

3355 WS/1 V.L.R. 4/2 lots 1-205 AS-BUILT 2-27-96

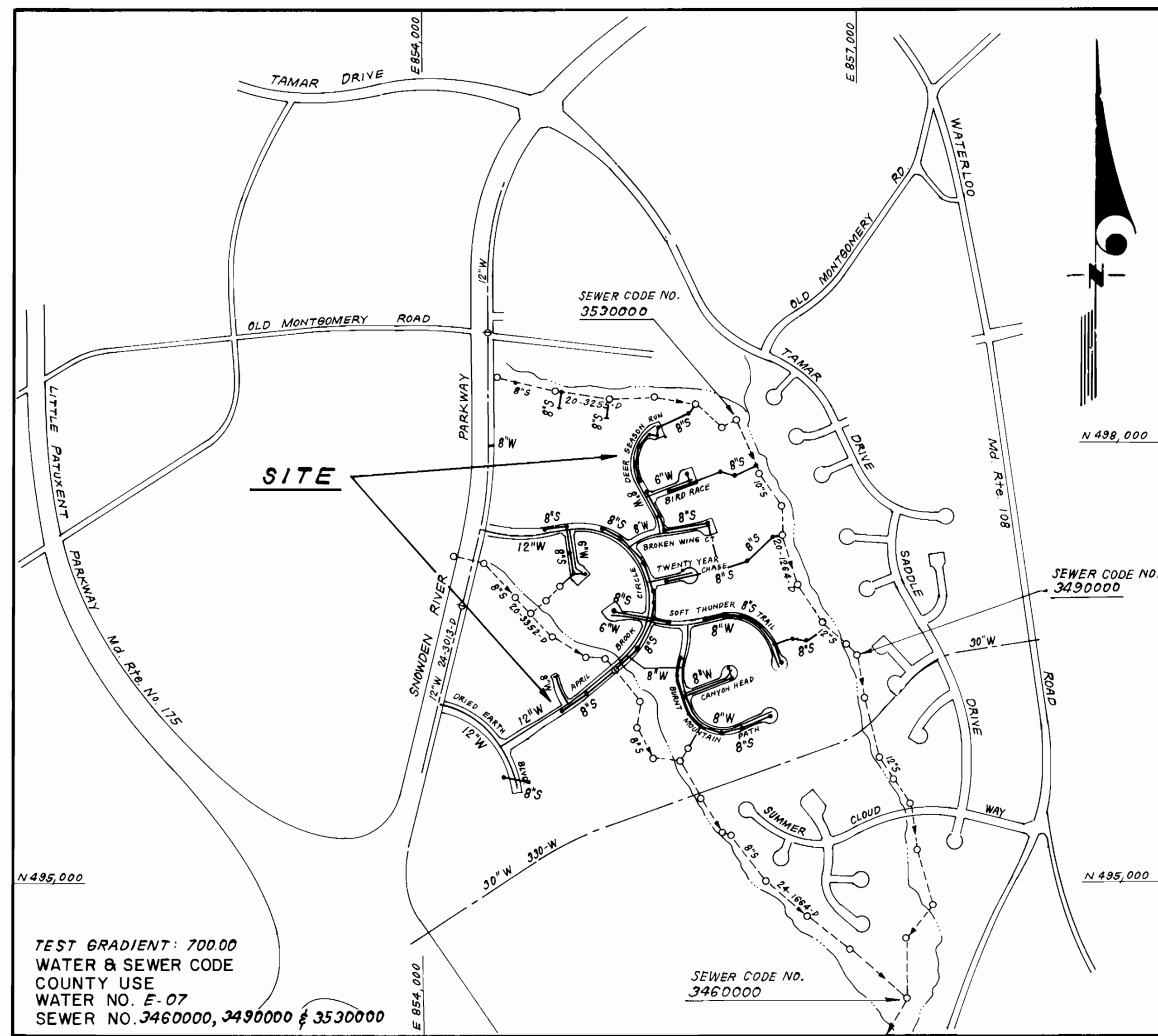
LOT NO.	INV.	PL.	MIN. CELL.	LOT NO.	INV.	PL.	MIN. CELL.	LOT NO.	INV.	PL.	MIN. CELL.	LOT NO.	INV.	PL.	MIN. CELL.								
206	359.4	363.0	217	359.4	363.2	101	348.3	352.1	222	333.1	336.9	207	358.9	362.7	218	358.4	362.2	102	349.8	353.6	223	335.5	339.3
208	358.4	362.2	219	367.9	361.6	103	350.8	354.6	224	340.6	344.4	209	357.2	361.0	104	352.7	356.5	105	347.8	351.6	225	343.7	347.5
210	356.2	360.0	220	357.7	361.5	106	343.8	347.6	226	343.5	347.3	211	355.6	359.4	107	343.2	347.0	108	342.2	346.0	227	343.8	347.6
212	355.8	359.6	221	357.2	361.0	108	343.8	347.6	228	343.8	347.6	213	354.5	358.3	109	341.6	345.4	110	341.0	344.8	229	343.6	347.4
214	353.8	357.6	222	356.6	360.4	110	340.0	343.8	230	342.7	346.5	215	351.0	354.8	111	338.5	342.3	112	338.5	342.3	231	342.7	346.5
216	348.8	352.6	223	353.3	357.1	111	338.5	342.3	232	338.4	342.2	217	346.8	350.6	112	338.5	342.3	113	338.4	342.2	233	336.7	340.5
218	342.6	346.4	224	352.3	356.1	112	338.4	342.2	234	329.2	333.0	219	346.2	350.0	113	338.4	342.2	114	339.4	343.2	235	329.1	332.9
220	342.8	346.6	225	352.3	356.1	113	338.4	342.2	236	329.2	333.0	220	346.2	350.0	114	339.4	343.2	115	339.9	343.7	237	329.1	332.9
222	346.5	350.3	226	352.2	356.0	114	339.4	343.2	238	329.2	333.0	221	346.3	350.1	115	339.9	343.7	116	340.5	344.3	239	329.2	333.0
224	346.5	350.3	227	352.2	356.0	115	339.9	343.7	240	329.2	333.0	222	346.3	350.1	116	340.5	344.3	117	341.5	345.3	241	329.2	333.0
226	346.5	350.3	228	352.2	356.0	116	340.5	344.3	242	329.2	333.0	223	346.3	350.1	117	341.5	345.3	118	342.3	346.1	243	329.2	333.0
228	346.5	350.3	229	352.2	356.0	117	341.5	345.3	244	329.2	333.0	224	346.3	350.1	118	342.3	346.1	119	343.4	347.2	245	329.2	333.0
230	346.5	350.3	230	352.2	356.0	118	342.3	346.1	246	329.2	333.0	225	346.3	350.1	119	343.4	347.2	120	342.3	346.1	246	329.2	333.0
232	346.5	350.3	231	352.2	356.0	119	343.4	347.2	247	329.2	333.0	226	346.3	350.1	120	342.3	346.1	121	339.4	343.2	247	329.2	333.0
234	346.5	350.3	232	352.2	356.0	120	342.3	346.1	248	329.2	333.0	227	346.3	350.1	121	339.4	343.2	122	341.6	345.4	248	329.2	333.0
236	346.5	350.3	233	352.2	356.0	121	339.4	343.2	249	329.2	333.0	228	346.3	350.1	122	341.6	345.4	123	343.2	347.0	249	329.2	333.0
238	346.5	350.3	234	352.2	356.0	122	341.6	345.4	250	329.2	333.0	229	346.3	350.1	123	343.2	347.0	124	344.0	347.8	250	329.2	333.0
240	346.5	350.3	235	352.2	356.0	123	343.2	347.0	251	329.2	333.0	230	346.3	350.1	124	344.0	347.8	125	342.8	346.6	251	329.2	333.0
242	346.5	350.3	236	352.2	356.0	124	344.0	347.8	252	329.2	333.0	231	346.3	350.1	125	342.8	346.6	126	340.7	344.5	252	329.2	333.0
244	346.5	350.3	237	352.2	356.0	125	342.8	346.6	253	329.2	333.0	232	346.3	350.1	126	340.7	344.5	127	338.7	342.5	253	329.2	333.0
246	346.5	350.3	238	352.2	356.0	126	340.7	344.5	254	329.2	333.0	233	346.3	350.1	127	338.7	342.5	128	337.3	341.1	254	329.2	333.0
248	346.5	350.3	239	352.2	356.0	127	338.7	342.5	255	329.2	333.0	234	346.3	350.1	128	337.3	341.1	129	336.6	340.4	255	329.2	333.0
250	346.5	350.3	240	352.2	356.0	128	336.6	340.4	256	329.2	333.0	235	346.3	350.1	129	336.6	340.4	130	335.9	339.7	256	329.2	333.0
252	346.5	350.3	241	352.2	356.0	129	335.9	339.7	257	329.2	333.0	236	346.3	350.1	130	335.9	339.7	131	334.6	338.4	257	329.2	333.0
254	346.5	350.3	242	352.2	356.0	130	334.6	338.4	258	329.2	333.0	237	346.3	350.1	131	334.6	338.4	132	333.6	337.4	258	329.2	333.0
256	346.5	350.3	243	352.2	356.0	131	333.6	337.4	259	329.2	333.0	238	346.3	350.1	132	333.6	337.4	133	332.9	336.7	259	329.2	333.0
258	346.5	350.3	244	352.2	356.0	132	332.9	336.7	260	329.2	333.0	239	346.3	350.1	133	332.9	336.7	134	332.0	335.8	260	329.2	333.0
260	346.5	350.3	245	352.2	356.0	133	332.0	335.8	261	329.2	333.0	240	346.3	350.1	134	332.0	335.8	135	331.3	335.1	261	329.2	333.0
262	346.5	350.3	246	352.2	356.0	134	331.3	335.1	262	329.2	333.0	241	346.3	350.1	135	331.3	335.1	136	330.9	334.7	262	329.2	333.0
264	346.5	350.3	247	352.2	356.0	135	330.9	334.7	263	329.2	333.0	242	346.3	350.1	136	330.9	334.7	137	330.2	334.0	263	329.2	333.0
266	346.5	350.3	248	352.2	356.0	136	330.2	334.0	264	329.2	333.0	243	346.3	350.1	137	330.2	334.0	138	329.8	333.6	264	329.2	333.0
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270	346.5	350.3	250	352.2	356.0	138	329.5	333.3	266	329.2	333.0	245	346.3	350.1	139	329.5	333.3	140	330.8	334.6	266	329.2	333.0
272	346.5	350.3	251	352.2	356.0	139	330.8	334.6	267	329.2	333.0	246	346.3	350.1	140	330.8	334.6	141	330.0	333.8	267	329.2	333.0
274	346.5	350.3	252	352.2	356.0	140	330.0	333.8	268	329.2	333.0	247	346.3	350.1	141	330.0	333.8	142	331.6	335.4	268	329.2	333.0
276	346.5	350.3	253	352.2	356.0	141	331.6	335.4	269	329.2	333.0	248	346.3	350.1	142	331.6	335.4	143	333.9	337.7	269	329.2	333.0
278	346.5	350.3	254	352.2	356.0	142	333.9	337.7	270	329.2	333.0	249	346.3	350.1	143	333.9	337.7	144	344.0	347.8	270	329.2	333.0
280	346.5	350.3	255	352.2	356.0	143	344.0	347.8	271	329.2	333.0	250	346.3	350.1	144	344.0	347.8	145	341.1	344.9	271	329.2	333.0
282	346.5	350.3	256	352.2	356.0	144	341.1	344.9	272	329.2	333.0	251	346.3	350.1	145	341.1	344.9	146	342.8	346.6	272	329.2	333.0
284	346.5	350.3	257	352.2	356.0	145	342.8	346.6	273	329.2	333.0	252	346.3	350.1	146	342.8	346.6	147	344.2	348.0	273	329.2	333.0
286	346.5	350.3	258	352.2	356.0	146	344.2	348.0	274	329.2	333.0	253	346.3	350.1	147	344.2	348.0	148	340.7	344.5	274	329.2	333.0
288	346.5	350.3	259	352.2	356.0	147	340.7	344.5	275	329.2	333.0	254	346.3	350.1	148	340.7	344.5	149	340.7	344.5	275	329.2	333.0
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292	346.5	350.3	261	352.2	356.0	149	339.0	342.8	277	329.2	333.0	256	346.3	350.1	150	339.0	342.8	150	337.0	340.8	277	329.2	333.0
294	346.5	350.3	262	352.2	356.0	150	337.0	340.8	278	329.2	333.0	257	346.3	350.1	150	337.0	340.8	200	335.6	339.4	278	329.2	333.0

TYPE OF BUILDING	Single Family
NO. OF LOTS	195
NO. OF WHC's	195
NO. OF SHC's	195
DRAINAGE AREA	Little Patuxent

LITTLE PATUXENT W.W.T.P.

**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 Inspector, 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" clear all poles by 2'-0" minimum or tunnel as required. Any cost incurred to the contractor for tunneling or bracing at poles shall be included in unit prices bid for excavation and backfill.
- For details not shown on the drawings use Howard County Standard Specifications & Details and Howard County Design Manual, Volume IV. (Latest Edition) The Contractor shall have copies of these on the job site.
- For materials and construction methods use Howard County Standard Specifications & Details and Howard County Design Manual, Volume IV. (Latest Edition) The Contractor shall have copies of these on the job site.
- Contractor shall locate existing utilities a minimum of two (2) weeks in advance of construction operations in the vicinity of proposed utilities at his own expense.
- Contractor shall notify the following utilities or agencies at least five (5) working days before starting work shown on these plans.
  - State Highway Administration - 531-5533
  - Baltimore Gas & Electric Company - Underground Damage Control - 787-9068
  - Baltimore Gas & Electric Company - Contractor Services - 350-4620
  - Baltimore Gas & Electric Company - Trouble Shooting - 298-9001
  - "Miss Utility" - 1-800-257-7777
  - Chesapeake & Potomac (C & P) Telephone Company - 1-800-257-7777
  - Bureau of Utilities Howard County - 313-4900
  - Colonial Pipeline Company - 795-1390
- Trees are to be protected from damage to maximum extent. Trees 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 as directed by the Inspector. Payment for such removal shall be included in the unit price bid for excavation and backfill.
- 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 water mains to be D.I.P. Class 52 unless otherwise noted.
- Top 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.
- Block all fittings with concrete.
- 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 Std. Det. W.11 & W.2.11 Soil around the fire hydrant to be compacted in accordance with Sections 1000 & 1005 of the Standard Specifications.
- All water house connections shall be for an inside meter setting.
- The contractor shall not operate any water main valves on the existing system.
- All sewer mains shall be C.S.P.X., V.C.P.X., P.V.C., or D.I.P. unless otherwise noted.
- Manholes shown with 12" and 16" walls are for brick manholes only.
- All manholes shall be 4'-0" inside diameter, unless otherwise noted.
- Water main and water house connection lines must have a minimum of one foot separation from the sanitary sewer and sewer house connections as they cross. Except at crossings, water and sewer lines shall have a minimum horizontal separation of 10'.
- Manholes designated thus: WT, shall have a Watertight Frame and Cover.



VICINITY MAP  
SCALE: 1" = 600'

