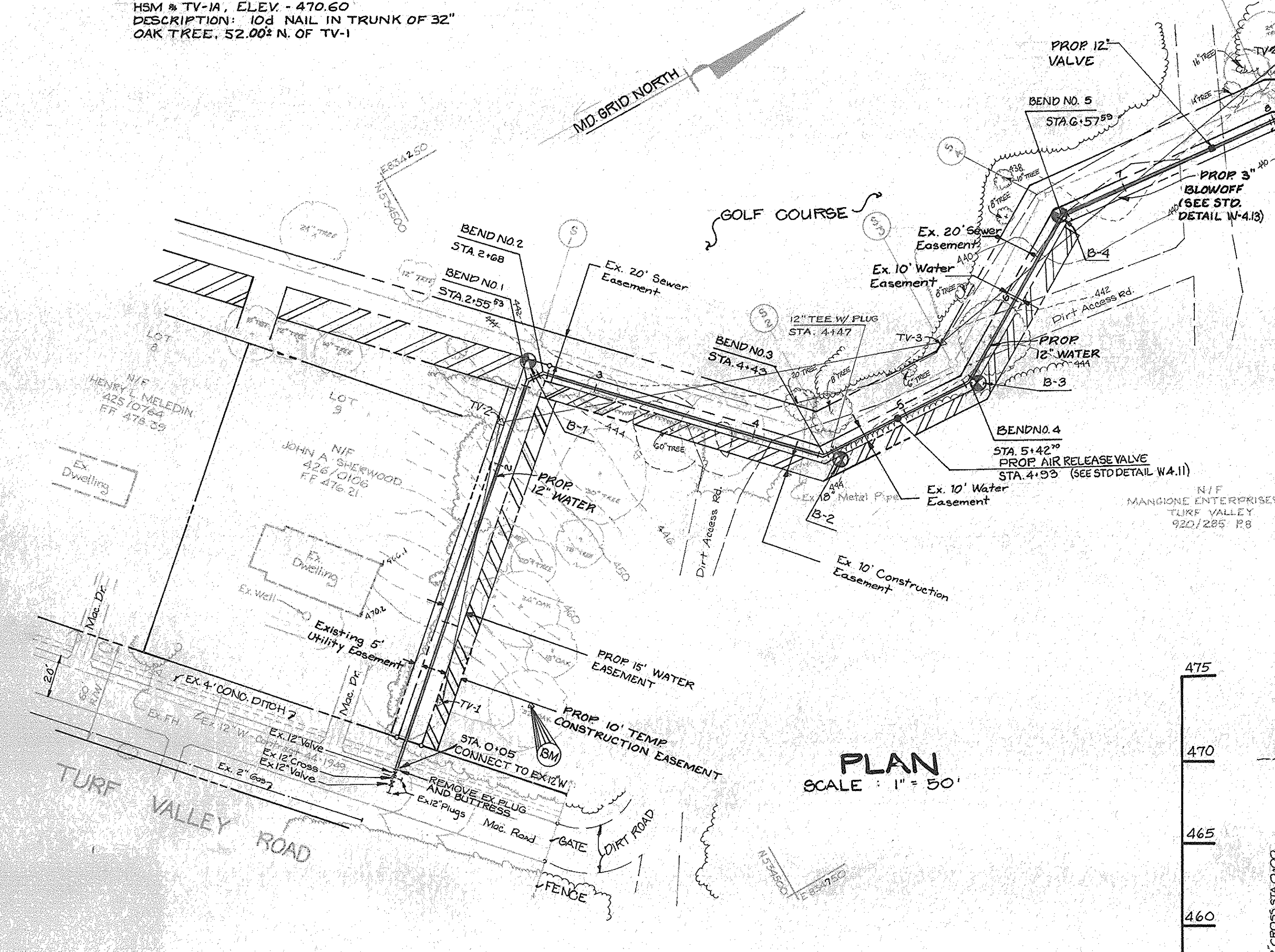


**BENCHMARKS**

HOWARD CO # 3440002, ELEV - 462.306  
 DESCRIPTION: CONC. MONUMENT @  
 SURF. ON SLOPE, 3000' W OF BETHANY LA.  
 14' S. OF MAC. SHOULDER OF E. BOUND  
 LANE 485' E. OF E. END OF GUARD RAIL  
 @ W. END OF 3RD. CUT.  
 HSM # TV-1A, ELEV. - 470.60  
 DESCRIPTION: 10d NAIL IN TRUNK OF 32"  
 OAK TREE, 52.00' N. OF TV-1

