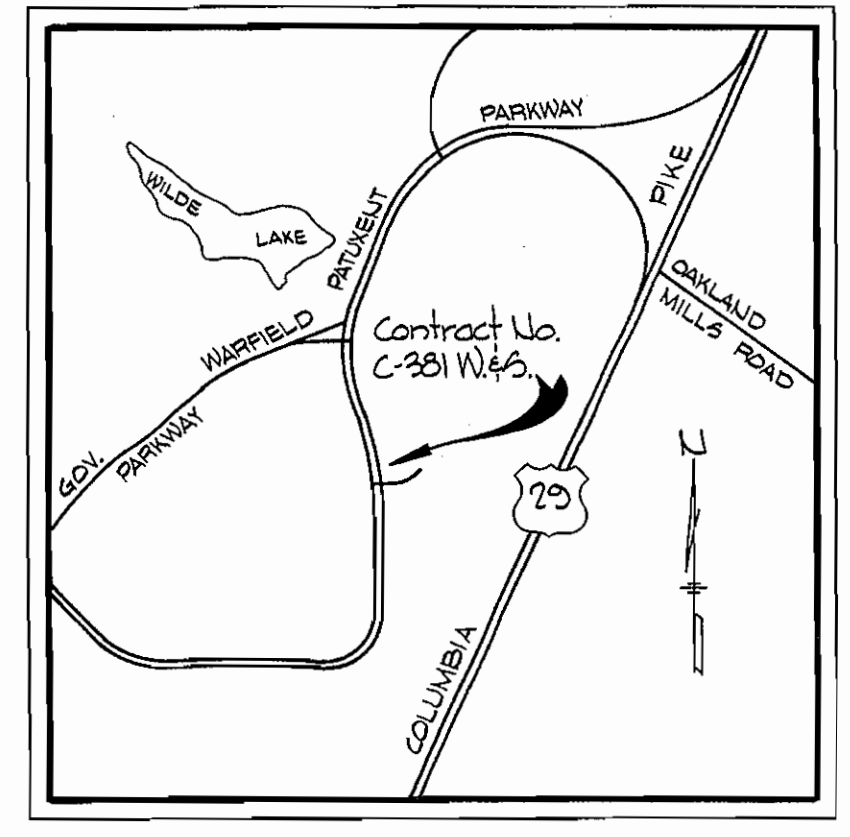
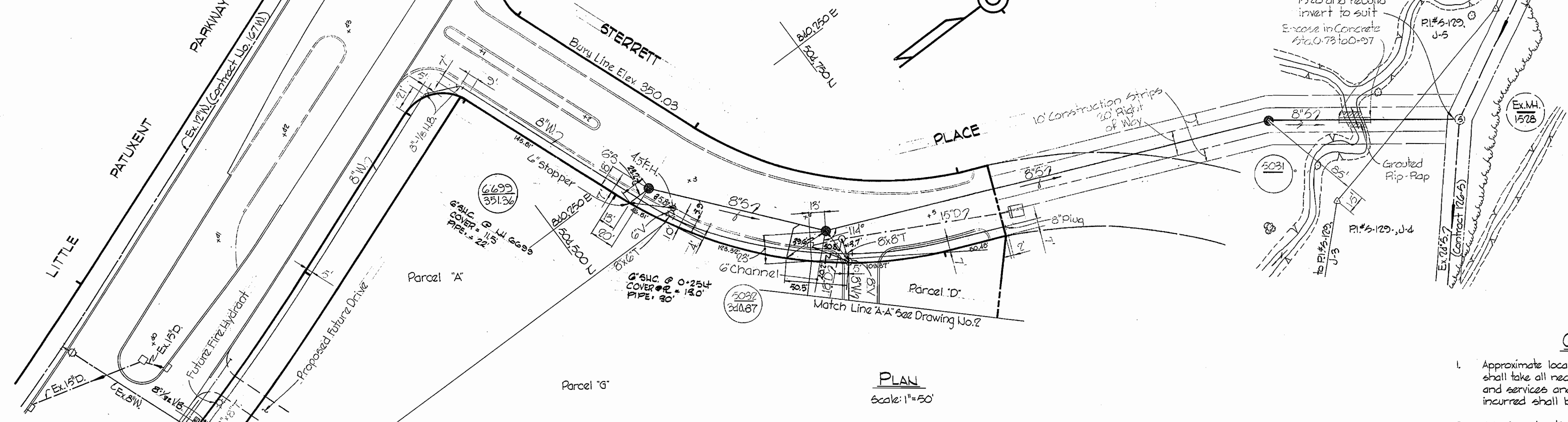


W.R.#A. BM.#1-J Elev. 306.69
 R.R. Spike Base 15' Locust on top of Stream Bank = 30' Left of Sta. 0+75 bet. PI#5-129-J-3 & PI#5-129-J-4.

W.R.#A. BM.#2-J Elev. 312.30
 R.R. Spike Base 12' Oak = 12' Left of Sta. 1+10 bet. PI#5-129-J-6 & PI#5-129-J-7.

