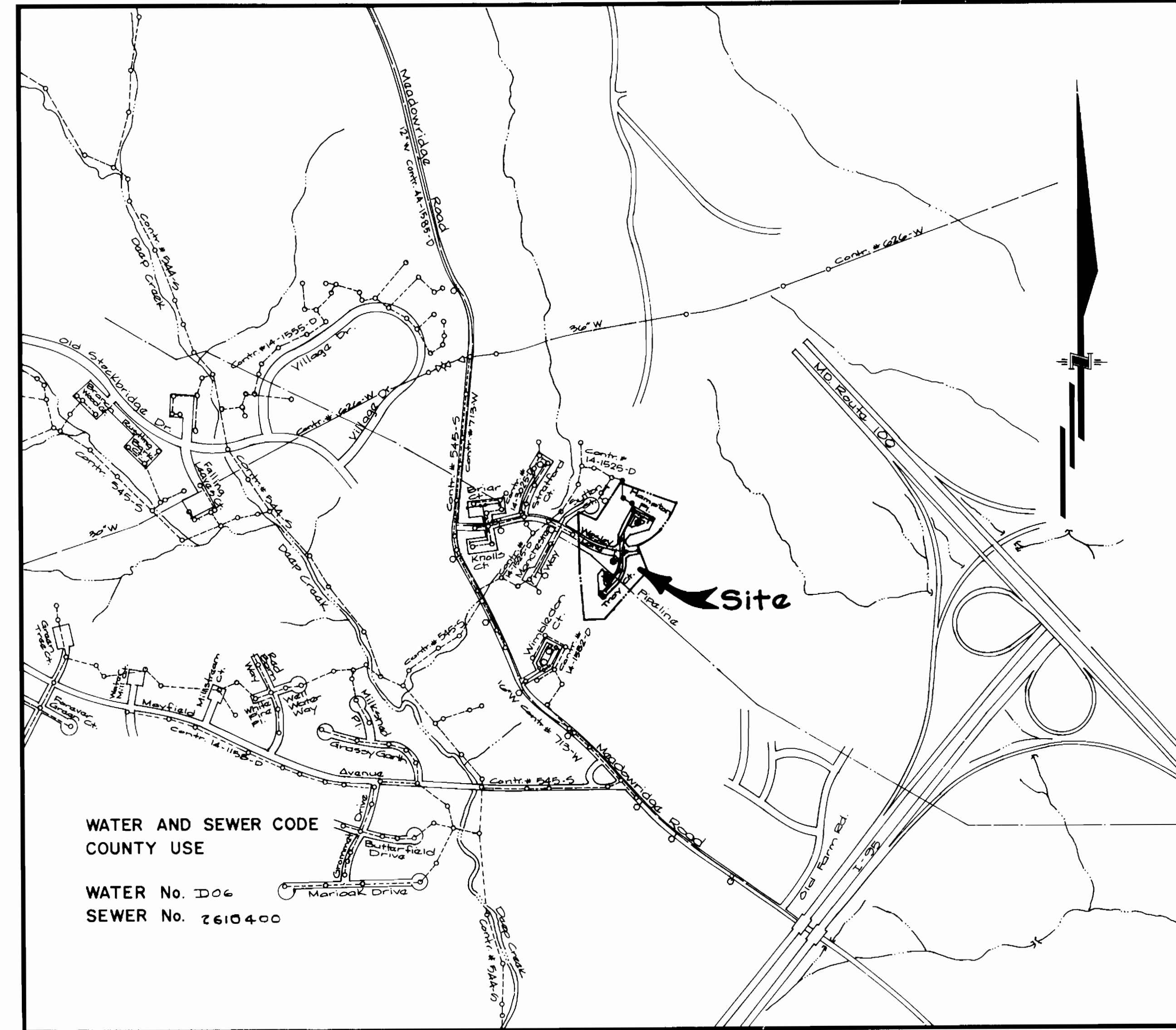


TYPE OF BUILDING	Townhomes
NUMBER OF UNITS	48
NUMBER OF SHC's	48
NUMBER OF WHC's	48
DRAINAGE AREA	Patapsco

