

# HOWARD COUNTY, MARYLAND

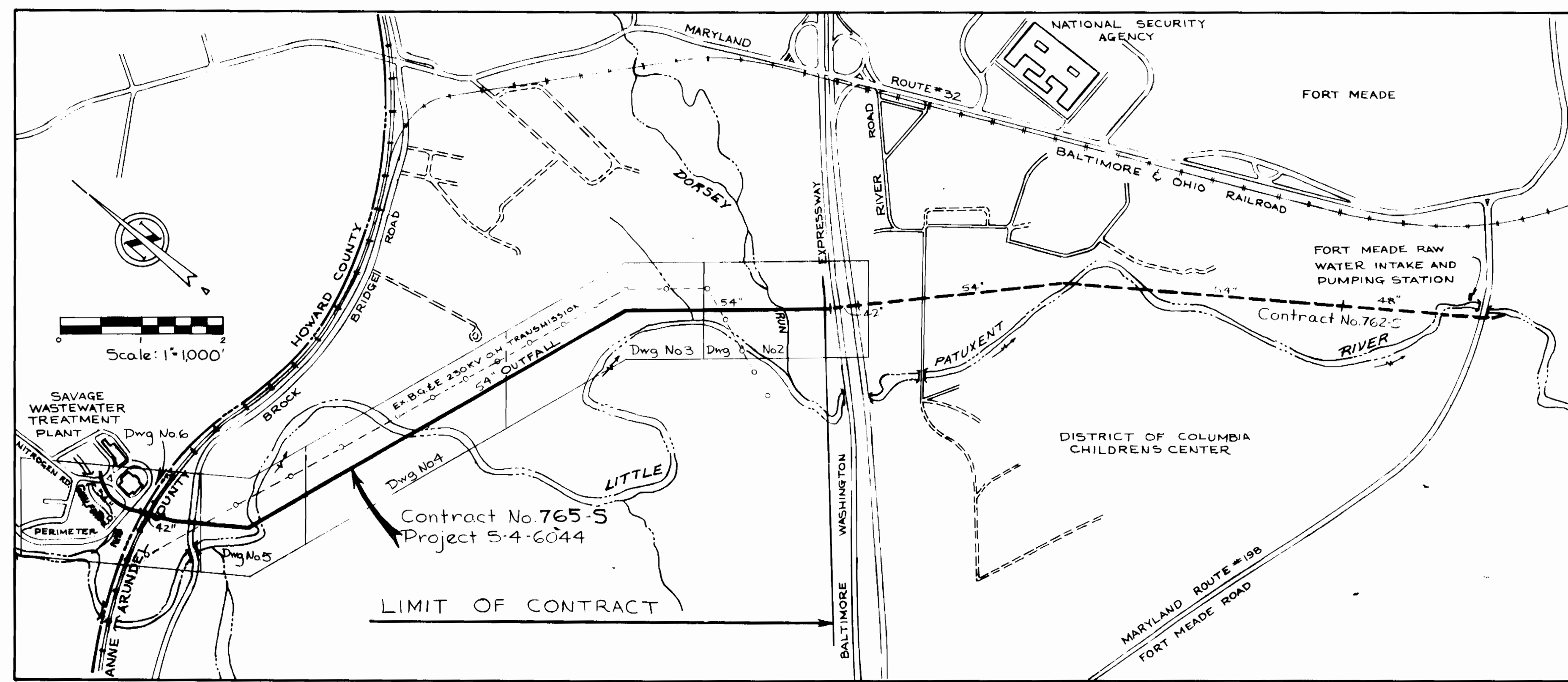
## DEPARTMENT OF PUBLIC WORKS

# SAVAGE WASTEWATER TREATMENT PLANT

# TREATED EFFLUENT OUTFALL

### CONTRACT NO. 765-S

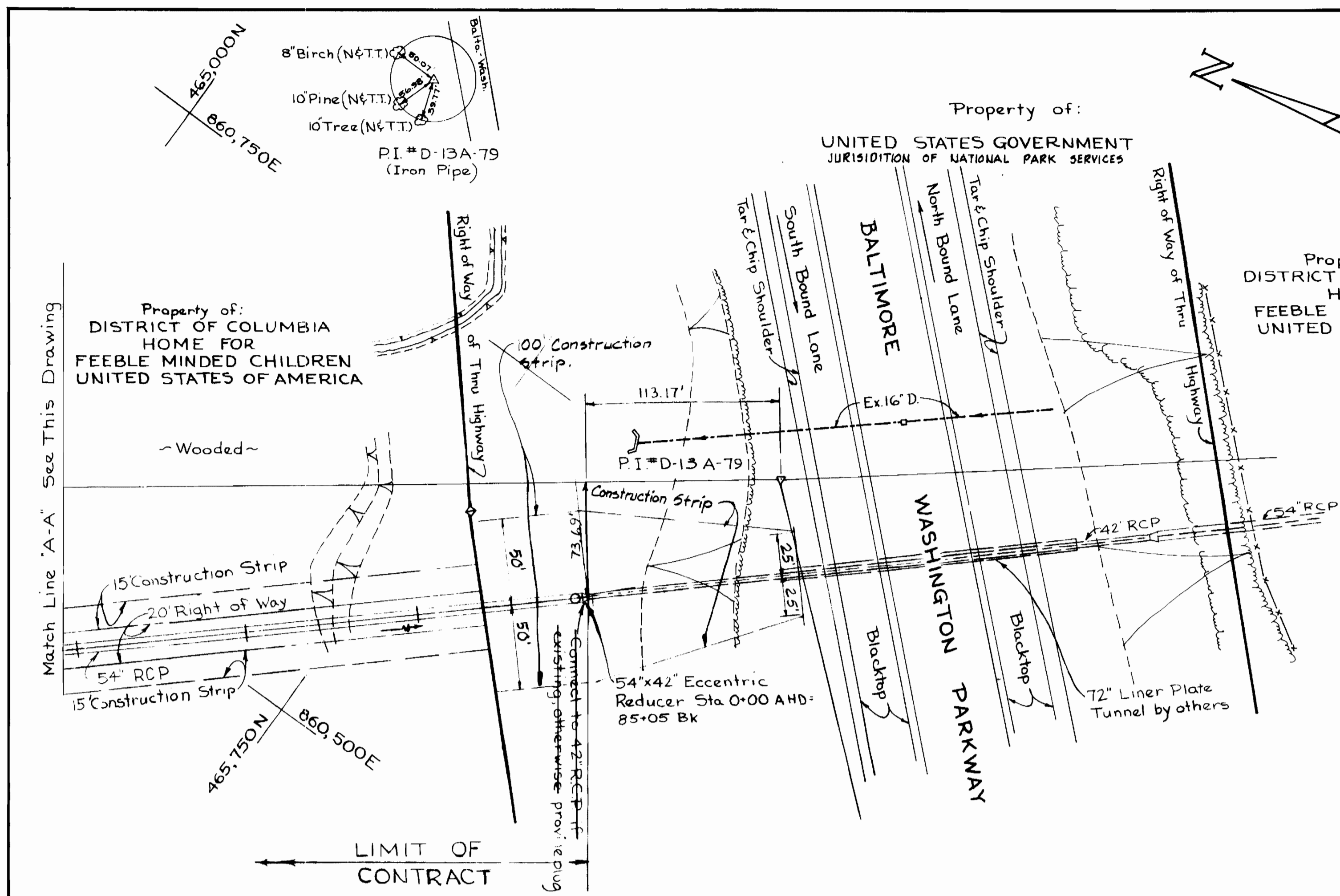
### PROJECT NO. S-4-6044



LIST OF DRAWINGS	
DRAWING NUMBER	TITLE
1	TITLE AND LOCATION MAP
2-6	PLAN OF OUTFALL
7-8	PROFILE OF OUTFALL
9	DETAILS - AIR RELEASE MANHOLES
10	DETAILS - LINER PLATE TUNNEL RIP - RAP - BLOWOFF
11	LOCATION AND DRAINAGE MAP SEDIMENT CONTROL PLAN
12-16	SEDIMENT CONTROL PLAN
17-18	DETAILS - SEDIMENT CONTROL PLAN

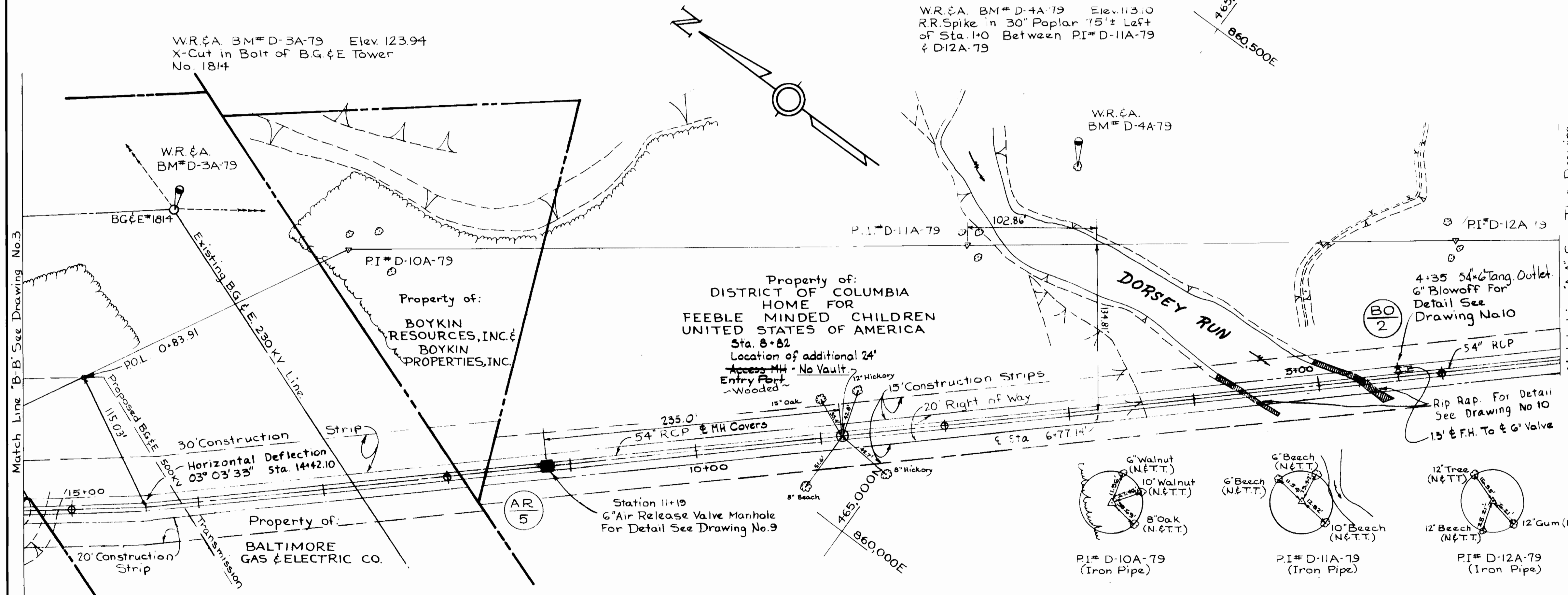
Savage W.W.T.P. Outfall Sewer  
Project No. S-4-6044  
Contract No. 765-S

<b>WHITMAN, REQUARDT &amp; ASSOCIATES</b> ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	<b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND DATE: <u>8-30-79</u> DIRECTOR: <u>George F. Nemmy</u>	<b>CONTRACT NO. 765-S</b>	<b>TITLE AND LOCATION MAP</b>	SAVAGE WASTEWATER TREATMENT PLANT TREATED EFFLUENT OUTFALL	<b>DRAWING NO. 1 OF 18</b>	<b>SCALE AS SHOWN</b>
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**Note:**  
1. Contractor shall have no access from Baltimore - Washington Parkway.

For Profile See Drawing No. 9



**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.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS, UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN VICINITY OF UTILITIES.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:  
BALTIMORE GAS & ELECTRIC CO. - UNDERGROUND ELECTRIC DISTRIBUTION ENGINEERING DAMAGE CONTROL 294-5601  
UNDERGROUND GAS DISTRIBUTION ENGINEERING 294-5621  
CHESAPEAKE AND POTOMAC TELEPHONE COMPANY 396-3646.  
M&D UTILITY - 1 - 588-8100

**AS BUILT NOTE**

R.C.P. BY CONCRETE PIPE & PRODUCTS, INC.  
RUBBER AND STEEL JOINTS.

○ Pipe line shown. Location as shown on plan. For Detail see Drawing #10

**WHITMAN, REQUARDT & ASSOCIATES**  
ENGINEERS  
1304 ST. PAUL ST.  
BALTIMORE, MARYLAND

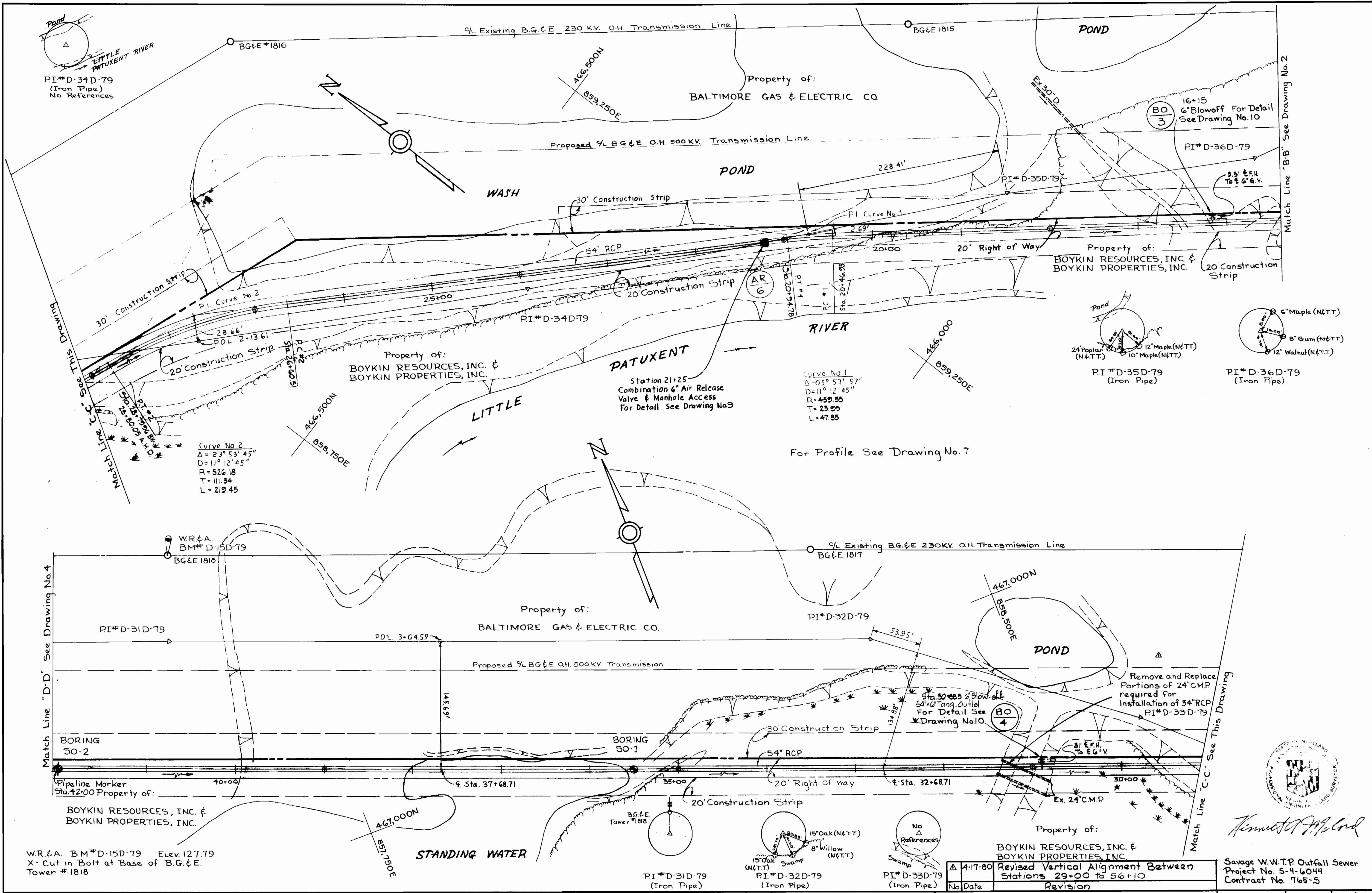
**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND  
DATE: 2/20/79  
CHIEF - BUREAU OF ENVIRONMENTAL SERVICES

**CONTRACT NO. 765-S**

**PLAN OF OUTFALL**

**SAVAGE WASTEWATER TREATMENT PLANT**  
TREATED EFFLUENT OUTFALL

**DRAWING NO. 2 OF 18**  
**SCALE 1" = 50'**  
51-464/8615  
51-465/8615  
51-465/8600



Curve No. 1  
 $\Delta = 05^\circ 57' 57''$   
 $D = 11^\circ 12' 45''$   
 $R = 459.55$   
 $T = 23.05$   
 $L = 47.85$

Curve No. 2  
 $\Delta = 23^\circ 53' 45''$   
 $D = 11^\circ 12' 45''$   
 $R = 526.18$   
 $T = 111.34$   
 $L = 219.45$

Δ	4-17-80	Revised Vertical Alignment Between Stations 29+00 to 56+10
No.	Date	Revision

Savage W.W.T.P. Outfall Sewer  
 Project No. S-4-6044  
 Contract No. 765-S

**WHITMAN, REQUARDT & ASSOCIATES**  
 ENGINEERS  
 1304 ST. PAUL ST.  
 BALTIMORE, MARYLAND

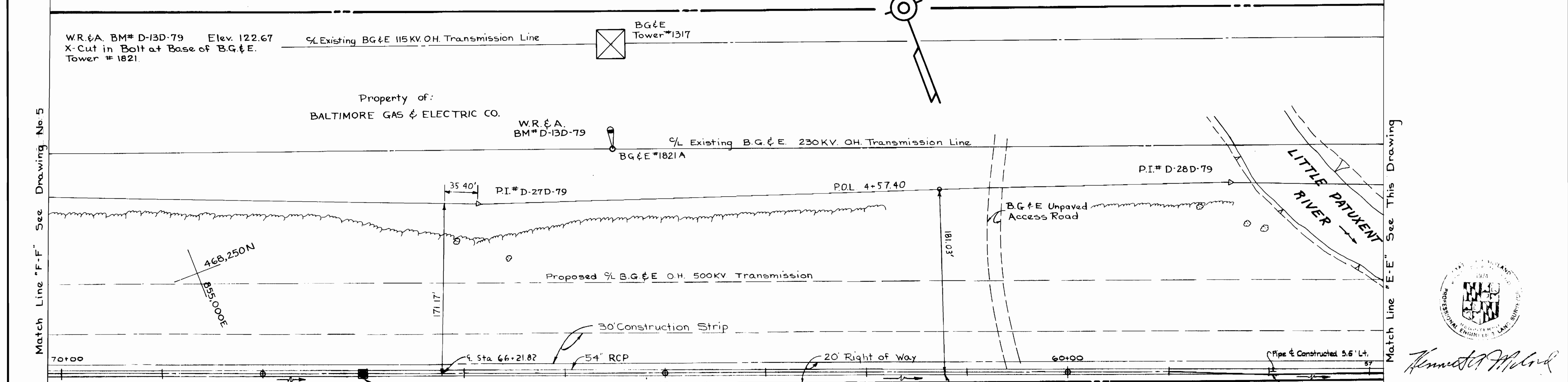
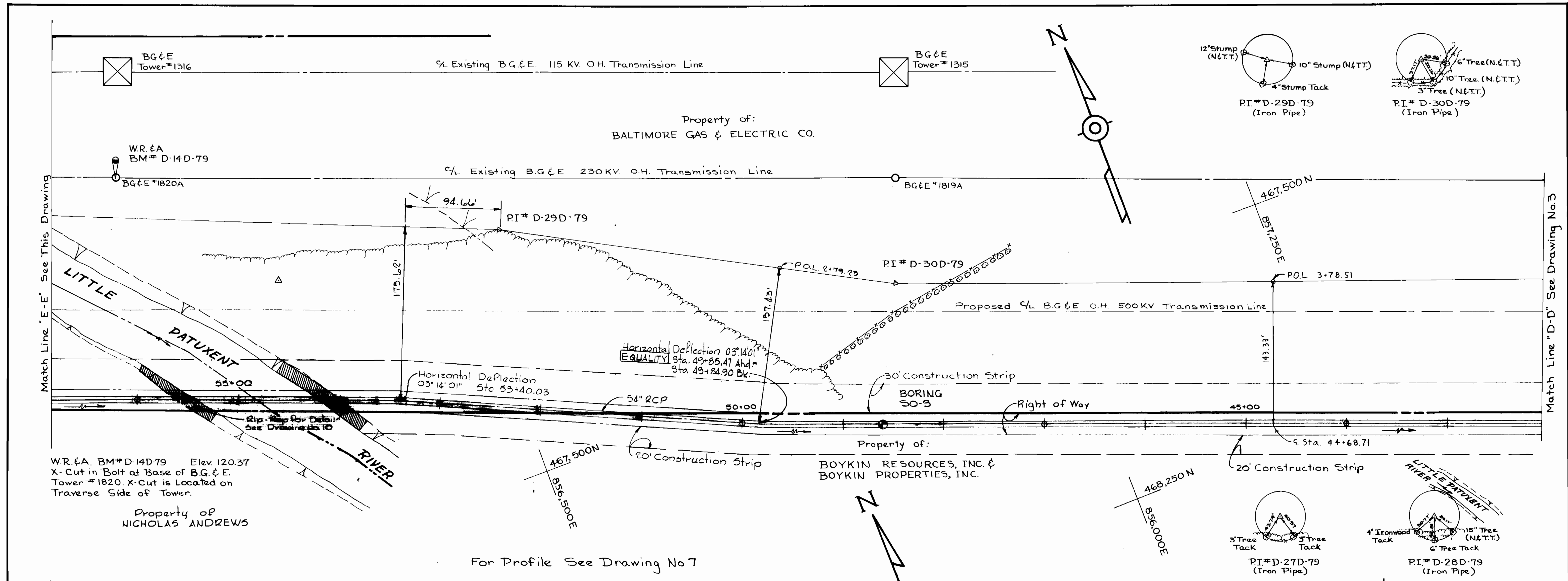
**DEPARTMENT OF PUBLIC WORKS**  
 HOWARD COUNTY, MARYLAND  
 DATE: 8/30/79  
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

