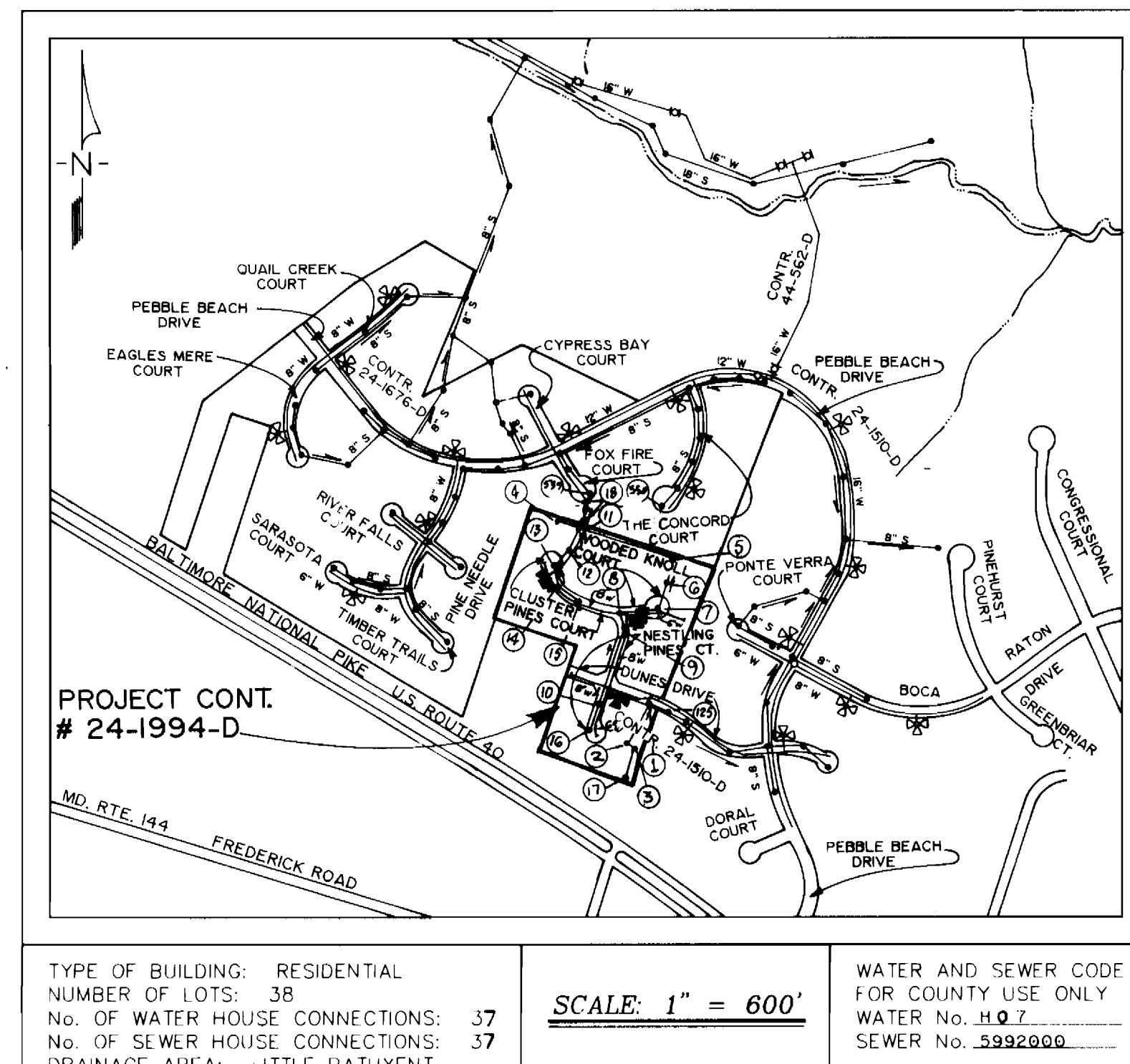


**GENERAL NOTES**

- 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. DATUM.
- 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, 1989 AMENDMENTS. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- ⊙ REPRESENTS APPROXIMATE LOCATION OF WHERE TEST PITS SHALL BE DUG BY CONTRACTOR TO VERIFY EXACT LOCATION/ELEVATION OF PROPOSED UTILITY CONNECTION. 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 WORK DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
  - STATE HIGHWAY ADMINISTRATION: 531-5533
  - BALTIMORE GAS & ELECTRIC CO.-CONTRACTOR SERVICES: 850-4620
  - BALTIMORE GAS & ELECTRIC CO. UNDERGROUND DAMAGE CONTROL: 859-9004
  - BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING: 298-9001
  - MISS UTILITY: 1-559-0100
  - COLONIAL PIPELINE COMPANY: 795-1390
  - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS: 992-2366
  - C & P TELEPHONE COMPANY: 1-800-257-7777
- 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.
- PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION & MAINTENANCE OPERATIONS.



