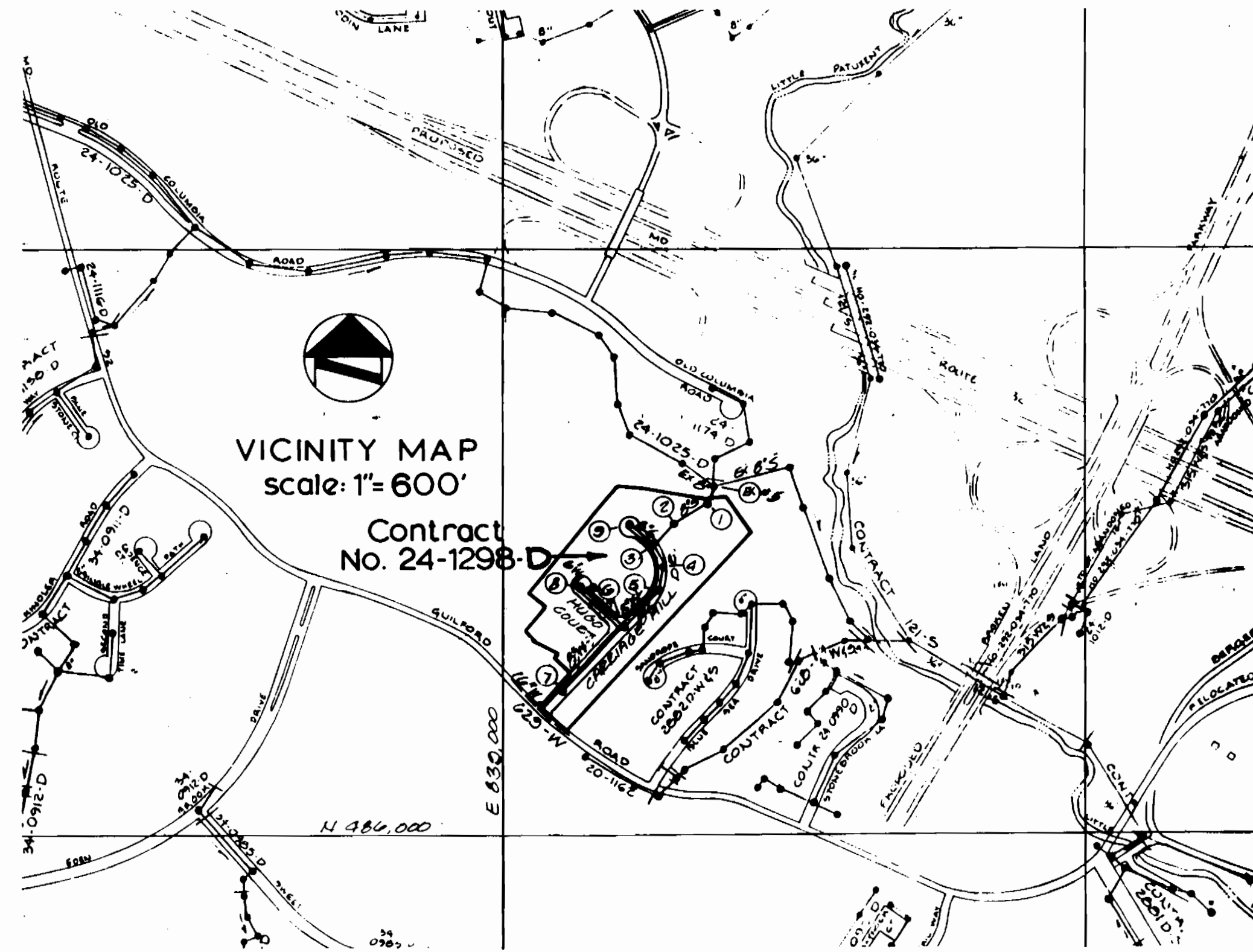


QUANTITIES

ITEM	BID	AS-BUILT	MATERIAL / SUPPLIER
8" sewer lf	1035	1950 LF	E.T.I. - PVC
manholes ea.	9	3 EA	ATLANTIC PRECAST
8" water lf	1015	1020 LF	GRIFFIN
8" valves ea.	2	2 EA	M&H VALVE CO.
6" water lf	660	700 LF	GRIFFIN
6" V (ex. th) ea.	1	1 EA	M&H
fire hyd. ea.	4	4 EA	M&H
blow offs ea.	-	-	-
3/4 WHC lf.	1220	1200 LF	CAMBRIDGE LEE
6" SHC lf.	1230	1200 LF	E.T.I. PVC
16" x 8" T&V	1	1 EA	CLOW / M&H



TYPE OF BUILDINGS: Single family  
 No. OF LOTS: 44  
 No. OF WHC's: 44  
 No. OF SHC's: 44  
 DRAINAGE AREA: Little Patuxent

SEWER CODE 520000  
 WATER CODE E16

**CARRIAGE HILLS**  
**HOWARD COUNTY, MARYLAND**  
**DEPARTMENT of PUBLIC WORKS**  
**CONTRACT No. 24-1298-D**

GENERAL NOTES

- Approximate location of existing mains are shown. The contractor shall take 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 1985 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 construction of the main.
- For details not shown on the drawings use Howard County Standard Details.
- For materials and construction methods use Howard County Standard Specifications.
- 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 drawings:  
 Baltimore Gas & Electric Company - Underground Electric Distribution Customer Service - 492-1129.  
 Baltimore Gas & Electric Company - Underground Gas Distribution Customer Service - 645-0123.  
 Engineering "Damage Control" - 134-5621.  
 "Miss Utility" - 1-555-0100.  
 Chesapeake and Potomac (C & P) Telephone Company - 725-9976.  
 American Telephone and Telegraph-Cable Location Division - 393-3533.  
 Colonial Pipeline Company - 781-4641.  
 Bureau of Utilities Howard County - 992-2366.
- 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 the 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 water mains shall be C.I.P. or D.I.P. unless otherwise noted.
- Top of all water mains shall 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 standard details. 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., R.C.S.P., V.C.P.X., A.C.P. Class 2400 or PVC 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 16" walls are brick manholes only.
- Manholes designated W.T. in plan and profile shall have watertight frame and covers, Standard Detail 4.5.52.
- For all copper water house connections, utilize flared type fittings only.