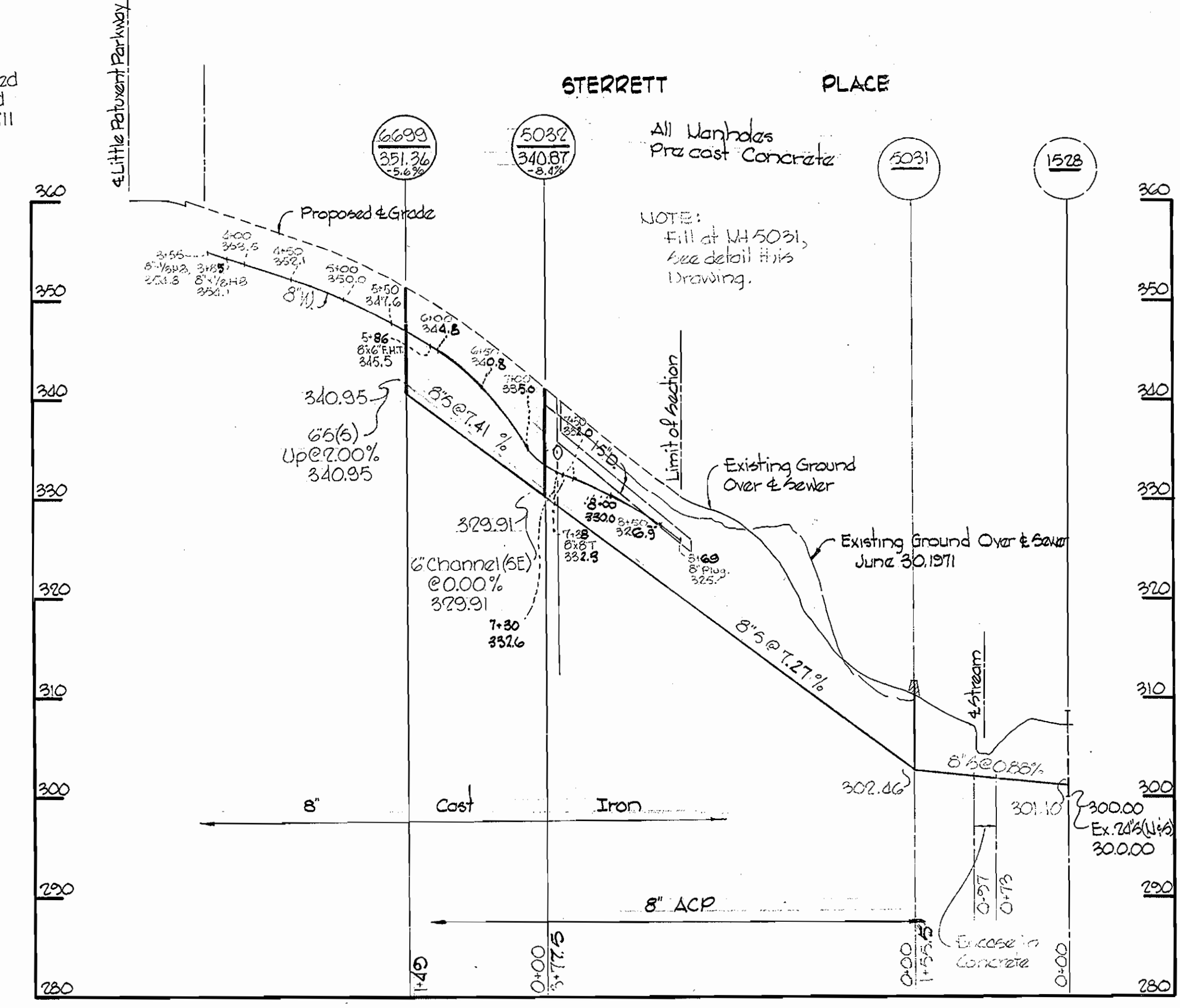
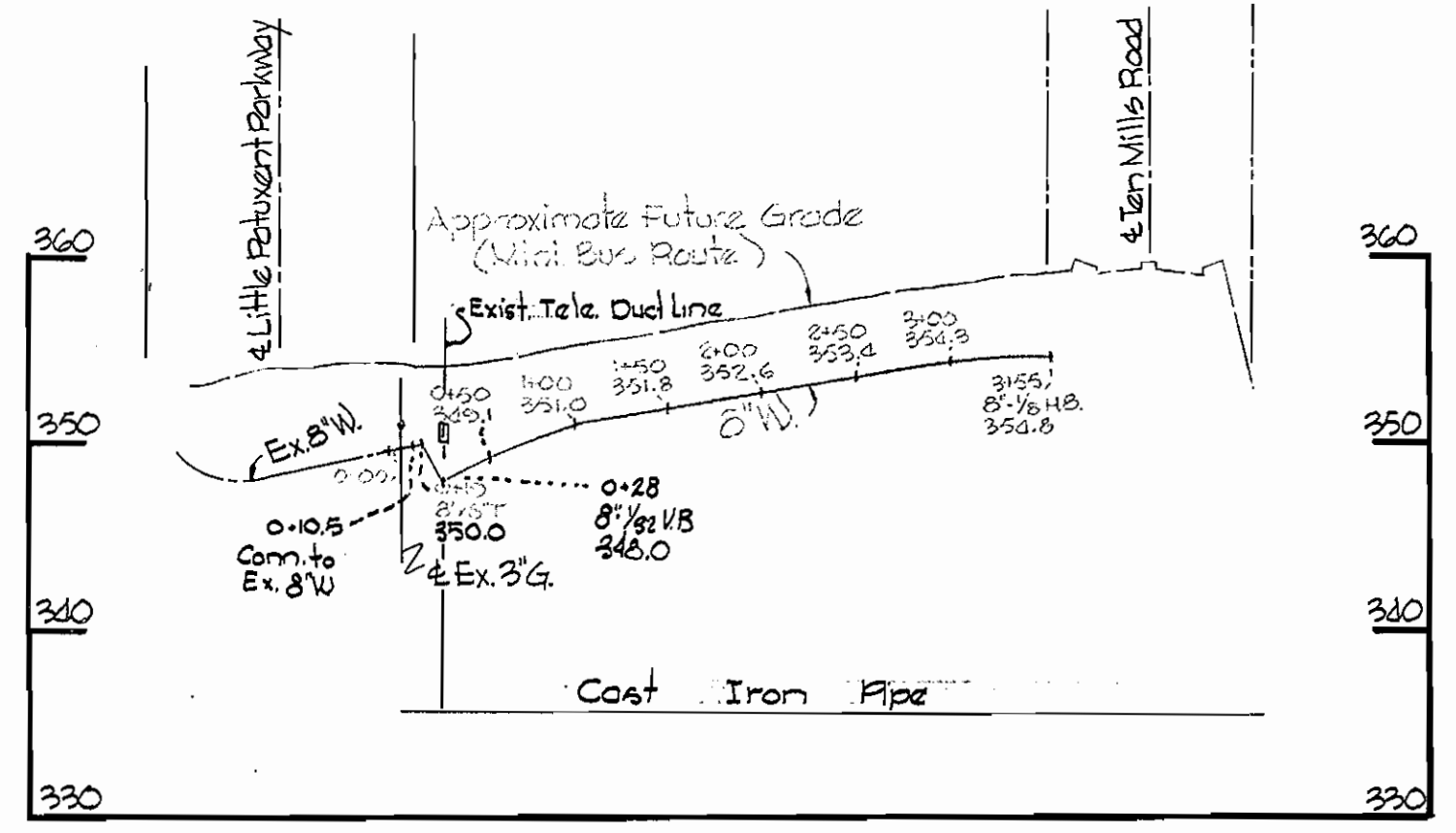
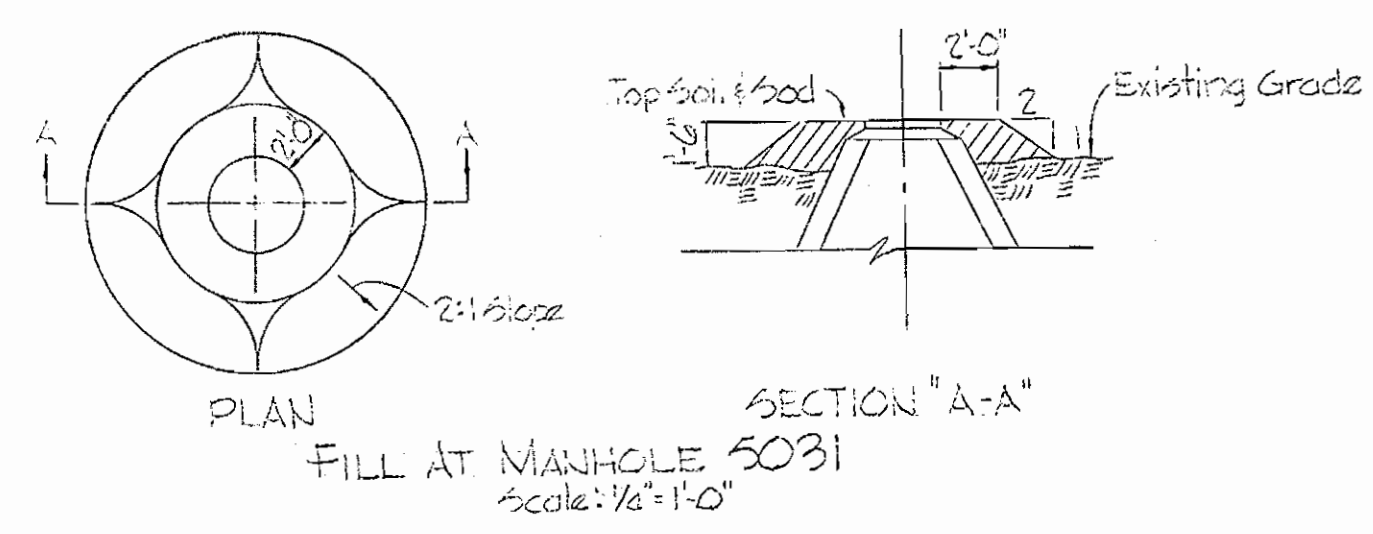
Property of HOWARD RESEARCH AND DEVELOPMENT CORPORATION



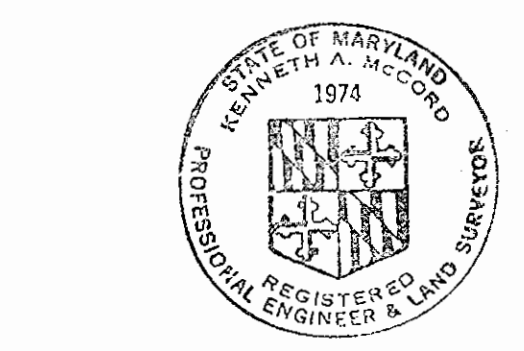
QUANTITIES	
8" Sewer	920'
16" Sewer	500'
6" Water	140'
8" Water	2550'
Fire Hydrants	5

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.
- All pipe elevations shown are invert elevations.
- The Contractor shall locate existing utilities a minimum of two weeks in advance of construction operations in vicinity of utilities.
- For all standard details see standards bound in Specifications.
- Clear utilities by a minimum of 6', clear all poles by 2'-0" minimum or tunnel as required.
- The Contractor shall provide a joint in all sewer mains within 2'-0" of exterior manhole walls.
- All manholes shall be 4'-0" inside diameter.
- All water mains to have a minimum of 3 1/2' cover unless otherwise noted.
- Block all fittings with concrete, see standards bound in Specifications.
- Bury line elevations on fire hydrants shall be set to the elevations shown on the drawings.
- All fire hydrants shall be strapped to the tee and shall be buttressed with concrete in accordance with standard details.
- Cost of strapping fire hydrants and valves to tees to be included in unit price bid for furnishing and laying of water mains.
- All horizontal and vertical controls are based on Maryland State Datum.



