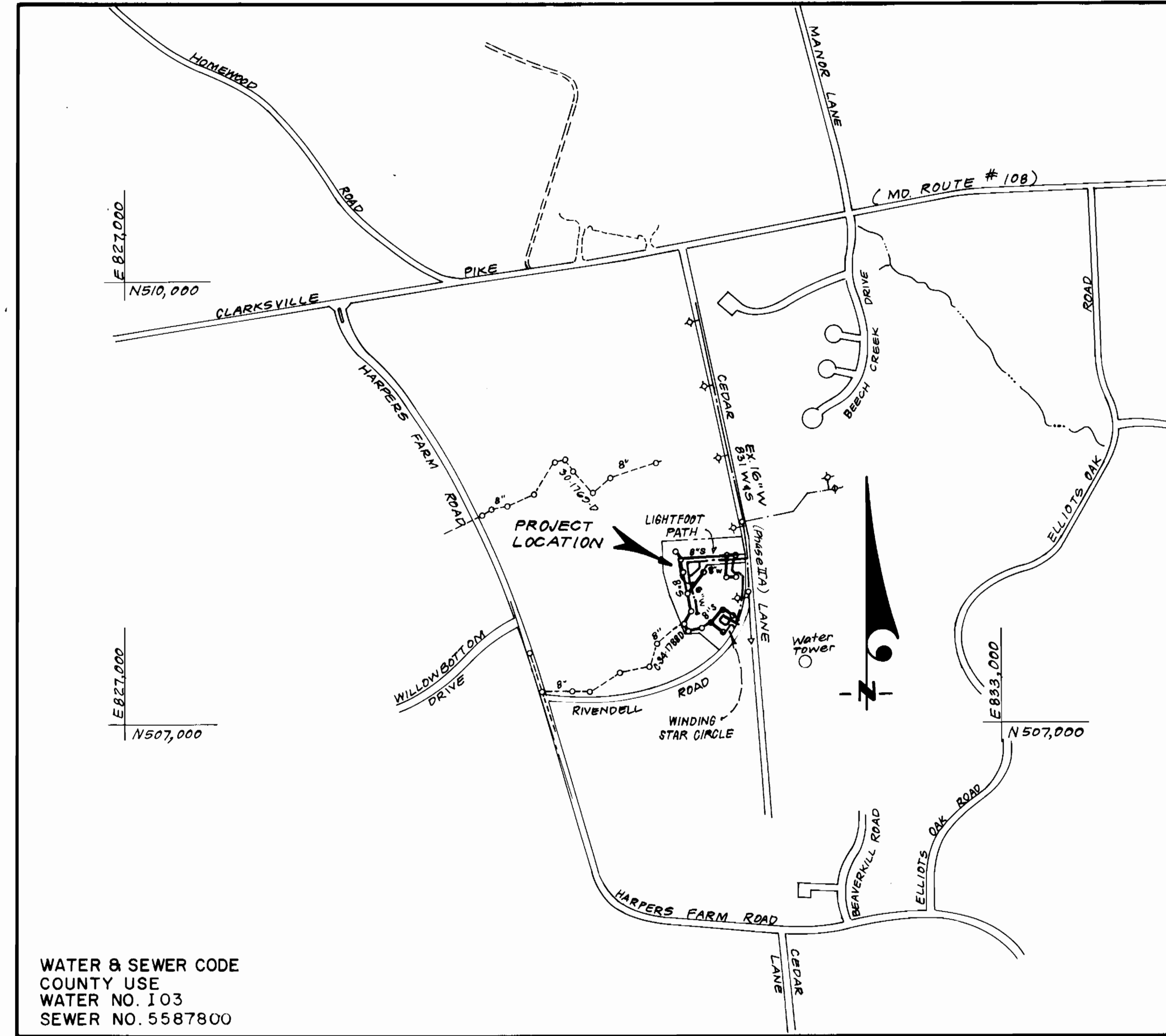


TYPE OF BUILDING	TOWNHOUSES
NO. OF LOTS	80
NO. OF WHC's	80
NO. OF SHC's	80
DRAINAGE AREA	MIDDLE PATUXENT (LITTLE PATUXENT WATER QUALITY MANAGEMENT CENTER)

