
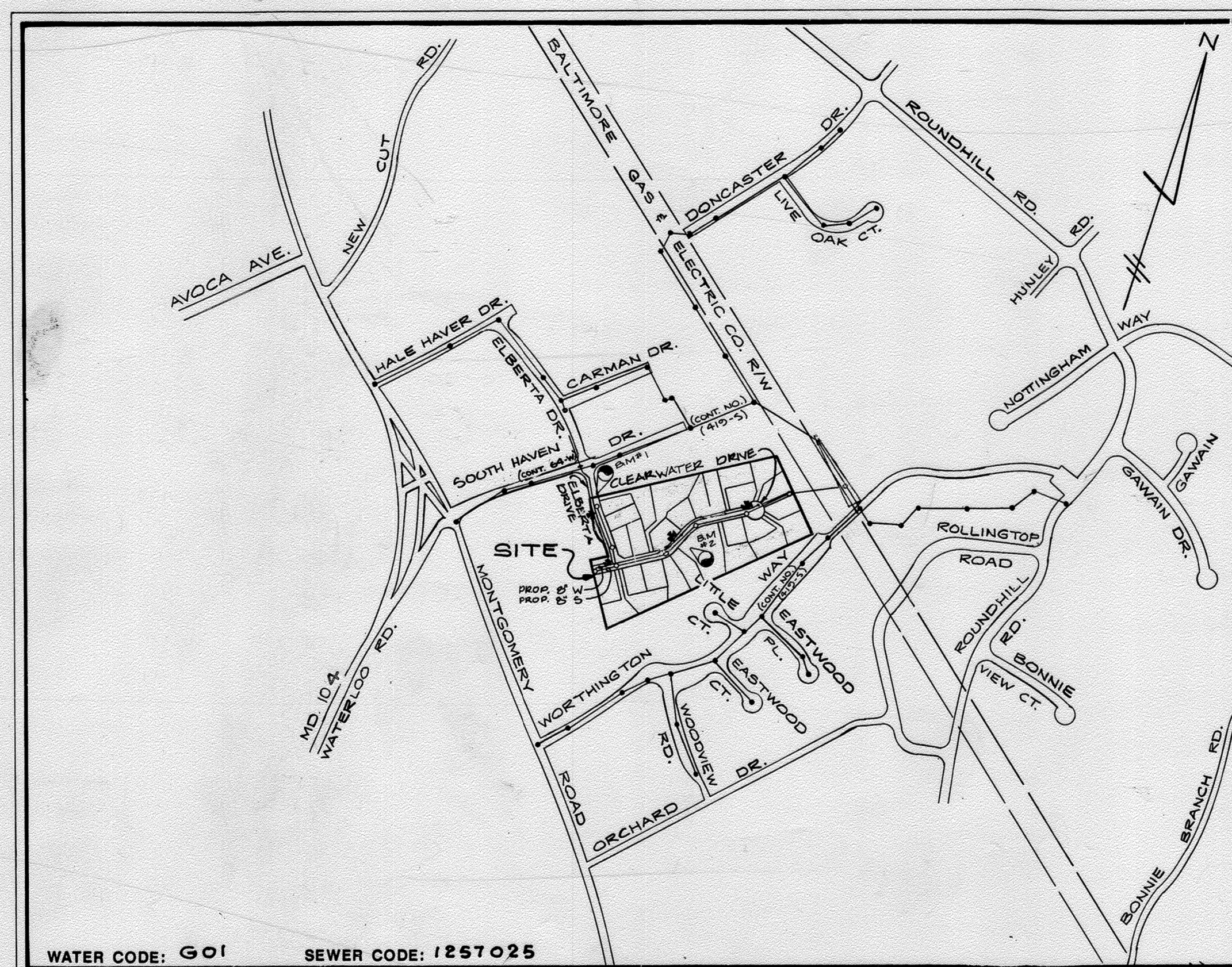


GENERAL NOTES

- 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 U.S.G.S. data.
- 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".
- 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. **AMENDMENTS**
- Where test pits have been made on existing utilities, they are noted by the symbol  at the location 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:
 

State Highway Administration	531-5533
Baltimore Gas & Electric Company	561-2588
Contractor Services	234-5821
Underground Damage Control	298-9013
Trouble Shooting	1-559-0100
Miss Utility	792-1390
Colonial Pipeline Company	982-2366
Howard County Department of Public Works	
Bureau of Utilities	
- 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 trees, stumps and roots along line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.
- All water mains to be D.I.P. class 52 unless otherwise noted.
- Tops of all water mains to have a minimum of 3.5' cover unless otherwise noted.
- Valves adjacent to tees shall be strapped to tee.
- 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 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 shall be compacted in accordance with Section 100D and 100E of the standard specifications.
- The contractor shall not operate any water main valves on the existing water 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.
- All sewer mains shall be C.S.P.X., R.C.S.P., V.C.P.X., A.C.P., Class 2400 or P.V.C. unless otherwise noted. The contractor shall provide a joint in all sewer mains within 2'0" of the exterior manhole wall.
- All manholes shall be 4'-0" inside diameter unless otherwise noted.
- Manholes shown with 12" and 18" walls are for brick manholes only.
- Manholes located within proposed roadway shall have standard heavy traffic manhole frame and cover, standard detail 05.51.
- All water house connections shall be inside meter setting.
- All D.I.P. fittings shall be in accordance with A.W.W.A. Specification C-155 ductile iron compact fittings, 2-inch through 12-inch for water & other liquids.