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH ARTICLE 15 OF THE STANDARD SPECIFICATIONS FINAL PLAN F-85-66

Reviewed for HOWARD SOIL CONSERVATION DISTRICT and meets technical requirement  
*John McHale* 2-1-85  
 U.S. Soil Conservation Service Date

This development plan is approved for Soil Erosion and Sediment Control by HOWARD COUNTY SOIL CONSERVATION DISTRICT  
 APPROVED:  
*Stephen S. Fisher* 4/85  
 Howard County S.C.D. Date

DEPARTMENT of PUBLIC WORKS  
 Howard County, Maryland

*John F. Norman* 6-11-85  
 Director of Public Works Date

*William J. Smith* 2-1-85  
 Chief, Bureau of Utilities Date

*Robert A. Brown* 2-1-85  
 Chief, Bureau of Engineering Date

*William J. Smith* 2-1-85  
 Chief, Land Development Div. Date

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 Silver Spring, Md.  
 20910  
 (301) 585-5676

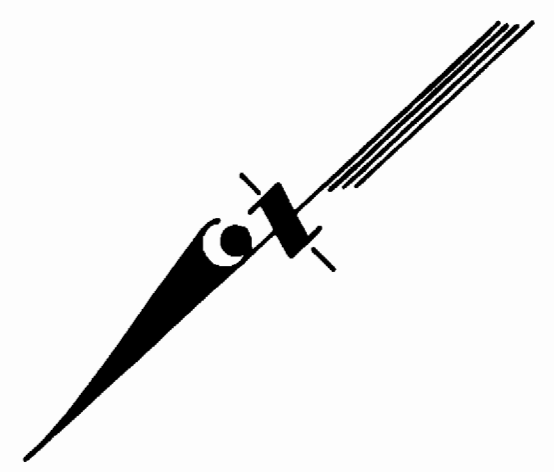
DES	PO				
JRN	MK				
CHK	ST				
DATE	6/84	PO	2	Revised sewer	2, 3, 14
BY	NO				

VICINITY MAP  
 and  
 GENERAL NOTES

DATE 6/84 BY NO PO 2 Revised sewer 2, 3, 14

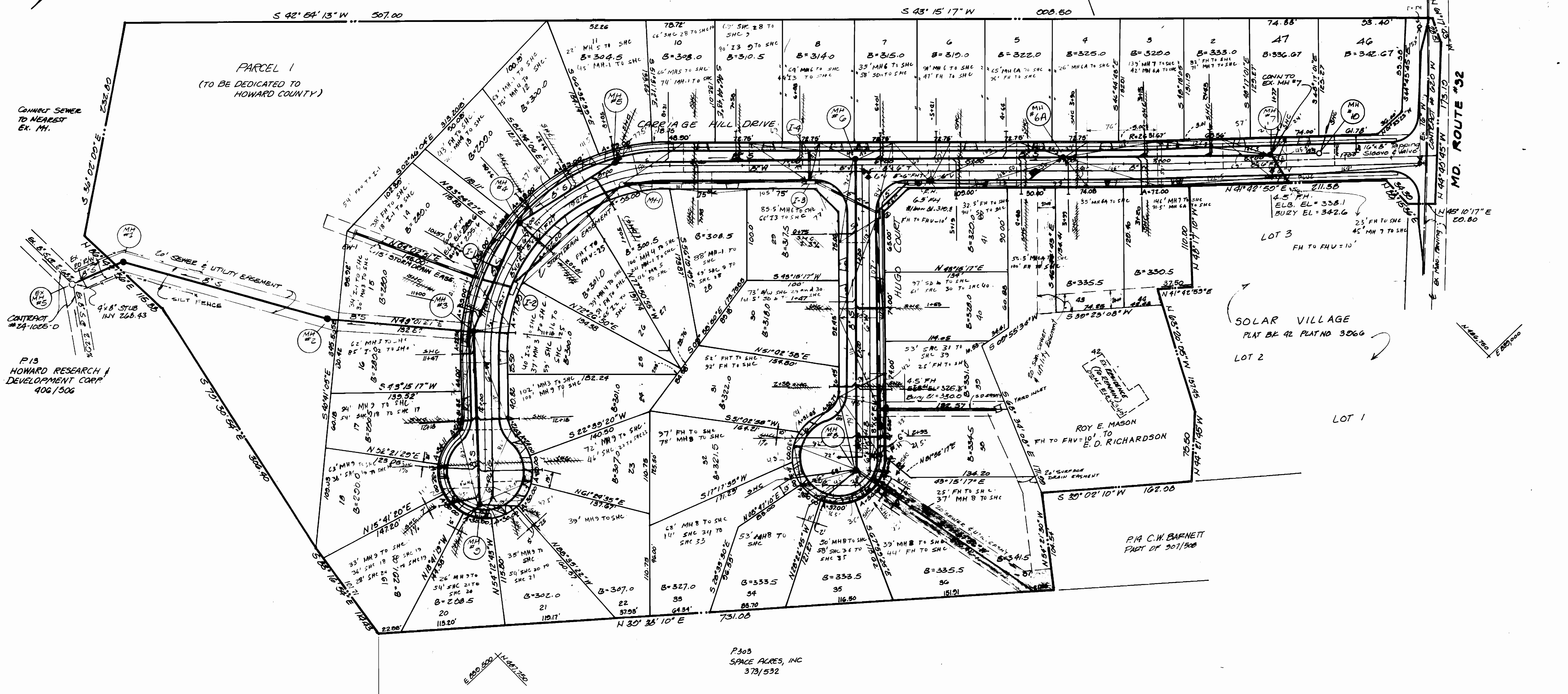
CARRIAGE HILLS  
 Lots 1-44  
 Election District #6  
 CONTRACT No. 24-1298-D