N/F  
 MANGIONE ENTERPRISES OF  
 TURF VALLEY  
 920/285 P 8



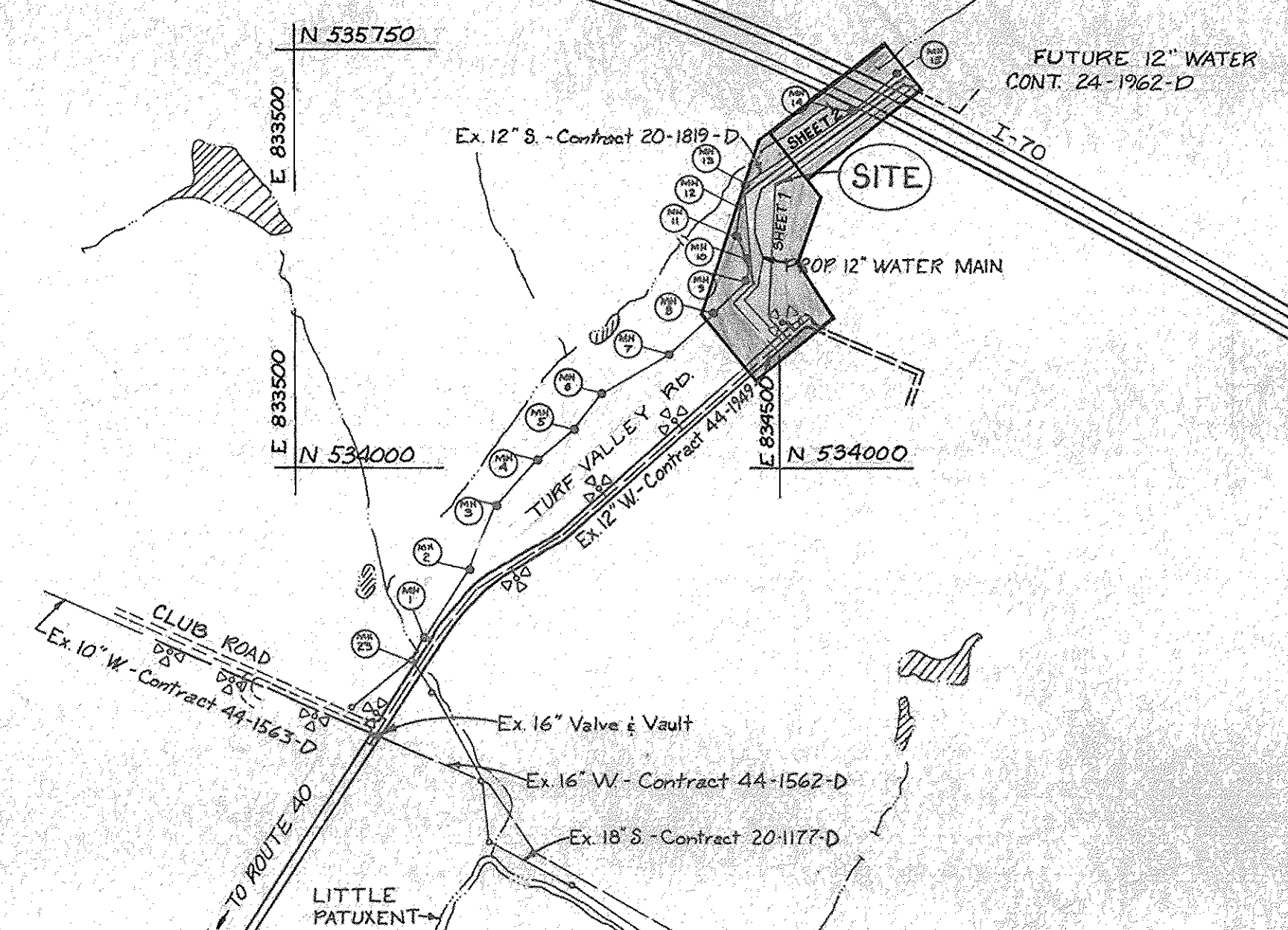
**PLAN**  
 SCALE: 1" = 50'