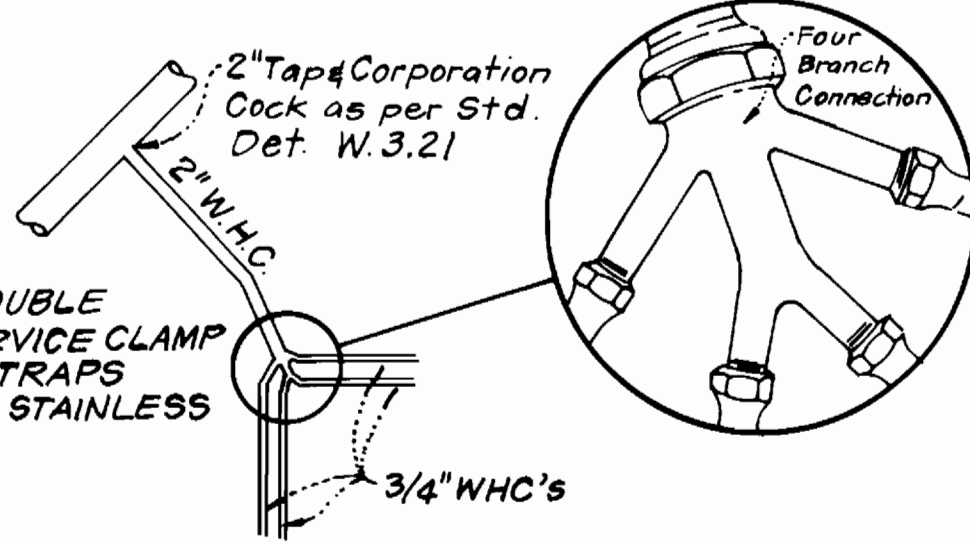
GENERAL NOTES

1. 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.
2. All horizontal controls are based on Maryland State Coordinates.
3. All vertical controls are based on U.S.G.S. Datum.
4. All pipe elevations shown are invert elevations.
5. 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.
6. For details not shown on the drawings use Howard County Standard Details.
7. For materials and construction methods use Howard County Standard Specifications and Howard County Design Manual, Volume IV, 1989 Amendments. The Contractor shall have Volume IV, 1989 Amend, on the job site.
8. 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.
9. 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 - 859-9004
 - Baltimore Gas & Electric Company - Contractor Services - 850-4620
 - 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 - 992-2366
 - Colonial Pipeline Company - 795-1390
10. 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.
11. 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.
12. 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.
13. All water mains to be D.I.P. Class 52 unless otherwise noted.
14. Top of all water mains to have a minimum of 3-1/2' cover unless otherwise noted.
15. Valves adjacent to tees shall be strapped to tees.
16. Block all fittings with concrete.
17. 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 Sections 1000 & 1005 of the Standard Specifications.
18. All water house connections shall be for an inside meter setting.
19. The contractor shall not operate any water main valves on the existing system.
20. All sewer mains shall be C.S.P.X., V.C.P.X., or P.V.C. unless otherwise noted.
21. The contractor shall provide a joint in all sewer mains within 2'-0" of exterior manhole wall.
22. All manholes shall be 4'-0" inside diameter, unless otherwise noted.
23. 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'.
24. Manholes designated thus: WT, shall have a Watertight Frame and Cover.
25. All D.I.P. fittings shall be in accordance with AWWA specification C-153 Ductile Iron Compact fittings, 3-inch through 12-inch for water and other liquids.



VICINITY MAP
SCALE: 1" = 600'

CONTRACT NO. 34-1919-D
VILLAGE OF HARPERS CHOICE
SECTION 7 AREA 2, LOTS C-1 THRU C-83
A RESUBDIVISION OF PARCEL "C"
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS



4-WAY WHC DETAIL
NO SCALE
LOTS C-8-C-11, C-28-C-31 and C-60-C-63

Sediment Control Measures will be implemented in accordance with Section 219 of the Specifications & with Road Construction Plan F-88-151; Drawing, Sediment & Erosion Control.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT:
[Signature]
SIGNATURE DATE

U.S. SOIL CONSERVATION SERVICE
This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

APPROVED:
[Signature]
Howard S.C.D. DATE

QUANTITIES			
ITEM	EST'D	AS BUILT	MATERIAL / SUPPLIER
8" S	1,914 L.F.	1035 L.F.	PVC SEWER PIPE - CERTAINTEED CORP.
8" W	1,004 L.F.	993 L.F.	DUCTILE IRON PIPE - GRIFFIN PIPE PRODUCTS CO.
6" W	900 L.F.	893 L.F.	DUCTILE IRON PIPE - GRIFFIN PIPE PRODUCTS CO.
6" SHC	25 L.F.	30 L.F.	PVC SEWER PIPE - CERTAINTEED CORP.
4" SHC	1,400 L.F.	1662 L.F.	PVC SEWER PIPE - CERTAINTEED CORP.
2" WHC	180 L.F.	170 L.F.	COPPER TUBING "K" TYPE - HALSTEAD CO.
1" WHC	810 L.F.	772 L.F.	COPPER TUBING "K" TYPE - HALSTEAD CO.
3/4" WHC	1135 L.F.	1066 L.F.	COPPER TUBING "K" TYPE - HALSTEAD CO.
4'-0" DIA. MH	14 EA.	14 EA.	PRECAST CONCRETE - ATLANTIC CONCRETE PRODUCTS INC.
FIRE HYDRANTS	4 EA.	4 EA.	C.I.F.H. MODEL # A-423 - MUELLER CO.
BLOW-OFF	1 EA.	1 EA.	HYDRANT EQUIP. MODEL BS - KUPFERLE FOUNDRY CO.
8" V	4 EA.	5 EA.	RESILIENT SEAT GATE VALVE, MODEL # A-2370-20 - MUELLER CO.
6" V (excl. F.H.)	5 EA.	4 EA.	RESILIENT SEAT GATE VALVE, MODEL # A-2370-20 - MUELLER CO.

