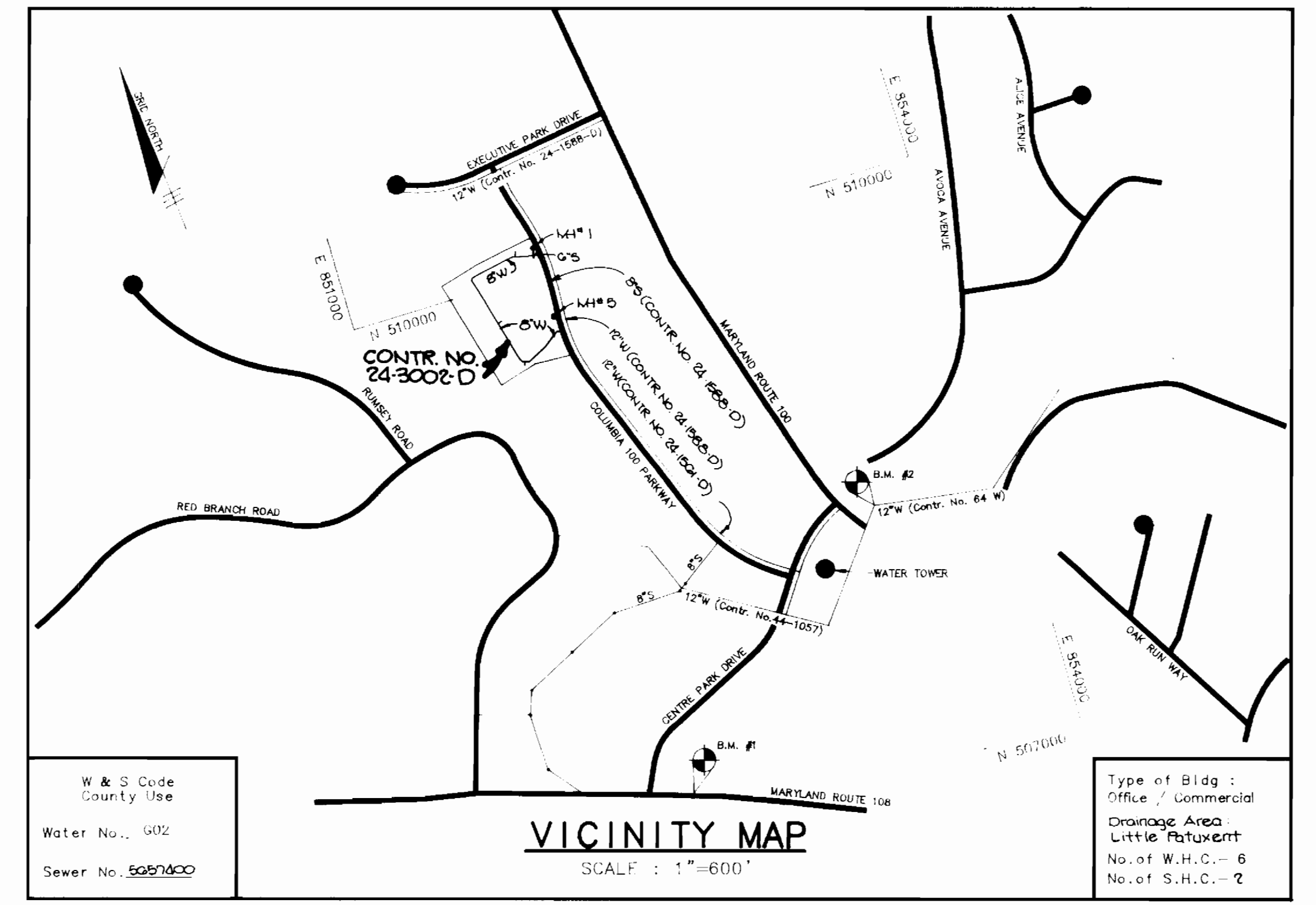


BENCH MARKS

B.M. #1
 Ho.Co. 274-1010-K
 3/4" Redlar 0.4' below the surface, 34.7' south of curb on Maryland Route 108 175'± East of Phelps Luck Drive.

