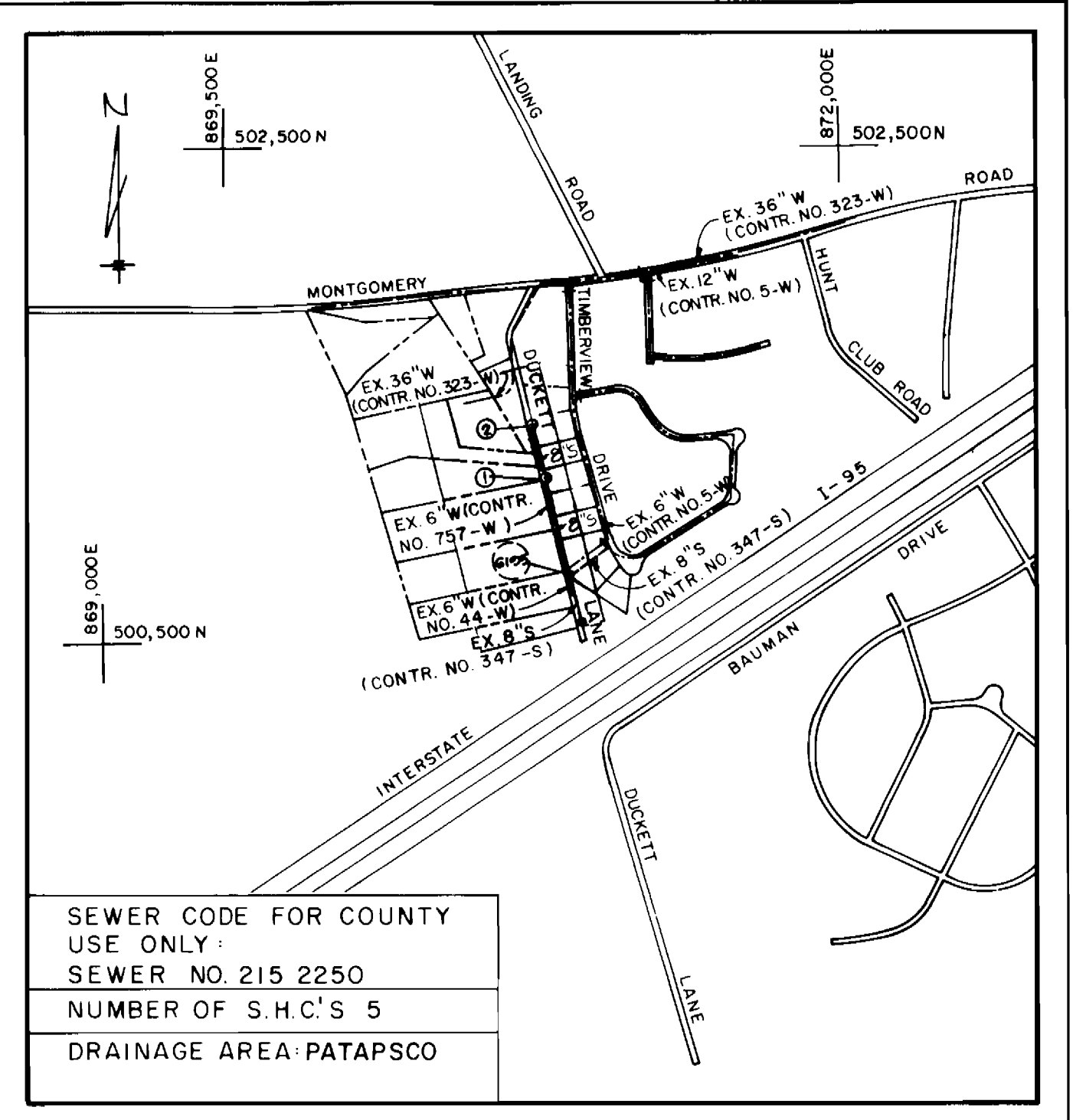


ITEM	QUANTITIES		TYPE MATERIAL	SUPPLIER
	ESTIMATE	AS BUILT		
8" SEWER	625 L.F.	516 L.F.	CONCRETE	3-MI MANUFACTURING
MANHOLES	2 EA.	2 EA.	CONCRETE	3-MI MANUFACTURING
MANHOLE FRAME COVER	2 EA.	2 EA.	CAST IRON	3-MI MANUFACTURING
MANHOLES OVER 6.5' DEPTH	14 V.F.	13.4 V.F.	PRECAST CONCRETE	3-MI MANUFACTURING