**CONTRACT NO. 765-S**

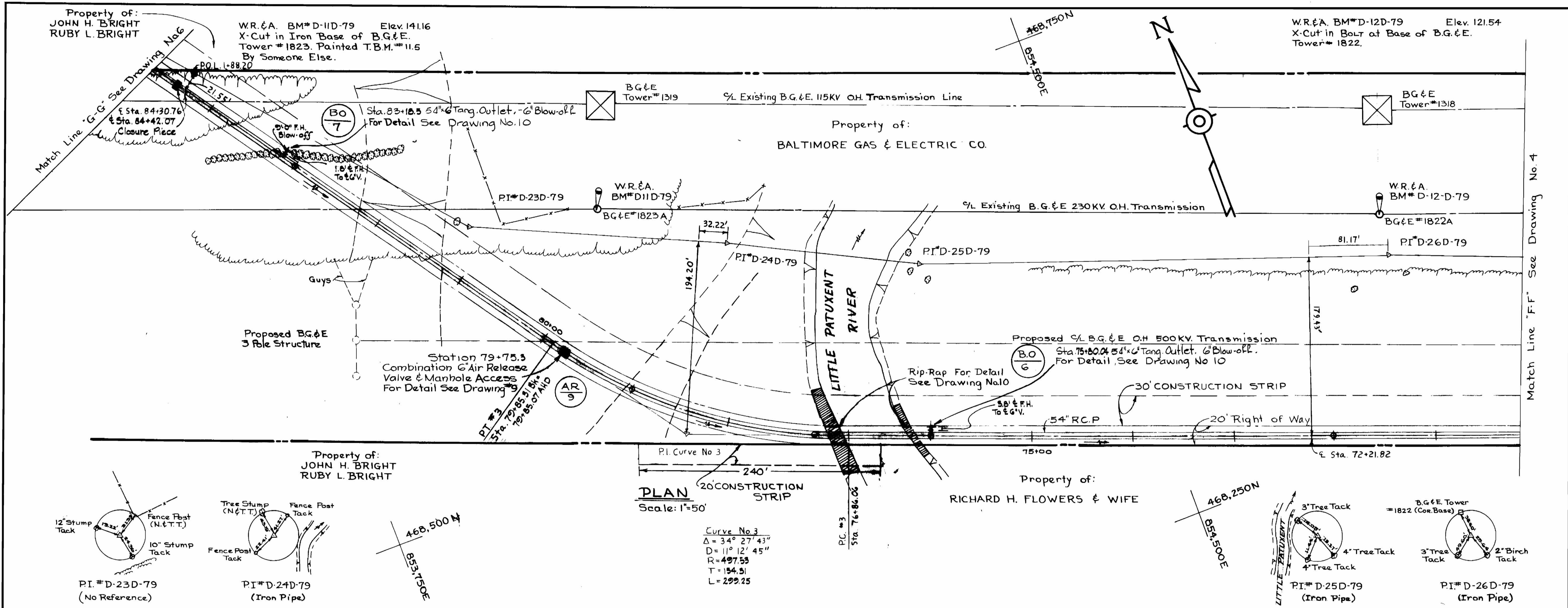
**PLAN OF OUTFALL**

**Savage WASTEWATER TREATMENT PLANT TREATED EFFLUENT OUTFALL**

**DRAWING NO. 3 OF 18**  
**SCALE 1" = 50'**

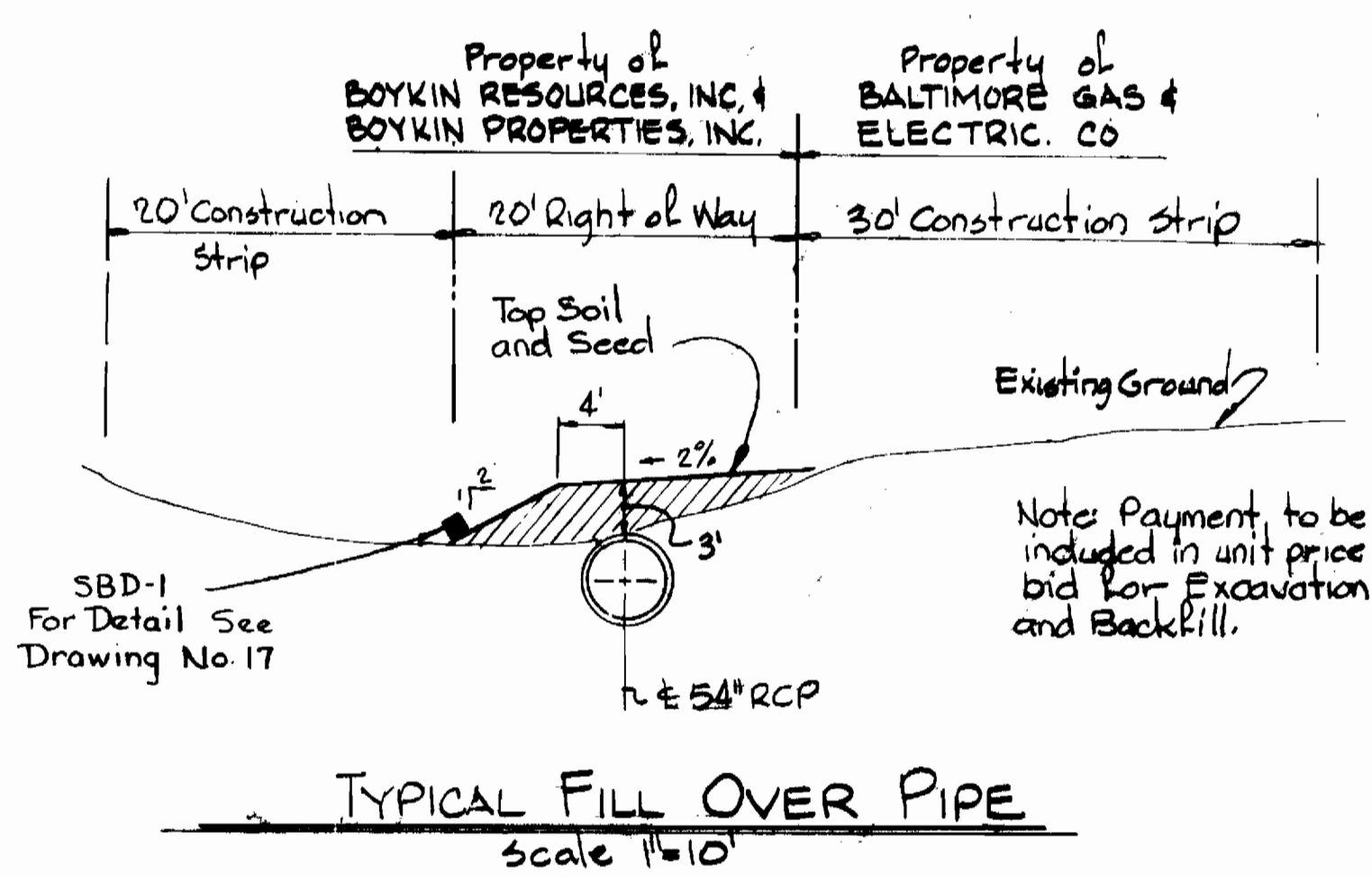


WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE _____ CHIEF - BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. <u>765-S</u>	PLAN OF OUTFALL	SAVAGE WASTEWATER TREATMENT PLANT TREATED EFFLUENT OUTFALL	DRAWING NO. <u>4</u> OF <u>8</u>	SCALE 1" = 50' 51-467/858.5 51-467/857 48-468/856 48-468/857	Station 67+00 Combination Air Release Valve & Manhole Access For Detail See Drawing No. 3	Station 57+96 - 1/2 Bevel Adapter
							No. <u>4</u> Date <u>4-17-80</u>	Revised Vertical Alignment Between Stations 29+00 to 56+10



Match Line "F" See Drawing No. 4

For Profile See Drawing No 7 & 8



No	Date	Revision
1	4-17-80	Revised Vertical Alignment Between Stations 29+00 to 56+10

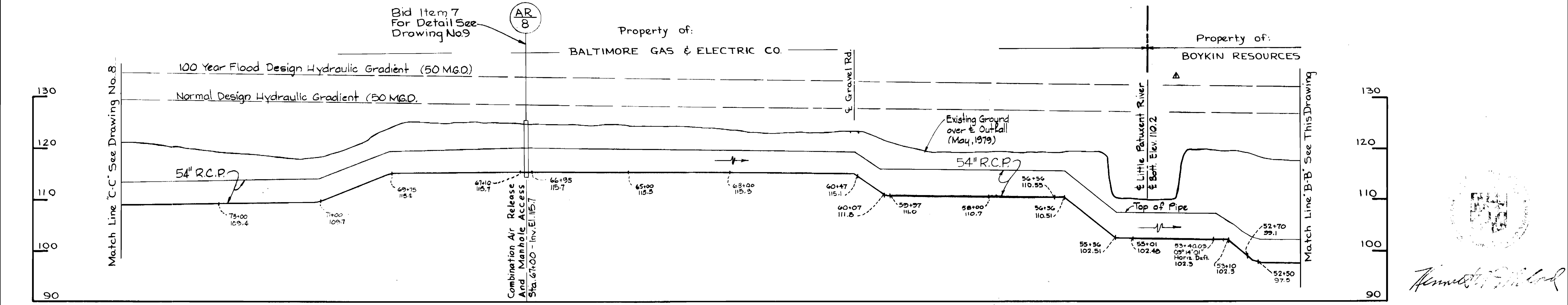
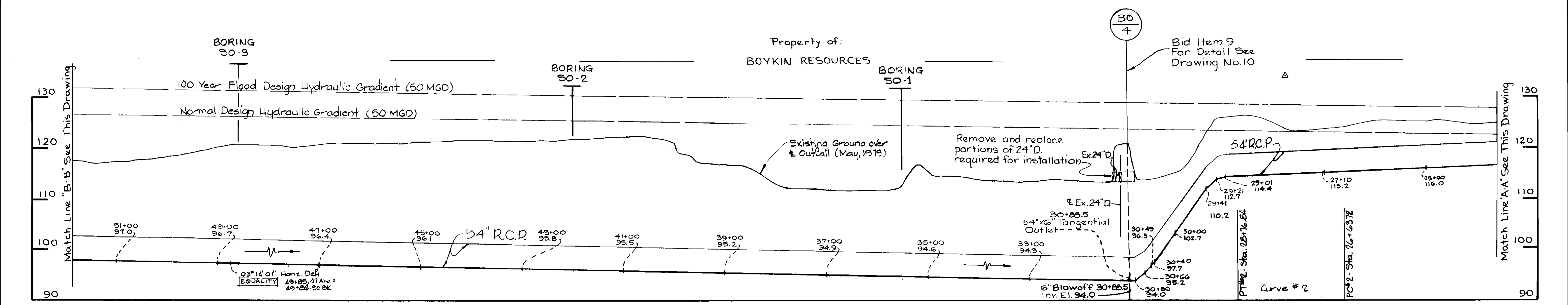
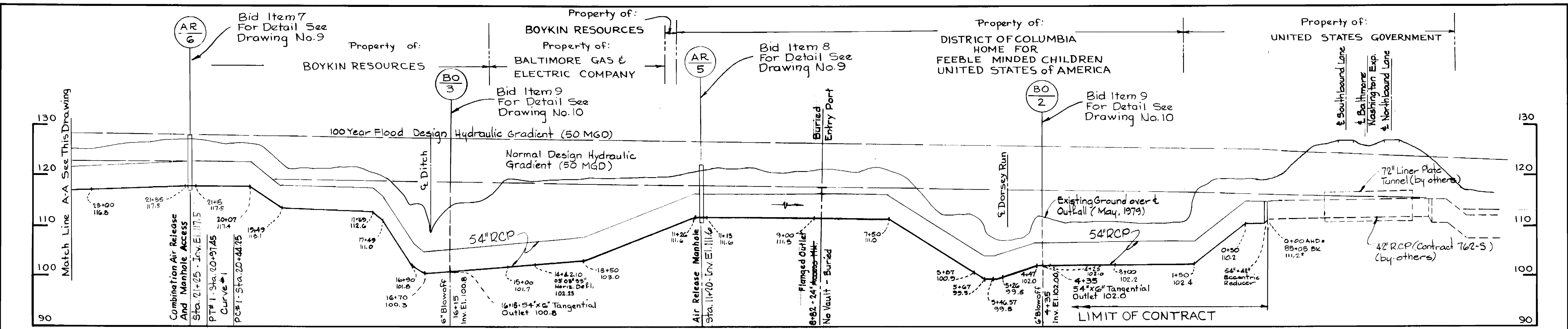


Kenneth A. McLeod

Savage W.W.T.P. Outfall Sewer  
Project No. S-4-6044  
Contract No. 765-S

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 4/20/80 CHIEF - BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 765-S	PLAN OF OUTFALL	SAVAGE WASTEWATER TREATMENT PLANT TREATED EFFLUENT OUTFALL	DRAWING NO. 5 OF 18	SCALE AS SHOWN	48-468/855 47-468/854
					AS BUILT - JULY 1, 1981		





**PROFILE**

Scale: Horizontal: 1"=100'  
Vertical: 1"=10'

Δ	4-17-80	Revised Vertical Alignment Between Stations 29+00 to 56+10
No.	Date:	Revision

*Annex 1, 1980*

Savage W.W.T.P. Outfall Sewer  
Project No. 5-4-6044  
Contract No. 765-S

**WHITMAN, REQUARDT & ASSOCIATES**  
ENGINEERS  
1304 ST. PAUL ST.  
BALTIMORE, MARYLAND

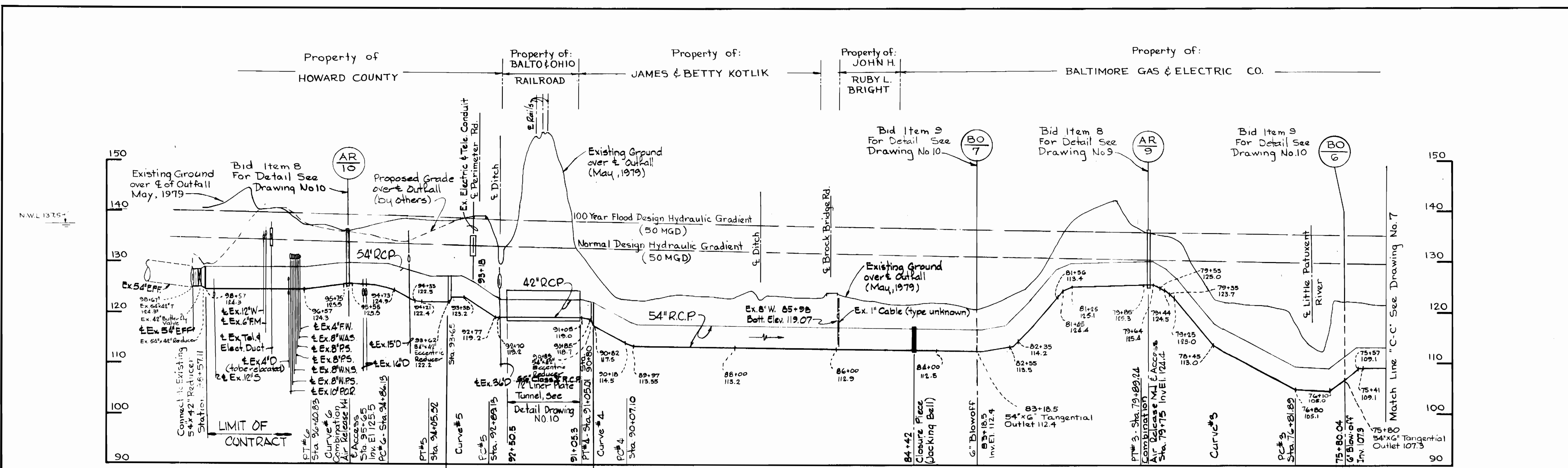
**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND  
DATE: 8/30/79  
CHIEF - BUREAU OF ENVIRONMENTAL SERVICES