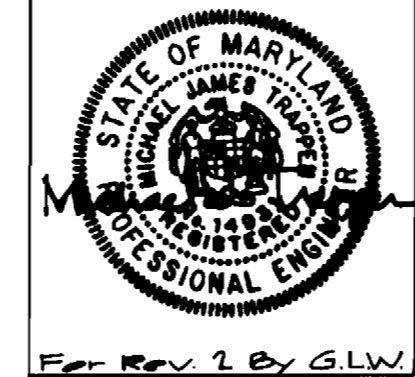
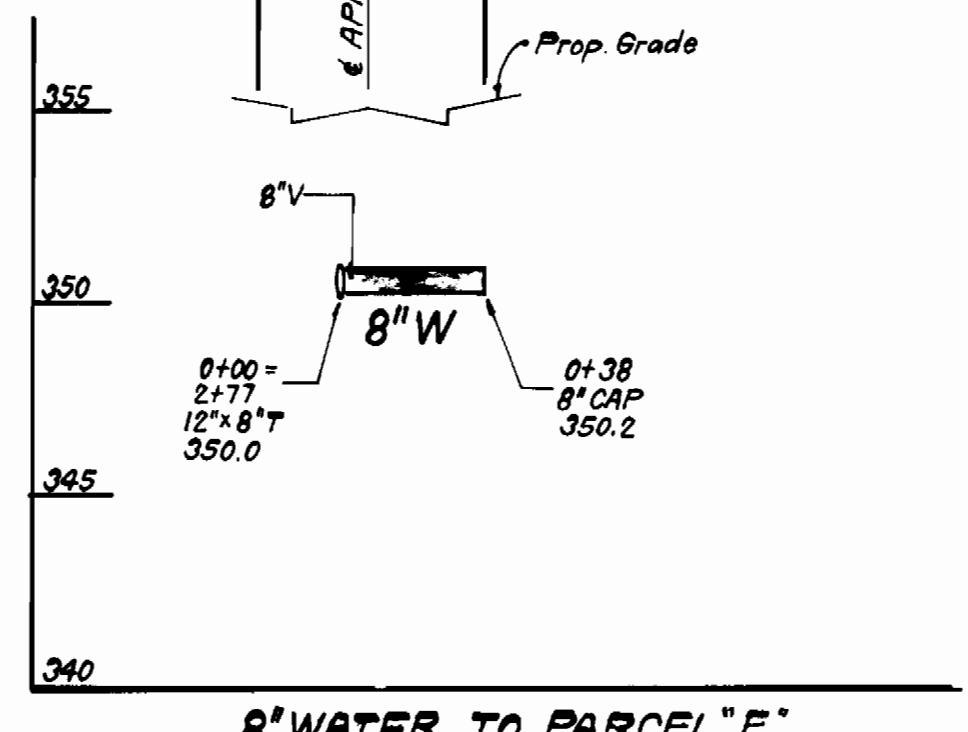
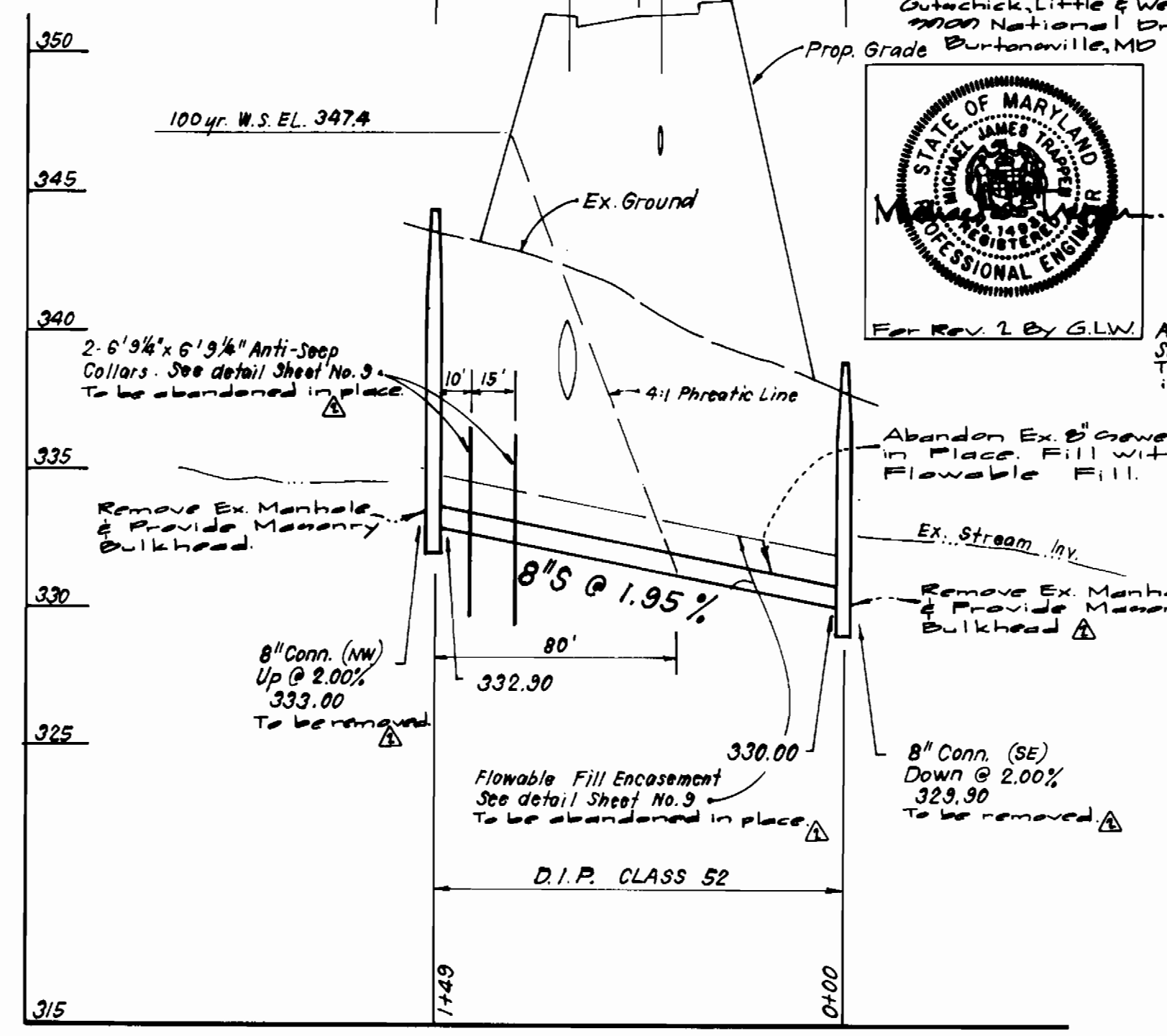
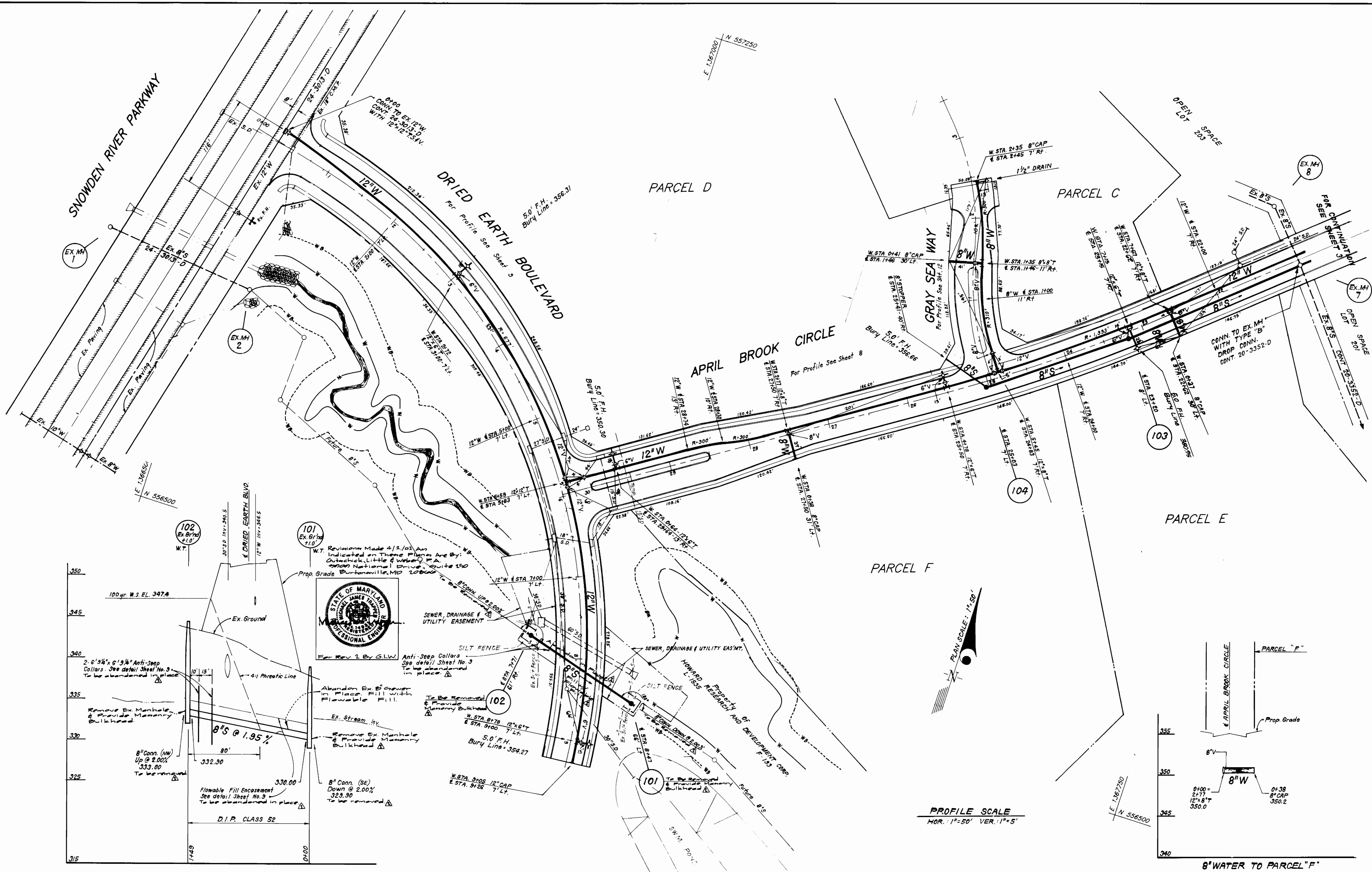
**CONTRACT NO. 24-3355 D**

VILLAGE OF LONGREACH  
SECTION 4 AREA 2  
LOTS 7 THRU 9, 12 THRU 16, 23 THRU 36, 41, 42, 55 THRU 59, 64, 70, 71,  
74 THRU 150, 168 THRU 258 AND PARCELS "A" THRU "F"  
**HOWARD COUNTY, MARYLAND**  
DEPARTMENT OF PUBLIC WORKS

Sediment Control Measures will be implemented in accordance with Section 219 of the Specifications & with Road Construction Plan F-75-25; Drawing, Sediment & Erosion Control.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT.

3355 WS/2 V.L.R. 4/2 lots 1-205



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 11/6/00  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 11/29/00  
CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 11-18-94  
CHIEF, BUREAU OF UTILITIES DATE

*[Signature]* 11/29/00  
CHIEF, LAND DEVELOPMENT DIV. DATE

**CFS** CLARK · FINEBROCK & SACKETT, INC.  
ENGINEERS · PLANNERS · SURVEYORS

7135 MINSTREL WAY COLUMBIA MARYLAND 21045  
(301) 381-7500 BALTO. (301) 621-8100 WASH.



DES:				
DRN:	GLW	2	Abandon Ex. 8" to 101	4-2-02
	CFS	1	Revised Title Block	4-10-99
CHK:	CFS	1	Deleted 8" to Parcel F, added FH, and revised location	4-10-99
	CFS	1	of 8" to Parcel E. Revised area of flowable fill encasement	4-10-99
DATE:	BY	NO.	REVISION	DATE

PLAN & PROFILES OF  
WATER & SEWER MAINS

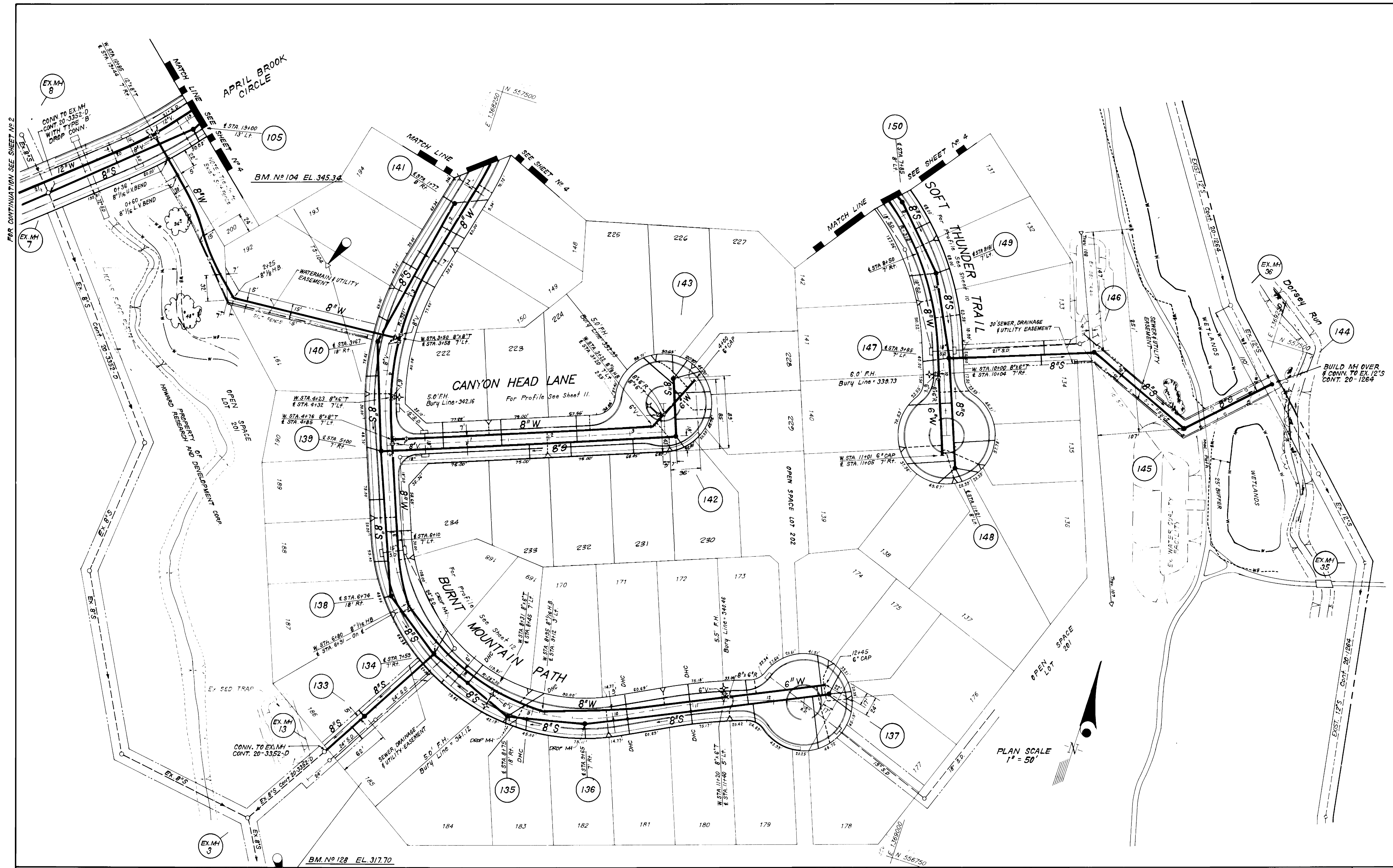
600' SCALE MAP NO. 37 BLOCK NO. 7

COLUMBIA, VILLAGE OF LONGREACH  
SECTION 4 AREA 2  
LOTS 7 THRU 9, 12 THRU 16, 23 THRU 30, 41, 42, 55 THRU 59, 64, 70, 71,  
74 THRU 150, 160 THRU 250 AND PARCELS "A" THRU "F"  
6TH ELECTION DISTRICT

CONTRACT No. 24-3355-D

SCALE AS SHOWN  
SHEET 2 OF 13

3355 WS/3 V.L.R. 4/2 lots 1-205



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*[Signature]* 11/16/94  
 DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 11/18/94  
 CHIEF, BUREAU OF UTILITIES DATE

*[Signature]* 11/16/94  
 CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 11/16/94  
 CHIEF, LAND DEVELOPMENT DIV. DATE

**CFP** CLARK · FINEPROCK & SACKETT, INC.  
 ENGINEERS · PLANNERS · SURVEYORS

7135 MINSTREL WAY COLUMBIA MARYLAND 21045  
 (301) 381-7500 BALTO. (301) 621-8100 WASH.



DES:	CFP	1	Add WHC to lot 195, delete single WHC to lot 194	4-10-95
DRN:	CFP	1	Revised Title Box	4-10-95
CHK:	CFP	1	Revised alignment of 8" S but M4 & M5. Deleted lots 131 thru 161 and added lots 222 thru 234	4-10-95
DATE:	OPS	1	Rev. DMC & Drop MH @ M4, M5 & M6	4-10-95
BY:	NO.		REVISION	DATE

PLAN & PROFILES OF  
 WATER & SEWER MAINS

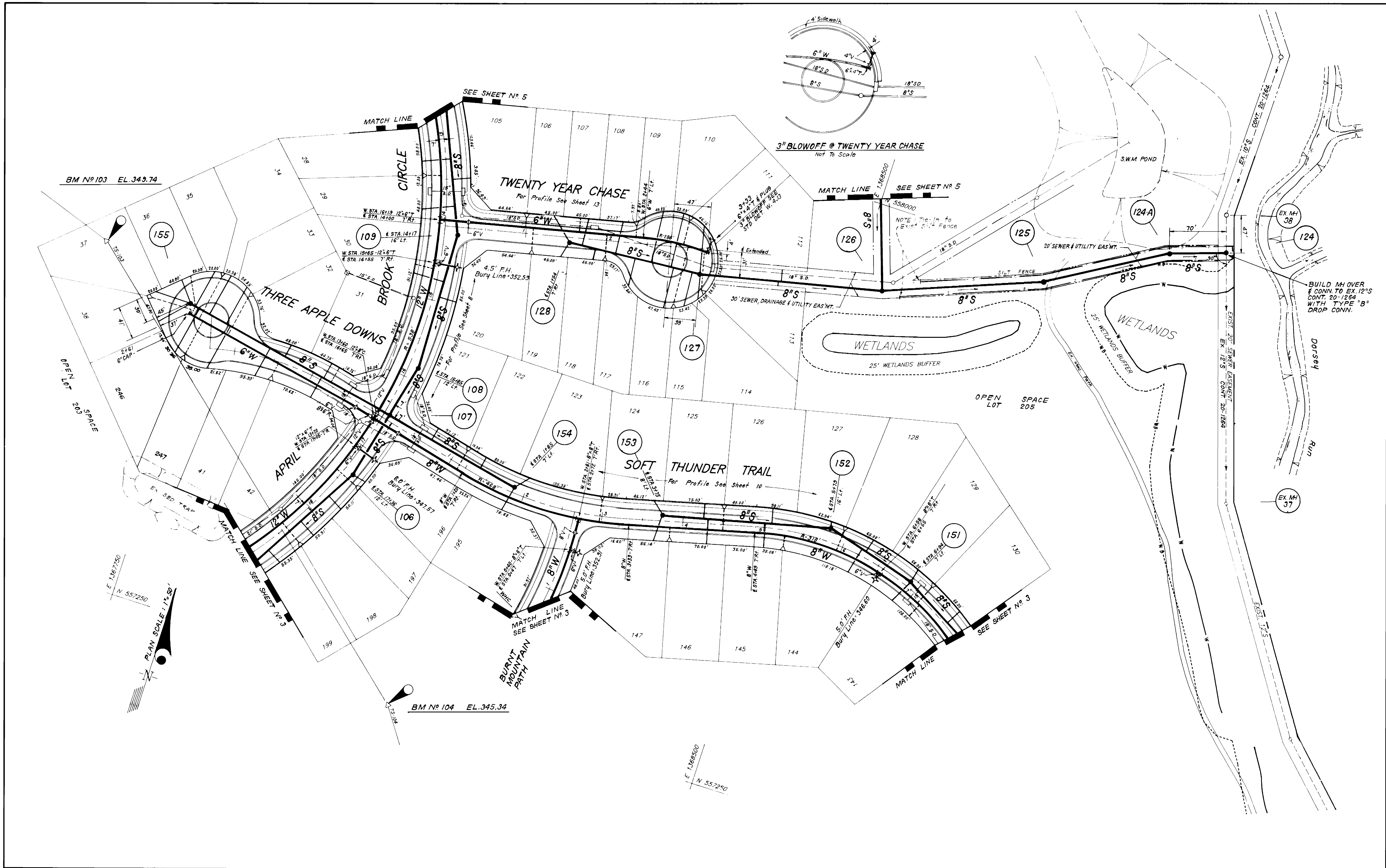
600' SCALE MAP NO. 37 BLOCK NO. 7

COLUMBIA, VILLAGE OF LONGREACH  
 SECTION 4 AREA 2  
 LOTS 7 THRU 9, 12 THRU 16, 23 THRU 36, 41, 42, 55 THRU 59, 64, 70, 71  
 74 THRU 108, 109 THRU 253 AND PARCELS "A" THRU "F"  
 6TH ELECTION DISTRICT