WATER & SEWER AS BUILT

COLUMBIA, VILLAGE OF HARPERS CHOICE
SECTION 7 AREA 2
LOTS C-1 THRU C-83
A RESUBDIVISION OF PARCEL "C"
5TH ELECTION DISTRICT
CONTRACT NO. 34-1919-D

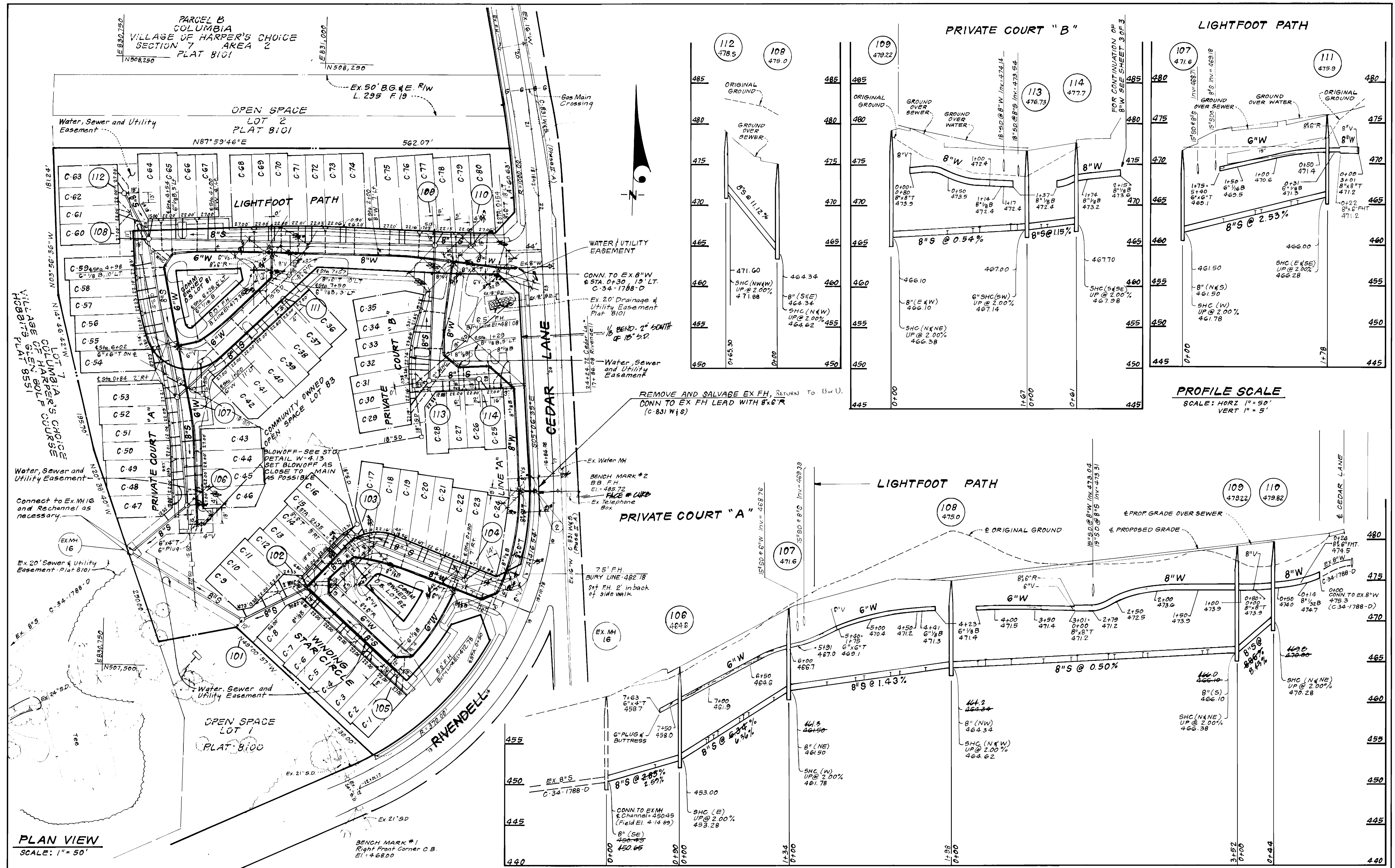
SCALE AS SHOWN
SHEET 1 OF 3

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>[Signature]</i> 10/23/89 DIRECTOR OF PUBLIC WORKS DATE <i>[Signature]</i> 10-17-89 CHIEF, BUREAU OF UTILITIES DATE	CLARK - FINEPROCK & SACKETT, INC. ENGINEERS - PLANNERS - SURVEYORS 7135 MINSTREL WAY COLUMBIA MARYLAND 21045 (301) 381-7500 BALTO. (301) 621-8100 WASH.	STATE OF MARYLAND GABRIELSON OFFICIAL <i>[Signature]</i> DATE 5/89
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DES: JTR			
DRN: VLM			
CHK: JTR			
DATE: 5/89	BY NO.	REVISION	DATE

TITLE SHEET
600' SCALE MAP NO. 29 BLOCK NO.

