

GENERAL NOTES

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 Contractors expense.
2. All horizontal controls are based on Maryland State Coordinates.
3. All vertical controls are based on U.S.G.S. Datum.
4. All pipe elevations shown are invert elevations.
5. Clear all utilities by a minimum of 6". Clear all poles by 2'-0" minimum or tunnel as required. Any cost incurred to the Contractor for tunneling or bracing at poles shall be included in unit prices bid for construction of the main.
6. For details not shown on the drawings use Howard County Standard Details.
7. For materials and construction methods use Howard County Standard Specifications.
8. Contractor shall locate existing utilities a minimum of two (2) weeks in advance of construction operations in the vicinity of proposed utilities at his own expense.
9. Contractor shall notify the following utilities or agencies at least five (5) working days before starting work shown on these plans.
 State Highway Administration: 531-5533
 Baltimore Gas & Electric Company - Underground Electric Distribution Customer Service: 685-0123
 Baltimore Gas & Electric Company - Underground Gas Distribution Customer Service: 685-0123
 Engineering "Damage Control": 234-5621
 "Miss Utility": 1-559-0100
 Chesapeake & Potomac (C&P) Telephone Company: 725-9976
 American Telephone & Telegraph - Cable Location Division: 393-3553
 Colonial Pipeline Company: 781-4641
 Bureau of Utilities - Howard County: 992-2366
10. Trees are to be protected from damage to maximum extent. Trees located within the construction strip are not to be removed or damaged by the Contractor.
11. Contractor shall remove trees, stumps and roots along line of excavation as directed by Engineer. Payment for such removal shall be included in the unit price bid for construction of the main.
12. Place regulation "Men Working" and warning signs as required to comply with Maryland State Highway Administration Manual of Traffic Control for Highway Construction and Maintenance Operations.
13. All sewer mains shall be C.S.P.X., V.C.P.X., A.C.P. Class 2400, D.I.P., R.C.S.P. or P.V.C., unless otherwise noted.
14. Contractor shall provide a joint in all sewer mains within 2'-0" of exterior manhole wall.
15. All manholes shall be 4'-0" inside diameter, unless otherwise noted.
16. Houses with the symbol "C.N.S." indicates that cellar can not be served.
17. Sediment Control shall be in accordance with this plan and Article 15 of the Howard County Design Manual Volume IX.

Reviewed for Howard County S.C.D. and meets technical requirements.
[Signature] Date: 8-27-83
 U.S. SOIL CONSERVATION SERVICE
 This development plan is approved for soil erosion and sediment control by the Howard County Soil Conservation District.
 Approved: *[Signature]* Date: 8-24-83
 HOWARD COUNTY S.C.D.

ENGINEER'S CERTIFICATION
 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 County Soil Conservation District.
[Signature] Date: 2-14-83
 JOHN E. HARMS, JR. & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 P.O. BOX 5 PASADENA, MD. 21122

DEVELOPER'S CERTIFICATION
 "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 Sediment and Erosion before beginning the project."
[Signature] 9-7-83
 BUREAU OF ENGINEERING
 DEPARTMENT OF PUBLIC WORKS

CAPITAL PROJECT S-6119

CONTRACT NO. 10-1087

MOUNT HEBRON COLLECTORS

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

ITEM	QUANTITIES		
	ESTIMATE	AS-BUILT	MATERIAL / SUPPLIER
6" Sewers	1,480 L.F.		
8" Sewers	9,240 L.F.		
8" D.I.P.	194 L.F.		
Manholes	45 EA.		

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY
[Signature] 8-9-83
 DIRECTOR OF PUBLIC WORKS - DATE
[Signature] 8/15/83
 CHIEF-BUREAU OF UTILITIES - DATE

JOHN E. HARMS, JR. & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 P.O. BOX 5
 PASADENA, MARYLAND

CONTRACT NO. 10-1087
 CAPITAL PROJECT NO. S-6119

LOCATION MAP
 MOUNT HEBRON COLLECTORS

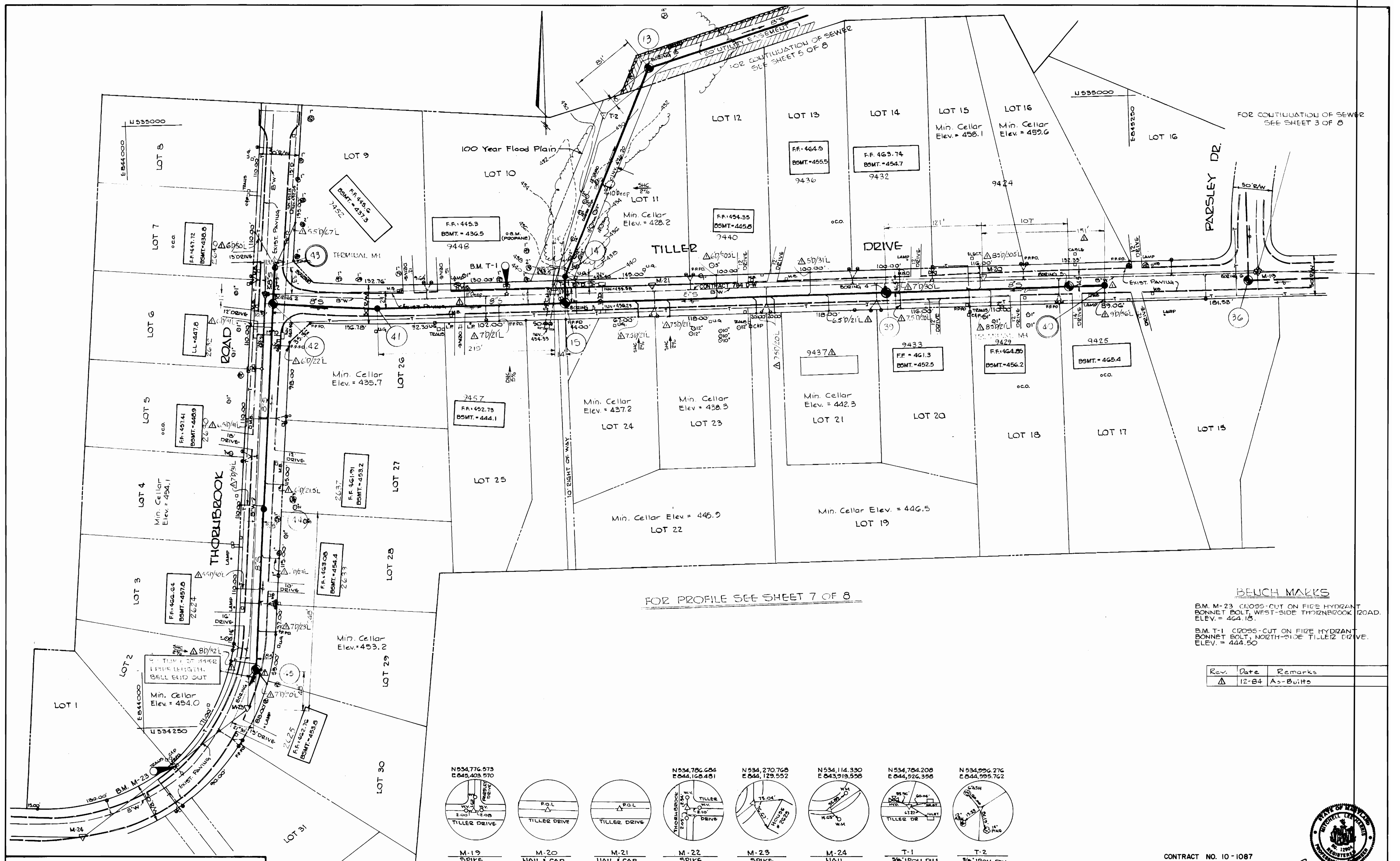
AS-BUILTS
 MOUNT HEBRON COLLECTORS
 ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MARYLAND

DRAWING NO. 1 OF 8
 SCALE 1" = 600'
 Designed: MLH
 Drafted: REC
 Checked: CAL
 W.O. No.: 284-0