SCALE AS SHOWN  
 SHEET 1 OF 5



05-32 CORP  
647/171

J.L. Crooks  
75/680



CONNECT SEWER TO NEAREST EX. MH.  
CONTRACT #24-1025-D  
P13 HOWARD RESEARCH & DEVELOPMENT CORP. 406/506

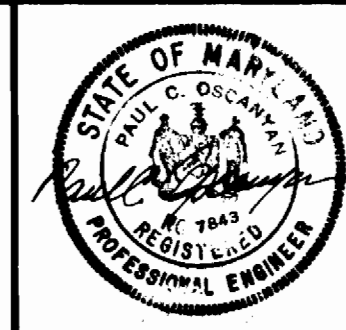
P303  
SPACE ACRES, INC  
373/552

scale: 1"=50'

DEPARTMENT of PUBLIC WORKS  
Howard County, Maryland

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Silver Spring, Md.  
20910  
(301) 585-5676



DES	RD	AMH	5	REVISED LOT 1 (W) TO LOTS 46 & 47, MH 8 TO MH 10 TO LOT 46	5/27/85
DRN	MLK	AMH	4	REVISE SPOC LOTS 1-44	9/15/85
CHK	MLK	MLK	3	REVISE SPOC LOTS 5, 10, 15, 20, 25, 30, 35, 40, 45, 50	7/14/85
DATE	8/1/85	BY	NO	REVISE FH FROM LOT 29 TO LOT 42, REVISE FH LOT 19	5/21/85
				ADD BRANCH ALONG LOTS 37 & 38	9/18/85
				REVISION	

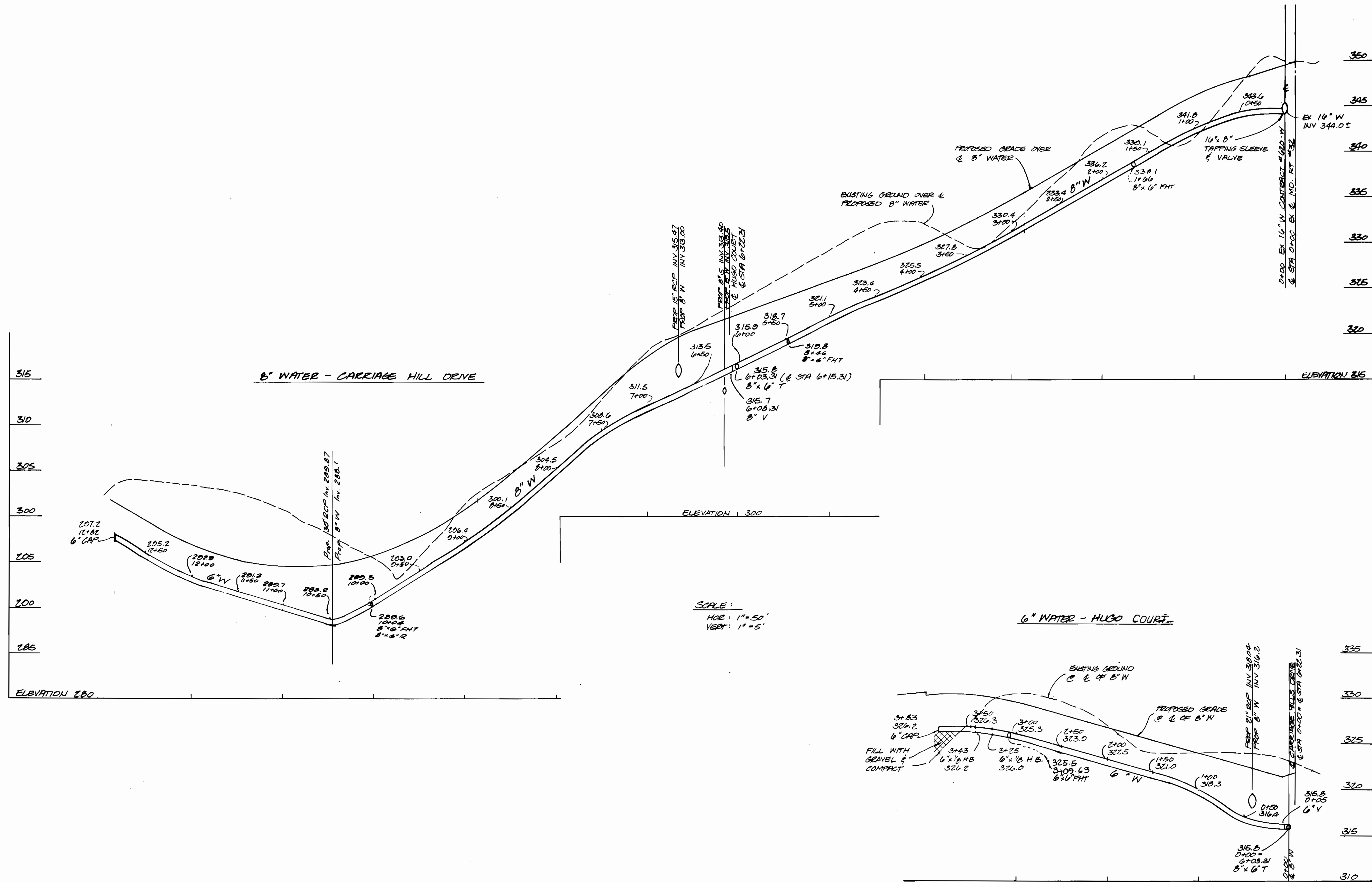
PLAN of  
WATER and SEWER  
MAINS

CARRIAGE HILLS  
Lots 1-44  
Election District #6  
CONTRACT No. 24-1298-D

SCALE  
AS  
SHOWN  
SHEET  
2 OF 5

AS-BUILT  
JULY 22, 1986

P-24-88



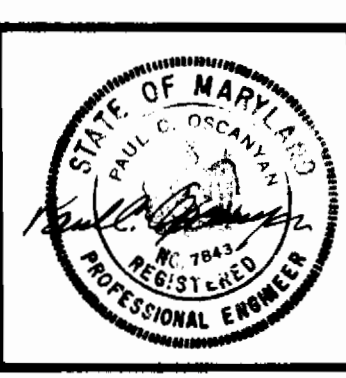
SCALE:  
 HOR: 1"=50'  
 VERT: 1"=5'