10/31/90 AS-BUILT



PLAN VIEW
SCALE: 1" = 50'

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

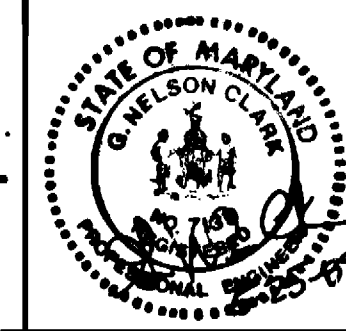
James J. ... 10-23-89
DIRECTOR OF PUBLIC WORKS DATE

Robert ... 10-17-89
CHIEF, BUREAU OF UTILITIES DATE

... 10/23/89
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: JTR	JTR	1	Rev. B'S Det M-15 108 & 112	7-13-90
DRN: VLM				
CHK: JTR				
DATE: 5/89	BY:	NO.	REVISION	DATE

PLAN & PROFILE OF
WATER & SEWER MAINS

600'S SCALE MAP NO. 29 BLOCK NO.

COLUMBIA, VILLAGE OF HARPERS CHOICE
SECTION 7 AREA 2
LOTS C-1 THRU C-83
A RESUBDIVISION OF PARCEL "C"
5TH ELECTION DISTRICT
CONTRACT NO. 34-1919-D

