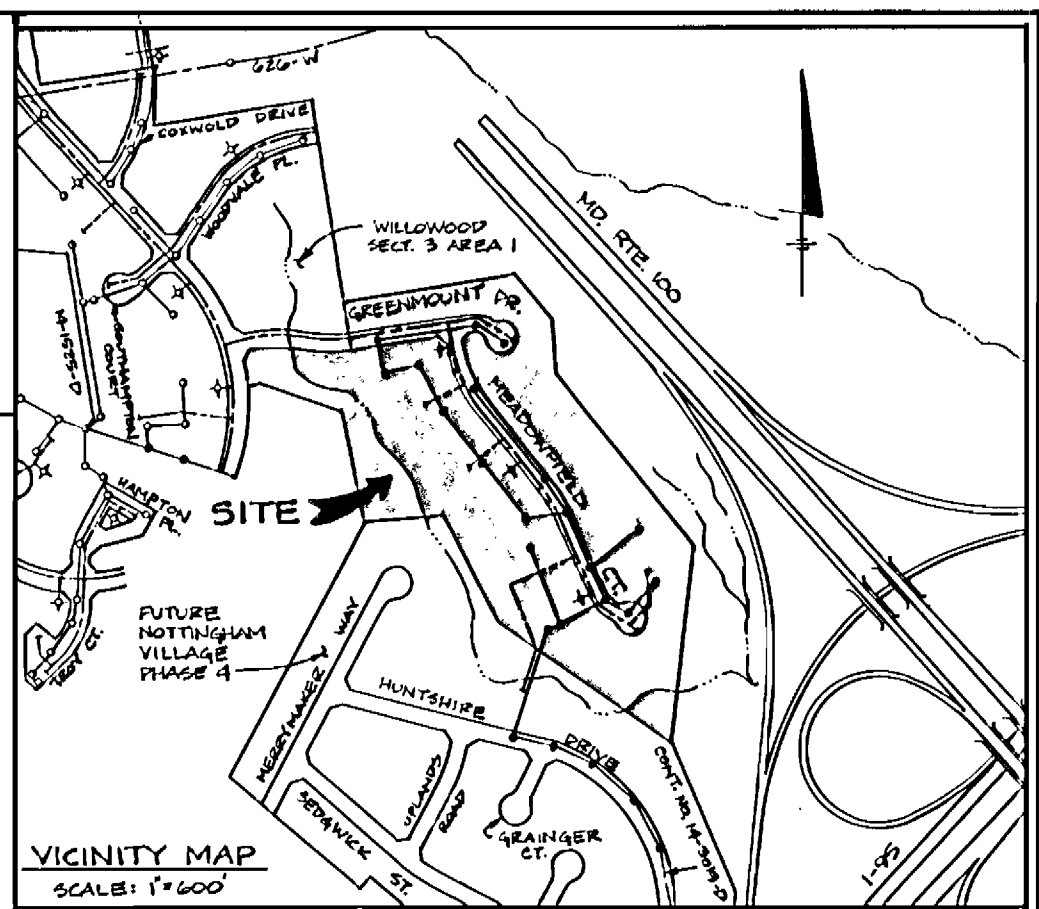


MARYLAND STATE
ROADS COMMISSION
P. 411

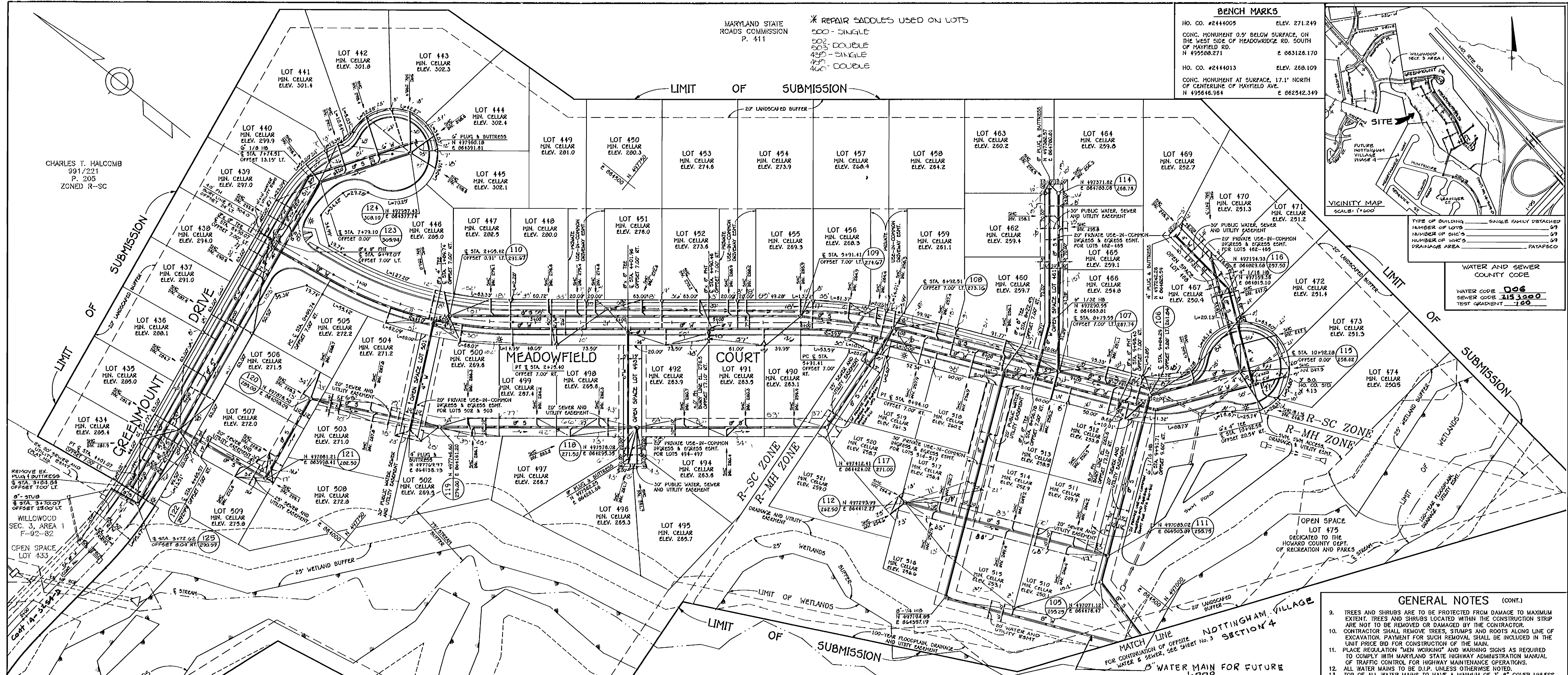
* REPAIR SADDLES USED ON LOTS
500 - SINGLE
503 - DOUBLE
425 - SINGLE
400 - DOUBLE