WATER CODE: 601	SEWER CODE: 1257025
TYPE OF BUILDINGS	RESIDENTIAL
NUMBER OF LOTS	27
NO. OF WATER HOUSE CONNECTIONS	31
NO. OF SEWER HOUSE CONNECTIONS	31
DRAINAGE AREA	PATAPSCO

VICINITY MAP  
SCALE: 1"=600'

OWNER / DEVELOPER

RALPH E. NOPP  
8100 ELBERTA DR.  
ELLCOTT CITY, MD.  
21043

CHATEAU HOMES, INC.  
8100 WOODED GLEN CT.  
ELLCOTT CITY, MD.  
(301) 793-5001

\*FIRE HYDRANTS INCLUDE ALL NECESSARY VALVES, FITTINGS, AND STRAPPINGS

ITEM	ESTIMATE	AS-BUILT	SUPPLIER
8" D.I.P. SEWER	-	266 L.F.	Griffin Pipe Products
4" D.I.P. SEWER	-	650 L.F.	Griffin Pipe Products
METER VAULT 3/4"	1 EA	1 EA	VESTAL MFG.
8" SEWER	1,178 L.F.	1,178 L.F.	J.M. Manufacturing Corp.
4" SEWER (with flow)	517 L.F. Δ	1013 L.F.	J.M. Manufacturing Corp.
MANHOLES	10 EA	10 EA	ATLANTIC CONCRETE PRODUCTS
FILE HYDRANT	4 EA	4 EA	U.S. PIPE
8" WATER	1,514 L.F.	1,514 L.F.	Griffin Pipe Products
6" WATER	49 L.F. Δ	56 L.F.	Griffin Pipe Products
1" AHC	305 L.F.	47 L.F.	Howell Metals
3/4" WHC	604 L.F. Δ	935 L.F.	Howell Metals
8" VALVES	2 EA	2 EA	Messer Company
6" REDUCER	1 EA	1 EA	Griffin Pipe Products
8" BLOW OFF	2 EA	2 EA	Griffin Pipe Products

QUANTITIES

CONTRACT NO. 14-1680-D  
BROOKFIELD  
SECOND ELECTION DISTRICT HOWARD COUNTY, MD.

SCALE AS SHOWN SHEET 1 OF 1

SEDIMENT CONTROL MEASURES FROM THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 210 OF THE SPECIFICATIONS AND AS SHOWN ON THE FINAL ROAD CONSTRUCTION PLANS (F-89-27).

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

*James M. Nelson* 6/26/89  
SOIL CONSERVATION SERVICE DATE

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

*Stephen L. ...* 6/26/89  
HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

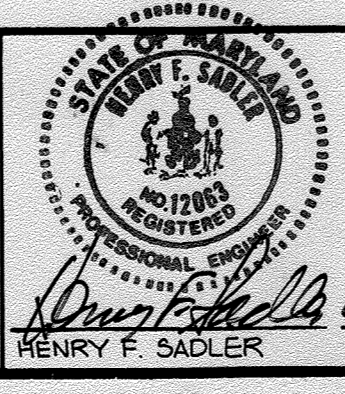
6/26/89  
DIRECTOR OF PUBLIC WORKS DATE

6/26/89  
CHIEF BUREAU OF ENGINEERING DATE

6/26/89  
CHIEF BUREAU OF UTILITIES DATE

6/26/89  
CHIEF LAND DEVELOPMENT DIVISION DATE

D.S. THALER & ASSOC. INC.  
11 WARREN ROAD  
BALTIMORE, MARYLAND 21208  
(301) 484-4100



DES JTN	ELC				
DRN.	LR				
CHK.	J.T.H.				
DATE	4/15/89				
BY	NO.	REVISION	REVISION	DATE	
		REVISED 4" SEWER & 3/4" WHC QUANTITIES		6/91	
		REVISE 6" WATER QUANTITY		8/89	

