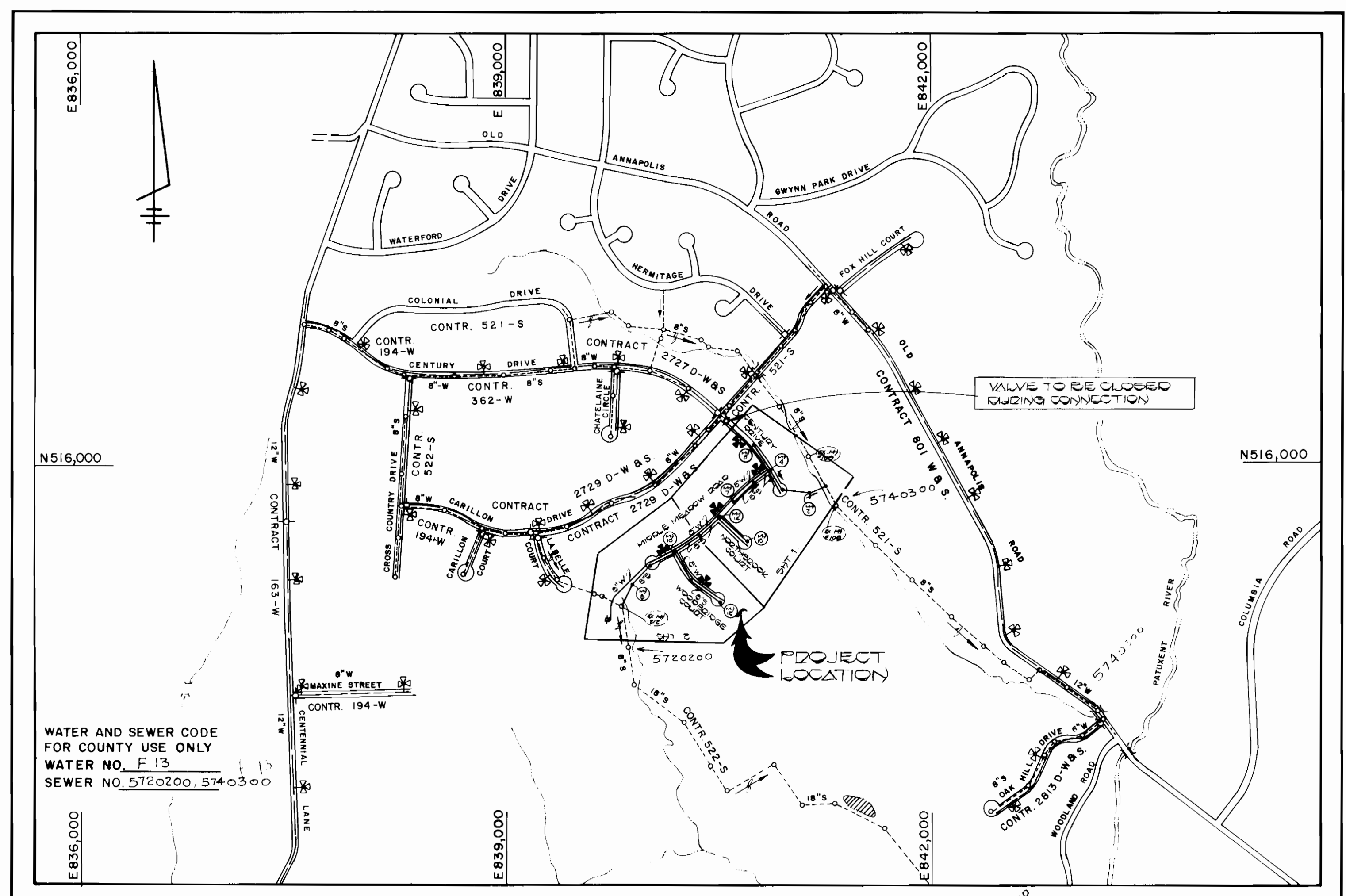


**GENERAL NOTES**

- 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.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.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL 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 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 CO. -CONTRACTOR SERVICES: 561-2585  
 BALTIMORE GAS & ELECTRIC CO. UNDERGROUND DAMAGE CONTROL: 234-5621  
 BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING: 298-9013  
 MISS UTILITY: 1-559-0100  
 COLONIAL PIPELINE COMPANY: 795-1390  
 BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS: 992-2366
- 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'-1/2' COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- 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 1003 AND 1008 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- FOR ALL COPPER WATER HOUSE CONNECTIONS, UTILIZE FLARED TYPED FITTINGS ONLY.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS. (STD. DETAIL W.3.21).
- 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 ABOVE IT.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATER-TIGHT FRAME AND COVERS STANDARD DETAIL G5.52 WHERE WATER-TIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- 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 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 LOCATED WITHIN PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAME AND COVER, STANDARD DETAIL G5.51.

ITEM	EST'D	AS-BUILT	SUPPLIED
8" SEWER	2,451 LF	2,519 LF	Belair Rd
8" SEWER (DIP)	502 LF	279 LF	"
MANHOLES	15 EA.	15	ATLANTIC
8" WATER	2,383 LF	2,385 LF	GRAPPIN A.P.C.
8" WATER	542 LF	550 LF	"
FIBRE FIBR.	5 EA.	5	Belair Rd
3/4" WFC	500 LF	507 LF	"
1" WFC	450 LF	491 LF	"
6" SHC	1500 LF	1500 LF	"
8" VALVES	4 EA.	4 ea.	"
6" VALVE (S.S.)	2 EA.	2 ea.	"
1 1/2" WATER	40 LF	40 LF	"
1 1/2" BLOWOFF	2 EA.	2 EA.	"



TYPE OF BUILDING	RESIDENTIAL
NUMBER OF LOTS	50 (54 BUILDABLE)
NO. OF WATER HOUSE CONNECTIONS	54
NO. OF SEWER HOUSE CONNECTIONS	54
DRAINAGE AREA	LITTLE PATUXENT

SCALE: 1" = 600'

# CONTRACT NO. 24 - 1415-D

# THE WILLOWS

## SECTION 1 AREA 2

## WATER AND SEWER MAIN EXTENSIONS

# HOWARD COUNTY, MARYLAND

## DEPARTMENT OF PUBLIC WORKS

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 16 OF THE HOWARD COUNTY DESIGN MANUAL AND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AND ALSO AS SHOWN ON THE GRADING AND SEDIMENT CONTROL PLAN F86-106

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEET'S TECHNICAL REQUIREMENTS.  
*John M. Helm* 3-20-86  
 US SOIL CONSERVATION SERVICE DATE