6" SEWER	106 L.F.	100 L.F.	CONCRETE	3-MI MANUFACTURING
8" x 6" WYES, TEES, ETC.	5 EA.	5 EA.	"	"
8" TYPE 'A' DROP CONN.	1 EA.	1 EA.	"	"

BENCH MARKS

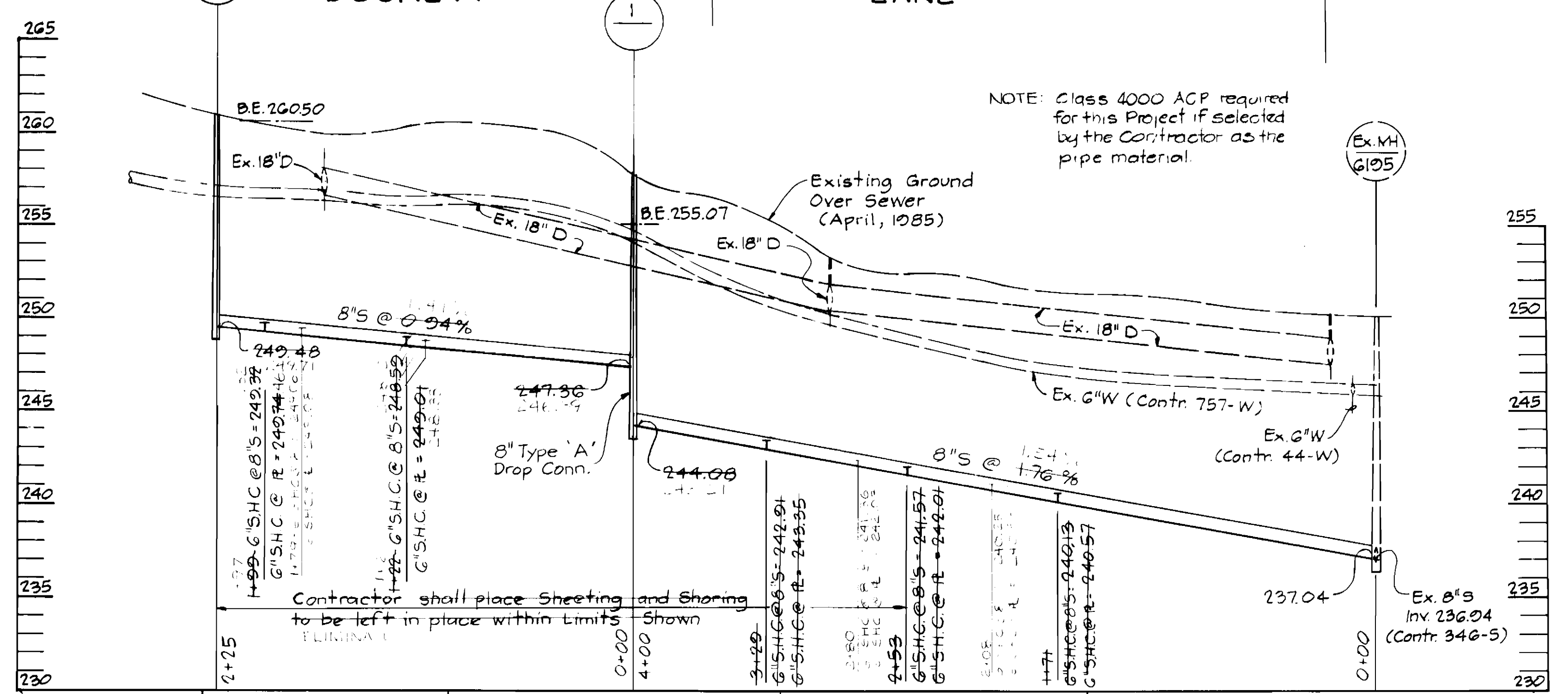
BM# A-3 ELEV. 254.90
 Top Nut Of Fire Hydrant On West Side Of Duckett Lane 1,040 Feet South Of Montgomery Road.
 BM# B-2 ELEV. 260.78
 P.K. Nail In Road (Duckett Lane) 34 Feet ± South Of B.G.#E. Pole # 148326.