GENERAL NOTES

- Approximate locations 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 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 by 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 & Howard County Design Manual, Volume IV. The Contractor shall have a copy of Volume IV on the job.
- 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	
Miss Utility	1-559-0100	Contractor Services	561-2585
Chesapeake & Potomac (CBP)		Underground Damage Control	234-5621
Telephone Company	725-9976	Trouble-shooting	298-3013
Colonial Pipeline Company	795-1390	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 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 to be D.I.P., Class 92 only.
- 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 standard details. Soil around the fire hydrant to be compacted in accordance with Sections 1000 and 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.
- ~~For all Copper Water House Connections, utilize flared type fittings only.~~
- All sewer mains shall be CSPX, VCPX, RCSP, PVC ~~ACR Class 2400~~ unless otherwise noted.
- The contractor shall provide a joint in all sewer mains within 2'-0" of exterior manhole wall.
- All manholes shall be 4'-0" inside diameter, unless otherwise noted.
- 12" and 16" manhole wall thicknesses shown on profiles pertain to brick manholes only.
- Manholes designated W.T. in plan and profile shall have watertight frames and covers. (See Standard Detail G 5 52) Where watertight manhole frame and cover is used, set top of frame 1'-6" above finished grade. (See Standard Detail G 5 41)
- House(s) with the symbol "CNS" indicates that cellar cannot be served.
- Water main and water house connection lines must have a minimum of one foot separation from either sanitary sewer or sewer house connections as they cross. Except at crossings, water and sewer lines shall have a minimum horizontal separation of 10'.
- All D.I.P. fittings shall be in accordance with A.W.W.A. specification C-193 Ductile Iron compact fittings, 3-inch through 12-inch for water and other liquids.



WATER AND SEWER CODE
COUNTY USE

WATER No. D06
SEWER No. 2610400

VICINITY MAP
SCALE: 1" = 600'

CONTRACT NO. 14-3109-D

WILLOWOOD
SECTION 2 AREA 2
LOTS 208-263

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-21-47; Drawings 3, 5 & 6, Sediment & Erosion Control.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT
[Signature] 2/26/91
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] 2/26/91
DATE
HOWARD S.C.D.

QUANTITIES			
ITEM	ESTIMATED	AS-BUILT	MATERIAL / SUPPLIER
12" Water	447 l.f.		
8" Water	676 l.f.		
6" Water	540 l.f.		
2" WHC	100 l.f.		
1" WHC	530 l.f.		
" WHC	815 l.f.		
12" Valves	1 ea.		
8" Valves	2 ea.		
6" Valves	1 ea.		
F.H. f Valve	3 ea.		
8"x6" Reducer	1 ea.		
8" Sewer	1178 l.f.		
4" Manholes	13 ea.		
4" SHC	1585 l.f.		

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
[Signature] 2/5/91
DIRECTOR OF PUBLIC WORKS DATE
[Signature] 3/4/91
CHIEF, BUREAU OF UTILITIES DATE
[Signature] 3/1/91
CHIEF, LAND DEVELOPMENT DIV DATE

GW GUTSCHICK LITTLE & WEBER, P.A.
ENGINEERS, PLANNERS, SURVEYORS
3909 NATIONAL DRIVE SUITE 250 HURTSVILLE OFFICE PARK
HURTSVILLE, MD 21056
1901 421 4024

DES: G.A.W.
DRN: G.A.W.
CHK: C.K.G.
DATE: Jan 1991
REV. QUANTITY OF 6" WATER IN QUANTITY BOX 11-2291
REVISION
DATE: 600' SCALE MAP NO. 37 BLOCK NO. 15 E 16

Water and Sewer Title Sheet
Willowood
Section Two Area Two
First Election District
Howard County Maryland
Contract No: 14-3109-D
SCALE AS SHOWN
SHEET 1 OF 3