B.M. #2
 Nail in stone at property corner
 Columbia 100 - Office Research Park
 Elev. 422.51



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 \odot 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, 1989 Amendments, 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 \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 verified by the contractor to his own personal satisfaction. Any damage to existing facilities due to the contractor's negligence shall be repaired at the contractor's expense.
- The 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 and Electric Co. - Contractor Services	850-4620
Baltimore Gas and Electric Co. - Underground Damage Control	859-9004
Baltimore Gas and Electric Co. - Trouble Shooting	298-9001
Mesa Utility	1-559-0100
Colonial Pipeline Co.	795-1390
Bureau of Utilities, Ho.Co. Department of Public Works	992-2366
G & P Telephone Co.	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.
- The 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 elevation shown on the drawings. All fire hydrants shall be strapped and buttressed with concrete in accordance with the Standard Details. Soil around the fire hydrant shall be compacted in accordance with Section 1003 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 the plans or in the Specifications.
- All service clamps are to have stainless straps.
- All D.I.P. fittings shall be in accordance with A.W.W.A. specifications C-153 Ductile Iron Compact Fittings, 3" through 12" for water and other liquids.
- All sewer mains shall be C.S.P.X., R.S.C.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 18" walls are for brick manholes only.
- Manholes designated W.T. in plan and profile shall have watertight frame and covers, standard detail G-502. Where water-tight manhole frame and cover is used, set top of frame 1'-0" above finished grade unless otherwise noted on the drawings.
- House (e) with symbol "CNS" indicates that the cellar cannot be served.

PLAN
 SCALE: 1"=50'

Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications and as shown on SDP-89-270

John P. Robertson 12/20/89
 HOWARD SOIL CONSERVATION DISTRICT

Review for Howard Soil Conservation District and meet technical requirements.

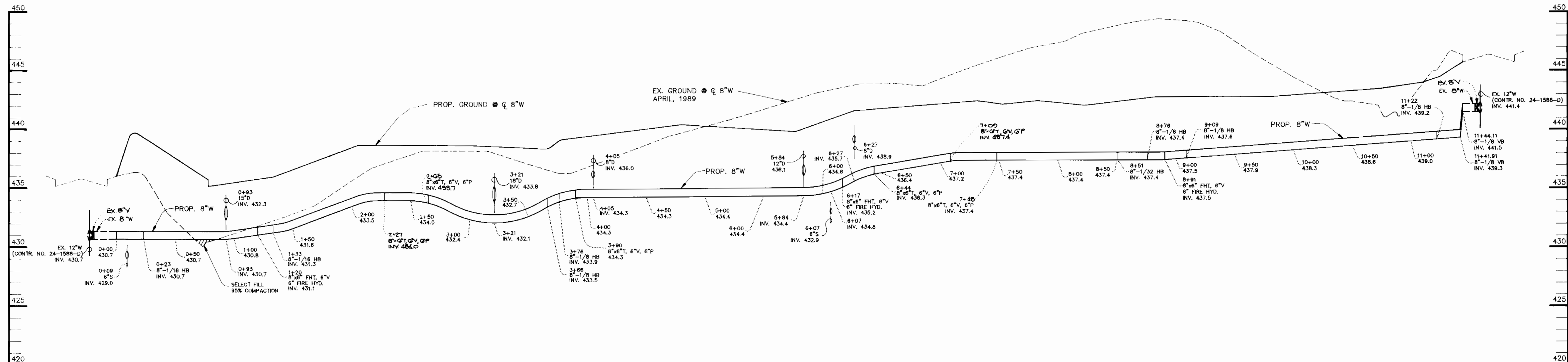
James M. Stuber 12/21/89
 U.S. SOIL CONSERVATION SERVICE