CONSTRUCTION NOTE:
 Contractor shall exercise extreme caution in excavating for the 8-inch sewer, so as not to damage Ex. 18" Drain. The proposed sewer and manholes shall be constructed as close to the Ex. 18" Drain as possible without interfering with the Drain. Contractor shall test pit Ex. 18" Drain to verify its location before beginning construction.



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 verified by the Contractor to his own satisfaction. 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 working days before starting Work shown on these plans:
 State Highway Administration - 531-5533
 Baltimore Gas & Electric Company - Contractor Services - 561-2585
 Baltimore Gas & Electric Company - Underground Damage Control - 234-5621
 Baltimore Gas & Electric Company - Trouble Shooting - 298-9013
 "Miss Utility" - 1-559-0100
 Colonial Pipeline Company - 795-1390
 Bureau of Utilities Howard County Department of Public Works - 992-2366
- Trees and Shrubs to be Protected from Damage to Maximum Extent. Trees and Shrubs within the Construction Strip are not to be Removed or Damaged by the Contractor.
- Contractor shall remove Trees, Stumps and Roots along the Line of Excavation as directed by the Engineer. Payment for such Removal shall be included in the Unit Price Bid for the Construction of the Main.
- All Sewer Mains shall be C.S.P., R.C.S.P., V.C.P.X., A.C.P. Class 2400 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 Brick Manholes Only.
- Manholes designated W.T. in Plan and Profile shall have Watertight Frame and Covers, Standard Detail G.5.2. Where Watertight Manhole Frame and Cover is used, set top of Frame 1'-0" Above Finished Grade unless otherwise noted on the Drawings.
- House(s) with the Symbol "C.N.S." Indicates that Cellar cannot be Served.



PROFILE

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

CONSTRUCTION NOTE:
 Where granular material is encountered within the pipe trench, and found to be unacceptable, by the Engineer for use as backfill material, the material shall be removed and replaced with select Backfill.

TRAVERSE	STATION	OFFSET	MANHOLE NO.
B-2 ~ S-1	2+32	8' Left	1
B-2 ~ S-1	0+07	4' Left	2

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: [Signature]
 Chief, Bureau of Engineering: [Signature]
 Chief, Bureau of Utilities: [Signature]