Note: Drawing 5 of 5 is Std. Meter Vault for 4x2" FM-CT Meter



Kenneth A. McLeod

Diary & Stakeout FB # 4364
 Sewer - Asbestos Cement
 Water - Cast Iron

Town Center Section 7, Area 6 Contract No. C-381 W&S

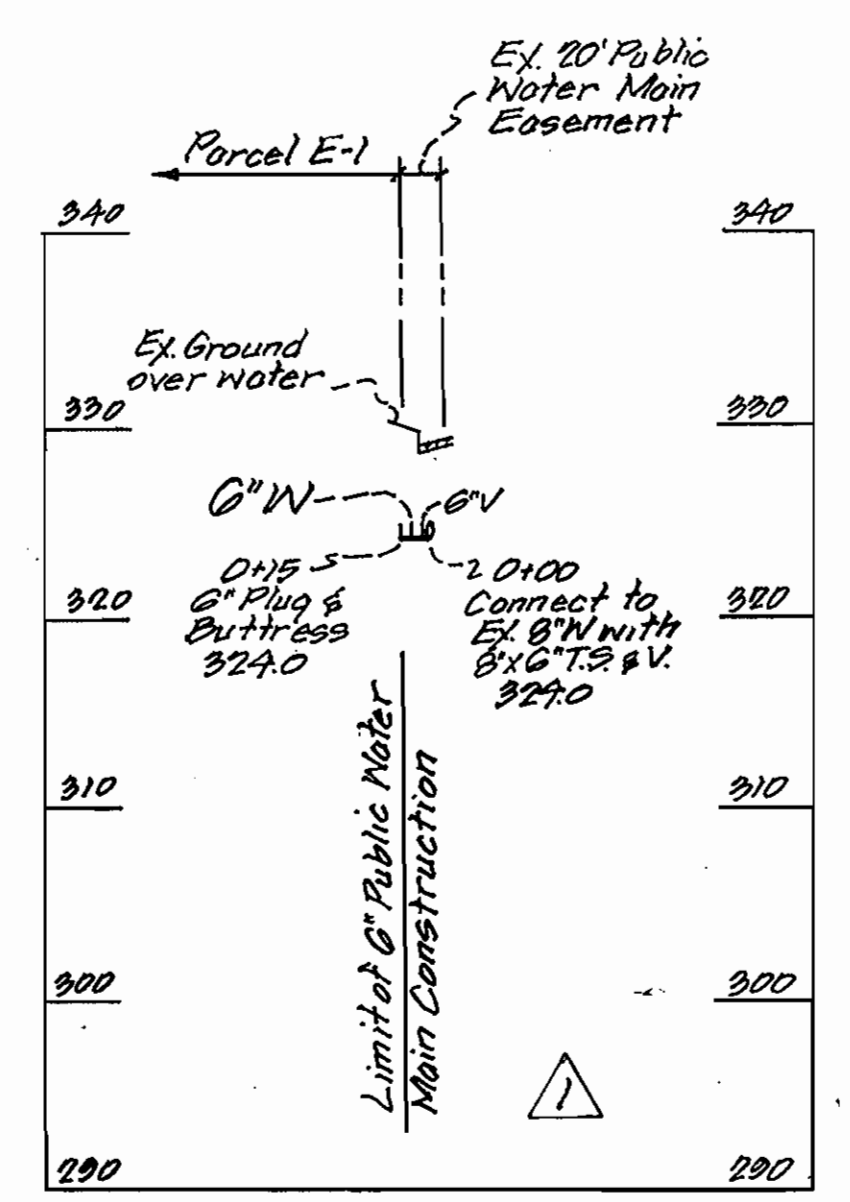
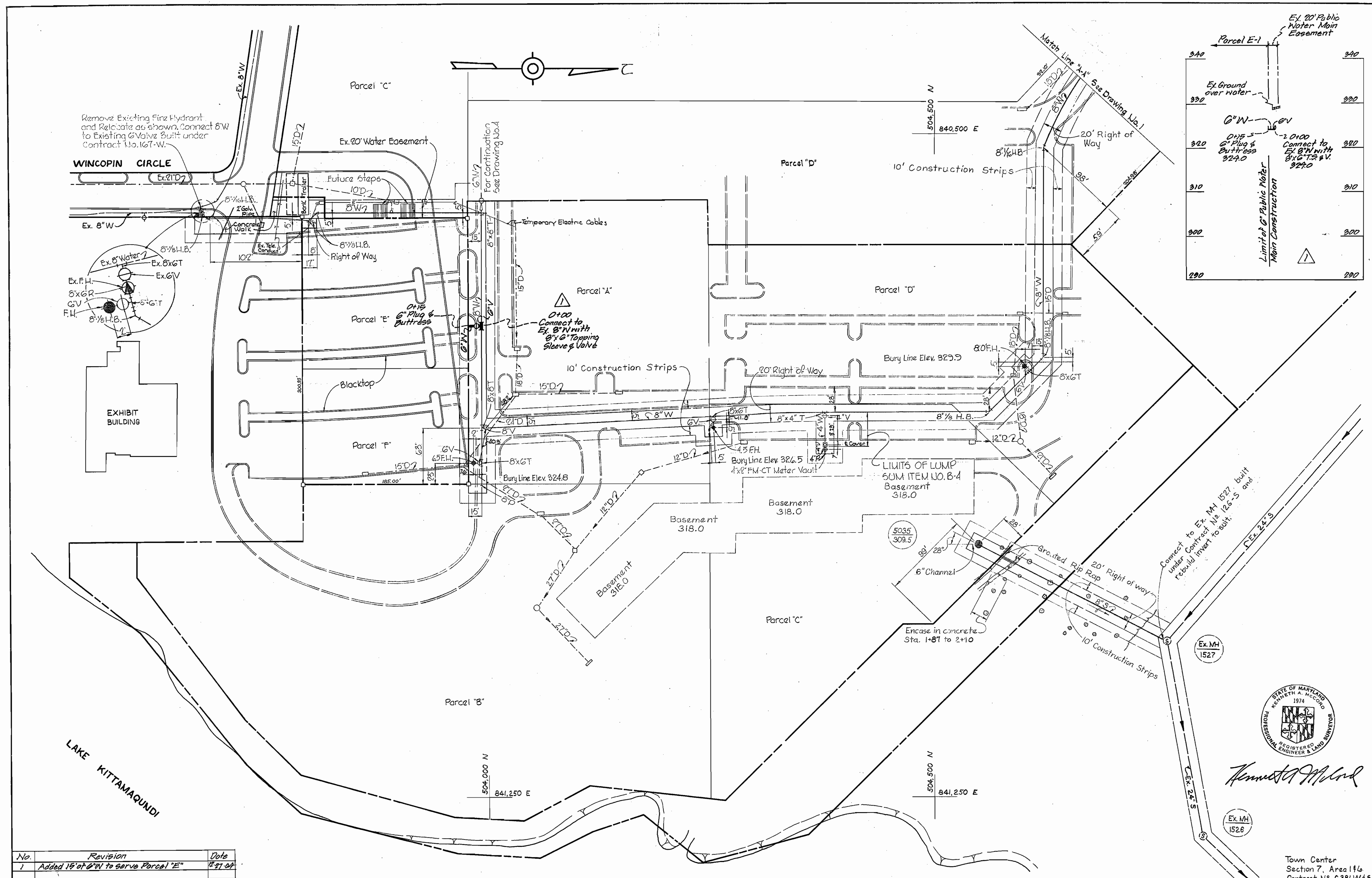
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 5-12-71 DATE W. O. Fallert CHIEF ENGINEER	CONTRACT NO. C-381 W&S	PLAN & PROFILES OF WATER & SEWER MAINS	COLUMBIA TOWN CENTER ELECTION DISTRICT CLARKSVILLE NO. 5	DRAWING NO. OF 5	SCALE AS SHOWN
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W. O. 6013-2

SEPT. 13, 1971

WS 381-W&S/1

WS 381-W&S/2



No.	Revision	Date
1	Added 1 1/2" of 6" W to serve Parcel 'E'	12-27-71

WHITMAN, REQUARDT & ASSOCIATES
 ENGINEERS
 1304 ST. PAUL ST.
 BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 5-12-71
 DATE

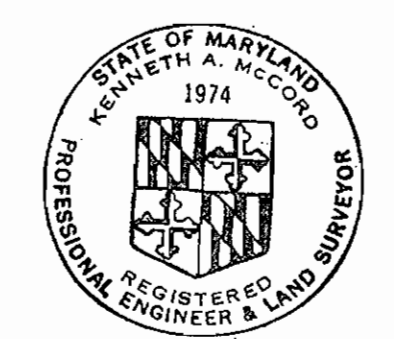
W. O. Libbit
 CHIEF-BUREAU OF WATER AND SEWER