CONTRACT NO. 10-1087
 MOUNT HEBRON COLLECTORS
 HOWARD COUNTY CAPITAL PROJECT S-6119
[Signature]



DATE: _____

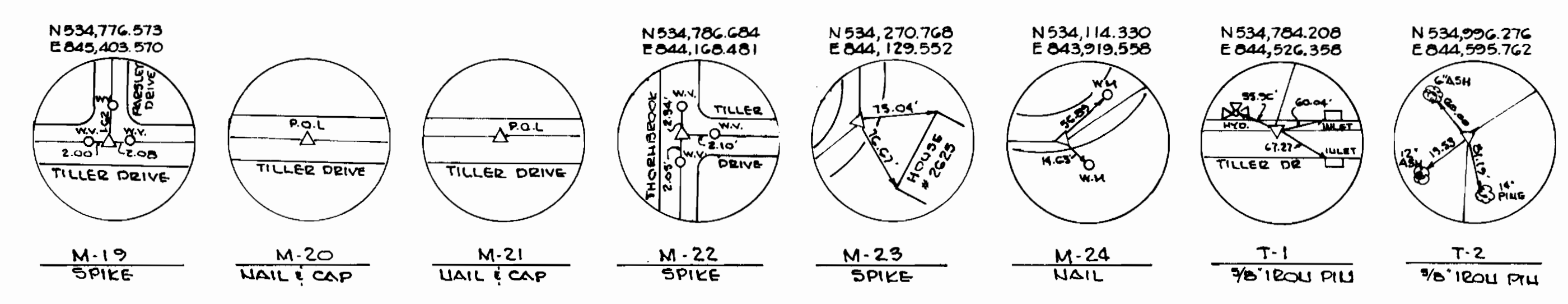


FOR PROFILE SEE SHEET 7 OF 8

BEUCH MARKS

B.M. M-23 CROSS-CUT ON FIRE HYDRANT BONNET BOLT, WEST-SIDE THORNBROOK ROAD. ELEV. = 464.18.
 B.M. T-1 CROSS-CUT ON FIRE HYDRANT BONNET BOLT, NORTH-SIDE TILLER DRIVE. ELEV. = 444.50

Rev.	Date	Remarks
Δ	12-84	As-Built



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY
 JOHN F. NEWMAN, 8/5/83
 DIRECTOR OF PUBLIC WORKS - DATE
 ROBERT W. WALKER, 8/10/83
 CHIEF - BUREAU OF UTILITIES - DATE

JOHN E. HARMS, JR. & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 P.O. BOX 5
 PASADENA, MARYLAND

CONTRACT NO. 10-1087
 CAPITAL PROJECT NO. S-6119

PLAN
 MOUNT HEBRON COLLECTORS

AS-BUILTS
 MOUNT HEBRON COLLECTORS
 ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MARYLAND

CONTRACT NO. 10-1087
 MOUNT HEBRON COLLECTORS
 HOWARD COUNTY CAPITAL PROJECT S-6119

DRAWING NO. 2 OF 8	SCALE 1" = 50'	Designed: MLH Drafted: REC Checked: CAL W.O. No.: 284-D
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DATE: _____

BENCH MARKS

B.M. 5 HYDRANT @ PARSLEY DR & TILLER DR.
ELEV. 480.30

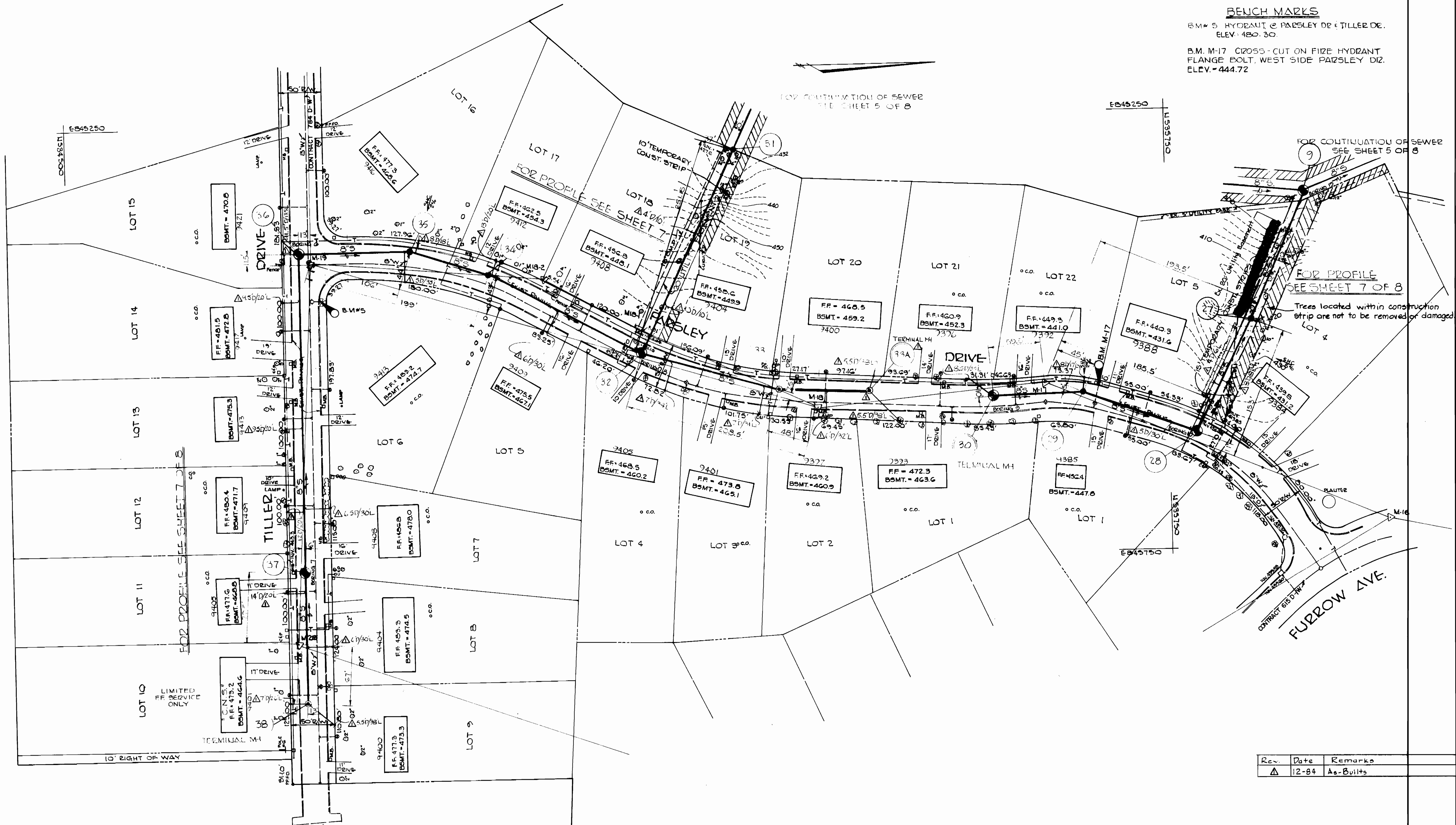
B.M. M-17 CROSS-CUT ON FIZE HYDRANT
FLANGE BOLT, WEST SIDE PARSLEY DR.
ELEV. 444.72