LOT	SHC'S	WHC'S
LOT 221	15' FROM MH 321 54' FROM MH 322	85' FROM MH 323 42' FROM MH 322
LOT 222	45' FROM MH 321 25' FROM MH 322	60' FROM MH 323 20' FROM MH 322
LOT 223	12' FROM MH 321 14' FROM MH 322	55' FROM MH 323 14' FROM MH 322
LOT 224	14' FROM MH 321 51' FROM MH 323	100' FROM F.H. 1 55' FROM MH 323
LOT 225	41' FROM MH 322 45' FROM MH 323	84' FROM F.H. 1 51' FROM MH 323
LOT 226	56' FROM MH 322 25' FROM MH 324	64' FROM F.H. 1 53' FROM MH 323
LOT 227	25' FROM F.H. 1 55' FROM MH 324	75' FROM MH 324 62' FROM F.H. 1
LOT 228	58' FROM MH 324 61' FROM F.H. 1	71' FROM MH 324 64' FROM F.H. 1
LOT 229	52' FROM MH 324 75' FROM F.H. 1	45' FROM MH 324 85' FROM F.H. 1
LOT 230	35' FROM MH 324 25' FROM F.H. 1	40' FROM MH 324 88' FROM F.H. 1
LOT 231	106' FROM MH 324 35' FROM F.H. 1	25' FROM MH 324 7' FROM SHC-LOT 231
LOT 232	41' FROM MH 324 161' FROM F.H. 1	48' FROM MH 324 15' FROM SHC-LOT 232
LOT 233	90' FROM MH 324 41' FROM SHC-LOT 232	51' FROM MH 324 25' FROM SHC-LOT 233

LOT	SHC'S	WHC'S	Lot Number	Elevation
LOT 234	48' FROM MH 324 72' FROM F.H. 2	78' FROM F.H. 2 52' FROM MH 324	208	304.6
LOT 234	53' FROM MH 324 84' FROM F.H. 2	80' FROM F.H. 2 55' FROM MH 324	209	303.3
LOT 235	54' FROM MH 324 82' FROM F.H. 2	82' FROM F.H. 2 52' FROM MH 324	210	302.7
LOT 235	82' FROM F.H. 2 52' FROM MH 324	68' FROM F.H. 2 52' FROM MH 324	211	302.2
LOT 235	108' FROM F.H. 2 65' FROM F.H. 2	122' FROM F.H. 2 87' FROM MH 324	212	301.2
LOT 235	80' FROM MH 324 115' FROM F.H. 2	87' FROM MH 324 60' FROM MH 328	213	301.5
LOT 235	68' FROM MH 321 55' FROM MH 328	92' FROM MH 320 60' FROM MH 328	214	300.9
LOT 237	60' FROM MH 328 57' FROM MH 330	41' FROM MH 330 53' FROM MH 328	215	300.0
LOT 237	30' FROM MH 330 46' FROM MH 329	31' FROM MH 330 65' FROM MH 328	216	299.7
LOT 237	38' FROM MH 329 53' FROM MH 329	45' FROM MH 320 65' FROM MH 329	217	299.0
LOT 237	53' FROM MH 328 38' FROM MH 331	45' FROM MH 320 65' FROM MH 329	218	298.8
LOT 237	46' FROM MH 328 41' FROM MH 331	40' FROM MH 331 67' FROM F.H. 3	219	298.0
LOT 237	76' FROM MH 332 68' FROM MH 332	42' FROM MH 329 55' FROM MH 329	220	297.3
LOT 237	54' FROM MH 331 61' FROM F.H. 3	44' FROM MH 329 25' FROM MH 329	221	296.9
LOT 237	44' FROM MH 328 80' FROM MH 331	54' FROM MH 332 11' FROM F.H. 3	222	296.7
LOT 237	32' FROM MH 332 80' FROM MH 331	36' FROM MH 332 100' FROM F.H. 3	223	296.0
LOT 237	38' FROM MH 332 36' FROM MH 332	36' FROM MH 332 100' FROM F.H. 3	224	295.4
LOT 237	36' FROM MH 332 102' FROM F.H. 3	36' FROM MH 332 102' FROM F.H. 3	225	295.7
LOT 237			226	295.7
LOT 237			227	295.7
LOT 237			228	295.7
LOT 237			229	295.7
LOT 237			230	295.7
LOT 237			231	295.7
LOT 237			232	295.7
LOT 237			233	295.7
LOT 237			234	295.7
LOT 237			235	295.7
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LOT 237			246	295.7
LOT 237			247	295.7
LOT 237			248	295.7
LOT 237			249	295.7
LOT 237			250	295.7
LOT 237			251	295.7
LOT 237			252	295.7
LOT 237			253	295.7
LOT 237			254	295.7
LOT 237			255	295.7