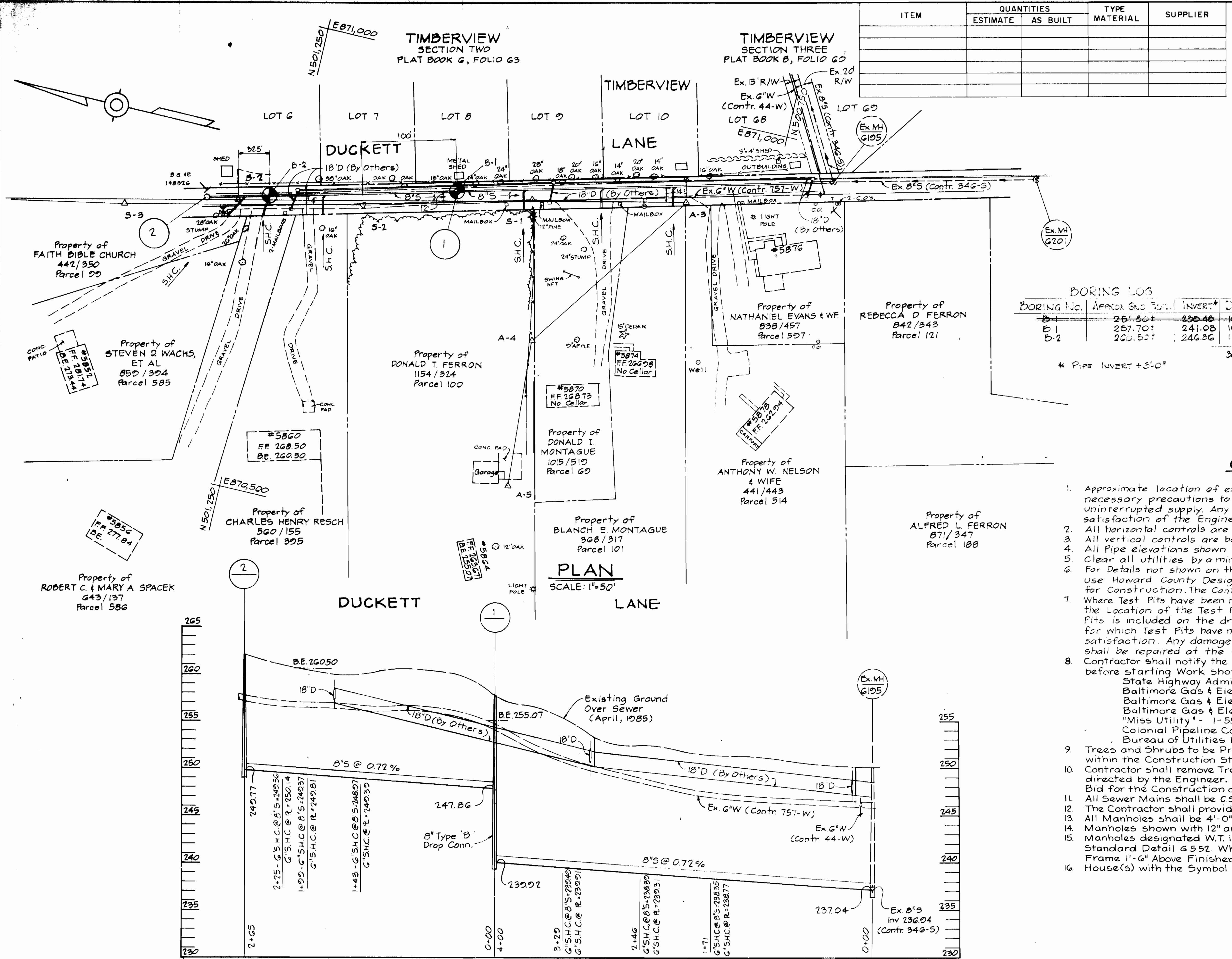
KIDDE CONSULTANTS, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND
 Date: 10/21/85

DES: J.M.G.
 DRN: J.M.G.
 CHK: W.B.H.
 DATE: 10/21/85

PLAN AND PROFILE OF SEWER MAIN EXTENSIONS

DUCKETT LANE SEWER - EXTENSION
 CAPITAL PROJECT NO. S-6685
 CONTRACT NO. 10-1386
 ELECTION DISTRICT NO. 1
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 1 OF 3