**STAKEOUT TABLE**

BEND NO.	COORDINATES	
1	N 534513.586	E 834379.633
2	N 534526.037	E 834400.414
3	N 534646.196	E 834527.641
4	N 534745.739	E 834533.234
5	N 534844.430	E 834474.418
6	N 534986.500	E 834488.625
7	N 535050.818	E 834523.540
8	N 535460.370	E 835092.084
9	N 535456.284	E 835117.554

**HORIZONTAL BENDS**

BEND NO.	NO. OF FITTINGS	SIZE OF FITTINGS	JOINT DEFLECTION OUT	
1	1	1/2 BEND	-	-
2	1	"	-	1.57°
3	1	"	0.80°	0.80°
4	1	1/4 BEND	2@ 2.88°	2@ 2.88°
5	1	1/2 "	2.63°	2.63°
6	1	1/4 "	0.28°	-
7	1	1/4 "	1.68°	1.68°
8	1	1/2 "	-	-
9	1	1/4 "	1.60°	1.60°



**VICINITY MAP**  
 SCALE: 1" = 600'

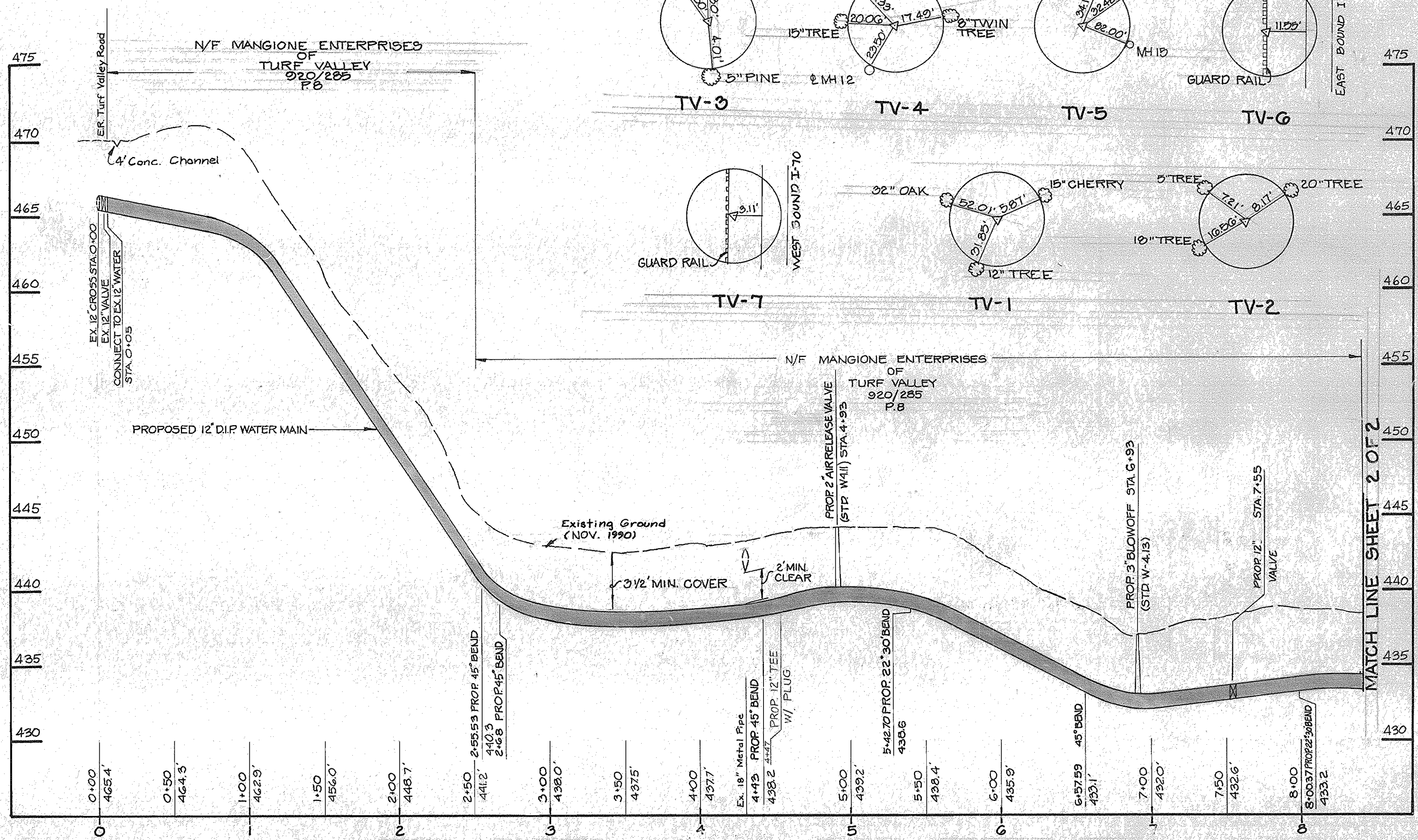
WATER CODE FOR COUNTY USE ONLY  
 WATER NO. H054H07