CONTRACT No. 24-3355-D

SCALE AS SHOWN  
 SHEET 3 OF 13

3355 WS/4 V.L.R. 9/2 lots 1-205



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Clayton D. ...* 11/2/04  
 DIRECTOR OF PUBLIC WORKS DATE

*Robert ...* 11-18-94  
 CHIEF, BUREAU OF UTILITIES DATE

*...* 11/2/04  
 CHIEF, BUREAU OF ENGINEERING DATE

*...* 11/2/04  
 CHIEF, LAND DEVELOPMENT DIV. DATE

**CFE** CLARK · FINEPROCK & SACKETT, INC.  
 ENGINEERS · PLANNERS · SURVEYORS

7135 MINSTREL WAY COLUMBIA MARYLAND 21045  
 (301) 381-7500 BALTO. (301) 621-8100 WASH.



DES:			
DRN:			
CHK:	CPS 1	Added WHC to Lot 126, Rev. Title Box	4-10-95
	CPS 1	Deleted lots 30 & 40, Added lots 246 & 247	4-10-95
DATE:	BY NO.	REVISION	DATE

PLAN & PROFILES OF  
 WATER & SEWER MAINS

600' SCALE MAP NO. 37 BLOCK NO. 7

COLUMBIA, VILLAGE OF LONGREACH  
 SECTION 4 AREA 2  
 LOTS 7 THRU 9, 12 THRU 16, 23 THRU 30, 41, 42, 55 THRU 59, 64, 70, 71,  
 74 THRU 150, 160 THRU 250 AND PARCELS 'A' THRU 'F'  
 6TH ELECTION DISTRICT

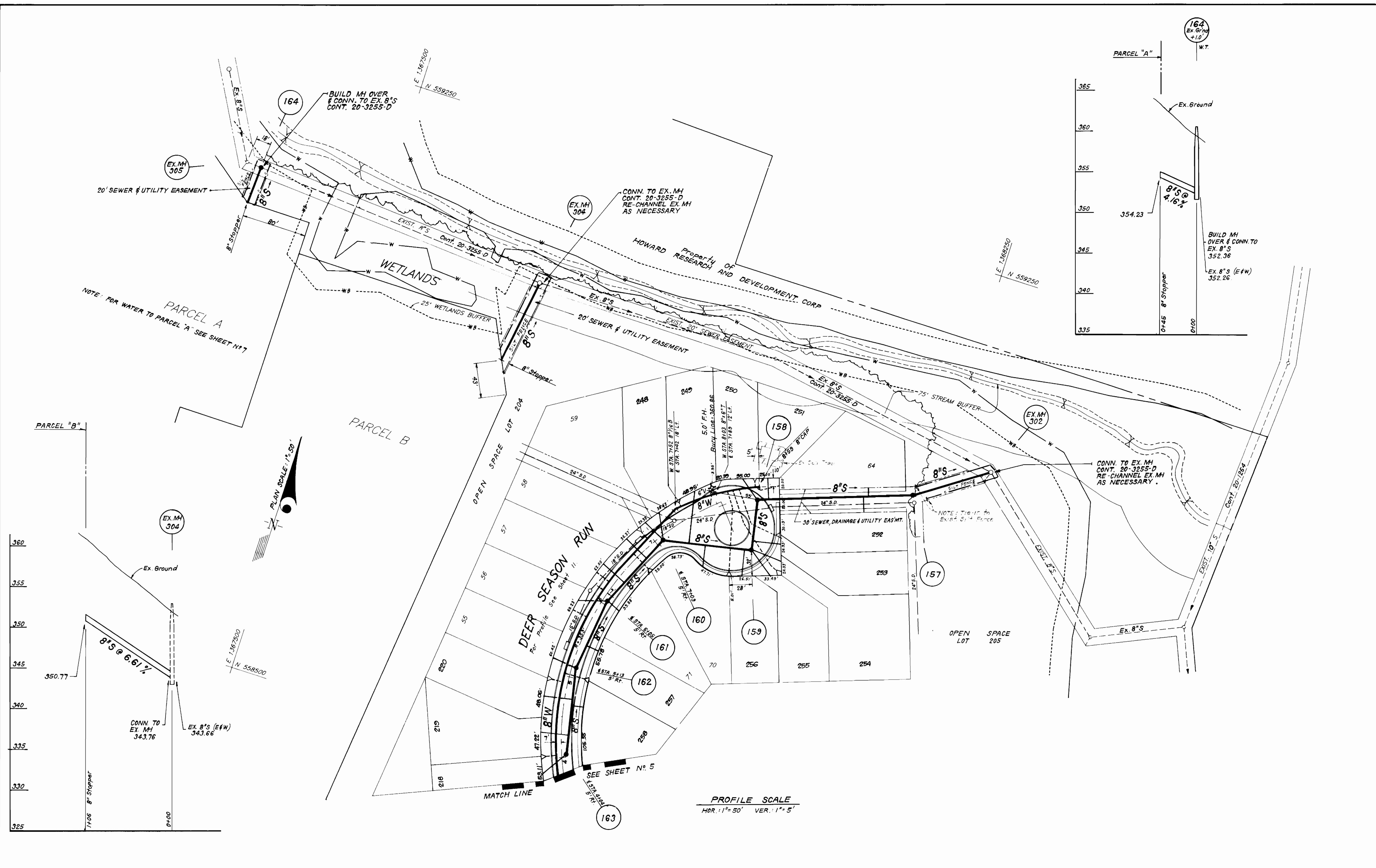
CONTRACT No. 24-3355-D

SCALE  
 AS SHOWN

SHEET  
 4 OF 13



3355 WSK V.L.R. 42 lots 1-205



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Ch. M. [Signature]* 11/2/94  
DIRECTOR OF PUBLIC WORKS DATE