FOR CONTINUATION OF SEWER
SEE SHEET 5 OF 8

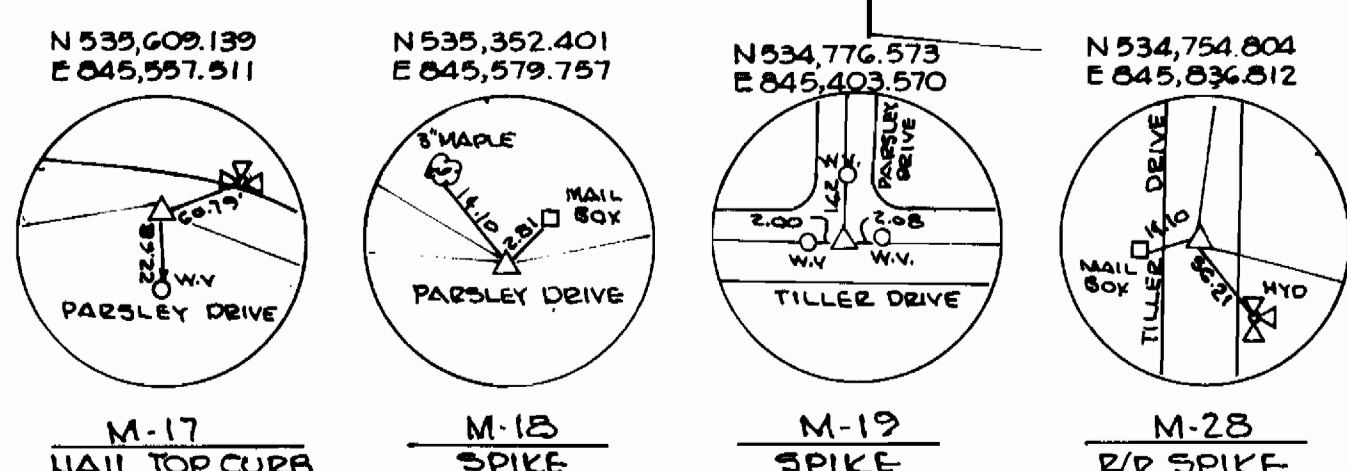
FOR CONTINUATION OF SEWER
SEE SHEET 5 OF 8

FOR PROFILE
SEE SHEET 7 OF 8

Trees located within construction
strip are not to be removed or damaged



Rev.	Date	Remarks
1	12-84	As-Built



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY

John F. Wynn 8-9-83
DIRECTOR OF PUBLIC WORKS - DATE

Allen L. Brown 8/10/83
CHIEF - BUREAU OF UTILITIES - DATE

William E. Oddy 8/10/83
CHIEF - BUREAU OF ENGINEERING - DATE

JOHN E. HARMS, JR. & ASSOCIATES, INC.
CONSULTING ENGINEERS
P.O. BOX 5
PASADENA, MARYLAND

CONTRACT NO. 10-1087
CAPITAL PROJECT NO. S-6119

PLAN
MOUNT HEBRON COLLECTORS

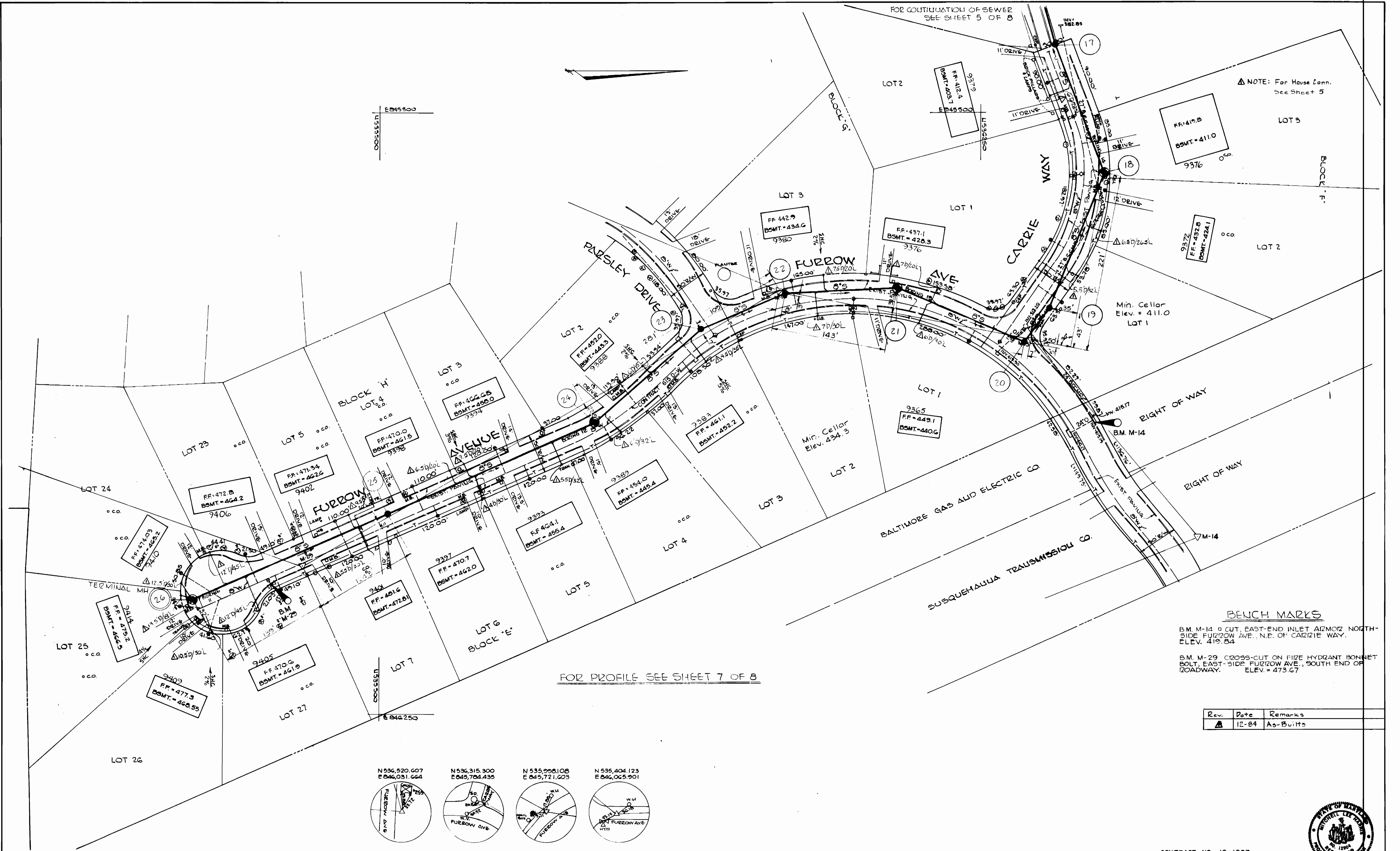
AS-BUILTS
MOUNT HEBRON COLLECTORS
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

Drawing NO. 3 OF 8	SCALE 1" = 50'	Designed: MLH Drafted: REC Checked: CAL W.C. No.: 284-D
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DATE: _____



CONTRACT NO. 10-1087
MOUNT HEBRON COLLECTORS
HOWARD COUNTY CAPITAL PROJECT S-6119



NOTE: For House Conn. See Sheet 5

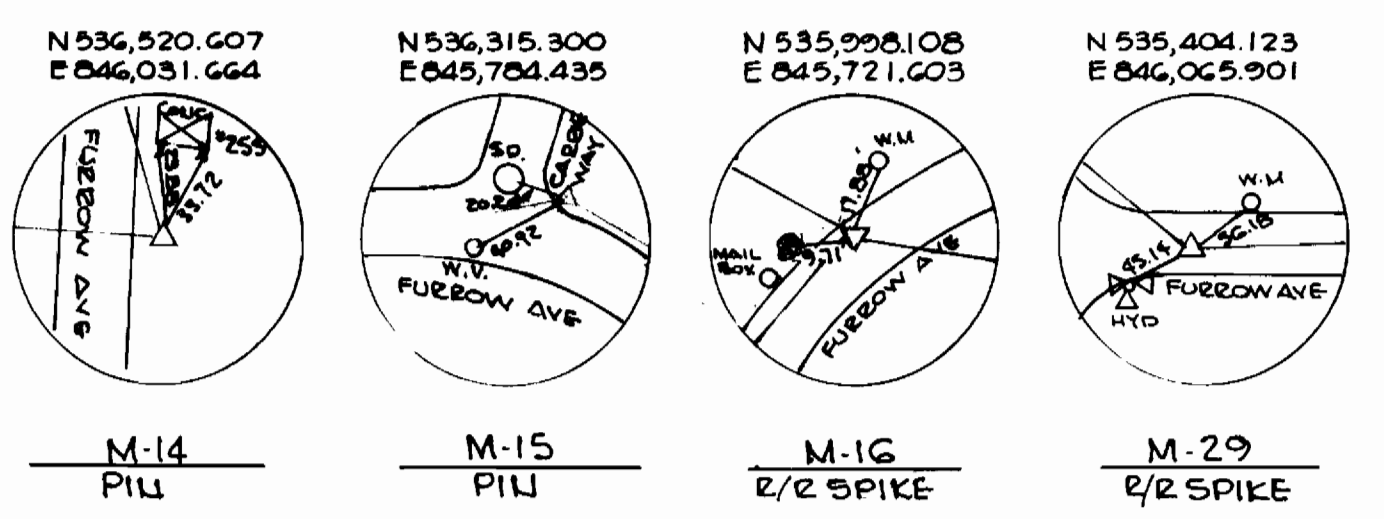
FOR CONTINUATION OF SEWER SEE SHEET 5 OF 8