Sewer House Connection Inverts at Property Line	
Lot Number	Elevation
208	304.6
209	303.3
210	302.7
211	302.2
212	301.2
213	301.5
214	300.9
215	300.0
216	299.7
217	299.0
218	298.8
219	298.0
220	297.3
221	296.9
222	296.7
223	296.0
224	295.4
225	295.7
226	295.7
227	295.7
228	295.7
229	295.7
230	295.7
231	295.7
232	295.7
233	295.7
234	295.7
235	295.7
236	295.7
237	295.7
238	295.7
239	295.7
240	295.7
241	295.7
242	295.7
243	295.7
244	295.7
245	295.7
246	295.7
247	295.7
248	295.7
249	295.7
250	295.7
251	295.7
252	295.7
253	295.7
254	295.7
255	295.7

LOT	SHC'S	WHC'S
LOT 230	25' FROM MH 322 30' FROM MH 323	34' FROM MH 323 31' FROM MH 322
LOT 230	30' FROM MH 323 24' FROM MH 322	63' FROM INLET 1 40' FROM MH 323
LOT 238	50' FROM MH 323 15' FROM MH 322	51' FROM INLET 1 45' FROM MH 323
LOT 237	51' FROM MH 323 82' FROM MH 323	24' FROM INLET 1 63' FROM MH 323
LOT 236	84' FROM MH 323 15' FROM CENTER OF E-1	15' FROM INLET 1 74' FROM MH 323
LOT 235	14' FROM CENTER OF E-1 50' FROM S.D. MH	41' FROM S.D. MH 22' FROM INLET 1
LOT 234	46' FROM CENTER OF E-1 11' FROM S.D. MH	26' FROM INLET 1 26' FROM S.D. MH
LOT 233	18' FROM S.D. MH 55' FROM MH 323	26' FROM S.D. MH 45' FROM MH 323
LOT 232	40' FROM S.D. MH 27' FROM MH 323	40' FROM S.D. MH 30' FROM S.D. MH
LOT 231	50' FROM MH 323 52' FROM S.D. MH	65' FROM INLET 3 51' FROM MH 323
LOT 230	50' FROM MH 323 65' FROM MH 323	52' FROM MH 323 62' FROM INLET 3
LOT 229	45' FROM MH 323 60' FROM INLET 3	64' FROM INLET 3 51' FROM MH 323
LOT 228	72' FROM MH 323 76' FROM MH 323	62' FROM INLET 3 66' FROM INLET 3

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John P. ... 1/3/91
DIRECTOR OF PUBLIC WORKS DATE