*C. E. [Signature]* 11/2/94  
CHIEF, BUREAU OF ENGINEERING DATE

*Robert [Signature]* 11-18-94  
CHIEF, BUREAU OF UTILITIES DATE

*[Signature]* 11/2/94  
CHIEF, LAND DEVELOPMENT DIV. DATE

**CFS** CLARK - FINEPROCK & SACKETT, INC.  
ENGINEERS - PLANNERS - SURVEYORS

7135 MINSTREL WAY COLUMBIA MARYLAND 21045  
(301) 381-7500 BALTO. (301) 621-8100 WASH.



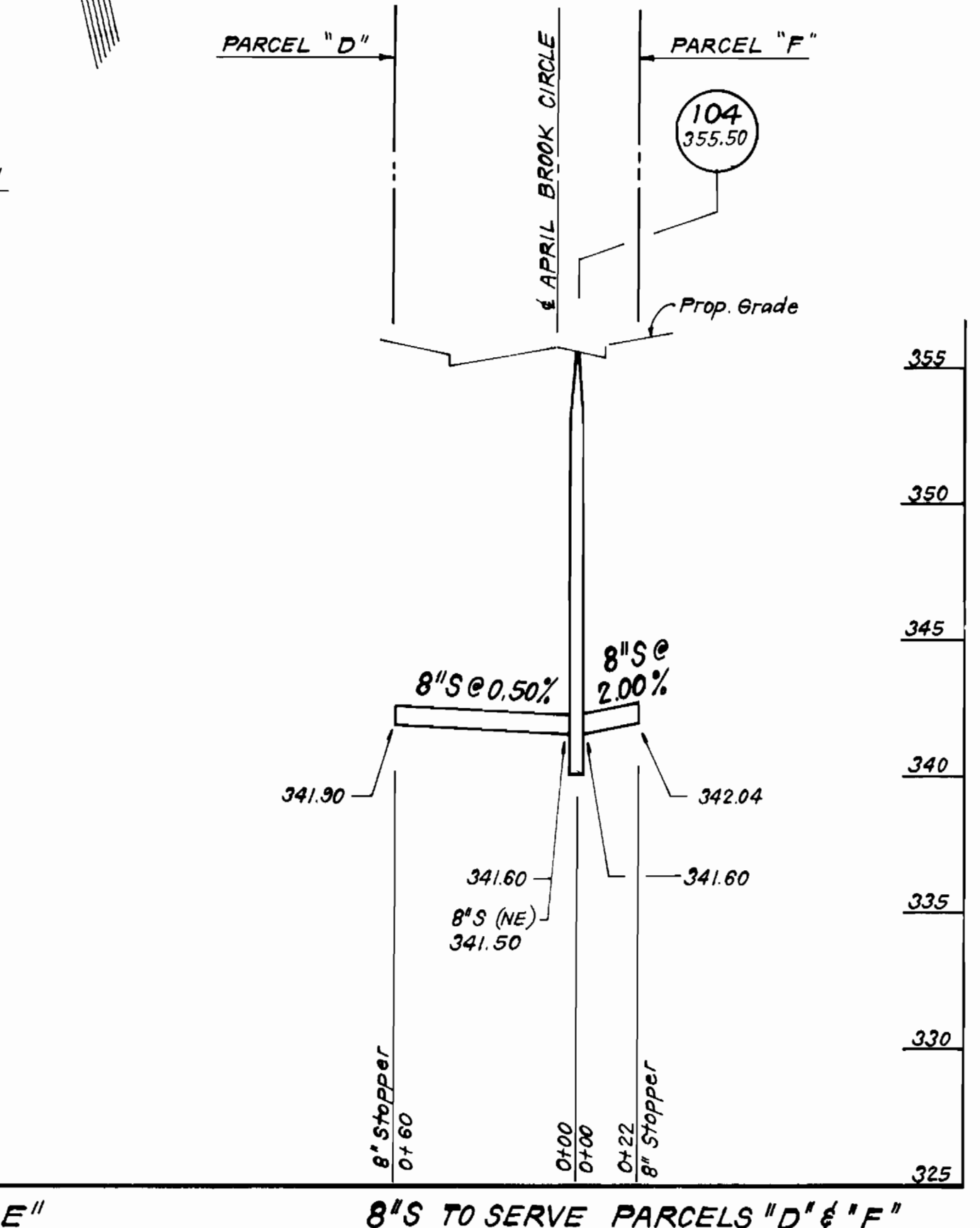
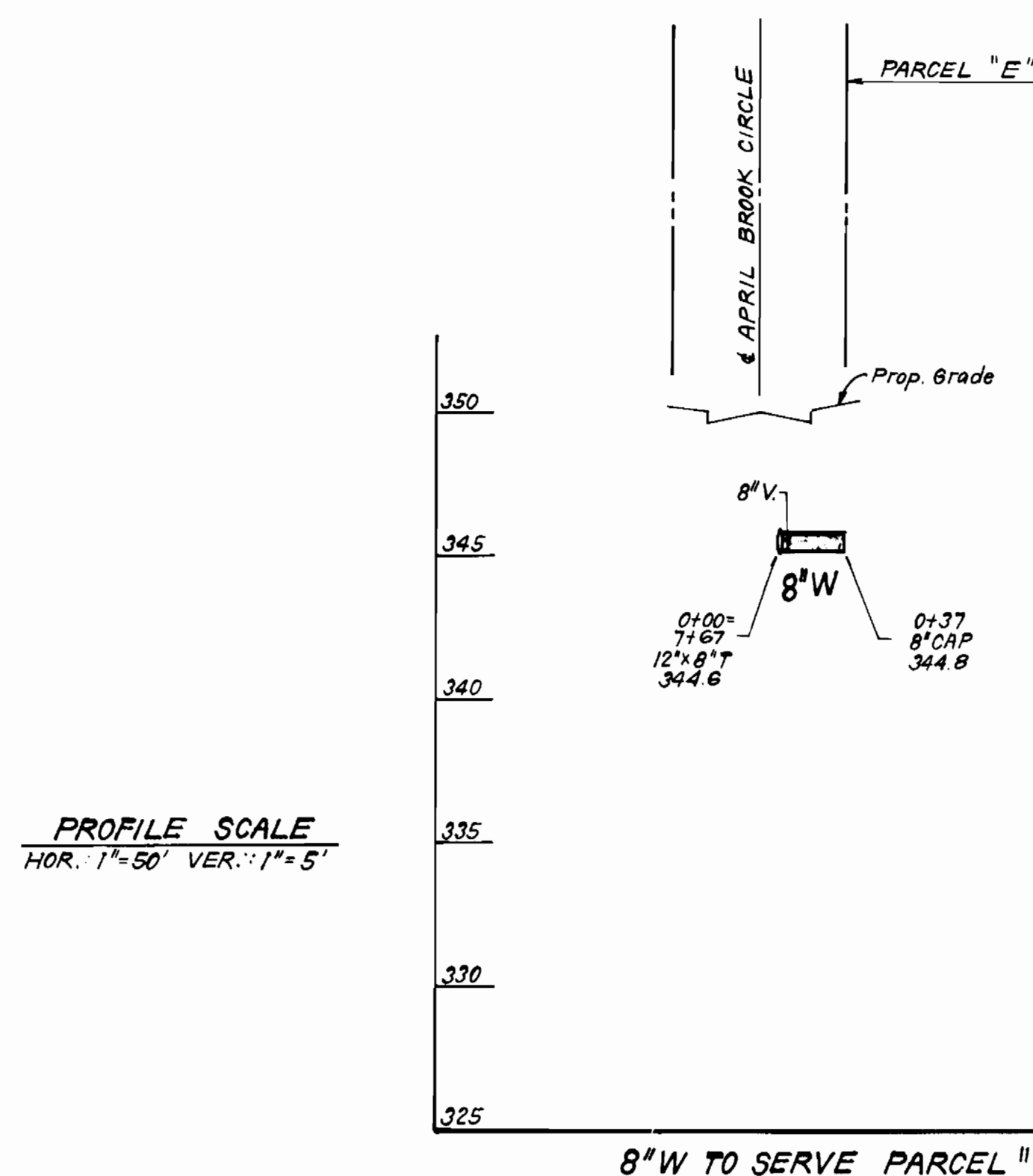
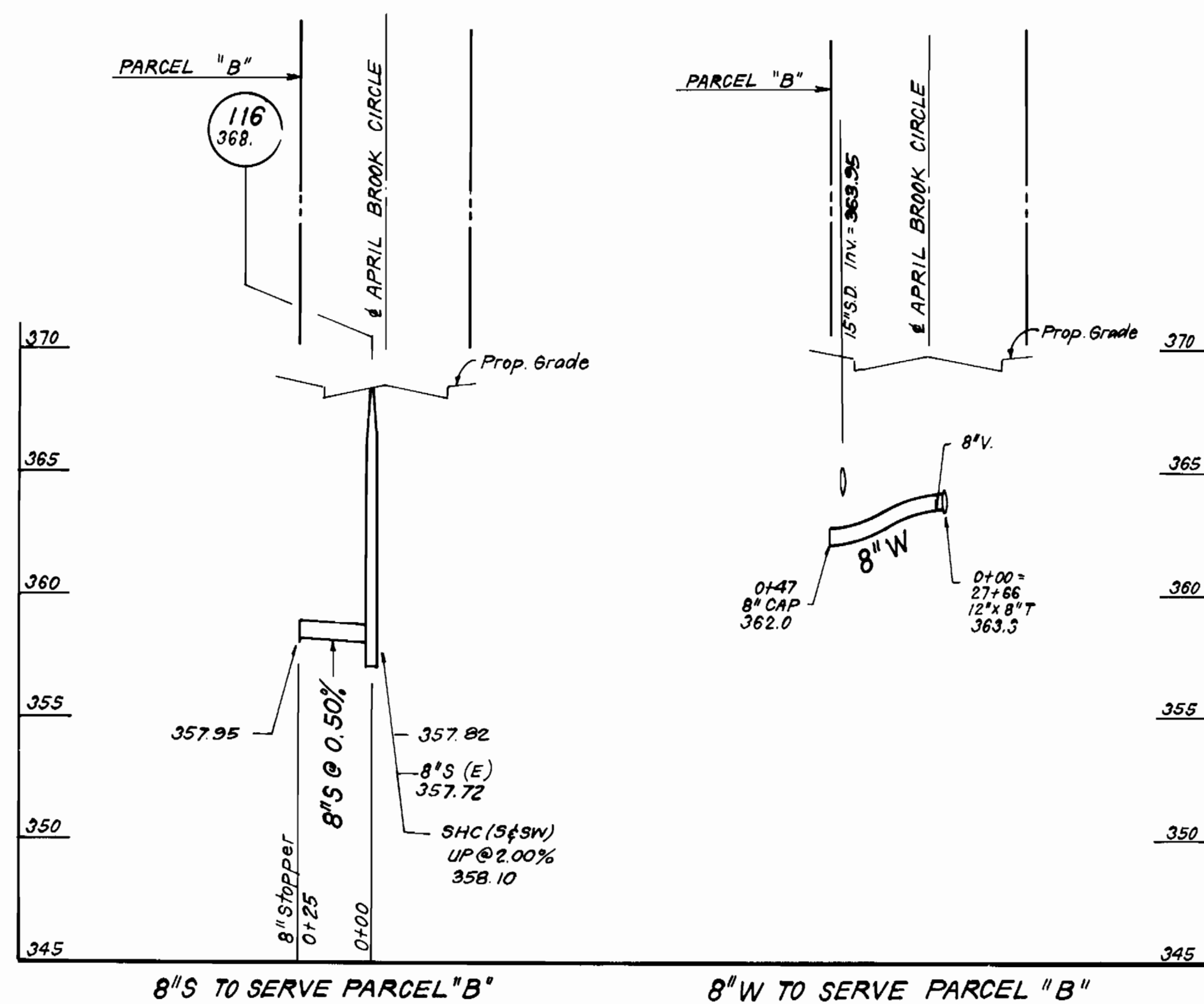
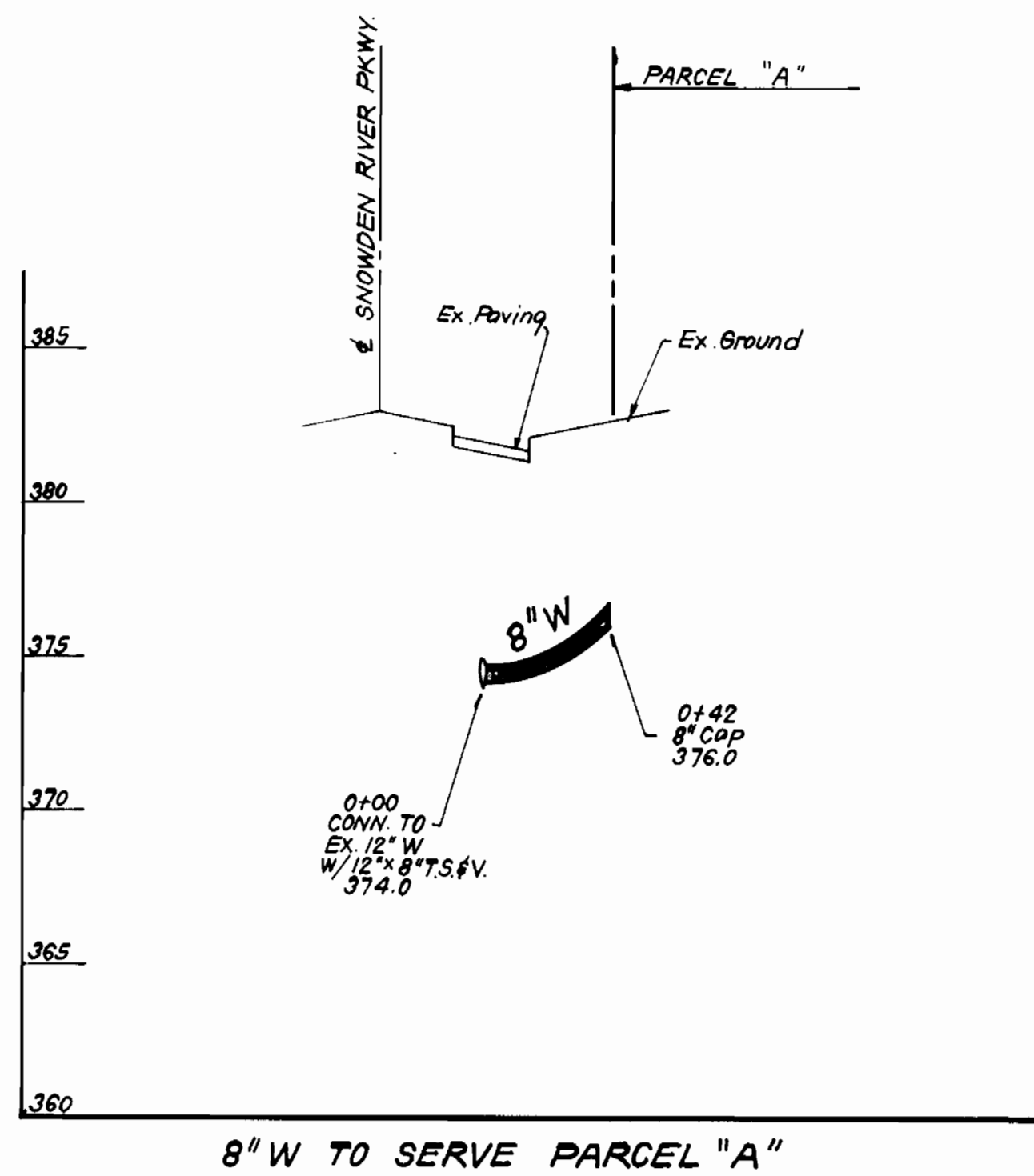
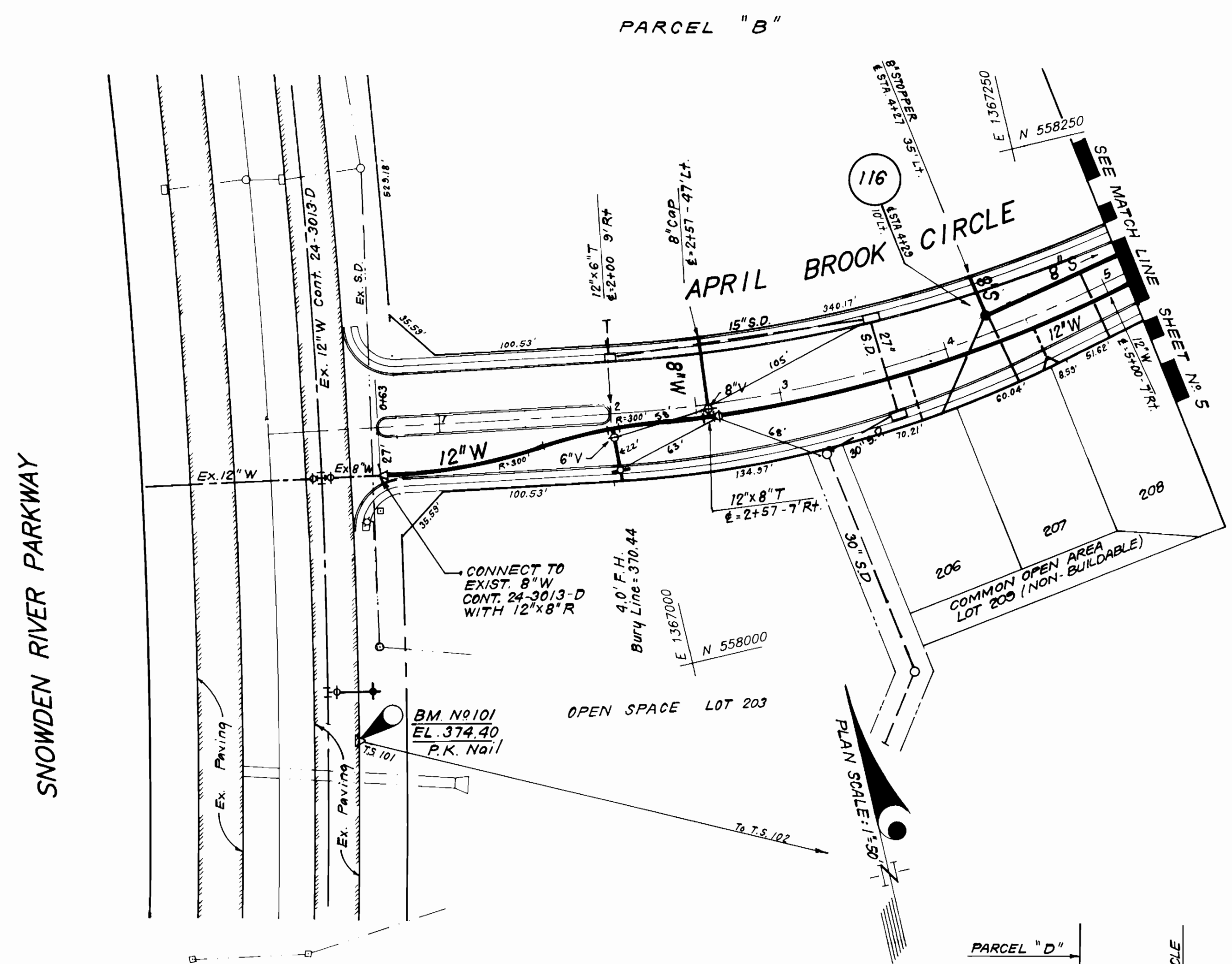
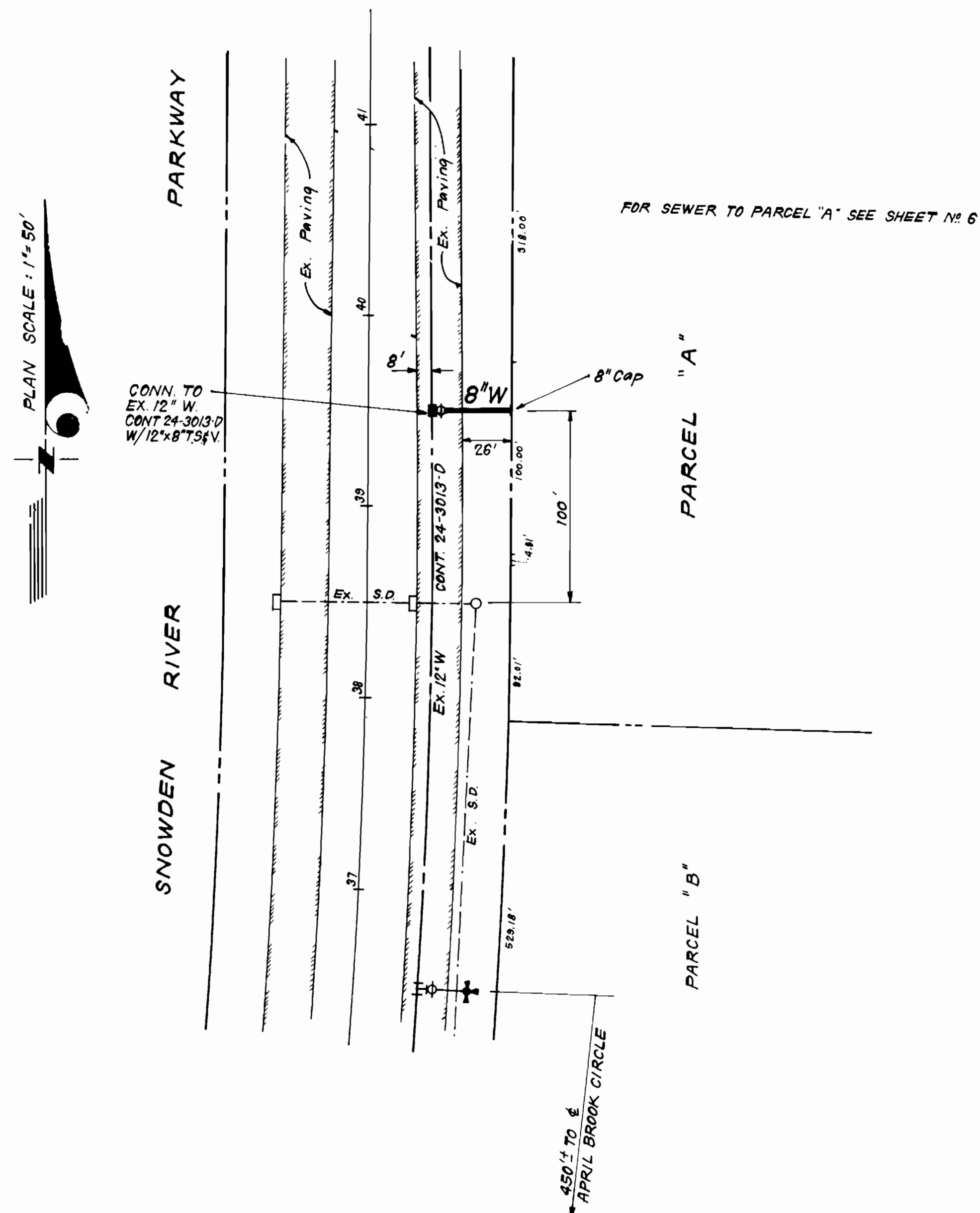
DES:			
DRN:			
CHK:			
DATE:	CFS	1	Delete lots 52-54, Add lots 218-220, Rev. title box 4-10-95
BY:		NO.	
		REVISION	
		DATE	

PLAN & PROFILES OF  
WATER & SEWER MAINS

COLUMBIA, VILLAGE OF LONGREACH  
SECTION 4 AREA 2  
LOTS 7 THRU 9, 12 THRU 16, 29 THRU 38, 41, 42, 55 THRU 59, 64, 70, 71,  
74 THRU 150, 168 THRU 258 AND PARCELS A THRU F  
6TH ELECTION DISTRICT  
CONTRACT No. 24-3355-D

SCALE AS SHOWN  
SHEET 6 OF 13

3355 WS/7 V.L.R. 4/2 lots 1-205



PROFILE SCALE  
HOR. 1"=50' VER. 1"=5'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Ch. M. Brown* 11/2/94  
DIRECTOR OF PUBLIC WORKS DATE

*C. S. Zetter* 11/2/94  
CHIEF, BUREAU OF ENGINEERING DATE

*John S. ...* 11-19-94  
CHIEF, BUREAU OF UTILITIES DATE

*...* 11/2/94  
CHIEF, LAND DEVELOPMENT DIV. DATE

**CFS** CLARK · FINEPROCK & SACKETT, INC.  
ENGINEERS · PLANNERS · SURVEYORS

7135 MINSTREL WAY COLUMBIA MARYLAND 21045  
(301) 381-7500 BALTO. (301) 621-8100 WASH.



DES:			
DRN:			
CHK:	CFS	Deleted 8" S From MH 104 to serve Par "F" & Rev. Title Box	4-10-95
	CFS	Deleted lots 1, 2 & 3, Added lots 206-209	4-10-95
	CFS	Rev. w/ S profile to serve Par. B's W Profile to same Par. E	4-10-95
DATE:	BY	NO.	REVISION

PLAN & PROFILES OF  
WATER & SEWER MAINS

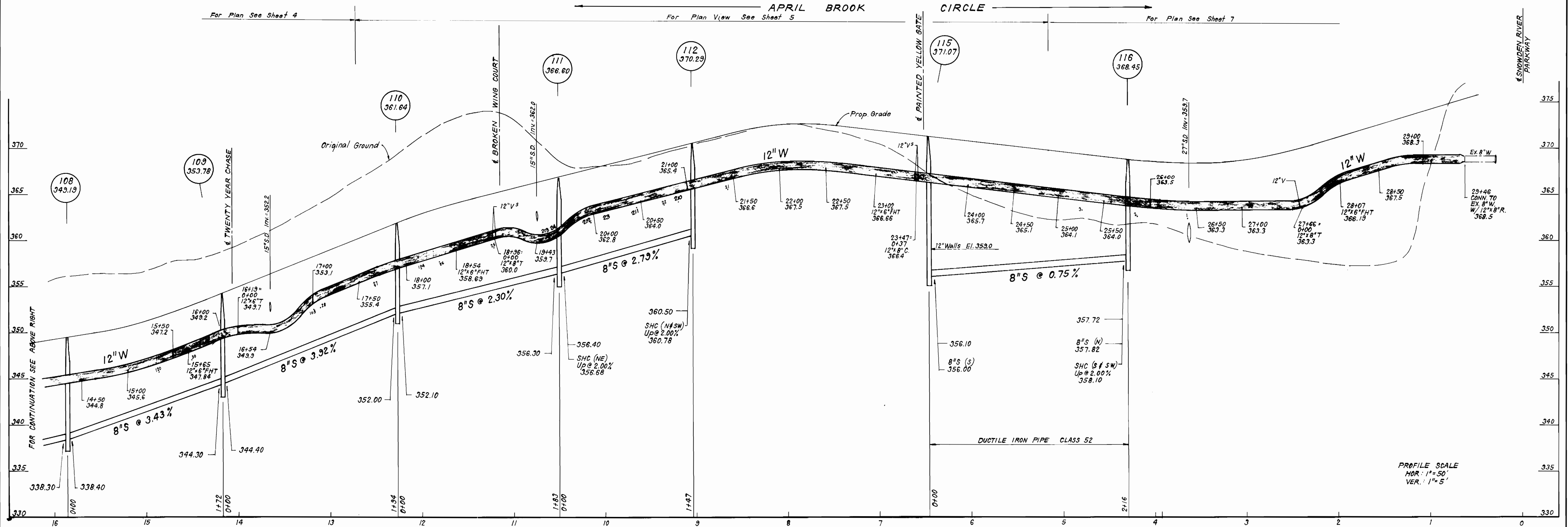
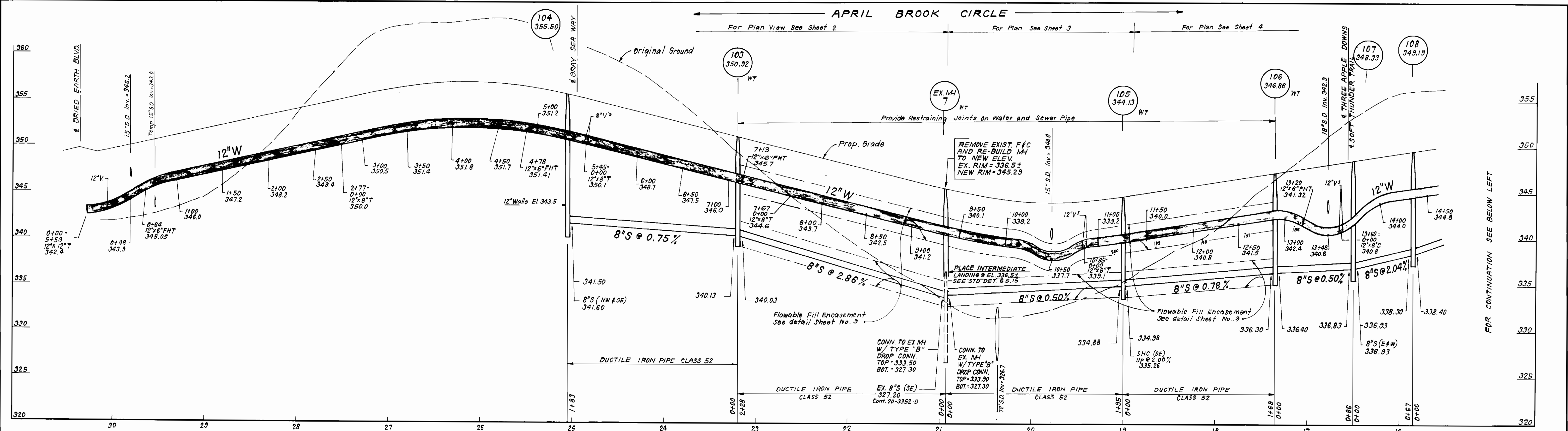
600' SCALE MAP NO. 37 BLOCK NO. 7