FOR PROFILE SEE SHEET 7 OF 8

BENCH MARKS

B.M. M-14 = CUT, EAST-END INLET ALMOZ NORTH-SIDE FURBOW AVE., N.E. OF CARZIE WAY. ELEV. 419.84
 B.M. M-29 = CROSS-CUT ON FIRE HYDRANT BONNET BOLT, EAST-SIDE FURBOW AVE., SOUTH END OF ROADWAY. ELEV. = 473.67

Rev.	Date	Remarks
1	12-84	As-Built



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY
 Director of Public Works - DATE
 Chief - Bureau of Engineering - DATE
 Chief - Bureau of Utilities - DATE

JOHN E. HARMS, JR. & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 P.O. BOX 5
 PASADENA, MARYLAND

CONTRACT NO. 10-1087
 CAPITAL PROJECT NO. S-6119

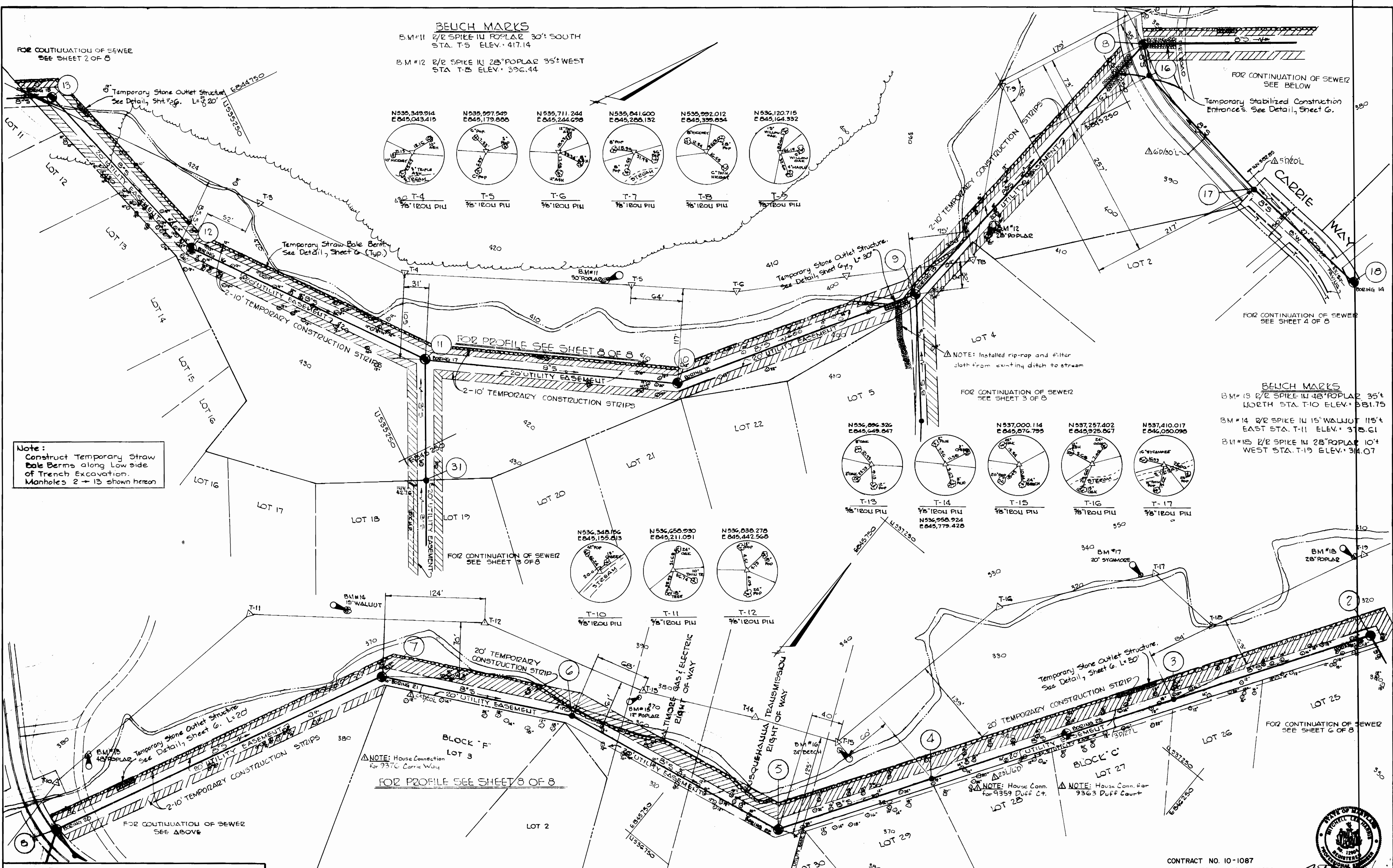
PLAN
 MOUNT HEBRON COLLECTORS

AS-BUILTS
 MOUNT HEBRON COLLECTORS
 ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MARYLAND

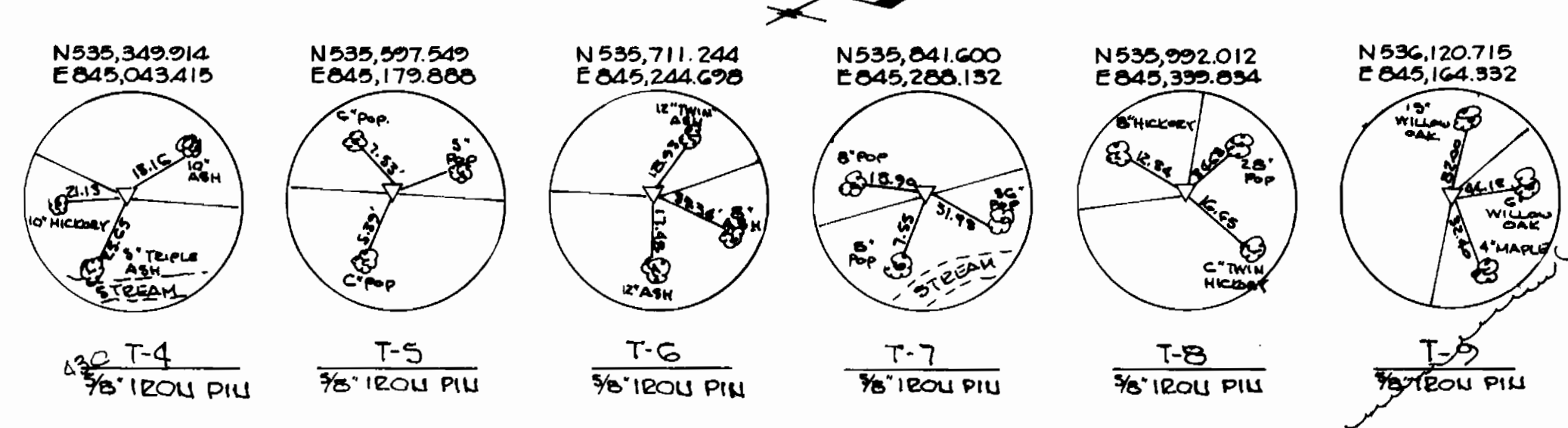
CONTRACT NO. 10-1087
 MOUNT HEBRON COLLECTORS
 HOWARD COUNTY CAPITAL PROJECT S-6119