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

APPROVED:  
*Stephen M. Helm* 3/20/86  
 HOWARD SOIL CONSERVATION DISTRICT DATE

CONTRACT NO. 24-1415-D  
 THE WILLOWS  
 SECTION 1, AREA 2  
 WATER AND SEWER EXTENSION  
 HOWARD COUNTY, MARYLAND.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>John F. Nimmer</i> 3-21-86 DIRECTOR OF PUBLIC WORKS DATE <i>Robert M. Beisinger</i> 3-24-86 CHIEF, BUREAU OF UTILITIES DATE	FISHER, COLLINS, AND CARTER, INC. CONSULTING ENGINEERS AND LAND SURVEYORS 8388 COURT AVENUE ELLIKOTT CITY, MARYLAND 21043 <i>Terrill A. Fisher</i> TERRILL A. FISHER DATE	DES. D.B.S. DRN. D.B.S. CHK. DATE: 1/16/86 BY: NO. REVISION DATE: 2/28/90	TITLE SHEET THE WILLOWS SECTION 1, AREA 2 CONTRACT NO. 24-1415-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 1 OF 5
--	--	--	--

AS-BUILT 2/28/90

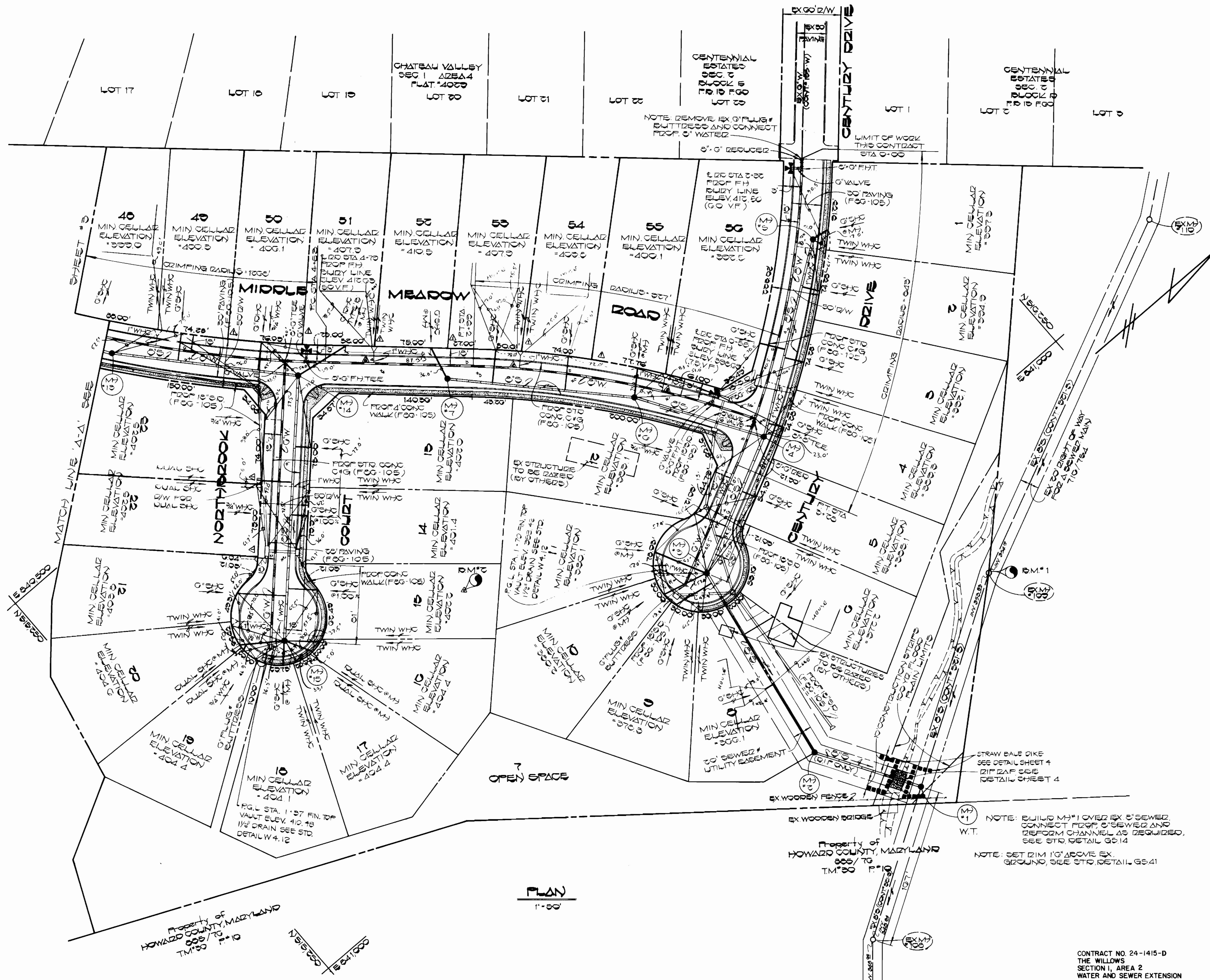
**BENCH MARKS**

B.M.\*1 ELEV. 302.40  
 X-CURT ON DIM OF EX. CAN. M.H.\*109  
 IN OPEN SPACE LOT 7, BEHIND LOT 5  
 B.M.\*2 ELEV. 301.97  
 REBAR SET IN REAR OF LOT 16  
 (TRAVELER'S STA. 16+11)

SEWER HOUSE CONNECTION INVERT ELEVATIONS AT PROPERTY LINE		
STATION	LOT	ELEVATION
M.H.*3 TO M.H.*5		
0+00 LT	LOT 8	301.00
1+40 RT	LOT 9	307.33
2+00 LT	LOT 9	314.33
M.H.*4 LT	LOT 10	315.00
M.H.*5 RT	LOT 11	315.00
M.H.*3 TO M.H.*4		
M.H.*3 LT	LOT 10	315.00
M.H.*4 LT	LOT 11	315.00
0+00 RT	LOT 8	300.75
M.H.*4 TO M.H.*5		
0+15 RT	LOT 4	305.00
0+55 RT	LOT 9	307.77
0+24 LT	LOT 8	305.00
1+01 RT	LOT 7	300.00
M.H.*5 RT	LOT 1	307.00
M.H.*4 TO M.H.*6		
M.H.*4 RT	LOT 55	305.70
M.H.*6 TO M.H.*7		
M.H.*6 RT	LOT 55	305.78
0+75 RT	LOT 54	309.07
1+49 RT	LOT 55	400.00
M.H.*7 RT	LOT 52	400.00
M.H.*13 TO M.H.*14		
0+00 LT	LOT 49	305.97
1+50 LT	LOT 50	401.00
M.H.*14 LT	LOT 51 D.H.C.	404.10
M.H.*14 TO M.H.*15		
0+74 LT	LOT 15	307.50
1+10 RT	LOTS 15(12)	300.00
1+40 LT	LOT 12 (12)	307.00
2+00 LT	LOT 15 (12)	300.00
3+21 RT	LOT 21	300.41
M.H.*15 RT	LOTS 15(12)	300.75
M.H.*15	LOT 16	300.00
M.H.*15 LT	LOTS 16(17)	300.44