TYPE OF BUILDING: RESIDENTIAL  
 NUMBER OF LOTS: 38  
 NO. OF WATER HOUSE CONNECTIONS: 37  
 NO. OF SEWER HOUSE CONNECTIONS: 37  
 DRAINAGE AREA: LITTLE PATUXENT

SCALE: 1" = 600'

WATER AND SEWER CODE FOR COUNTY USE ONLY  
 WATER No. H.Q.Z.  
 SEWER No. 5992000

QUANTITIES				
ITEM	EST'D	AS-BUILT	SUPPLIER	MANUFACTURED
8" S (PVC)	2197 L.F.	2239 L.F.	MIG SALES INC.	AMERICAN
8" S (DIP)	335 L.F.	327 L.F.	"	GRIFFIN
4" SHC	1065 L.F.	1076 L.F.	"	AMERICAN
MANHOLES	20 EA.	18 EA.	"	ATLANTIC
8" W (DIP)	1281 L.F.	1273 L.F.	"	GRIFFIN
6" W (DIP)	555 L.F.	557 L.F.	"	"
4" W (DIP)	35 L.F.	77 L.F.	"	"
8" x 6" REDUCER	2 EA.	2 EA.	"	"
FIRE HYDRANT	3 EA.	3 EA.	"	KENNEDY
3/4 WHC	167 L.F.	1243 L.F.	"	CAMBRIDGE LEE
8" VALVES	7 EA.	6 EA.	"	KENNEDY
6" VALVES	4 EA.	4 EA.	"	"
8" x 8" CROSS	1 EA.	1 EA.	"	GRIFFIN
8" x 8" TEE	2 EA.	2 EA.	"	"
8" x 6" TEE	3 EA.	3 EA.	"	"
22.5" BENDS (6")	3 EA.	3 EA.	"	"
45" BEND (8")	4 EA.	4 EA.	"	"
BLOW OFF VALVE	1 EA.	1 EA.	"	KENNEDY
6" x 4" TEE	1 EA.	1 EA.	"	GRIFFIN
4" V	1 EA.	1 EA.	"	KENNEDY
Air Release MH (V)	1 EA.	1 EA.	"	GRIFFIN
22.5" BEND (6")	1 EA.	1 EA.	"	"
11.25" BEND (6")	1 EA.	1 EA.	"	"
11.25" BEND (8")	1 EA.	1 EA.	"	"

**WATER NOTES**

- ALL WATER MAINS TO BE D.I.P. CLASS S2 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.
- ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH AWWA SPECIFICATION C-153: DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH 12-INCH FOR WATER AND OTHER LIQUIDS.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTINGS, 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 OF SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.

**SEWER NOTES**

- 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., 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.

CONTRACT NO. 24-1994-D  
**THE CLUSTERS**  
 LOTS 1 - 38  
 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 219 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 F-90-93, SDP-90-125

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND METEOROLOGICAL REQUIREMENTS.

*Janet M. Nelson* / *JMN* 3/25/90  
 U.S. SOIL CONSERVATION SERVICE DATE

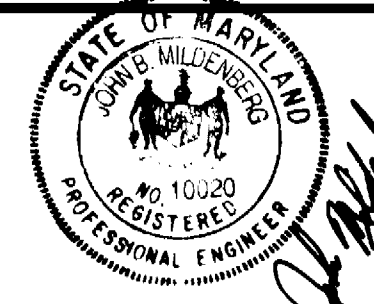
THIS DEVELOPMENT PLAN IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: *John R. Robertson* 3/12/90  
 HOWARD SOIL CONSERVATION DISTRICT DATE

