
 CONTRACT NO. 14-1324-D
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND**

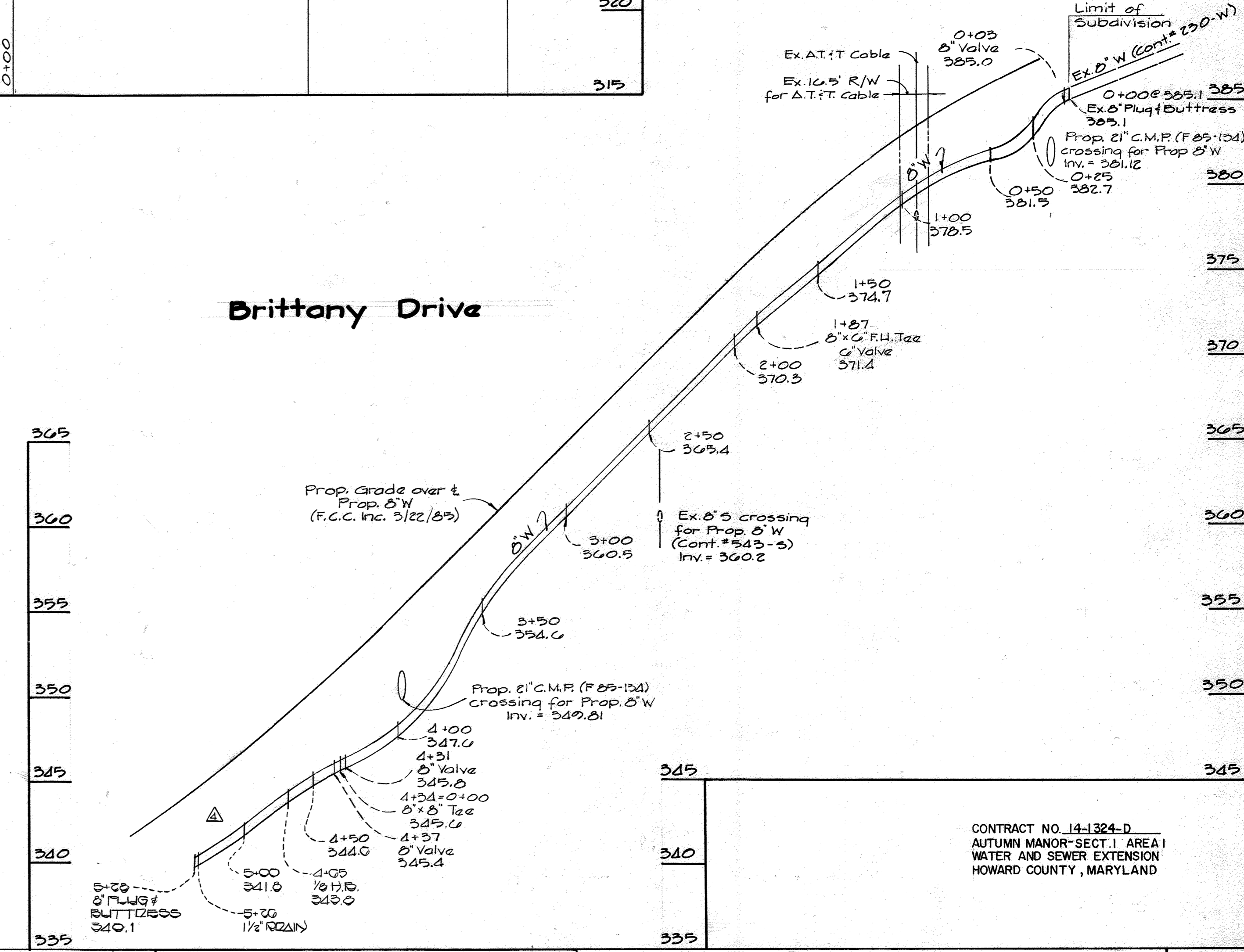
SCALE AS SHOWN
 SHEET 2 OF 5

Manhole Tabulation				
M#	Sta	Dist	Elev	Slope
Autumn Rust Road				
M#2	1+80	0' Left	351.04	(+)1.5%
M#3	3+09	25' Left	352.25	(+)3.5%
M#100	8+77	7' Left	342.75	(-)2.0%
M#101	8+15	0' Left	344.65	(-)3.8%
M#102	6+79	0' Left	352.27	(-)7.0%
M#103	5+37	5' Left	353.90	(-)2.5%
White Winter Court				
M#104	1+77	4' Left	353.81	(+)7.0%
M#105	3+09	5' Left	345.01	(+)5.0%
M#106	4+16	10' Left	374.41	(+)7.0%
M#107	6+00	10' Left	364.86	(+)5.0%
M#108	7+20	5' Left	372.20	(+)5.0%
Green Spring Court				
M#109	2+20	5' Left	377.11	(+)8.0%
M#110	4+24	7' Left	364.35	(+)6.1%
M#111	4+24	7' Left	364.35	(+)3.0%
Autumn Rust Road				
M#1	1+54	21' Left	351.20	(+)1.1%
M#112	10+50	5' Left	348.16	(+)6.7%
M#114	11+06	10' Left	347.97	(+)5.5%