BENCH MARKS
HO. CO. #2444005 ELEV. 271.249
CONC. MONUMENT 0.5' BELOW SURFACE, ON
THE WEST SIDE OF HEADROW RD. SOUTH
OF HAYFIELD RD.
N 495588.271 E 863126.170
HO. CO. #2444013 ELEV. 268.109
CONC. MONUMENT AT SURFACE, 17.1' NORTH
OF CENTERLINE OF HAYFIELD AVE.
N 495646.964 E 862542.349



TYPE OF BUILDING: SINGLE FAMILY DETACHED
NUMBER OF LOTS: 69
NUMBER OF SACS: 69
NUMBER OF WHCS: 69
DRAINAGE AREA: PATAPSCO

WATER AND SEWER
COUNTY CODE
WATER CODE: 006
SEWER CODE: 315 3000
TEST GRADIENT: -1.00



PLAN
SCALE: 1" = 50'

LEGEND

- EXIST. WATER MAIN
- EXIST. SEWER MAIN
- EXIST. SEWER MANHOLE
- PROP. WATER MAIN
- PROP. SEWER MAIN
- PROP. STORM DRAIN (BY OTHERS)
- PROP. SEWER MANHOLE
- PROP. SEWER HOUSE CONNECTION
- PROP. WATER HOUSE CONNECTION (DOUBLE)
- PROP. WATER HOUSE CONNECTION (SINGLE)
- PROP. FIRE HYDRANT
- PROP. VALVE
- PROP. BLOWOFF
- PROP. PLUG AND BUTTRISS

WATER HOUSE CONNECTION CHART

LOT NO.	STATION	ROAD	LOT NO.	STATION	ROAD
432-355	213.91		511	740.4	
432-357	213.5	GREENHOUNT DRIVE	512-513	849.4	
432-358	213.5		514	853.0	
432-359	213.5		515	854.0	
432-360	213.5		516	854.0	
432-361	213.5		517	854.0	
432-362	213.5		518-519	740.4	MEADOWFIELD COURT
432-363	213.5		520	740.4	
432-364	213.5		521	740.4	
432-365	213.5		522	740.4	
432-366	213.5		523	740.4	
432-367	213.5		524	740.4	
432-368	213.5		525	740.4	
432-369	213.5		526	740.4	
432-370	213.5		527	740.4	
432-371	213.5		528	740.4	
432-372	213.5		529	740.4	
432-373	213.5		530	740.4	
432-374	213.5		531	740.4	
432-375	213.5		532	740.4	
432-376	213.5		533	740.4	
432-377	213.5		534	740.4	
432-378	213.5		535	740.4	
432-379	213.5		536	740.4	
432-380	213.5		537	740.4	
432-381	213.5		538	740.4	
432-382	213.5		539	740.4	
432-383	213.5		540	740.4	
432-384	213.5		541	740.4	
432-385	213.5		542	740.4	
432-386	213.5		543	740.4	
432-387	213.5		544	740.4	
432-388	213.5		545	740.4	
432-389	213.5		546	740.4	
432-390	213.5		547	740.4	
432-391	213.5		548	740.4	
432-392	213.5		549	740.4	
432-393	213.5		550	740.4	
432-394	213.5		551	740.4	
432-395	213.5		552	740.4	
432-396	213.5		553	740.4	
432-397	213.5		554	740.4	
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432-402	213.5		559	740.4	
432-403	213.5		560	740.4	
432-404	213.5		561	740.4	
432-405	213.5		562	740.4	
432-406	213.5		563	740.4	
432-407	213.5		564	740.4	
432-408	213.5		565	740.4	
432-409	213.5		566	740.4	
432-410	213.5		567	740.4	
432-411	213.5		568	740.4	
432-412	213.5		569	740.4	
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432-414	213.5		571	740.4	
432-415	213.5		572	740.4	
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432-440	213.5		597	740.4	
432-441	213.5		598	740.4	
432-442	213.5		599	740.4	
432-443	213.5		600	740.4	

QUANTITIES

ITEMS	QUANTITIES ESTIMATED	AS-BUILT	MANUF. / SUPPLIER
6" WATER	2305 LF	2030	EXP-52
4" WATER	248 LF	200	EXP-52
2" WATER	320 LF	200	DIP-52
8" VALVES	3 EA	3	GATE
6" VALVES	2 EA	3	GATE
4" VALVES	2 EA	2	GATE
FIRE HYDRANTS	3 EA	3	2-4-1-8VA
3" BLOWOFF	2 EA	2	4
8 1/2" WHC	210 LF	160	ROPPER
6" WHC	210 LF	160	ROPPER
4" SEWER PVC	3217 LF	3000	302-33
6" SEWER PVC	808 LF	1000	302-33
4" SEWER PVC	100 LF	100	302-33
MANHOLES	2 EA	2	302-33
4" SHEET PILING	1900 LF	1900	302-33