PLAN REFERENCE NUMBERS	
S 89-55	SDP-90-125
P 89-82	
F 90-93	

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
*Janet M. Nelson* 3/12/90  
 DIRECTOR OF PUBLIC WORKS DATE  
*Robert S. Swain* 3-12-90  
 CHIEF, BUREAU OF UTILITIES DATE

**MILDENBERG, MOCHI & ASSOCIATES, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 3300 North Ridge Road, Suite 225, Ellicott City, Maryland 21043-3350  
 (301) 461-0078 D.C. Metro No. (301) 621-5768



DES.	CAM	CAM	NO.	REVISION	DATE
	CAM	5	1	DELETE WATERMAIN TO FOX FIRE CT AND RE-align SEWER	11/1/90
	CAM	4	1	REVISE SEWER ACROSS SWIM POND/PIP W/IS IN EASEMENT	9/16/90
	CAM	3	1	REVISE WATERMAIN STATIONS & DEW LETTER 01/16/90	3/16/90
	CAM	2	1	REVISED SEWER BELOW LOT #5 & LOWERED SEWER 11'-13'	2/21/90
	CAM	1	1	REVISE PER DEP 1/20/90 - SUBMIT ORIGINALS	1/5/90
	CAM	0	1	REVISIONS PER DEP 12/14/89 - RESUBMITTED	11/9/89
	CAM	0	1	1 <sup>ST</sup> SUBMISSION TO DPW	

TITLE SHEET

CONTRACT NO. 24-1994-D  
 THE CLUSTERS  
 LOTS 1 - 38  
 WATER AND SEWER MAIN EXTENSION  
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET 1 OF 4

Owner, Developer

Pedicon Project Management Corp.  
c/o Land Corp. & Development Inc.  
901 Market Street  
Ellicott City, Maryland 21041  
(301) 481-1000

Engineer

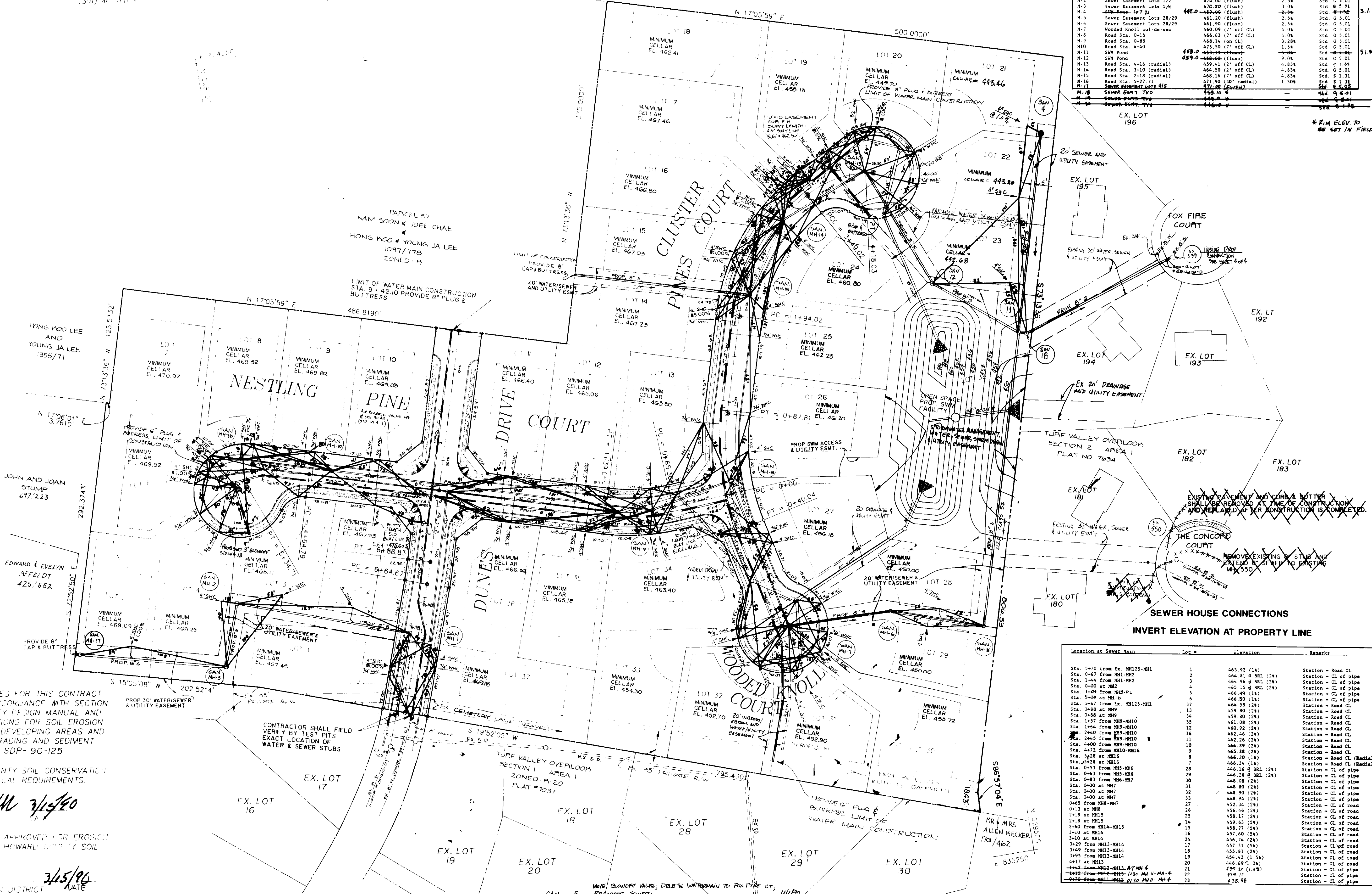
Mildenberg, Mochi & Associates, Inc.  
3300 N. Ridge Road, Suite 215  
Ellicott City, Maryland 21041  
(301) 481-1000