MANHOLE TABLE				
NO.	R. DIST.	L. DIST.	DIM.	SLOPE
1	---	---	18" ABOVE G.S.D.	---
2	---	---	5' G.S.D.	---
3	COURT	---	36" x 7'	0.10%
4	5+14	0' LT	36" x 7'	0.25%
5	3+24	10' LT	48" x 30"	0.70%
6	1+33	5' LT	48" x 30"	0.4%
7	3+31	0' LT	48" x 24"	0.1%
14	4+00	7' LT	48" x 10"	0.5%
15	0+00	7' LT	48" x 10"	0.4%
16	COURT	---	48" x 4'	0.5%

(E.O.C. EXT.)  
 CENTURY DRIVE  
 MIDDLE MEADOW ROAD  
 NORTHBROOK COURT



**PLAN**  
 1" = 50'

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: *[Signature]* DATE: 3-24-86  
 Chief, Bureau of Utilities: *[Signature]* DATE: 3-24-86

FISHER, COLLINS AND CARTER, INC.  
 CONSULTING ENGINEERS AND LAND SURVEYORS  
 8388 COURT AVENUE  
 ELLICOTT CITY, MARYLAND 21043  
 Chief, Land Development Division: *[Signature]* DATE: 3/24/86

DES: D.B.S.	DAN. A.	REVISION TO LOT GEOMETRY FOR LOTS 45 THROUGH 56 AND LOTS 51 THROUGH 53	1-23-86
DRN: D.B.S.	DAN. A.	REVISE WATER/SEWER CONNECTION TO LOTS 55 AND 54, 51 AND 52, 55 AND 56	1-23-86
CHK:			
DATE: 3/24/86	BY: N.O.	REVISION	DATE

PLAN OF SEWER & WATER MAINS  
 600' SCALE MAP NO. 24-830 BLOCK NO. \_\_\_\_\_

THE WILLOWS  
 SECTION 1, AREA 2  
 CONTRACT NO. 24-1415-D  
 SECOND ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 SCALE AS SHOWN  
 SHEET 2 OF 5

CONTRACT NO. 24-1415-D  
 THE WILLOWS  
 SECTION 1, AREA 2  
 WATER AND SEWER EXTENSION  
 HOWARD COUNTY, MARYLAND

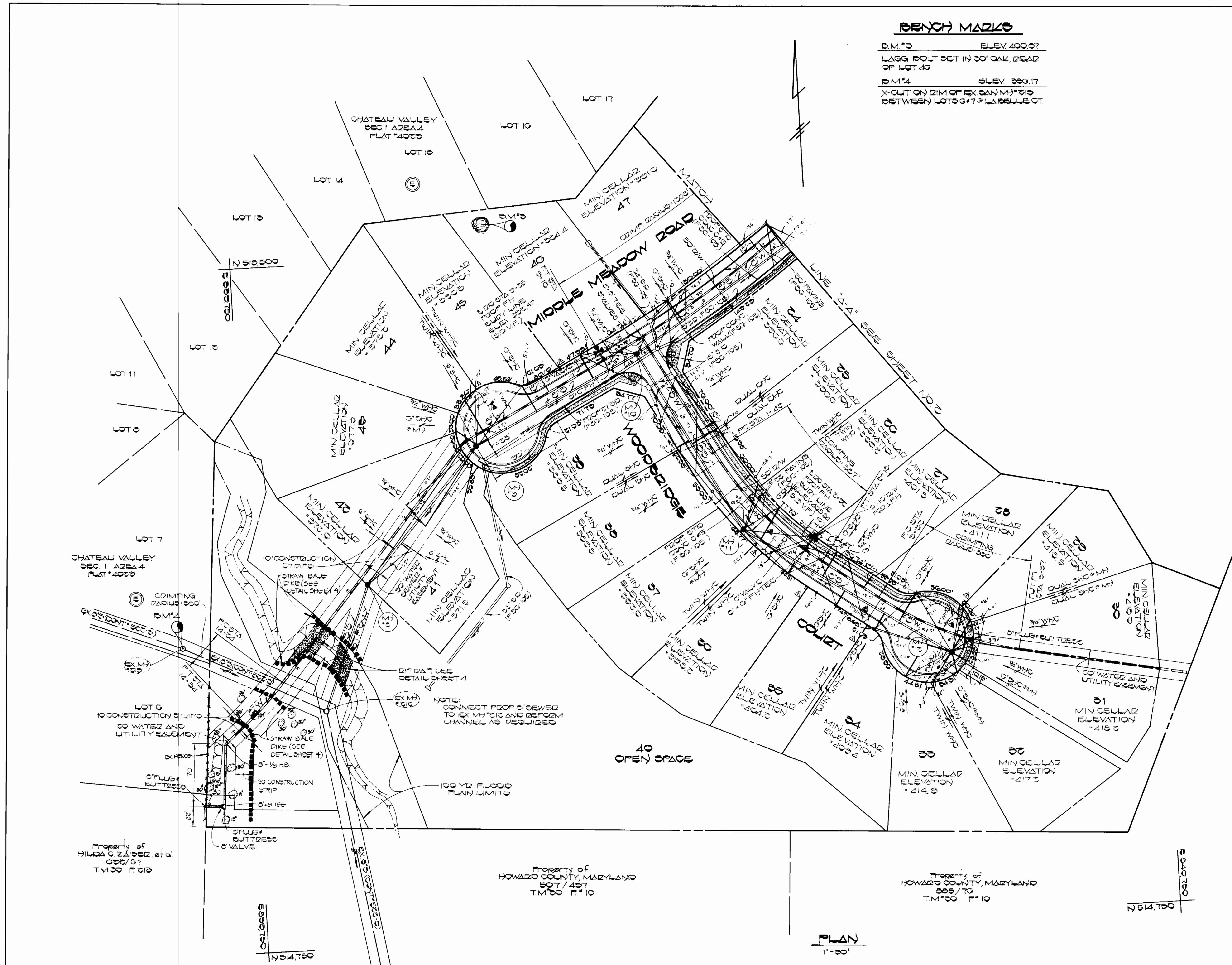
**BENCH MARKS**

B.M.#3 ELEV. 499.97  
 LAGG BOLT SET IN 80' OAK, REAR OF LOT 49  
 B.M.#4 ELEV. 389.17  
 X-CUT ON DIM OF EX SAN M#10 (BETWEEN LOTS 47 & LA BELLE CT.)