Sewer House Connection @ Ft			Sewer House Connection @ Ft		
Station	Lot #	Elev.	Station	Lot #	Elev.
M#107 to M#108					
1+48 (Rt.)	40	S.H.C.	321.22		
M#100 to M#101					
0+08 (Lt.)	88	S.H.C.	331.78		
M#101 to M#102					
0+50 (Rt.)	46	S.H.C.	334.49		
0+02 (Lt.)	51	D.H.C.	342.32		
1+20 (Rt.)	47	S.H.C.	338.21		
M#102 to M#103					
0+76 (Rt.)	46	S.H.C.	346.68		
1+04 (Lt.)	72	S.H.C.	347.56		
M#103 (Rt.)	45	S.H.C.	348.62		
M#104 to M#105					
0+52 (Rt.)	91	S.H.C.	340.20		
0+55 (Lt.)	87	S.H.C.	350.24		
M#105 to M#106					
0+20 (Lt.)	86	S.H.C.	355.45		
0+37 (Rt.)	76	S.H.C.	356.17		
M#106 to M#107					
M#106 (Lt.)	85	S.H.C.	361.57		
0+70 (Lt.)	84	S.H.C.	365.17		
1+58 (Lt.)	83	S.H.C.	369.40		
M#107 to M#108					
0+37 (Rt.)	77	D.H.C.	377.76		
0+54 (Lt.)	82	S.H.C.	371.77		
1+47 (Rt.)	78	D.H.C.	385.00		
M#108 (Lt.)	81	S.H.C.	375.69		
M#108 (Rt.)	79	S.H.C.	374.19		
M#109 to M#110					
1+45 (Rt.)	82	S.H.C.	364.70		
1+88 (Lt.)	75	S.H.C.	366.72		
M#110 to M#111					
0+16 (Rt.)	65	S.H.C.	369.65		
0+20 (Rt.)	74	D.H.C.	377.18		
0+26 (Rt.)	64	S.H.C.	375.23		
1+70 (Rt.)	65	S.H.C.	376.25		
M#111 to M#112					
0+34 (Rt.)	66	S.H.C.	385.24		
0+40 (Lt.)	73	S.H.C.	385.28		
1+07 (Rt.)	67	S.H.C.	384.03		
1+00 (Lt.)	72	D.H.C.	385.74		
M#111	68	D.H.C.	389.82		
M#111	69	S.H.C.	386.28		
M#111	70	S.H.C.	386.54		

Profiles
Scale: Horiz. 1"=50'
Vert. 1"=5'



CONTRACT NO. 14-1324-D
AUTUMN MANOR-SECT. I AREA I
WATER AND SEWER EXTENSION
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert W. Wood
DIRECTOR OF PUBLIC WORKS
DATE: 8-7-85

Robert W. Wood
CHIEF, BUREAU OF UTILITIES
DATE: 8/6/85

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

Terrell A. Fisher
REGISTERED PROFESSIONAL ENGINEER
DATE: 4/8/85

DES: DEV

DRN: DEV

CHK: T.A.F.

DATE: 4/8/85

REVISIONS:

- REVISE WATER MAIN IN BRITANNY DRIVE
- ADD SEWER PROFILE M#100 TO M#114, AUTUMN RUST ROAD
- REVISE STORM DRAIN SIZE AT WM. STA. 10+00 AUTUMN RUST ROAD FROM 48" TO 60"

PROFILES
WATER AND SEWER MAINS

600' SCALE MAP NO. 25 BLOCK NO.