CONTRACT NO. C-381 W&S

PLANS OF
 WATER & SEWER MAINS

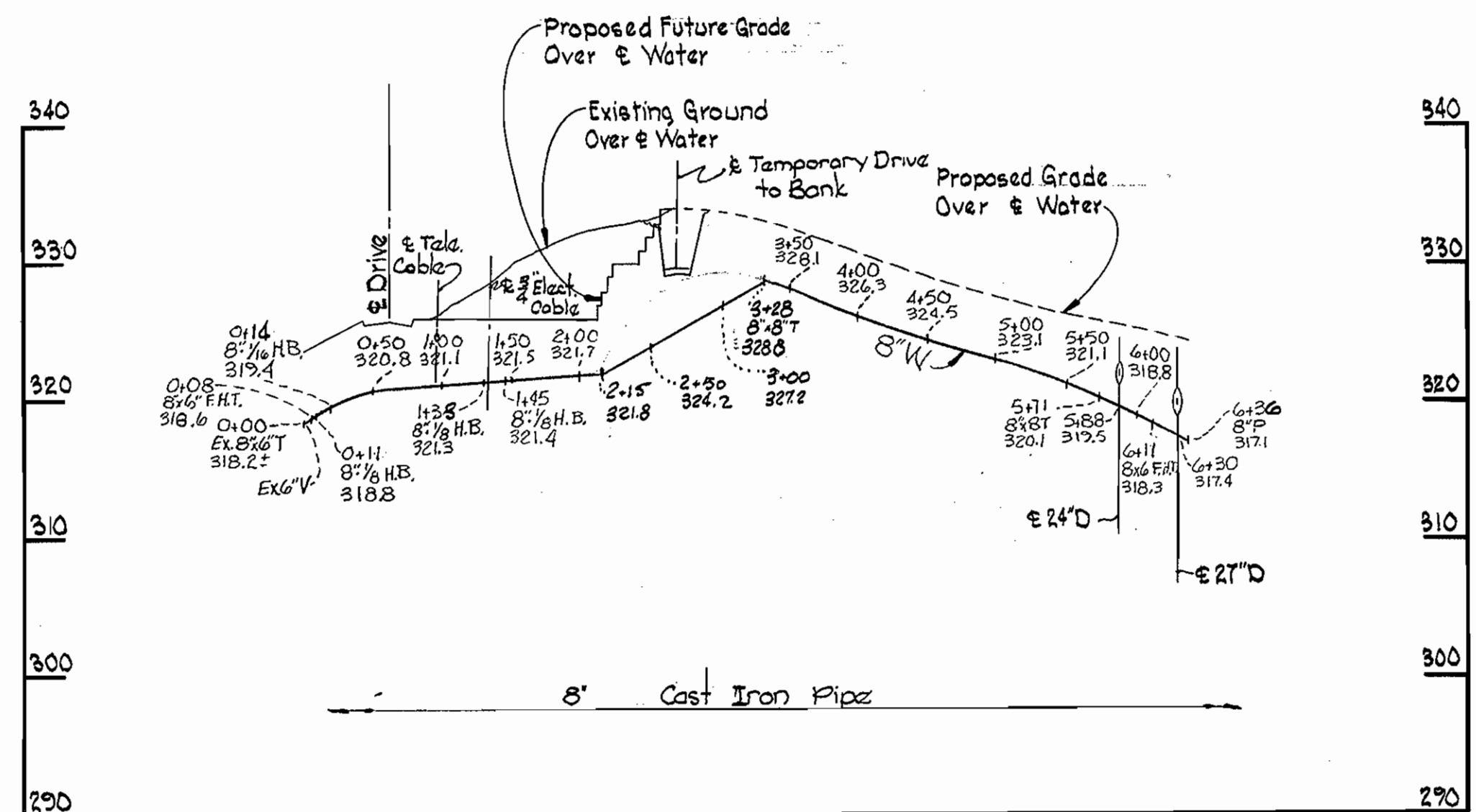
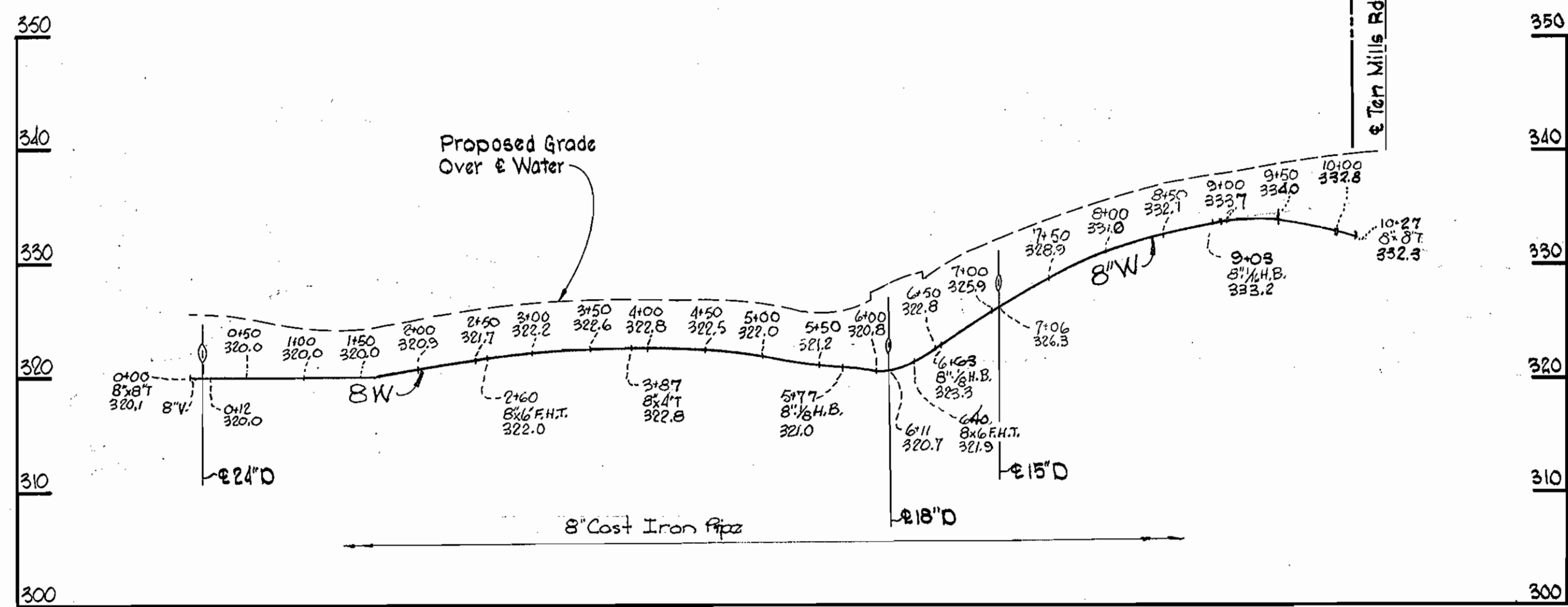
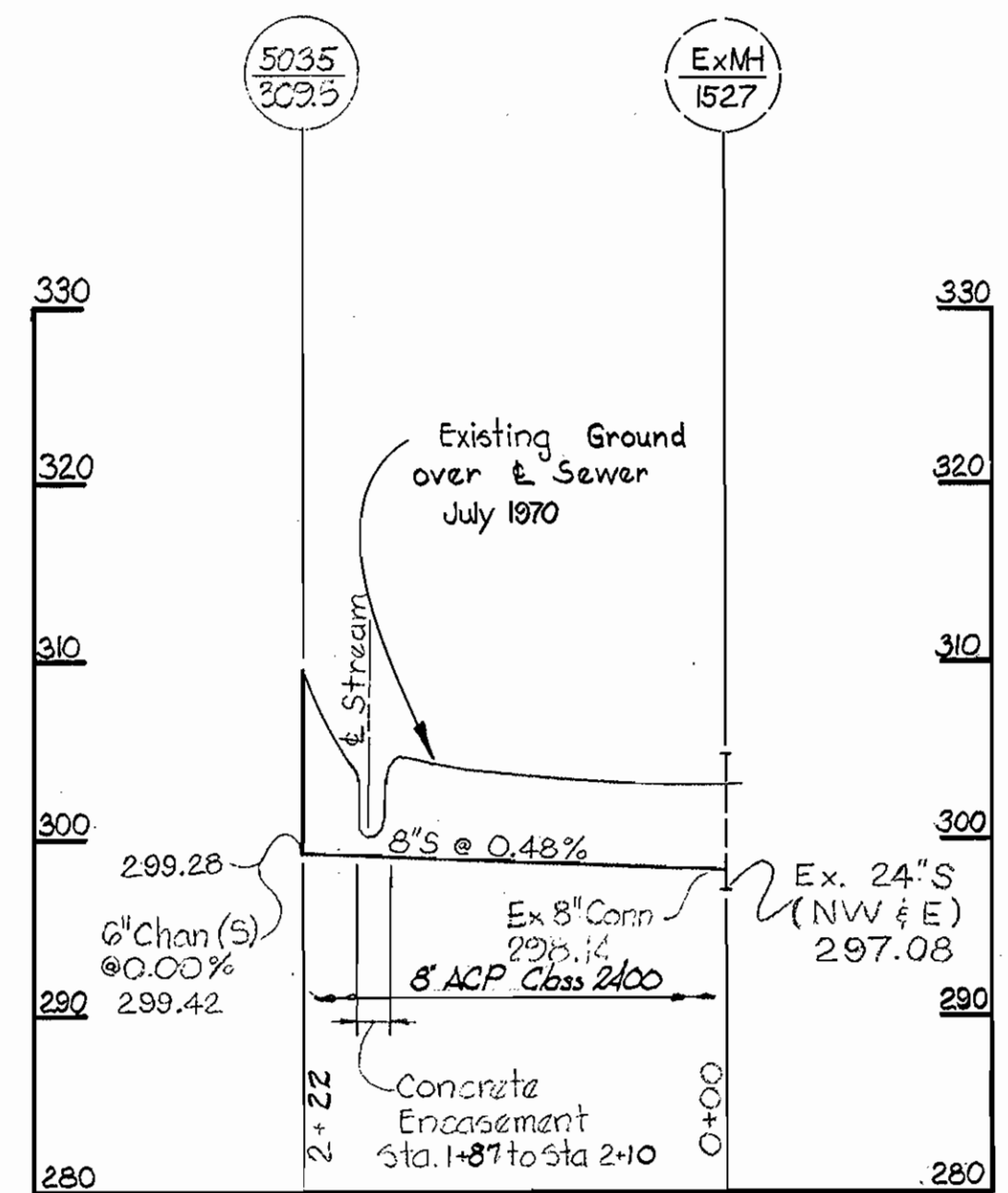
COLUMBIA
 TOWN CENTER
 ELECTION DISTRICT CLARKSVILLE NO.5