COLUMBIA, VILLAGE OF LONGREACH  
SECTION 4 AREA 2  
LOTS 7 THRU 9, 12 THRU 16, 23 THRU 38, 41, 42, 55 THRU 59, 64, 70, 71,  
74 THRU 150, 168 THRU 258 AND PARCELS "A" THRU "F"  
6TH ELECTION DISTRICT  
CONTRACT No. 24-3355-D

SCALE  
AS SHOWN

SHEET  
7 of 13

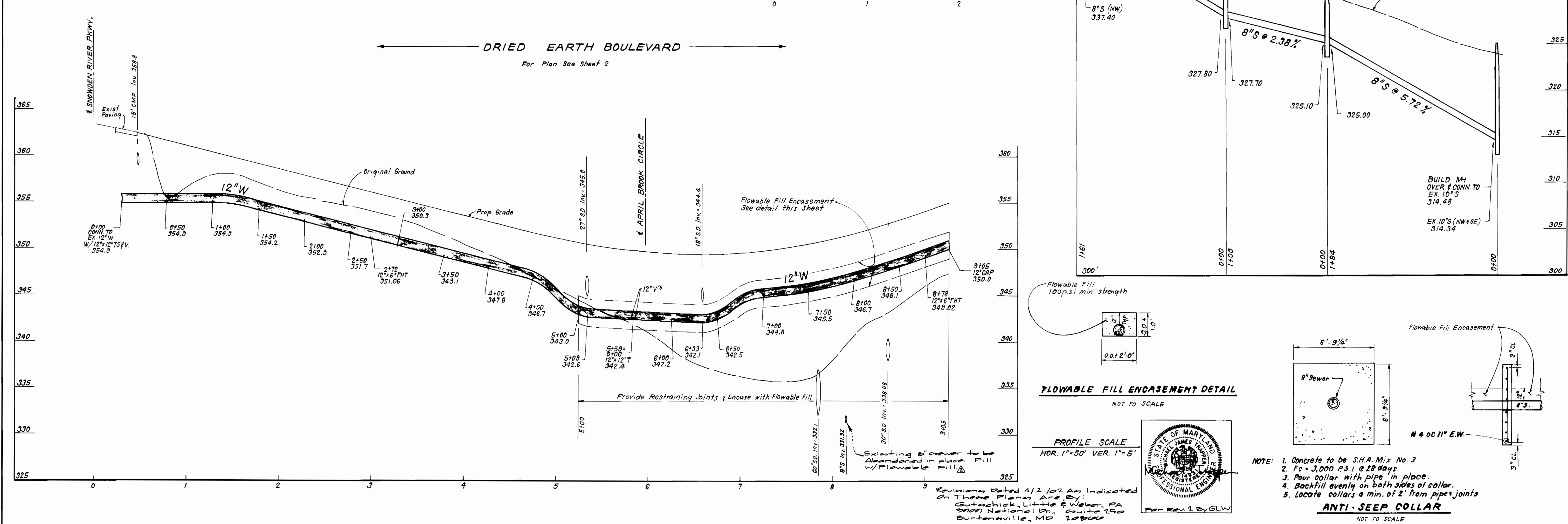
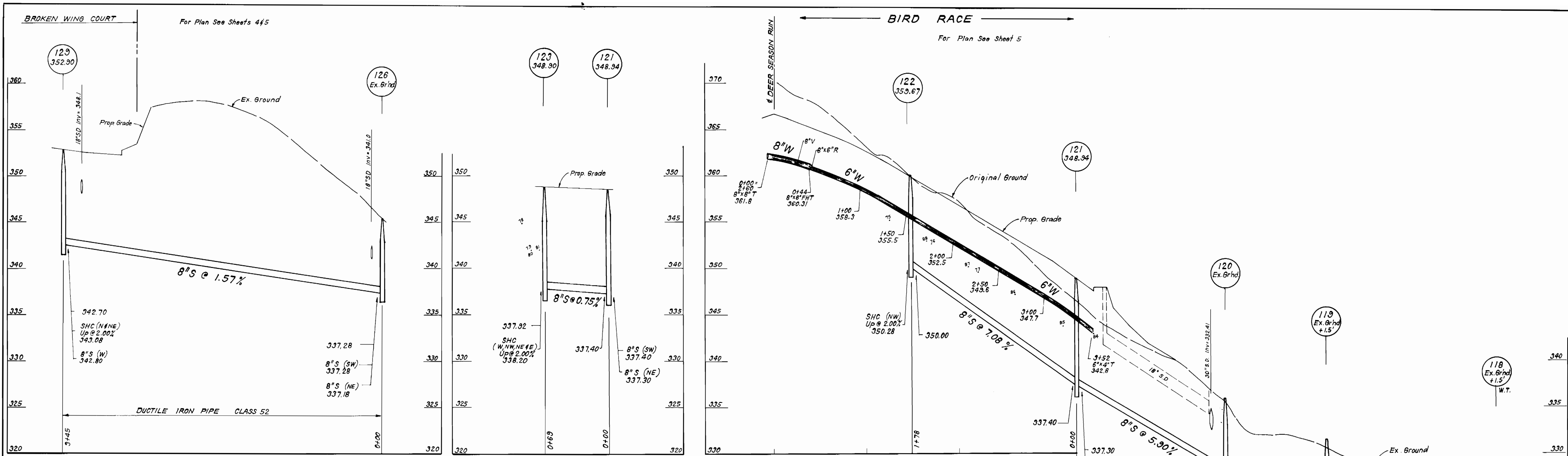
3355 WS/8 V.L.R. 4/2 lots 1-205



<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> 11/6/94 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>[Signature]</i> 11/20/94 CHIEF, BUREAU OF ENGINEERING DATE</p> <p><i>[Signature]</i> 11/20/94 CHIEF, BUREAU OF UTILITIES DATE</p> <p><i>[Signature]</i> 11/20/94 CHIEF, LAND DEVELOPMENT DIV. DATE</p>		<p><b>CLARK • FINEFROCK &amp; SACKETT, INC.</b> ENGINEERS • PLANNERS • SURVEYORS</p> <p>7135 MINSTREL WAY • COLUMBIA, MD 21045 (410)381-7500 BALT. • (301)621-8100 WASH.</p>		<p>STATE OF MARYLAND NELSON CLARK &amp; SACKETT</p>		<p>DES: _____</p> <p>DRN: _____</p> <p>CHK: _____</p> <p>DATE: _____</p>		<p>PROFILES OF WATER &amp; SEWER MAINS</p> <p>600' SCALE MAP NO. _____ BLOCK NO. _____</p>		<p>COLUMBIA, VILLAGE OF LONGREACH SECTION 4 AREA 2 LOTS 7 THRU 9, 12 THRU 16, 23 THRU 33, 41, 42, 55 THRU 59, 64, 70, 71, 74 THRU 150, 168 THRU 258 AND PARCELS A THRU F 6TH ELECTION DISTRICT CONTRACT No. 24-3355-D</p>		<p>SCALE AS SHOWN</p> <p>SHEET 8 OF 13</p>	
--	--	--	--	---	--	--	--	--	--	---	--	--	--



3355 WS/9 V.L.R. 4/2 lots 1-205

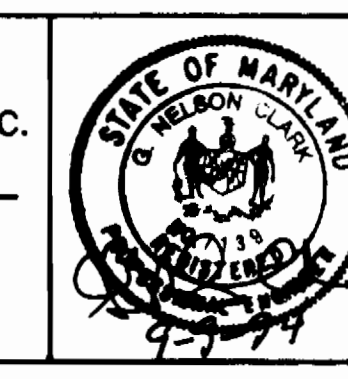


DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works  
Chief, Bureau of Engineering  
Chief, Bureau of Utilities  
Chief, Land Development Div.

CLARK • FINEPROCK & SACKETT, INC.  
ENGINEERS • PLANNERS • SURVEYORS

7135 MINSTREL WAY • COLUMBIA, MD 21045  
(410)381-7500 BALT. • (301)821-8100 WASH.



DES:			
DRN:			
CHK:	GLW	2	Abandon Ex. P's
DATE:	CPS	1	Rev. Flowable Fill Encasement Detail & Title Box
BY:	NO.	REVISION	DATE

PROFILES OF  
WATER & SEWER MAINS

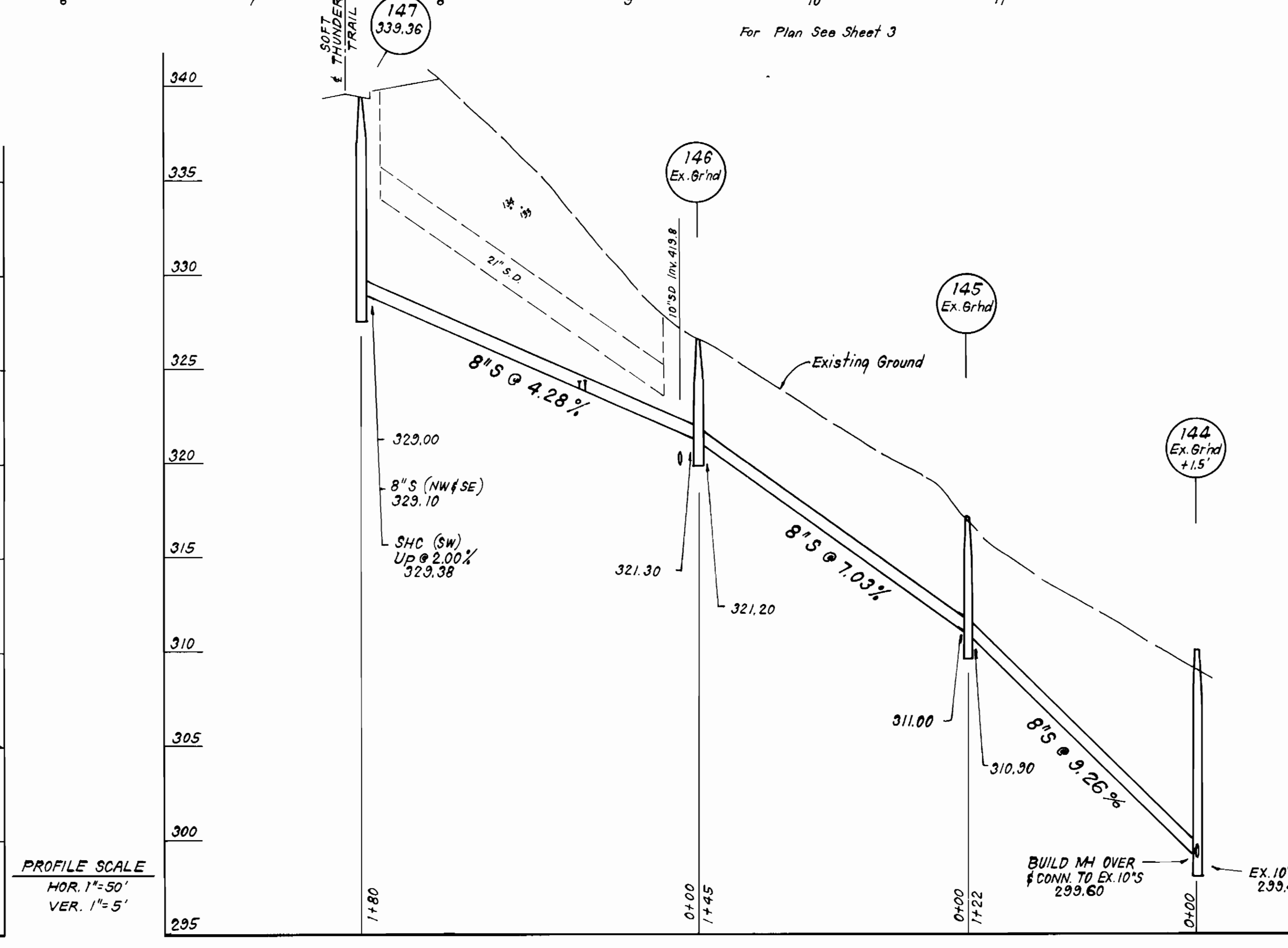
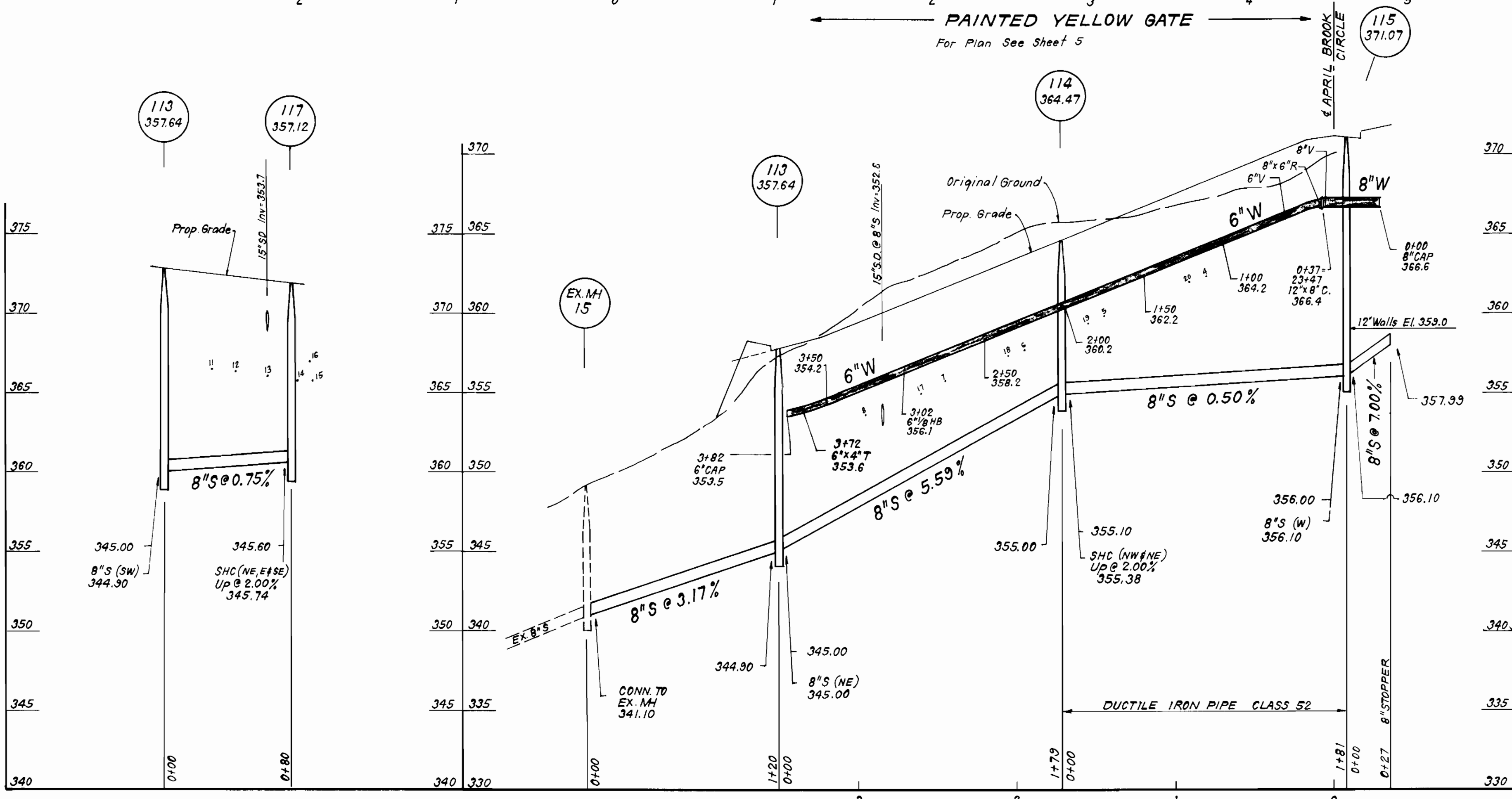
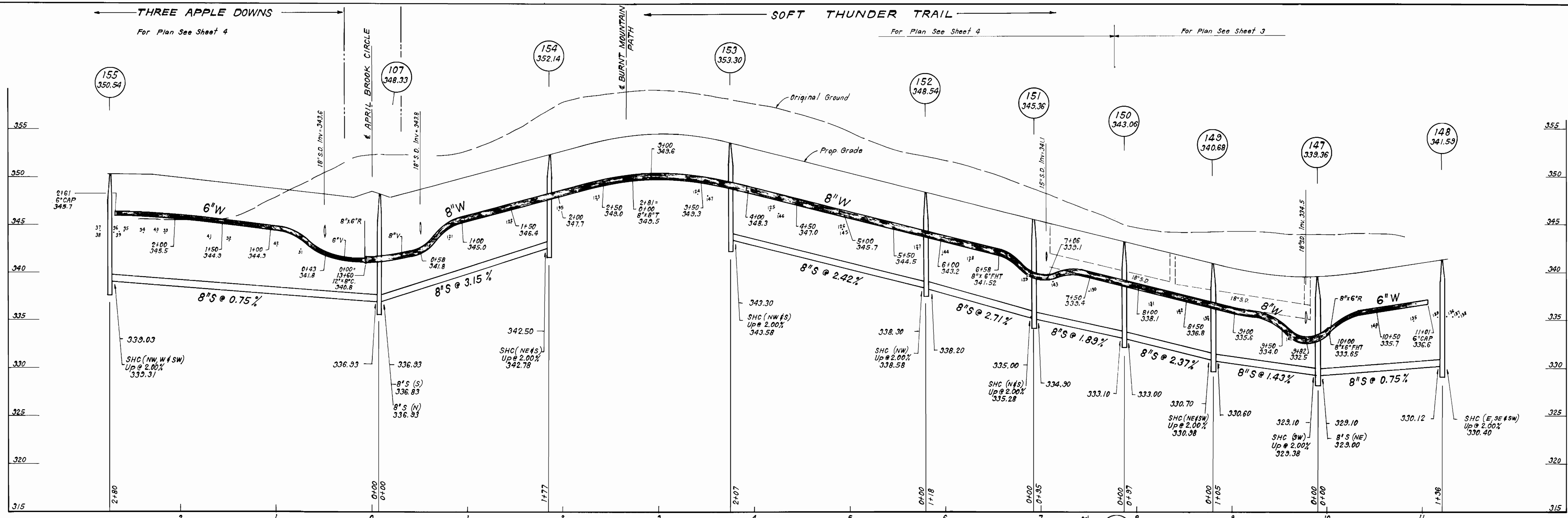
600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

COLUMBIA, VILLAGE OF LONGREACH  
SECTION 4, AREA 2  
LOTS 7 THRU 9, 12 THRU 16, 23 THRU 38, 41, 42, 55 THRU 59, 64, 70, 71,  
74 THRU 150, 168 THRU 258 AND PARCELS 'A' THRU 'F'

6TH ELECTION DISTRICT  
CONTRACT No. 24-3355-D

SCALE AS SHOWN  
SHEET 9 OF 13

3355 ws/10 v.l.r. 4/2 lots 1-205



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

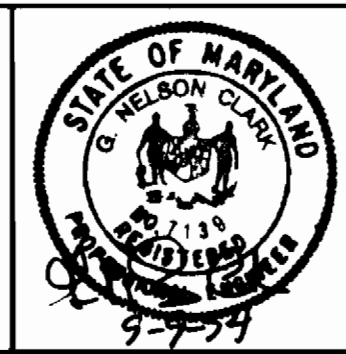
Director of Public Works  
Chief, Bureau of Utilities

Chief, Bureau of Engineering  
Chief, Land Development Div.