GENERAL NOTES
PART 1 - GENERAL
1. 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.
2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
3. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA.
4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
5. CLEAR ALL UTILITIES BY A MINIMUM OF 8". CLEAR ALL POLES BY 2'-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 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.
6. FOR DETAILS OF BRACING OF THE POLES, SEE SHEET NO. 3.
7. 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 LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
STATE HIGHWAY ADMINISTRATION.....531-5533
BALTIMORE GAS & ELECTRIC CO.....480-7620
CONTRACTOR SERVICES.....850-4820
BALTIMORE GAS & ELECTRIC CO.....787-9088
MISS UTILITY.....1-800-257-7777
COLONIAL PIPELINE CO.....795-1390
BUREAU OF UTILITIES.....
HOWARD CO. DEPT. OF PUBLIC WORKS.....313-4900

PART 2 - WATER
1. ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
2. TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3-1/2" COVER UNLESS OTHERWISE NOTED.
3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
4. ALL FITTINGS SHALL BE BUTTERESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
5. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTERESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT SHALL 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.
6. ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSETER METER SETTING UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.

PART 3 - SEWER
1. ALL SEWER MAINS SHALL BE DIP, RCP, VCPX, CSPX, RSPS AND P.V.C. UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2' - 0" OF EXTERIOR MANHOLE WALL.
3. ALL MANHOLES SHALL BE 4' - 0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
4. FORCE MAINS SHALL BE D.I.P. ONLY.
5. MANHOLES SHOWN WITH 12" AND 18" WALLS ARE FOR BRICK MANHOLES ONLY.
6. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL 05.52. WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1" - 0" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
7. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

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

John P. Deaton 9/22/93
HOWARD SOIL CONSERVATION DISTRICT
DATE

HOWARD SOIL CONSERVATION DISTRICT
REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

John P. Deaton 9/22/93
U.S. SOIL CONSERVATION SERVICE
DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

planning • engineering • surveying
8480 Baltimore National Pike • Suite 418
Ellicott City, Maryland 21043

DRN: DRK/DBT
CHK: DRK
DATE: 1-4-93
9-10-93

REVISIONS

NO.	DATE	DESCRIPTION
1	5/1/94	REVISE WATER AND SEWER LAYOUT PER 2ND REVISION.
2	5/1/94	ADD 6" STORM DRAIN TO NOTE VILLAGE 4.
3	5/1/94	REMOVE DIPS, EXTEND FUTURE SACS TO 2ND LINE IN NOTE VILLAGE 4.
4	5/1/94	ADD D.I.P. SANITARY SEWER.

WILLOWOOD
SECTION 3, AREA 2
LOTS 434-475 AND 490-521
ELECTION DISTRICT NO. 1

PLAN OF WATER & SEWER MAINS

CONTRACT NO. 14-3303-D

SCALE AS SHOWN

SHEET 1 OF 3

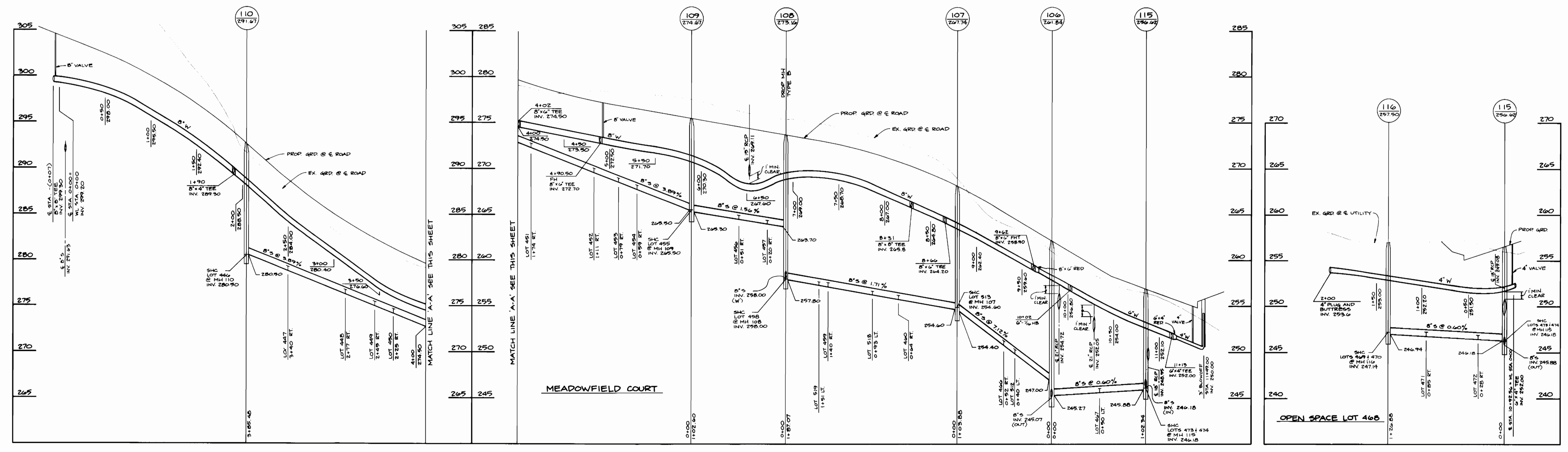
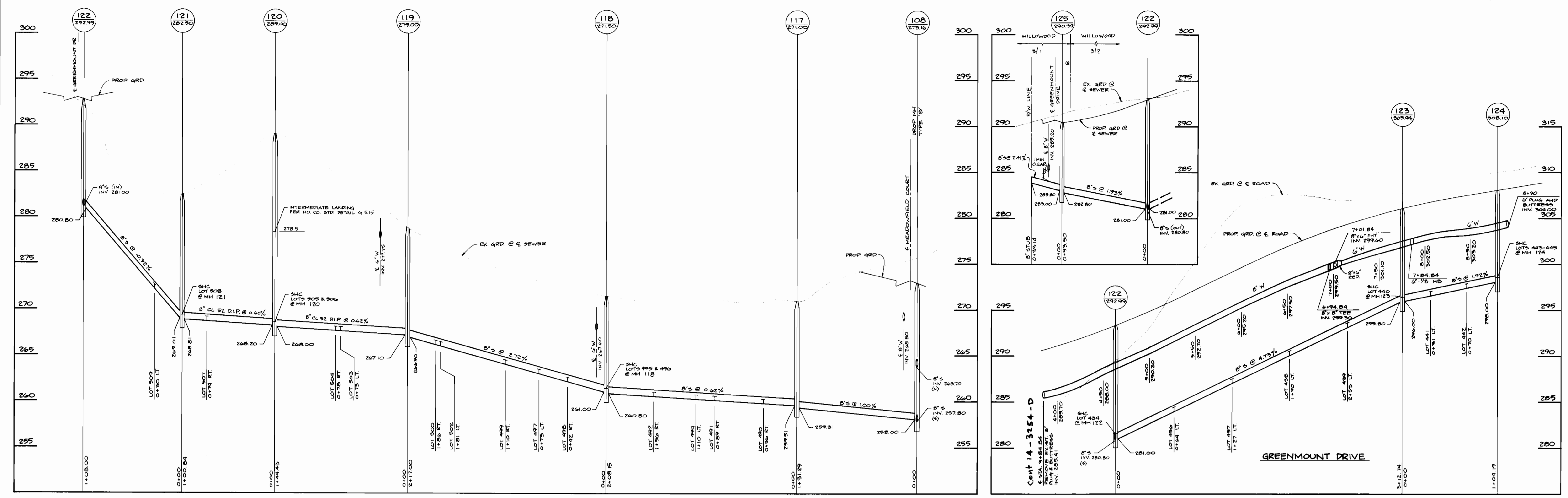
AS-BUILT 10/14/04