DRAWING NO. 2 OF 5
 SCALE 1"=50'



Kenneth A. McLeod

Town Center
 Section 7, Area 116
 Contract No. C381 W&S



Kenneth A. McCord

Town Center
Section T, Area 146
Contract No. C-381-W#5

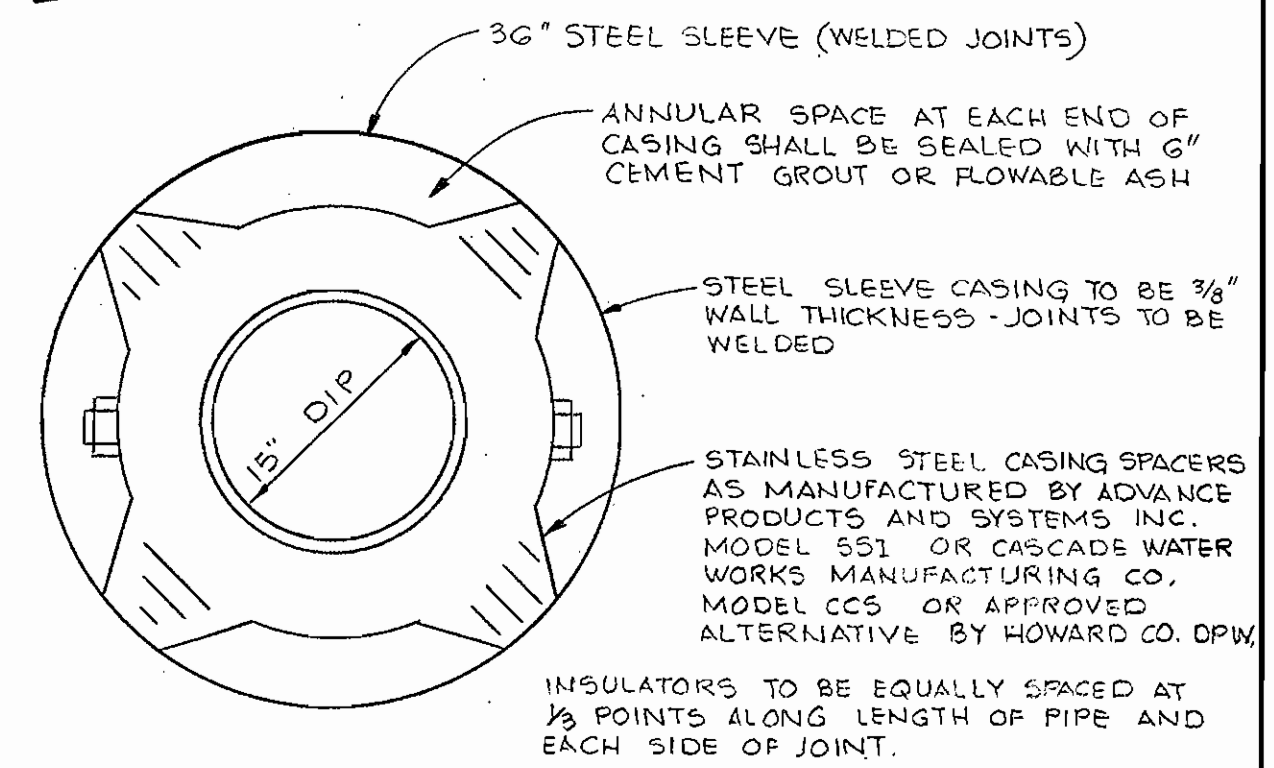
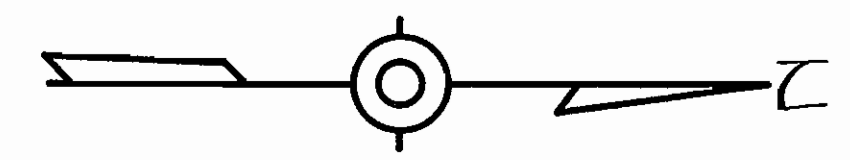
WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 5-12-71 <i>W. O. Liebert</i> CHIEF-BUREAU OF WATER AND SEWER	CONTRACT NO. C-381 W#5	PROFILES OF WATER & SEWER MAINS	COLUMBIA TOWN CENTER ELECTION DISTRICT CLARKVILLE NO.5	DRAWING NO. 3 OF 5	SCALE H:1"=100' V:1"=10'
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W. O. 6023-2