**CONTRACT NO. 765-S**

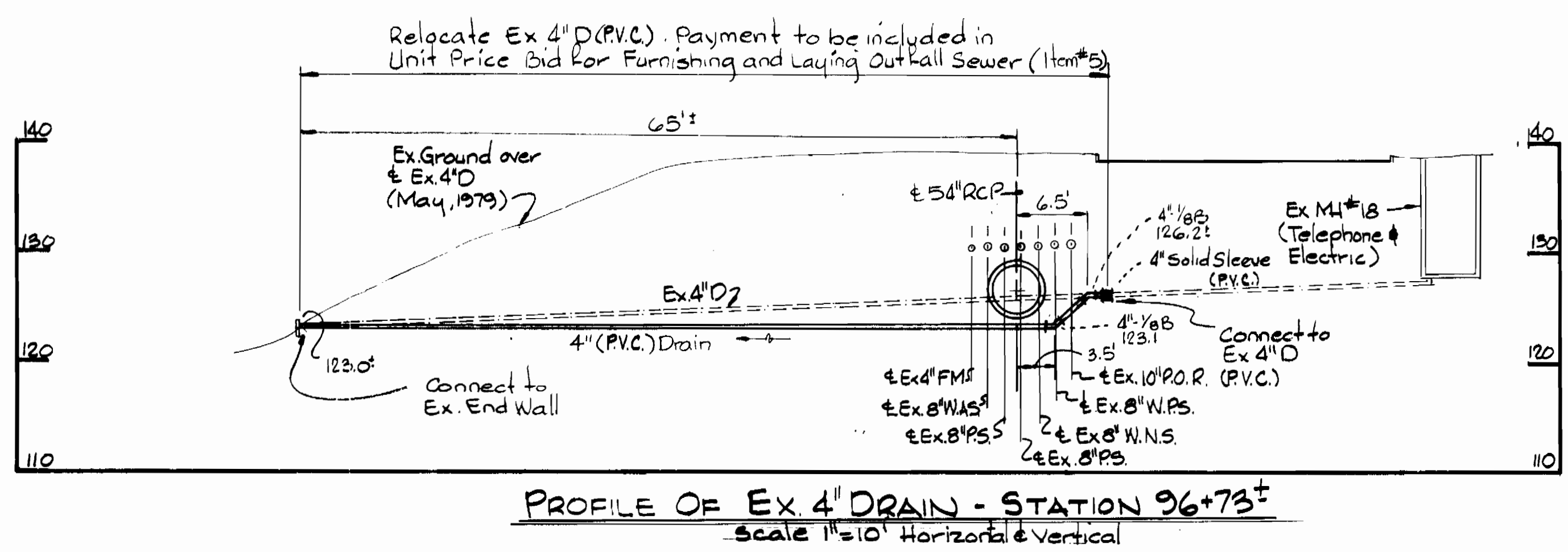
**PROFILE OF OUTFALL**

**SAVAGE WASTEWATER TREATMENT PLANT  
TREATED EFFLUENT OUTFALL**

**DRAWING NO. 7 OF 18**  
**SCALE AS SHOWN**



**PROFILE**  
 Horizontal: 1"=100'  
 Vertical: 1"=10'



**PROFILE OF EX. 4" DRAIN - STATION 96+73±**  
 scale 1"=10' Horizontal & Vertical

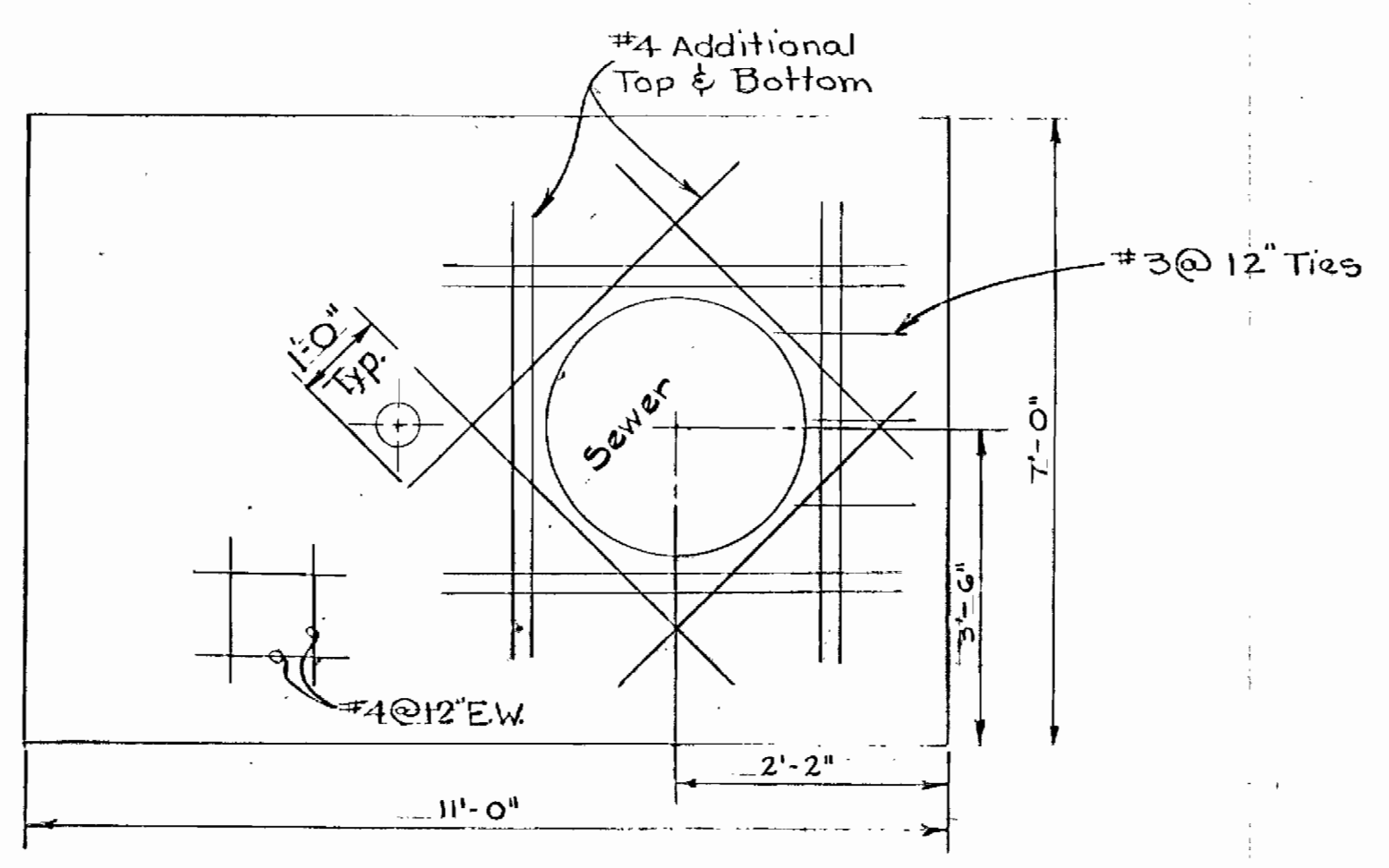


*James M. Shaw*

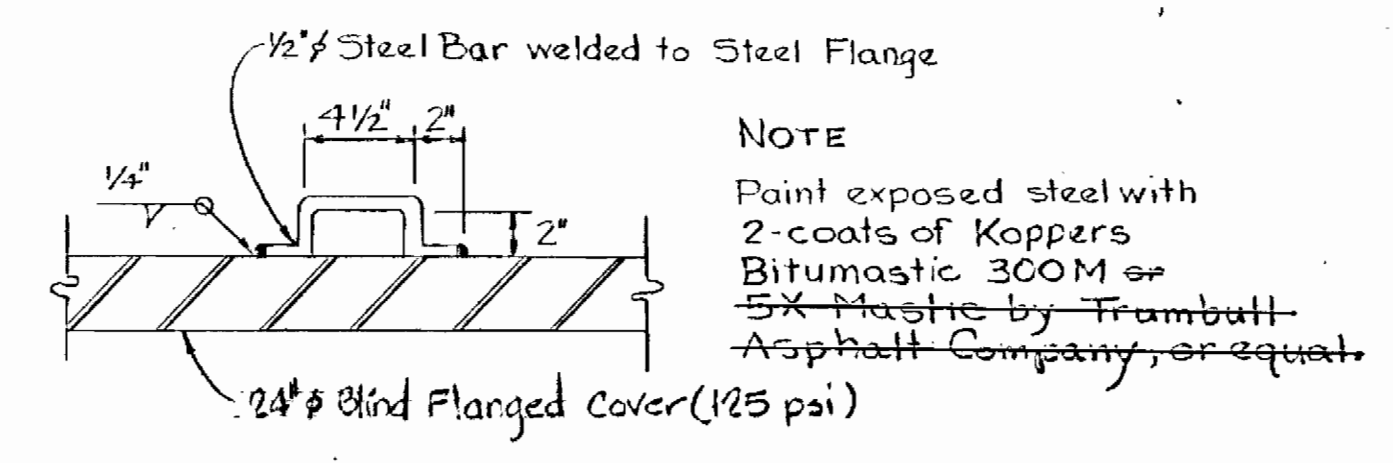
Savage W.W.T.P. Outfall Sewer  
 Project No. S-4-6044  
 Contract No. 765-S

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 8/30/77 James M. Shaw CHIEF BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 765-S	PROFILE OF OUTFALL	SAVAGE WASTEWATER TREATMENT PLANT TREATED EFFLUENT OUTFALL	DRAWING NO. 8 OF 18 SCALE AS SHOWN
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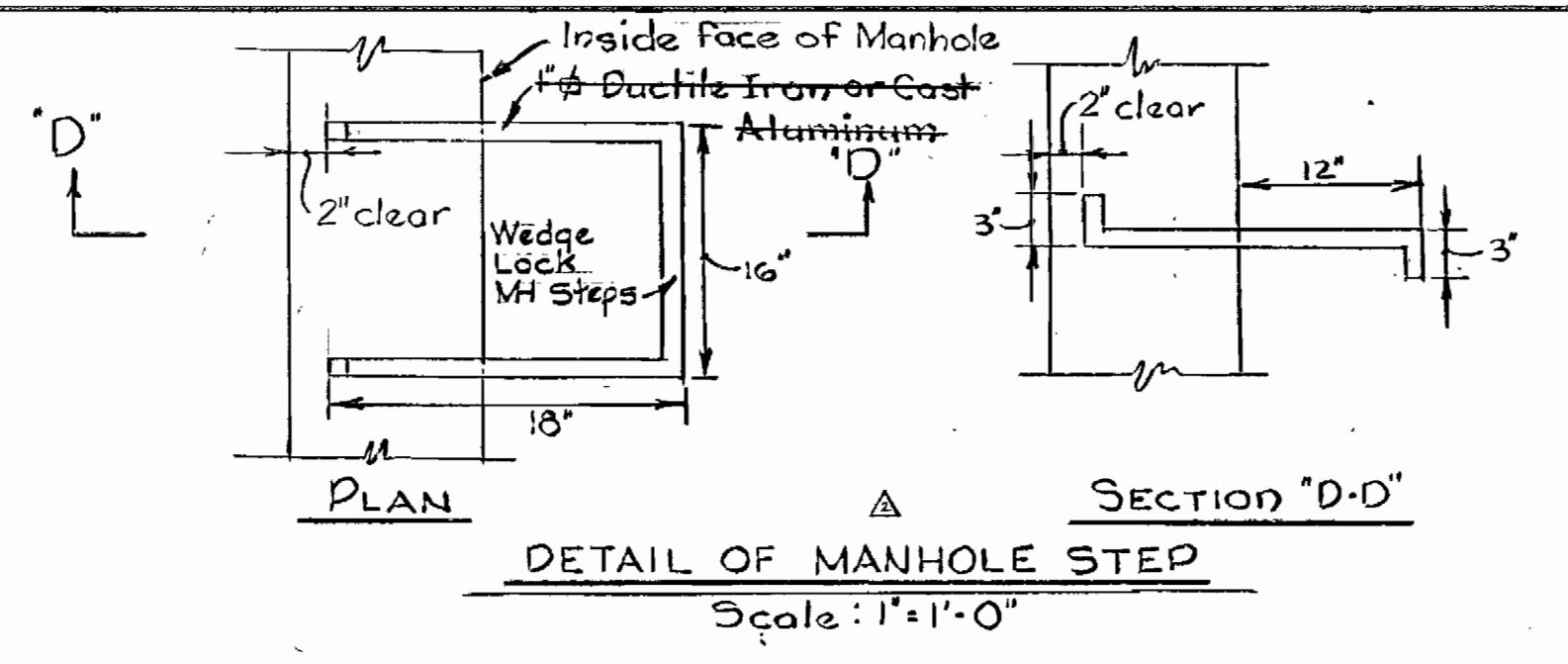




TYPICAL PLAN TOP OF SLAB

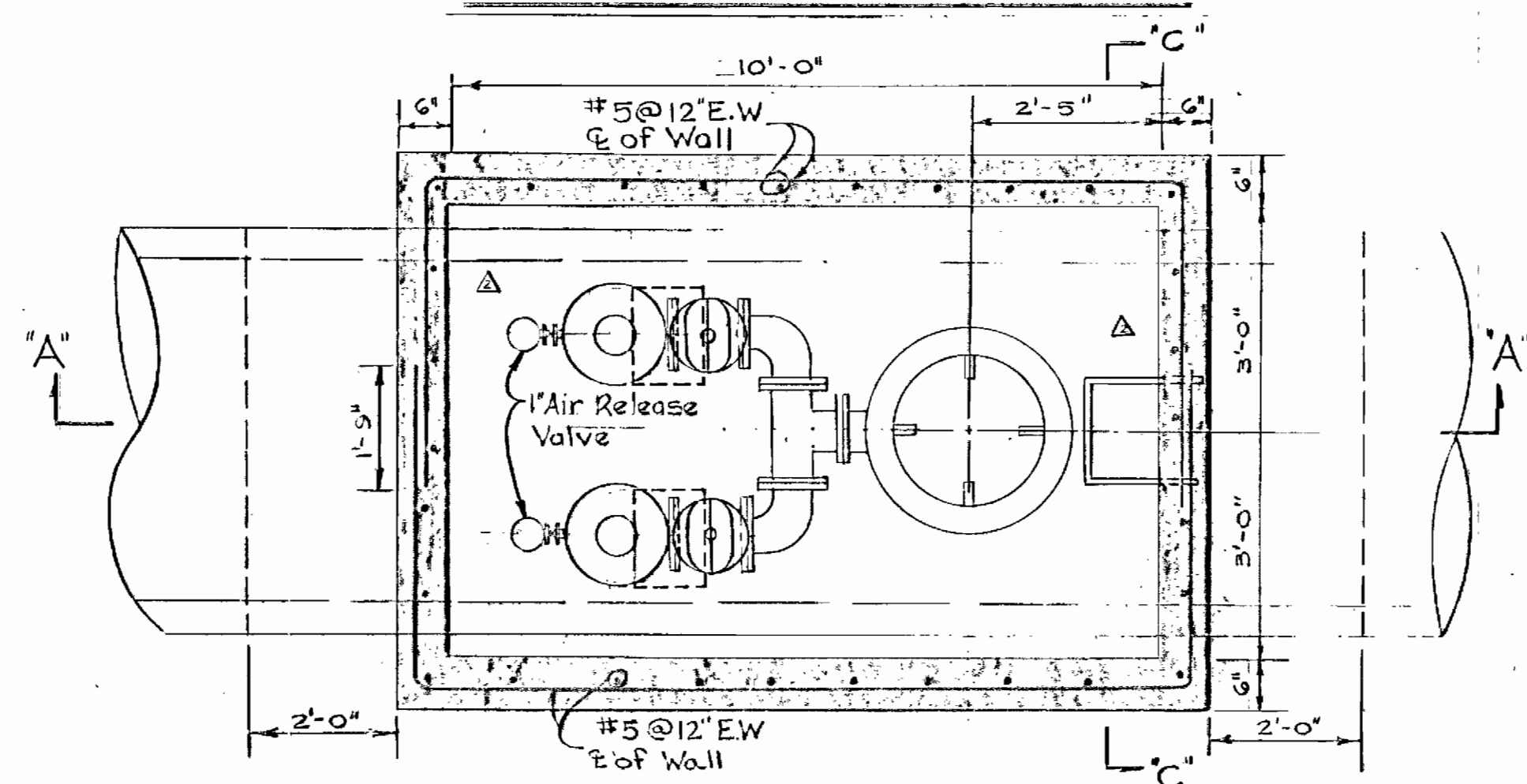


DETAIL OF LIFTING HOOK  
Scale: 1/2" = 1'-0"

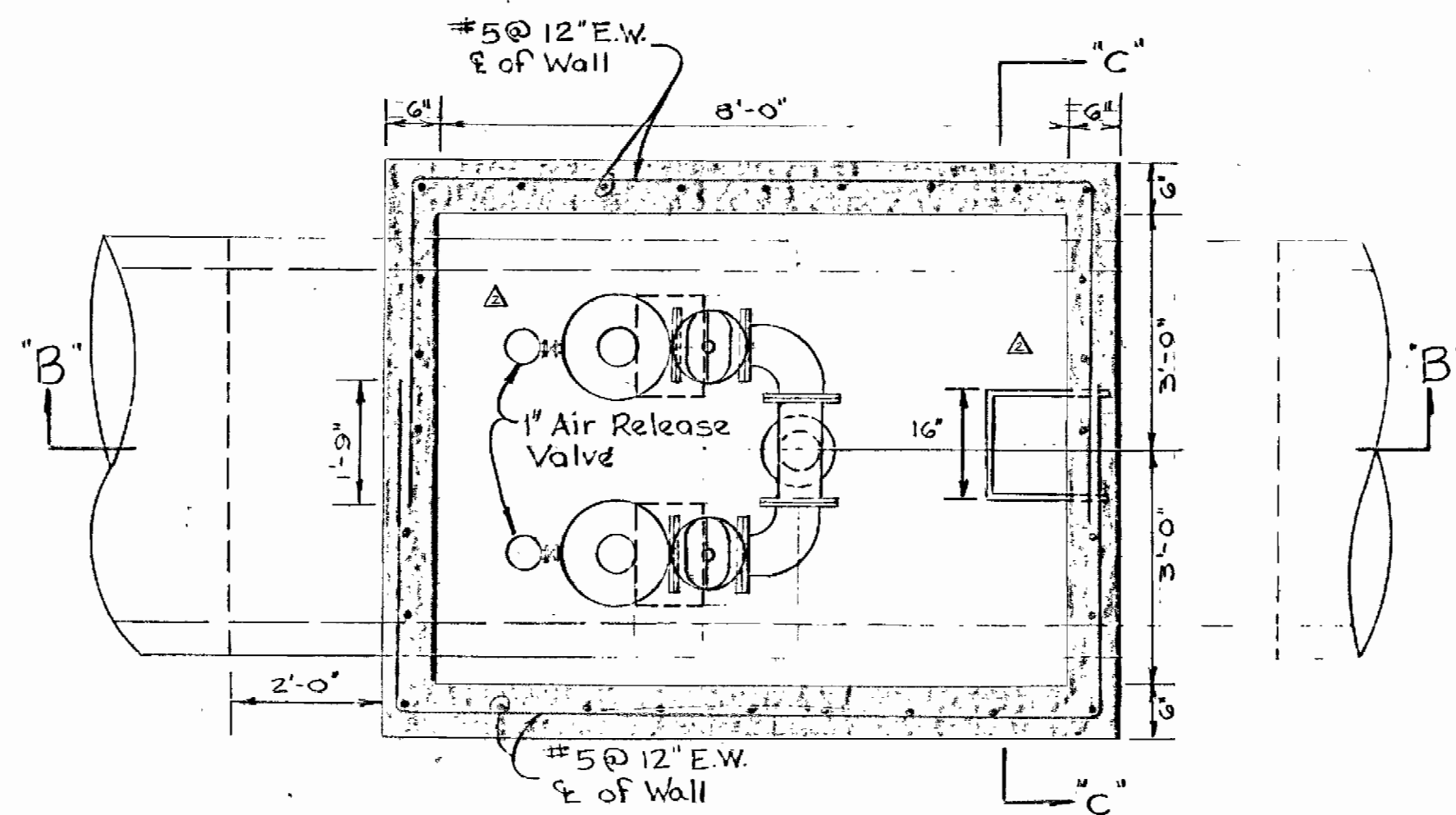


DETAIL OF MANHOLE STEP  
Scale: 1" = 1'-0"

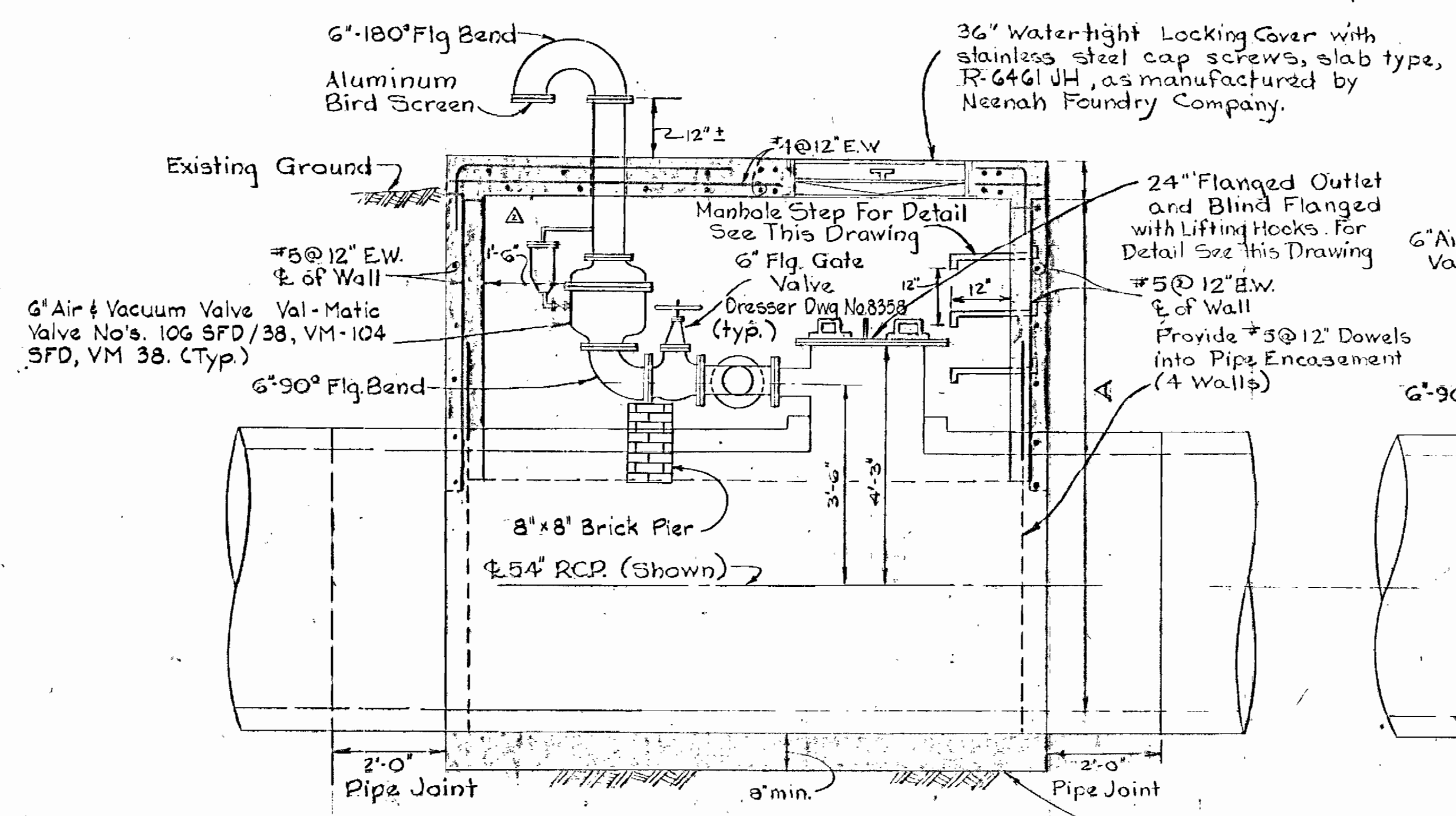
Type	A.R.	CAR&AMH	CAR&AMH	CAR&AMH	CAR&AMH
Station	11+20	21+25	67+00	79+75	95+65
Invert Pipe	111.6	117.5	115.7	124.6	125.5
Elev. Top Slab	121.0	127.4	125.6	136.8	136.6
Dimension	A	9'-3"	9'-3"	11'-0"	10'-4"
	B	9'-0"	—	—	—