Willowood 3/2
1/14
3303

Willowed 3/2

WS/2

3303



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Ralph J. Brown 2/23/93
DIRECTOR OF PUBLIC WORKS

Ralph J. Brown 9-17-93
CHIEF, BUREAU OF UTILITIES

TSA GROUP, INC.
planning • engineering • surveying
8480 Baltimore National Pike • Suite 418
Ellicott City, Maryland 21043

[Signature]

DES: MA/JME	DBT	REVISIONS	DATE
DRN: DBT			
CHK: DRK			
DATE: 1-4-93			
9-10-93	BY NO.		

PROFILES OF
WATER & SEWER MAINS

600 SCALE MAP NO. 37

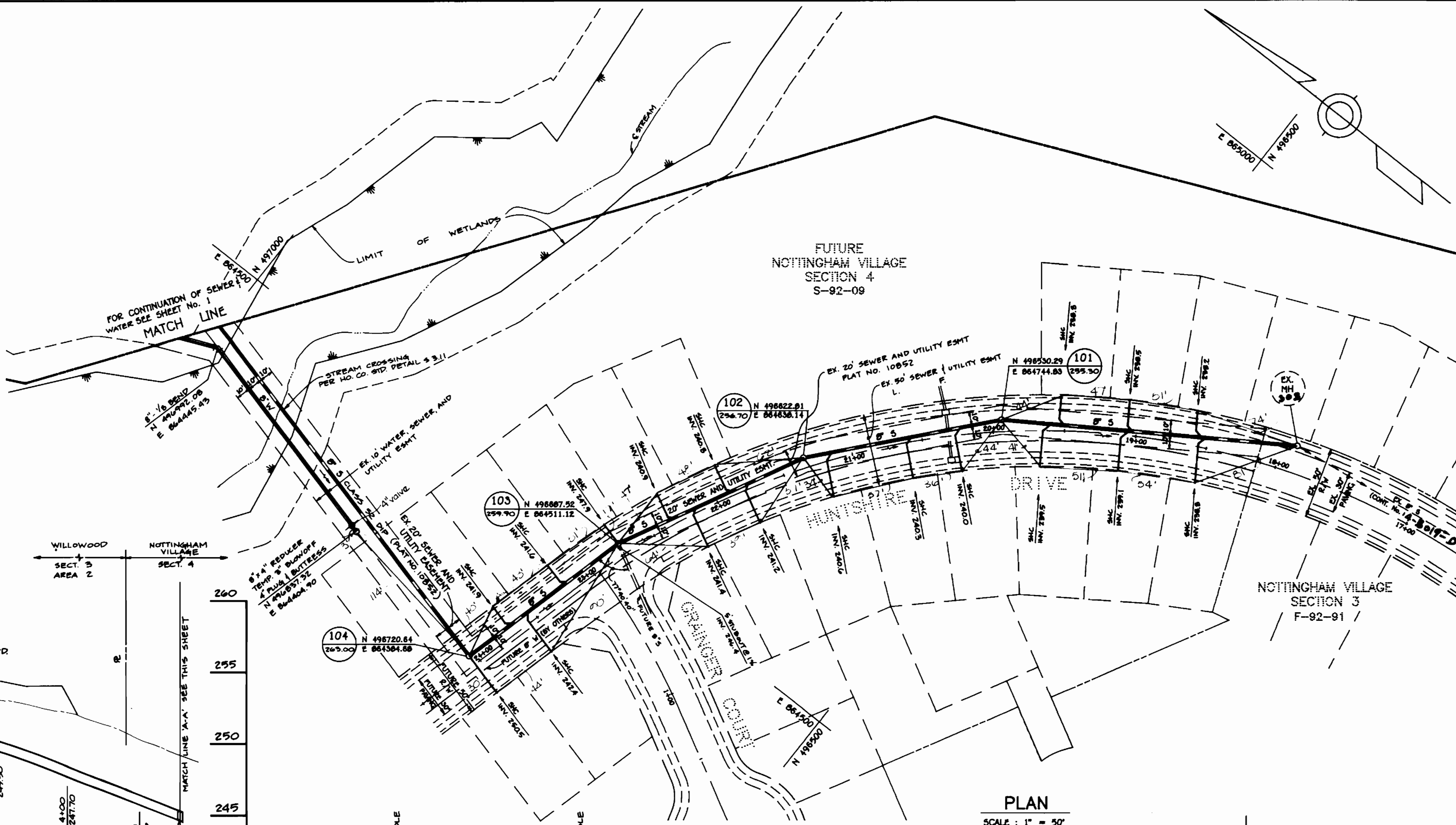
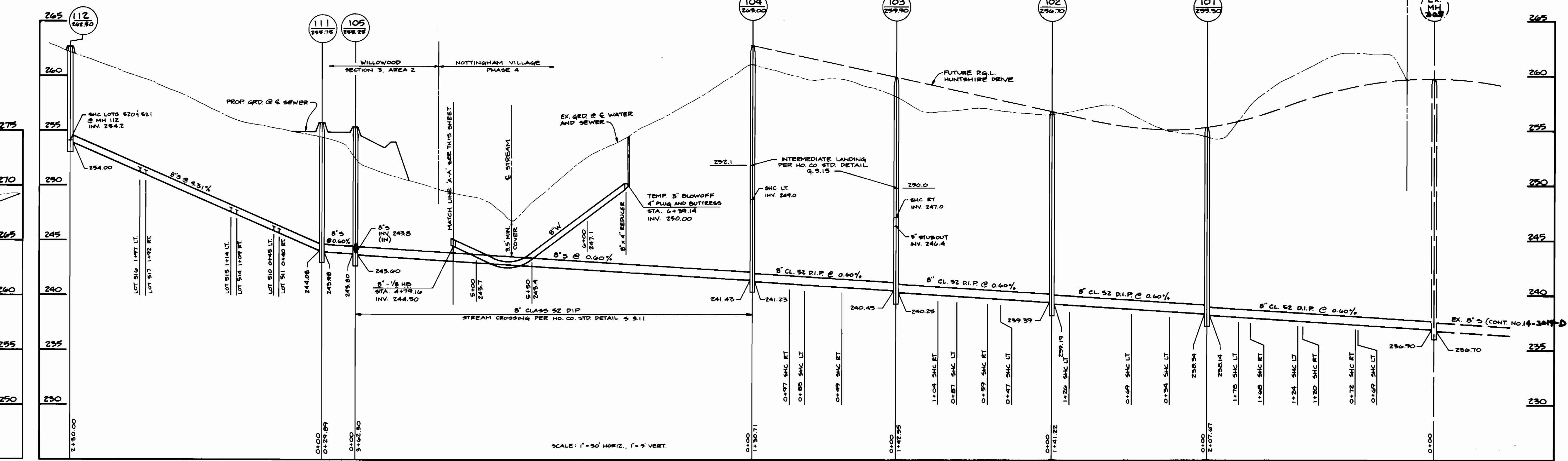
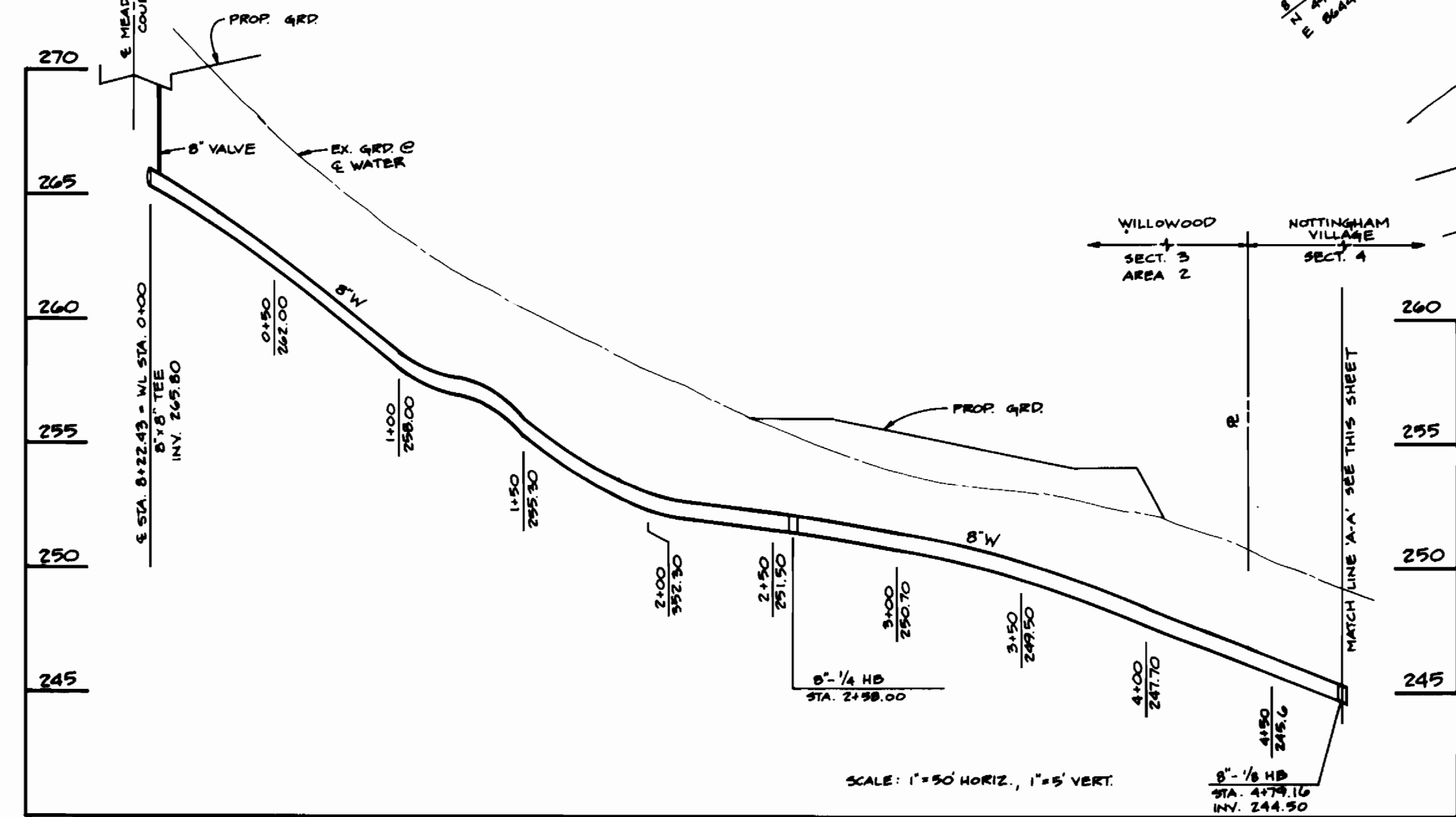