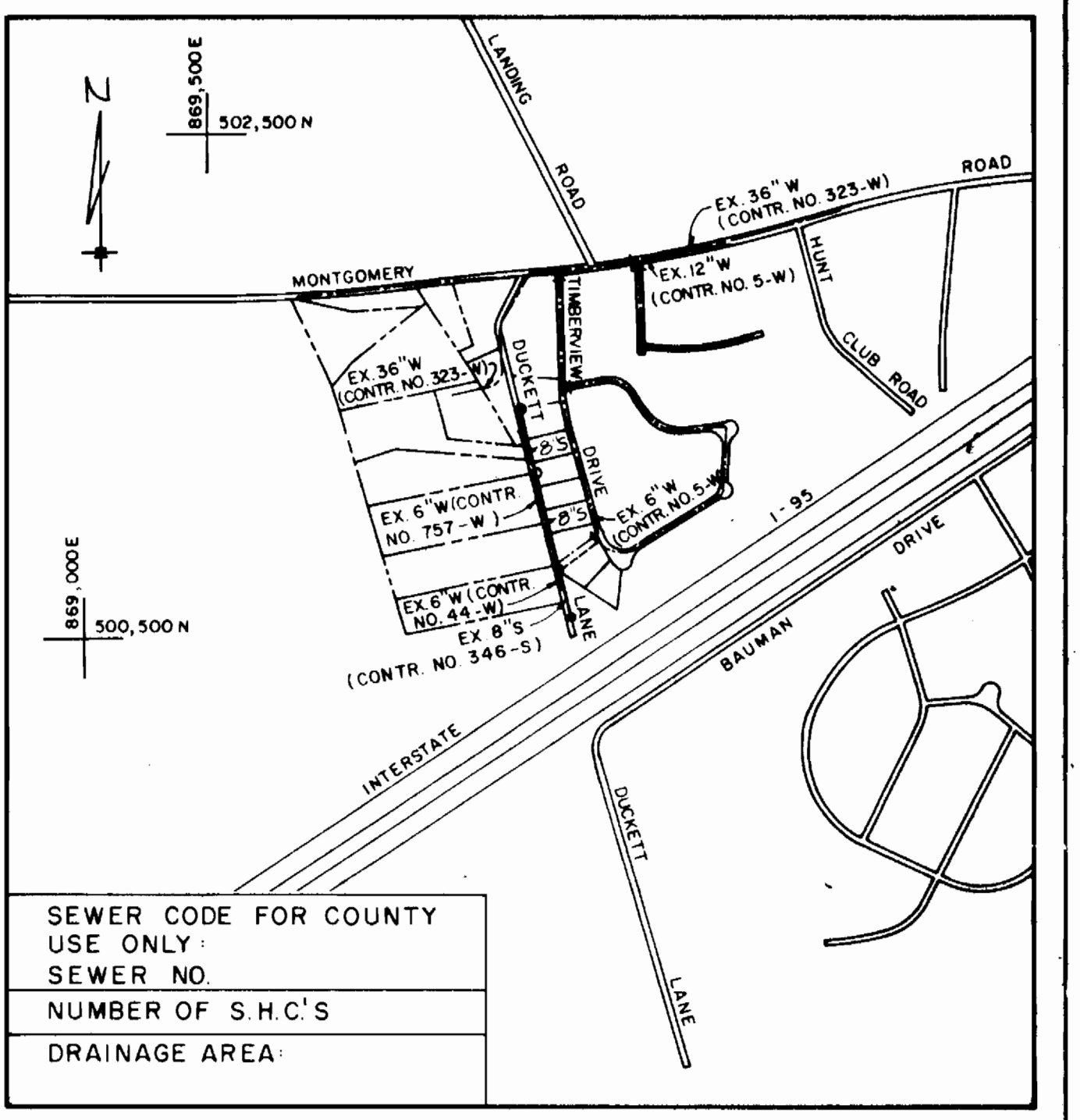


ITEM	QUANTITIES		TYPE MATERIAL	SUPPLIER
	ESTIMATE	AS BUILT		

BORING LOG

BORING No.	APPROX. G.S.D. ELEV.	INVERT*	DEPTH
B-1	257.50'	241.08'	16.4'
B-2	260.50'	246.26'	14.2'

* PIPE INVERT +3.0'



LOCATION PLAN
Scale: 1"=600'

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.
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 - "Miss Utility" - 1-559-0100
 - Colonial Pipeline Company - 795-1390
 - Bureau of Utilities Howard County Department of Public Works - 992-2366
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- Contractor shall remove Trees, Stumps and Roots along the Line of Excavation as directed by the Engineer. Payment for such Removal shall be included in the Unit Price Bid for the Construction of the Main.
- All Sewer Mains shall be C9PX, R.C9P, V.C9X, A.C.P. Class 2400 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 Brick Manholes Only.
- Manholes designated W.T. in Plan and Profile shall have Watertight Frame and Covers, Standard Detail G 552. Where Watertight Manhole Frame and Cover is used, set top of Frame 1'-6" Above Finished Grade unless otherwise noted on the Drawings.
- House(s) with the Symbol "C.N.S." Indicates that Cellar cannot be Served.