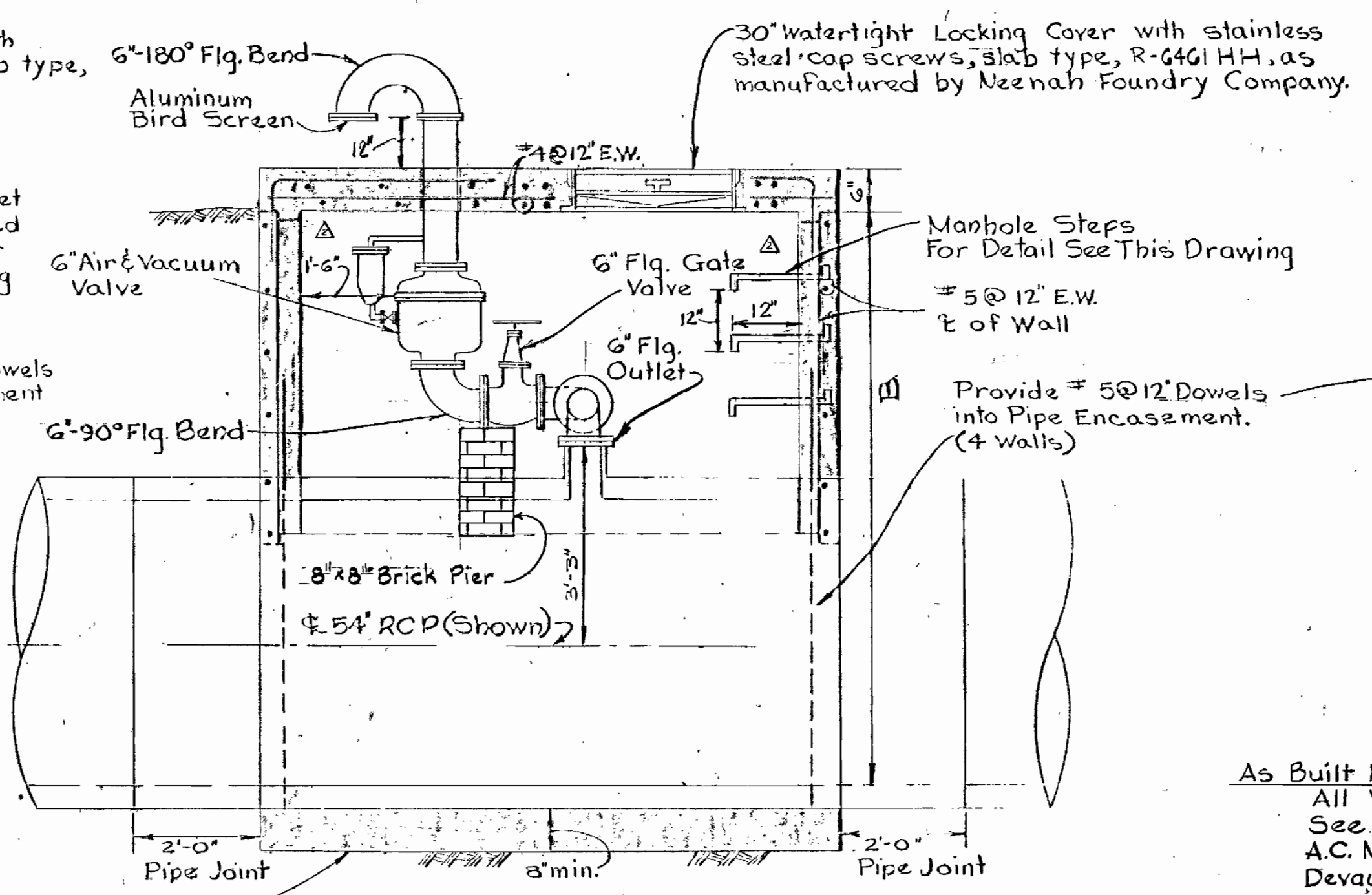
PLAN BELOW TOP OF SLAB



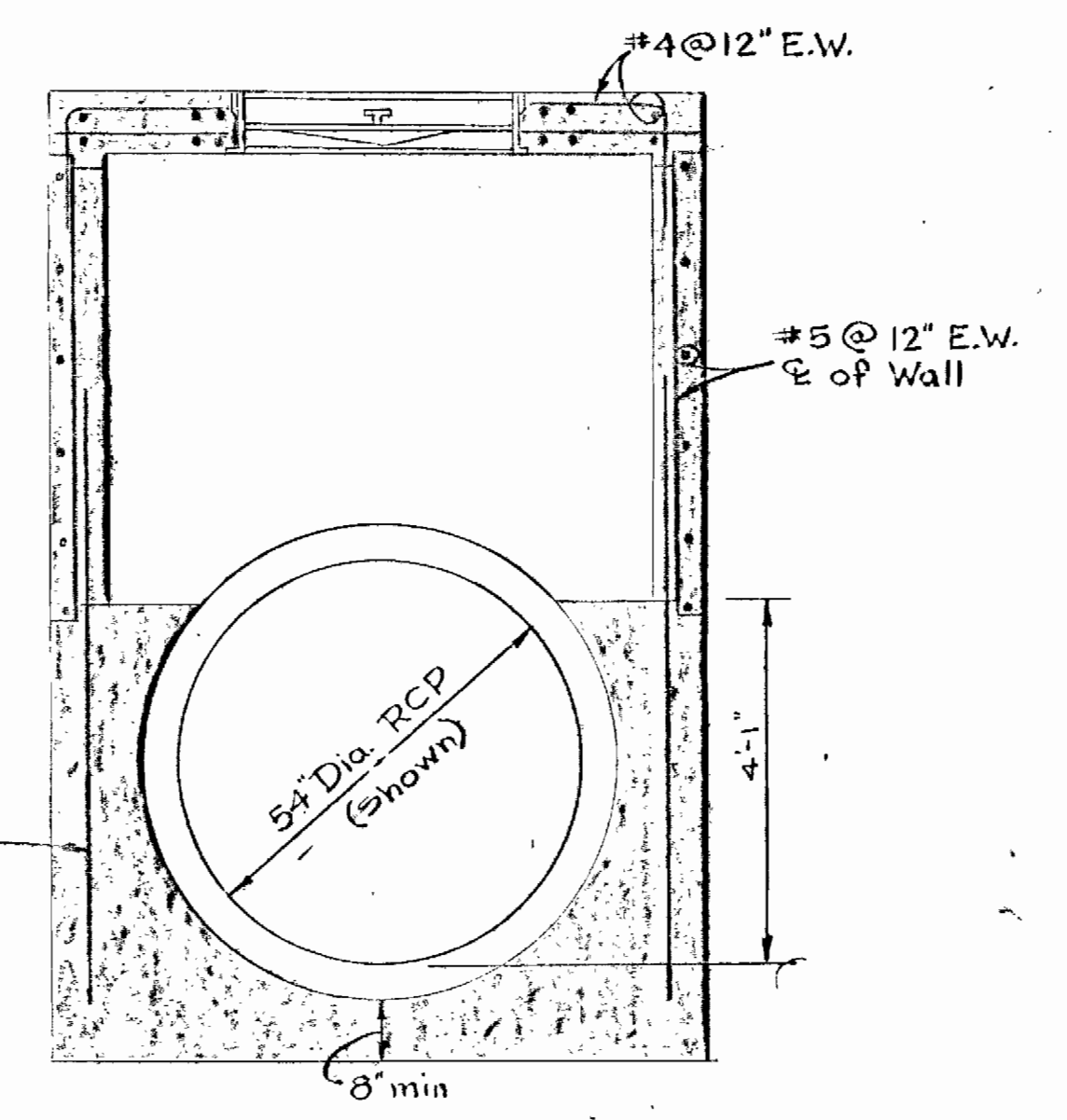
PLAN BELOW TOP OF SLAB



SECTION A-A  
DETAIL OF COMBINATION 6" AIR RELEASE AND ACCESS MANHOLE - BID ITEM 7  
Scale: 1/2" = 1'-0"

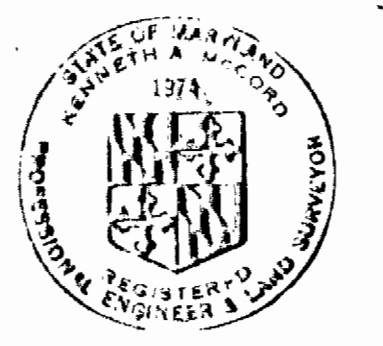


SECTION B-B  
DETAIL OF 6" AIR RELEASE VALVE MANHOLE - BID ITEM 8  
Scale: 1/2" = 1'-0"



SECTION C-C  
Scale: 1/2" = 1'-0"

As Built Note:  
All Vaults are Pre-cast Concrete.  
See Shop Drawings.  
A.C. Miller Concrete Products, Inc.  
Devault, Pa. 19432



*Kenneth M. Wood*

NO.	DATE	REVISION
Δ	5-12-80	Revised Air Release Manhole
Δ	4-17-80	Revised Vertical Alignment Between Stations 29+00 to 56+10

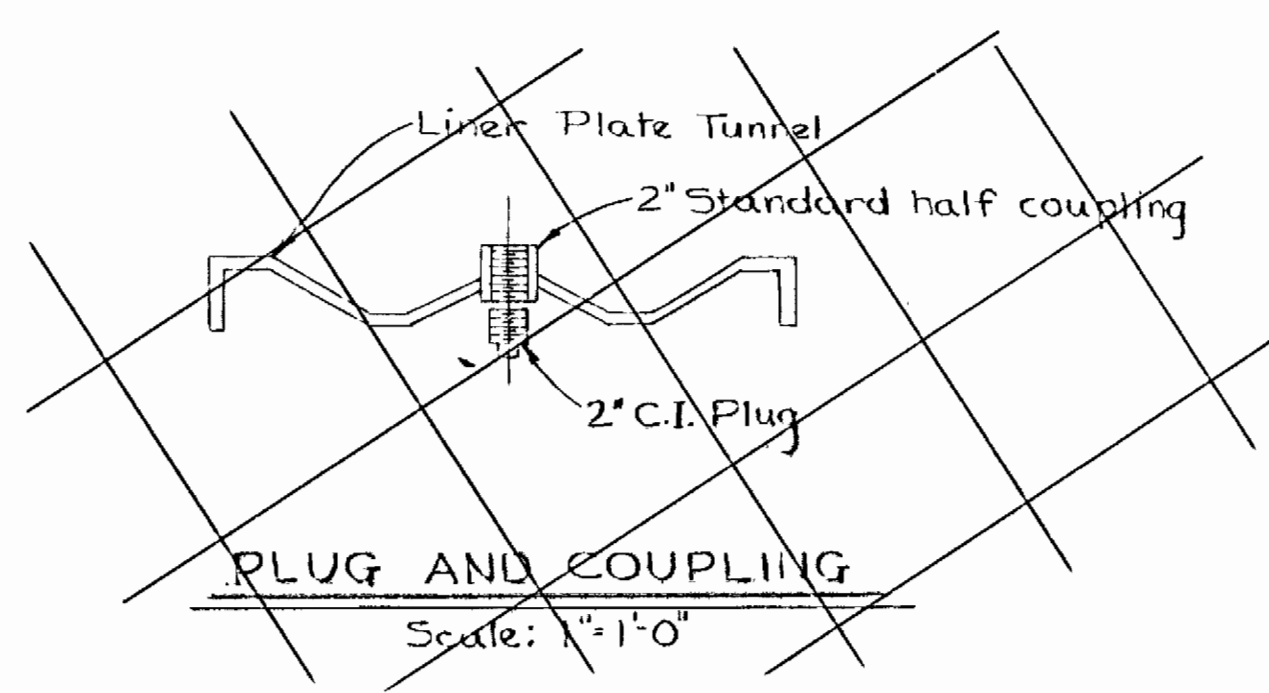
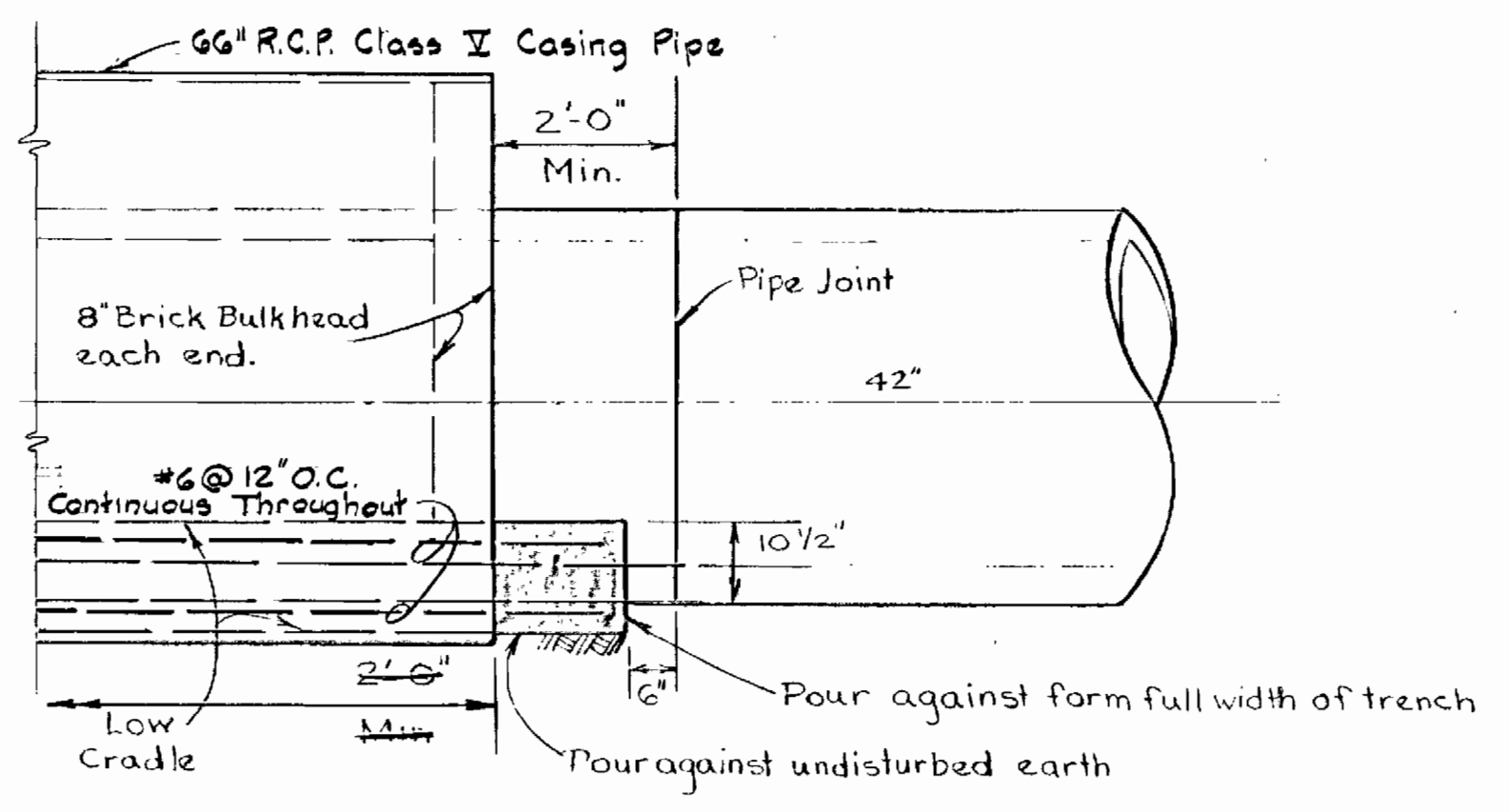
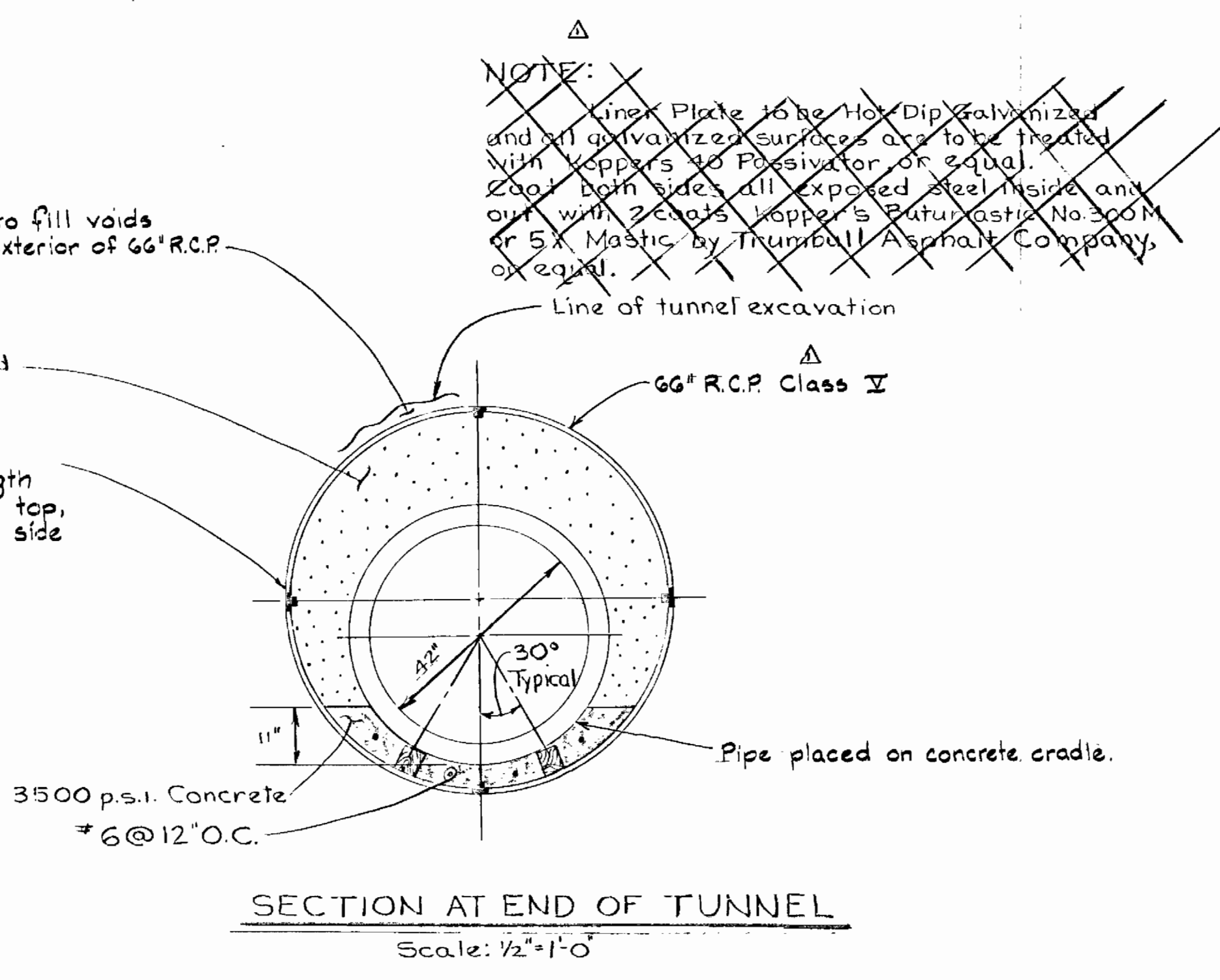
Savage W.W.T.P. Outfall Sewer  
Project No. S-4-6044  
Contract No. 765-S

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 8/31/79 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 765-S	DETAILS AIR RELEASE MANHOLES	SAVAGE WASTEWATER TREATMENT PLANT TREATED EFFLUENT OUTFALL	DRAWING NO. 9 OF 18	SCALE AS SHOWN
					AS BUILT - JULY 1, 1981	

Pump Hydraul - Ez to fill voids between earth and exterior of 66" R.C.P.

To be completely filled with concrete grout.

One grout hole to be located in each 8' length pipe placed alternately top, left side, bottom, right side top left side, etc.