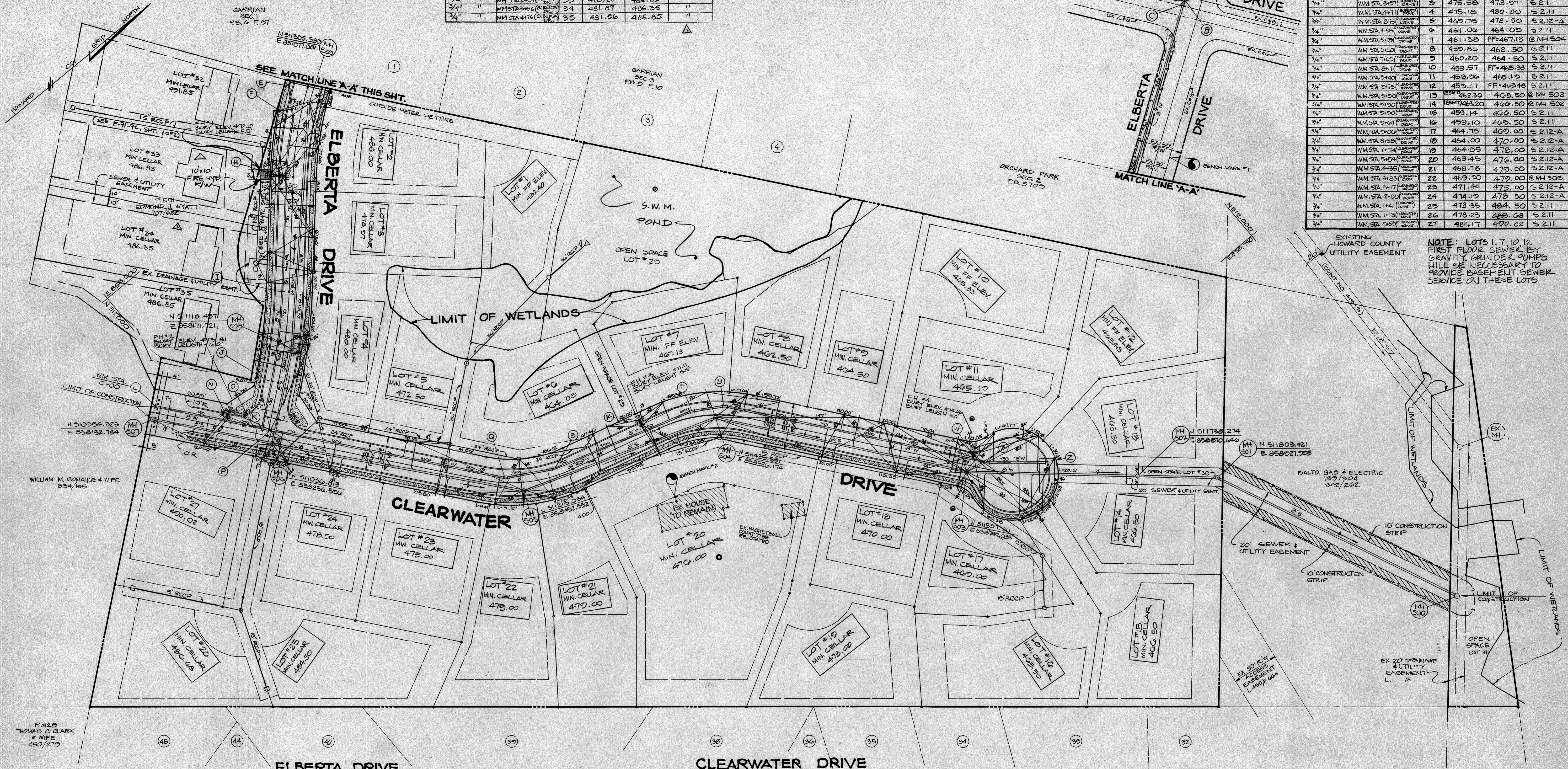
TITLE SHEET

AS BUILT 8/16/91

W.H.C. SIZE AND TYPE	LOCATION	LOT#	ELEV. S.H.C. OR W.	MIN. CELLAR ELEV.	HOWARD COUNTY DETAIL#
3/4" INSIDE METER	WM STA 2+95 (ELBERTA DRIVE)	32	498.11	491.85	52.12-A
3/4" "	WM STA 2+91 (ELBERTA DRIVE)	33	480.26	486.85	"
3/4" "	WM STA 2+86 (ELBERTA DRIVE)	34	481.89	486.35	"
3/4" "	WM STA 4+76 (ELBERTA DRIVE)	35	481.56	486.85	"

WATER MAIN CURVE DATA					
CURVE#	RADIUS	LENGTH	TANGENT	DELTA	CHORD
# 1	402	62.77	30.44	8° 39' 40.5"	60.71
# 2	593	98.36	49.60	9° 33' 47"	28.86