USE FOR BORING LOCATION ONLY

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

KIDDE CONSULTANTS, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

DES: J.M.G.					
DRN: J.M.G.					
CHK: W.B.H.					
DATE: _____	BY: _____	NO. _____	REVISION _____	DATE _____	600' SCALE MAP NO. _____ BLOCK NO. _____

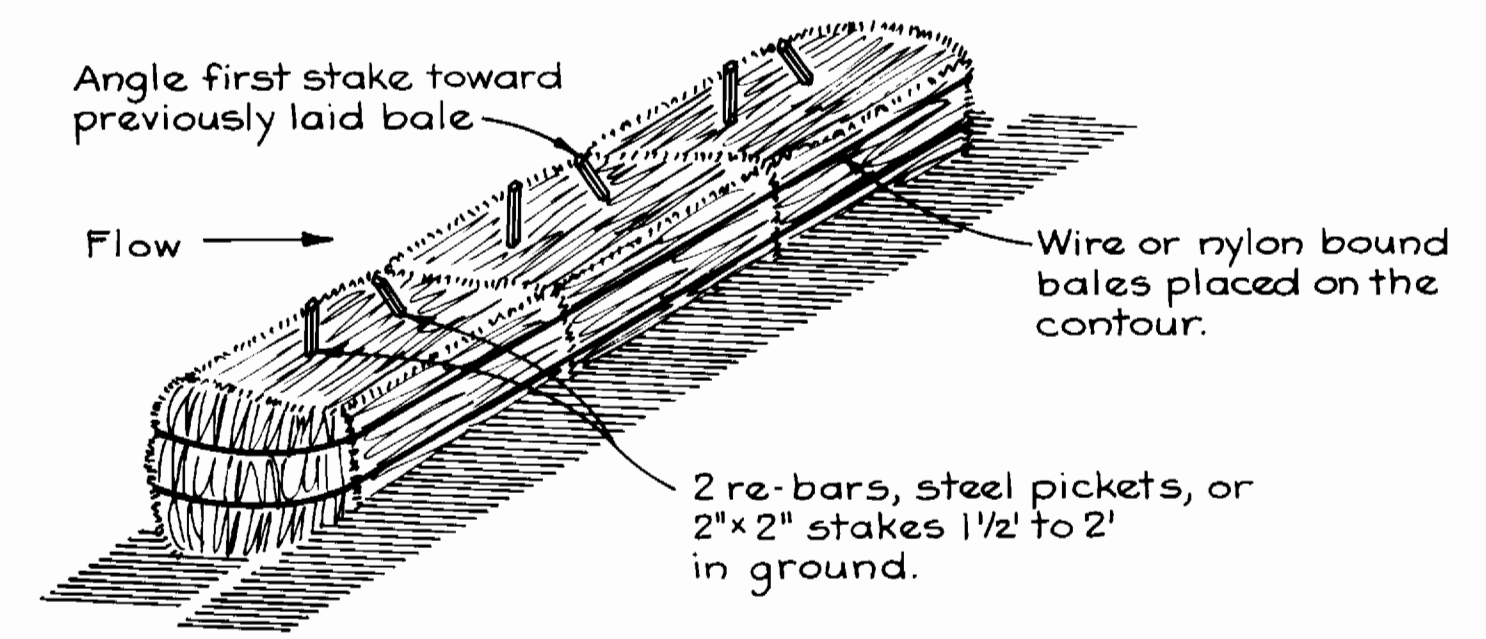
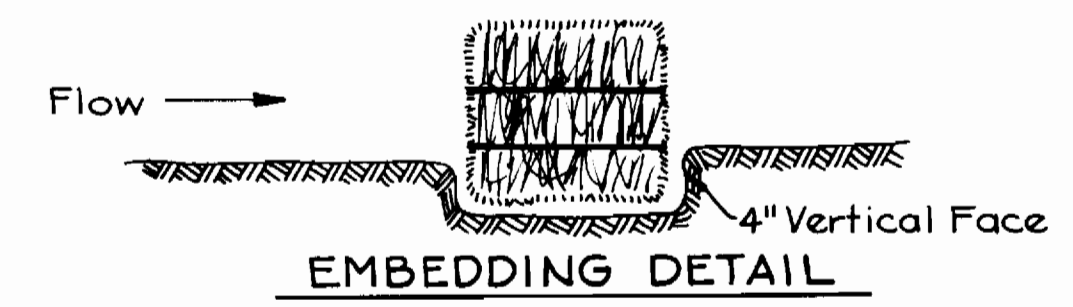
PLAN AND PROFILE
OF
SEWER MAIN EXTENSIONS