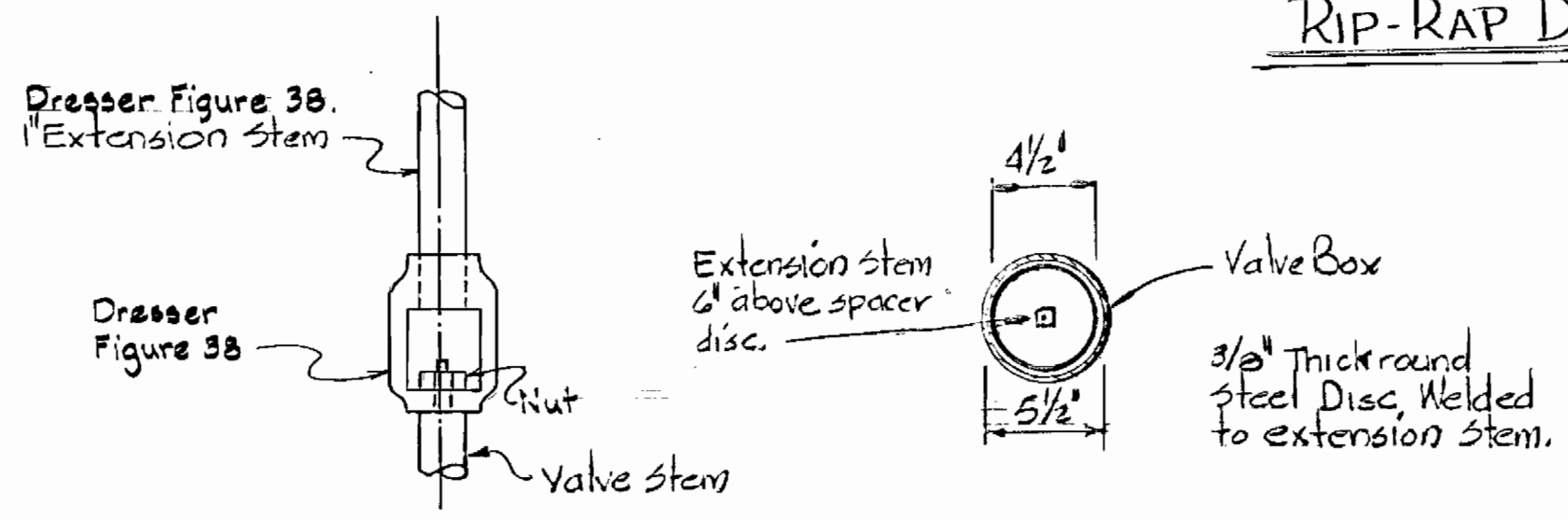
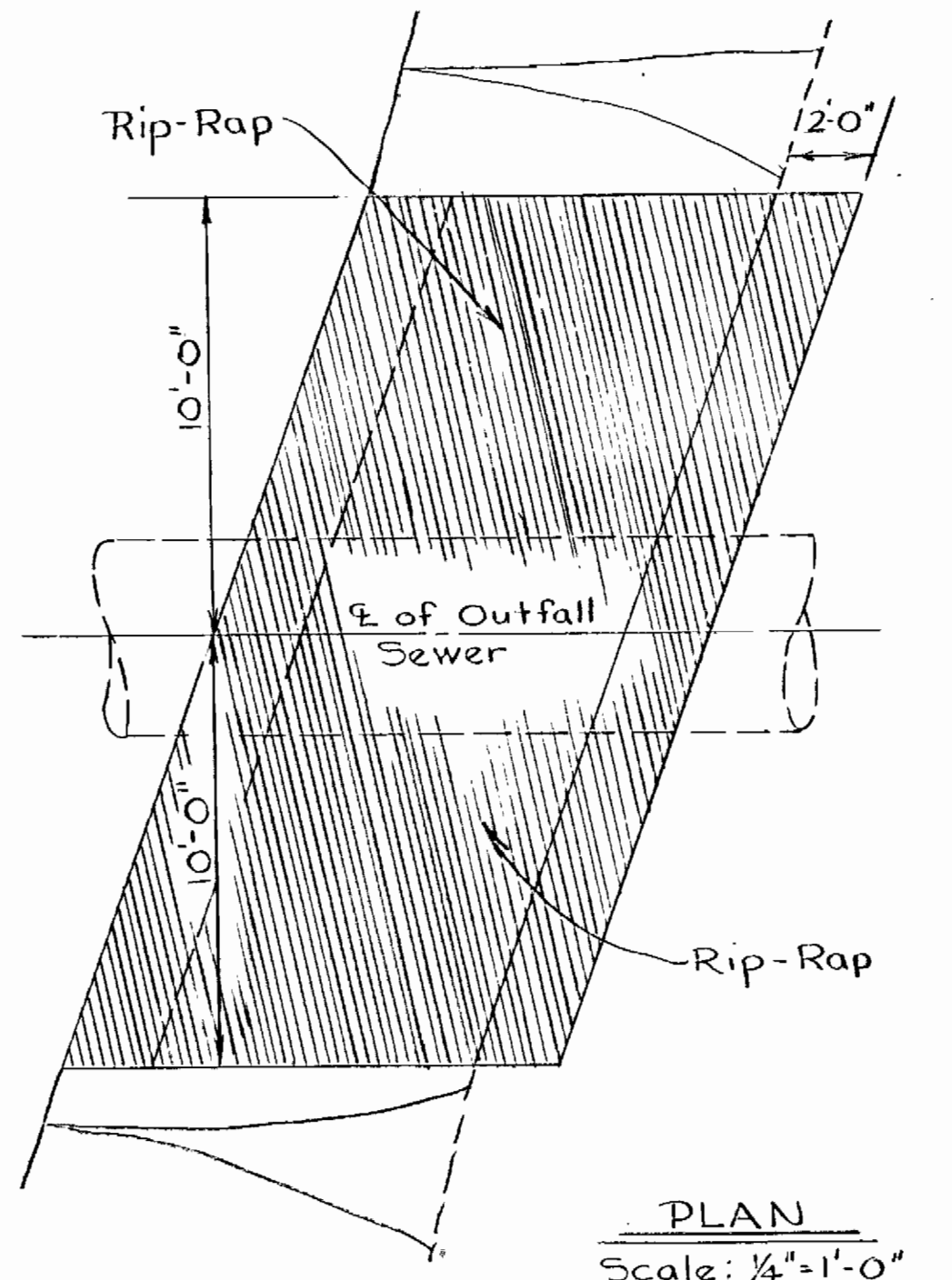
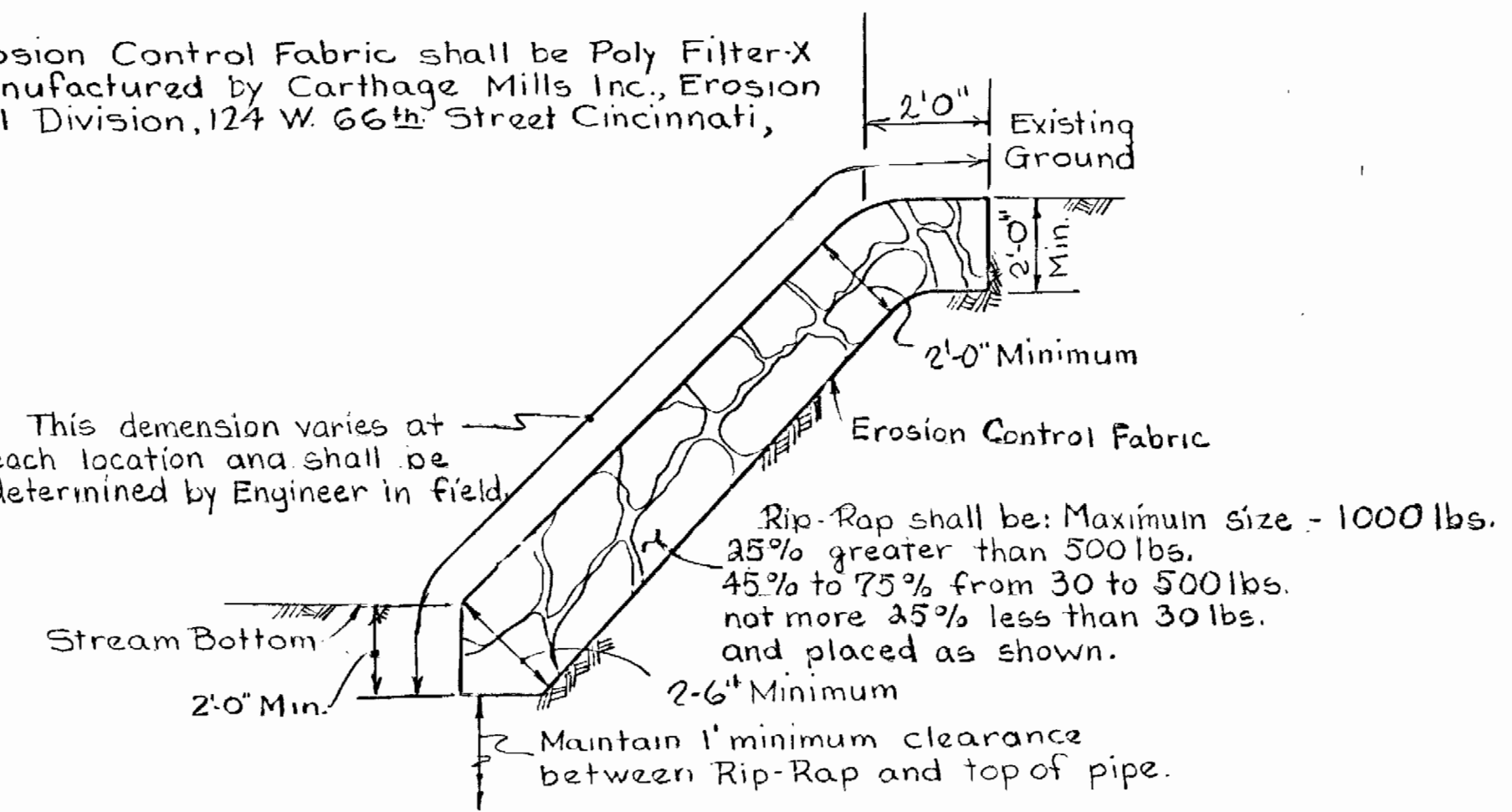


**DETAIL OF 66" R.C.P. CLASS V**  
Scale: As Shown

As Built Note:  
See Detail of Approved Shop Drawing for 66" R.C.P. Casing Pipe installed by Jacking.

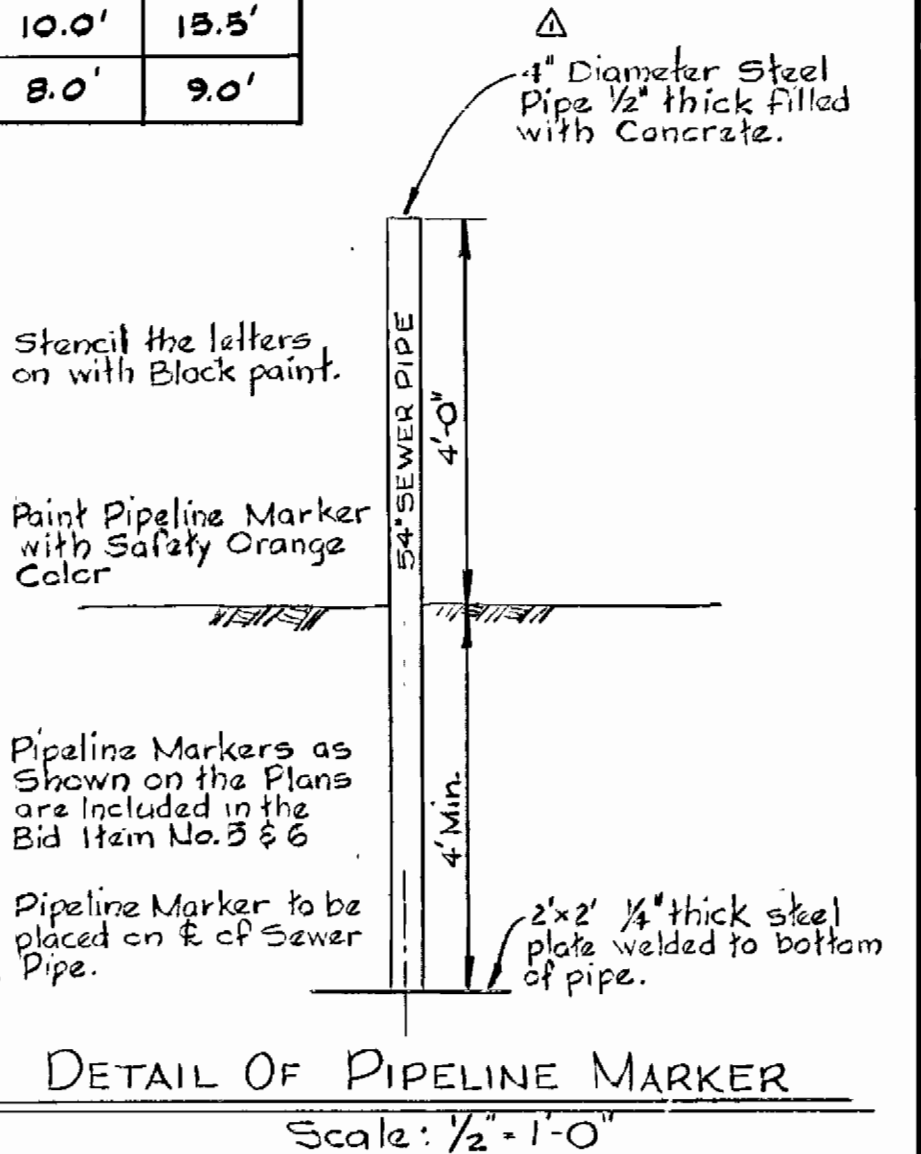
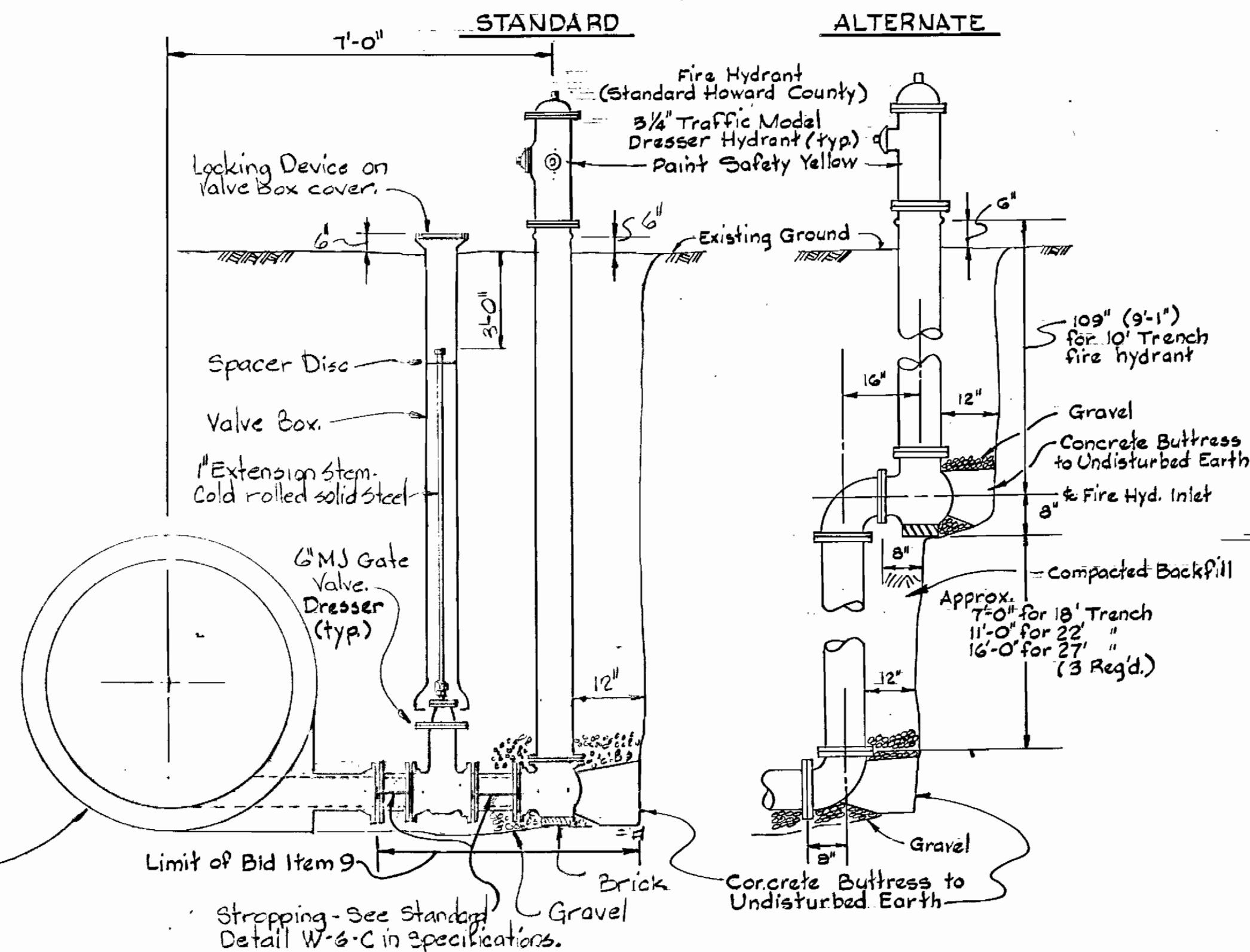
**NOTE:**

Erosion Control Fabric shall be Poly Filter-X as manufactured by Carthage Mills Inc., Erosion Control Division, 124 W. 66th Street Cincinnati, Ohio.



No.	Station	Type	Hydrant Depth	Depth to Outlet
B.O.2	4+38.00	Std.	9.5'	9.5'
B.O.3	16+18.00	Alt.	10.0'	19.0'
B.O.4	30+88.50	Alt.	9.5'	27.0'
B.O.6	73+80.04	Alt.	10.0'	15.5'
B.O.7	83+18.50	Std.	8.0'	9.0'

**DETAIL OF VALVE STEM EXTENSION**



Savage W.W.T.P. Outfall Sewer  
Project No. S-4-6044  
Contract No. 765-S

<p>Δ 6-4-80 Revised Notes For Liner Plate Tunnel &amp; Pipeline Marker</p> <p>NO DATE REVISION</p>	<p>WHITMAN, REQUARDT &amp; ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND</p>	<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p>8/30/79 DATE</p> <p>Chief, Bureau of Environmental Services</p>	<p>CONTRACT NO. 765-S</p>	<p>DETAILS - LINER PLATE TUNNEL RIP-RAP - BLOWOFF</p>	<p>SAVAGE WASTEWATER TREATMENT PLANT TREATED EFFLUENT OUTFALL</p>	<p>DRAWING NO. 10 OF 18</p>	<p>SCALE AS SHOWN</p>
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# HOWARD COUNTY, MARYLAND

## DEPARTMENT OF PUBLIC WORKS

# SAVAGE WASTEWATER TREATMENT PLANT

## TREATED EFFLUENT OUTFALL

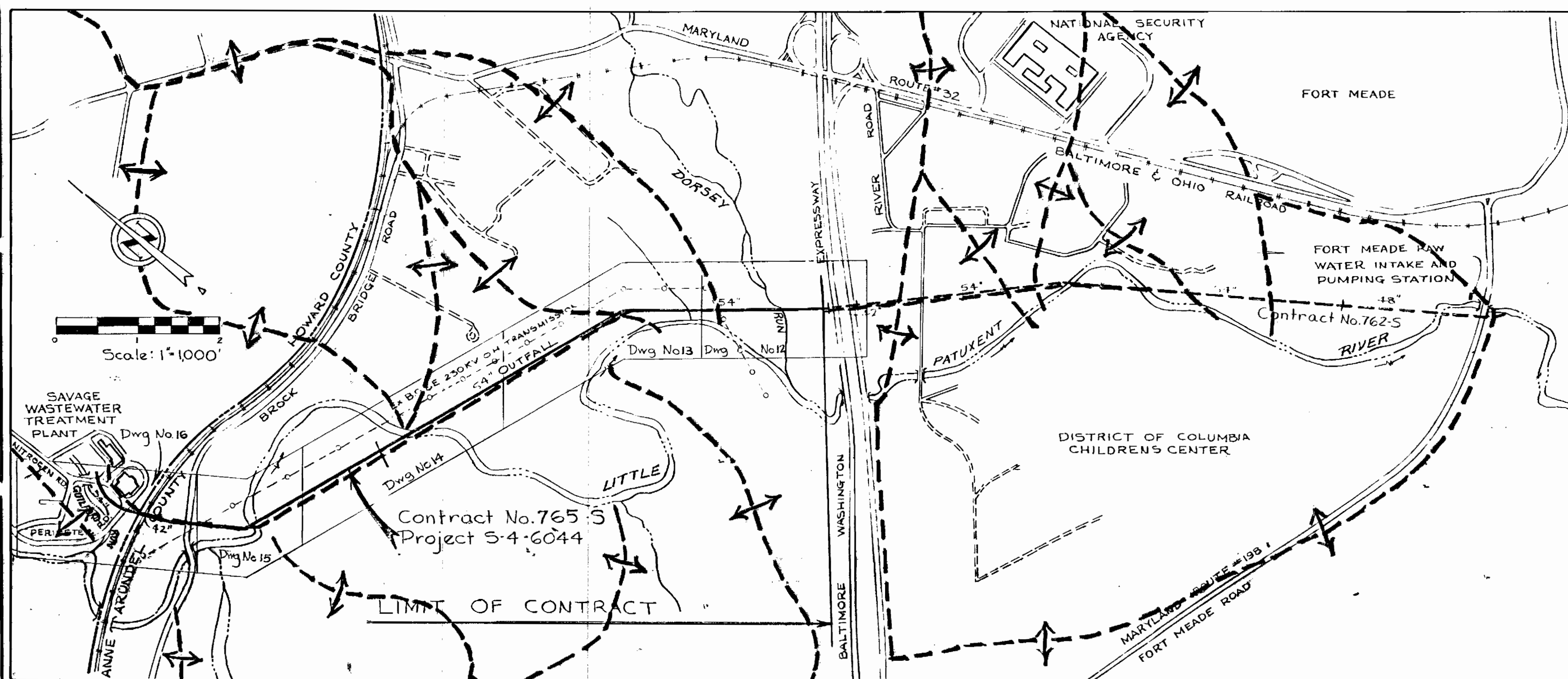
CONTRACT NO. 765-S  
PROJECT NO. S-4-6044

**CERTIFICATION BY THE ENGINEER**  
"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 ANNE ARUNDEL SOIL CONSERVATION DISTRICT".