TYPE OF BUILDINGS: RESIDENTIAL  
 NO. OF PARCELS: 0  
 NO. OF WATER HOUSE CONNECTIONS: 0  
 DRAINAGE AREA: LITTLE PATUXENT

- 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 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 - 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 - 1-800-257-7777
    - Colonial Pipeline Co. - 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 a 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 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 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 hydrants shall be compacted in accordance with Section 1003 of the Standard Specification.
  - The contractor shall not operate any water main valves on the existing water system.
  - Soil borings are depicted with the symbol [ ] . Results of boring tests are noted on the specifications.

**QUANTITIES**

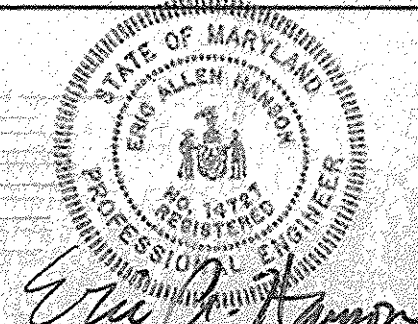
ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL/SUPPLIER
12" D.I.P.	LF	1265		
3" BLOWOFF	EA.	1		
2" AIR RELEASE VALVE	EA.	1		
12" VALVE	EA.	1		
36" STEEL ENCASUREMENT	LF	340		



**PROFILE - 12" WATER MAIN**  
 SCALE: HORIZ. 1" = 50', VERT. 1" = 5'

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

HARRIS, SMARIGA, MATZ, INC.  
 104 CHURCH LANE, SUITE 100  
 PIKESVILLE, MARYLAND 21208  
 (301) 486-1511



DES: T.J.L.  
 DRN: J.O.L.  
 CHK:  
 DATE: 3-20-91

T.J.L. Change Casing to 36" & Add 30 L.F. 9-6-91  
 BY NO. REVISION DATE

12" WATER MAIN EXTENSION  
 CONTRACT NO.: 44-3030

TURF VALLEY WATER MAIN  
 PHASE II  
 ELECTION DISTRICT NO.: 2  
 HOWARD COUNTY, MARYLAND  
 CAPITAL PROJECT W-8100

SCALE AS SHOWN  
 SHEET 1 OF 2

MATCH LINE SEE SHEET 1 OF 2

**ENGINEER'S CERTIFICATE**  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Gina O. Hanson*  
 SIGNATURE OF ENGINEER

3-21-91  
 DATE

**DEVELOPER'S CERTIFICATE**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF THE SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