SEWER HOUSE CONNECTION INVERT ELEVATIONS AT PROPERTY LINE		
STATION	LOT	ELEVATION
M#9 TO M#9		
0+58 I/T	LOT 41	307.28
0+48 I/T	LOT 42	307.30
M#9 I/T	LOT 43	371.00
M#9 TO M#10		
M#9 I/T	LOT 43	371.00
0+15 I/T	LOT 44	373.02
0+70 I/T	LOT 45	375.31
1+40 I/T	LOT 46	379.70
M#10 TO M#10		
0+00 I/T	LOT 47	380.30
1+07 I/T	LOT 48	384.56
M#10 TO M#11		
1+10 I/T	LOTS 49, 50	384.07
1+17 I/T (OHC)	LOTS 49, 50	387.10
M#11 I/T	LOT 57	387.35
M#11 TO M#12		
M#11 I/T	LOT 57	387.35
0+00 I/T	LOT 58	384.80
0+07 I/T	LOT 59	383.70
1+00 I/T	LOT 57	387.40
1+30 I/T	LOT 58	389.77
1+80 I/T	LOT 54	404.51
1+90 I/T	LOT 55	409.50
2+35 I/T	LOT 53	410.22
M#12 I/T	LOT 56	410.60
M#12 I/T	LOT 51	410.60
M#12 I/T	LOTS 59, 60	410.00

MANHOLE TABLE				
NO	DEPTH	DIST.	DIM	SLOPE
9	6'-0"	---	5X 6.0	---
10	6'-0"	---	5X 6.0	---
10	6'-0"	5' LT	5X 6.0	1+7.0%
11	6'-3"	50' RT	40' 0"	1+5.1%
12	6'-0"	---	40' 0"	---

MIDDLE MEADOW ROAD WOODPIPE COURT



PLAN  
1" = 50'

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 DATE: 3-24-86  
 CHIEF, BUREAU OF UTILITIES

FISHER, COLLINS AND CARTER, INC.  
 CONSULTING ENGINEERS AND LAND SURVEYORS  
 8388 COURT AVENUE  
 ELLICOTT CITY, MARYLAND 21043  
 DATE: 3/24/86

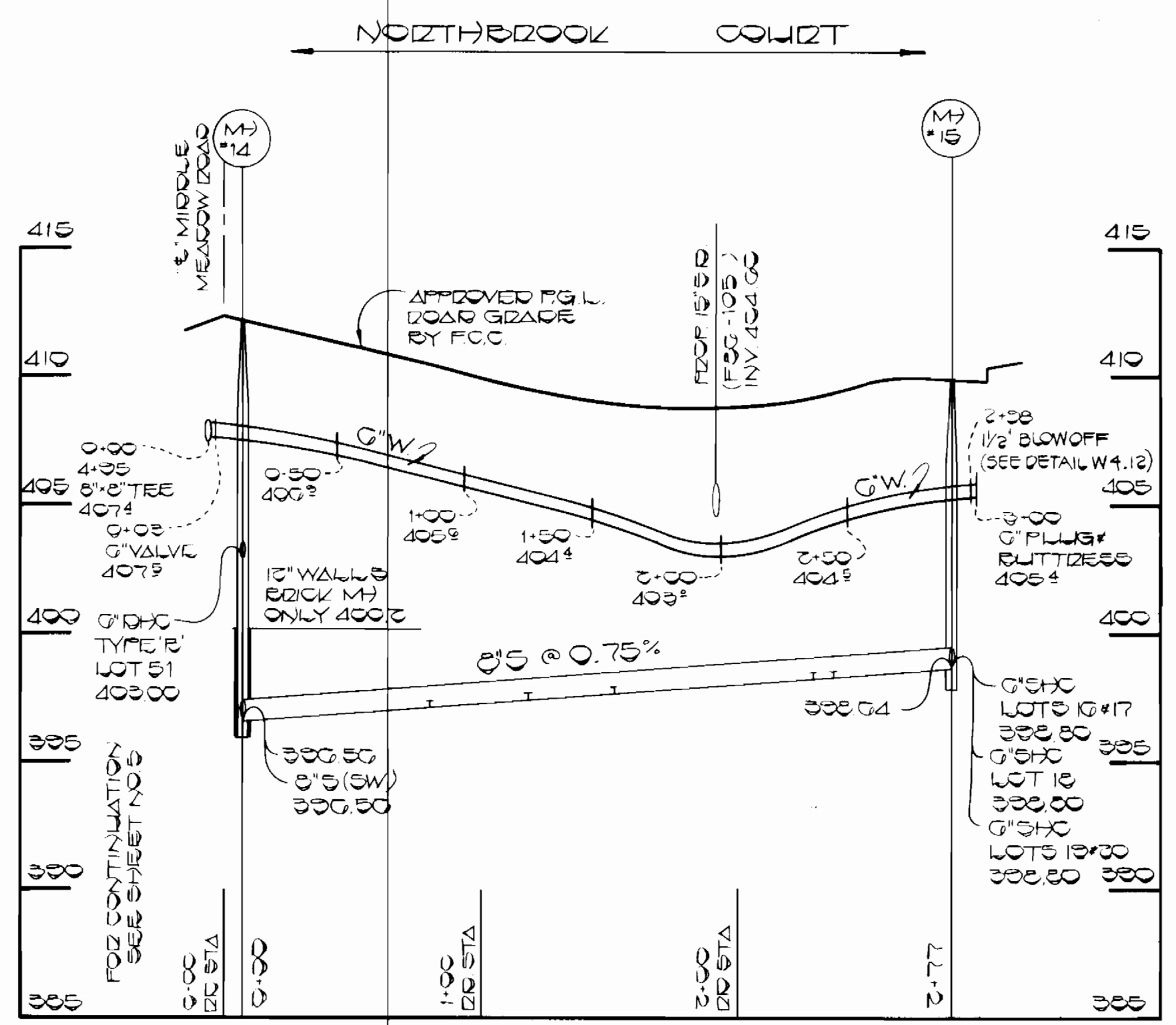
DES.	D.B.S.	D.A.N.	REVISION	DATE
DESIGN TO LOT GEOMETRY FOR LOTS 58, 59, 34 THROUGH 37, 44, 45, AND 46. <td></td> <td></td> <td></td> <td>7-23-84</td>				7-23-84
REVISE WATER/SEWER CONNECTION TO LOTS 44 AND 45. <td></td> <td></td> <td></td> <td>7-23-85</td>				7-23-85
REVISE WATER/SEWER CONNECTION TO LOTS 44 AND 45. <td></td> <td></td> <td></td> <td>7-23-85</td>				7-23-85

PLAN  
 WATER AND SEWER MAINS  
 600' SCALE MAP NO. 24830 BLOCK NO.