Sept 13, 1971 **BUILT**

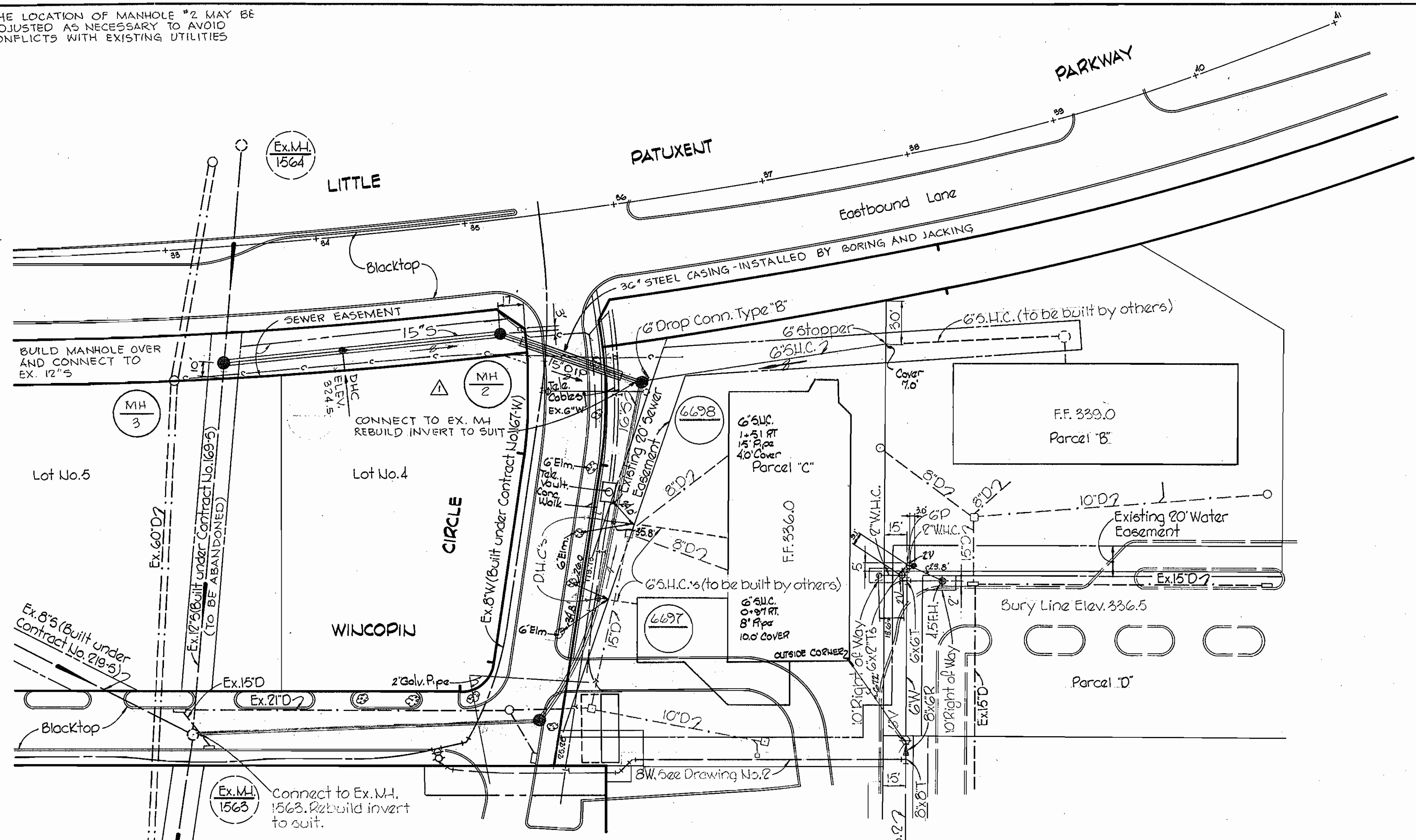
WS 381-W#5/3

THE LOCATION OF MANHOLE #2 MAY BE ADJUSTED AS NECESSARY TO AVOID CONFLICTS WITH EXISTING UTILITIES

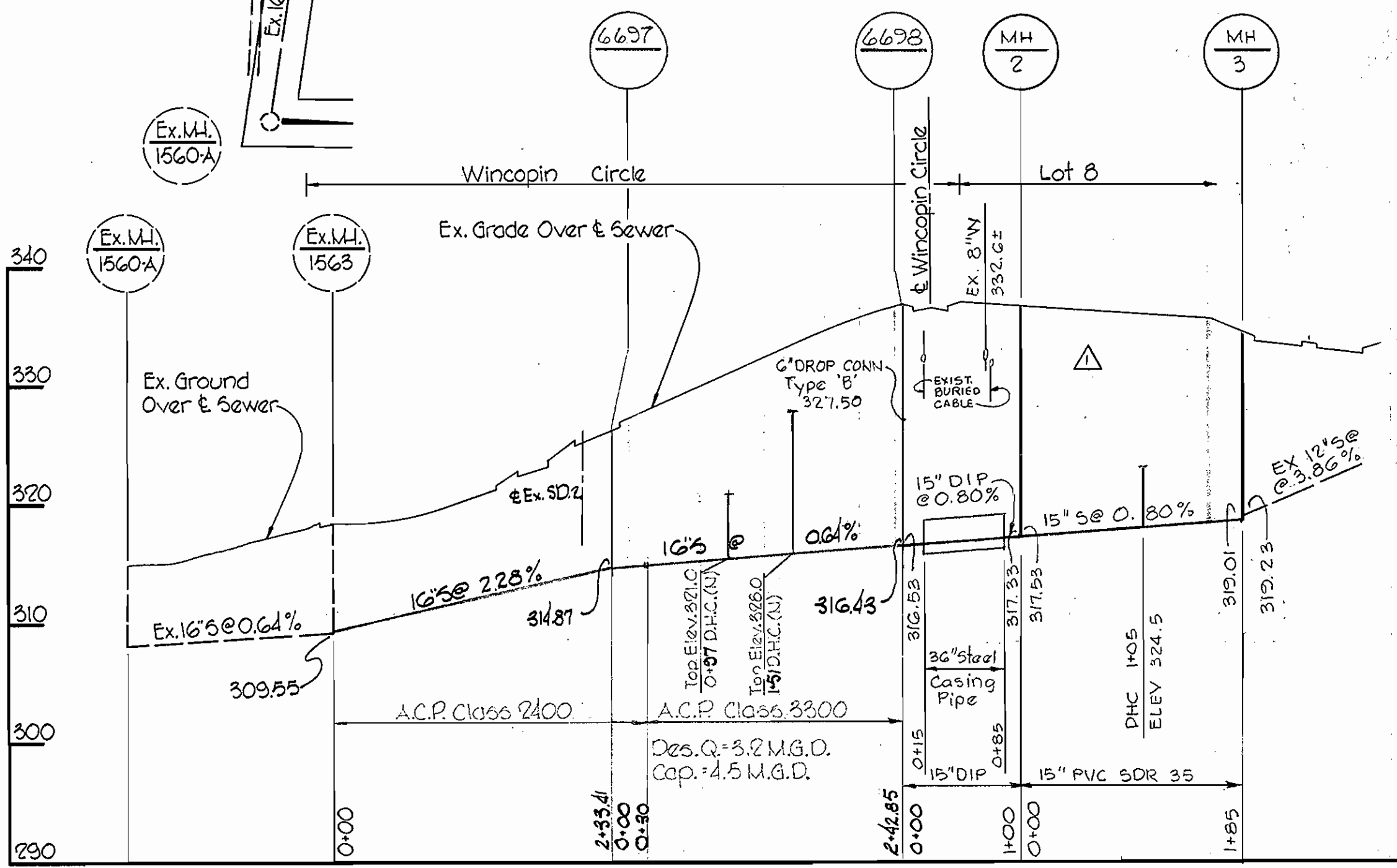


DETAIL OF 36" CASING PIPE
NO SCALE

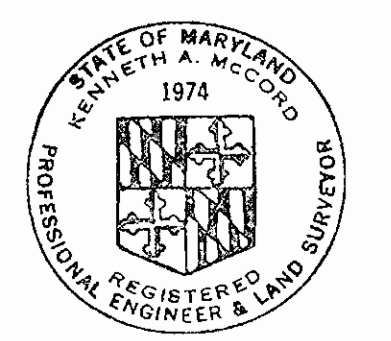
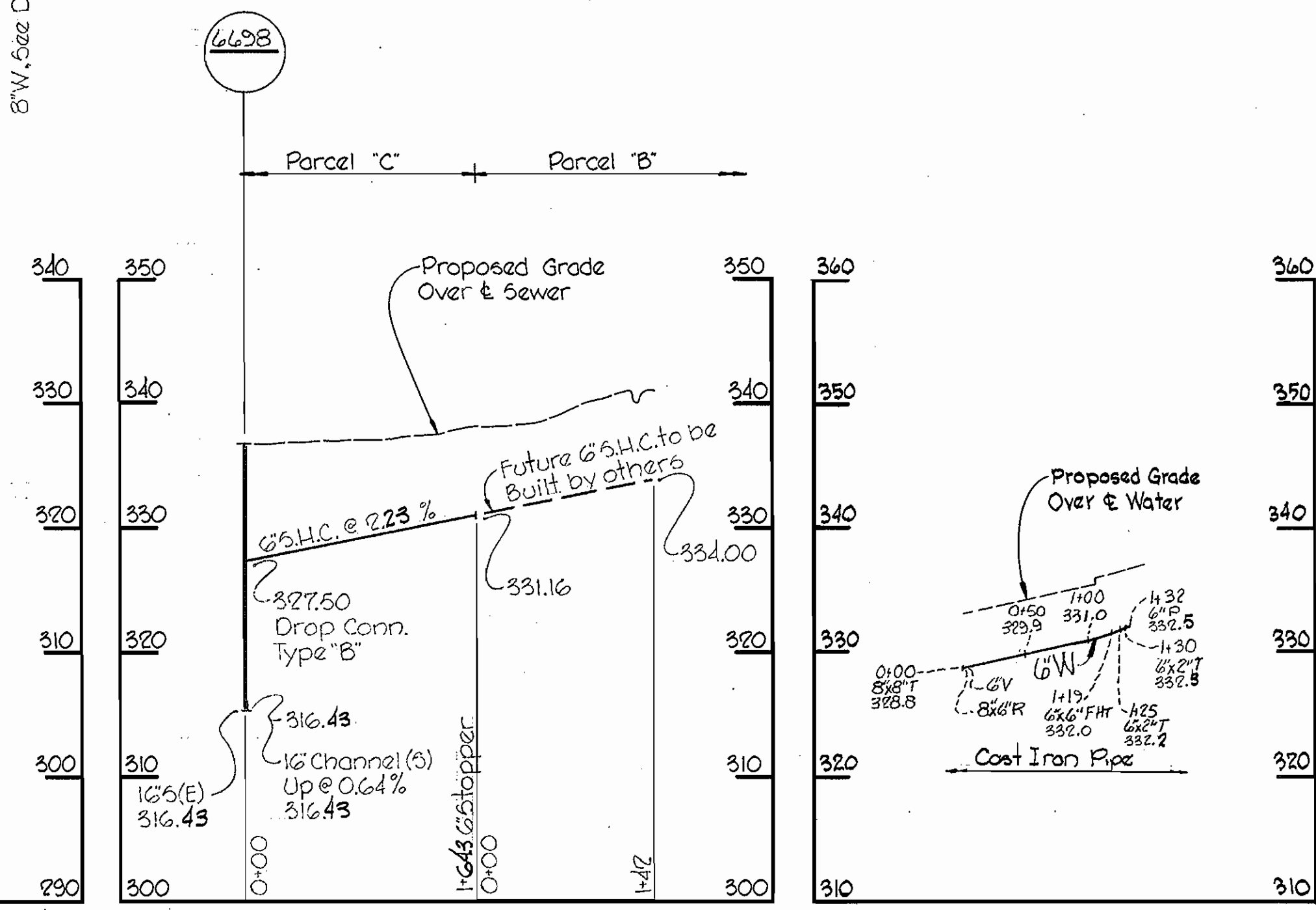
840.750E
840.500E
1005.500
1005.700