*By Don Lien*  
 DATE: 3-21-91

HOWARD COUNTY  
 DEPARTMENT OF PUBLIC WORKS

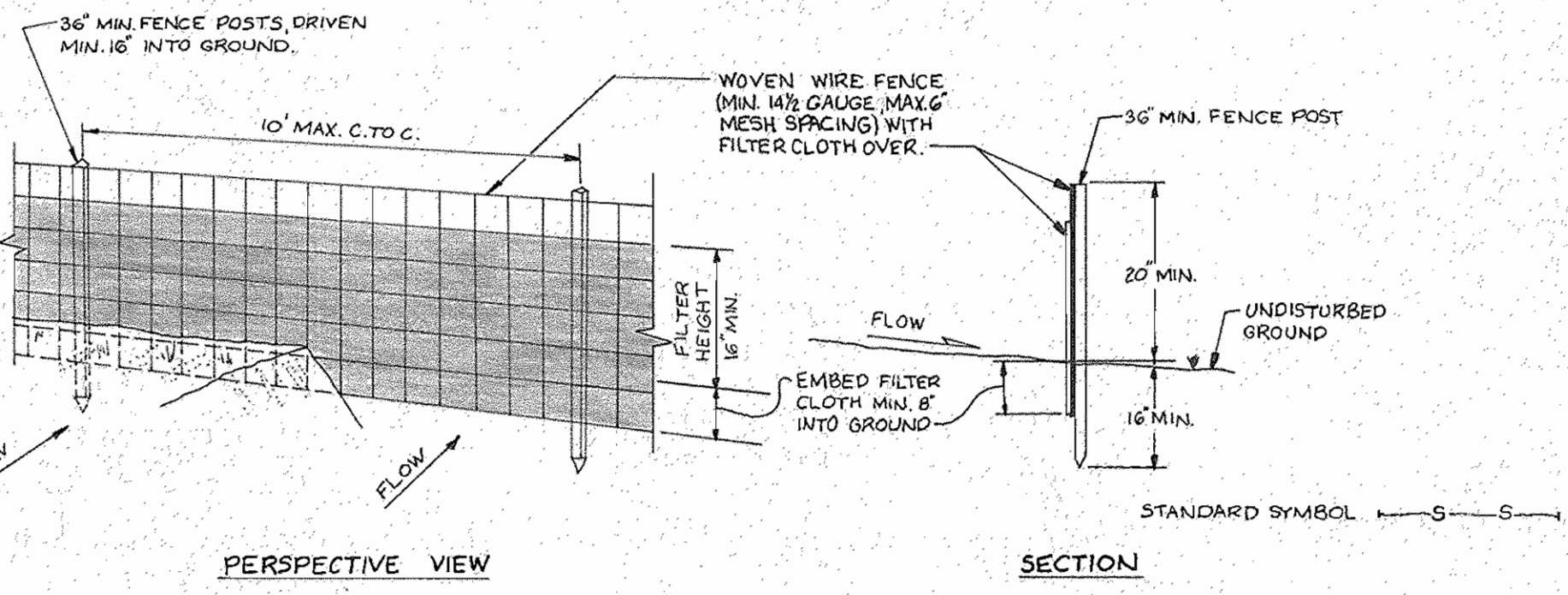
**SEQUENCE OF CONSTRUCTION**

- Contractor shall obtain a grading permit.
- Install sediment and erosion control devices according to typical silt fence detail on plan.
- Clear and grub right-of-way and provide temporary stabilization for the construction of water main.
- Install silt fence daily along the low side of the limits of construction. This silt fence shall be removed as construction proceeds upstream when disturbed area has been stabilized and with approval of the Howard County Sediment Control Inspector.
- Complete construction of water main. Length of open trench shall be kept to the minimum and shall not exceed length indicated within the Howard County standard and specifications.
- Follow all conditions as stated under **CONDITIONS & MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS**.
- Restabilize all disturbed areas in accordance with permanent seeding notes (see section 210 of the Howard County standards and specifications).
- Upon approval of the Howard County Sediment Control Inspector, remove all sediment control devices.