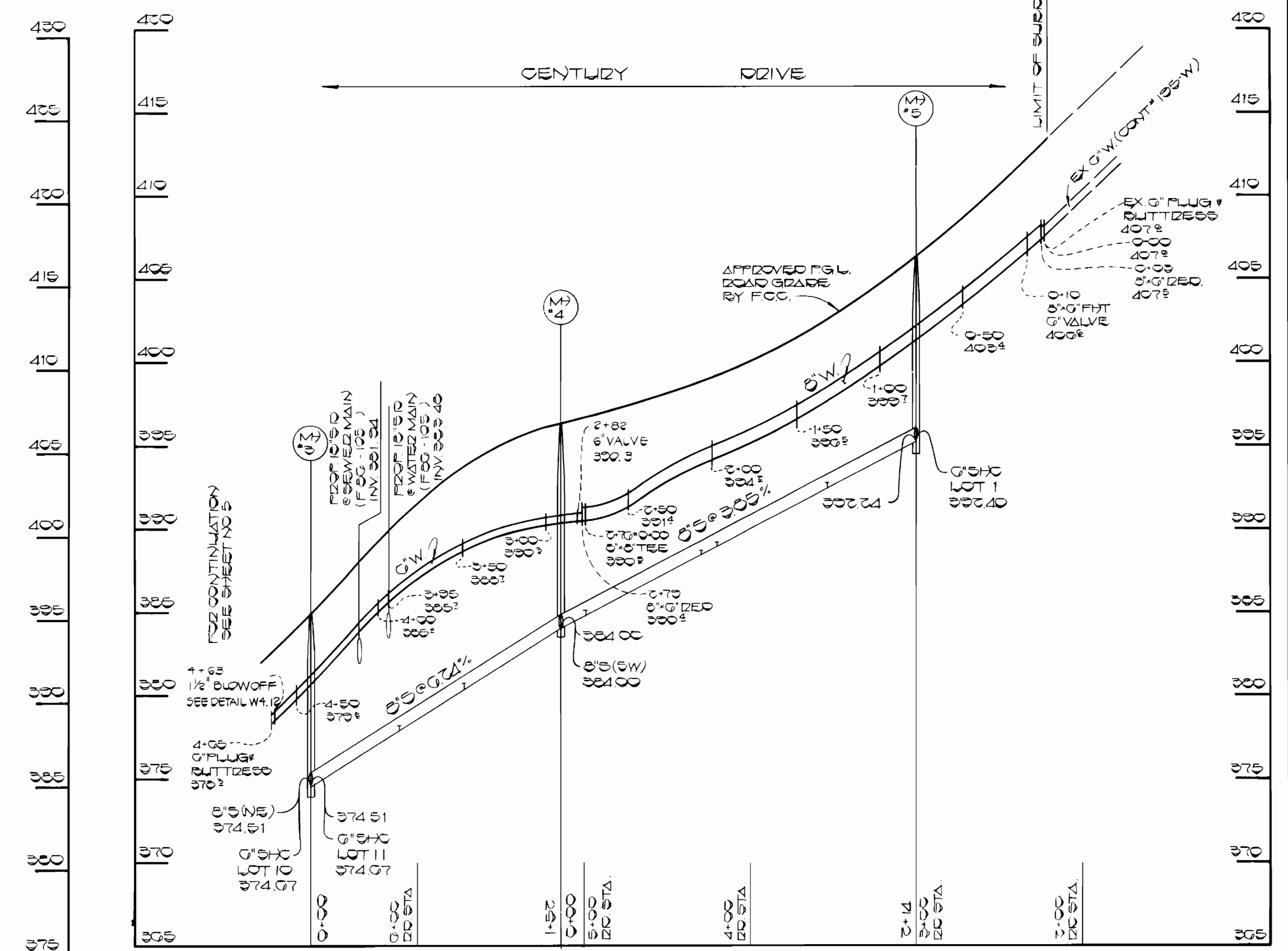
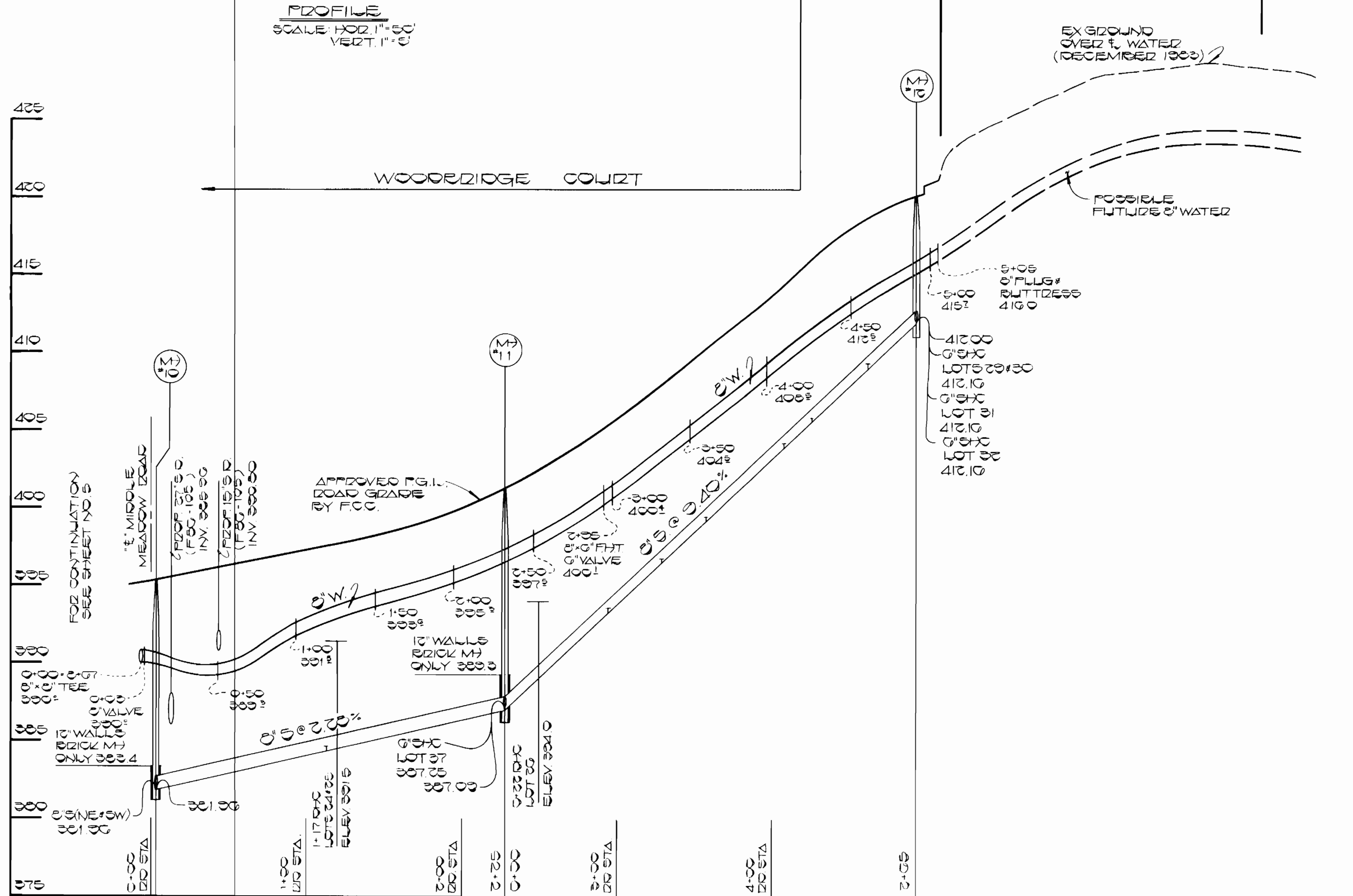
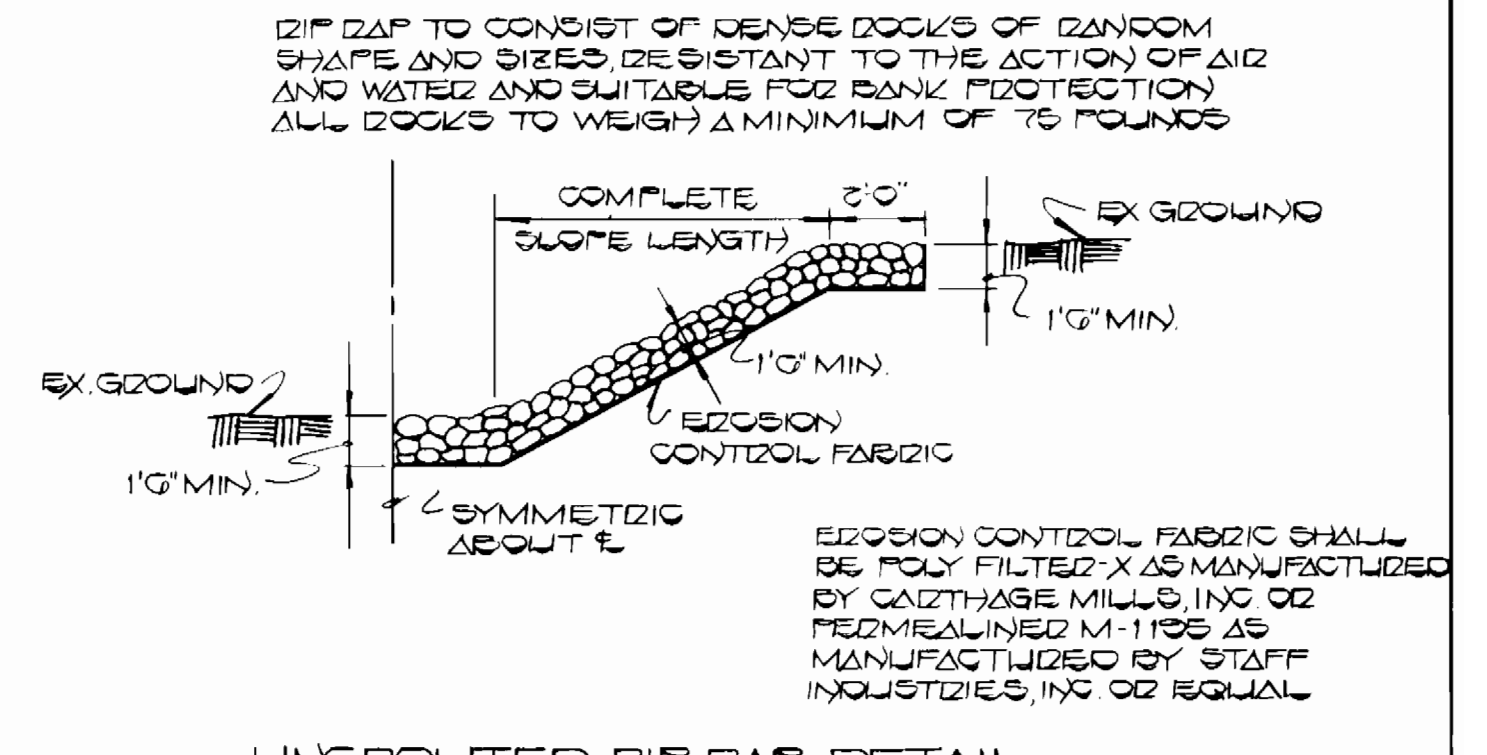
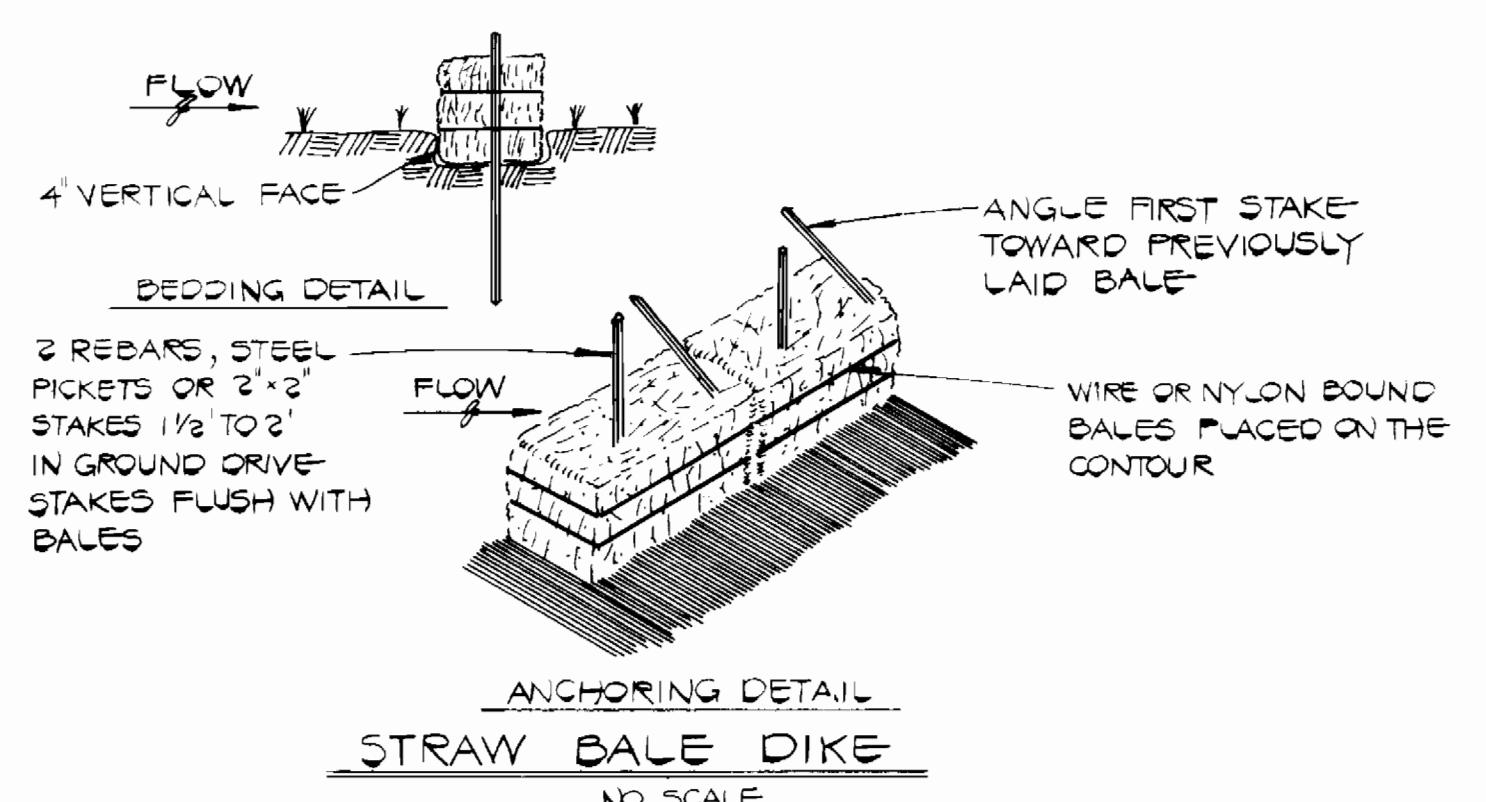
THE WILLOWS  
 SECTION 1, AREA 2  
 CONTRACT NO. 24-1415-D  
 SECOND ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET 3 OF 5