SCALE AS SHOWN
SHEET 2 OF 3

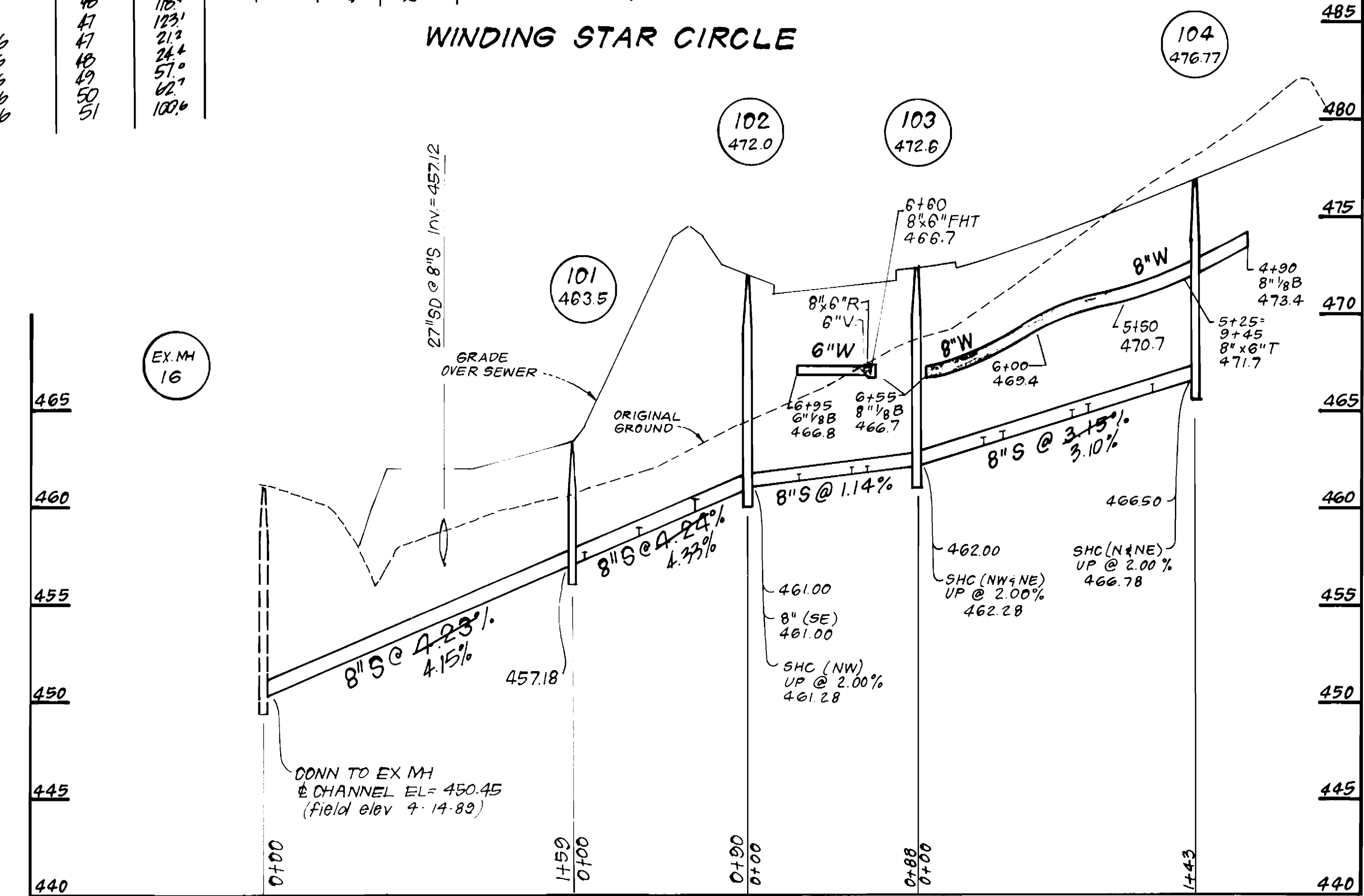
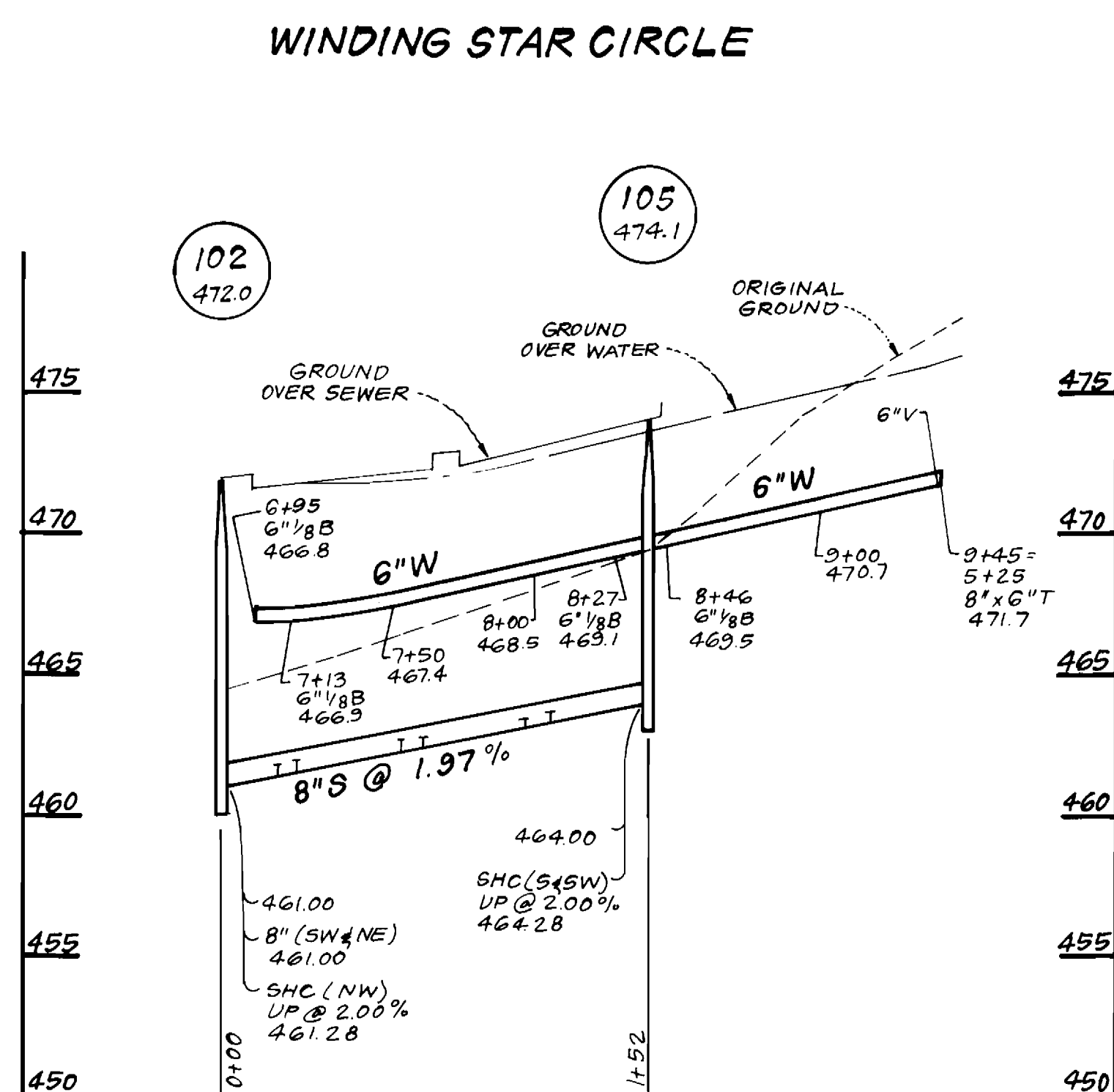
