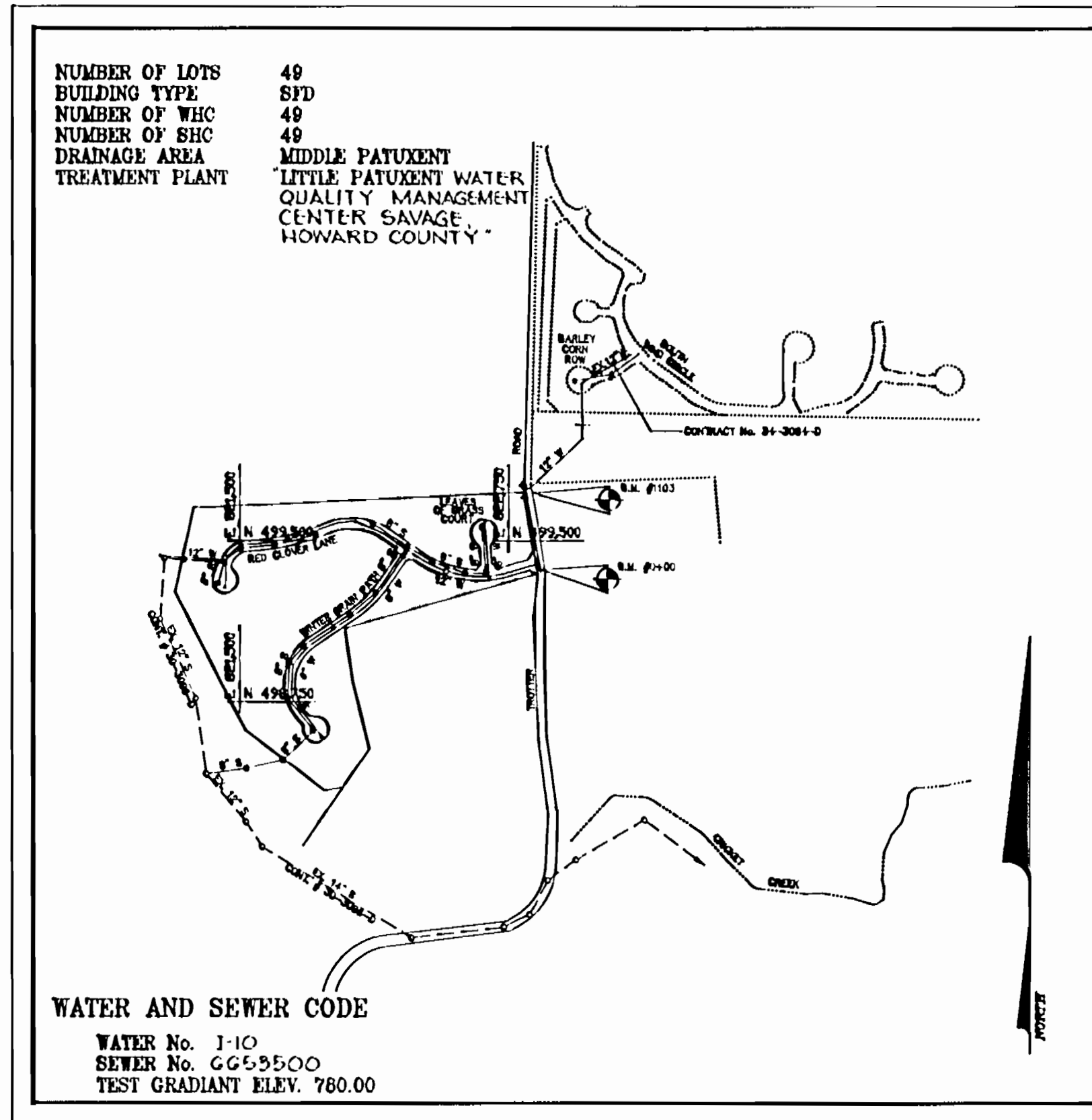


QUANTITIES				
ITEM	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
12" WATER	2657 LF	2713 LF		
8" WATER	1035 LF	1044 LF		
6" WATER	668 LF	600 LF		
2" AIR RELEASE VALVE	1 EA	1 EA		
FIRE HYDRANT	6 EA	6 EA		
12" VALVE	4 EA	4 EA		
6" VALVE	2 EA	2 EA		
6" VALVE (EXCL. F.H. V)	1 EA	1 EA		
1" W/C	688 LF	688 LF		
3/4" W/C	416 LF	416 LF		
6" SEWER	1037 LF	1037 LF		
6" DP SEWER	1478 LF	1478 LF		
MANHOLES	21 EA	21 EA		
DROP CONN. @ M.H.	1 EA	1 EA		
4" B/C	1321 LF	1321 LF		
4" D/C	86 LF	86 LF		
4" B/C (DP)	232 LF	232 LF		
UTILITY CONTRACTOR: <i>W. H. &amp; SONS, INC.</i>				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE				



VICINITY MAP

SCALE: 1" = 600'

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 MARYLAND STATE COORDINATES.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.C.S. DATA.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT (I) ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 6"-0" MINIMUM OR TUNNEL AS REQUIRED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS USE HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATIONS AND DETAIL FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL  $\oplus$  AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS 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 LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 

STATE HIGHWAY ADMINISTRATION.....	631-6533
BOAZ CO. CONTRACTOR SERVICES.....	850-4820
BOAZ CO. UNDER GROUND DAMAGE CONTROL.....	787-9068
MESS UTILITY.....	1-800-257-7777
COLONIAL PIPELINE COMPANY.....	795-1390
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
BUREAU OF UTILITIES.....	813-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN 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 62 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3-1/2' COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TREES SHALL BE STRAPPED TO TREES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE H BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.
- ALL SEWER MAINS SHALL BE DP, RCP, VCPX, CSPX, RCP AND P.V.C. 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.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT MANHOLE FRAME AND COVERS, STANDARD DETAIL 05.62 WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

BM # 0+00 ELEV. 397.110  
PK. NAIL IN MACADAM IN TROTTER ROAD 5.6' FROM EDGE OF ROAD 53.1' SOUTH OF BOAZ POLE # 237649

BM # 1103 ELEV. 406.218  
IRON PIPE 4.2' FROM EDGE OF TROTTER ROAD NEAR NORTHEAST CORNER OF PROPERTY 83' WEST OF BOAZ POLE # 170217

NOTE:  
WHEN WATER AND SEWER CONSTRUCTION OCCURS OUTSIDE OF THE LIMIT OF DISTURBANCE AS SHOWN ON F-92-87, THE CONTRACTOR SHALL ONLY OPEN THAT PORTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED BY DAYS END. DURING CONSTRUCTION ALL EXCAVATED MATERIAL SHALL BE PILED ON THE UPHILL SIDE OF THE TRENCH AND PROTECTED FROM EROSION UNTIL BACKFILLED.