DEPARTMENT of PUBLIC WORKS  
 Howard County, Maryland

Director of Public Works Date: 2-1-85  
 Chief, Bureau of Engineering Date: 2/1/85  
 Chief, Bureau of Utilities Date: 2-8-85  
 Chief, Land Development Division Date: 2/1/85

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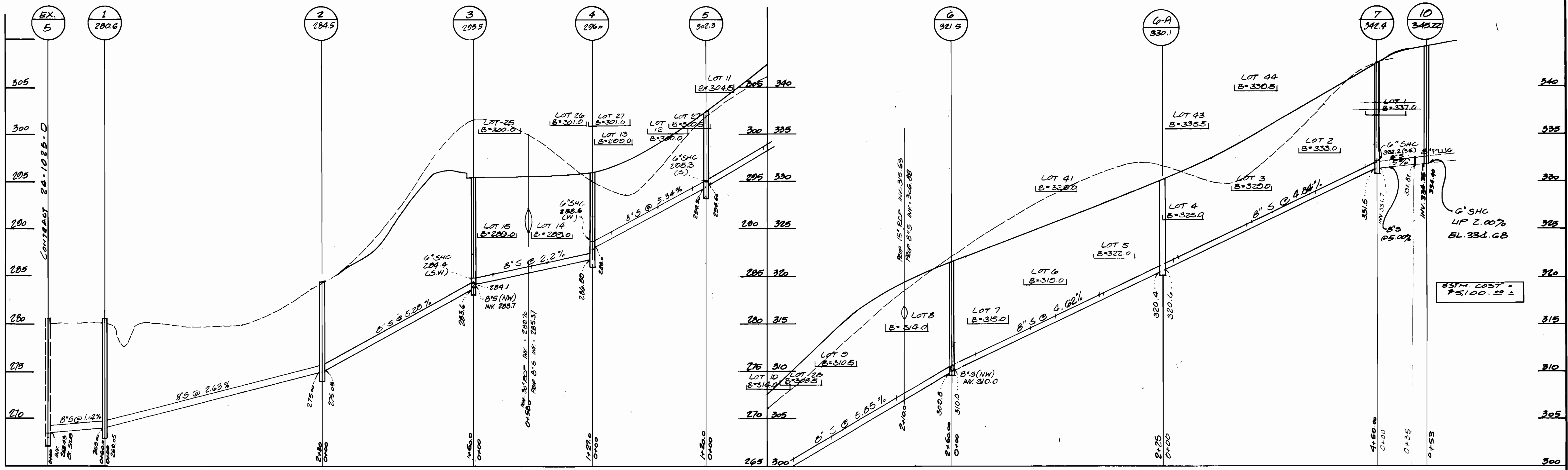
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DRN: mtk			
CHK: R.O.	R.O. & Gary SD CONSULTING & ENGINEERING, INC. 1/2/85		
DATE: 2/1/85	BY: NO	REVISION	DATE: 2/1/85