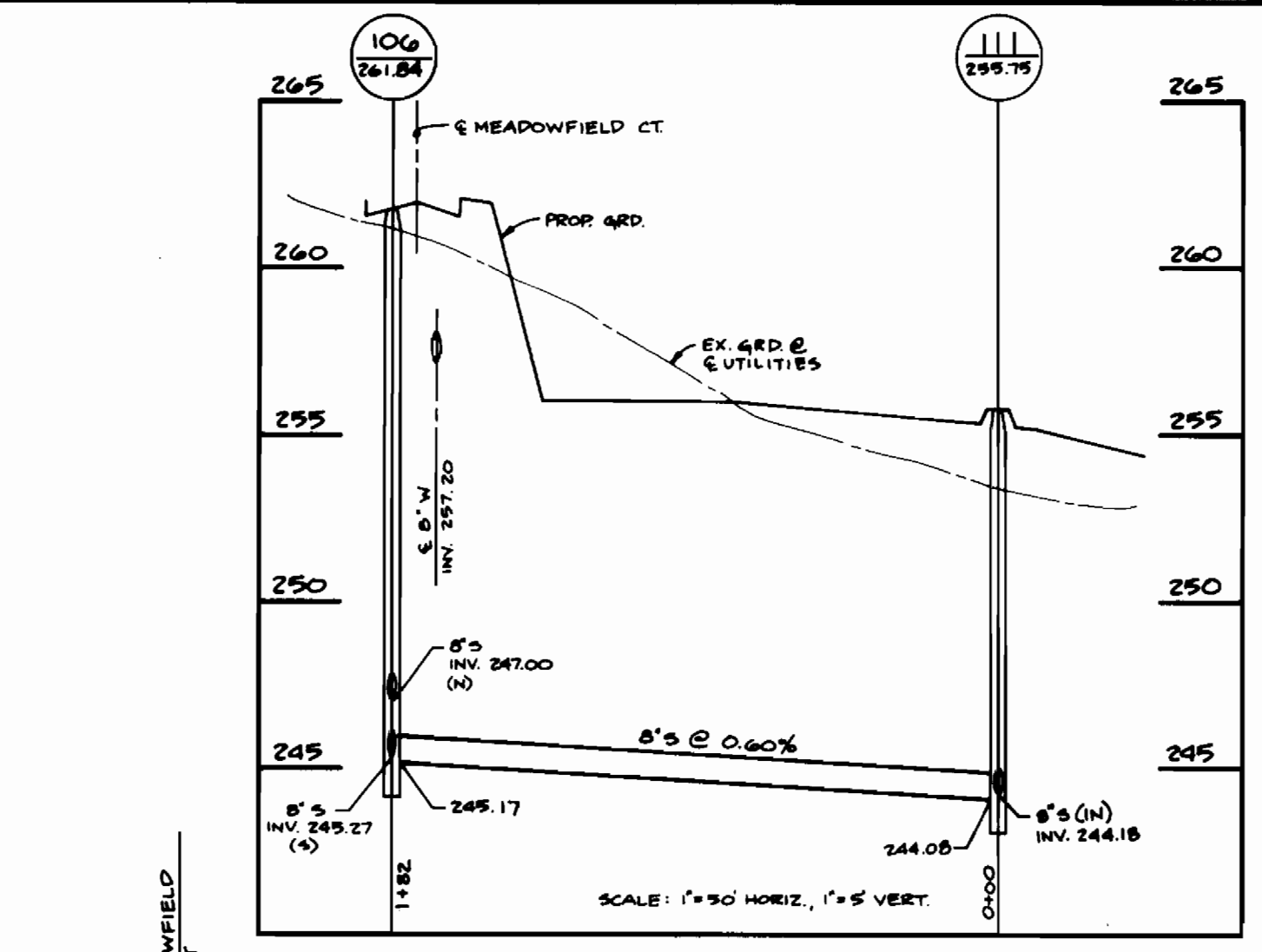
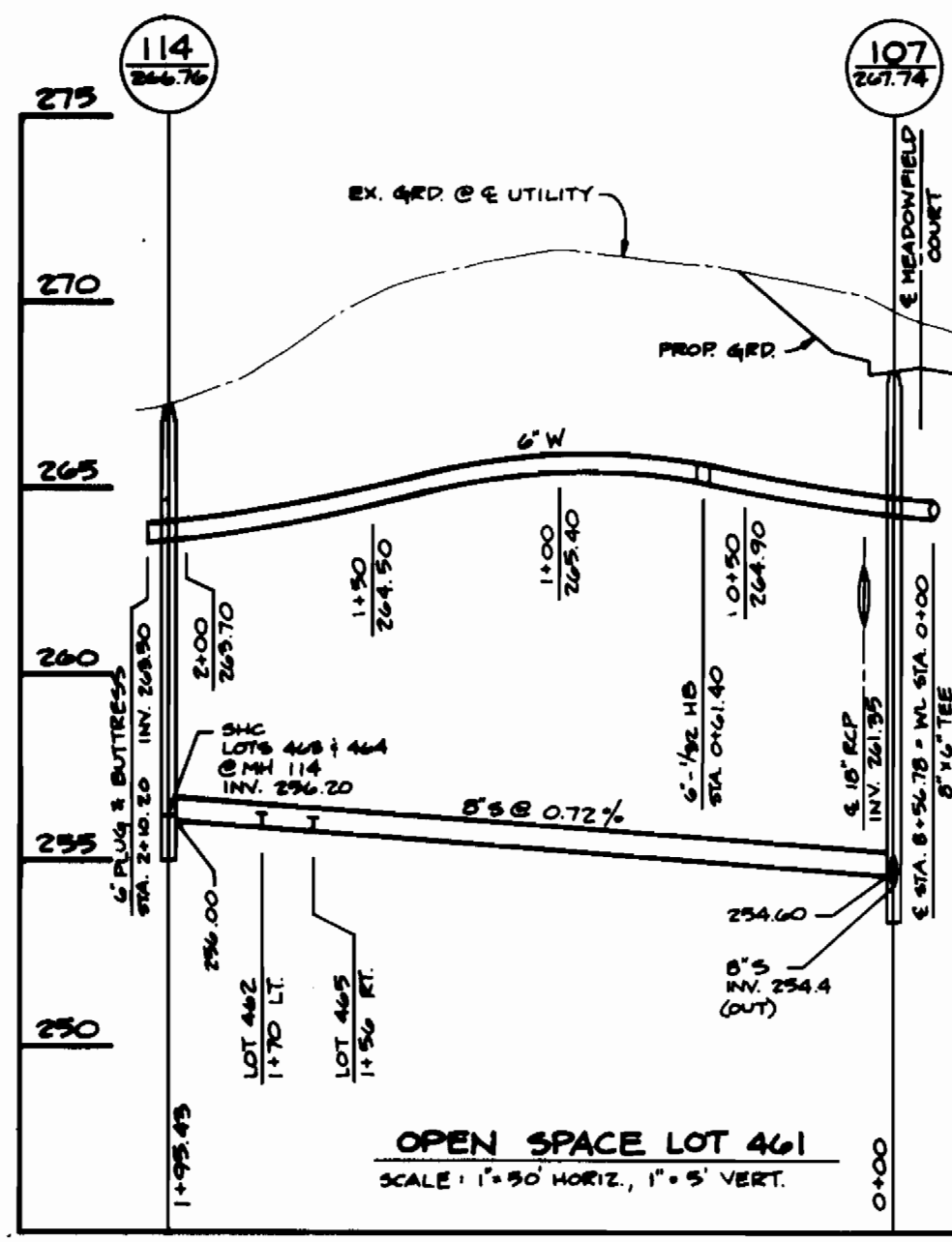
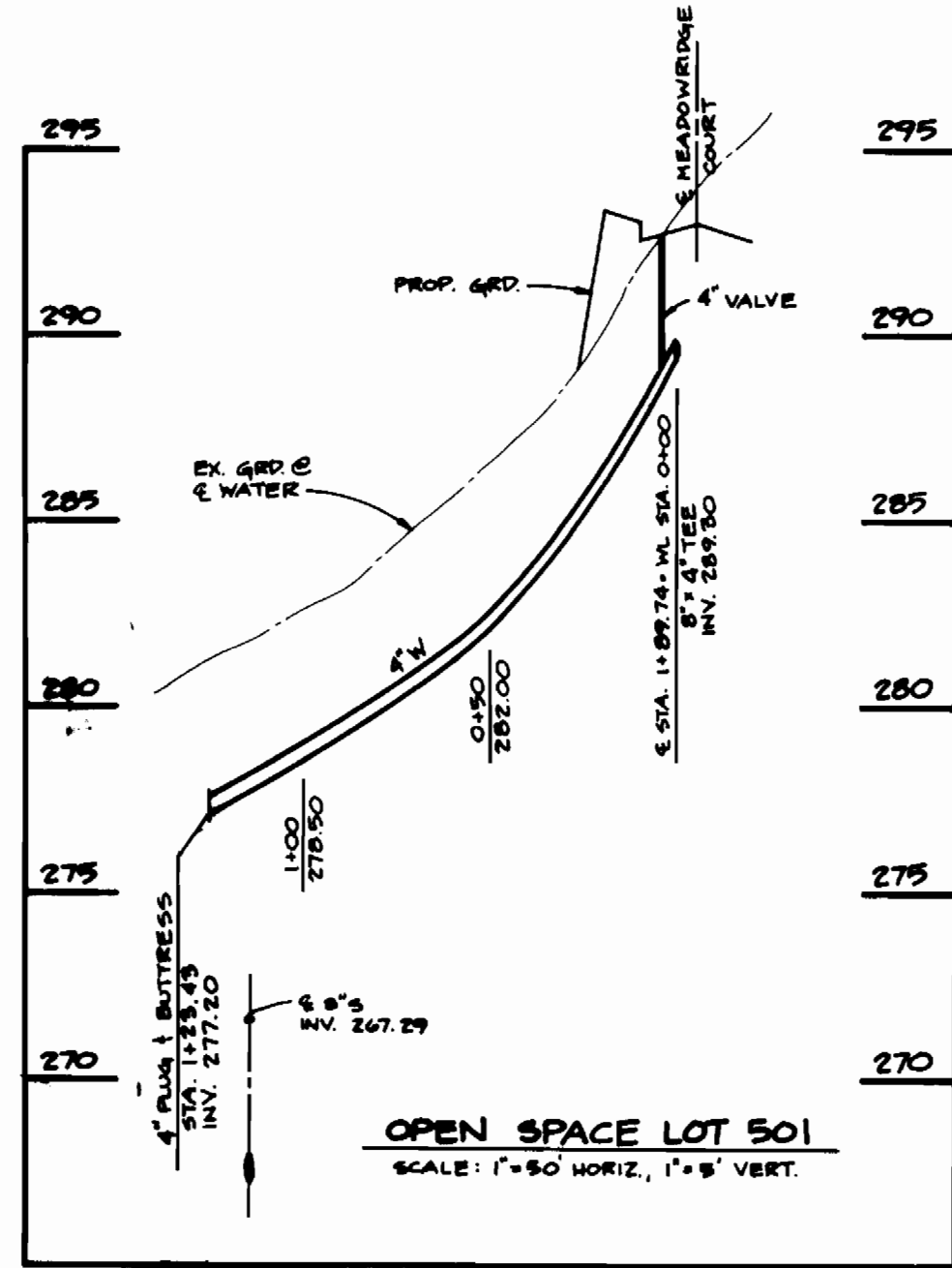
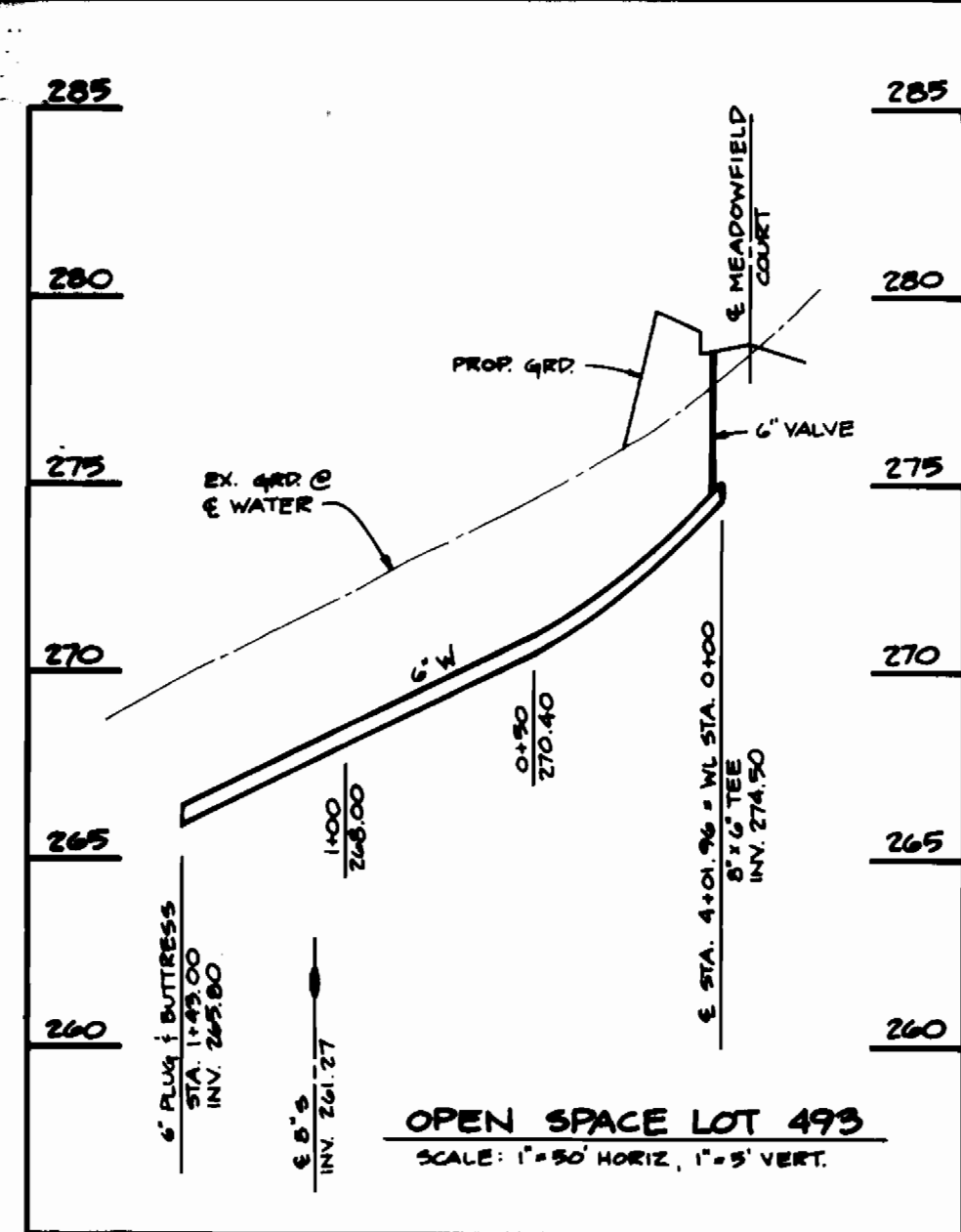
BLOCKS 10 & 16