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 210 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS # F-92-87

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

*James M. Hill* 4/22/92  
U.S. SOIL CONSERVATION SERVICE DATE

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

*John R. Heinrichs* 4/22/92  
HOWARD SOIL CONSERVATION DISTRICT DATE

CONTRACT NO. 34-3178 D

VILLAGE OF RIVER HILL

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

*John R. Heinrichs*  
3/12/92

RIVER HILL  
SECTION 1, AREA 4  
CONTRACT #34-3178 D

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James M. Hill* 4/22/92  
DIRECTOR OF PUBLIC WORKS DATE

*John R. Heinrichs* 4/22/92  
CHIEF-BUREAU OF ENGINEERING DATE

*Richard B. ...* 4/22/92  
CHIEF-BUREAU OF UTILITIES DATE

*...* 4/22/92  
CHIEF-LAND DEVELOPMENT DIVISION DATE

PREPARED BY:  
JOHN R. HEINRICHS, P.E.  
6124 S. ROLLING ROAD  
RELAY, MARYLAND 21227

(801)247-4036 FAX 247-9397

DES: R.J.W.			
DRN: A.J.R.			
CHK: J.R.H.			
DATE: 12/91			
BY NO.		REVISION	

VICINITY MAP AND GENERAL NOTES

SCALE MAP NO. 86 BLOCK NO. 8

COLUMBIA VILLAGE OF RIVER HILL

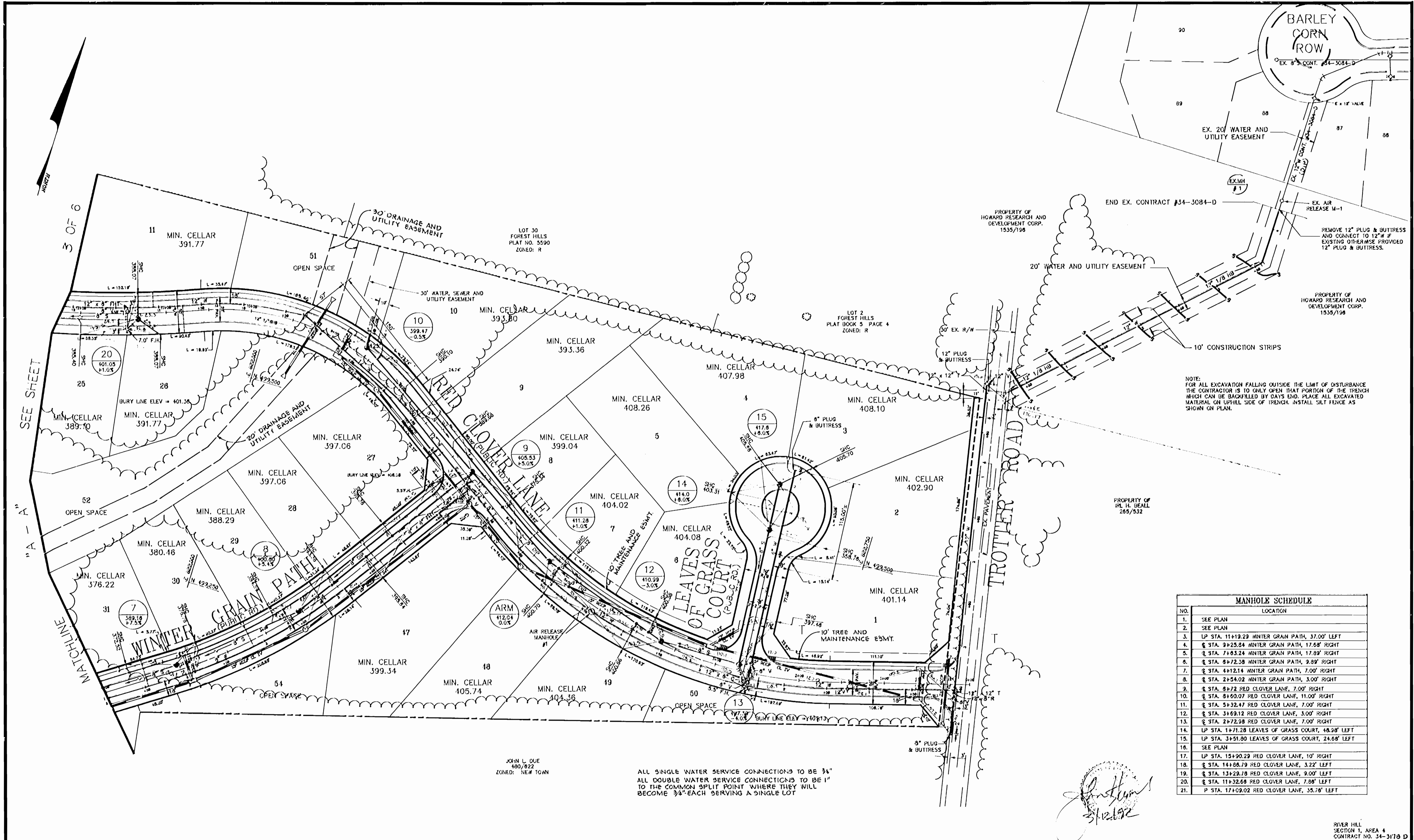
SECTION 1, AREA 4 1015 1-54

ELECTION DISTRICT 5

CONTRACT NO. 84-3178 D

SCALE: AS SHOWN

DRAWING NO. 1 of 6



MANHOLE SCHEDULE	
NO.	LOCATION
1.	SEE PLAN
2.	SEE PLAN
3.	LP STA. 11+19.23 WINTER GRAIN PATH, 37.00' LEFT