DATE: 11-18-94

CLARK • FINEFROCK & SACKETT, INC.  
ENGINEERS • PLANNERS • SURVEYORS

7135 MINSTREL WAY • COLUMBIA, MD 21045  
(410)381-7500 BALT. • (301)821-8100 WASH.



DES:	
DRN:	
CHK:	
DATE:	4-10-95
BY:	CPB
NO.:	1
REVISION:	Rev. Sewer profile between MH's 144 & 145, Title Box
DATE:	4-10-95

PROFILES OF  
WATER & SEWER MAINS

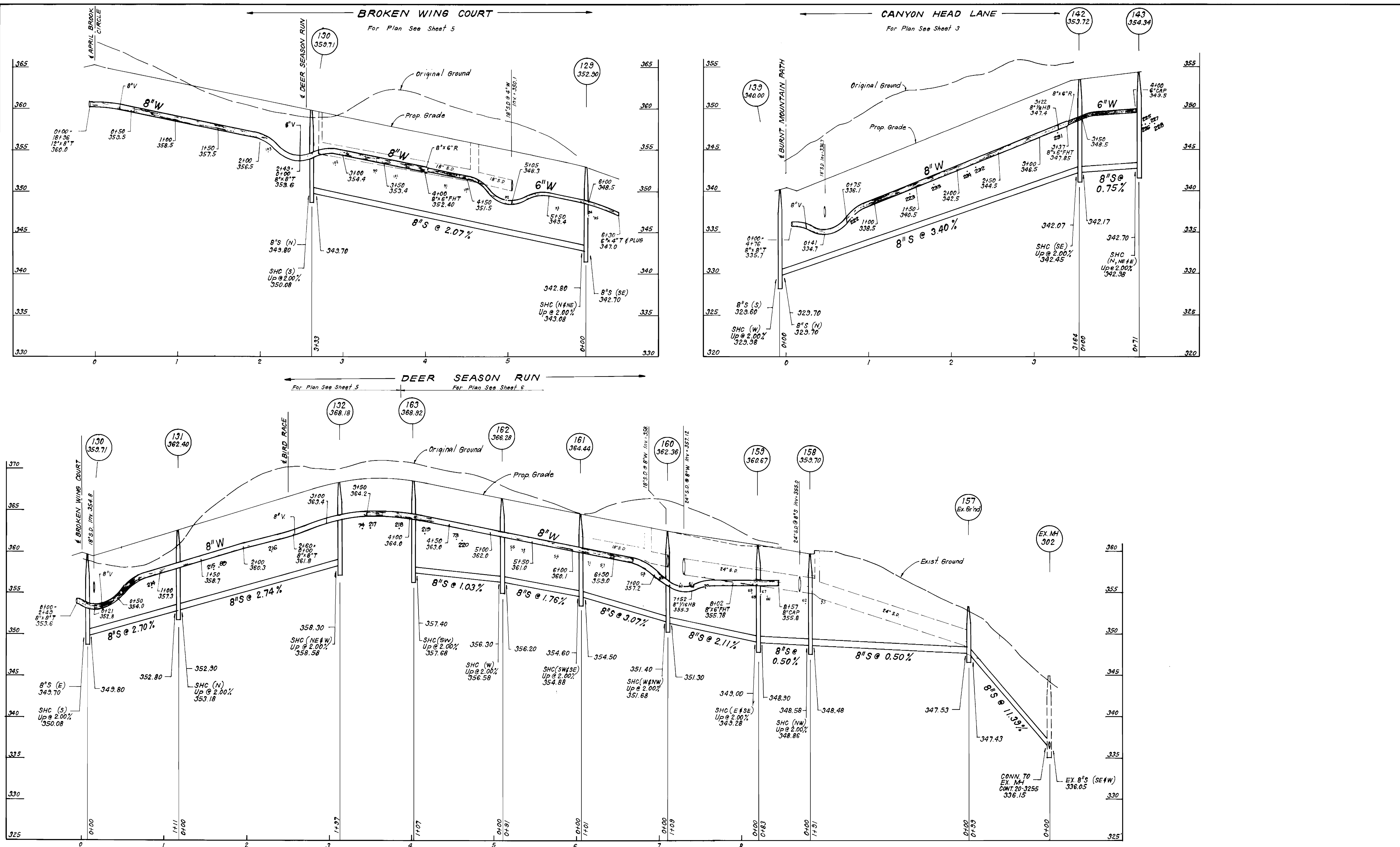
600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

COLUMBIA, VILLAGE OF LONGREACH  
SECTION 4 AREA 2  
LOTS 7 THRU 9, 12 THRU 16, 23 THRU 38, 41, 42, 55 THRU 59, 64, 70, 71,  
74 THRU 150, 168 THRU 259 AND PARCELS "A THRU F"  
6TH ELECTION DISTRICT

CONTRACT No. 24-3355-D

SCALE AS SHOWN  
SHEET 10 OF 13

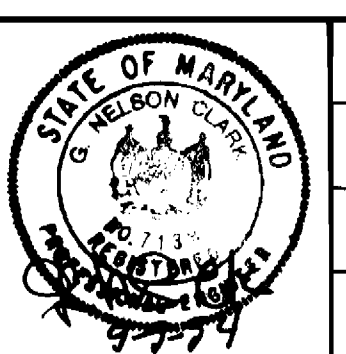
3355 ws/11 V.L.R. 4/2 lots 1-205



PROFILE SCALE  
HOR. 1" = 50' VER. 1" = 5'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
C. S. [Signature] 11/2/94  
CHIEF, BUREAU OF ENGINEERING  
R. [Signature] 11-18-94  
CHIEF, BUREAU OF UTILITIES

CLARK - FINEPROCK & SACKETT, INC.  
ENGINEERS - PLANNERS - SURVEYORS  
7135 MINSTREL WAY COLUMBIA MARYLAND 21045  
(301) 381-7500 BALTO. (301) 621-8100 WASH.

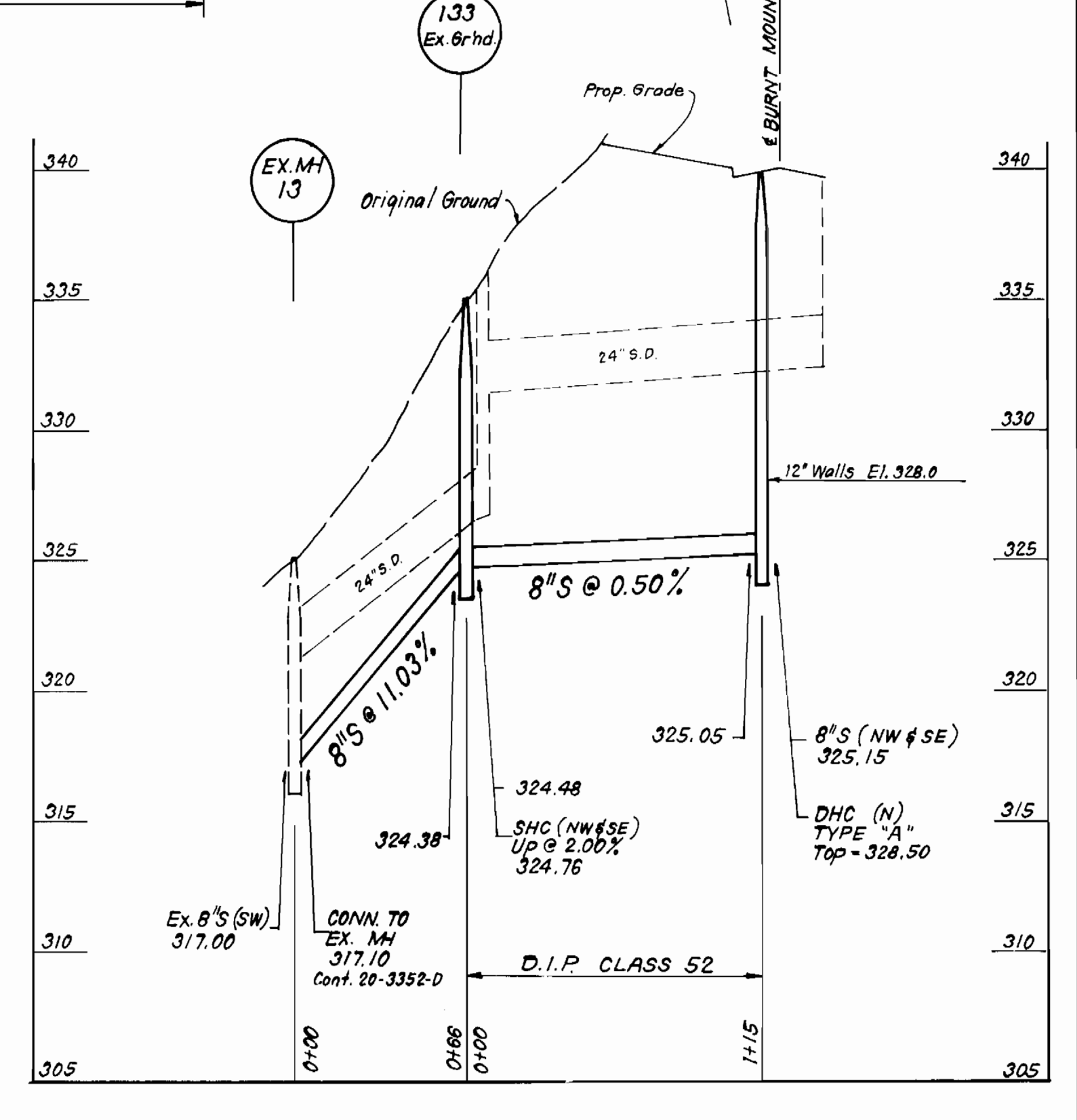
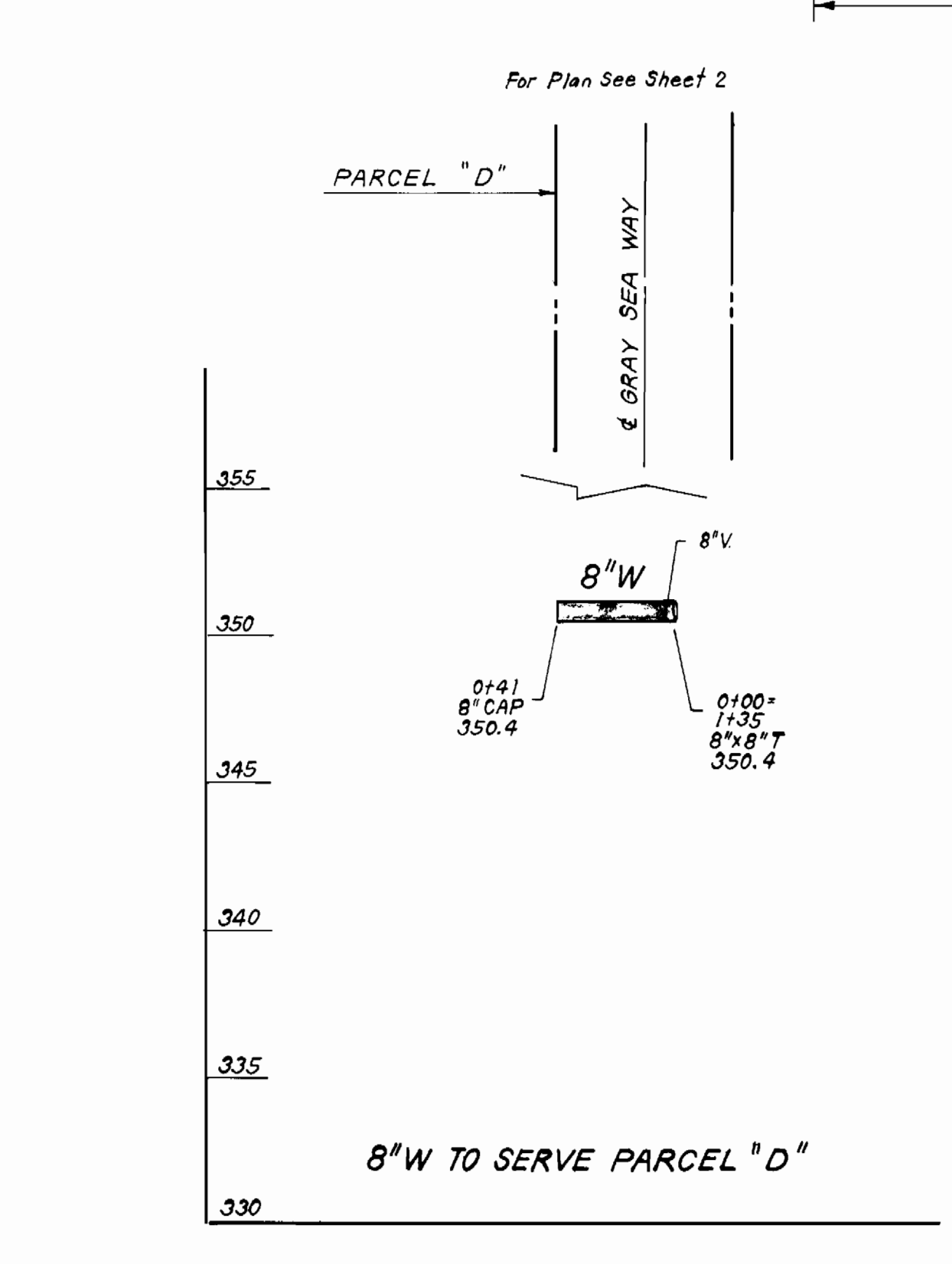
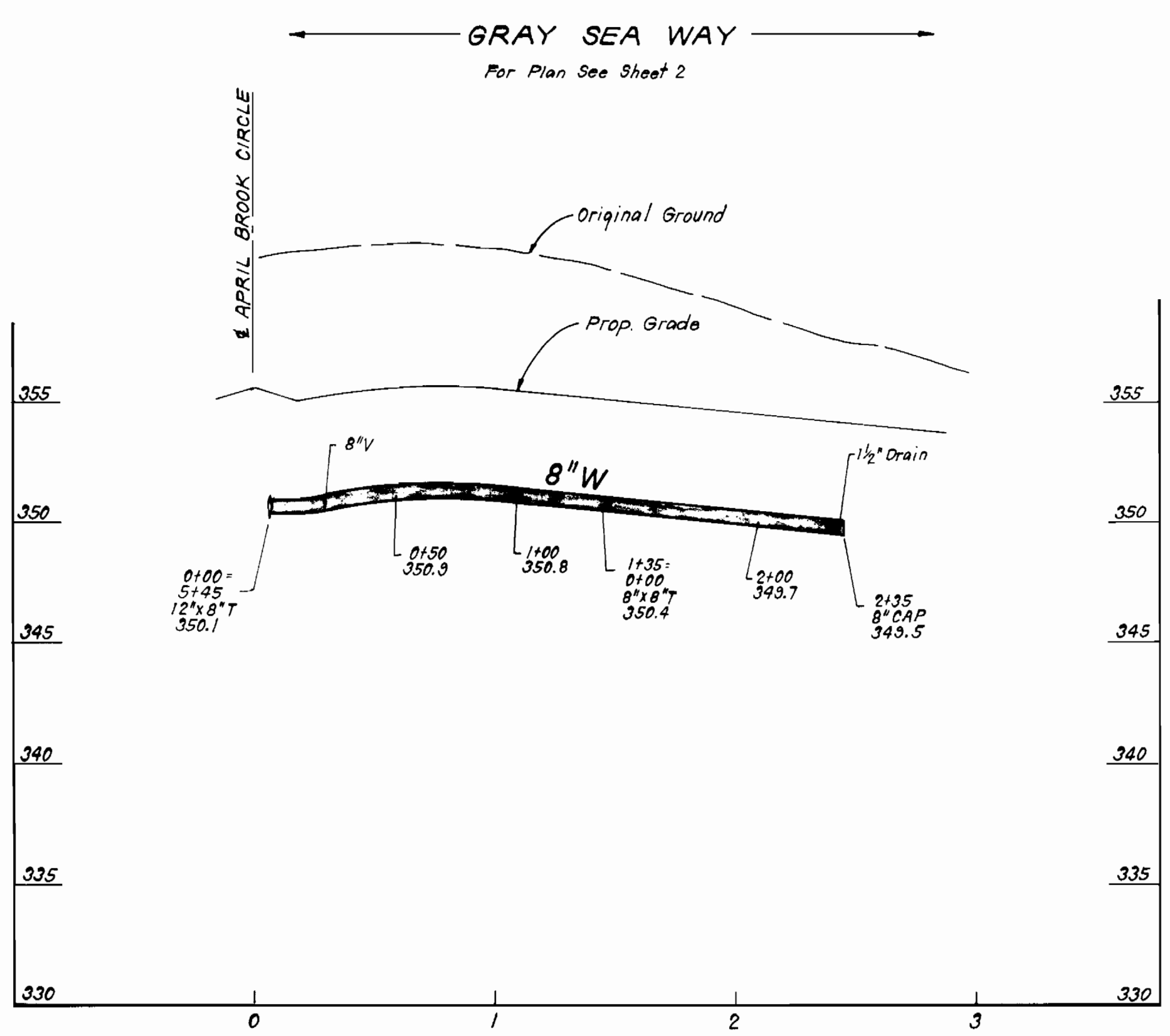
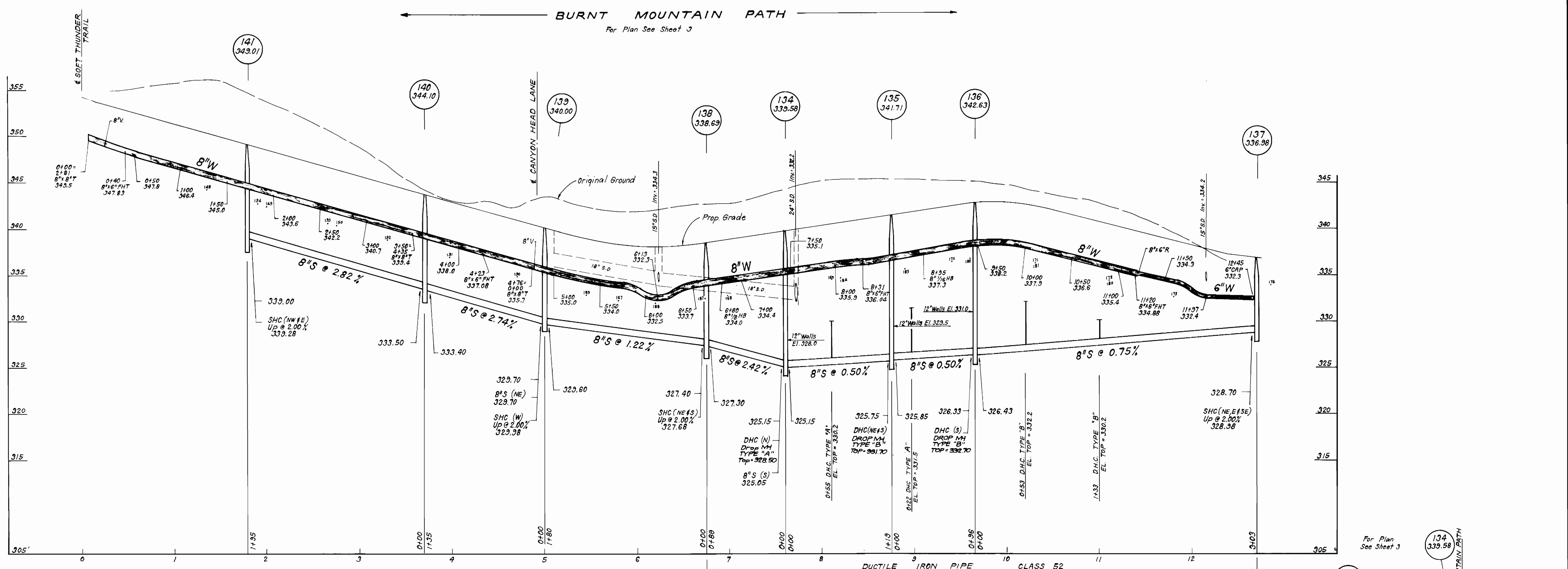