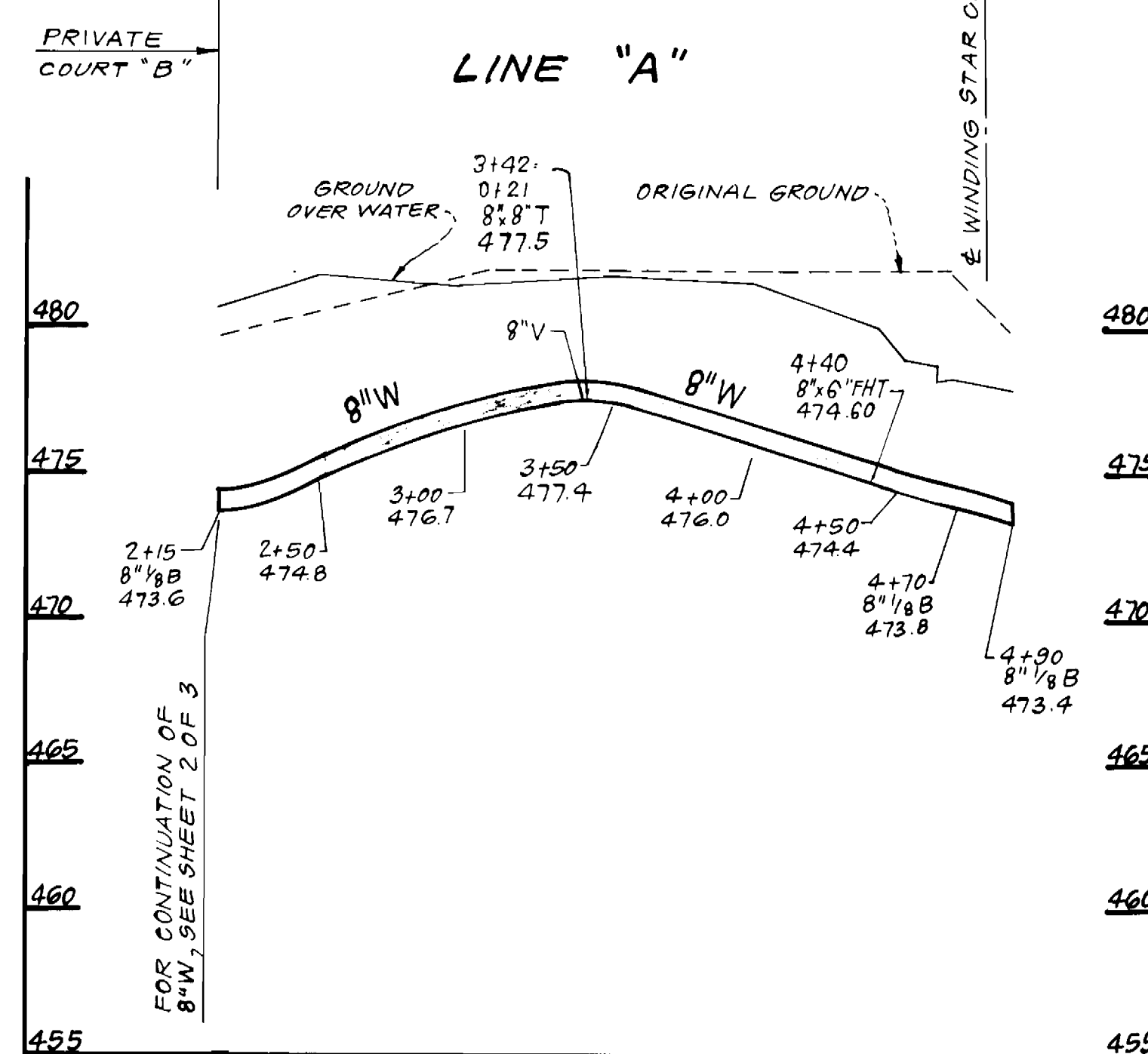
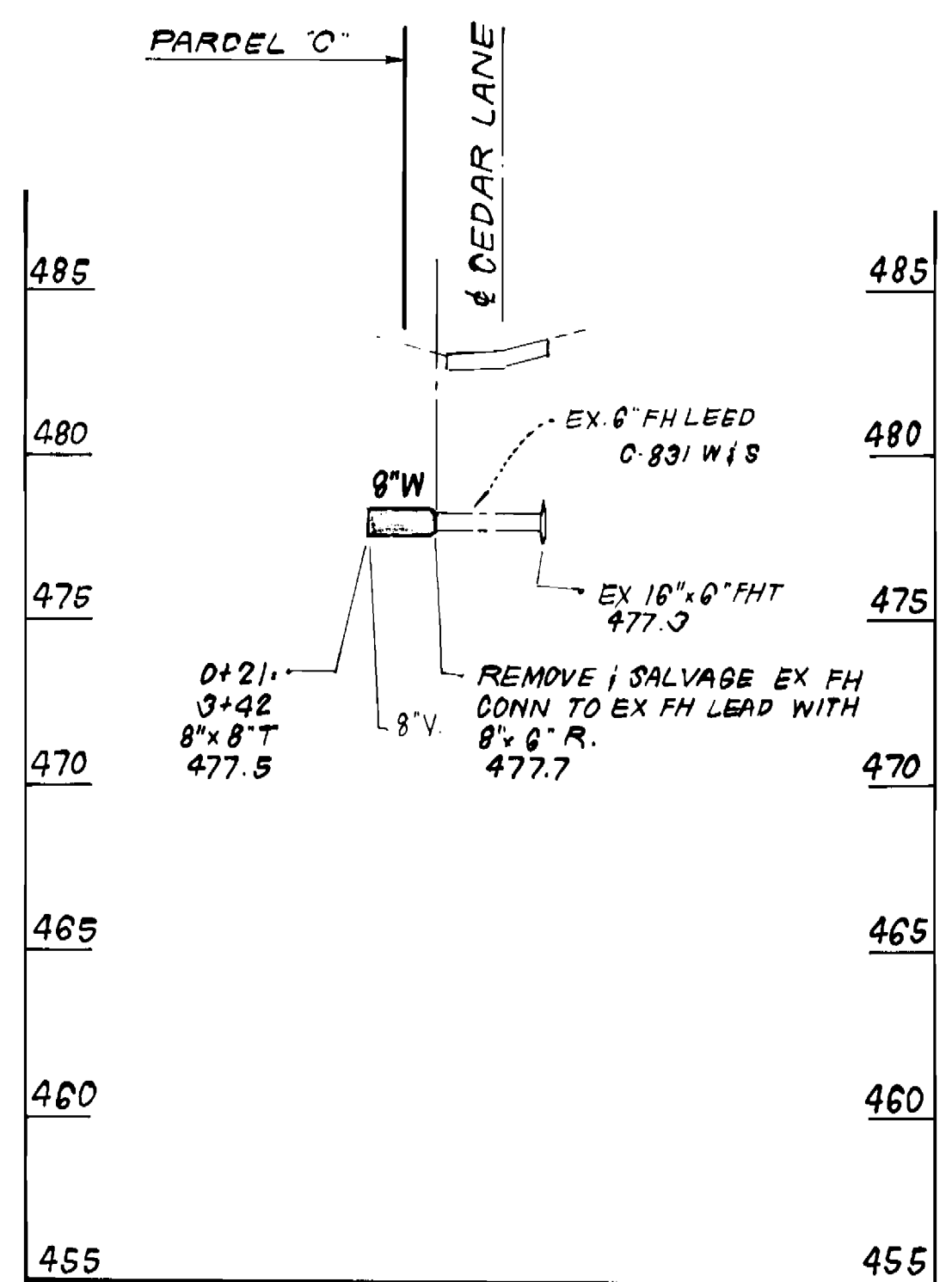
"AS BUILT" SEWER VILLAGE OF HARPERS CHOICE CONTRACT # 34-1919