DUCKETT LANE SEWER-EXTENSION
CAPITAL PROJECT NO. S-6685
CONTRACT NO. 10-1386
ELECTION DISTRICT NO. _____
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 3

SOIL EROSION AND SEDIMENT CONTROL NOTES

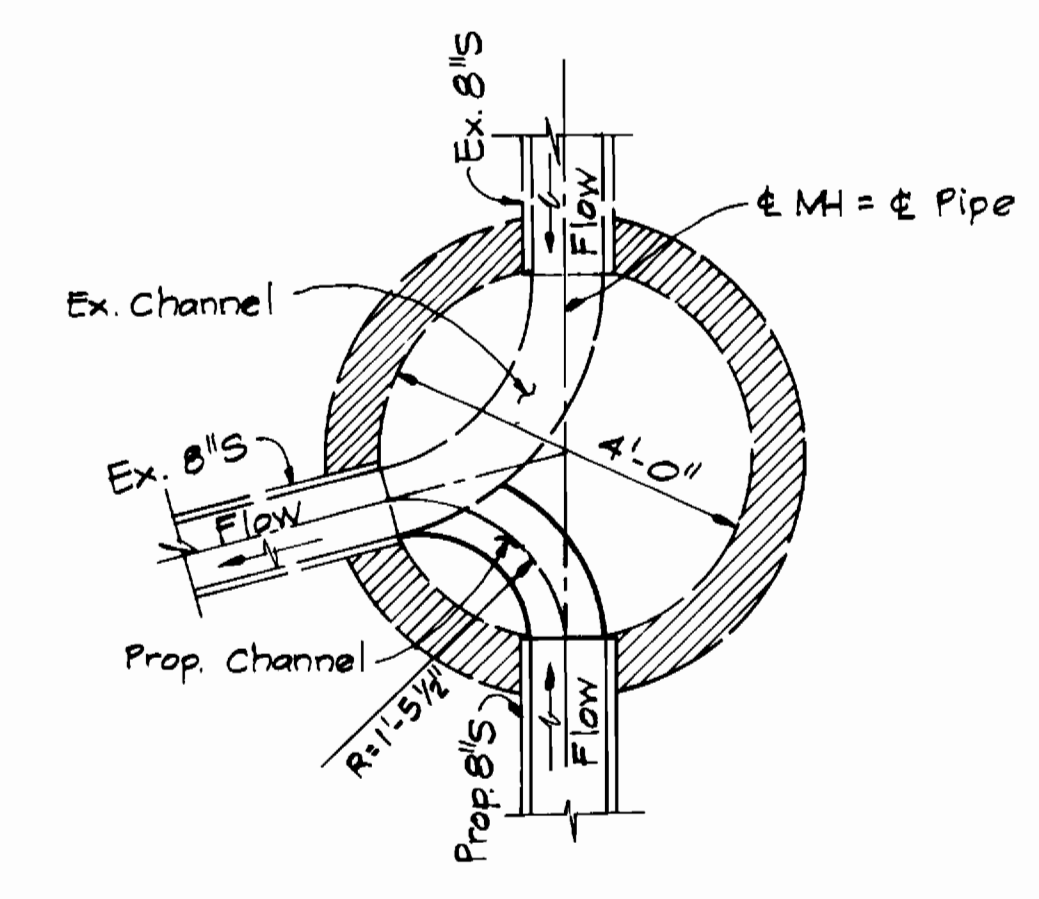
- The Contractor will comply with all Requirements of Sediment and Erosion Control set forth in the Contract Drawings, the USDA Soil Conservation Service Manual, "Standards and Specifications for Soil Erosion and Sediment Control in Developing Areas", and Volume IV- Article 15 of the Howard County Design Manual, Volume IV.
- The Contractor shall not Pump from Excavated Areas directly into the Howard County Storm Drainage System or any Natural Water Course. Where Groundwater is encountered during Construction, the Contractor shall provide Portable or Excavated Sediment Traps to prevent Silted Trench Water from entering Storm Drainage Systems or Natural Waterways.
- All Excavated Material shall be placed on the high side of the Trench whenever possible, and confined to an area where it will not obstruct the Normal Flow or Drainage Courses.
- All Swales shall be equipped with a Sediment Retention Device to Trap Sediment and Filter Water leaving the Right-of-Way prior to entering any Running Streams.
- The Contractor shall provide Straw Bale Dikes normal to Surface Water Flow around all Vehicle and Equipment Staging Areas.
- Roadside Ditches and Drainage Pipes shall be Restored to a condition Equal to or Better than the Original Condition following Completion of Construction.
- The Contractor shall Dispose of Spoils in accordance with Good Soil Conservation practice and in such a manner that none can be carried into any Drainage Facility or Water Course. The Contractor shall be responsible for disposing of all Spoil or Excess Excavated Material on a Site approved by the Soil Conservation District. Documentation of approval and site shall be provided to the Engineer prior to Beginning Work.
- The Howard County Soil Conservation District must be Notified in writing by the Contractor as to where Excess Material will be Disposed or Borrow Material will be obtained. Prior to beginning any Work on this Project, copies shall be provided to the Engineer.
- Continuous Inspection and Maintenance of all Sediment and Erosion Control Devices will be Required.
- The Contractor shall provide Additional Soil Erosion and Sediment Control as Required by the Sediment Control Inspector, as the Work Progresses or Requires.
- The Contractor shall Notify in Writing, a Howard County Sediment Control Division Representative at least three (3) days prior to starting Work. Please Contact: Howard County - *992-2436. Copies shall be provided to the Engineer.
- Sediment Removal- All Trapped Sediment is to be Removed and Disposed of at the Authorized Landfills prior to Removal of Sediment Control Structures.