DES:			
DRN:			
CHK:	CFS	Deleted 1 BHC out of MH 163, Rev. Title Box	4.10.95
	CFS	Rev. Elev. 8"x8" T Sta. 2149 Broken Wing Ct	4.10.95
DATE:	BY:	NO.	REVISION

PROFILES OF  
WATER & SEWER MAINS  
600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

COLUMBIA, VILLAGE OF LONGREACH  
SECTION 4 AREA 2  
LOTS 7 THRU 9, 12 THRU 16, 23 THRU 38, 41, 42, 55 THRU 59, 64, 70, 71,  
74 THRU 150, 168 THRU 259 AND PARCELS "A" THRU "F"  
6TH ELECTION DISTRICT  
CONTRACT No. 24-3355-D  
SCALE AS SHOWN  
SHEET 11 OF 13

3355 WS/12 V.L.R. 4/2 lots 1-205



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*John J. ...* 11/20/94  
DIRECTOR OF PUBLIC WORKS DATE

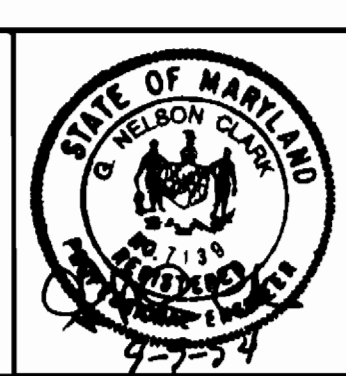
*C.E. ...* 11/20/94  
CHIEF, BUREAU OF ENGINEERING DATE

*Robert ...* 11-18-94  
CHIEF, BUREAU OF UTILITIES DATE

*...* 11/20/94  
CHIEF, LAND DEVELOPMENT DIV. DATE

**CFS** CLARK • FINEPROCK & SACKETT, INC.  
ENGINEERS • PLANNERS • SURVEYORS

7135 WINSTREL WAY • COLUMBIA, MD 21045  
(410)381-7500 BALT. • (301)821-8100 WASH.



DES:			
DRN:			
CHK:	CFS / Rev. Title Box	4-10-95	
DATE:	CFS / Rev. DHC Types 6M 134, 135 & 136, Rev. Headers @ 6' 6" 680	4-10-95	
BY:	NO.	REVISION	DATE

PROFILES OF  
WATER & SEWER MAINS

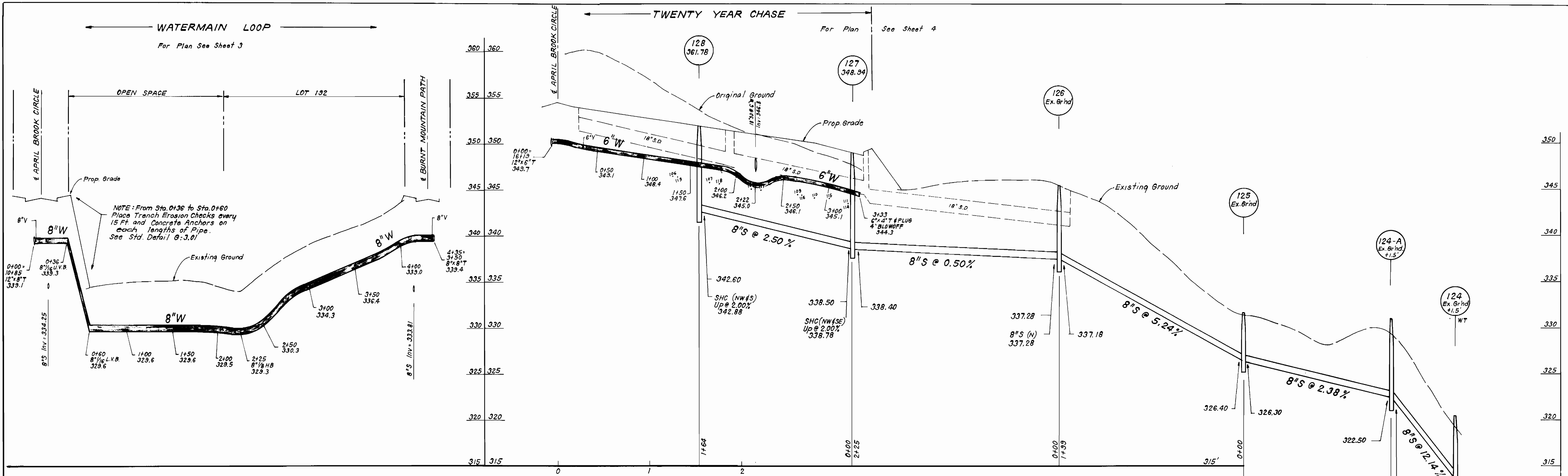
600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

COLUMBIA, VILLAGE OF LONGREACH  
SECTION 4 AREA 2  
LOTS 7 THRU 9, 12 THRU 16, 23 THRU 38, 41, 42, 55 THRU 59, 64, 70, 71,  
74 THRU 150, 188 THRU 258 AND PARCELS 'A' THRU 'F'  
6TH ELECTION DISTRICT

CONTRACT No. 24-3355-D

SCALE AS SHOWN  
SHEET 12 OF 13

3355  
 ws/13  
 V.L.R. 4/2  
 lots 1-205



**PERMANENT SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use one of the following schedules:

- 1) Preferred—Apply 2 tons per acre dolomitic limestone (92 lbs./100 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At the time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs./1000 sq.ft.)
- 2) Acceptable—Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq.ft.) and apply 1000 lbs. per acre 10-10-10 fertilizer (23 lbs./1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

SEEDING: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs./1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 lbs./1000 sq.ft.) of weeping lovegrass. During the period of October 15 thru February 28, protect site by Option (1) 2 tons per acre well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

MULCHING: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq. ft.) of untreated small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq.ft.) for anchoring.

MAINTENANCE: Inspect all seeded areas and make needed repairs, replacements and reseedings.

**TEMPORARY SEEDING NOTES**

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq.ft.)

SEEDING: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushel per acre of annual ryegrass (3.2 lbs./1000 sq.ft.) For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.7 lbs./1000 sq.ft.). For the period November 1 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

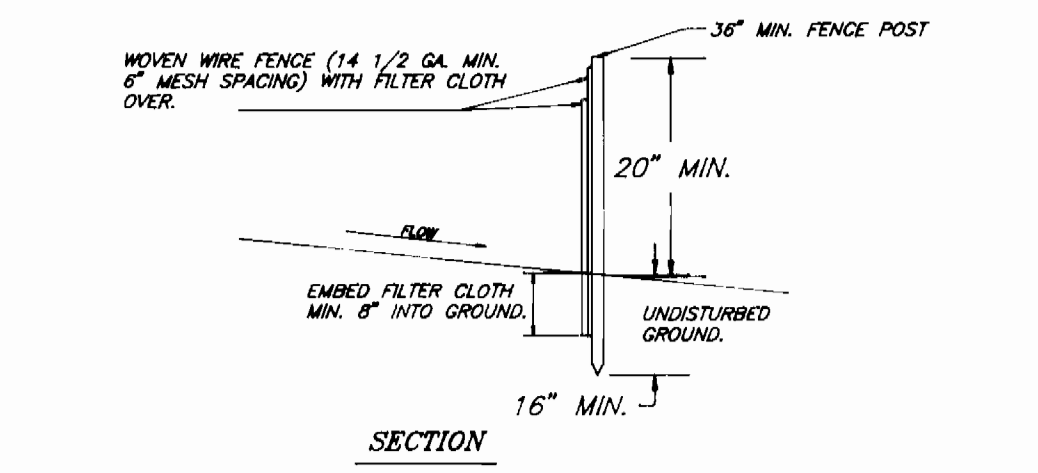
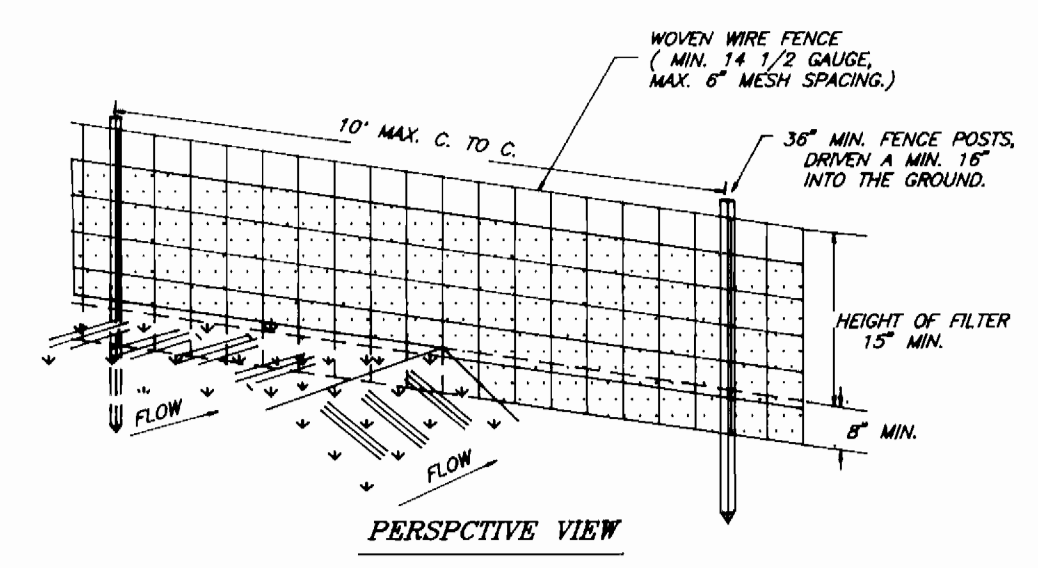
MULCHING: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq.ft.) of untreated small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq.ft.) for anchoring.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

**SEDIMENT AND EROSION CONTROL NOTES**

1. A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (892-2437).
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECS. FOR SOIL EROSION AND SEDIMENT CONTROL.
3. Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within:
  - a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1
  - b) 14 days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeters in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above, in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51), sod (Sec. 54), temporary seedings (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
7. SITE ANALYSIS:
 

Total Area of Site:	0.76 Ac.
Area Disturbed:	0.76 Ac.
Area to be roofed or paved:	0
Area to be vegetatively stabilized:	0.76 Ac.
Total Cut:	1,080 C.Y.
Total Fill:	1,080 C.Y.
Offsite Waste/Borrow Area Location:	N/A
8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment control must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.
10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.



STANDARD SYMBOL: — S — S — S —

**CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
  2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
  3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
  4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
- POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD.  
 FENCE: WOVEN WIRE, 14 GA., 6" MAX. MESH OPENING.  
 FILTER CLOTH: FILTER X, MURFAY 100X, STABILINKA 1740N, OR APPROVED EQUAL.  
 PREFABRICATED UNIT: GEOFAB, ENVROFENCE, OR APPROVED EQUAL.

**SILT FENCE (S)**  
NO SCALE

**CONSTRUCTION SEQUENCE:**

1. Obtain all necessary permits. (Wetlands Permit No.)
2. Install Sediment Control Devices.
3. Obtain approval of Sediment Control Inspector before proceeding with construction.
4. Install 8" Sewer, placing excavated dirt on the high side of the trench.
5. Stabilize all disturbed areas.
6. Obtain approval of Sediment Control Inspector before removing Sediment Control Devices.

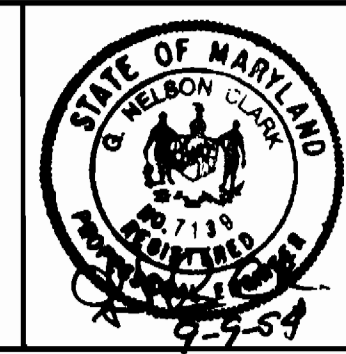
NOTE: Contractor shall meet all conditions set forth in the terms of the Wetlands Permit.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Chad W. ...* DIRECTOR OF PUBLIC WORKS  
*C.C. Zalta, acting* CHIEF, BUREAU OF ENGINEERING  
*...* CHIEF, BUREAU OF UTILITIES  
*...* CHIEF, LAND DEVELOPMENT DIV.