WILLOWOOD
SECTION 3, AREA 2
LOTS 434 - 475 AND 490 - 521
ELECTION DISTRICT NO. 1

CONTRACT NO. 14-3303-D

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

SHEET
2 OF 3



PLAN
SCALE: 1" = 50'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

9/25/93
DIRECTOR OF PUBLIC WORKS

9/25/93
CHIEF, BUREAU OF ENGINEERING

9-17-93
CHIEF, BUREAU OF UTILITIES

9/25/93
CHIEF, LAND DEVELOPMENT DIVISION

TSA GROUP, INC.
planning • engineering • surveying
8480 Baltimore National Pike • Suite 418
Ellicott City, Maryland 21043

DES: MA/JME	DBT	REVISIONS	3/17/94
DRN: DBT		REVISIONS	
CHK: DRK		REVISIONS	
DATE: 1-4-93		REVISIONS	
9-10-93		REVISIONS	

PLAN AND PROFILES OF
WATER & SEWER MAINS

600 SCALE MAP NO. 37

WILLOWOOD
SECTION 3, AREA 2
LOTS 454-475 AND 490-521
ELECTION DISTRICT NO. 1

CONTRACT NO. 14-3303-D

SCALE AS SHOWN

SHEET 3 OF 3

AS-BUILT 10/13/94

3303 Willowood 2/5/93