PLAN
Scale: 1"=50'



PROFILE
Scale: H: 1"=100'
V: 1"=10'



Kenneth A. McCord

NO	DATE	REVISION
1	3-21-77	ADDED SEWER BETWEEN MH 6638 & MH 3

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 5-12-77 DATE	CONTRACT NO. C-381 W&S CHIEF - BUREAU OF WATER AND SEWER	PLAN AND PROFILE WATER & SEWER MAINS	COLUMBIA TOWN CENTER ELECTION DISTRICT CLARKSVILLE NO.5	DRAWING NO. 4 OF 5 SCALE AS SHOWN	Town Center Section T, Area G Contract No. C-381-W&S
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W. O. 6023-2

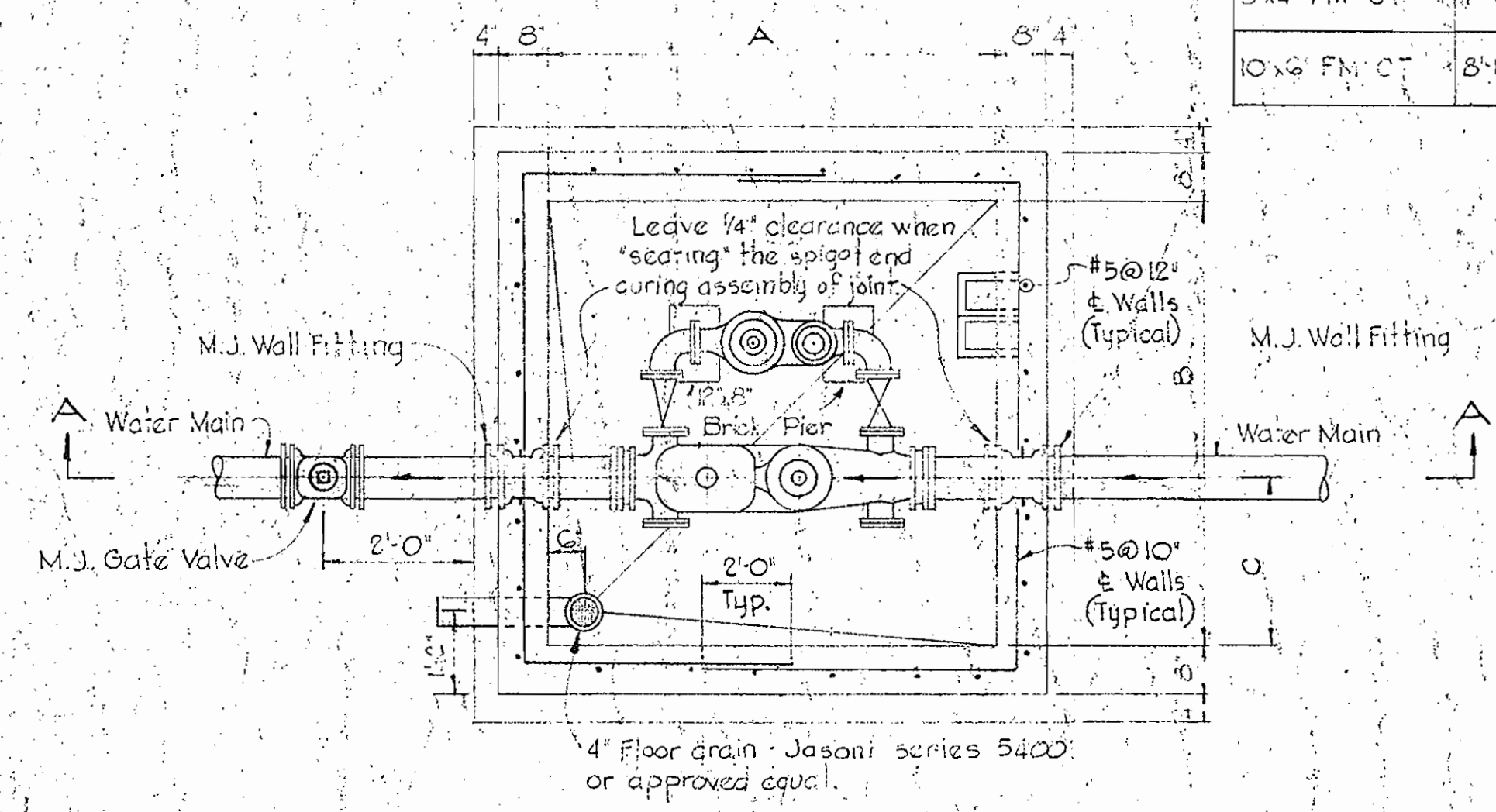
Sept 13, 1977

WS 381-W&S/H

Note: Slope floor of vault to drain.