4.	Q STA. 9+25.84 WINTER GRAIN PATH, 17.68' RIGHT
5.	Q STA. 7+53.24 WINTER GRAIN PATH, 17.89' RIGHT
6.	Q STA. 8+72.38 WINTER GRAIN PATH, 9.89' RIGHT
7.	Q STA. 4+12.14 WINTER GRAIN PATH, 7.00' RIGHT
8.	Q STA. 2+54.02 WINTER GRAIN PATH, 3.00' RIGHT
9.	Q STA. 8+72 RED CLOVER LANE, 7.00' RIGHT
10.	Q STA. 8+50.07 RED CLOVER LANE, 11.00' RIGHT
11.	Q STA. 5+32.47 RED CLOVER LANE, 7.00' RIGHT
12.	Q STA. 3+69.12 RED CLOVER LANE, 3.00' RIGHT
13.	Q STA. 2+72.98 RED CLOVER LANE, 7.00' RIGHT
14.	LP STA. 1+71.28 LEAVES OF GRASS COURT, 48.28' LEFT
15.	LP STA. 3+51.80 LEAVES OF GRASS COURT, 24.68' LEFT
16.	SEE PLAN
17.	LP STA. 15+90.29 RED CLOVER LANE, 10' RIGHT
18.	Q STA. 14+88.79 RED CLOVER LANE, 3.22' LEFT
19.	Q STA. 13+28.78 RED CLOVER LANE, 9.00' LEFT
20.	Q STA. 11+32.68 RED CLOVER LANE, 7.88' LEFT
21.	P STA. 17+09.02 RED CLOVER LANE, 35.78' LEFT

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Thomas J. ...*  
DIRECTOR OF PUBLIC WORKS DATE

*Michael ...*  
CHIEF-BUREAU OF UTILITIES DATE

PREPARED BY:  
**JOHN R. HEINRICHS, P.E.**  
6124 S. ROLLING ROAD  
RELAY, MARYLAND 21227

(301)247-1038 FAX 247-9397

DES.	R.J.W.				
DRN.	A.J.R.				
CHK.	J.R.H.				
DATE:	12/91	R.J.W.	1	CHANGED SHC ELEV. LOT 3	5-3-92
BY	NO.	REVISION			DATE

PLAN OF  
WATER AND  
SEWER MAINS

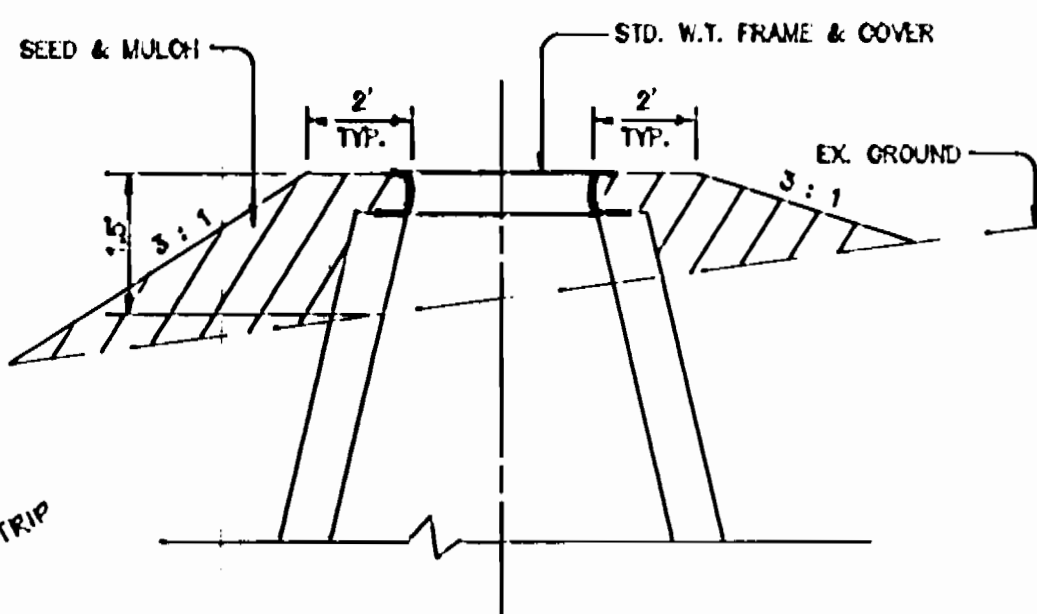
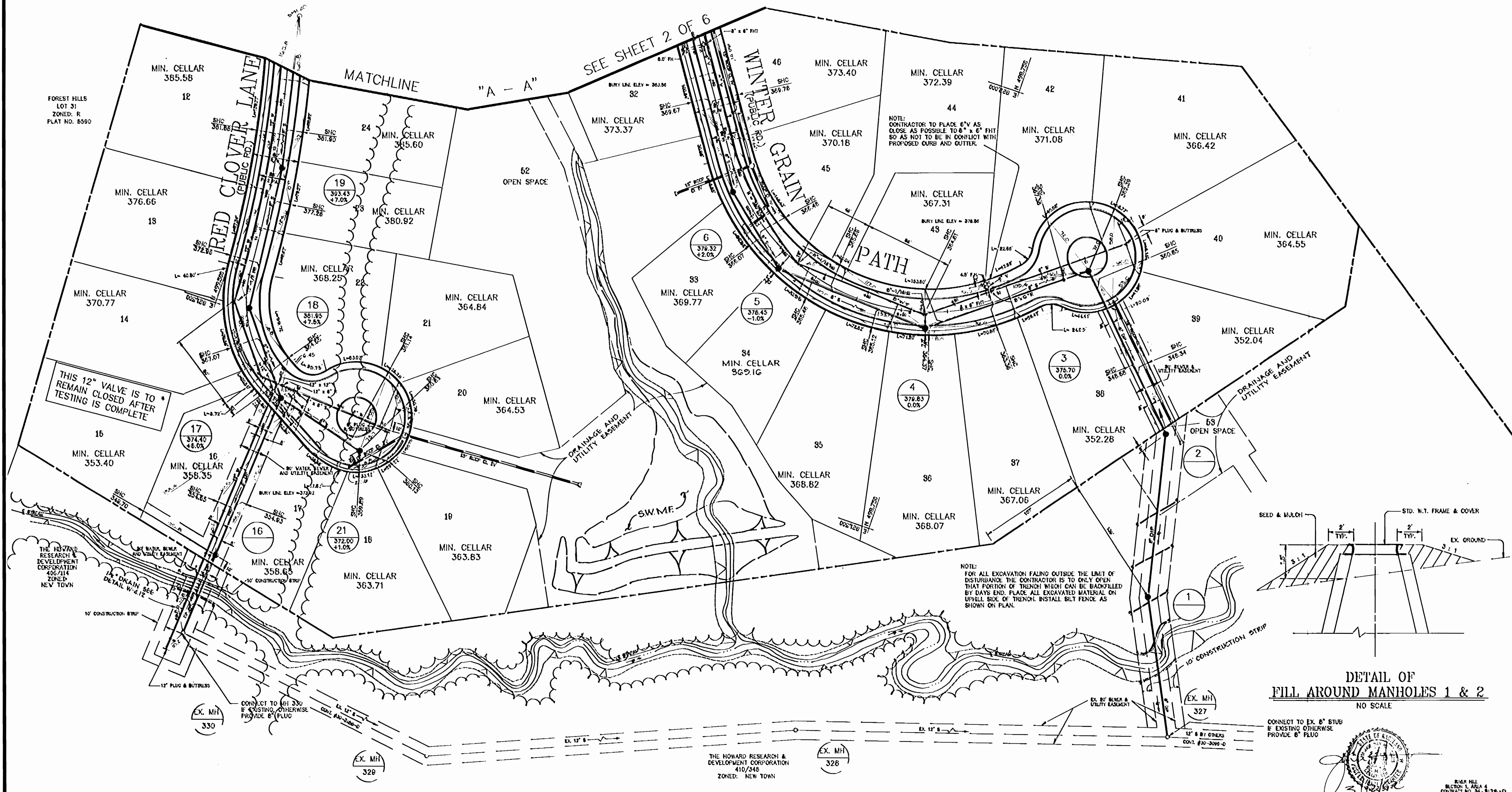
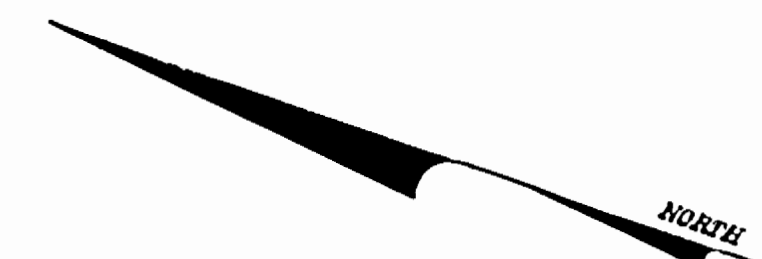
DATE: 12/91