BENCHMARKS  
HOWARD COUNTY BM NO. 3440001  
N 534735.478  
E 836226.217  
ELEV. 486.841  
HOWARD COUNTY BM NO. 3440002  
N 533513.000  
E 837983.249  
ELEV. 482.304

SANITARY MANHOLE TABULATION

No.	Location	Rim	Slope (around)	Remarks
M-1	Road Sta. 6+10	473.80 (9' off CL)	1.0%	Std. C 5.01
M-2	Sewer Easement Lots 1/2	474.00 (flush)	2.5%	Std. C 5.01
M-3	Sewer Easement Lots 1/4	470.20 (flush)	3.0%	Std. C 5.01
M-4	SWM Pond - LOT 21	482.0 - 488.00 (flush)	2.5%	Std. C 5.01
M-5	Sewer Easement Lots 28/29	461.30 (flush)	2.5%	Std. C 5.01
M-6	Sewer Easement Lots 28/29	461.90 (flush)	2.5%	Std. C 5.01
M-7	Wooded Knoll cul-de-sac	460.09 (7' off CL)	4.0%	Std. C 5.01
M-8	Road Sta. 0+15	466.83 (2' off CL)	4.0%	Std. C 5.01
M-9	Road Sta. 0+88	468.34 (on CL)	3.28%	Std. C 5.01
M-10	Road Sta. 4+40	473.50 (7' off CL)	1.5%	Std. C 5.01
M-11	SWM Pond	483.0 - 488.00 (flush)	9.0%	Std. C 5.01
M-12	SWM Pond	489.0 - 488.00 (flush)	9.0%	Std. C 5.01
M-13	Road Sta. 4+16 (radial)	459.41 (2' off CL)	4.83%	Std. C 5.01
M-14	Road Sta. 3+10 (radial)	464.50 (2' off CL)	4.83%	Std. C 5.01
M-15	Road Sta. 2+18 (radial)	468.16 (7' off CL)	4.83%	Std. C 5.01
M-16	Road Sta. 5+27.71	471.90 (30' radial)	1.50%	Std. C 5.01
M-17	Sewer Easement Lots 4/5	471.0 (flush)	4.0%	Std. C 5.01
M-18	Sewer Easement T.Y.O.	458.70	4.0%	Std. C 5.01
M-19	Sewer Easement T.Y.O.	449.0	4.0%	Std. C 5.01
M-20	Sewer Easement T.Y.O.	446.0	4.0%	Std. C 5.01

\* RIM ELEV. TO BE SET IN FIELD



SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 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 P-90-93, SDP-90-125