"AS BUILT" WATER VILLAGE OF HARPERS CHOICE CONTRACT # 34-1919

SEWER HOUSE CONNECTION TABLE

FROM # M.H.	TO LOT #	DISTANCE	FROM # M.H.	TO LOT #	DISTANCE	FROM # M.H.	TO LOT #	DISTANCE	FROM # M.H.	TO LOT #	DISTANCE	FROM # M.H.	TO LOT #	DISTANCE
106	47	31.0	109	80	58.0	110	80	24.0	106	52	106.0	102	2	135.0
116	48	60.0	109	80	18.6	110	79	24.4	110	79	24.4	102	1	174.0
106	49	44.0	109	79	17.6	109	78	25.1	107	42	106.0	105	2	25.0
	50	76.0	109	78	39.0		61	31.3		40	111.1		1	23.0
	51	86.0	109	61	29.0		61	37.1		39	108.0		2	28.0
	52	117.1	109	60	59.0		60	156.0		30	156.0		3	64.0
	53	134.7	109	60	15.0		60	166.0		29	160.0		4	69.0
	46	22.0	109	60	42.5		61	205.0		37	160.0		5	108.0
	45	43.5	109	61	48.5		60	227.0		36	215.0		6	112.0
	44	53.0	109	60	78.3		11	193.7		37	215.0		7	82.0
	43	83.0	109	60	114.3		10	182.2		38	228.0		34	81.0
	52	27.4	109	70	155.0		9	142.0		39	228.0		33	129.0
	53	19.0	109	71	193.0		8	170.0		40	260.0		32	134.7
	51	51.4	109	72	201.1		7	191.0		41	102.5		31	146.0
	50	62.0	109	73	245.0		6	221.5		42	102.5		30	187.0
	49	95.6	109	74	243.5		5	227.7		43	28.0		29	207.0
	48	100.0	109	75	328.0		4	293.1		44	31.7		28	41.0
	43	61.1	109	76	314.0		3	299.1		45	67.0		27	27.0
	44	90.1	109	76	41.1		2	337.0		44	72.5		30	28.0
	45	134.2	109	75	44.1		1	341.3		43	73.0		31	45.0
	36	17.5	109	74	110.0		0	304.6		44	112.1		34	86.0
	37	42.0	109	72	152.0		0	65.0		46	116.7		35	91.0
	39	49.5	109	71	162.0		0	69.0		24	27.0		28	14.5
	40	84.1	109	70	197.0		0	127.5		23	24.0		27	41.0
	41	90.0	109	69	204.5		0	134.2		22	41.0		26	47.0
	42	130.0	109	68	220.4		0	164.0		21	45.1		25	79.0
	43	192.5	109	67	279.5		0	185.1		20	47.6		24	19.0
	38	140.2	109	66	311.7		0	216.3		19	80.0		23	22.0
	37	178.7	109	65	318.0		0	222.0		18	80.0		22	28.0
	36	187.0	109	64	347.0		0	254.5		17	130.1		21	36.0
	54	55.0	109	34	71.1		0	290.2		16	130.1		20	64.0
	55	87.1	109	33	104.4		0	321.0		15	23.0		19	37.0
	56	97.4	109	32	112.0		0	336.7		14	65.5		18	52.0
	57	129.1	109	31	151.1		0	381.0		13	105.1		17	46.0
	58	142.0	109	30	158.3		0	424.0		12	132.0		16	59.0
	59	172.4	109	29	229.0		0	461.0		11	146.7		15	71.0
	60	209.0	109	28	241.0		0	494.0		10	166.0		14	61.0
	61	247.0	109	27	280.0		0	529.0		9	182.0		13	62.0
	62	277.0	109	26	314.0		0	561.0		8	196.0		12	73.0
	63	314.0	109	25	341.0		0	594.0		7	211.0		11	84.0
	64	341.0	109	24	374.0		0	624.0		6	227.0		10	95.0
	65	374.0	109	23	404.0		0	651.0		5	244.0		9	106.0
	66	404.0	109	22	431.0		0	676.0		4	261.0		8	117.0
	67	431.0	109	21	455.0		0	700.0		3	278.0		7	128.0
	68	455.0	109	20	485.0		0	722.0		2	295.0		6	139.0
	69	511.7	109	19	511.7		0	742.0		1	312.0		5	150.0