**SEDIMENT CONTROL NOTES**

- A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction.
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within:
  - 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1.
  - 14 days as to all other disturbed or graded areas on the project site.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (sec. 51), sod (sec. 54), temporary seeding (sec. 50) and mulching (sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:
 

Total Area of Site	101 Acres
Area Disturbed	99 Acres
Area to be roofed or paved	0 Acres
Area to be vegetatively stabilized	.99 Acres
Total Cut	700 Cu. yds.
Total Fill	700 Cu. yds.
Offsite waste/borrow area location	N/A
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment controls must be provided, if deemed necessary by the Howard County DPW sediment control inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the Inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the Inspection agency is made.



**SILT FENCE DETAIL**  
(NOT TO SCALE)

**CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**

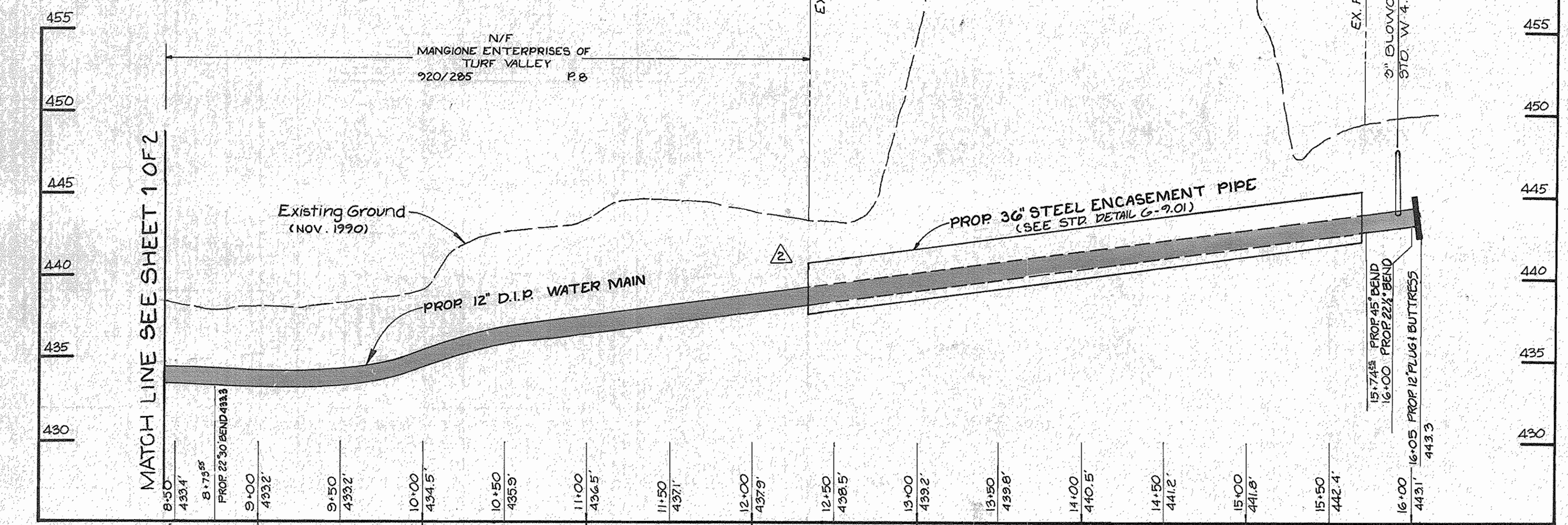
- Woven wire fence to be fastened securely to fence posts with wire ties or staples.
  - Filter cloth to be fastened securely to woven wire fence with ties spaced every 24" at top and mid-section.
  - When two sections of filter cloth adjoin each other they shall be overlapped by six inches and folded.
  - Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence.
- Posts: Steel either T or U type or 2 inch hardwood.  
 Fence: Woven wire, 1 1/2 gauge 6 in. max. mesh opening.  
 Filter Cloth: Filter X, Mirafi 100X, Stabilinka T140N, or approved equal.  
 Prefabricated Unit: Geofab, Envirofence or approved equal.