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

James M. Hillman JMH 3/15/90  
UP. CONSERVATION DISTRICT

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

Amel Robertson 3/15/90  
HOWARD SOIL CONSERVATION DISTRICT

Location at Sewer Main	Lot #	Elevation	Remarks
Sta. 5+70 from Ex. MH125-MH1	1	463.92 (14)	Station - Road CL
Sta. 0+17 from MH1-MH2	2	464.81 @ 3RL (24)	Station - CL of pipe
Sta. 1+44 from MH1-MH2	3	464.96 @ 3RL (24)	Station - CL of pipe
Sta. 0+00 at MH2	4	465.13 @ 3RL (24)	Station - CL of pipe
Sta. 1+04 from 1025-PL	5	465.49 (18)	Station - CL of pipe
Sta. 2+28 at MH16	6	466.80 (18)	Station - CL of pipe
Sta. 3+87 from Ex. MH125-MH1	13	466.58 (24)	Station - Road CL
Sta. 0+88 at MH9	37	459.80 (24)	Station - Road CL
Sta. 0+88 at MH9	34	459.80 (24)	Station - Road CL
Sta. 1+57 from MH9-MH10	35	461.08 (24)	Station - Road CL
Sta. 1+64 from MH9-MH10	32	460.92 (24)	Station - Road CL
Sta. 2+40 from MH9-MH10	36	462.44 (24)	Station - Road CL
Sta. 2+45 from MH9-MH10	11	462.26 (24)	Station - Road CL
Sta. 4+00 from MH9-MH10	10	464.89 (24)	Station - Road CL
Sta. 4+72 from MH10-MH16	9	465.88 (24)	Station - Road CL
Sta. 7+28 at MH16	8	466.20 (18)	Station - Road CL
Sta. 4+12 at MH16	2	466.34 (18)	Station - Road CL (Radial)
Sta. 0+53 from MH15-MH6	2	466.16 @ 3RL (24)	Station - CL of pipe
Sta. 0+83 from MH15-MH6	29	466.26 @ 3RL (24)	Station - CL of pipe
Sta. 0+83 from MH15-MH6	30	466.08 (24)	Station - CL of pipe
Sta. 0+00 at MH7	31	466.80 (24)	Station - CL of pipe
Sta. 0+00 at MH7	32	468.90 (24)	Station - CL of pipe
Sta. 0+00 at MH7	33	464.94 (24)	Station - CL of pipe
0+45 from MH8-MH7	27	452.34 (24)	Station - CL of pipe
0+13 at MH8	25	456.44 (24)	Station - CL of pipe
2+18 at MH15	24	458.77 (24)	Station - CL of pipe
2+18 at MH15	26	458.63 (24)	Station - CL of pipe
2+60 from MH14-MH15	15	458.77 (24)	Station - CL of pipe
3+10 at MH14	16	457.60 (24)	Station - CL of pipe
3+10 at MH14	24	458.74 (24)	Station - CL of pipe
3+29 from MH13-MH14	17	457.31 (24)	Station - CL of pipe
3+69 from MH13-MH14	18	455.81 (24)	Station - CL of pipe
3+95 from MH13-MH14	19	456.89 (24)	Station - CL of pipe
4+17 at MH13	20	456.43 (1.5%)	Station - CL of pipe
4+42 from MH12-MH13 AT MH 4	21	446.89 (1.5%)	Station - CL of pipe
4+42 from MH12-MH13 AT MH 4	22	459.72	Station - CL of pipe
4+42 from MH12-MH13 AT MH 4	23	458.58	Station - CL of pipe

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

James M. Hillman 3/15/90  
DIRECTOR OF PUBLIC WORKS

Robert B. Bunn 3-12-90  
CHIEF, BUREAU OF UTILITIES

MILDENBERG, MOCHI & ASSOCIATES, INC.  
ENGINEERS • SURVEYORS • PLANNERS  
3300 North Ridge Road, Suite 215, Ellicott City, Maryland 21041-2150  
(301) 481-1000 F.D. Metro No. 301-621-5168

STATE OF MARYLAND  
REGISTERED PROFESSIONAL ENGINEER  
No. 10020  
MILDENBERG, MOCHI & ASSOCIATES, INC.