W.H.C. SIZE AND TYPE	LOCATION	LOT#	ELEV. S.H.C. OR W.	MIN. CELLAR ELEV.	HOWARD COUNTY DETAIL#
3/4" CUTOFF METER	WM STA 2+05 (ELBERTA DRIVE)	1	476.53	FF=482.40	MH 500
3/4"	WM STA 2+00 (ELBERTA DRIVE)	2	482.40	486.00	S 2.12-A
3/4"	WM STA 2+57 (ELBERTA DRIVE)	3	475.58	478.57	S 2.11
3/4"	WM STA 4+71 (ELBERTA DRIVE)	4	475.18	480.00	S 2.11
3/4"	WM STA 2+75 (ELBERTA DRIVE)	5	469.75	472.50	S 2.12-A
3/4"	WM STA 4+34 (ELBERTA DRIVE)	6	461.06	464.00	S 2.11
3/4"	WM STA 5+19 (ELBERTA DRIVE)	7	461.38	FF=467.13	MH 504
3/4"	WM STA 4+00 (ELBERTA DRIVE)	8	459.86	462.50	S 2.11
3/4"	WM STA 7+00 (ELBERTA DRIVE)	9	460.20	464.50	S 2.11
3/4"	WM STA 8+11 (ELBERTA DRIVE)	10	459.57	FF=465.33	S 2.11
3/4"	WM STA 2+43 (ELBERTA DRIVE)	11	459.56	465.10	S 2.11
3/4"	WM STA 2+78 (ELBERTA DRIVE)	12	459.17	FF=465.48	S 2.11
3/4"	WM STA 2+50 (ELBERTA DRIVE)	13	459.23	465.50	MH 502
3/4"	WM STA 2+50 (ELBERTA DRIVE)	14	459.23	466.50	MH 502
3/4"	WM STA 2+50 (ELBERTA DRIVE)	15	459.14	466.50	S 2.11
3/4"	WM STA 2+00 (ELBERTA DRIVE)	16	459.10	466.50	S 2.11
3/4"	WM STA 2+00 (ELBERTA DRIVE)	17	464.75	469.00	S 2.12-A
3/4"	WM STA 8+38 (ELBERTA DRIVE)	18	464.00	470.00	S 2.12-A
3/4"	WM STA 7+54 (ELBERTA DRIVE)	19	464.05	476.00	S 2.12-A
3/4"	WM STA 5+54 (ELBERTA DRIVE)	20	469.45	476.00	S 2.12-A
3/4"	WM STA 4+35 (ELBERTA DRIVE)	21	468.78	472.00	S 2.12-A
3/4"	WM STA 3+83 (ELBERTA DRIVE)	22	469.30	472.00	MH 505
3/4"	WM STA 2+17 (ELBERTA DRIVE)	23	471.44	475.00	S 2.12-A
3/4"	WM STA 2+00 (ELBERTA DRIVE)	24	474.12	478.50	S 2.12-A
3/4"	WM STA 1+41 (ELBERTA DRIVE)	25	473.35	484.50	S 2.11
3/4"	WM STA 0+55 (ELBERTA DRIVE)	26	478.23	488.38	S 2.11
3/4"	WM STA 0+55 (ELBERTA DRIVE)	27	484.17	490.02	S 2.11



NOTE: LOTS 1, 7, 10, 12 FIRST FLOOR SEWER BY GRAVITY. GRENDER PUMPS WILL BE NECESSARY TO PROVIDE BASEMENT SEWER SERVICE ON THESE LOTS.

SEDIMENT CONTROL MEASURES FROM THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 210 OF THE SPECIFICATIONS AND AS SHOWN ON THE FINAL ROAD CONSTRUCTION PLANS (F-99-97).

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

6/26/89

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

WATER MAIN APPURTENANCES			COORDINATES	
IDENT.	DESCRIPTION		NORTH	EAST
A	W.M. STA. 0+00 6" CROSS (EXISTING)		51448.102	857836.823
B	W.M. STA. 0+01 6" VALVE		51447.359	857837.443
C	W.M. STA. 0+03 6" x 8" REDUCER		51444.853	857839.102
E	W.M. STA. 2+07 1/2 BEND		511205.635	857951.231
F	W.M. STA. 2+42 1/2 BEND & P.C. CRIMP		511270.135	857982.097
G				
H	W.M. STA. 3+02.77 P.T. CRIMP & 8" x 6" F.H. TEE		511235.245	858024.043
I	W.M. STA. 4+27.51 P.C. CRIMP		511151.834	858116.732
J	W.M. STA. 5+26.40 P.T. CRIMP		511079.823	858134.533
K	W.M. STA. 5+78.56 (ELBERTA DRIVE) - W.M. STA. 1+75.9 (CLEARWATER DRIVE) - 8" x 8" TEE		51039.064	858216.724

WATER MAIN APPURTENANCES			COORDINATES	
IDENT.	DESCRIPTION		NORTH	EAST
L	W.M. STA. 0+00 8" CAP		510265.284	858174.078
N	W.M. STA. 0+79 8" x 6" TEE		511014.431	858105.024
O	W.M. STA. 1+09.59 8" VALVE		511032.462	858209.875
P	W.M. STA. 1+25.59 8" VALVE		511043.416	858222.402
Q	W.M. STA. 3+28 1/2 BEND		511206.666	858421.842
R	W.M. STA. 5+48 8" x 6" TEE		511364.819	858486.422
S	W.M. STA. 4+42 1/2 BEND		511253.882	858454.053
T	W.M. STA. 6+10 1/2 BEND		511410.049	858504.130
U	W.M. STA. 6+40 1/2 BEND		511438.339	858510.830
W	W.M. STA. 7+20 8" x 6" TEE		511611.606	858741.878
X	W.M. STA. 7+32 1/2 BEND		511618.288	858751.339
Y	W.M. STA. 7+96 8" CAP		511667.447	858793.445

SCALE: 1"=50'