Designed: MLH
Drafted: REC
Checked: CAL
W.O. No. 294-D

DATE: _____



BENCH MARKS
 B.M.#11 1/2 SPIKE IN POPLAR 30' SOUTH
 STA. T-5 ELEV. 417.14
 B.M.#12 1/2 SPIKE IN 28' POPLAR 35' WEST
 STA. T-5 ELEV. 396.44



Note:
 Construct Temporary Straw Bale Berms along Low side of Trench Excavation. Manholes 2 - 13 shown hereon

BENCH MARKS
 B.M.#13 1/2 SPIKE IN 48' POPLAR 35' NORTH STA. T-10 ELEV. 381.75
 B.M.#14 1/2 SPIKE IN 15' WALNUT 115' EAST STA. T-11 ELEV. 378.61
 B.M.#15 1/2 SPIKE IN 28' POPLAR 10' WEST STA. T-19 ELEV. 314.07

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY
 Director of Public Works - DATE
 Chief - Bureau of Engineering - DATE
 Chief - Bureau of Utilities - DATE

JOHN E. HARMS, JR. & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 P.O. BOX 5
 PASADENA, MARYLAND

CONTRACT NO. 10-1087
 CAPITAL PROJECT NO. S-6119

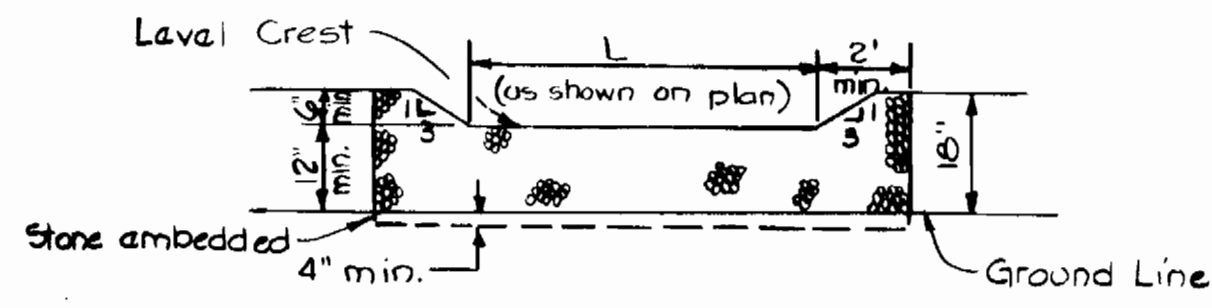
PLAN
 MOUNT HEBRON COLLECTORS

AS-BUILTS
 MOUNT HEBRON COLLECTORS
 ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MARYLAND

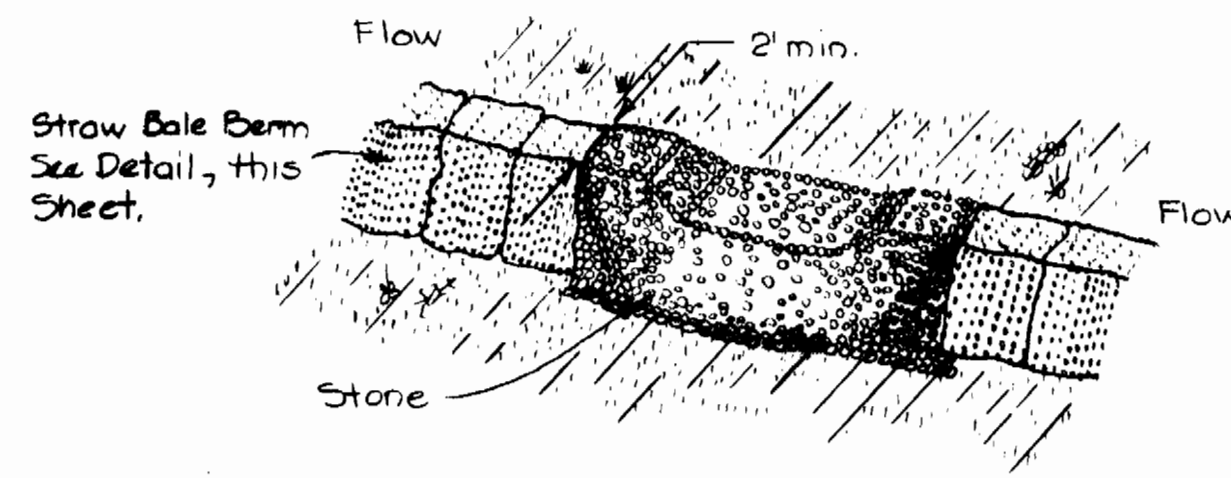
CONTRACT NO. 10-1087
 MOUNT HEBRON COLLECTORS
 HOWARD COUNTY CAPITAL PROJECT S-6119

DESIGNED: MLH	SCALE: 1" = 50'
DRAWING NO. 5 OF 8	CHECKED: CAL
DATE: _____	W.O. NO. 284-D





PROFILE

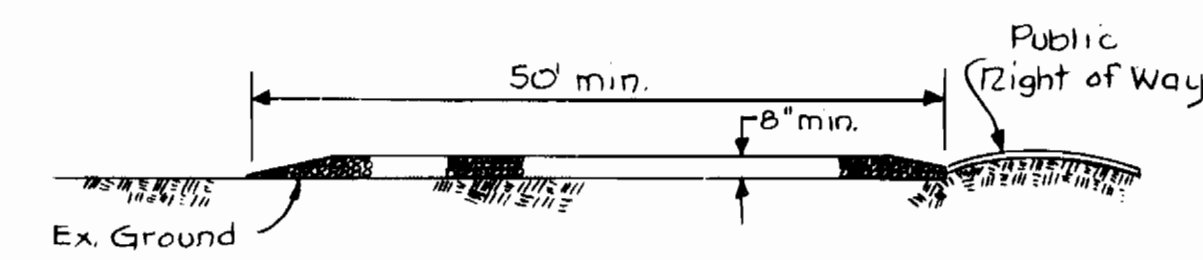


PLAN

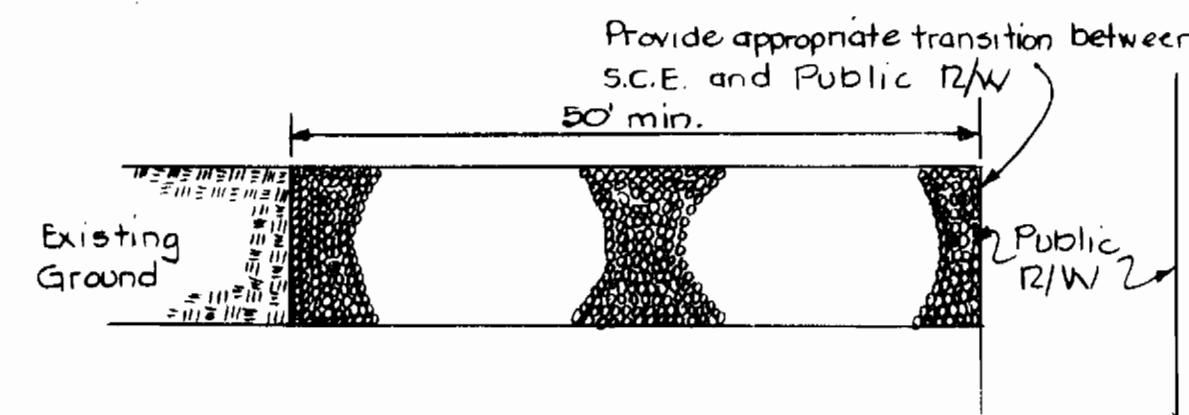
Construction Specifications

1. The stone shall be crushed stone. Gravel may be used if crushed stone is not available. The stone shall meet MSHA Size No. 2 or AASHTO designation M43 Size No. 2 or 24.
2. The crest of the stone dike shall be at least six inches lower than the lowest elevation of the top of the earth dike and shall be level.
3. The stone outlet structure shall be embedded into the soil a minimum of four inches.
4. The minimum length, in feet, of the crest of the stone outlet structure shall be equal to six times the number of acres of contributing drainage area.
5. The stone outlet structure shall be inspected after each rain, and the stone shall be replaced when the structure ceases to function as intended due to silt accumulation among the stone, washout, construction traffic damage, etc.