CAM 5 RELOCATE SEWER 11/1/90

CAM 4 REVISE SEWER ACROSS SWM POND/PROP. PITS IN EASEMENT 9/1/90

CAM 3 REVISE WATER MAIN STATIONS 1" DEEP LETTERS 8/16/90

CAM 2 REVISE PER DPW 11/26/90 SUBMIT ORIGINALS 2/21/90

CAM 1 REVISIONS PER DPW 12/4/89 - Resubmitted 1/5/90

CAM 0 1<sup>ST</sup> SUBMISSION TO DPW 11/9/89

DATE 11/9/89

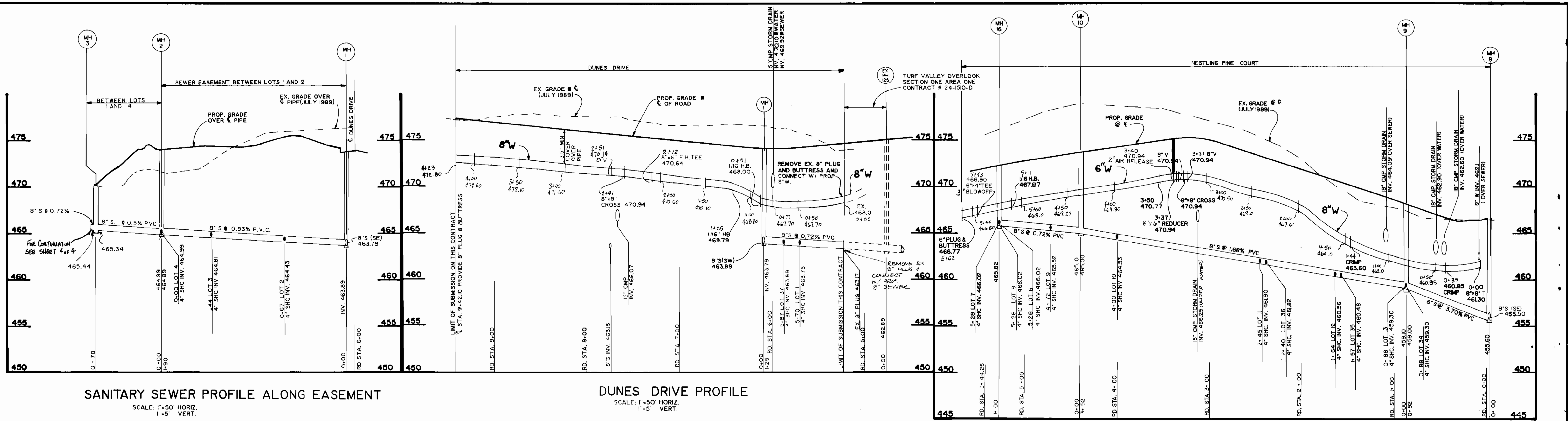
PLAN  
WATER AND SEWER MAIN EXTENSION

THE CLUSTERS  
LOTS 1-38  
CONTRACT NO. 24-1974-D  
ELECTION DISTRICT No. 2  
HOWARD COUNTY, MARYLAND

SCALE  
1" = 50'