**WATER MAIN PROFILES**

600 SCALE MAP NO. 42 BLOCK NO.

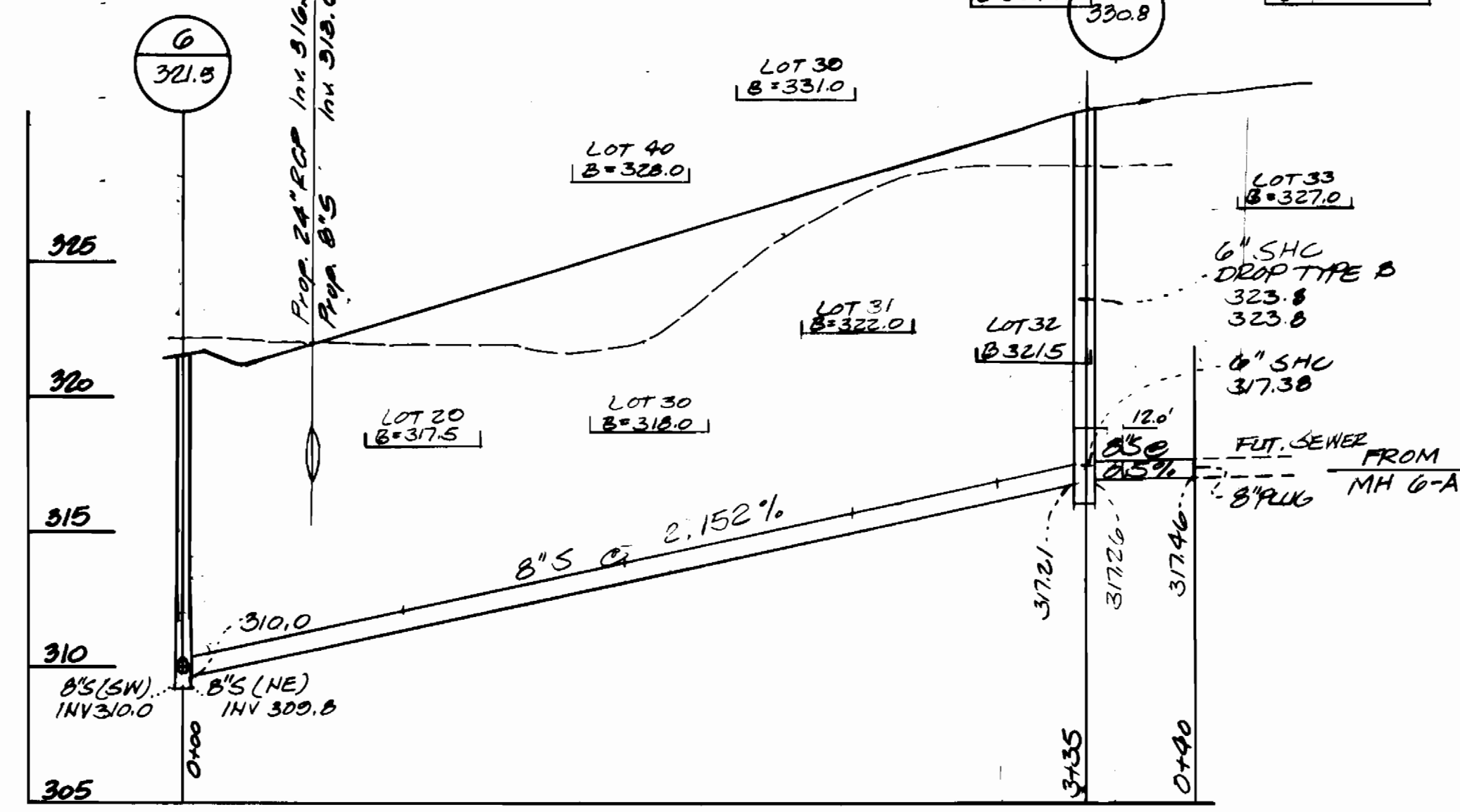
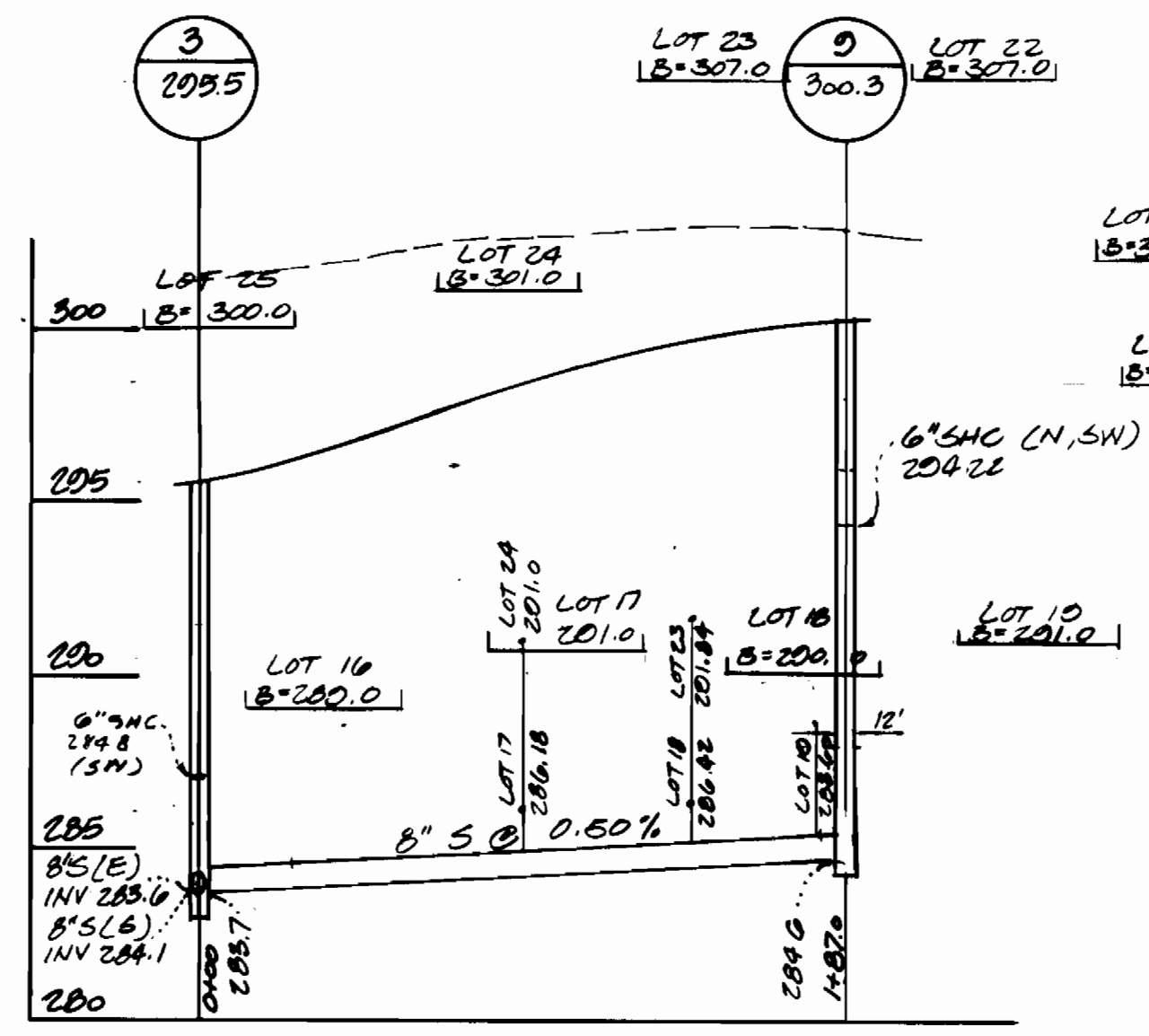
**CARRIAGE HILLS**  
 Lots 1-44  
 Election District #6  
 CONTRACT No. 24-1298-D

SCALE AS SHOWN  
 SHEET 3 OF 5



SEWER HOUSE CONNECTIONS

LOT	STATION	INV. SHC @ R	REMARKS	LOT	STATION	INV. SHC @ R	REMARKS
FROM MH 3 TO MH 4							
25	MH 3	285.5		25	MH 3	285.5	
15	0+22	285.3		16	0+24	284.4	
14	0+74	288.12		24	0+96	291.7	D.H.C.
26	MH 4	287.6		17	1+36	286.5	D.H.C.
FROM MH 4 TO MH 5							
26	MH 4	288.8		23	1+45	293.0	D.H.C.
13	0+18	289.4		18	1+45	287.0	D.H.C.
12	0+75	292.5		19	1+80	289.0	D.H.C.
27	0+96	293.5		21,22	MH 9	295.0	D.C.
11	MH 5	295.0		20	MH 9	295.0	D.C.
FROM MH 5 TO MH 6							
11	MH 5	295.0					
10	0+85	300.0					
28	0+85	300.2					
9	1+85	303.0					
8	2+03	308.0					
FROM MH 6 TO MH 6A							
7	0+30	311.8					
6	1+10	315.5					
41	1+10	315.8					
42	1+85	319.0					
5	1+85	319.3					
FROM MH 6 TO MH 8							
4	0+15	321.8					
43	0+15	322.0					
3	0+82	325.5					
44	0+02	325.8					
2	1+00	328.8					
1	MH 7	332.0					
29	0+81	312.2					
30	1+63	313.0					
40	1+63	314.2					
39	2+48	316.0					
31	2+48	315.8					
38	3+02	317.2					
32	3+02	317.0					
33	MH 8	318.7					
34,35	MH 8	324.8	D.H.C.				
36,37	MH 8	324.8	D.H.C.				