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

Robert W. Ziehm 12/21/89
 HOWARD SOIL CONSERVATION DISTRICT

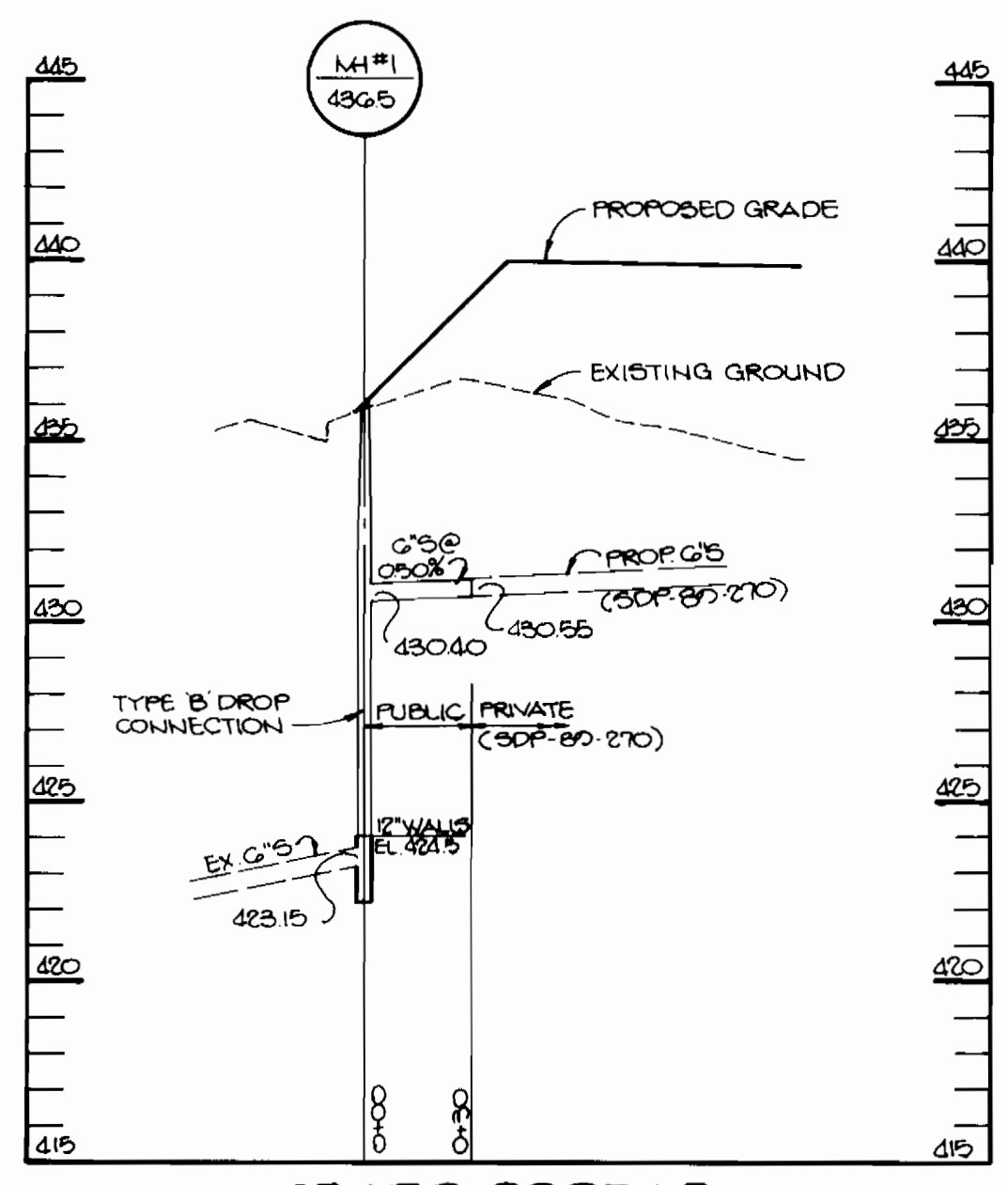
Item	Quantities		Material Supplier
	Estimated	As Built	
8" WATER	1144 LF.		
6" WATER	195 LF.		
FIRE HYDRANT	3 EACH		
8"x6" FHT	3 EACH		
8"x6" T	0 EACH		
6" VALVE	0 EACH		
4'-0" DIA. MANHOLE	20.4 VF		
6" SEWER	40 LF.		