CONTRACT NO. 24-1415-D  
 THE WILLOWS  
 SECTION 1, AREA 2  
 WATER AND SEWER EXTENSION,  
 HOWARD COUNTY, MARYLAND.



**STABILIZATION NOTES**  
 FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:  
 1. 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, SWALES, DITCHES PERIMENT SLOPES AND ALL SLOPES GREATER THAN 3:1.  
 2. 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.



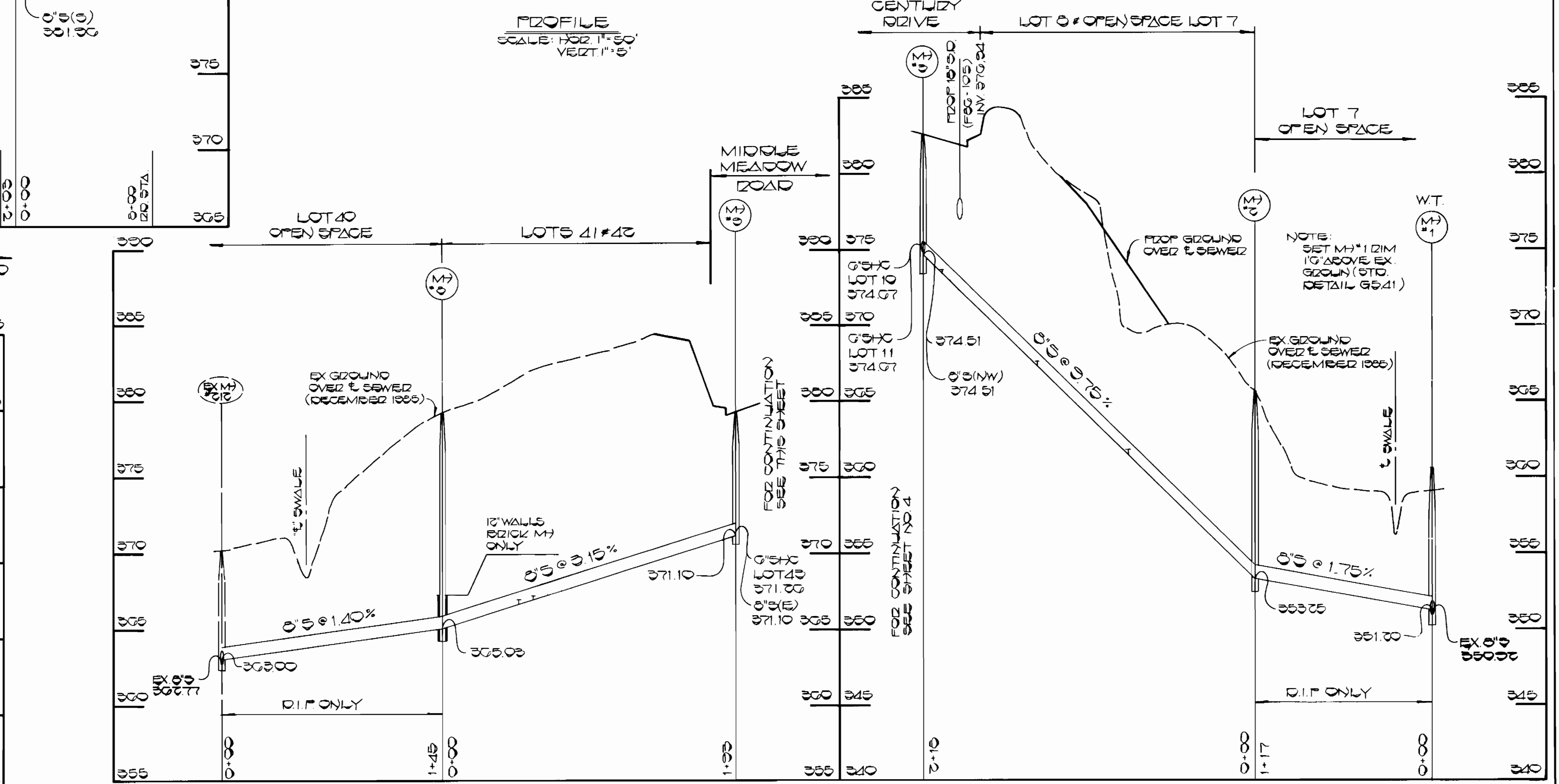
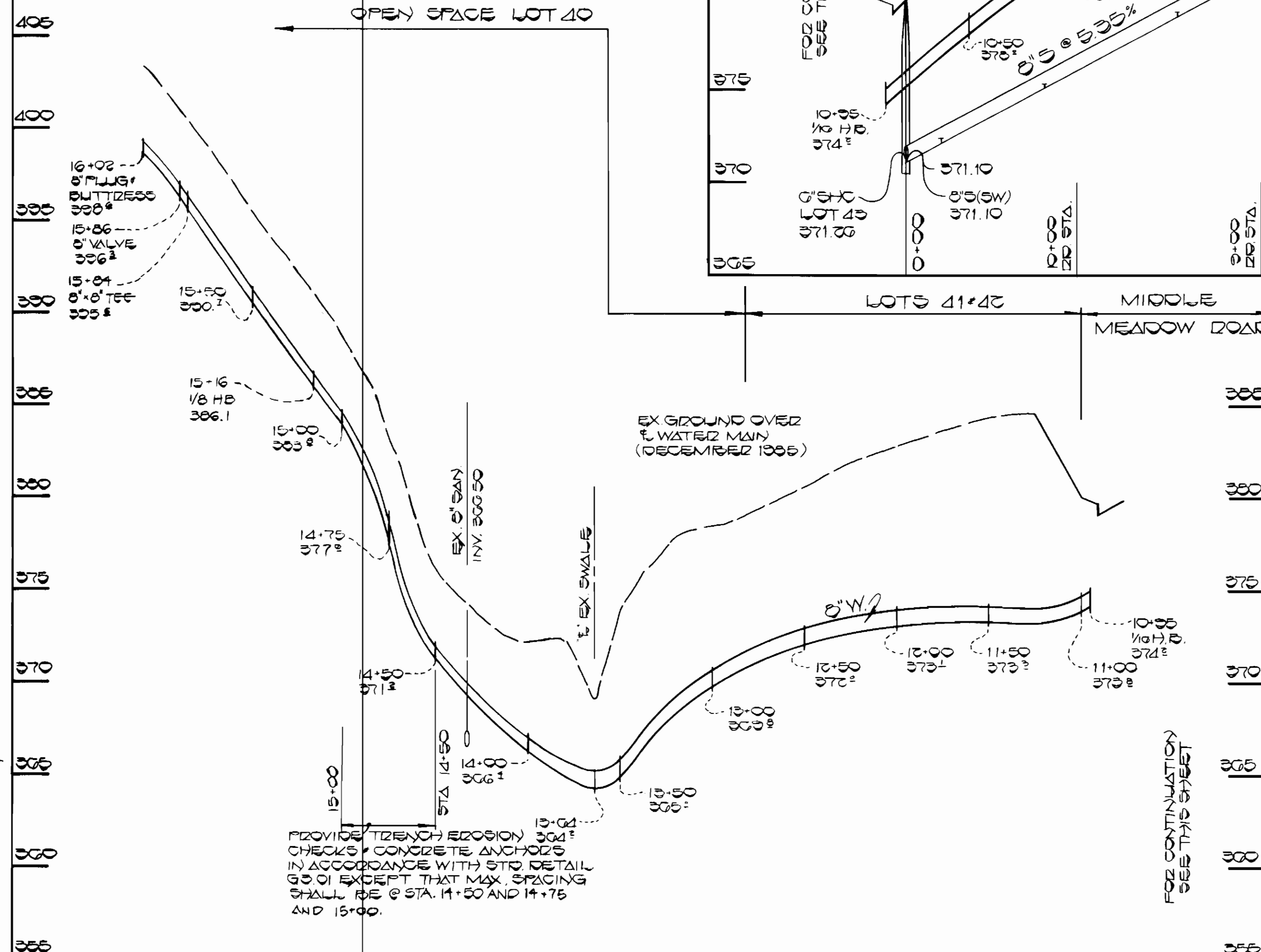
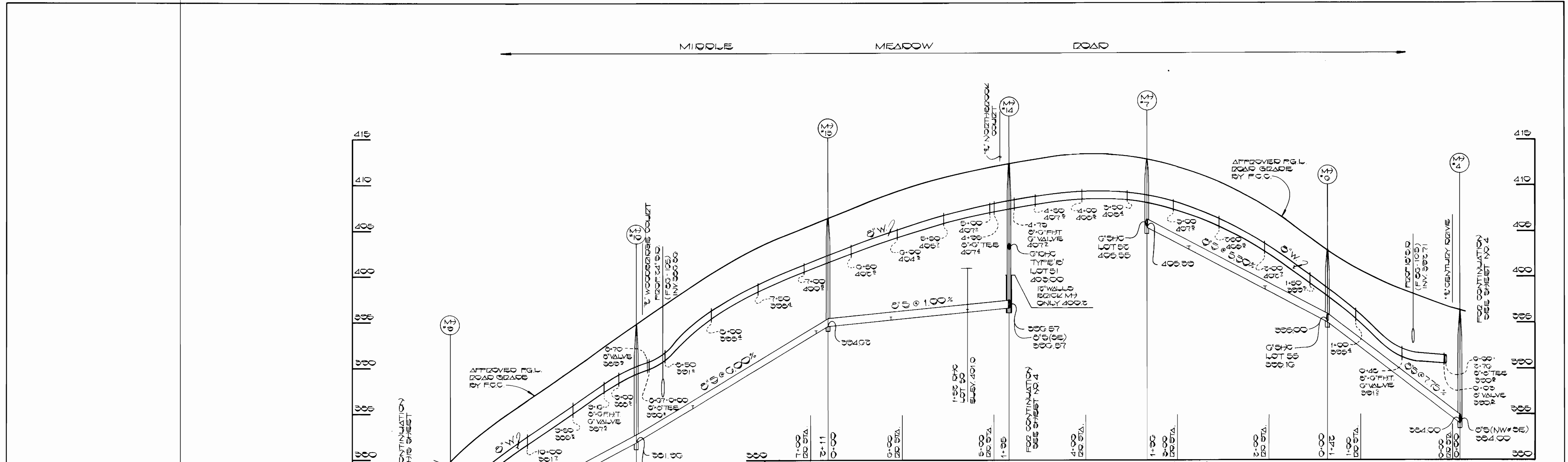
DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: [Signature] DATE: 3-24-86  
 Chief, Bureau of Engineering: [Signature] DATE: 3-24-86  
 Chief, Land Development Division: [Signature] DATE: 3-24-86