COLUMBIA VILLAGE OF  
RIVER HILL  
SECTION 1, AREA 4  
ELECTION DISTRICT 6  
CONTRACT NO. 34-3178-D

SCALE: 1" = 60'

DRAWING NO. 2066

ALL SINGLE WATER SERVICE CONNECTIONS TO BE 3/4"  
 ALL DOUBLE WATER SERVICE CONNECTIONS TO BE 1"  
 TO THE COMMON SPLIT POINT WHERE THEY WILL  
 BECOME 3/4" EACH SERVING A SINGLE LOT



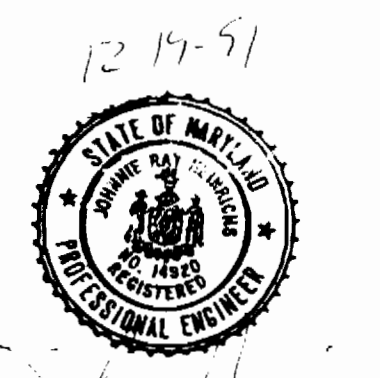
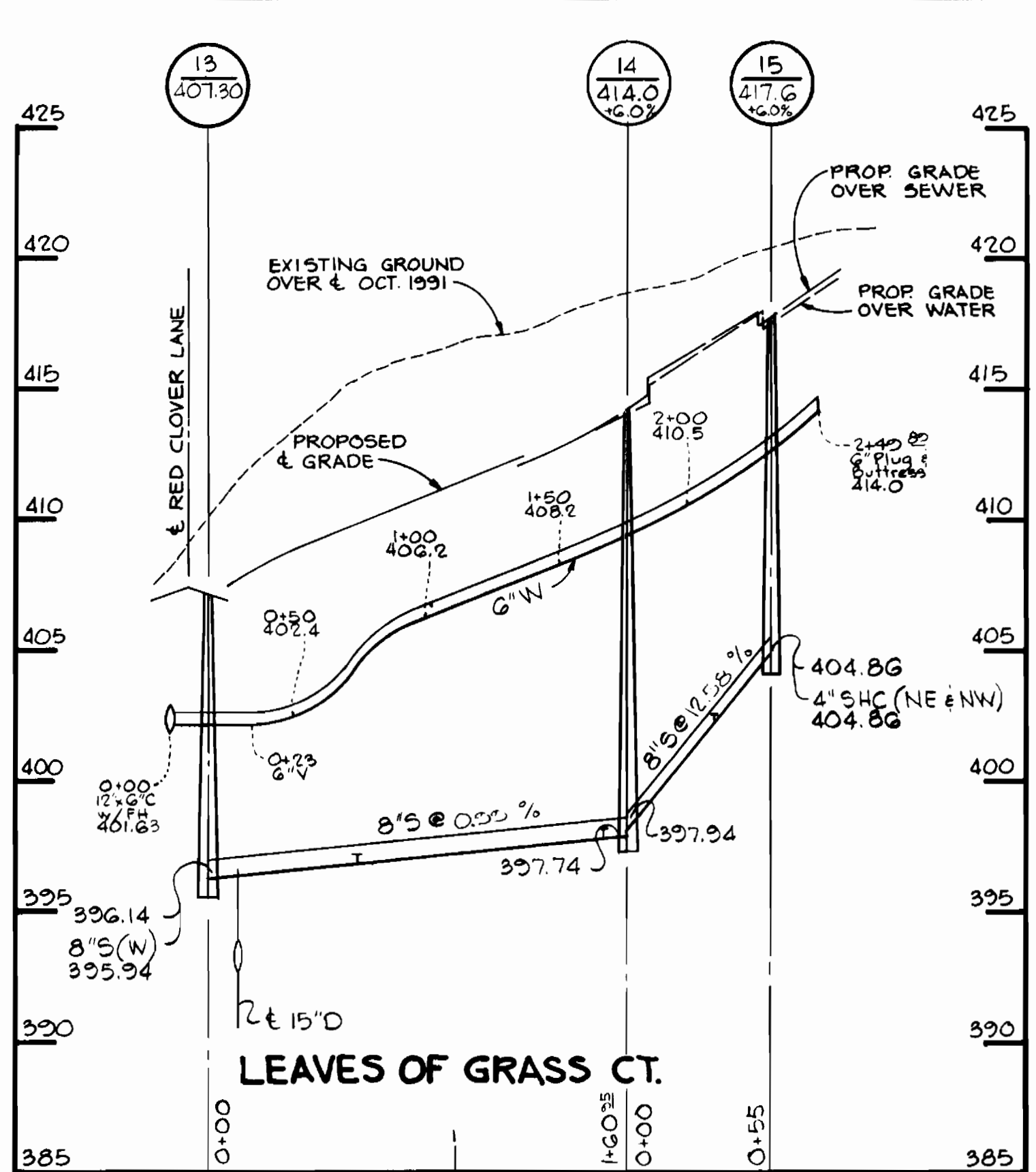
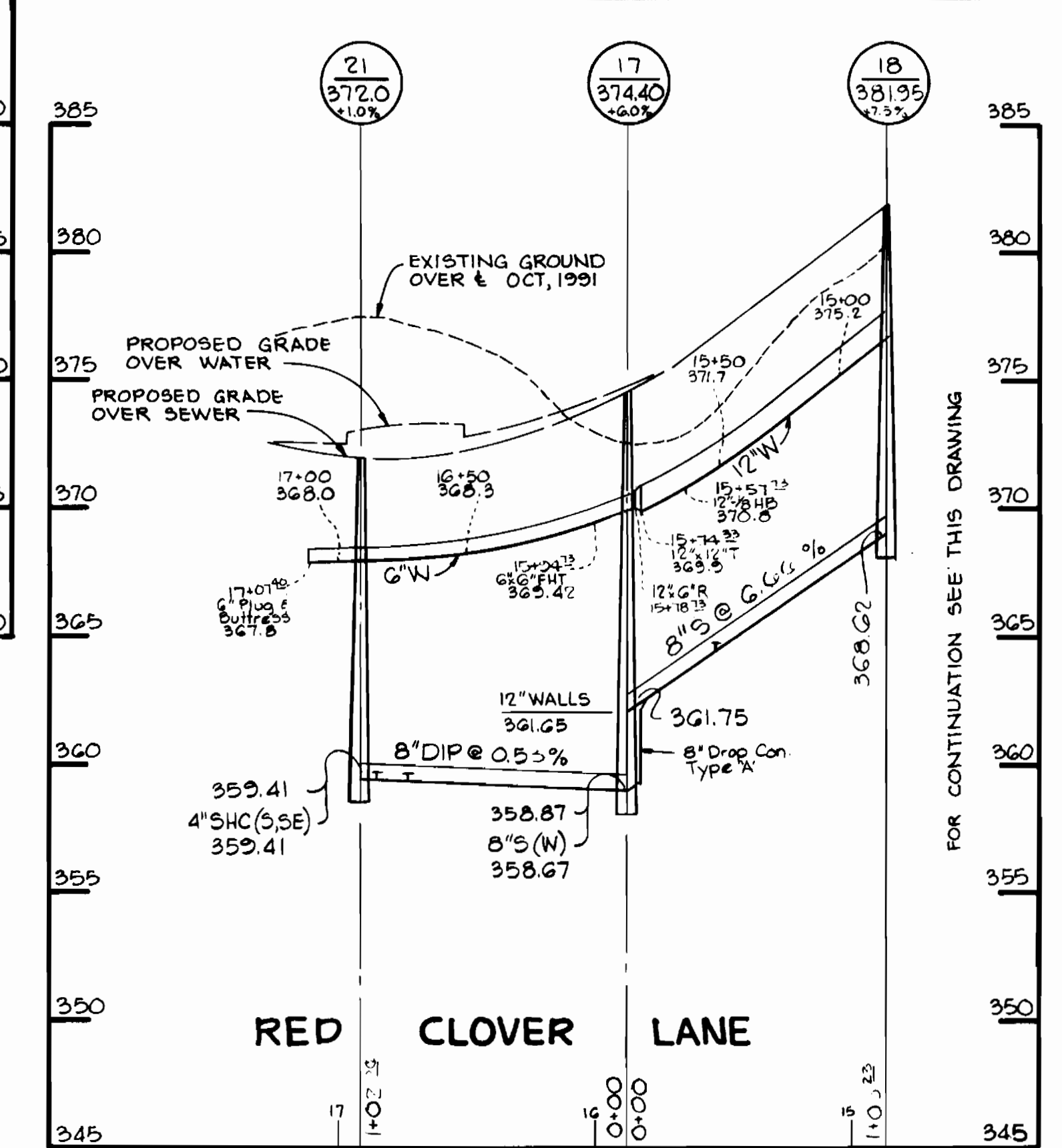
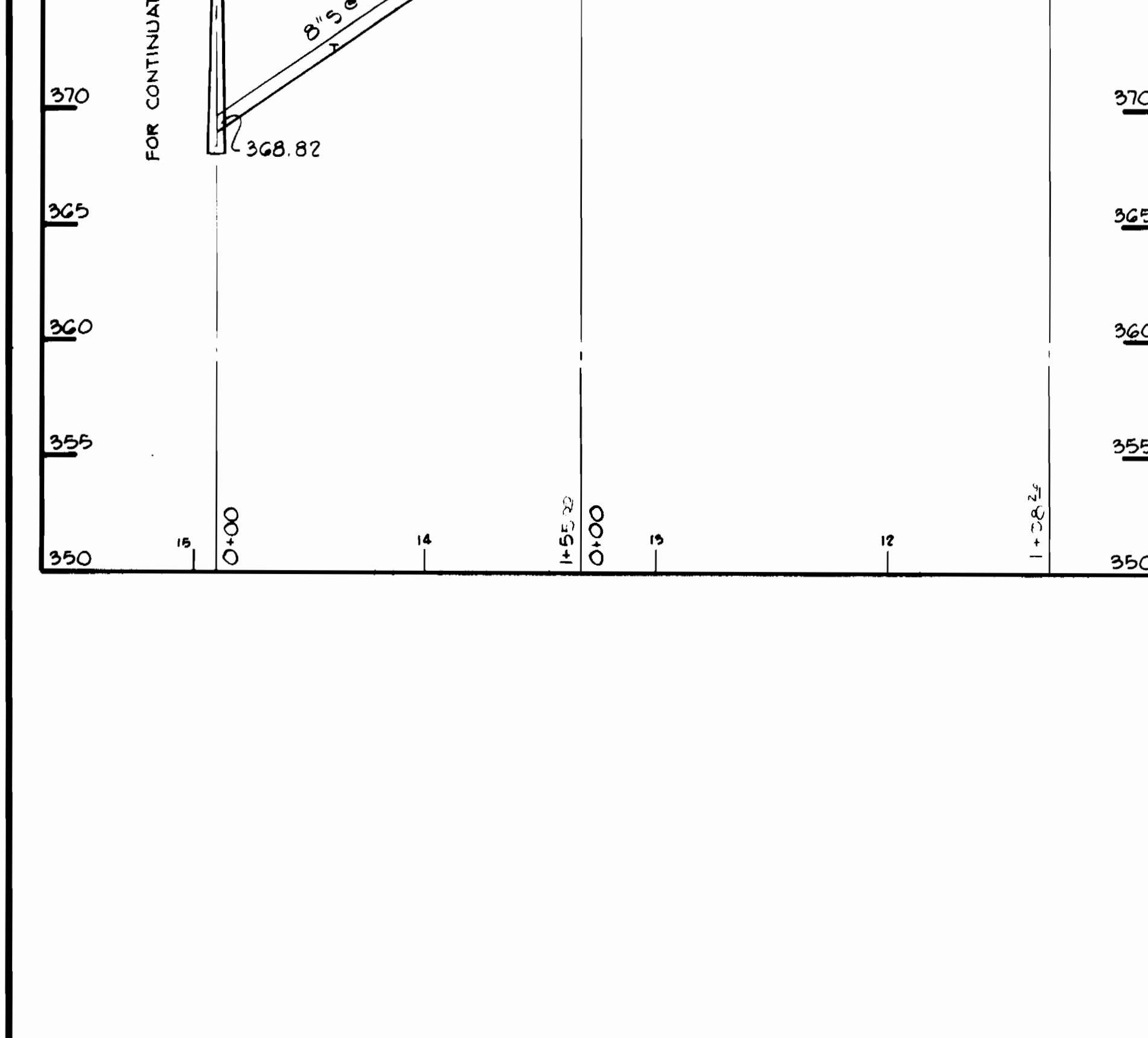
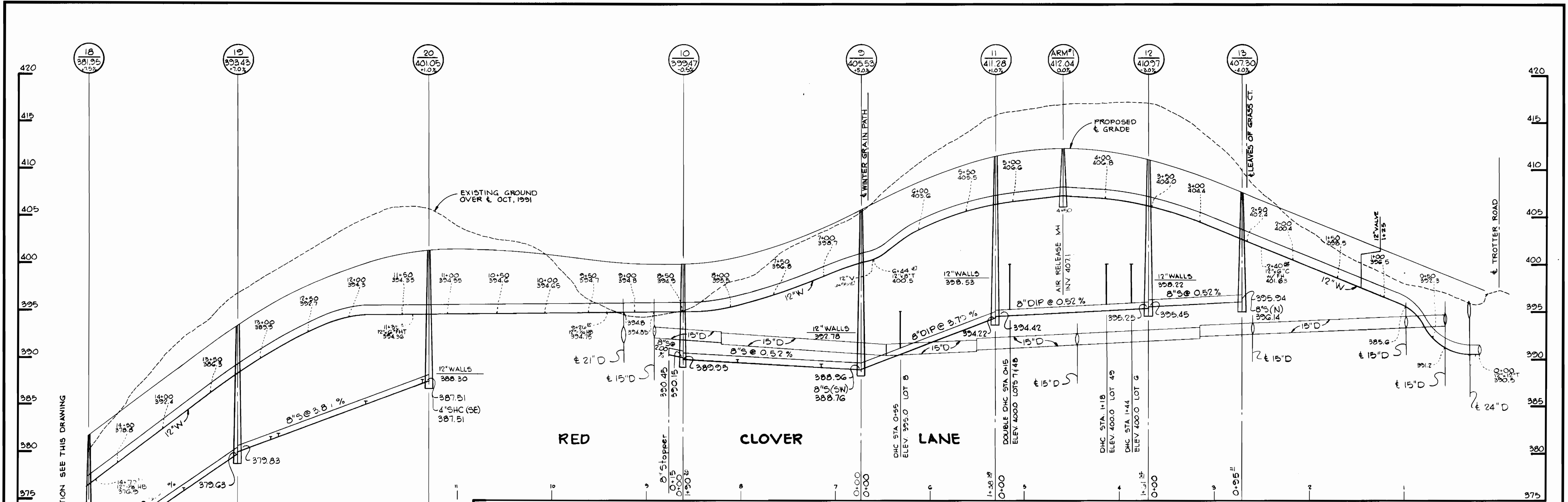
NOTE:  
 FOR ALL EXCAVATION FALLING OUTSIDE THE LIMIT OF  
 DISTURBANCE THE CONTRACTOR IS TO ONLY OPEN  
 THAT PORTION OF TRENCH WHICH CAN BE BACKFILLED  
 BY DAYS END. PLACE ALL EXCAVATED MATERIAL ON  
 UPHILL SIDE OF TRENCH. INSTALL SILT FENCE AS  
 SHOWN ON PLAN.