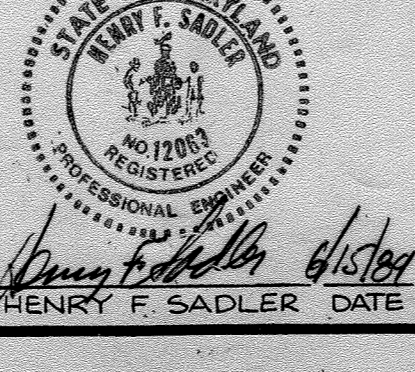
OWNER / RALPH E. NUPP 8150 ELBERTA DR. ELLICOTT CITY, MD, 21043

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

6/28/89

6/28/89

D.S. THALER & ASSOC. INC.  
11 WARREN ROAD  
BALTIMORE, MARYLAND 21208  
(301) 484-4100



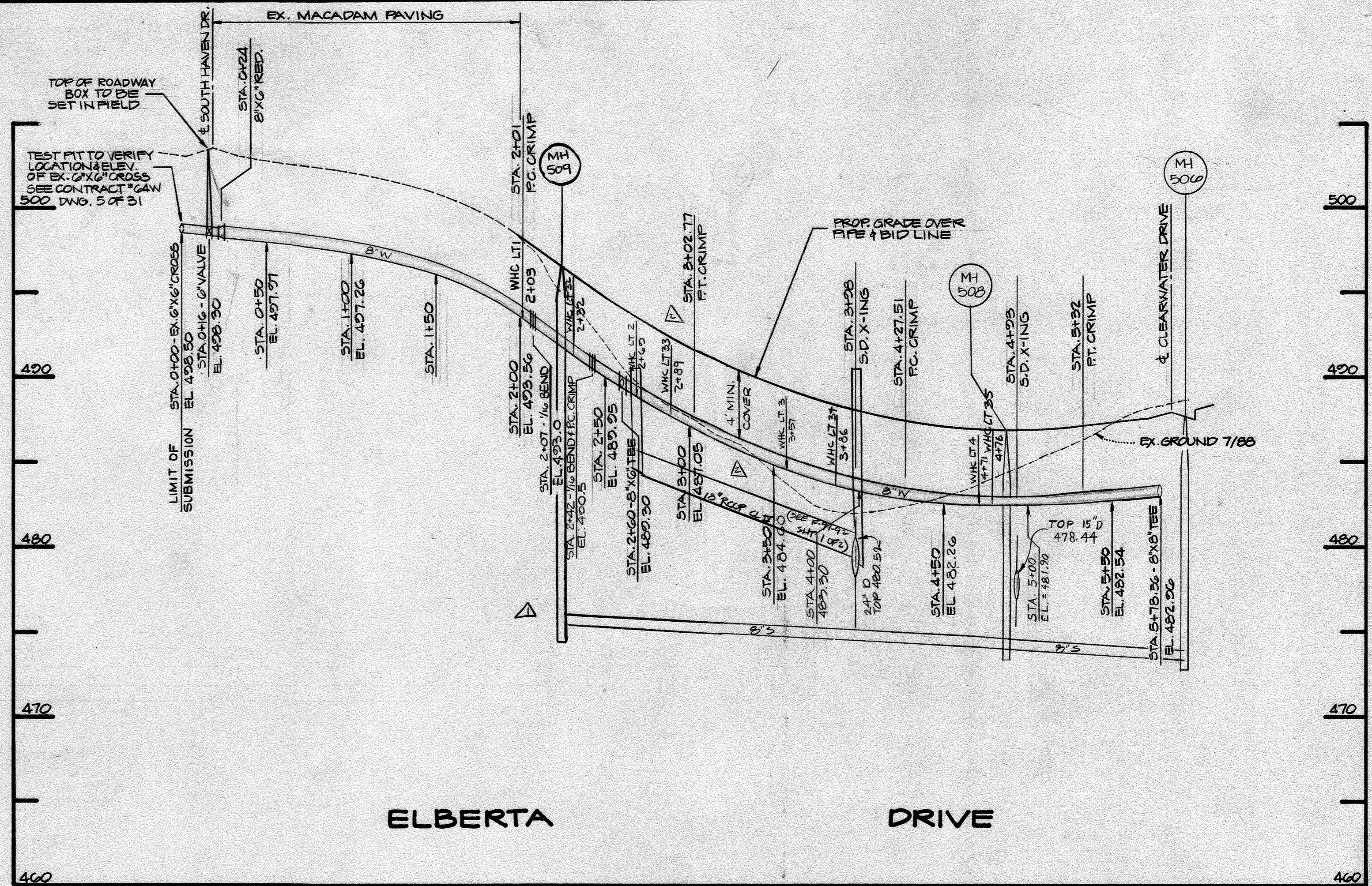