Robert Benner 2-22-91
CHIEF, BUREAU OF UTILITIES DATE

... 3/1/91
CHIEF, LAND DEVELOPMENT DIV. DATE

GW GUTSCHICK LITTLE & WEBBER, P.A.
ENGINEERS, PLANNERS, SURVEYORS

3800 NATIONAL DRIVE - SUITE 200 - BURTONTVILLE OFFICE PARK
BURTONTVILLE, MD. 20986
(301) 421-4024

DES: G.A.W.
DRN: G.A.W.
CHK: C.K.G.
DATE: Jan 1991

NO.	REVISION	DATE
1	REVISED LOCATION OF SIDEWALKS & RELOCATED THE FIRE HYDRANT IN TRAY COURT	1/22/91

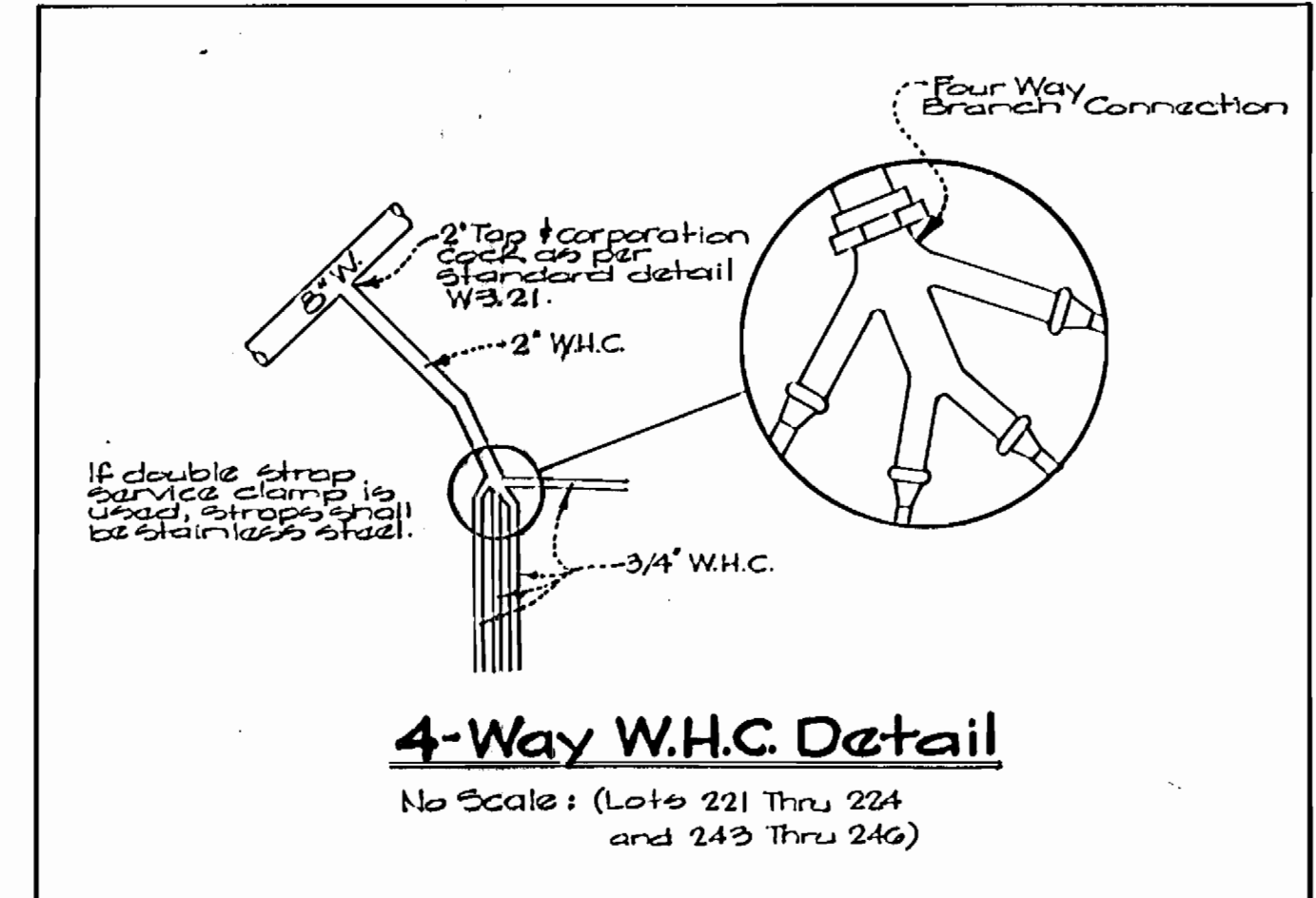
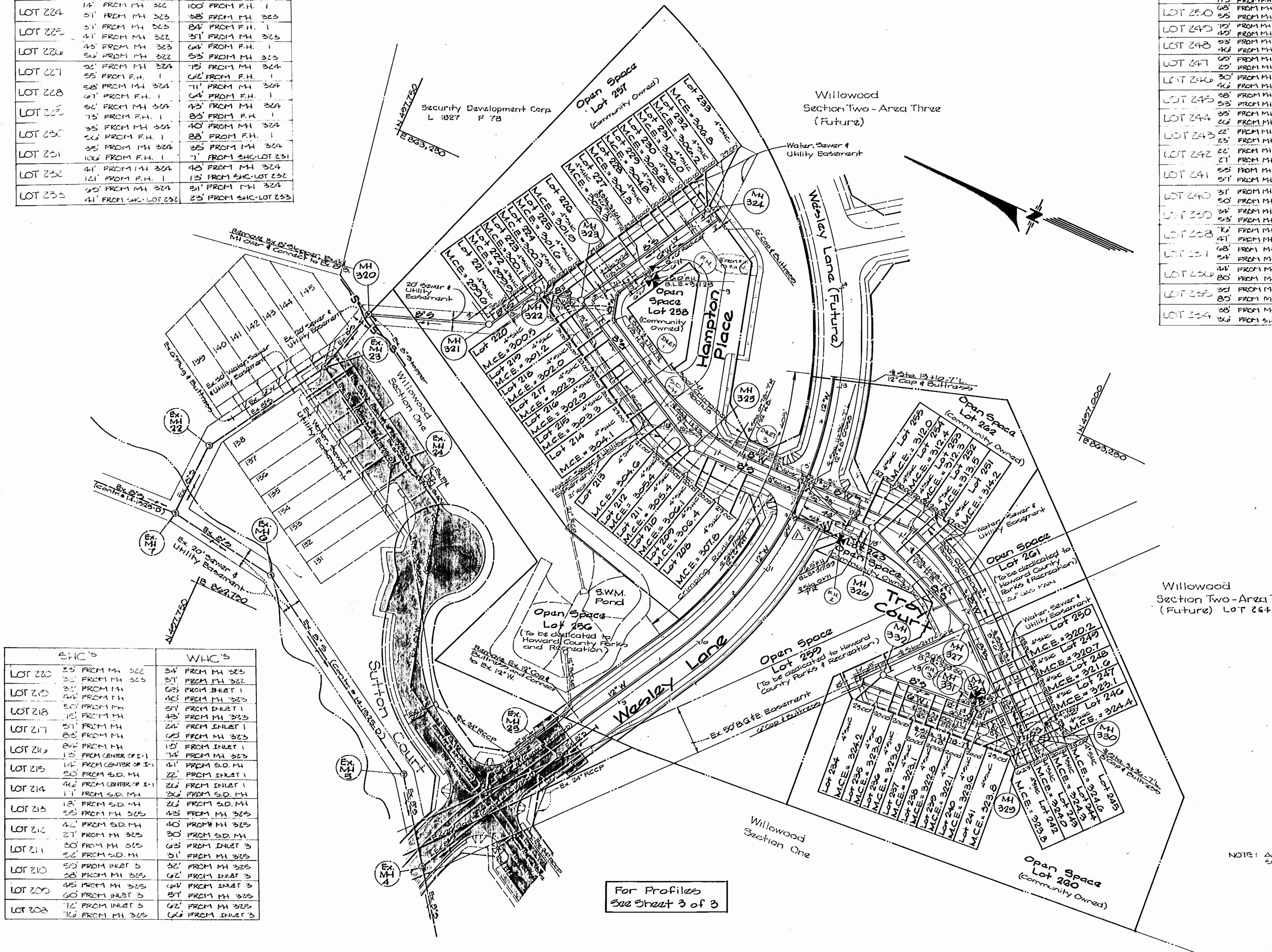
Water and Sewer Plan
Scale: 1" = 50'