*Kenneth A. McCord*  
KENNETH A. McCORD, P.E. No. 1974  
8-30-79  
DATE

Reviewed for ANNE ARUNDEL S.O.D. Name and meets Technical Requirements  
*W. W. [Signature]*  
Signature Date 9-17-79  
U.S. Soil Conservation Service

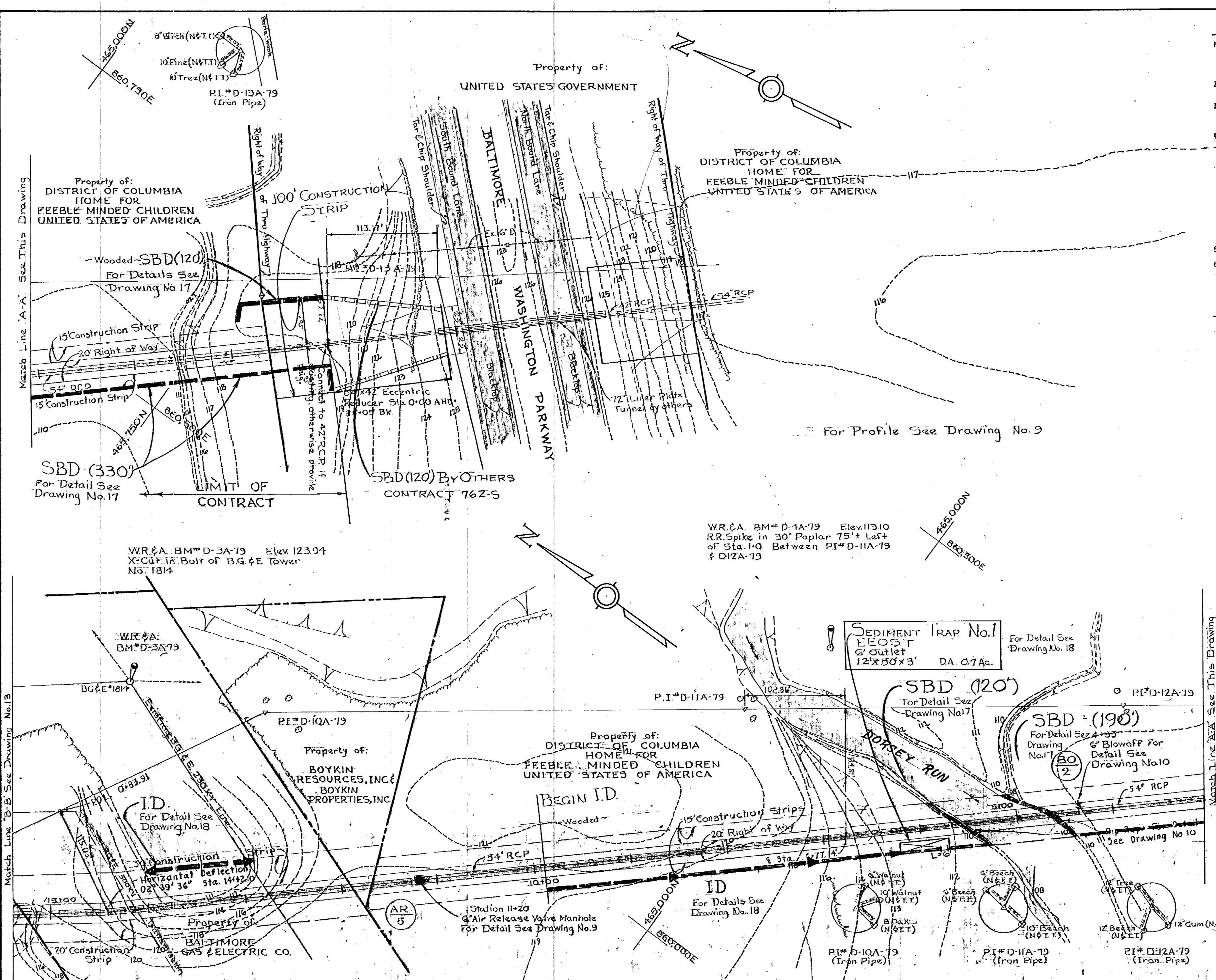
ANNE ARUNDEL SOIL CONSERVATION DISTRICT  
A. APPROVED FOR SEDIMENT CONTROL  
*[Signature]*  
DISTRICT OFFICIAL  
DATE 9-19-79 PLAN NO. 75-28



LIST OF DRAWINGS	
DRAWING NUMBER	TITLE
11	LOCATION AND DRAINAGE MAP
12-16	PLAN OF OUTFALL
17-18	DETAILS - SEDIMENT CONTROL PLAN

*[Signature]*  
Savage WWTp Outfall Sewer  
Project No. S-4-6044  
Contract No. 765-S

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE 8/30/79 <i>[Signature]</i> CHIEF, BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 765-S	LOCATION AND DRAINAGE MAP SEDIMENT CONTROL PLAN	SAVAGE WASTEWATER TREATMENT PLANT TREATED EFFLUENT OUTFALL	DRAWING NO. 11 OF 18 SCALE AS SHOWN
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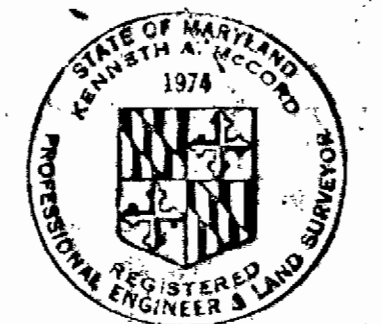


1. APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY.
2. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS, UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN VICINITY OF UTILITIES.
4. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
  - BALTIMORE GAS & ELECTRIC CO. - UNDERGROUND ELECTRIC DISTRIBUTION ENGINEERING DAMAGE CONTROL 234-5691
  - UNDERGROUND GAS DISTRIBUTION ENGINEERING 234-5621
  - CHESAPEAKE AND POTOMAC TELEPHONE COMPANY 393-3648.
  - MISS UTILITY - 1 - 559-0100
5. FOR ALL STANDARD DETAILS SEE STANDARDS BOUND IN SPECIFICATIONS.
6. ALL HORIZONTAL AND VERTICAL CONTROLS ARE BASED ON MARYLAND STATE DATUM.

**AS BUILT NOTE**

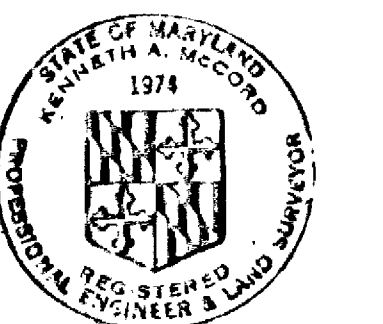
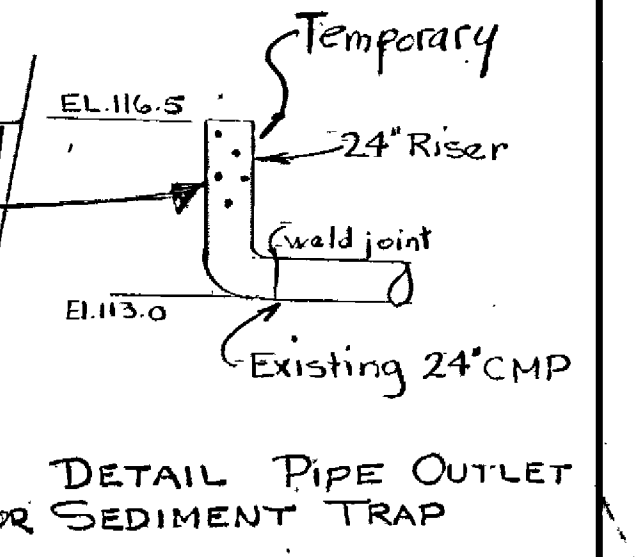
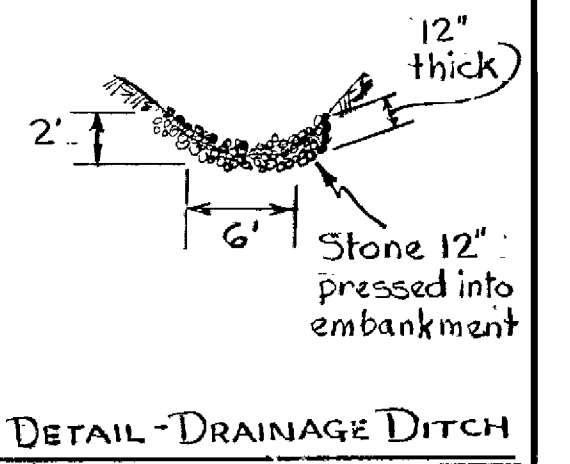
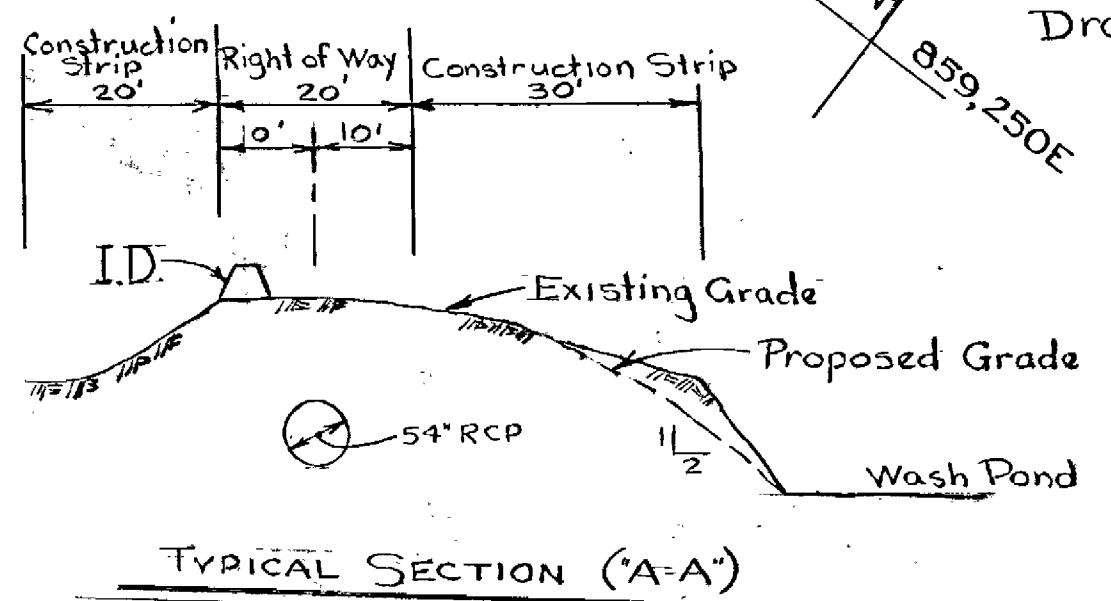
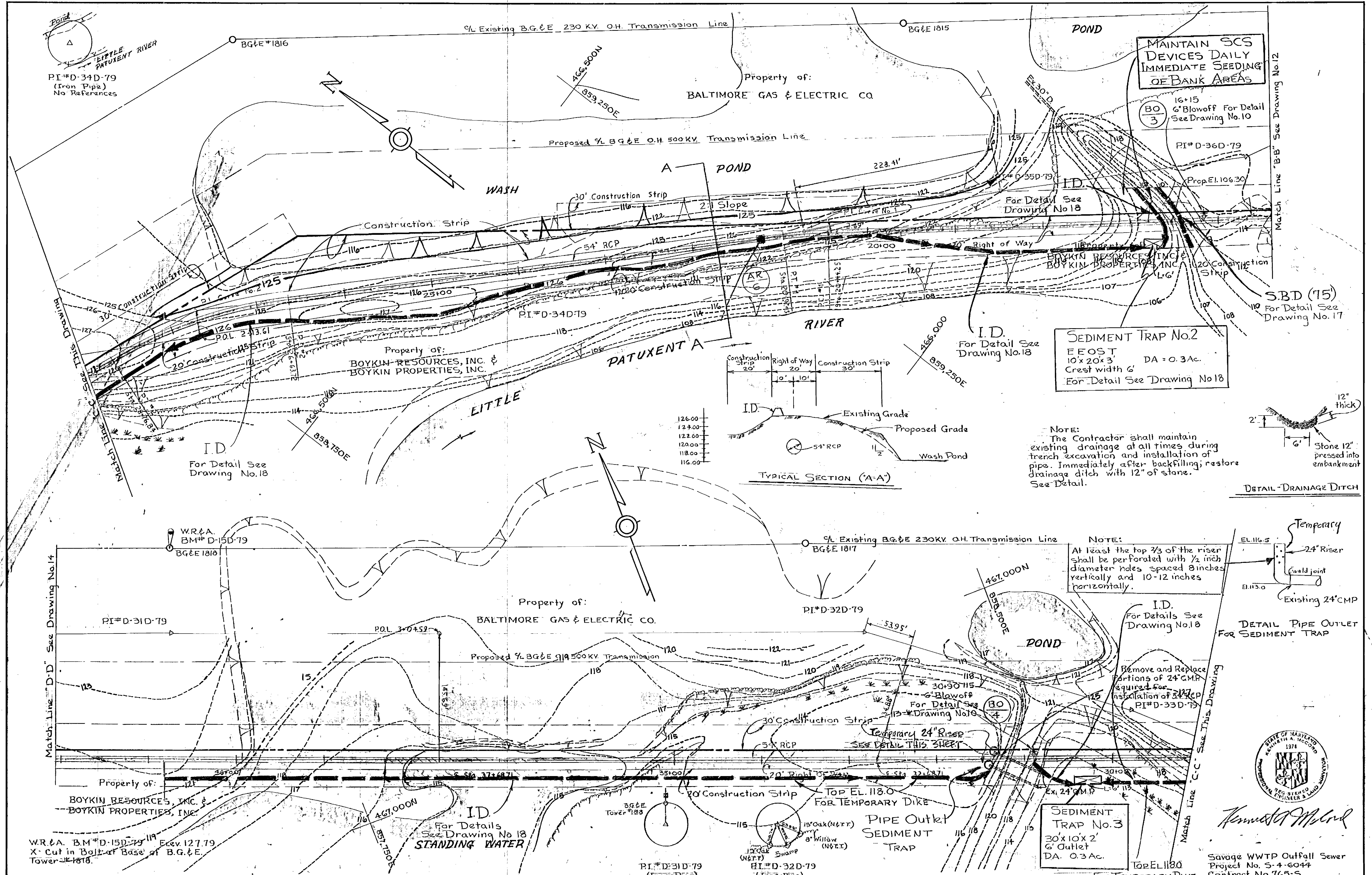
"ALL GRADING, DRAINAGE, STRUCTURES AND/OR SYSTEMS, EROSION AND SEDIMENT CONTROL PRACTICES INCLUDING FACILITIES AND VEGETATIVE MEASURES HAVE BEEN COMPLETED IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS."

<p><b>WHITMAN, REQUARDT &amp; ASSOCIATES</b> ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND</p>	<p><b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND DATE: 8/20/79 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES</p>	<p><b>CONTRACT NO. 765-S</b></p>	<p><b>PLAN OF OUTFALL SEDIMENT CONTROL</b></p>	<p><b>SAVAGE WASTEWATER TREATMENT PLANT TREATED EFFLUENT OUTFALL</b></p>	<p><b>DRAWING NO. 12 OF 18</b> <b>SCALE 1" = 50'</b></p>
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*Kenneth M. Moran*

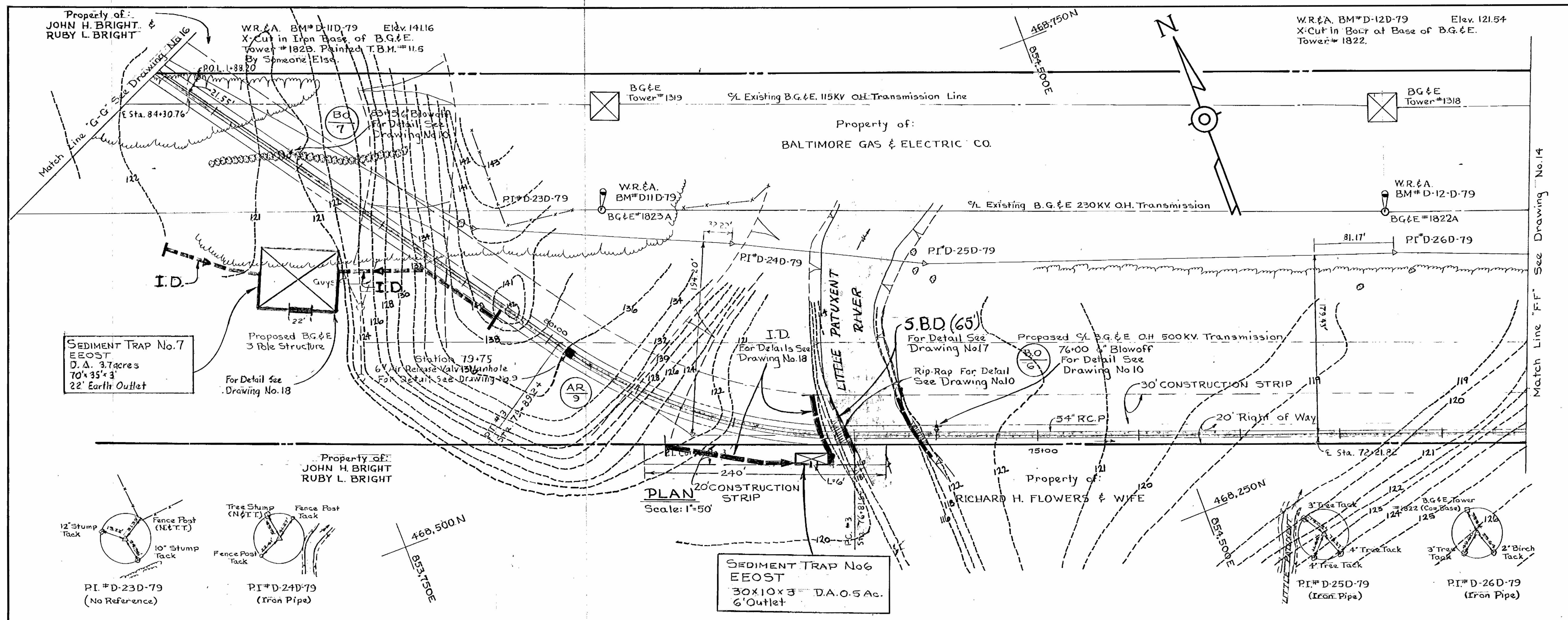
Savage WWP Outfall Sewer  
Project No. S-4-G044  
Contract No. 765-S



*Kenneth M. Wood*  
 Savage WWTP Outfall Sewer  
 Project No. S-4-6044  
 Contract No. 765-S

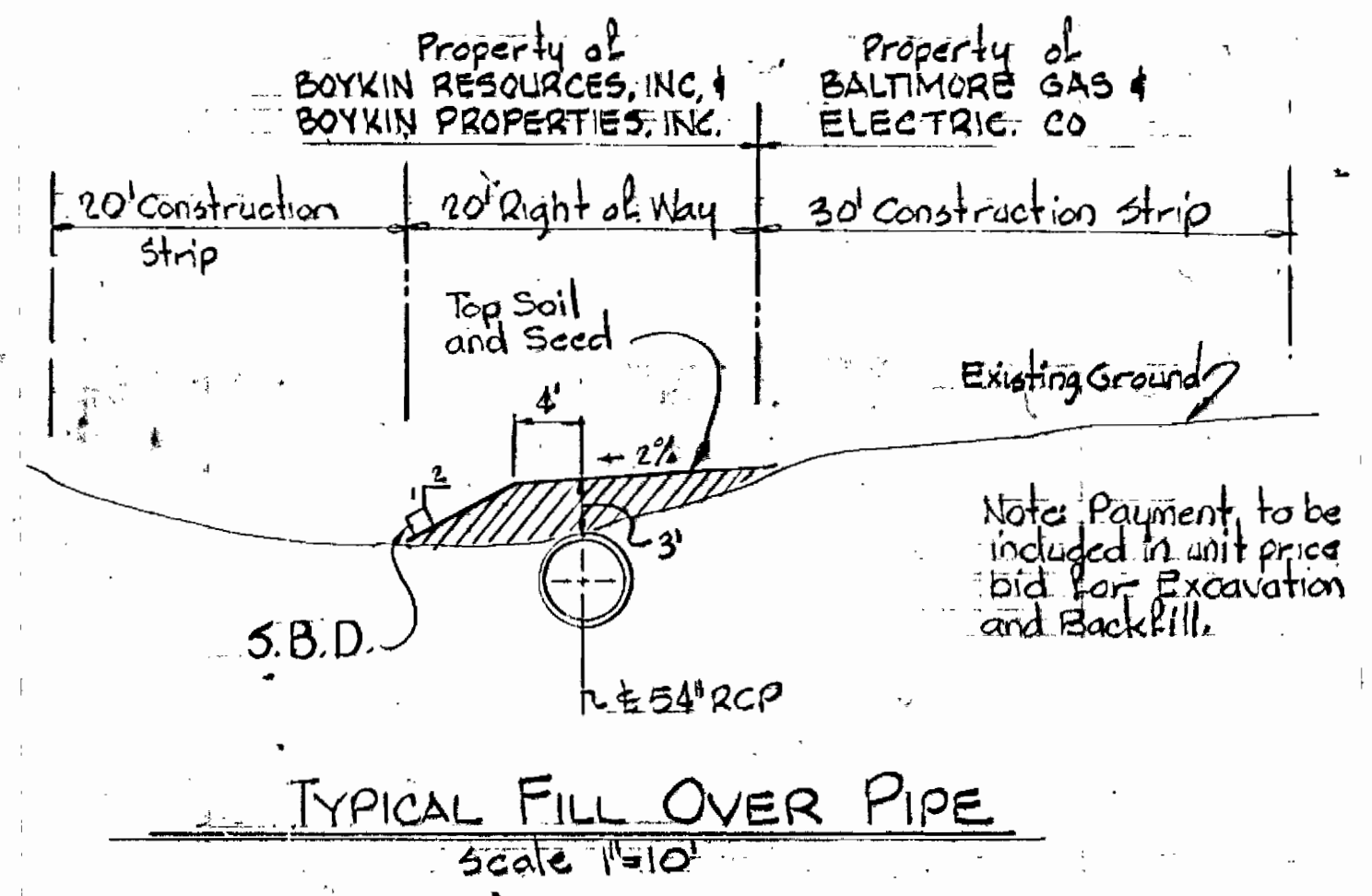
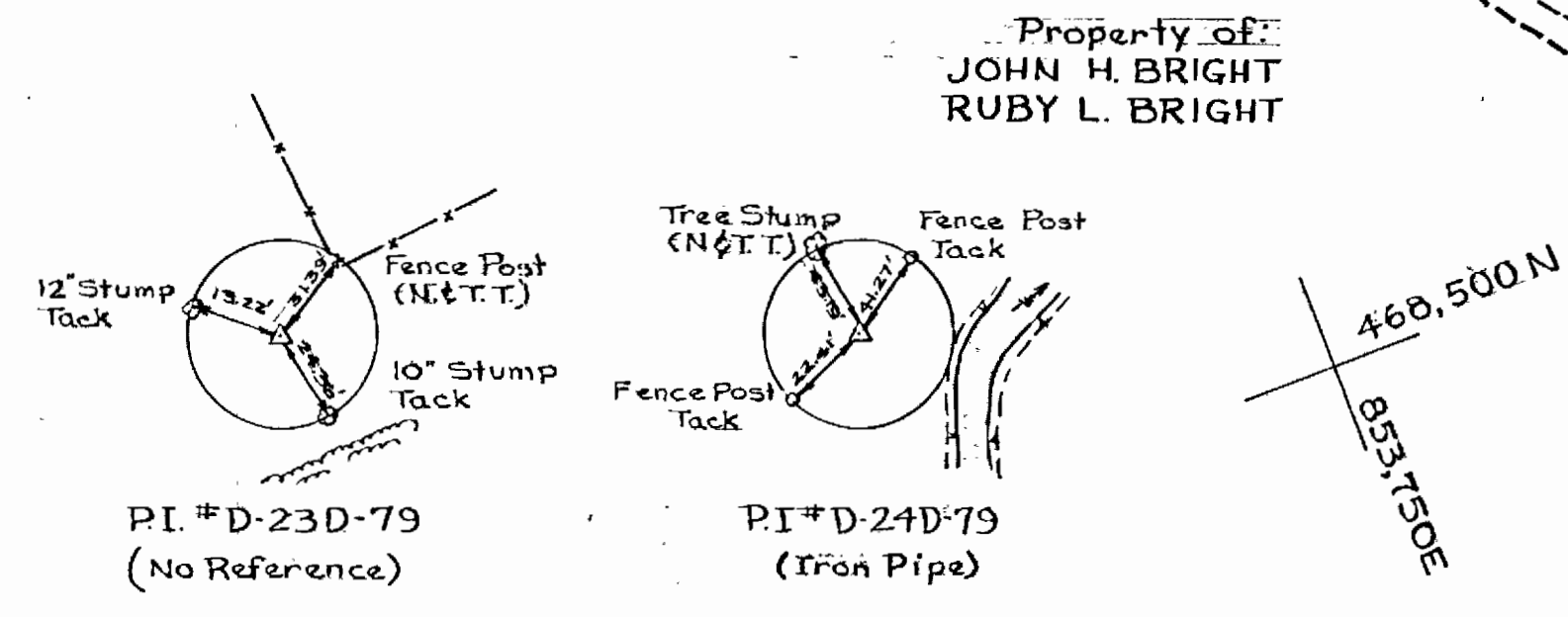
<b>WHITMAN, REQUARDT &amp; ASSOCIATES</b> ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	<b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND 8/20/79 DATE <i>James M. Wood</i> CHIEF, BUREAU OF ENVIRONMENTAL SERVICES	<b>CONTRACT NO. 765-S</b>	<b>PLAN OF OUTFALL          SEDIMENT CONTROL</b>	<b>SAVAGE WASTEWATER TREATMENT PLANT          TREATED EFFLUENT OUTFALL</b>	<b>DRAWING          NO. 13          OF 18</b>	<b>SCALE          1" = 50'</b> 51-466/858.5 51-467/858.5 51-468/860 51-469/860
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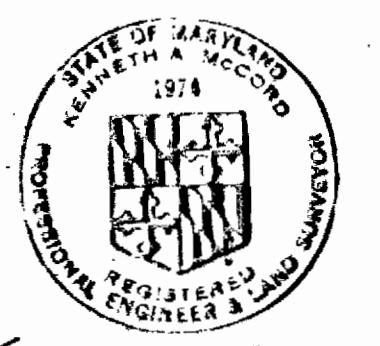