STONE OUTLET STRUCTURE



PROFILE



PLAN

Construction Specifications

1. Stone size - Use MSHA size No. 2 (2-1/2" to 1") or AASHTO designation M43, size No. 2 (2-1/2" to 1 1/2"). Use crushed stone.
2. Length - As effective, but not less than 50 feet.
3. Thickness - Not less than eight (8) inches.
4. Width - Not less than full width of all points of ingress or egress.
5. Washing - When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public R/W. When washing is req'd, it shall be done on an area stabilized w/crushed stone which drains into an approved trap or basin. All sediment shall be prevented from entering storm drains, etc. through use of sand bags, gravel, boards, or other approved methods.
6. Maintenance - The entrance shall be maintained in a condition which will prevent movement of sediment onto Public R/W. All sediment must be removed immediately.

STABILIZED CONSTRUCTION ENTRANCE

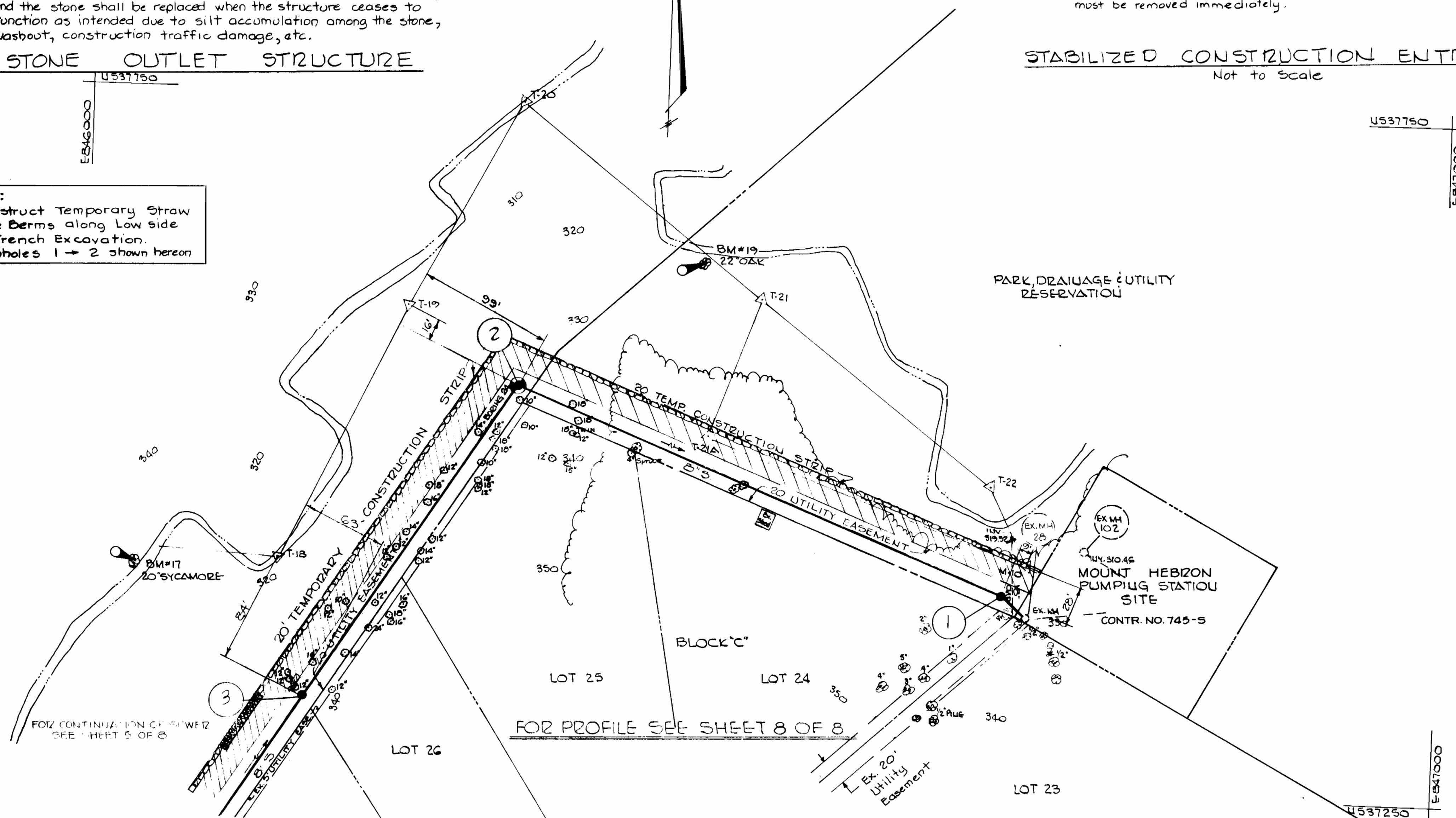
Not to Scale

BENCH MARKS
 BM#17 1/2 SPIKE IN 20' SYCAMORE 20' WEST STA. T-17 ELEV. 321.36
 BM#19 1/2 SPIKE IN 22' OAK 49' NORTH STA. T-21 ELEV. 315.18

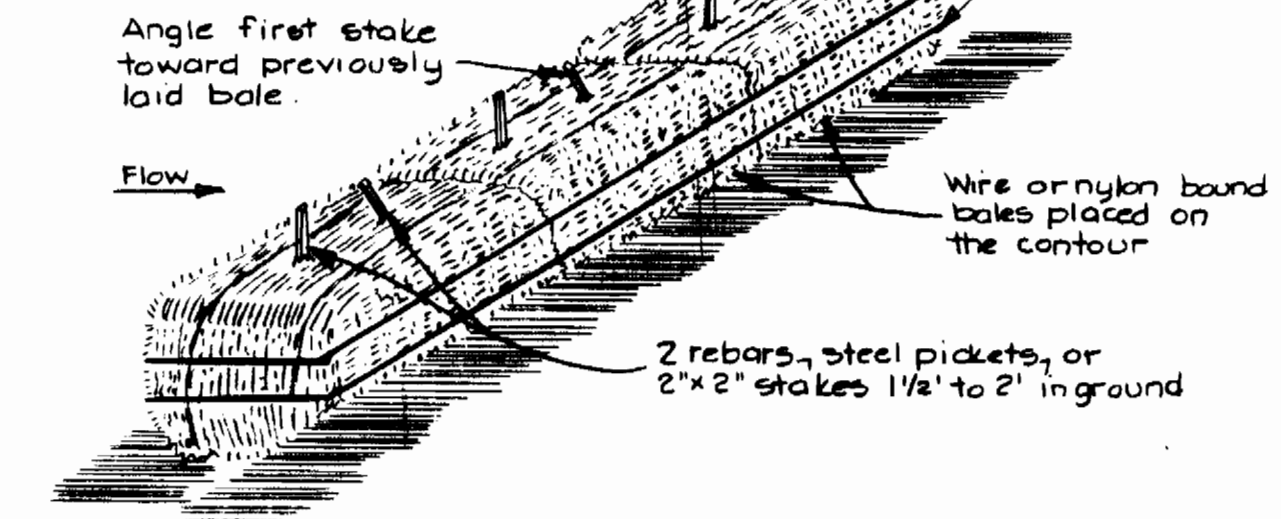
SCHEDULE OF PHASING AND CONSTRUCTION

- PHASE I - Clear Areas for construction. Install Sediment Control Measures down grade of construction.
- PHASE II - Begin Pipeline Construction. Maintain Sediment Control Measures on a daily basis.
- PHASE III - Complete Underground Construction. Clean up entire project area. Seed and Mulch all disturbed areas not paved or otherwise surfaced.
- PHASE IV - Remove Sediment Control Measures. Maintain new vegetative areas to achieve a thick stand of grass.