**CONDITIONS & MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS**

- Remove excess fill or construction material or debris to an upland disposal area and properly maintain.
- Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of the nontidal wetland.
- If backfill is obtain from other than the originally excavated material, use clean material free of waste metal products, unsightly debris, toxic material or any other deleterious substance.
- Place heavy equipment on mats or suitably design the equipment to prevent damage to the nontidal wetlands.
- Rectify any nontidal wetlands temporarily impacted by any proposed repair & maintenance activity or installation of the utility line. All temporary fills shall be removed in their entirety on or before the completion of construction.
- Repair and maintain any serviceable structure or fill so there is no permanent loss of nontidal wetlands in excess of nontidal wetlands lost under the original structure or fill.
- After installation has been completed, make post construction grades and elevations of nontidal wetlands the same as the original grades and elevations.
- To protect important aquatic species, in-stream work is prohibited as determined by the classification of the stream as follows:
  - Class I Waters: In-stream work may not be conducted during the period March 1 through June 15 inclusive, during any year.

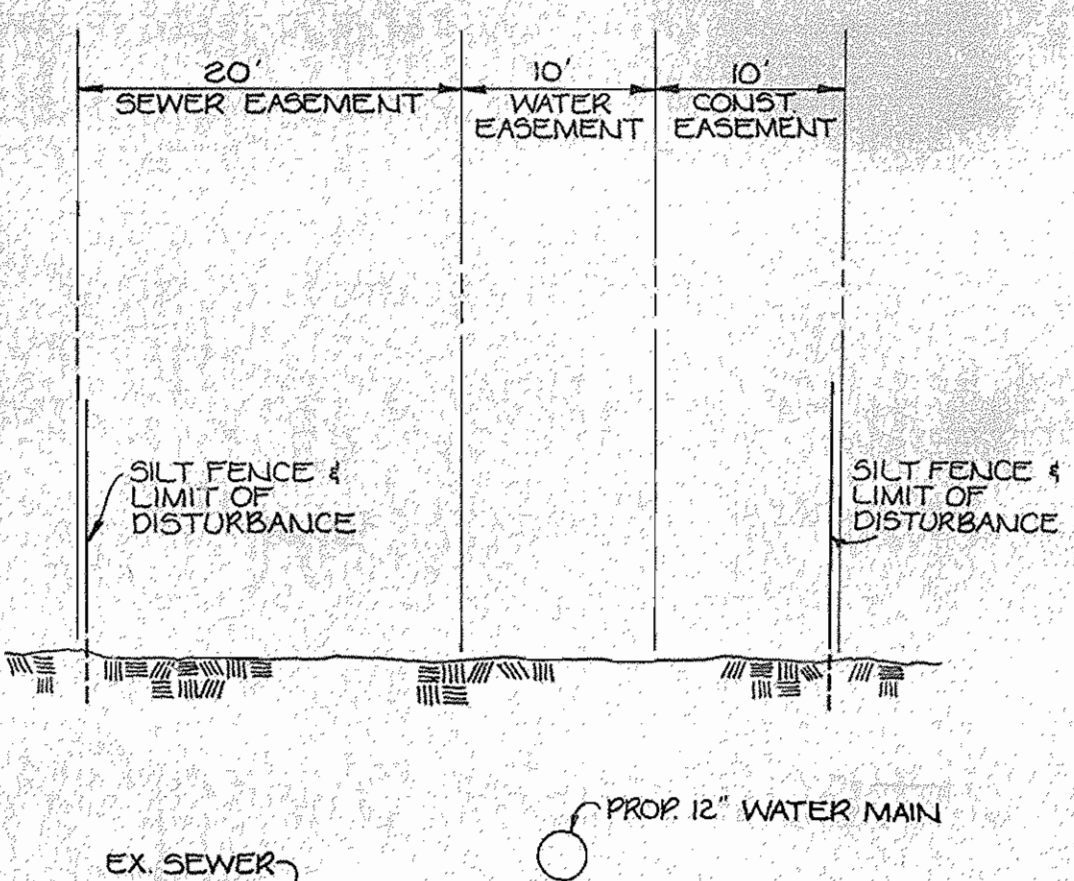
**SPECIAL NOTE TO CONTRACTOR**

- Extreme care must be taken to contain all construction activities within the limits of easements & right-of-way provided. Golf course grounds lie adjacent to the project. Any damage to the grounds will be repaired at the expense of the contractor. Limits of Disturbance will be within the water and sewer easements only. Areas disturbed in the wetlands and buffers will be restored to their original contours, drainage and vegetation.



**PROFILE - 12" WATER MAIN**  
SCALE: HORIZ. 1"=50' VERT. 1"=5'

RESTORATION SCHEDULE		
LOCATION	DISTANCE	TYPE
Turf Valley Rd.	15'	Biomimous Paving
Turf Valley Rd.	4'	Concrete Channel
Sta. 0+25 to Sta. 12+50	1225'	Trench 2' fill, Seed, Mulch
Sta. 15+70 to Sta. 16+05	35'	" " " "



**TYPICAL SILT FENCE DETAIL**  
SCALE: 1"=10'-0"