DETAIL OF  
 FILL AROUND MANHOLES 1 & 2  
 NO SCALE



RIVER HILL  
 SECTION 1, AREA 4  
 CONTRACT NO. 84-3178-D

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works DATE: 12/21/81 Chief - Bureau of Engineering	PREPARED BY: JOHN R. HEINRICHS, P.E. 5124 S. ROLLING ROAD RELAY, MARYLAND 21227 (801)247-4036	DES: R.J.W.				PLAN OF WATER AND SEWER MAINS	COLUMBIA VILLAGE OF RIVER HILL SECTION 1, AREA 4 LOTS 1-54 ELECTION DISTRICT 5 CONTRACT NO. 84-3178-D	SCALE: AS SHOWN
		DRN: A.J.R.						DRAWING NO. 3 of 6
Chief - Bureau of Utilities DATE: 12/21/81 Chief - Land Development Division	(801)247-4036	CHK: J.R.H.				DATE: 12/81 BY: NO. REVISION DATE	80' SCALE MAP NO. 86 BLOCK NO. 8	AS-BUILT 11-24-81



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works  
 DATE: 12/22/91  
 Chief - Bureau of Engineering

PREPARED BY:  
**JOHN R. HEINRICHS, P.E.**  
 5124 S. ROLLING ROAD  
 RELAY, MARYLAND 21227  
 (301)247-4038 FAX 247-9397

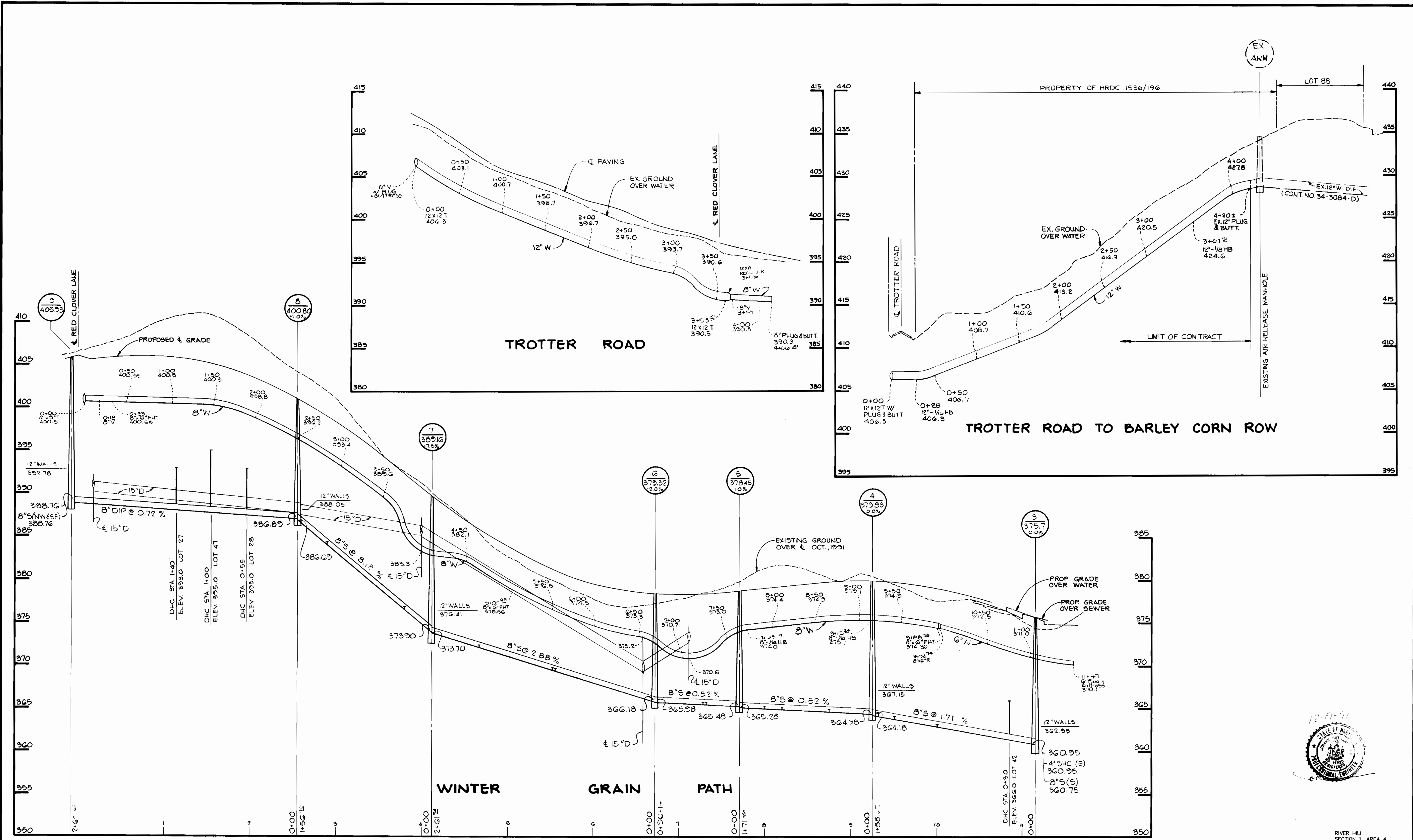
DES:	R.J.W.		
DRN:	A.J.R.		
CHK:	J.R.H.		
DATE:	11/91	BY:	NO.
		REVISION	

PROFILES OF  
 WATER AND  
 SEWER MAINS  
 800' SCALE MAP NO. 35 BLOCK NO. 8

**COLUMBIA**  
**VILLAGE OF RIVER HILL**  
 SECTION 1, AREA 4  
 LOTS 1 ~ 54  
 ELECTION DISTRICT 5  
 CONTRACT NO. 34-3176-D

SCALE:  
 VERT. 1" = 5'  
 HORIZ. 1" = 50'  
 DRAWING NO. 4 OF 6

AS-BUILT



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works  
 Chief - Bureau of Engineering  
 Chief - Bureau of Utilities  
 Chief - Land Development Division

PREPARED BY:  
**JOHN R. HEINRICHS, P.E.**  
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 RELAY, MARYLAND 21227  
 (301)247-4036 FAX 247-9397