Note:
 Construct Temporary Straw Bale Berms along Low side of Trench Excavation.
 Manholes 1 → 2 shown hereon



EMBEDDING DETAIL



ANCHORING DETAIL

Construction Specifications

1. Bales shall be placed in a row with ends tightly abutting the adjacent bales.
2. Each bale shall be embedded in the soil a minimum of 4".
3. Bales shall be securely anchored in place by stakes or re-bars driven through the bales. The first stake in each bale shall be angled toward previously laid bale to force bales together.
4. Inspection shall be frequent and repair or replacement shall be made promptly as needed.
5. Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.

STRAW BALE BERM DETAIL

Not to Scale

T-18 3/8" IRON PILE N 537,404.764 E 846,145.207	T-19 3/8" IRON PILE N 537,594.135 E 846,235.268	T-20 3/8" IRON PILE N 537,746.467 E 846,315.903	T-21 3/8" IRON PILE N 537,605.143 E 846,494.762	T-22 3/8" IRON PILE N 537,474.327 E 846,667.975

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY

JOHN E. HARMS, JR. & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 P.O. BOX 5
 PASADENA, MARYLAND

CONTRACT NO. 10-1087
 CAPITAL PROJECT NO. S-6119

PLAN
 MOUNT HEBRON COLLECTORS

MOUNT HEBRON COLLECTORS
 ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MARYLAND

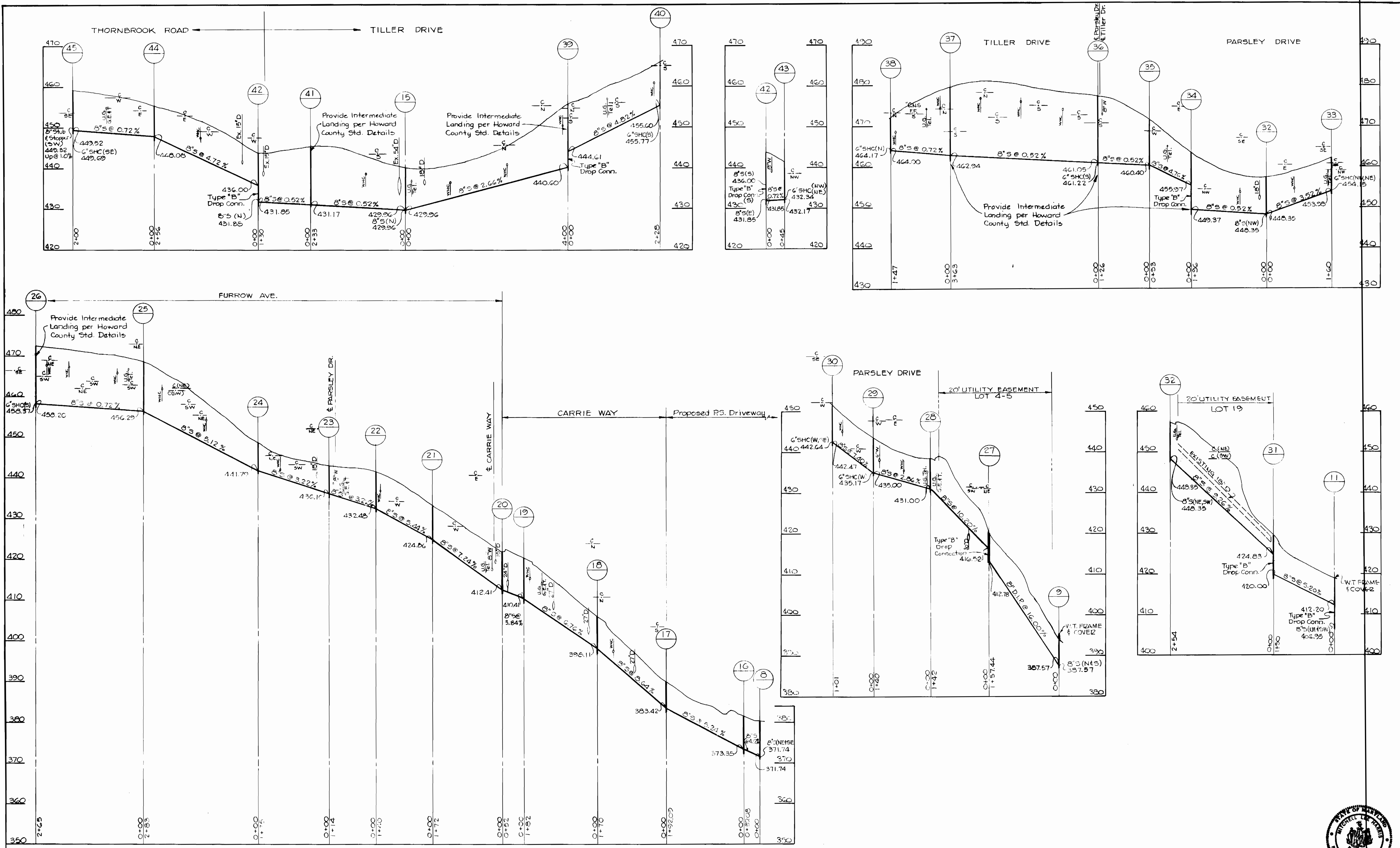
DRAWING NO. 6 OF 8
 SCALE 1" = 50'

Designed: MLH
 Drafted: REC
 Checked: CAL
 W.O. No: 284-D

CONTRACT NO. 10-1087
 MOUNT HEBRON COLLECTORS
 HOWARD COUNTY CAPITAL PROJECT S-6119



DATE: _____



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY,
 8-1-83
 DIRECTOR OF PUBLIC WORKS - DATE
 CHIEF - BUREAU OF UTILITIES - DATE

JOHN E. HARMS, JR. & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 P. O. BOX 5
 PASADENA, MARYLAND

CONTRACT NO. 10-1087
 CAPITAL PROJECT NO. S-6119

PROFILE
 MOUNT HEBRON COLLECTORS

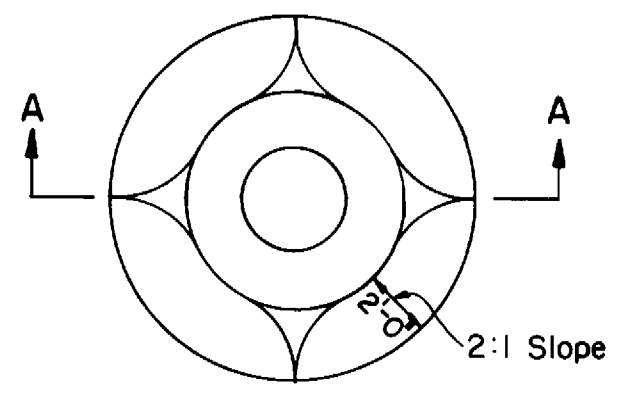
MOUNT HEBRON COLLECTORS
 ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MARYLAND