**PERMANENT SEEDING NOTES**

- Seeded Preparation:** Loosen upper 3 inches of soil by raking, discing or other acceptable means before seeding.
- Soil Amendments:** Use one of the following schedules:
- Preferred** - Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq-ft) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq-ft) before seeding. Harrow or disc into upper 3 inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 urea-form fertilizer (9 lbs./1000 sq-ft).
  - Acceptable** - Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq-ft) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs./1000 sq-ft) before seeding. Harrow or disc into upper 3 inches of soil.
- Seeding** - For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs./1000 sq-ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (.05 lbs./1000 sq-ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option 1 - 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2 - Use sod. Option 3 - Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.
- Mulching** - Apply 15 to 2 tons per acre (70 to 90 lbs./1000 sq-ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or wood cellulose binders.
- Maintenance** - Inspect all seeded areas and make needed repairs, replacements and reseeds.

**TYPICAL SILT FENCE DETAIL NOTE**

In Areas of construction easement, silt fence shall be placed on edge of ex. water or sewer easement.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT.

*James M. Nelson (CS)* 3/22/91  
 SOIL CONSERVATION SERVICE DATE

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

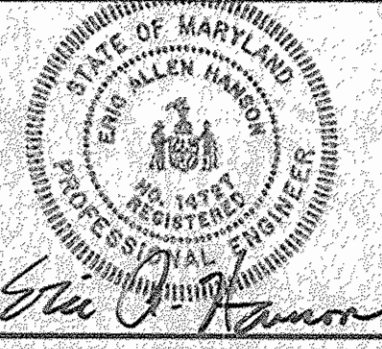
*Jeffrey W. Shiner* 3/22/91  
 HOWARD COUNTY DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Robert M. Bennett* 3-25-91  
 CHIEF, BUREAU OF UTILITIES DATE

*Gina O. Hanson* 3-25-91  
 CHIEF, BUREAU OF ENGINEERING DATE

HARRIS, SMARIGA, MATZ, INC.  
 104 CHURCH LANE, SUITE 100  
 PIKESVILLE, MARYLAND 21208  
 (301)-488-1511



DES:	TJL				
DRN:	JCL				
CHK:	TJL	Change Casing to 36" & Add 30 L.F.	9/6/91		
	TJL	PER 7/6/91 MDE & H.C. COMMENTS	7/23/91		
DATE:	3-20-91				
BY:	NO.	REVISION	DATE		

**12" WATER MAIN EXTENSION**  
 CONTRACT NO.: 44-3030

600' SCALE MAP NO. 16 BLOCK NO. 12

**TURF VALLEY WATER MAIN**  
 PHASE II  
 ELECTION DISTRICT NO. 2  
 HOWARD COUNTY, MARYLAND  
 CAPITAL PROJECT W-8166

SCALE AS SHOWN  
 SHEET 2 OF 2