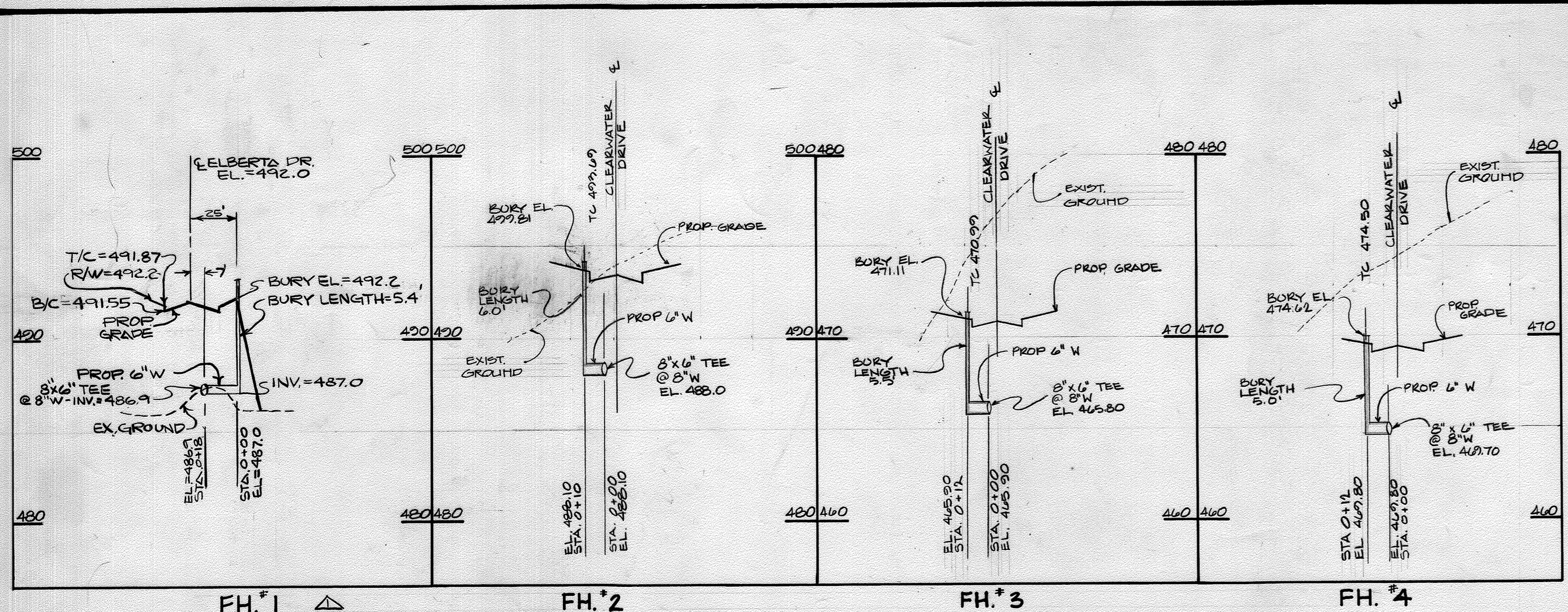
DES. B.L.C. / J.T.H.	DRN. J.L.C. L.R.C.	CHK. J.T.H.	DATE	BY	NO.	REVISION	DATE
			4/89	JTN	Δ	ADDED SEWER HC AND W/L TO LOTS 32-33 REFERENCED STATION DRAWING F-99-97 SF 2 REVISE LOCATION OF PUMP/WATER BASIN APPURTENANCE TABLE	6/91
				JTN	Δ		8/89