CONTRACT NO. 10-1087
 MOUNT HEBRON COLLECTORS
 HOWARD COUNTY CAPITAL PROJECT S-6119

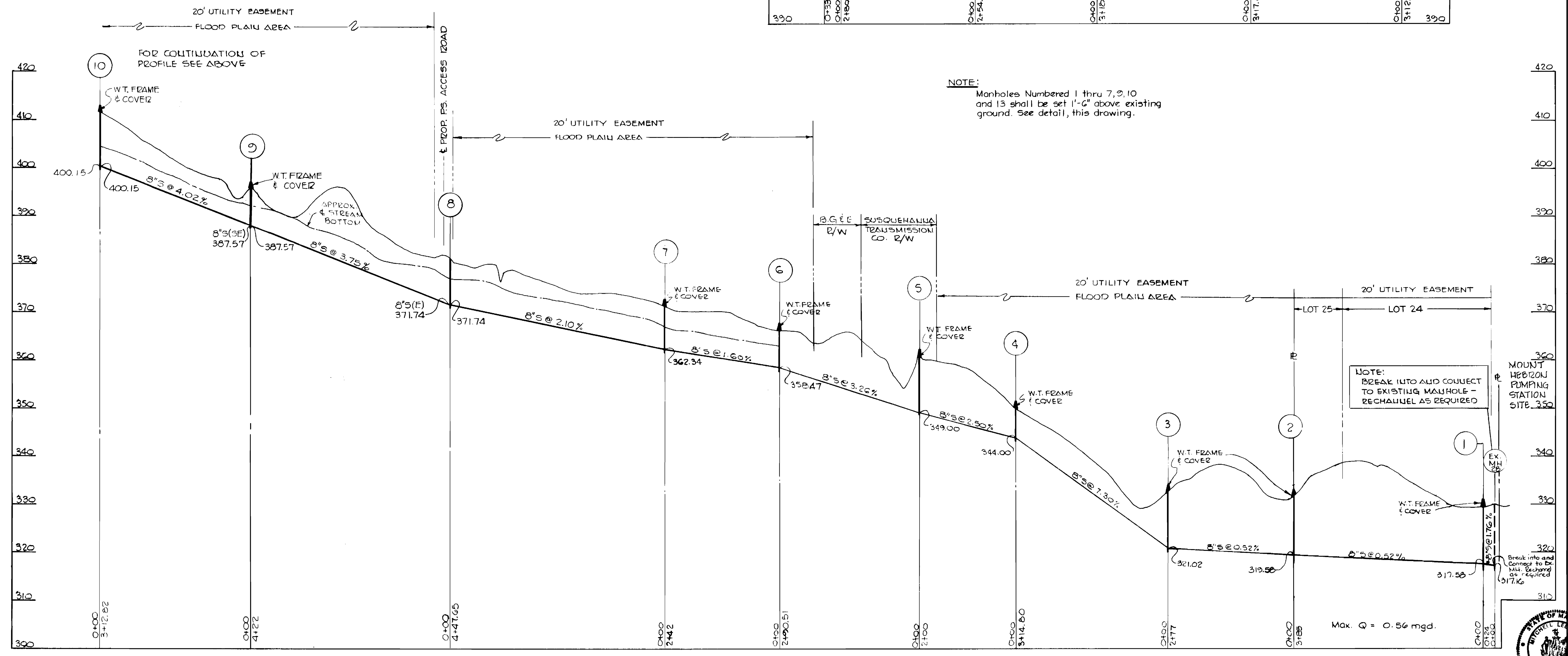
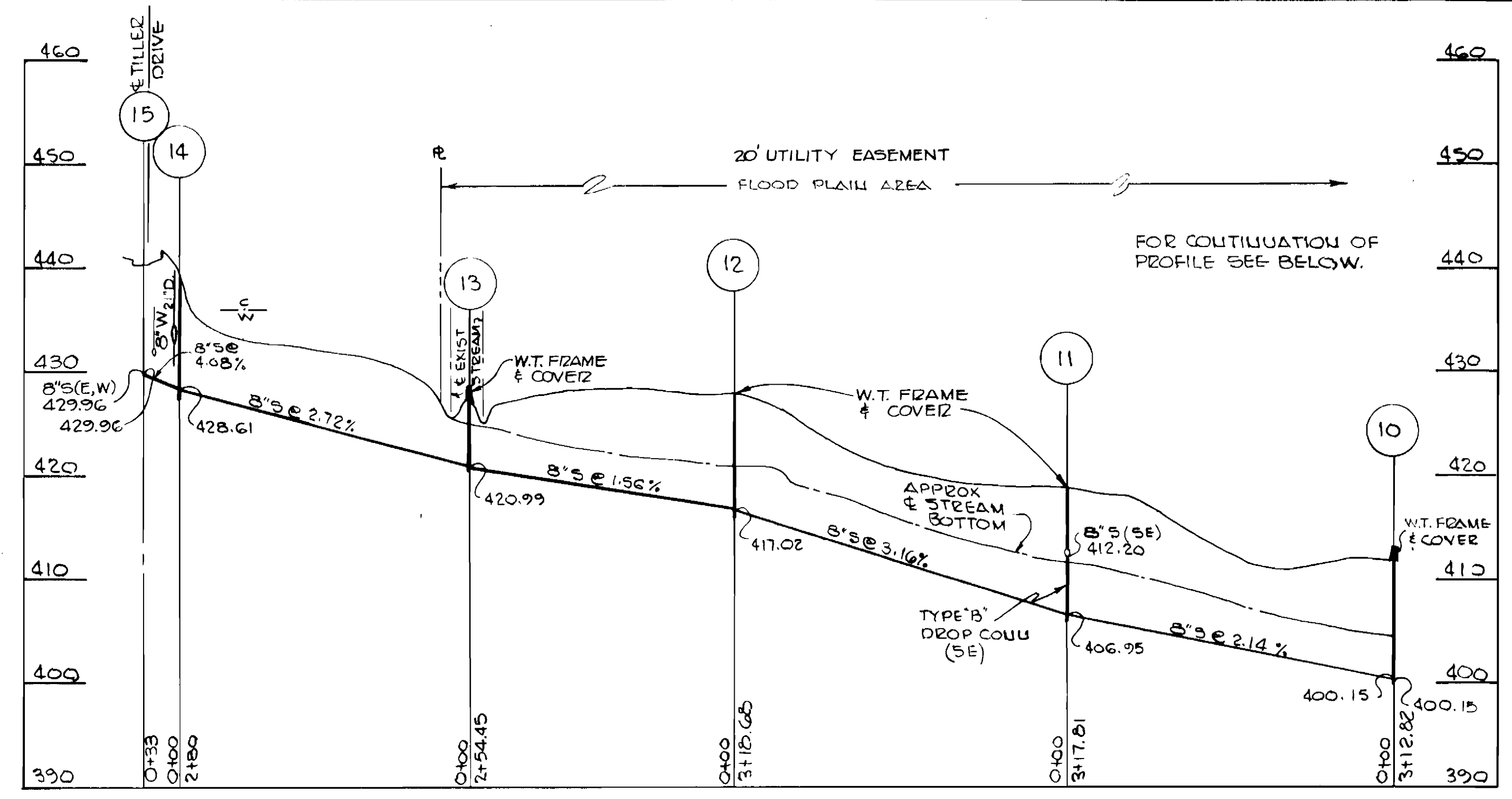
DRAWING NO. 7 OF 8	SCALE HORIZ. 1"=100' VERT. 1"=10'	Designed: MLH Drafted: REC Checked: CAL W.O. No. 284-D
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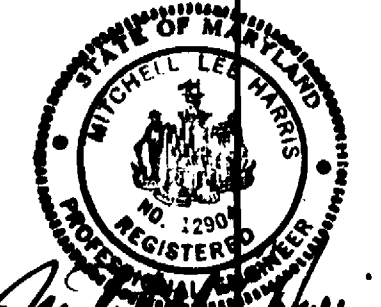
DATE: _____



SECTION "AA"
FILL AT MANHOLE
NOT TO SCALE



NOTE:
Manholes Numbered 1 thru 7, 9, 10 and 13 shall be set 1'-6" above existing ground. See detail, this drawing.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY
Director of Public Works - DATE
Chief - Bureau of Engineering - DATE
Chief - Bureau of Utilities - DATE

JOHN E. HARMS, JR. & ASSOCIATES, INC.
CONSULTING ENGINEERS
P.O. BOX 5
PASADENA, MARYLAND

CONTRACT NO. 10-1087
CAPITAL PROJECT NO. S-6119

PROFILE
MOUNT HEBRON COLLECTORS

MOUNT HEBRON COLLECTORS
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

CONTRACT NO. 10-1087
MOUNT HEBRON COLLECTORS
HOWARD COUNTY CAPITAL PROJECT S-6119
DRAWING NO. 8 OF 8
SCALE: HORIZ. 1"=100' VERT. 1"=10'
Designed: MLH
Drafted: REC
Checked: CAL
W.O. No. 284-D

DATE: _____