**PLAN**  
Scale: 1"=50'

For Profile See Drawing No 7 & 8



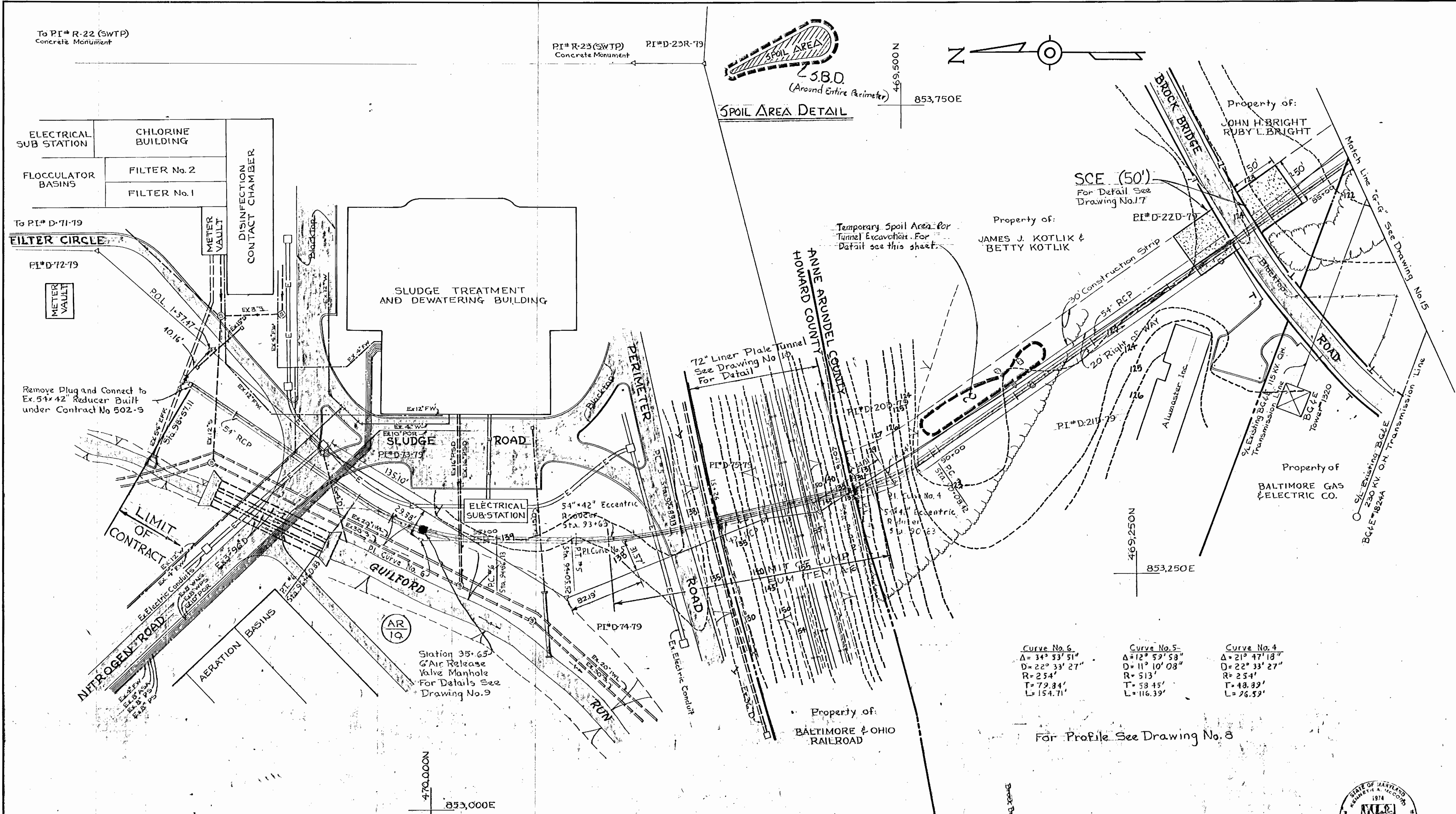
**TYPICAL FILL OVER PIPE**  
Scale 1"=10'



*Kenneth Melvin*

Savage WWTTP Outfall Sewer  
Project No. 5-4-6044  
Contract No. 765-5

<p>WHITMAN, REQUARDT &amp; ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND</p>	<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 9/30/79 James Melvin CHIEF, BUREAU OF ENVIRONMENTAL SERVICES</p>	<p>CONTRACT NO. 765-S</p>	<p>PLAN OF OUTFALL SEDIMENT CONTROL</p>	<p>SAVAGE WASTEWATER TREATMENT PLANT TREATED EFFLUENT OUTFALL</p>	<p>DRAWING NO. 15 OF 18 SCALE AS SHOWN 18" x 24" / 48" x 60"</p>
-------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------	---------------------------	---------------------------------------------	-----------------------------------------------------------------------	--------------------------------------------------------------------------



SCE (50')  
For Detail See Drawing No. 17

Property of:  
JAMES J. KOTLIK &  
BETTY KOTLIK

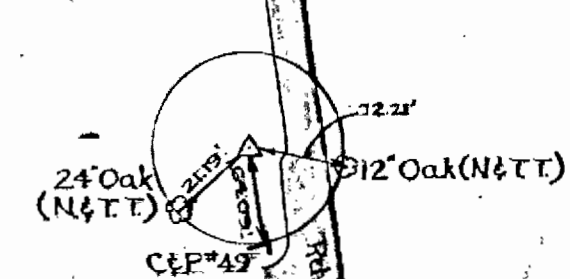
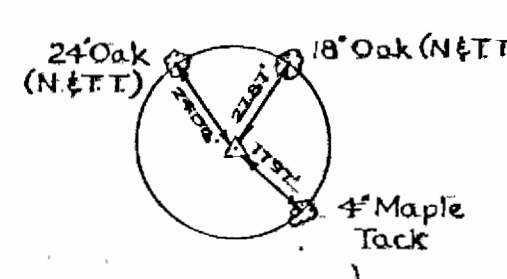
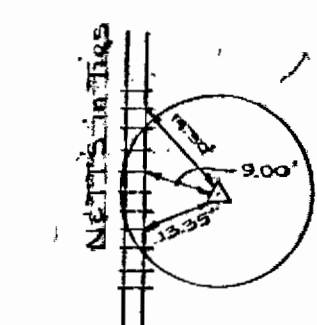
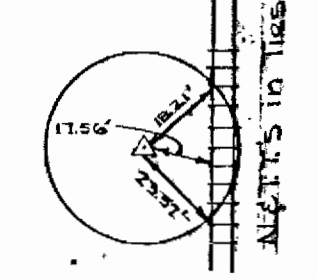
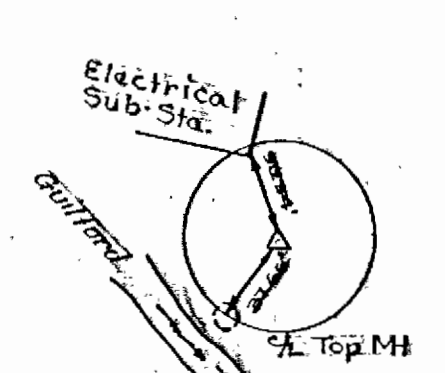
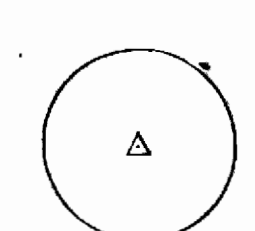
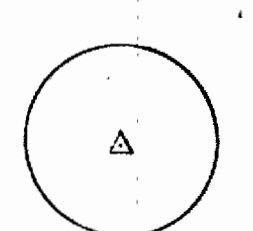
Property of:  
JOHN H. BRIGHT  
RUBY L. BRIGHT

Property of  
BALTIMORE GAS  
& ELECTRIC CO.

Property of:  
BALTIMORE & OHIO  
RAILROAD

Curve No. 6	Curve No. 5	Curve No. 4
$\Delta = 34^\circ 53' 51''$	$\Delta = 12^\circ 59' 58''$	$\Delta = 21^\circ 47' 18''$
$D = 22^\circ 33' 27''$	$D = 11^\circ 10' 08''$	$D = 22^\circ 33' 27''$
$R = 254'$	$R = 513'$	$R = 254'$
$T = 79.84'$	$T = 58.45'$	$T = 48.89'$
$L = 154.71'$	$L = 116.39'$	$L = 96.59'$

For Profile See Drawing No. 8



PI#D-72-79  
(No References)

PI#D-73-79  
(No References)

PE#E-74-79  
(Iron Pipe)

PI#D-75-79  
(Iron Pipe)

PI#D-20D-79

PI#D-21D-79

PI#D-22D-79  
(Iron Pipe)

WHITMAN, REQUARDT & ASSOCIATES  
ENGINEERS  
1304 ST. PAUL ST.  
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
DATE: 8/30/79  
CHIEF: BUREAU OF ENVIRONMENTAL SERVICES

CONTRACT NO. 765-S

PLAN OF OUTFALL  
SEDIMENT CONTROL

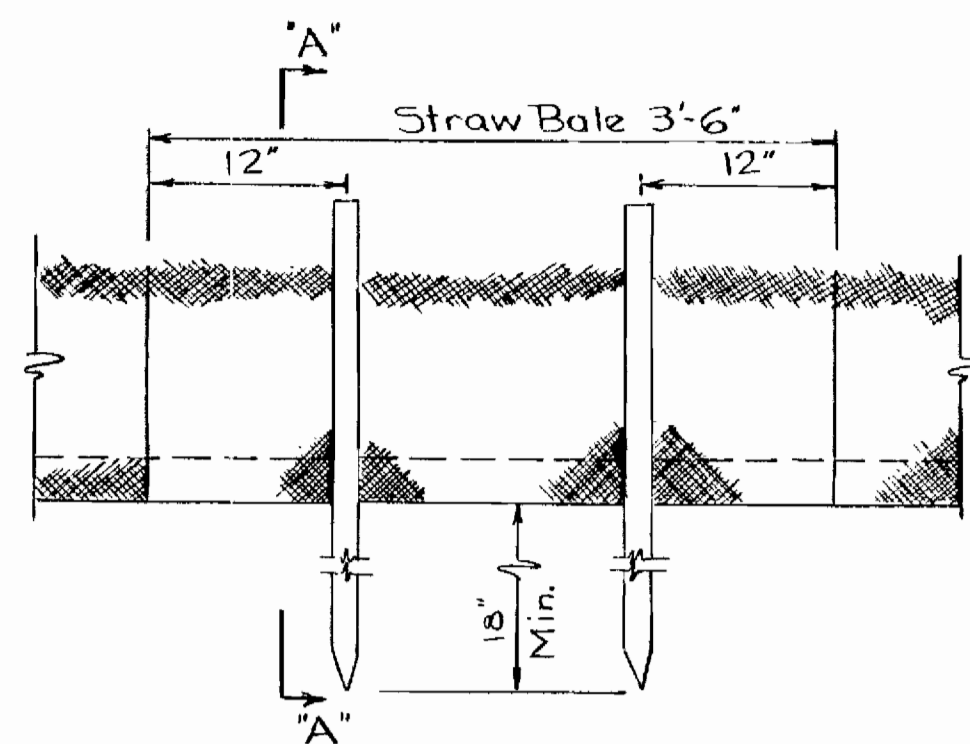
SAVAGE WASTEWATER TREATMENT PLANT  
TREATED EFFLUENT OUTFALL

DRAWING NO. 16 OF 18  
SCALE 1" = 50'  
47-170/854  
47-469/854

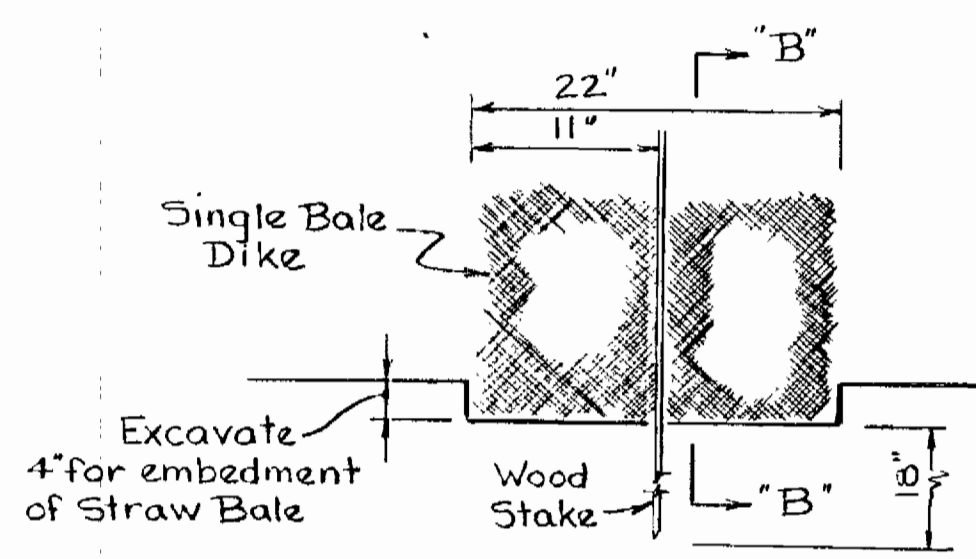


### STRAW BALE DIKE (SBD)

Scale: 1"=1'-0"



ANCHORING DETAIL



EMBEDDING DETAIL

#### 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 driven through 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.

SBD-1

Symbol

#### SEEDING

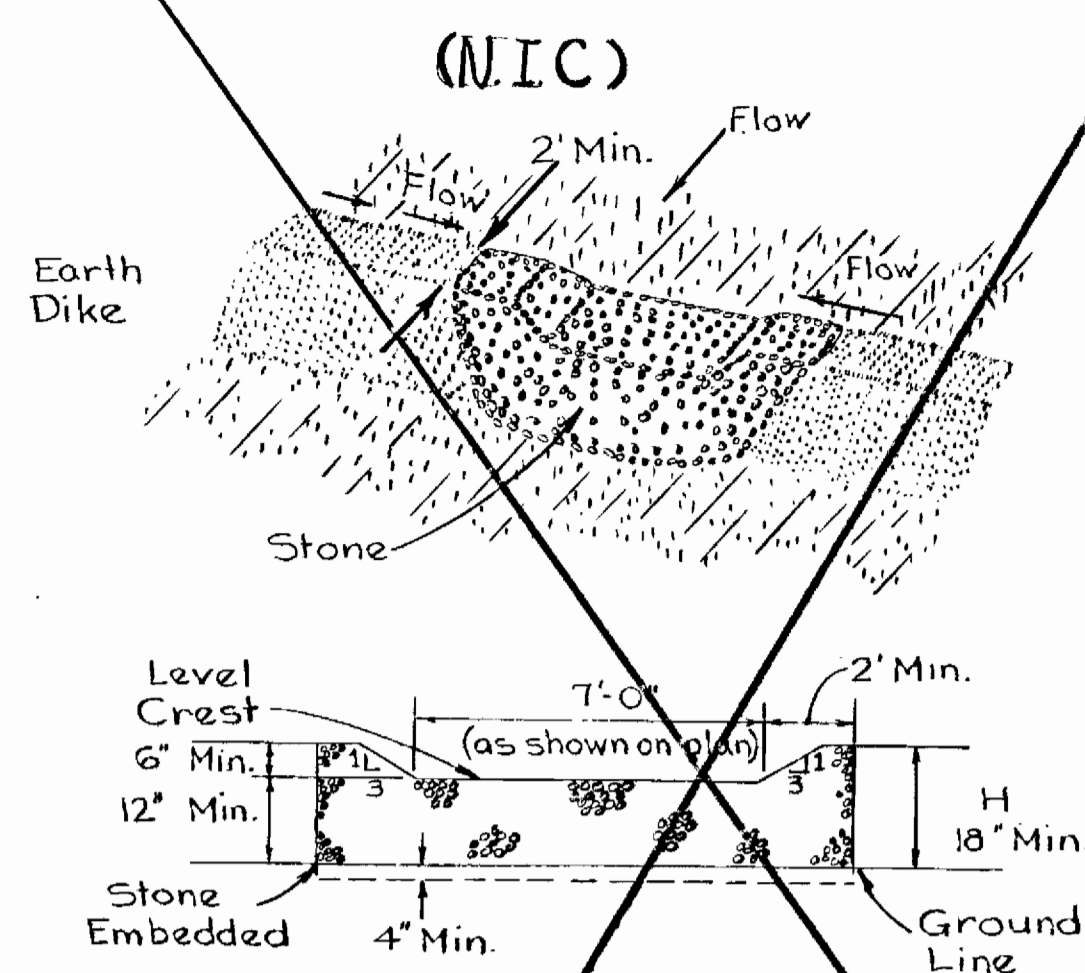
##### TEMPORARY

- Ground Limestone (50 lbs/1000 S.F.)  
Fertilizer 10-10-10 (25 lb/1000 S.F.)  
Seed-Italian Rye Grass 40 lbs Acre  
Mulch with straw at the rate of 50 lbs/1000 S.F.) or one tone per acre.  
Anchor with asphalt at the rate of 200 Gallons/Acre.

##### PERMANENT

- \* Ky.31 Tall Fescue (40 lbs/ac. or .92 lbs/1000 S.F.)
- \*\* Sericea Lespedeza (20 lbs/ac. or .46 lbs/1000 S.F.)
- \* Certified seed only
- \*\* Inoculated hullless seed.

### STONE OUTLET STRUCTURE (SOS)



PROFILE

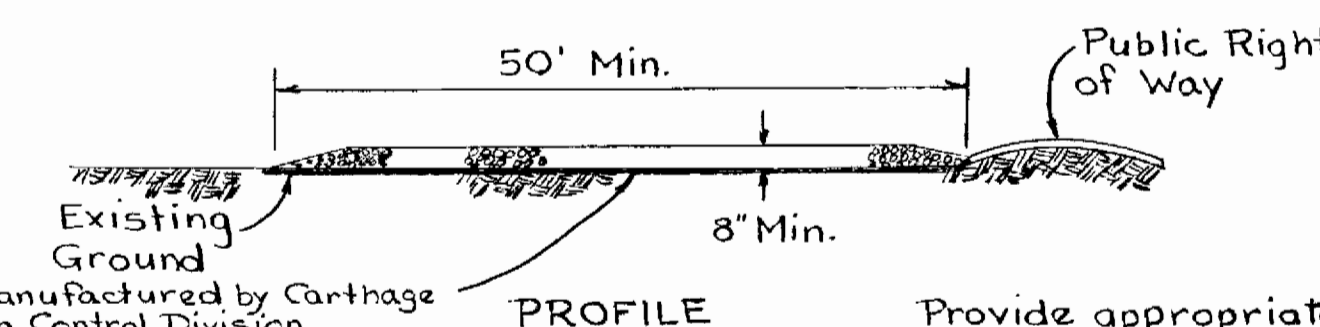
#### CONSTRUCTION SPECIFICATIONS

- 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.
- 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.
- The stone outlet structure shall be embedded into the soil a minimum of four inches.
- The minimum length, in feet, of the crest of the stone outlet structure shall be seven feet.
- 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.