DEPARTMENT of PUBLIC WORKS  
Howard County, Maryland

Director of Public Works: *[Signature]* Date: 2/11/25  
 Chief, Bureau of Engineering: *[Signature]* Date: 2/11/25  
 Chief, Bureau of Utilities: *[Signature]* Date: 2/8/25  
 Chief, Land Development Division: *[Signature]* Date: 2/11/25

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STATE OF MARYLAND  
PROFESSIONAL ENGINEER

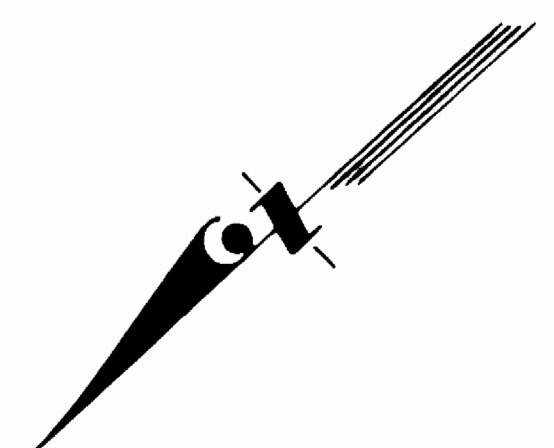
DES: *HAK*  
DRN: *HAK*  
CHK: *PCO*  
DATE: 9/14

NO	REVISION	DATE
1	ADD MH 8/D WITH 8" S TO EXISTING MH 7	9/24/20
2	REVISE SHC INV & STAS	7/24/21
3	REVISE GRADE MH 6 TO MH 8	7/24/21
4	REVISE SHC INV & STAS	2/11/25
5	REVISE GRADE MH 6 TO MH 8	2/11/25
6	REVISE SHC INV & STAS	2/11/25
7	REVISE GRADE MH 6 TO MH 8	2/11/25
8	REVISE SHC INV & STAS	2/11/25
9	REVISE GRADE MH 6 TO MH 8	2/11/25
10	REVISE SHC INV & STAS	2/11/25
11	REVISE GRADE MH 6 TO MH 8	2/11/25
12	REVISE SHC INV & STAS	2/11/25
13	REVISE GRADE MH 6 TO MH 8	2/11/25
14	REVISE SHC INV & STAS	2/11/25
15	REVISE GRADE MH 6 TO MH 8	2/11/25
16	REVISE SHC INV & STAS	2/11/25
17	REVISE GRADE MH 6 TO MH 8	2/11/25
18	REVISE SHC INV & STAS	2/11/25
19	REVISE GRADE MH 6 TO MH 8	2/11/25
20	REVISE SHC INV & STAS	2/11/25
21	REVISE GRADE MH 6 TO MH 8	2/11/25
22	REVISE SHC INV & STAS	2/11/25
23	REVISE GRADE MH 6 TO MH 8	2/11/25
24	REVISE SHC INV & STAS	2/11/25
25	REVISE GRADE MH 6 TO MH 8	2/11/25
26	REVISE SHC INV & STAS	2/11/25
27	REVISE GRADE MH 6 TO MH 8	2/11/25
28	REVISE SHC INV & STAS	2/11/25
29	REVISE GRADE MH 6 TO MH 8	2/11/25
30	REVISE SHC INV & STAS	2/11/25
31	REVISE GRADE MH 6 TO MH 8	2/11/25
32	REVISE SHC INV & STAS	2/11/25
33	REVISE GRADE MH 6 TO MH 8	2/11/25
34	REVISE SHC INV & STAS	2/11/25
35	REVISE GRADE MH 6 TO MH 8	2/11/25
36	REVISE SHC INV & STAS	2/11/25
37	REVISE GRADE MH 6 TO MH 8	2/11/25
38	REVISE SHC INV & STAS	2/11/25
39	REVISE GRADE MH 6 TO MH 8	2/11/25
40	REVISE SHC INV & STAS	2/11/25
41	REVISE GRADE MH 6 TO MH 8	2/11/25
42	REVISE SHC INV & STAS	2/11/25
43	REVISE GRADE MH 6 TO MH 8	2/11/25
44	REVISE SHC INV & STAS	2/11/25
45	REVISE GRADE MH 6 TO MH 8	2/11/25