FISHER, COLLINS AND CARTER, INC.  
 CONSULTING ENGINEERS AND LAND SURVEYORS  
 8388 COURT AVENUE  
 ELLICOTT CITY, MARYLAND 21043  
 Terrell A. Fisher DATE: 3/24/86

DES: D.B.S.					
DRN: D.B.S.					
CHK:					
DATE: 3/24/86	BY:	NO.:	REVISION:	DATE:	600 SCALE MAP NO. 24-830 BLOCK NO.:

PROFILE OF SEWER & WATER MAINS

THE WILLOWS  
 SECTION 1, AREA 2  
 CONTRACT NO. 24-1415-D  
 SECOND ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 SCALE AS SHOWN  
 SHEET 4 OF 5



PROFILE  
SCALE: HORIZ. 1"=50'  
VERT. 1"=5'

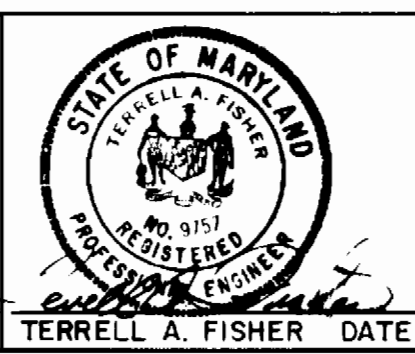
PROFILE  
SCALE: HORIZ. 1"=50'  
VERT. 1"=5'

PROFILE  
SCALE: HORIZ. 1"=50'  
VERT. 1"=5'

CONTRACT NO. 24-1415-D  
THE WILLOWS  
SECTION 1, AREA 2  
WATER AND SEWER EXTENSION  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
9-24-86  
3-24-86

FISHER, COLLINS AND CARTER, INC.  
CONSULTING ENGINEERS AND LAND SURVEYORS  
8388 COURT AVENUE  
ELLCOTT CITY, MARYLAND 21043



DES: D.B.S.					
DRN: D.B.S.					
CHK:					
DATE: 4/2/85	BY: NO.	REVISION	DATE	600 SCALE MAP NO. 24 & 30	BLOCK NO.

PROFILE OF SEWER  
& WATER MAINS

THE WILLOWS  
SECTION 1, AREA 2  
CONTRACT NO. 24-1415-D  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
SCALE AS SHOWN  
SHEET 5 OF 5