DES:	R.J.W.				
DRN:	A.J.R.				
CHK:	J.R.H.				
DATE:	11/91	BY:	NO.	REVISION	DATE

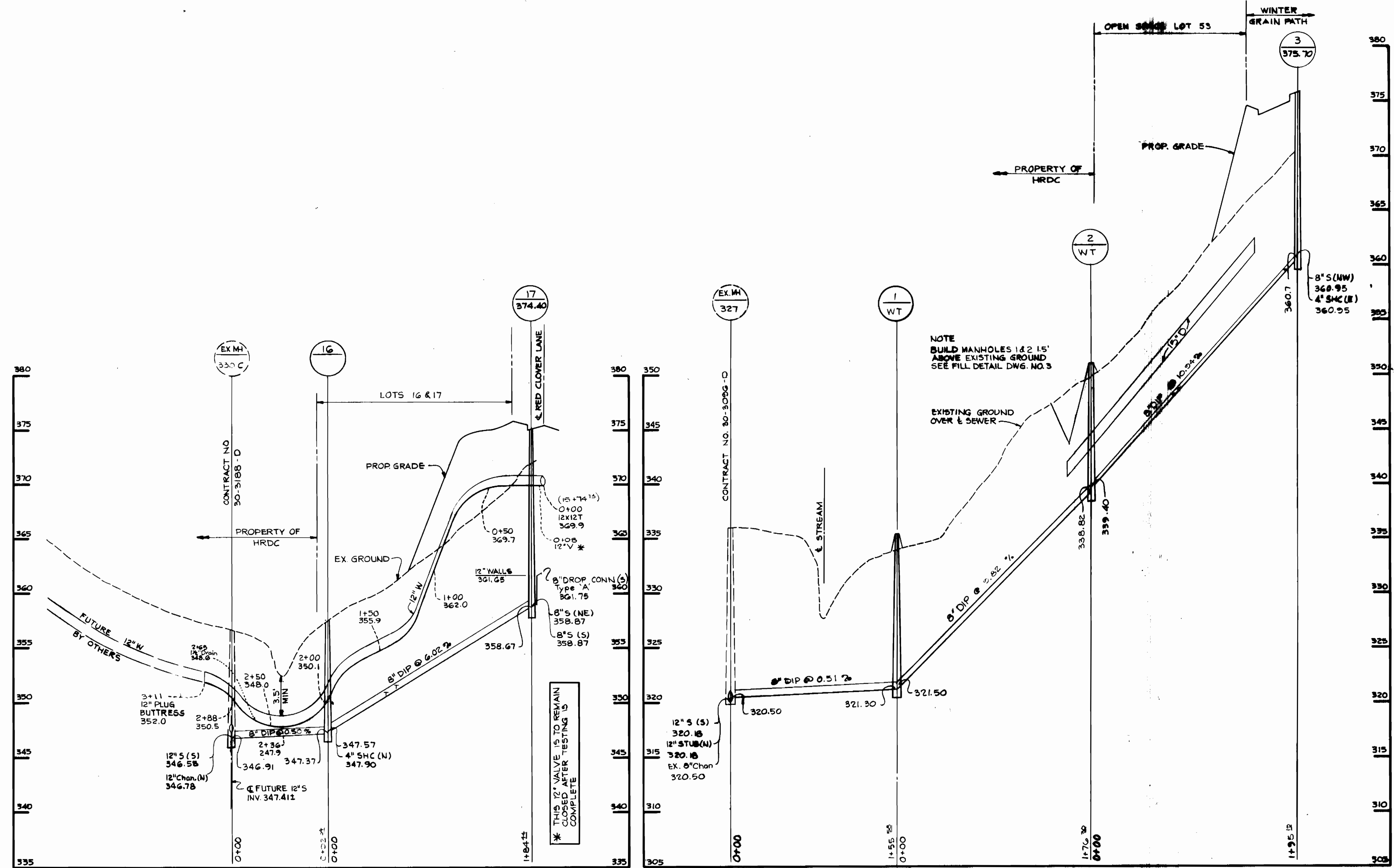
PROFILES OF  
 WATER AND  
 SEWER MAINS  
 800' SCALE MAP NO. 35 BLOCK NO. 8

**COLUMBIA**  
**VILLAGE OF RIVER HILL**  
 SECTION 1, AREA 4  
 LOTS 1 - 54  
 ELECTION DISTRICT 5  
 CONTRACT NO. 34-3178-D

SCALE:  
 VERT. 1" = 5'  
 HORIZ. 1" = 50'  
 DRAWING NO. 5 OF 6

AS-BUILT

WATER MAIN CONNECTION AS-BUILTS			
LOT	SERVE	1 <sup>ST</sup> DIST.	2 <sup>ND</sup> DIST.
1	W	SMH-14	SMH-15
2	W	41.1'	81.7'
3	W	44.4'	83.7'
4	W	86.4'	35.1'
5	W	86.4'	34.5'
6	W	51.2'	60.8'
7	W	51.2'	33.1'
8	W	SMH-11	SMH-9
9	W	53.0'	48.5'
10	W	31.0'	49.1'
11	W	SMH-12	SMH-5
12	W	50.8'	74.2'
13	W	50.2'	61.9'
14	W	SMH-13	SMH-10
15	W	104.0'	101.4'
16	W	108.2'	51.2'
17	W	SMH-12	SMH-10
18	W	41.0'	140.6'
19	W	44.5'	134.9'
20	W	22.8'	25.6'
21	W	71.0'	30.4'
22	W	SMH-12	SMH-11
23	W	21.0'	25.6'
24	W	125.1'	50.4'
25	W	81.1'	32.2'
26	W	SMH-11	SMH-21
27	W	51.2'	75.8'
28	W	SMH-11	SMH-11
29	W	25.1'	40.8'
30	W	21.0'	45.5'
31	W	82.0'	53.1'
32	W	84.1'	51.1'
33	W	50.4'	SMH-8
34	W	130.0'	113.5'



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: [Signature]  
 Chief - Bureau of Engineering: [Signature]  
 Chief - Bureau of Utilities: [Signature]  
 Chief - Land Development Division: [Signature]

PREPARED BY:  
**JOHN R. HEINRICHS, P.E.**  
 5124 S. ROLLING ROAD  
 RELAY, MARYLAND 21227  
 (301)247-4036 FAX 247-9397

DES:	R.J.W.			
DRN:	A.J.R.			
CHK:	J.R.H.			
DATE:	11/91			
R.J.W.:	1	ADDED DROP CONN. ELEV. @ MH #17		03-92
BY NO.:		REVISION		DATE

PROFILES OF WATER AND SEWER MAINS  
 SCALE MAP NO. 35 BLOCK NO. 8

**COLUMBIA VILLAGE OF RIVER HILL**  
 SECTION 1, AREA 4  
 LOTS 1 - 34  
 ELECTION DISTRICT 5  
 CONTRACT NO. 34-9176-0

SCALE:  
 VERT. 1" = 5'  
 HORIZ. 1" = 50'  
 DRAWING NO. 6 OF 6