**CFS** CLARK • FINEPROCK & SACKETT INC  
 ENGINEERS • PLANNERS • SURVEYORS

7135 MINSTREL WAY • COLUMBIA, MD 21045  
 (410)381-7500 BALT. • (301)621-8100 WASH.



DES:	
DRN:	
CHK:	CFS 1 Revised Title Box 4-10-95
	Rev. Conc. Anchor Note on Watermain Loop 4-10-95
DATE:	
BY NO.	
REVISION	
DATE	

600' SCALE	MAP NO.	BLOCK NO.
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COLUMBIA, VILLAGE OF LONGREACH  
 SECTION 4 AREA 2  
 LOTS 7 THRU 9, 12 THRU 16, 23 THRU 38, 41, 42, 55 THRU 59, 64, 70, 71,  
 74 THRU 150, 168 THRU 258 AND PARCELS "A THRU F"  
 6TH ELECTION DISTRICT

CONTRACT No. 24-3355-D

SCALE AS SHOWN
SHEET 13 OF 13

3355 V.L.R. 4/2 AS-BLT. INFO.

LOT #	SHC	WMC	LOT #	SHC	WMC	LOT #	SHC	WMC	LOT #	SHC	WMC	LOT #	SHC	WMC
131	42' TO MH 150 36' TO SHC 132	18' TO SHC 131 6' TO WMC 132	149	47' TO MH 141 17' TO WMC 149	17' TO SHC 149 5' TO WMC 150	116	47' TO SHC 117 7' TO WMC 116	7' TO SHC 116 5' TO WMC 115	9	NO DATA	47' TO MH 113 5' TO WMC 8	212	33' TO MH 111	5' TO WMC 213
132	59' TO S.D. MH 36' TO SHC 131	6' TO WMC 131 36' TO SHC 132	150	52' TO WMC 150 76' TO B' VALUE	52' TO SHC 150 5' TO WMC 149	117	99' TO SHC 109 47' TO WMC 116	38' TO SHC 117 5' TO WMC 118	238	NO DATA	55' TO MH 113 5' TO WMC 9	213	23' TO MH 111 15' TO S.D. INLET	5' TO WMC 212
133	66' TO MH 146 118' TO MH 147	59' TO SHC 132 41' TO S.D. INLET	222	23' TO S.D. INLET 54' TO WMC 222	53' TO SHC 222 5' TO WMC 223	118	38' TO SHC 107 33' TO SHC 117	12' TO SHC 118 5' TO WMC 117	239	11' TO WMC 239 19' TO SHC 12	11' TO SHC 239 5' TO WMC 238	214	17' TO S.D. INLET 11' TO WMC 214	11' TO SHC 214 12' TO SHC 215
134	68' TO MH 146 114' TO MH 147	45' TO MH 147 72' TO SHC 135	223	12' TO WMC 223 98' TO SHC 224	12' TO SHC 223 7' TO WMC 222	119	39' TO SHC 118 38' TO WMC 119	38' TO SHC 119 5' TO WMC 120	12	62' TO MH 113 9' TO WMC 12	9' TO SHC 12 5' TO WMC 13	215	72' TO WMC 214 48' TO MH 131	47' TO SHC 215 5' TO WMC 214
135	72' TO WMC 134 33' TO MH 148	33' TO SHC 135 5' TO WMC 136	224	95' TO SHC 223 16' TO WMC 224	16' TO SHC 224 98' TO SHC 225	120	51' TO S.D. MH 93' TO MH 108	5' TO WMC 119 9' TO MH 109	13	39' TO MH 117 9' TO WMC 13	9' TO SHC 13 5' TO WMC 12	216	57' TO B' VALUE 7' TO WMC 216	7' TO SHC 216 5' TO WMC 215
136	6' TO WMC 136 29' TO MH 148	5' TO SHC 136 46' TO WMC 135	225	45' TO MH 143 98' TO WMC 224	11' TO SHC 225 7' TO WMC 224	121	19' TO S.D. INLET 46' TO WMC 121	46' TO SHC 121 6' TO WMC 122	14	25' TO MH 117 12' TO WMC 14	12' TO SHC 14 5' TO WMC 15	217	51' TO B' VALUE 17' TO WMC 217	17' TO SHC 217 57' TO B' VALUE
137	19' TO MH 148 22' TO SHC 136	8' TO SHC 137 6' TO WMC 138	226	27' TO MH 143 18' TO WMC 226	18' TO SHC 226 7' TO WMC 225	122	23' TO WMC 122 49' TO MH 154	23' TO SHC 122 6' TO WMC 121	15	11' TO WMC 15 21' TO SHC 16	11' TO SHC 15 5' TO WMC 14	218	34' TO MH 163 19' TO WMC 218	19' TO SHC 218 5' TO WMC 219
138	27' TO MH 148 44' TO SHC 139	6' TO WMC 137 21' TO SHC 138	227	32' TO MH 143 7' TO WMC 227	7' TO SHC 227 5' TO WMC 228	123	22' TO MH 154 89' TO WMC 123	89' TO SHC 123 5' TO WMC 124	16	27' TO SHC 15 34' TO MH 117	42' TO SHC 16 5' TO WMC 240	219	27' TO WMC 219 44' TO SHC 220	5' TO WMC 218 27' TO SHC 219
139	44' TO SHC 138 17' TO WMC 139	17' TO SHC 139 5' TO WMC 140	228	36' TO MH 143 11' TO WMC 228	11' TO SHC 228 5' TO WMC 227	124	19' TO MH 153 6' TO WMC 124	6' TO SHC 124 5' TO WMC 123	74	17' TO MH 132 9' TO WMC 74	9' TO SHC 74 49' TO SHC 217	220	72' TO MH 163 54' TO MH 162	21' TO SHC 220 5' TO WMC 219
140	97' TO MH 148 55' TO WMC 140	55' TO SHC 140 6' TO WMC 139	229	48' TO MH 142 12' TO WMC 229	12' TO SHC 229 47' TO SHC 228	125	53' TO MH 153 21' TO WMC 125	21' TO SHC 125 5' TO WMC 126	75	34' TO MH 122 12' TO WMC 75	12' TO SHC 75 5' TO WMC 76	55	31' TO MH 162 23' TO WMC 55	23' TO SHC 55 5' TO WMC 220
141	14' TO S.D. INLET 54' TO SHC 140	53' TO S.D. INLET 9' TO WMC 142	230	48' TO SHC 229 16' TO WMC 230	16' TO SHC 230 6' TO WMC 231	126	77' TO MH 152 57' TO WMC 126	57' TO SHC 126 5' TO WMC 125	76	43' TO MH 122 27' TO WMC 76	27' TO SHC 76 5' TO WMC 75	56	37' TO MH 161 13' TO WMC 56	13' TO SHC 56 64' TO WMC 55
142	34' TO MH 149 35' TO S.D. MH	34' TO SHC 142 9' TO WMC 141	231	39' TO WMC 231 76' TO WMC 224	39' TO SHC 231 6' TO WMC 230	127	74' TO SHC 126 16' TO WMC 127	16' TO SHC 127 6' TO WMC 128	77	76' TO SHC 86 53' TO SHC 76	5' TO WMC 78 37' TO SHC 77	57	13' TO WMC 57 42' TO SHC 58	13' TO SHC 57 40' TO SHC 56
143	96' TO WMC 148 38' TO MH 134	5' TO WMC 234 94' TO MH 148	232	79' TO SHC 231 24' TO WMC 232	24' TO SHC 232 5' TO WMC 233	128	56' TO MH 152 34' TO WMC 128	34' TO SHC 128 6' TO WMC 127	78	56' TO MH 123 39' TO WMC 78	39' TO SHC 78 5' TO WMC 77	58	42' TO SHC 57 17' TO WMC 58	17' TO SHC 58 5' TO WMC 59
144	38' TO S.D. MH 6' TO SHC 148	66' TO SHC 149 6' TO WMC 170	233	21' TO WMC 233 74' TO WMC 222	21' TO SHC 233 5' TO WMC 232	129	17' TO MH 151 64' TO SHC 129	26' TO SHC 129 5' TO WMC 130	79	25' TO MH 123 44' TO SHC 79	19' TO SHC 79 6' TO WMC 80	59	8' TO WMC 59 21' TO SHC 248	5' TO WMC 58 8' TO SHC 59
145	57' TO MH 148 15' TO WMC 140	16' TO SHC 170 6' TO WMC 169	234	25' TO S.D. INLET 32' TO WMC 234	32' TO SHC 234 5' TO WMC 168	130	76' TO MH 151 42' TO WMC 130	42' TO SHC 130 5' TO WMC 129	80	6' TO WMC 80 40' TO MH 123	6' TO SHC 80 5' TO WMC 79	248	21' TO SHC 59 24' TO WMC 248	24' TO SHC 248 5' TO WMC 249
146	55' TO MH 136 55' TO WMC 171	55' TO SHC 171 6' TO WMC 172	28	59' TO S.D. INLET 15' TO WMC 28	15' TO SHC 28 5' TO WMC 29	143	32' TO MH 151 26' TO WMC 143	26' TO SHC 143 39' TO MH 151	81	31' TO MH 123 8' TO WMC 81	8' TO SHC 81 5' TO WMC 82	249	19' TO WMC 249 61' TO SHC 250	19' TO SHC 249 5' TO WMC 248
147	29' TO WMC 172 71' TO SHC 173	6' TO WMC 171 29' TO SHC 172	29	55' TO MH 109 37' TO WMC 29	37' TO SHC 29 17' TO S.D. INLET	144	67' TO SHC 143 81' TO WMC 144	81' TO SHC 144 5' TO WMC 145	82	54' TO MH 120 81' TO S.D. MH	5' TO WMC 81	250	6' TO SHC 249 13' TO WMC 250	13' TO SHC 250 5' TO WMC 251
148	71' TO SHC 172 16' TO WMC 173	11' TO SHC 173 16' TO S.D. INLET	30	32' TO S.D. MH 9' TO WMC 30	9' TO SHC 30 70' TO SHC 29	145	87' TO MH 152 23' TO WMC 145	23' TO SHC 145 5' TO WMC 144	83	44' TO MH 120 89' TO S.D. MH	29' TO S.D. MH 5' TO WMC 84	251	29' TO MH 158 18' TO WMC 251	18' TO SHC 251 5' TO WMC 250
149	62' TO S.D. INLET 49' TO MH 137	16' TO SHC 174 6' TO WMC 175	31	86' TO WMC 42 12' TO WMC 31	12' TO SHC 31 20' TO S.D. INLET	146	43' TO WMC 146 70' TO SHC 145	43' TO SHC 146 5' TO WMC 147	84	32' TO MH 121 7' TO WMC 84	7' TO SHC 84 5' TO WMC 83	64	54' TO MH 157 37' TO MH 158	NO DATA
175	31' TO MH 137 15' TO WMC 175	13' TO SHC 175 6' TO WMC 174	32	77' TO SHC 32 59' TO SHC 41	77' TO SHC 32 5' TO WMC 33	147	18' TO WMC 147 34' TO MH 153	18' TO SHC 147 5' TO WMC 146	85	24' TO SHC 84 29' TO WMC 85	29' TO WMC 85 5' TO WMC 86	252	64' TO MH 157 132' TO MH 158	NO DATA
176	32' TO MH 137 35' TO SHC 175	5' TO WMC 177 5' TO SHC 176	33	11' TO WMC 33 70' TO MH 155	11' TO SHC 33 6' TO WMC 32	195	33' TO MH 154	NO DATA	86	43' TO MH 121 14' TO WMC 86	14' TO SHC 86 5' TO WMC 85	253	8' TO WMC 253 21' TO SHC 254	8' TO SHC 253 5' TO WMC 252
177	32' TO MH 137 42' TO S.D. INLET	14' TO SHC 177 5' TO WMC 176	34	25' TO SHC 33 7' TO WMC 34	7' TO SHC 34 5' TO WMC 35	196	22' TO MH 106 12' TO WMC 196	12' TO SHC 196 5' TO WMC 197	87	49' TO SHC 86 28' TO WMC 87	28' TO SHC 87 5' TO WMC 88	254	21' TO SHC 253 12' TO WMC 254	12' TO SHC 254 5' TO WMC 255
178	66' TO MH 137 16' TO WMC 178	16' TO SHC 178 16' TO S.D. INLET	35	50' TO MH 155 29' TO WMC 36	8' TO SHC 35 5' TO WMC 34	197	22' TO MH 106 32' TO WMC 197	32' TO SHC 197 5' TO WMC 196	88	12' TO WMC 88 19' TO MH 122	12' TO SHC 88 5' TO WMC 87	255	8' TO WMC 255 35' TO SHC 256	8' TO SHC 255 5' TO WMC 254
179	28' TO WMC 179 86' TO SHC 178	6' TO WMC 180 28' TO SHC 179	36	14' TO WMC 36 31' TO MH 155	14' TO SHC 36 29' TO SHC 35	198	9' TO MH 106 19' TO WMC 198	19' TO SHC 198 5' TO WMC 199	89	9' TO MH 131 9' TO WMC 89	9' TO SHC 89 5' TO WMC 90	256	36' TO SHC 255 12' TO WMC 256	12' TO SHC 256 5' TO WMC 70
180	44' TO WMC 180 79' TO SHC 181	44' TO SHC 180 4' TO WMC 179	37	47' TO MH 155 37' TO SHC 36	8' TO SHC 37 5' TO WMC 38	199	40' TO S.D. MH 31' TO WMC 199	31' TO SHC 199 5' TO WMC 198	90	9' TO MH 130 87' TO MH 131	5' TO WMC 89 16' TO MH 131	70	64' TO MH 159 61' TO MH 160	31' TO SHC 70 5' TO WMC 256
181	57' TO MH 136 23' TO WMC 181	23' TO SHC 181 6' TO WMC 182	38	43' TO MH 155 33' TO WMC 38	33' TO SHC 38 5' TO WMC 37	244	42' TO MH 112 18' TO WMC 244	13' TO SHC 244 5' TO WMC 245	91	87' TO SHC 90 6' TO WMC 91	21' TO SHC 91 6' TO WMC 92	71	19' TO MH 161 58' TO WMC 71	58' TO SHC 71 5' TO WMC 70
182	17' TO MH 136 28' TO WMC 182	28' TO SHC 182 6' TO WMC 181	41	61' TO SHC 247 59' TO SHC 32	26' TO SHC 41 5' TO WMC 42	245	60' TO MH 112 40' TO WMC 245	40' TO SHC 245 5' TO WMC 244	92	74' TO SHC 100 41' TO WMC 92	44' TO SHC 92 6' TO WMC 91	257	56' TO SHC 71 35' TO WMC 257	35' TO SHC 257 5' TO WMC 258
183	78' TO MH 136 74' TO SHC 182	5' TO WMC 184 13' TO SHC 183	42	53' TO WMC 42 50' TO S.D. INLET	53' TO SHC 42 5' TO WMC 41	23	61' TO MH 111 19' TO WMC 23	19' TO SHC 23 5' TO WMC 24	93	57' TO SHC 92 13' TO WMC 93	13' TO SHC 93 6' TO WMC 94	258	36' TO WMC 258 62' TO MH 163	36' TO SHC 258 5' TO WMC 257
184	10' TO MH 135 10' TO WMC 184	10' TO SHC 184 5' TO WMC 183	246	11' TO WMC 246 64' TO MH 115	11' TO SHC 246 5' TO WMC 247	24	16' TO S.D. INLET 29' TO WMC 24	29' TO SHC 24 5' TO WMC 23	94	16' TO WMC 94 33' TO SHC 95	16' TO SHC 94 6' TO WMC 95	208	37' TO MH 116 33' TO WMC 208	33' TO SHC 208 5' TO WMC 207
185	28' TO MH 135 49' TO EX. MH 13	35' TO MH 134 9' TO SHC 184	247	83' TO MH 115 27' TO WMC	27' TO SHC 247 5' TO WMC 246	25	11' TO WMC 25 71' TO SHC 24	11' TO SHC 25 5' TO WMC 26	95	28' TO MH 129 33' TO SHC 94	28' TO SHC 95 5' TO WMC 94	207	15' TO WMC 207 49' TO SHC 206	15' TO SHC 207 5' TO WMC 206
186	66' TO EX. MH 13 10' TO MH 133	7' TO WMC 187 10' TO SHC 184	105	48' TO S.D. MH 17' TO S.D. INLET	86' TO MH 109 5' TO WMC 106	26	47' TO MH 110 48' TO WMC 26	48' TO SHC 26 5' TO WMC 25	96	18' TO WMC 96	18' TO SHC 96 5' TO WMC 97	206	12' TO WMC 206 63' TO MH 116	12' TO SHC 206 71' TO MH 116
187	8' TO MH 138 19' TO WMC 187	19' TO SHC 187 7' TO WMC 186	106	44' TO WMC 106 31' TO WMC 107	5' TO WMC 105 46' TO SHC 106	27	51' TO MH 110 8' TO WMC 27	8' TO SHC 27 36' TO SHC 26	97	118' TO WMC 97 21' TO WMC 98	118' TO SHC 97 5' TO WMC 96			
188	56' TO MH 138 50' TO WMC 188	50' TO SHC 188 8' TO WMC 189	107	9' TO WMC 107 7' TO S.D. INLET	9' TO SHC 107 31' TO SHC 106	240	53' TO SHC 241 38' TO WMC 240	38' TO SHC 240 5' TO WMC 16	98	21' TO SHC 97 122' TO WMC 98	122' TO SHC 98 5' TO WMC 99			
189	22' TO WMC 189 62' TO MH 139	22' TO SHC 189 5' TO WMC 188	108	31' TO S.D. INLET 14' TO WMC 108	14' TO SHC 108 5' TO WMC 107	241	51' TO MH 114 53' TO SHC 240	39' TO SHC 241 5' TO WMC 242	99	33' TO WMC 99	33' TO SHC 99 5' TO WMC 98			
190	21' TO MH 139 63' TO WMC 190	63' TO SHC 190 5' TO WMC 191	109	32' TO WMC 109 29' TO SHC 110	32' TO SHC 109 5' TO WMC 108	242	35' TO MH 114 14' TO WMC 242	14' TO SHC 242 5' TO WMC 241	100	74' TO SHC 97 11' TO WMC 100	11' TO SHC 100 47' TO F.H.			
191	22' TO WMC 191 45' TO MH 140	22' TO SHC 191 5' TO WMC 190	110	13' TO SHC 110 7' TO WMC 110	7' TO SHC 110 5' TO WMC 111	243	13' TO WMC 243 55' TO SHC 242	13' TO SHC 243 96' TO B' VALUE	101	73' TO WMC 100 45' TO WMC 101	45' TO SHC 101 6' TO WMC 102			
192	33' TO MH 140 38' TO WMC 192	38' TO SHC 192 5' TO WMC 193	111	17' TO WMC 111	5' TO WMC 110 17' TO SHC 111	235	96' TO B' VALUE 11' TO WMC 235	11' TO SHC 235 5' TO WMC 236	102	54' TO MH 130 19' TO WMC 102	19' TO SHC 102 6' TO WMC 101			
193	32' TO WMC 193 97' TO MH 141	32' TO SHC 193 5' TO WMC 192	112	101 TO MH 127 126' TO WMC 126	NO DATA	236	23' TO MH 114 45' TO WMC 236	45' TO SHC 236 5' TO WMC 235	103	68' TO WMC 103 34' TO MH 130	68' TO SHC 103 2' TO WMC 104			
194	18' TO MH 141 23' TO WMC 194	23' TO SHC 194 96' TO SHC 193	113	88' TO MH 127 128' TO MH 126	23' TO MH 127 5' TO WMC 114	237	38' TO MH 114 10' TO WMC 237	10' TO SHC 237 5' TO WMC 7	104	18' TO MH 110	186' TO B' VALUE 6' TO WMC 103			
200	17' TO MH 105 11' TO WMC 200	11' TO SHC 200 23' TO MH 105	114	19' TO SHC 114 7' TO WMC 114	7' TO SHC 114 5' TO WMC 113	7	22' TO S.D. MH 31' TO WMC 7	32' TO SHC 7 5' TO WMC 237	210	34' TO MH 112 10' TO WMC 210	10' TO SHC 210 5' TO WMC 211			
148	47' TO MH 141 10' TO WMC 148	10' TO SHC 148 47' TO WMC 195	115	42' TO MH 127 11' TO WMC 115	11' TO SHC 115 5' TO WMC 116	8	9' TO WMC 8 27' TO SHC 7	9' TO SHC 8 5' TO WMC 9	211	28' TO WMC 211				