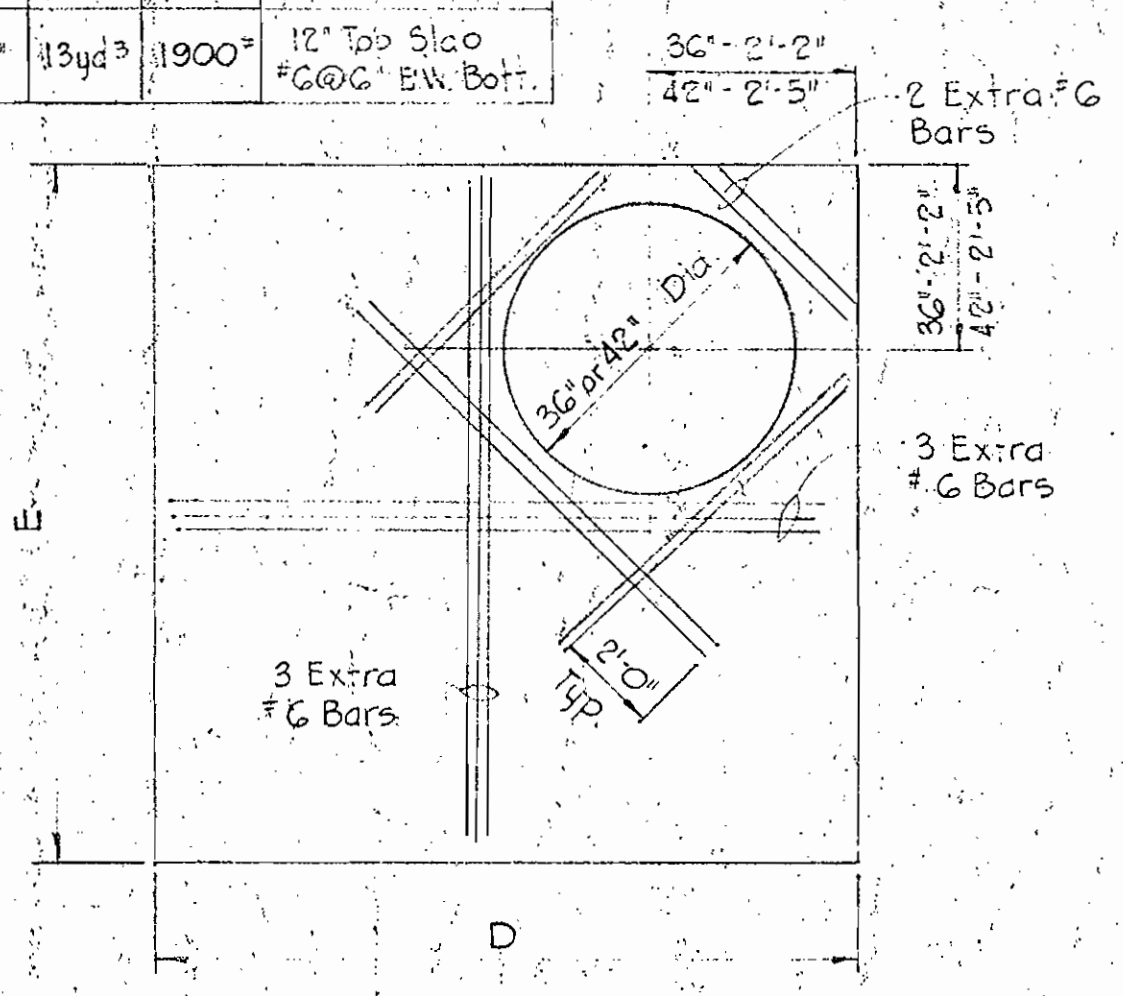
SCHEDULE

Meter Size	Dimensions					Concrete Required Cubic Yards	Steel Required Pounds	Slab Reinforcing
	A	B	C	D	E			
4"x2" FM-CT	5'-6"	5'-6"	2'-2"	6'-10"	6'-10"	8yd ³	1100#	10" Top Slab #5@6" E.W. Bott.
6"x3" FM-CT	6'-8"	6'-0"	2'-5"	8'-0"	7'-4"	9 1/2 yd ³	1400#	12" Top Slab #6@6" E.W. Bott.
8"x4" FM-CT	7'-6"	6'-9"	2'-5"	8'-10"	8'-1"	10 1/2 yd ³	1600#	12" Top Slab #6@6" E.W. Bott.
10"x6" FM-CT	8'-10"	7'-9"	2'-8"	10'-2"	9'-1"	13 yd ³	1900#	12" Top Slab #6@6" E.W. Bott.

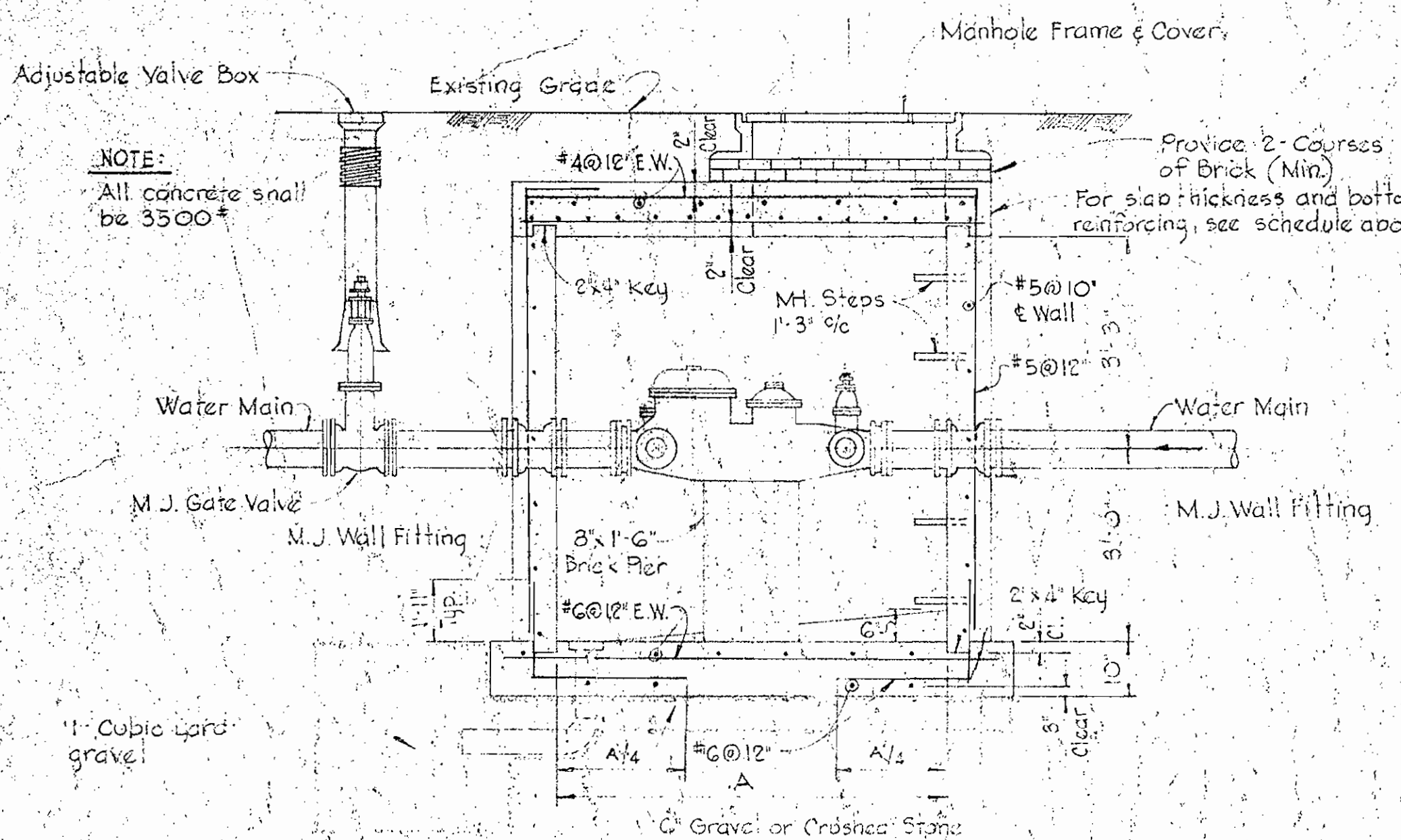
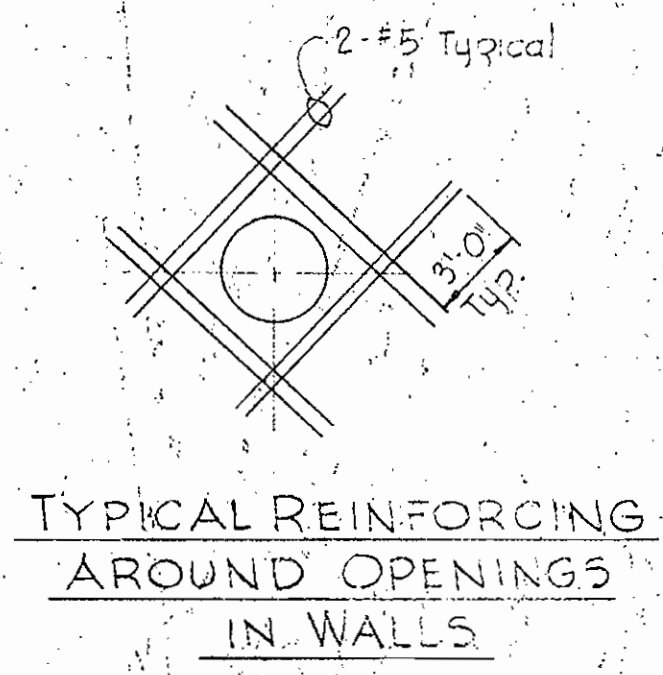


PLAN

NOTE: Meter to be furnished with plain ends and installed with Smith-Blair 912 flanged coupling adapters. Prior to placing meter, strap valve to tee. See standard detail W-GA.



TOP SLAB



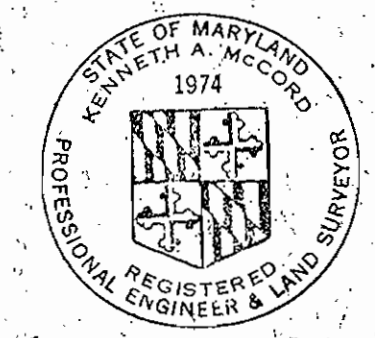
SECTION "A-A"

4"x2" FM-CT
METER VAULT

Scale: 1/2" = 1'-0"

GENERAL CONCRETE NOTES

- All reinforced concrete shall be Class A, 3500 psi at 28 days.
- Reinforcing steel shall be intermediate grade (ASTM A-15) with deformations conforming to ASTM Specification A 305.
- All dowel projections, beyond construction joints, shall be 30 diameters.
- All bars, laps shall be 30 diameters unless otherwise noted.



Kenneth A. McCord

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
BALTIMORE, MARYLAND

HOWARD COUNTY METROPOLITAN COMMISSION
ELLICOTT CITY, MARYLAND

DATE: 13, Sept. 1971 CONTRACT: 0-381 W&S SHEET 5 OF 5

AS BUILT
NO REVISIONS

AS BUILT

WS 381-W&S/5