SHEET  
2 OF 4

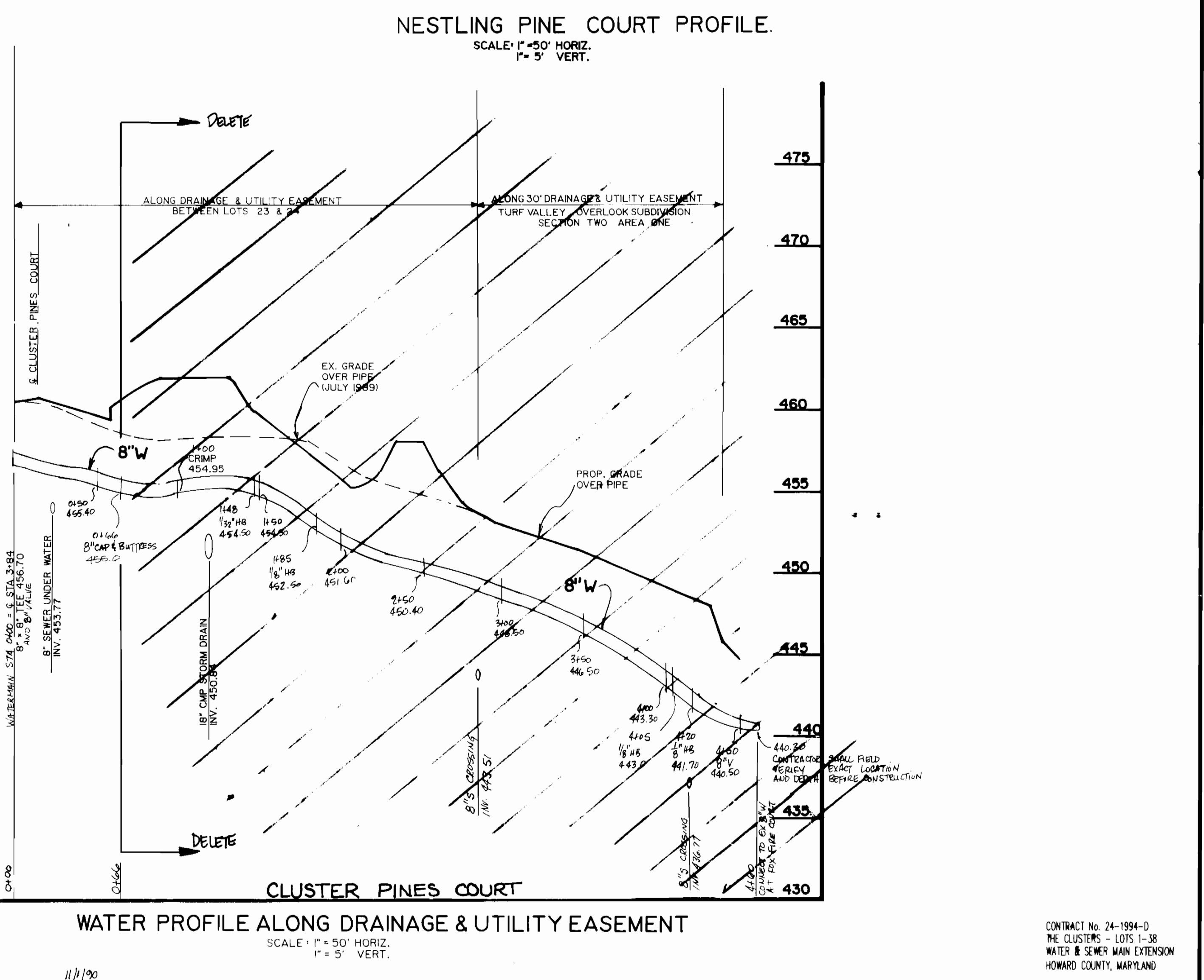
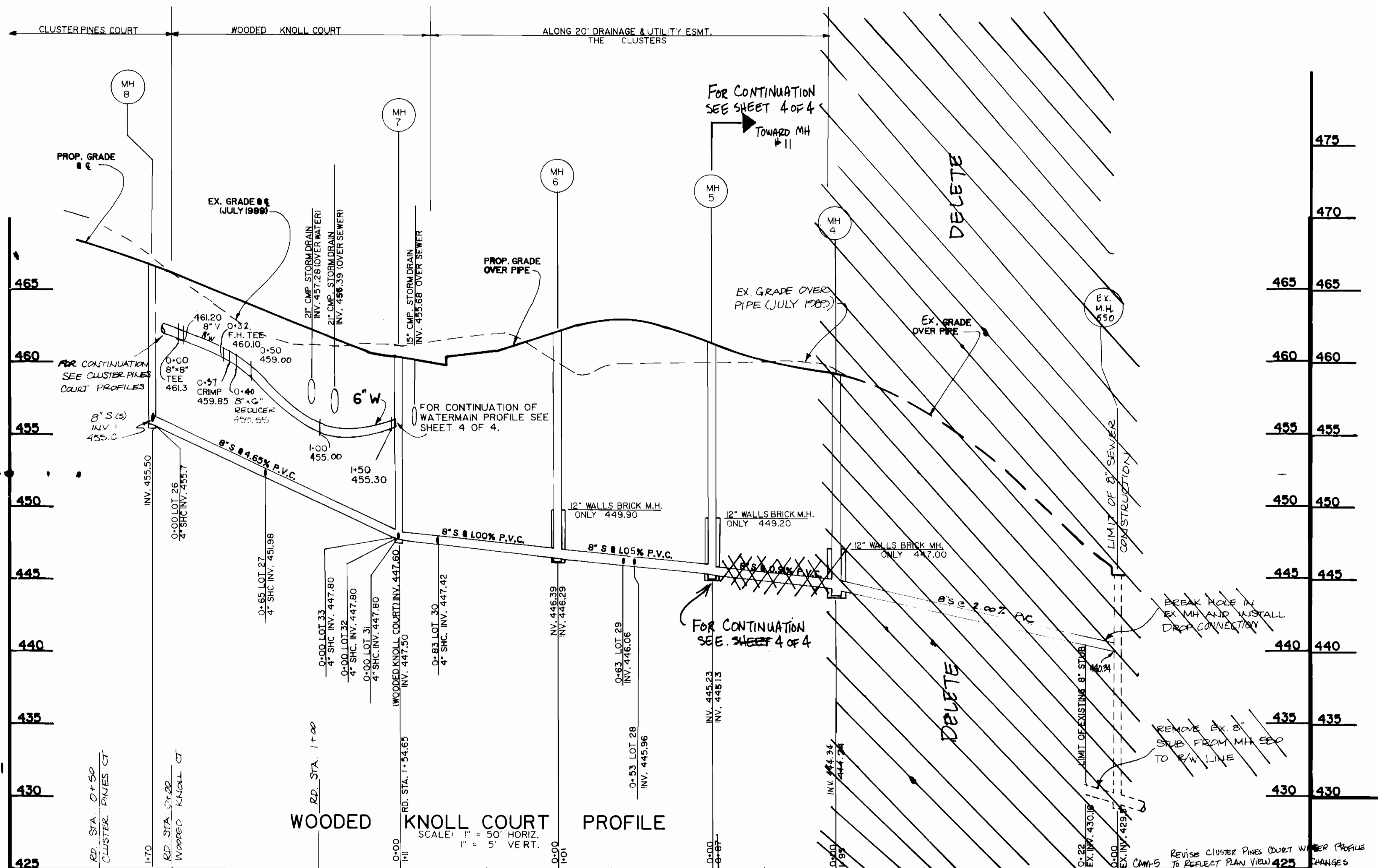
AS-BUILT WATER & SEWER 1-16-91