SOS-1

Symbol

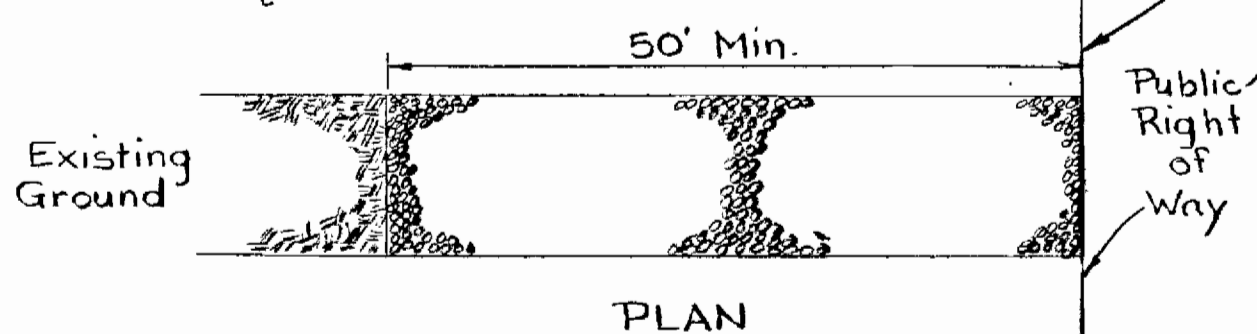
### STABILIZED CONSTRUCTION ENTRANCE (SCE-1)



PROFILE

Poly Filter Cloth manufactured by Carthage Mills Inc., Erosion Control Division, 124 W. 66th St. Cincinnati, Ohio, or Laurel Erosion Control Cloth, as manufactured by Laurel Plastic Inc., Madison, Maine, or equal.

Provide appropriate transition between Stabilized Construction Entrance and Public Right-of-Way



PLAN

#### CONSTRUCTION SPECIFICATIONS

- 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.
- Length - As effective, but not less than 50 feet.
- Thickness - Not less than eight (8) inches.
- Width - Not less than full width of all points of ingress or egress.
- Washing - When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public right-of-way. When washing is required, it shall be done on an area stabilized with crushed stone which drains into an approved sediment trap or sediment basin. All sediment shall be prevented from entering any storm drain, ditch, or watercourse through use of sand bags, gravel, boards or other approved methods.
- Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.

SCE-1

Symbol

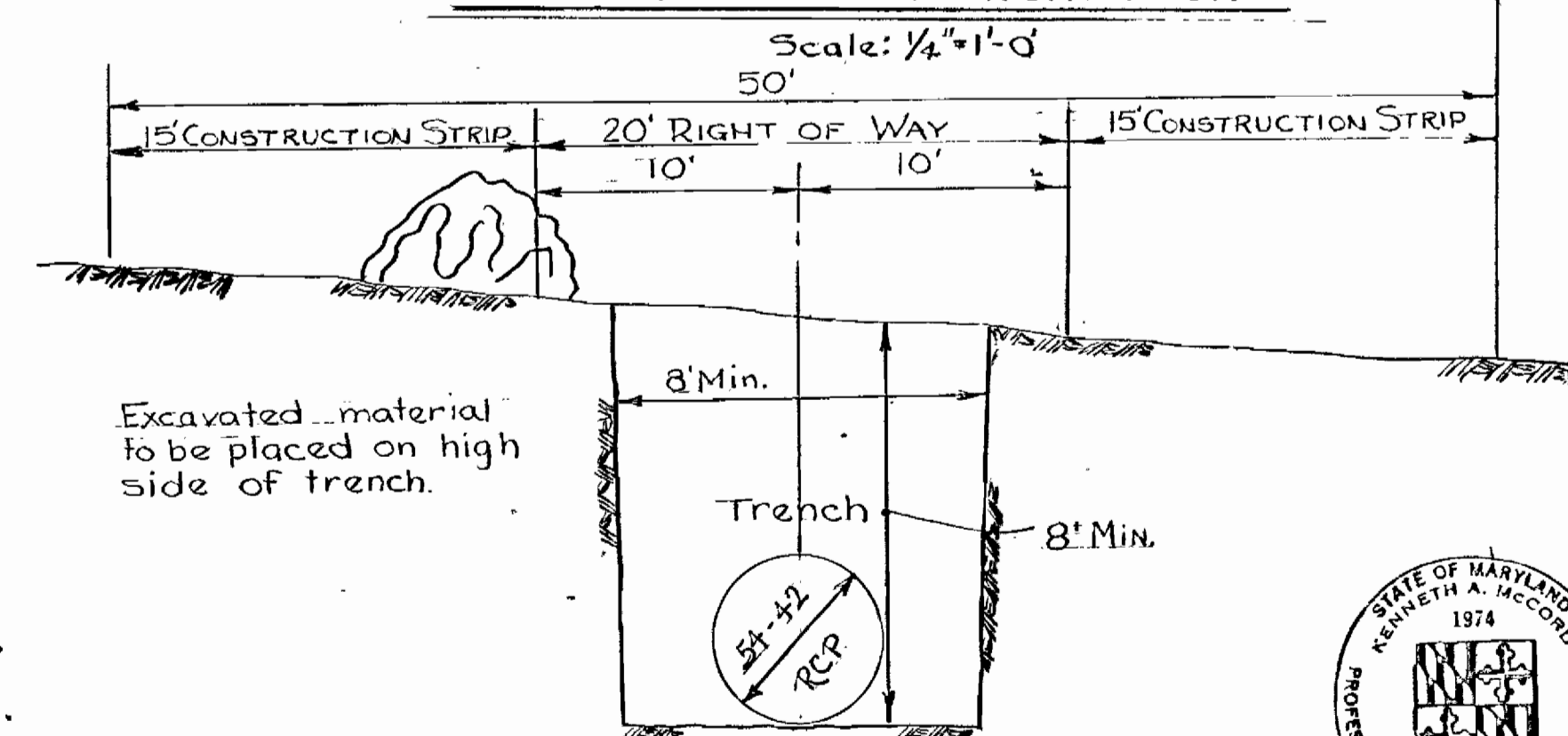
#### GENERAL NOTES:

- The Contractor shall maintain, repair and/or replace any existing sediment control devices encountered and disturbed during the course of construction under this contract and as shown on the approved sediment control plan, included as part of the contract documents. All such disturbed devices shall be repaired or replaced before leaving the work site at the end of each working day. The costs of performing all such work, including materials will not be paid for separately and must be included in the cost of other items bid.
- See "Sequence of Construction".
- Prior to starting any work the Contractor shall notify the Anne Arundel Soil Conservation District at least 24 hours in advance of notice to begin.
- No sediment control structures shall be removed without approval of Department of Natural Resources.
- See "Requirements of Anne Arundel Conservation District" under Special Provisions of the General Specifications.
- Excess material from excavations and backfills shall be removed by the Contractor to an off site area as approved by A.A.S.C.D.
- Cofferdam requirements for River Crossing shall be submitted to the Soil Conservation Service for approval. Cofferdams shall be installed prior to excavation at Dorsey Run and Little Patuxent River Crossings.

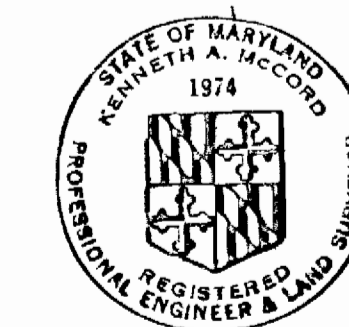
#### SEQUENCE OF CONSTRUCTION (30 WEEKS)

- Prior to starting work, the Contractor shall notify the Anne Arundel Office of Licenses and Permits at least 24 hours in advance of notice to begin.
- Construct Stabilized Construction Entrance.
- Clear the site within the limits of proposed work in conjunction with construction of Sediment Control Structures.
- Strip and grade topsoil stockpiles that will be left standing for a period of 7 days or more shall be stabilized. See Temporary Seeding this sheet.
- Excavate the trench; install pipe; backfill and grade, daily.
- Stabilize the disturbed areas immediately after backfilling. See Permanent Seeding Specifications and this sheet.
- Remove the sediment control structures.

### STRAW BALE EMPLOYMENT ALONG TRENCH EXCAVATION



TYPICAL TRENCH SECTION



*Kenneth A. McCord*

Savage WWTP Outfall Sewer  
Project No. S-4-6044  
Contract No. 765-S

WHITMAN, REQUARDT & ASSOCIATES  
ENGINEERS  
1304 ST. PAUL ST.  
BALTIMORE, MARYLAND

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

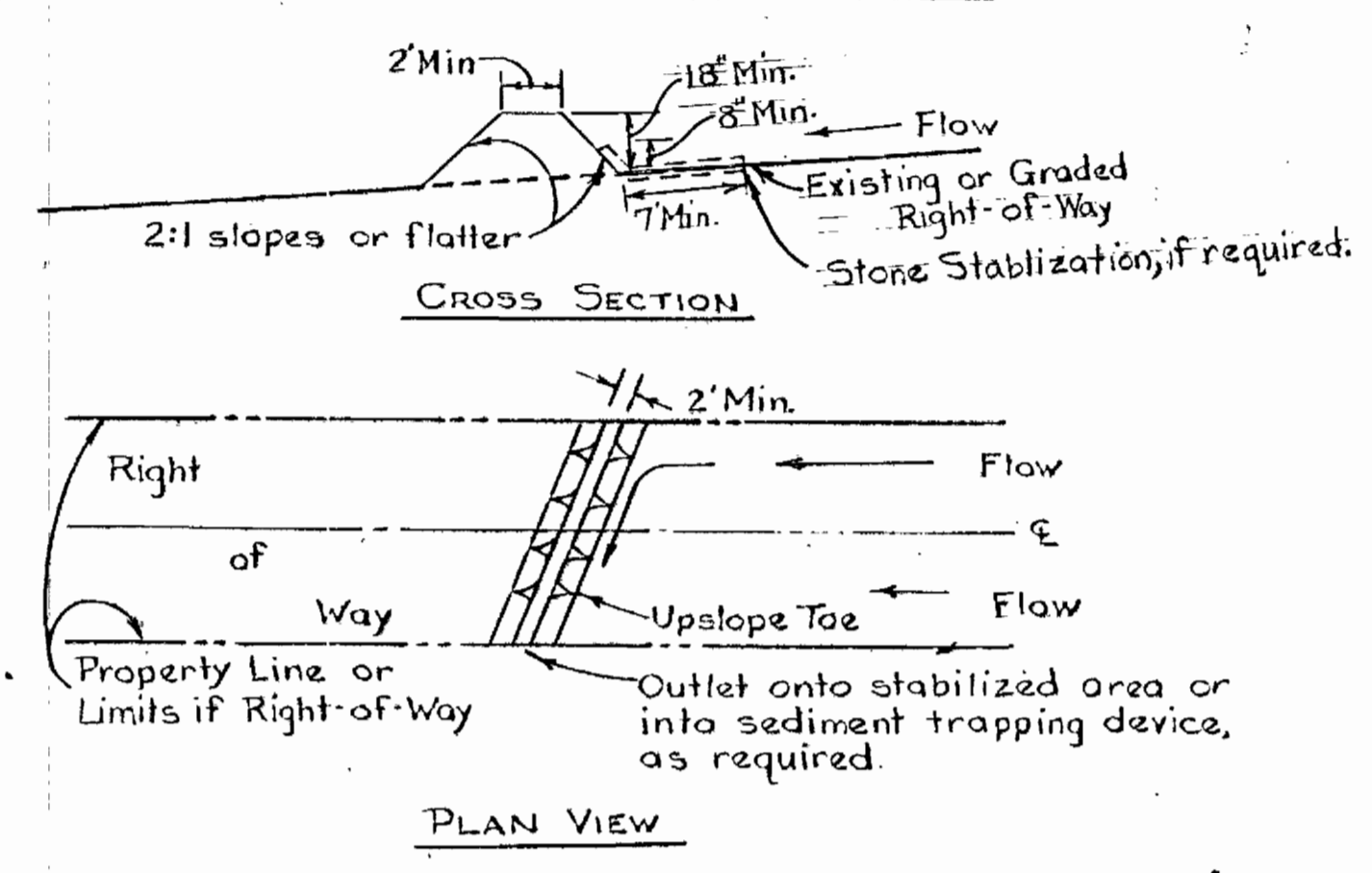
CONTRACT NO. 765-S

DETAILS  
SEDIMENT CONTROL PLAN

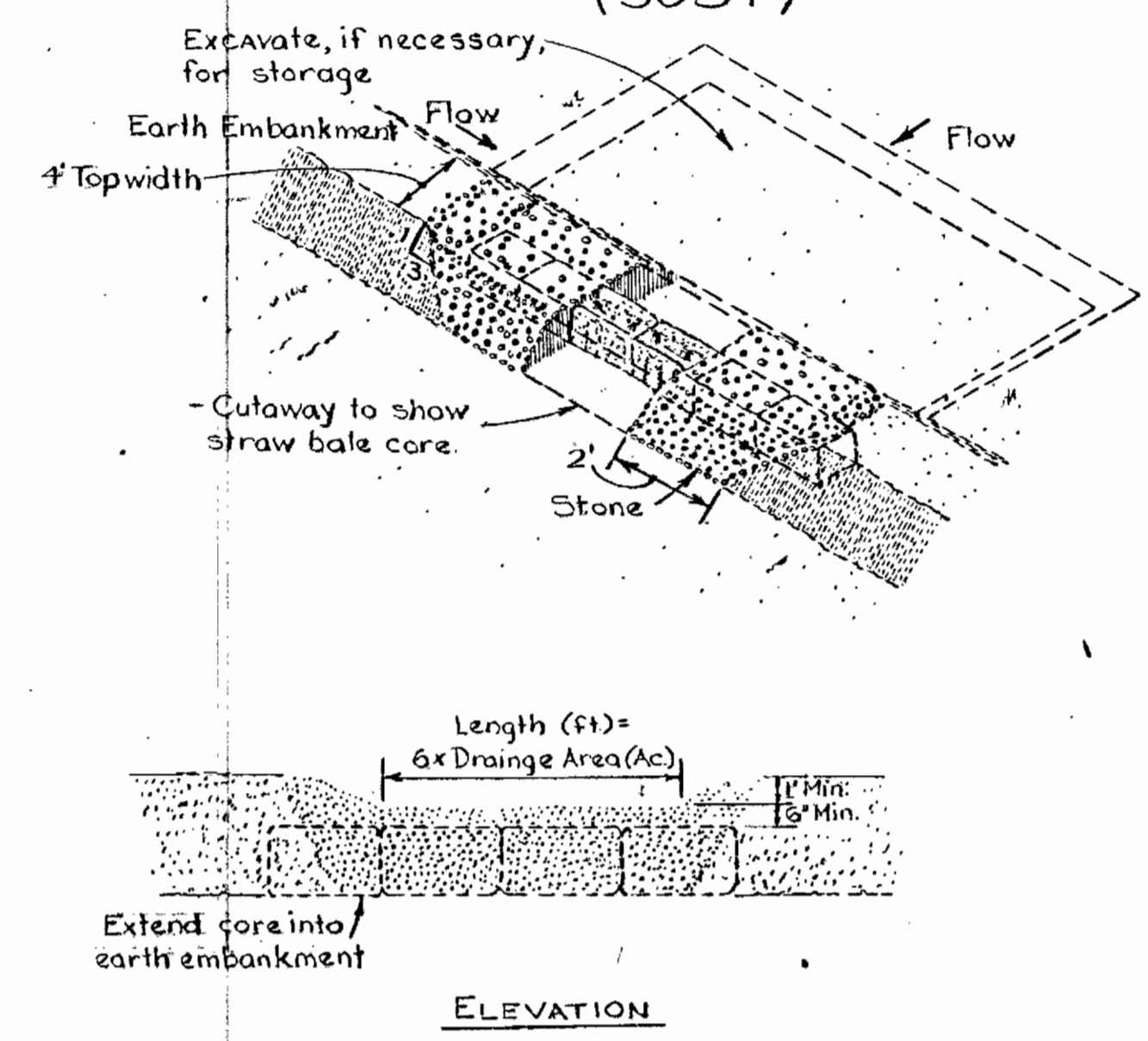
SAVAGE WASTEWATER TREATMENT PLANT  
TREATED EFFLUENT OUTFALL

DRAWING  
NO. 17  
OF 18  
SCALE  
AS  
SHOWN

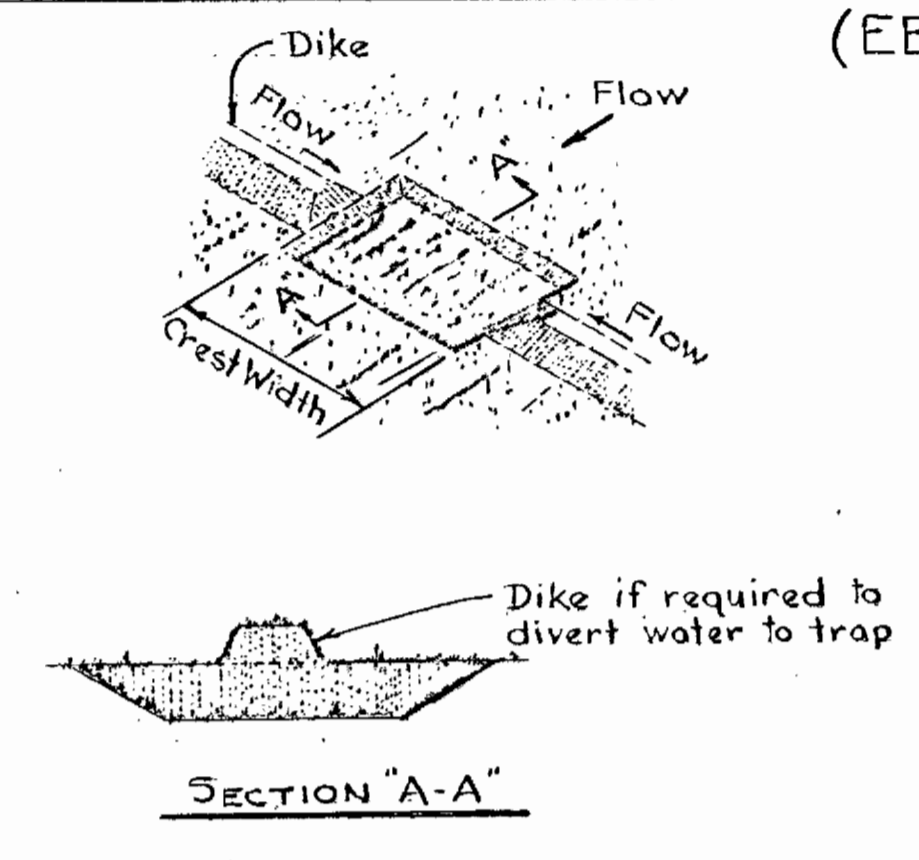
**INTERCEPTOR DIKE - (I.D.)**



**STONE OUTLET SEDIMENT TRAP - (SOST)**

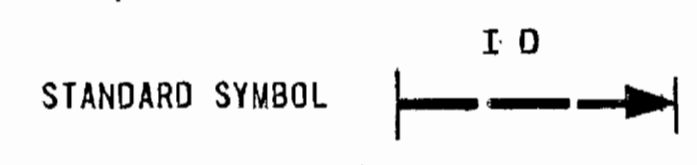


**EXCAVATED EARTH OUTLET SEDIMENT TRAP - (EOST)**



**CONSTRUCTION SPECIFICATIONS**

1. All dikes shall be machine compacted.
2. All interceptor dikes shall have positive drainage to an outlet.
3. Top width may be wider and side slopes may be flatter if desired to facilitate crossing by construction traffic.
4. Field location should be adjusted as needed to utilize a stabilized safe outlet.
5. Interceptor dikes shall have an outlet that functions with a minimum of erosion. Runoff shall be conveyed to a sediment trapping device such as a sediment trap or sediment basin when either the interceptor dike channel or the drainage area above the dike are not adequately stabilized.
6. Stabilization, as specified by the plans, shall be: (1) in accordance with Standard and Specifications for Grassed Waterway, and the area to be stabilized shall be the channel (flow area); or (2) the flow area shall be lined with stone that meets MSHA size No. 2 or AASHTO size No. 2 or 24 which is placed in a 3 inch thick layer and pressed into the soil. The area covered by the stone shall be as shown on Standard Drawing DD-1.
7. Periodic inspection and required maintenance must be provided.



NOTE - Drawings show straw bales used for core. Bales are anchored as per Standard Specifications for Straw Bale Dike. Other materials (e.g., timber or concrete block) may also be used for core. Firmly anchor all core material to ground.

**CONSTRUCTION SPECIFICATIONS**

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots or other woody vegetation as well as over sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
4. The structure shall be inspected after each rain and repairs made as needed.
5. Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
6. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
7. All cut and fill slopes shall be 2:1 or flatter.
8. The crushed stone used in the outlet shall meet AASHTO designation M43, size No. 2 or 24 or its equivalent such as MSHA No. 2. Gravel, meeting the above gradation, may be used if crushed stone is not available. Crusher run is not acceptable.

**CONSTRUCTION SPECIFICATIONS**

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material, or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
4. The structure shall be inspected after each rain and repairs made as needed.
5. Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
6. The structure shall be removed and rea stabilized when the drainage area has been properly stabilized.
7. All cut and fill slopes shall be 2:1 or flatter.
8. Outlet crest elevation shall be at least one foot below the top of the embankment.



*Kenneth A. McCord*

WHITMAN, REQUARDT & ASSOCIATES ENGINEERS 1304 ST. PAUL ST. BALTIMORE, MARYLAND	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 8/25/79 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES	CONTRACT NO. 765-S	DETAILS SEDIMENT CONTROL PLAN	SAVAGE WASTEWATER TREATMENT PLANT TREATED EFFLUENT OUTFALL	DRAWING NO. 18 OF 18 SCALE AS SHOWN
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