LOTS	INV@ R	MIN. C.	LOTS	INV@ R	MIN. C.
C-1	464.6	467.6	C-42	463.2	466.2
C-2	464.5	467.5	C-43	458.6	461.5
C-3	463.7	466.7	C-44	456.6	459.6
C-4	463.5	466.5	C-45	455.8	458.8
C-5	462.8	465.8	C-46	453.7	456.6
C-6	462.7	465.7	C-47	452.5	455.3
C-7	462.0	465.0	C-48	455.6	458.6
C-8	461.8	464.8	C-49	456.1	459.1
C-9	455.7	456.0	C-50	458.1	461.1
C-10	459.0	461.9	C-51	458.8	461.8
C-11	460.5	463.4	C-52	460.7	463.7
C-12	461.6	464.7	C-53	462.0	465.0
C-13	461.7	464.8	C-54	462.6	465.9
C-14	462.0	465.1	C-55	463.2	466.4
C-15	462.1	465.2	C-56	463.4	466.6
C-16	462.5	465.6	C-57	463.9	467.1
C-17	462.5	465.6	C-58	464.0	467.2
C-18	463.6	466.8	C-59	464.4	467.7
C-19	463.9	467.1	C-60	465.3	468.3
C-20	465.0	468.2	C-61	467.8	470.8
C-21	465.3	468.5	C-62	472.1	475.1
C-22	466.3	469.5	C-63	472.2	475.2
C-23	467.1	470.3	C-64	465.1	468.2
C-24	467.2	470.4	C-65	465.2	468.3
C-25	468.3	471.4	C-66	465.3	468.4
C-26	468.2	471.2	C-67	465.4	468.5
C-27	467.7	470.7	C-68	465.4	468.5
C-28	467.6	470.6	C-69	465.6	468.7
C-29/C-30	467.9	470.9	C-70	465.7	468.8
C-31	467.6	470.6	C-71	465.9	469.4
C-32	467.6	470.6	C-72	465.9	469.4
C-33	467.3	470.3	C-73	466.1	469.6
C-34	467.2	470.2	C-74	466.1	469.6
C-35	466.9	470.1	C-75	466.4	469.9
C-36	466.6	469.6	C-76	466.5	470.0
C-37	466.6	469.6	C-77	466.7	470.2
C-38	465.5	468.5	C-78	466.8	470.3
C-39	465.3	468.3	C-79	470.6	474.1
C-40	464.4	467.4	C-80	470.7	474.2
C-41	464.2	467.2			



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

10/23/89
DATE

10-17-89
DATE

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

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



DES: JTR
DRN: VLM
CHK: VTR
DATE: 5/89

JTR 1
Rev. Sewer House Conn. Table - Lots C-61, C-62, C-63 7-13

BY NO. REVISION DATE

PROFILES OF
WATER & SEWER MAINS

600' SCALE MAP NO. 22 BLOCK NO.

COLUMBIA, VILLAGE OF HARPERS CHOICE
SECTION 7 AREA 2
LOTS C-1 THRU C-83
A RESUBDIVISION OF PARCEL "C"
5TH ELECTION DISTRICT
CONTRACT NO. 34-1919-D

SCALE
HORZ 1"=50'
VERT 1"=5'

SHEET
3 OF 3