**SANITARY SEWER PROFILE ALONG EASEMENT**  
SCALE: 1" = 50' HORIZ.  
1" = 5' VERT.

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

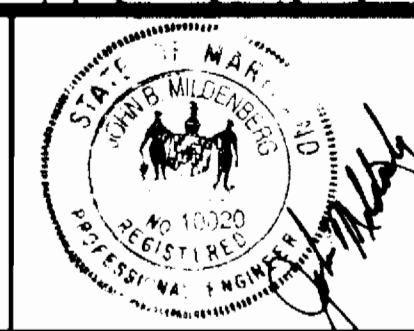
**NESTLING PINE COURT PROFILE.**  
SCALE: 1" = 50' HORIZ.  
1" = 5' VERT.



**WATER PROFILE ALONG DRAINAGE & UTILITY EASEMENT**  
SCALE: 1" = 50' HORIZ.  
1" = 5' VERT.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
James P. ... 3/1/90  
Director of Public Works  
Date

MILDENBERG,  
MOCH & ASSOCIATES, INC.  
ENGINEERS • SURVEYORS • PLANNERS  
3300 North Ridge Road, Suite 235, Ellicott City, Maryland 21043-3350  
(301) 461-0078 D.C. Metro No. (301) 621-5768



DES:	CAM	4	REVISE SEWER ACROSS SWAMP POND / PIP W/S IN EASEMENT	9/15/79
DRN:	CAM	3	REVISE WATER MAIN STATIONS & DRAW LETTER COMMENTS 8/11/79	3/14/80
CHK:	MM	2	REVISED SEWER BEHIND LOT #6 & LOWERED SEWER 11-13	2/10/80
PROJ. #	89058-00	1	REVISIONS PER DAW DATED 12/4/80 - RESUBMITTED	11/9/89
CAM	0	1	1 <sup>ST</sup> SUBMISSION TO DPW	11/9/89
DATE:	11/9/89	BY	NO	REVISION

WATER AND SEWER  
EXTENSION  
PROFILES  
DATE: 6/01/89 SCALE MAP NO. 16117 BLOCK NO.

THE CLUSTERS  
LOTS 1-38  
CONTRACT No. 24-1994-D  
ELECTION DISTRICT No. 2  
HOWARD COUNTY, MARYLAND  
SCALE AS SHOWN  
SHEET 3 OF 4

CONTRACT No. 24-1994-D  
THE CLUSTERS - LOTS 1-38  
WATER & SEWER MAIN EXTENSION  
HOWARD COUNTY, MARYLAND