AUTUMN MANOR-SECT. I AREA I
WATER AND SEWER MAIN EXTENSION
CONTRACT NO. 14-1324-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

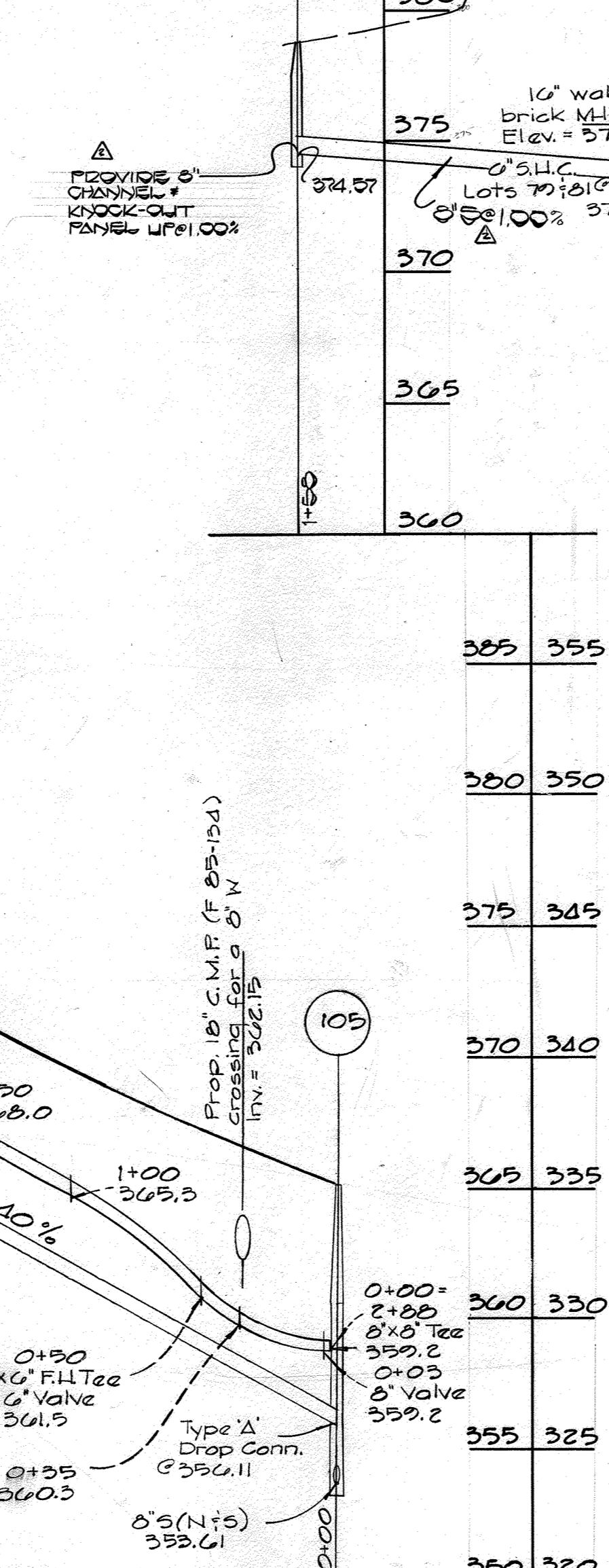
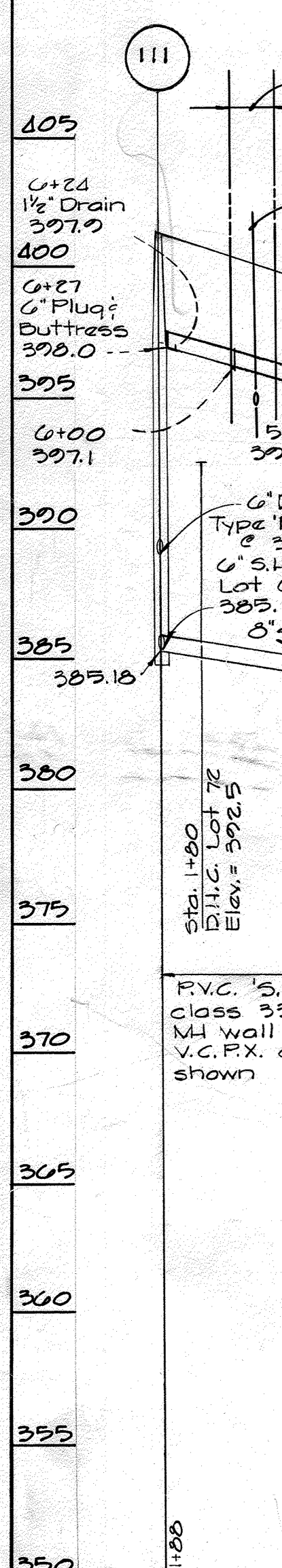
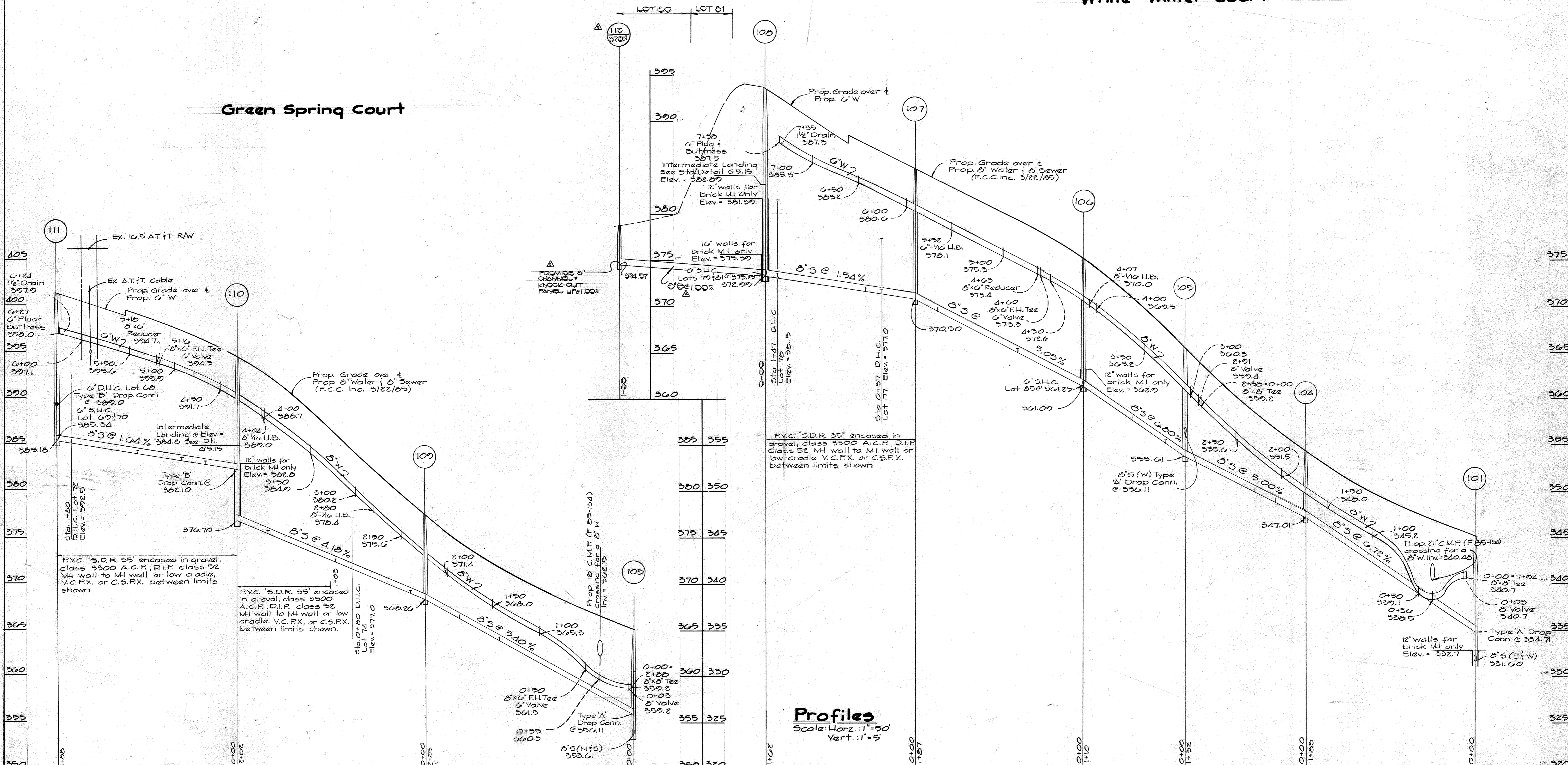
SCALE AS SHOWN

SHEET 4 OF 5

PRELIMINARY 4/8/85

Green Spring Court

White Winter Court



Profiles
Scale: Horz.: 1"=50'
Vert.: 1"=5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert W. Wood / for RMB 9/6/95
CHIEF, BUREAU OF UTILITIES

Robert W. Wood / for RMB 9/6/95
CHIEF, BUREAU OF UTILITIES

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

STATE OF MARYLAND
TERRELLA A. FISHER
PROFESSIONAL ENGINEER

DES-DEV	
DRN-DEV	
CHK-T.A.F.	
DATE: 4/8/85	

PROFILES
WATER AND SEWER MAINS

600' SCALE MAP NO. 25 BLOCK NO.

AUTUMN MANOR-SECT. I AREA I
WATER AND SEWER MAIN EXTENSION
CONTRACT NO. 14-1324-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 5 OF 5

PRELIMINARY 4/8/85