CONSTRUCTION SPECIFICATIONS

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

DETAIL STRAW BALE DIKE
No Scale



- CHANNEL LINING NOTES**
- Channel Linings shall Be Formed Using Sewer Brick (ASTM C-32, Grade SS, Size No. 1)
 - Channel shall Provide Smooth Hydraulic Transition Between Pipes.

DETAIL CHANNELIZATION FOR EX. MANHOLE 6125
No Scale

<p>Reviewed for Howard County S.C.D. and meets technical requirements.</p> <p><i>[Signature]</i> Date: 11-18-85</p> <p>U. S. SOIL CONSERVATION SERVICE</p> <p>This development plan is approved for soil erosion and sediment control by The Howard County Soil Conservation District.</p> <p>Approved: <i>[Signature]</i> Date: 11/18/85 HOWARD COUNTY S.C.D.</p>	<p>ENGINEER'S CERTIFICATION</p> <p>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.</p> <p><i>[Signature]</i> Date: 11/21/85</p> <p>KIDDE CONSULTANTS, INC. 1020 CROMWELL BRIDGE ROAD TOWSON, MD. 21204</p>	<p>DEVELOPER'S CERTIFICATION</p> <p>"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."</p> <p>Date: _____</p> <p>BUREAU OF ENGINEERING DEPARTMENT OF PUBLIC WORKS</p>
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<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> DATE: 11-18-85 DIRECTOR OF PUBLIC WORKS</p> <p><i>[Signature]</i> DATE: 11-18-85 CHIEF, BUREAU OF UTILITIES</p>	<p>KIDDE CONSULTANTS, INC. CONSULTING ENGINEERS BALTIMORE, MARYLAND</p> <p><i>[Signature]</i> DATE: 11-5-85 CHIEF, UTILITY DESIGN</p>	<p>DES: J. M. G. DRN: J. M. G. CHK: W. B. H. DATE: 10/21/85</p>	<table border="1"> <tr> <th>BY</th> <th>NO.</th> <th>REVISION</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	BY	NO.	REVISION	DATE					<p>SEDIMENT CONTROL DETAILS</p> <p>600' SCALE MAP NO. _____ BLOCK NO. _____</p>	<p>DUCKETT LANE SEWER-EXTENSION CAPITAL PROJECT NO. S-6685 CONTRACT NO. 10-1386 ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND</p>	<p>SCALE AS SHOWN</p> <p>SHEET 2 OF 13</p>
BY	NO.	REVISION	DATE											