PLAN  
SEWER AND WATER MAINS

CONTRACT NO. 14-1680-D  
BROOKFIELD  
SECOND ELECTION DISTRICT, HOWARD COUNTY, MD.

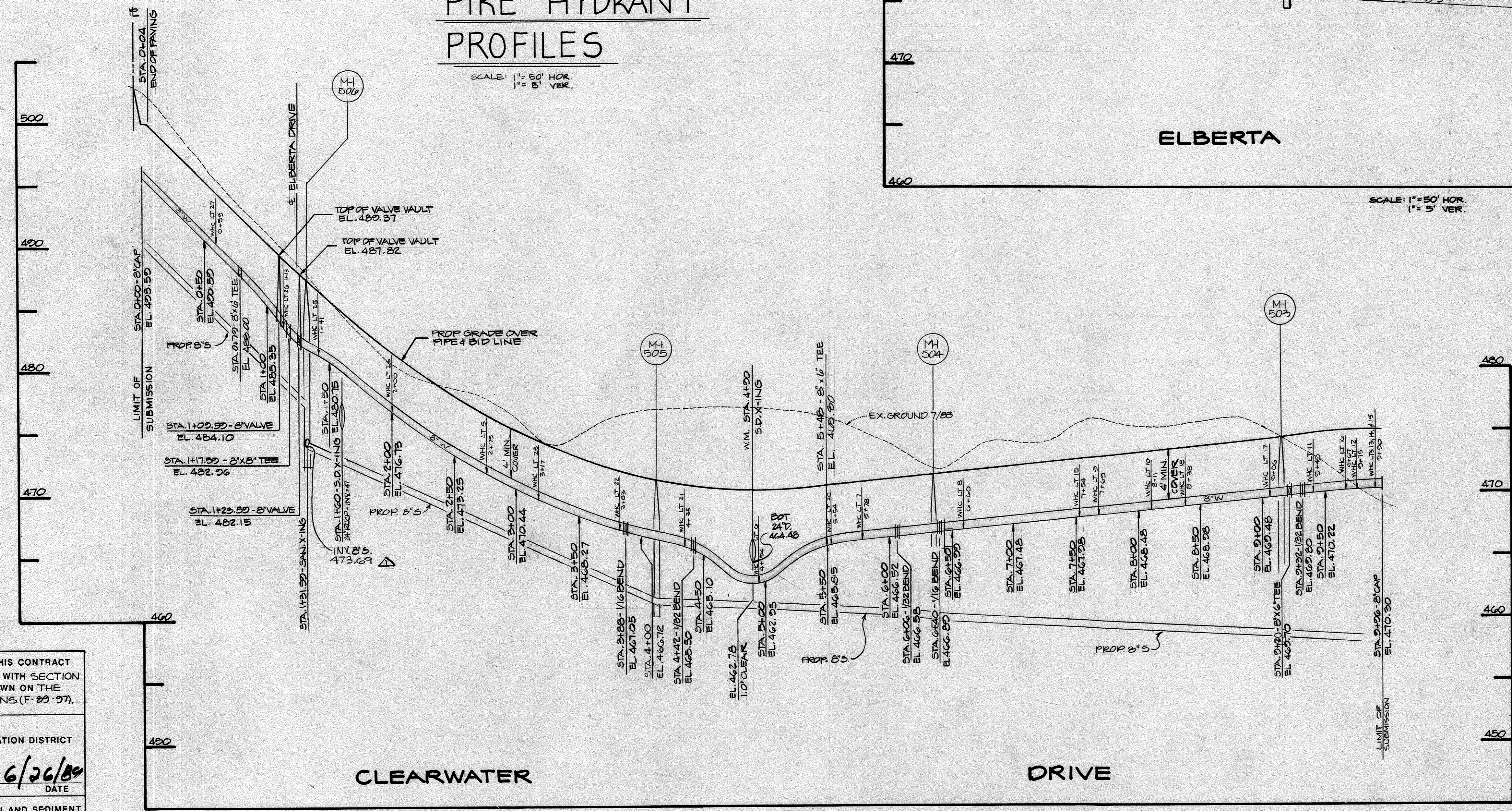
SCALE AS SHOWN SHEET 2 OF 4

AS-BUILT 8-16-91



### FIRE HYDRANT PROFILES

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



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

SEDIMENT CONTROL MEASURES FROM THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 213 OF THE SPECIFICATIONS AND AS SHOWN ON THE FINAL ROAD CONSTRUCTION PLANS (F-22-37).

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

*Jonathan Thaler* 6/26/89  
S.O.S. SOIL CONSERVATION SERVICE DATE

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

*Shirley L. Lark* 6/26/89  
HOWARD SOIL CONSERVATION DISTRICT DATE

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND

*James P. Schum* 6/28/89  
DIRECTOR OF PUBLIC WORKS DATE

*Michael A. Rasmussen* 6/28/89  
CHIEF BUREAU OF UTILITIES DATE

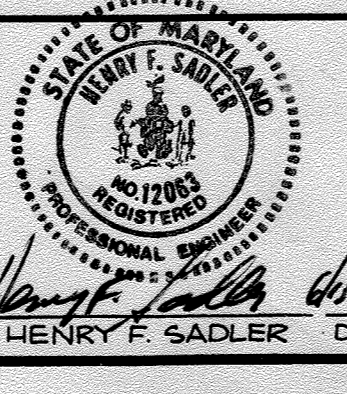
*Charles B. Anderson* 6/28/89  
CHIEF BUREAU OF ENGINEERING DATE

*Frank J. Pagan* 6/28/89  
CHIEF LAND DEVELOPMENT DIVISION DATE

**D.S. THALER & ASSOC. INC.**

11 WARREN ROAD  
BALTIMORE, MARYLAND 21208  
(301) 484-4100

*Henry F. Sadler* 6/18/89  
HENRY F. SADLER DATE



DES. D.L.C. / J.T.H.					
DRN. P.J.C.					
CHK. J.T.H.	RLR	△	ADDED WHC TO LOTS 32, 33, 34 & 35 REFERENCED TO THE PLAN FOR THE SHT. 1 OF 2 BY THE ABOVE ENGINEER TO THE PROPERTY OF MARYLAND, REVISE FH#1 PROFILE	C/91	8/89
DATE	J.T.N.	△			
BY	NO.		REVISION	DATE	