**SANITARY SEWER PROFILES**  
600 SCALE MAP NO. 42 BLOCK NO.

**CARRIAGE HILLS**  
Lots 1-44  
Election District #6  
CONTRACT NO. 24-1298-D

SCALE AS SHOWN  
SHEET 4 OF 3



95-32 CORP  
647/171

J.L. CRUTS  
757/680

S 42° 54' 13" W 507.00

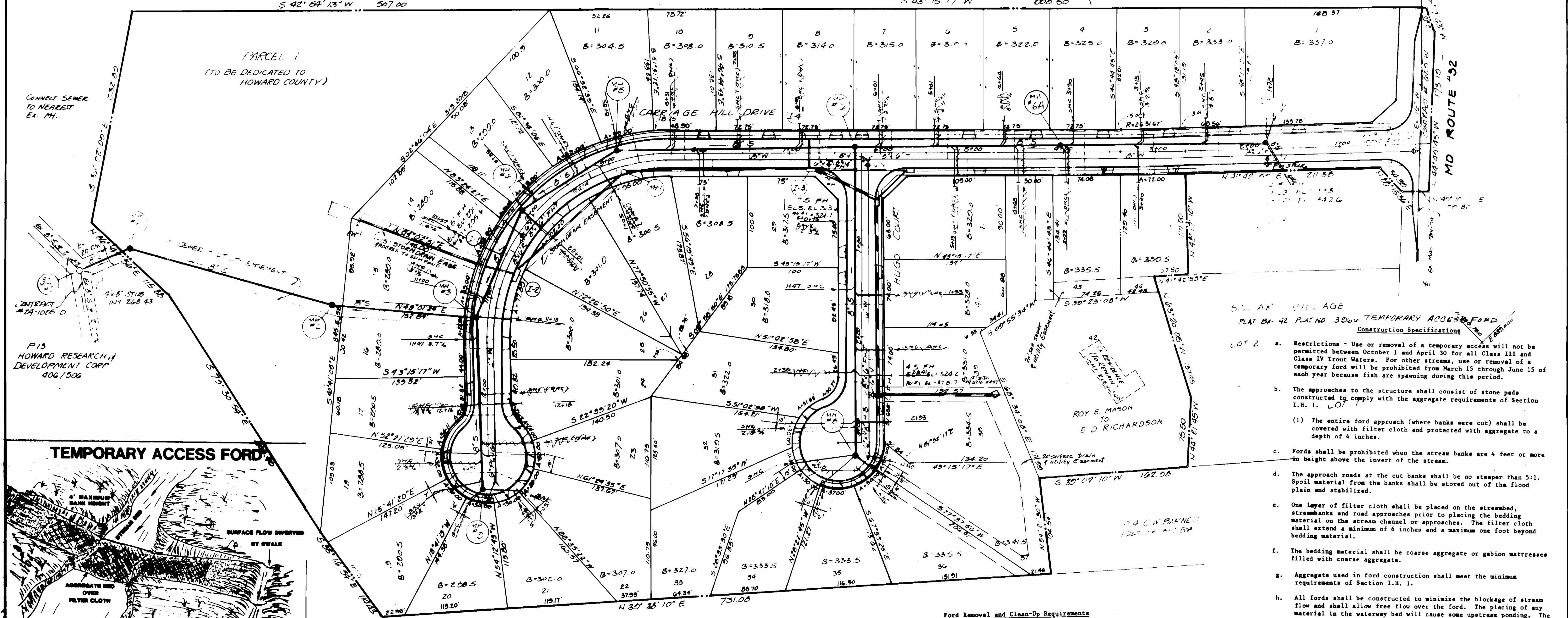
S 43° 15' 17" W 000.50

PARCEL 1  
(TO BE DEDICATED TO  
HOWARD COUNTY)

CONCRETE SEWER  
TO NEAREST  
EX. MH.

P13  
HOWARD RESEARCH &  
DEVELOPMENT CORP  
406/1506

MD. ROUTE #32



50' AN' VILLAGE  
PLAT BA 42 PLAT NO 3066 TEMPORARY ACCESS FORD  
Construction Specifications

- LOT 2
- Restrictions - Use or removal of a temporary access will not be permitted between October 1 and April 30 for all Class III and Class IV Trout Waters. For other streams, use or removal of a temporary ford will be prohibited from March 15 through June 15 of each year because fish are spawning during this period.
  - The approaches to the structure shall consist of stone pads constructed to comply with the aggregate requirements of Section I.H. 1. LOT 1.
    - The entire ford approach (where banks were cut) shall be covered with filter cloth and protected with aggregate to a depth of 4 inches.
  - Fords shall be prohibited when the stream banks are 4 feet or more in height above the invert of the stream.
  - The approach roads at the cut banks shall be no steeper than 5:1. Spoil material from the banks shall be stored out of the flood plain and stabilized.
  - One layer of filter cloth shall be placed on the streambed, streambanks and road approaches prior to placing the bedding material on the stream channel or approaches. The filter cloth shall extend a minimum of 6 inches and a maximum one foot beyond bedding material.
  - The bedding material shall be coarse aggregate or gabion mattresses filled with coarse aggregate.
  - Aggregate used in ford construction shall meet the minimum requirements of Section I.H. 1.
  - All fords shall be constructed to minimize the blockage of stream flow and shall allow free flow over the ford. The placing of any material in the waterway bed will cause some upstream ponding. The depth of this ponding will be equivalent to the depth of the material placed within the stream and therefore should be kept to a minimum height. However, in no case will the bedding material be placed deeper than 12 inches or one-half (1/2) the height of the existing banks whichever is smaller.
  - Stabilization - All areas disturbed during ford installation shall be stabilized within 14-calendar days of that disturbance in accordance with the Standards for "Critical Area Stabilization With Permanent Seeding."