600' SCALE MAP NO. 37 BLOCK NO. 15 #12

Willowood
Section Two Area Two
First Election District
Howard County Maryland
Contract No: 14-3109-D

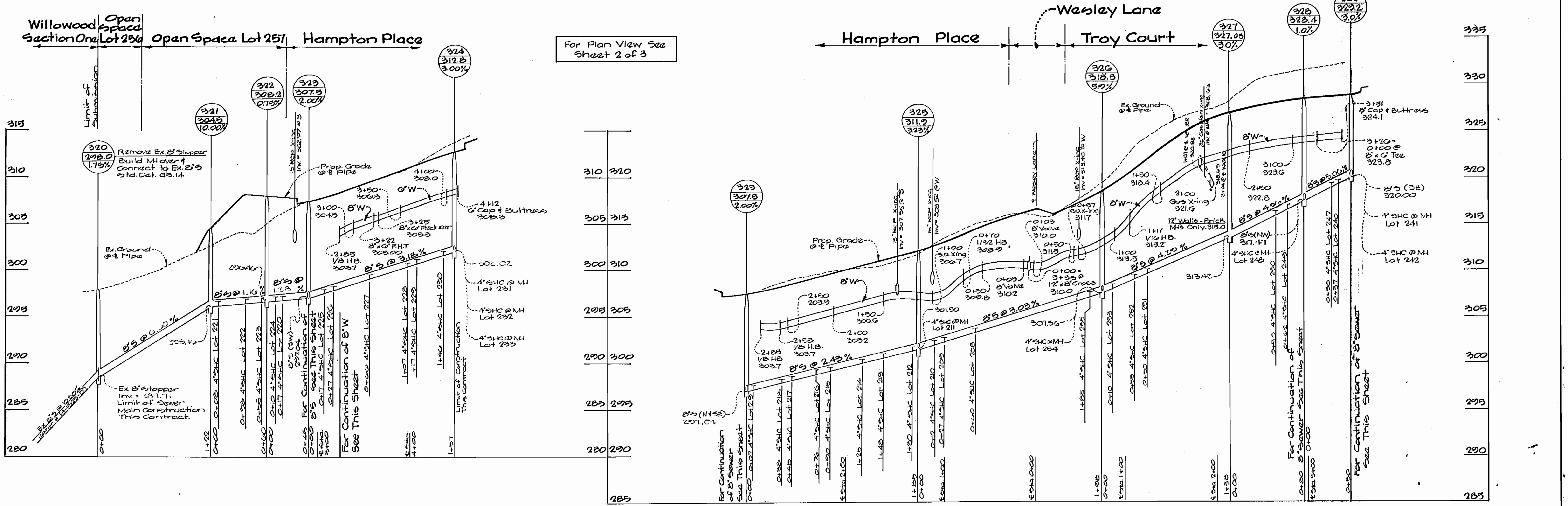
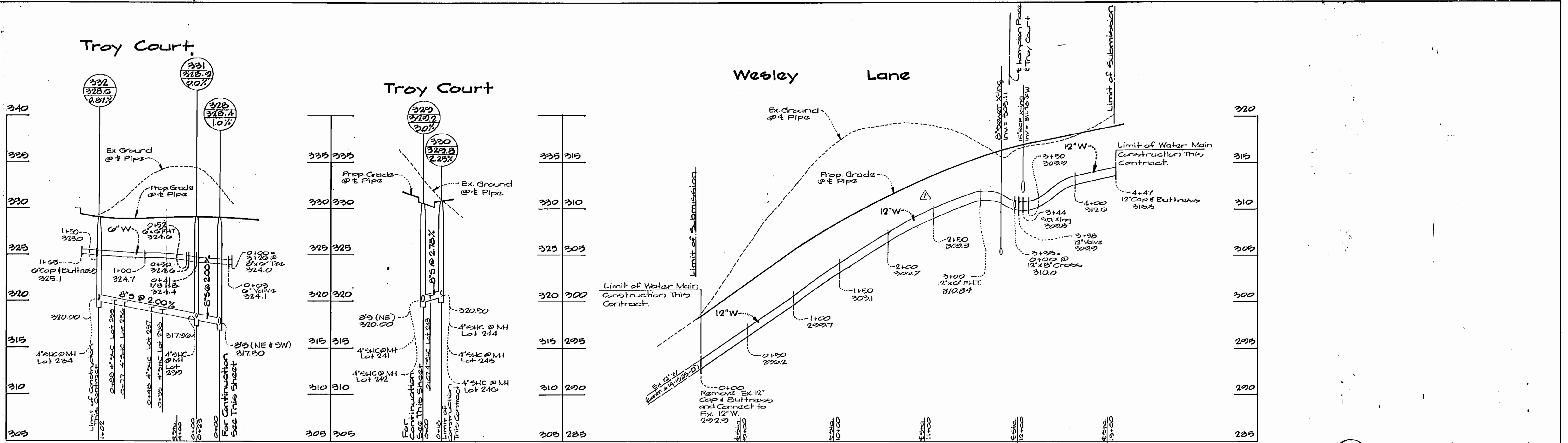
SCALE AS SHOWN
SHEET 2 OF 2

AS-BUILT 11-24-92



NOTE: ALL PULLS TO STORM DRAIN STRUCTURES AND SEWER MHP ARE TO CENTER OF FRAME & COVER.

For Profiles See Sheet 3 of 3



For Plan View See Sheet 2 of 3

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. Lewis 3/5/94
DIRECTOR OF PUBLIC WORKS DATE

Robert J. Baunier 2-22-94
CHIEF BUREAU OF UTILITIES DATE

William J. ... 3-4-94
CHIEF BUREAU OF ENGINEERING DATE

... 7/6
CHIEF, LAND DEVELOPMENT DIV. DATE

GW GUTSCHICK LITTLE & WEBER, P.A.
ENGINEERS, PLANNERS, SURVEYORS

3909 NATIONAL DRIVE - SUITE 200 - BURTONTOWNE OFFICE PARK
BURTONTOWNE, MD. 20814
(301) 421-4024

DES: G.A.W.
DRN: G.A.W.
CHK: C.K.G.
DATE: Jan. 1994

BY NO.

REVISION

1/22/94

Water and Sewer Profiles
Scale: 1" = 30' Horiz.
1" = 5' Vert.

800' SCALE MAP NO. 37 BLOCK NO. 15 & 16

Willowood
Section Two - Area Two
First Election District
Howard County, Maryland
Contract No: 14-3109-D

SCALE AS SHOWN
SHEET 3 OF 3

AS-BUILT 11-24-92