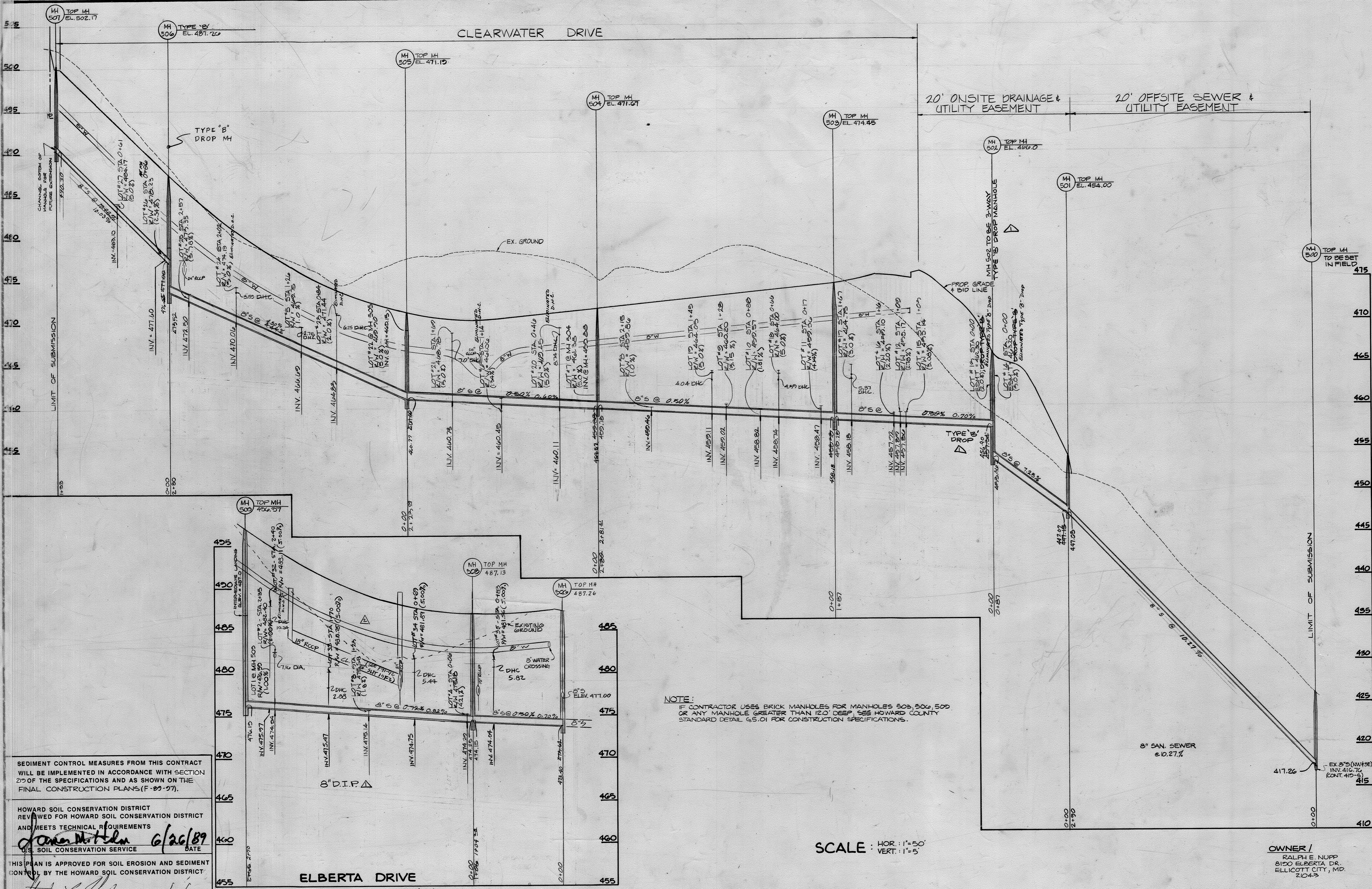
**PROFILES**  
**WATER MAINS**

**CONTRACT NO. 14-1680-D**  
**BROOKFIELD**

2ND ELECTION DISTRICT HOWARD COUNTY, MD.

OWNER /  
RALPH E. NUPP  
8100 ELBERTA DR.  
ELLICOTT CITY, MD.  
21043

SCALE AS SHOWN SHEET 3 OF 4



SEDIMENT CONTROL MEASURES FROM THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 210 OF THE SPECIFICATIONS AND AS SHOWN ON THE FINAL CONSTRUCTION PLANS (F-20-27).

HOWARD SOIL CONSERVATION DISTRICT REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS  
*James W. Miller* 6/26/89 DATE  
 U.S. SOIL CONSERVATION SERVICE

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*Arthur L. Galt* 6/26/89 DATE  
 HOWARD SOIL CONSERVATION DISTRICT

NOTE:  
 IF CONTRACTOR USES BRICK MANHOLES FOR MANHOLES 503, 504, 505 OR ANY MANHOLE GREATER THAN 120' DEEP, SEE HOWARD COUNTY STANDARD DETAIL 4.5.01 FOR CONSTRUCTION SPECIFICATIONS.

SCALE: HOR: 1"=50'  
 VERT: 1"=5'

OWNER /  
 RALPH E. NUPP  
 8150 ELBERTA DR.  
 ELLICOTT CITY, MD.  
 21043

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: *James W. Miller* 6/26/89 DATE  
 Chief Bureau of Engineering: *Harold Anderson* 6/28/89 DATE  
 Chief Bureau of Utilities: *John J. ...* 6/28/89 DATE  
 Chief Land Development Division: *...* 6/28/89 DATE

D.S. THALER & ASSOC. INC.  
 11 WARREN ROAD  
 BALTIMORE, MARYLAND 21208  
 (301) 484-4100



DES. JTN. B.L.C.				
DRN. M.D.F.				
CHK. JTN.	R.L.R.	ADDED SHC TO LOTS 31-35 REFERENCED STORM DRAIN (F-21-72 SHT 1 OF 2)	6/91	
DATE	4/89	REVISION	8/89	
BY	NO.	REVISION	DATE	

PROFILES  
 SEWER MAINS

CONTRACT NO. 14-1680-D  
 BROOKFIELD  
 SECOND ELECTION DISTRICT, HOWARD COUNTY, MD.  
 AS-BUILT 8/16-87

SCALE AS SHOWN  
 SHEET 4 OF 4