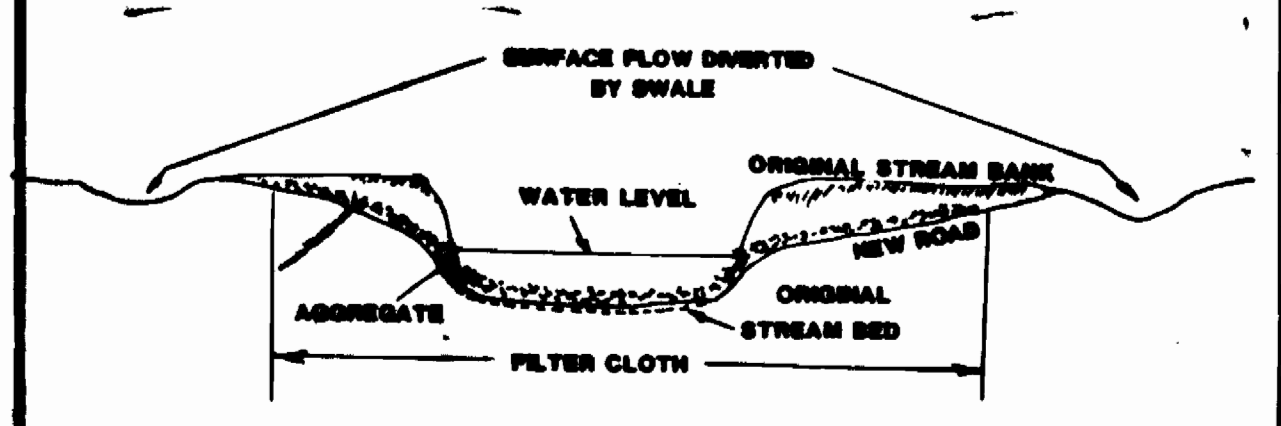
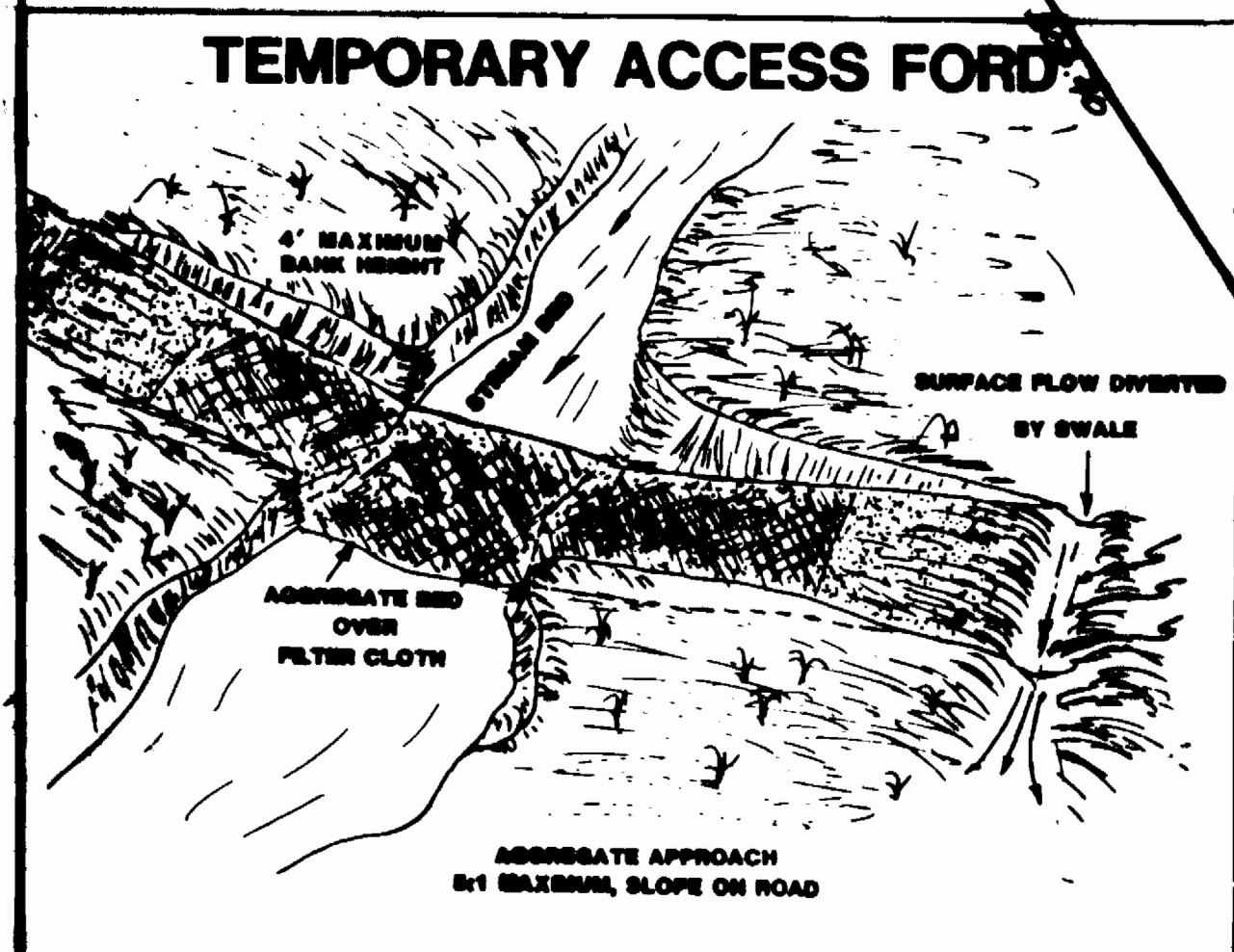
Ford Removal and Clean-Up Requirements

- Removal** - When the temporary structure has served its purpose, excess material used for this structure need not be removed. Care should be taken so that any aggregate left does not create an impoundment or restrict fish passage.
- Final Clean-Up** - Final clean-up shall consist of removal of excess temporary ford materials from the waterway. All materials shall be stored outside the waterway flood plain.
- Method** - Clean up shall be accomplished without construction equipment working in the stream channel.
- Approach Disposition** - The approach slopes of the cut banks shall not be backfilled.
- Final Stabilization** - All areas disturbed during ford removal shall be stabilized within 14-calendar days of that disturbance in accordance with the Standard for "Critical Area Stabilization With Permanent Seeding."

Any temporary access crossing shall conform to the technical requirements of this Standard and Specifications as well as any specific requirements imposed by the Water Resources Administration's Watershed Permits Division (269-2265) Annapolis, Maryland.

scale: 1"=50'

P303  
SPACE ACRES, INC  
373/532



DEPARTMENT of PUBLIC WORKS  
Howard County, Maryland

*David F. Neuman*  
Director of Public Works  
Date: 2-11-85

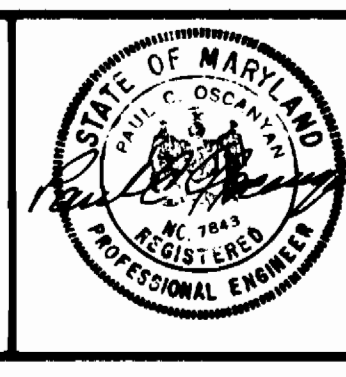
*Robert M. Beaman*  
Chief, Bureau of Utilities  
Date: 2-11-85

*William E. Riley*  
Chief, Bureau of Engineering  
Date: 2-11-85

*Alfred J. ...*  
Chief, Land Development Division  
Date: 2-11-85

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DES	SP				
JRN	NK				
CHK	CF	AMT	7	REVISE SHEET LOC. LOTS 1-42.	7/23/85
DATE	01/84	SDS	1	ADD COMMENTS MARK LOTS 37332	2/10/85
BY	NO			REVISION	

PLAN of  
WATER and SEWER  
MAINS  
SEDIMENT CONTROL PLAN

DATE: 600 SCALE MAP NO 42 BLOCK NO

CARRIAGE HILLS  
Lots 1-44  
Election District #6  
CONTRACT No. 24-1298-D

5 of 5