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Robert W. Ziehm</i> 12/21/89 DIRECTOR OF PUBLIC WORKS <i>Robert W. Ziehm</i> 12-18-89 CHIEF, BUREAU OF UTILITIES		RIEMER MUEGGE & ASSOCIATES, INC. 3105 NORTH RIDGE ROAD ELLICOTT CITY, MARYLAND (301) 461-2690 <i>Arthur E. Muegge</i> ARCHITECT, L. MUEGGE & ASSOCIATES, INC.		DES: W.C.W. DRN: C.A.D. CHK: DATE: 7-3-89	PLAN OF WATER AND SEWER MAINS	COURTYARDS AT COLUMBIA 100 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT NO. 24-3002-D	SCALE AS SHOWN SHEET 1 OF 2
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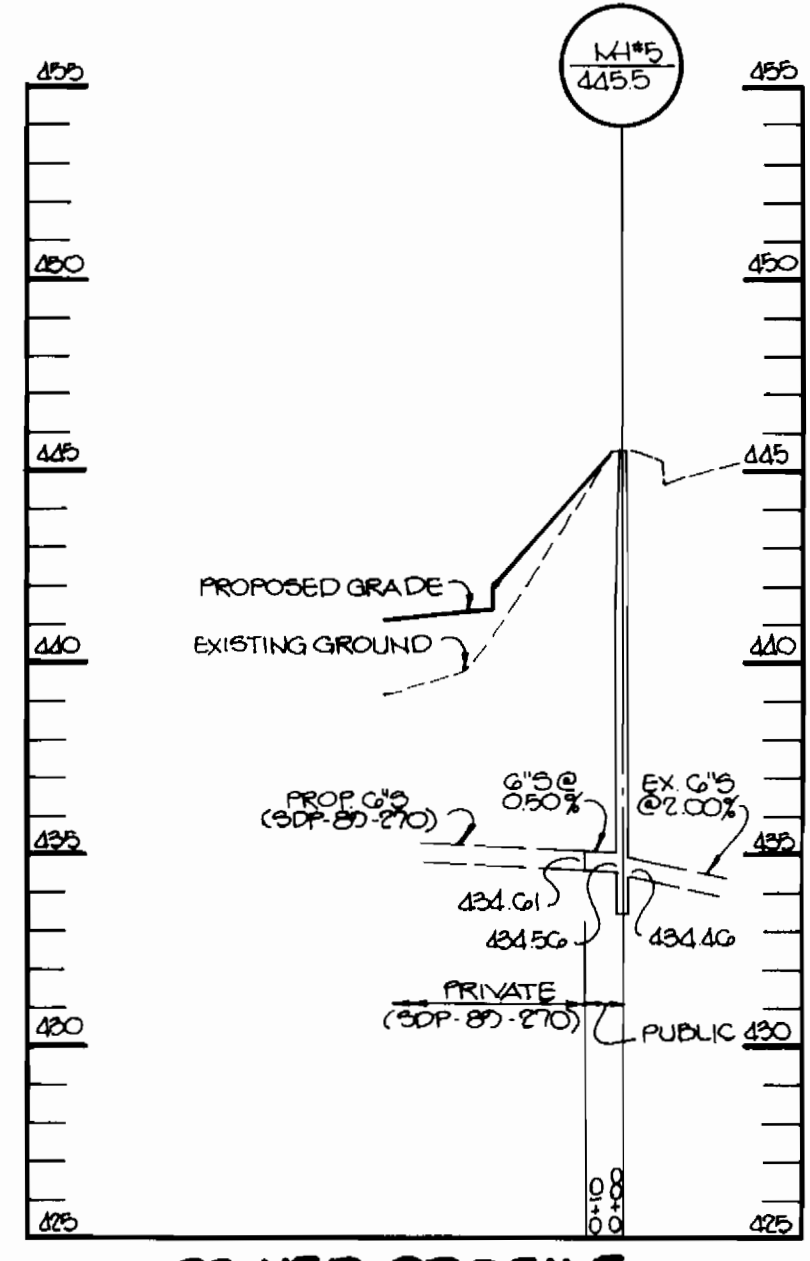
WATER MAIN PROFILE

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



SEWER PROFILE

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



SEWER PROFILE

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

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James G. [Signature] 12/26/89
 DIRECTOR OF PUBLIC WORKS DATE
Richard [Signature] 12/21/89
 CHIEF, BUREAU OF UTILITIES DATE

RIEMER MUEGGE & ASSOCIATES, INC.
 3105 NORTH RIDGE ROAD
 ELLICOTT CITY, MARYLAND
 (301) 461-2690

Arthur E. Muegge
 ARTHUR E. MUEGGE 12/21/89
 CHIEF, LAND DEVELOPMENT DATE

DES: W.C.W.	
DRN: C.A.D.	
CHK:	
DATE: 7-3-89	
BY: NO.	
REVISION	
DATE	

PROFILE OF
 WATER AND SEWER MAINS

600' SCALE MAP NO. 90 BLOCK NO. 15

COURTYARDS AT COLUMBIA 100
 2nd ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 CONTRACT NO. 24-3002-D

SCALE
 AS
 SHOWN

SHEET
 2 OF 2