

- GENERAL NOTES:**
- All Storm Drain & Paving shall be constructed in accordance with the latest details and specifications of How. Co. & M.D. S.H.A.
 - Types of Storm Drain Structures refer to the Standard Details of How. Co. & Maryland State Highway Administration.
 - Trench compaction for storm Drains within Road or Street right of way limits shall be in accordance with the Howard Co. Design Manual Vol. II.
 - Information concerning underground utilities was obtained from available records, but the Contractor must determine the exact location and elev. of the mains by digging test pits, by hand at all utility crossings, well in advance of construction.
 - All utility companies shall be notified 24hrs in advance of construction.
 - All traffic control services, parking and signing to be done in accordance with the Manual of Traffic Control Devices, 1971 Edition.
 - Sag and Crest Vertical Curves were designed in accordance with "A Policy on Geometric Design of Rural Highways, 1963, by A.A.S.H.A.
 - Provide Concrete Sidewalk Ramps in curbs, where shown in plan. See H.C. Std. R-4.01.
 - Design Speed: 30 mph.
 - Zoning: R-20
 - Street name signs shall be provided at all intersections.

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.
 Signature: *Robert W. Ziehm* Date: 6-27-84
 U.S. Soil Conservation Service

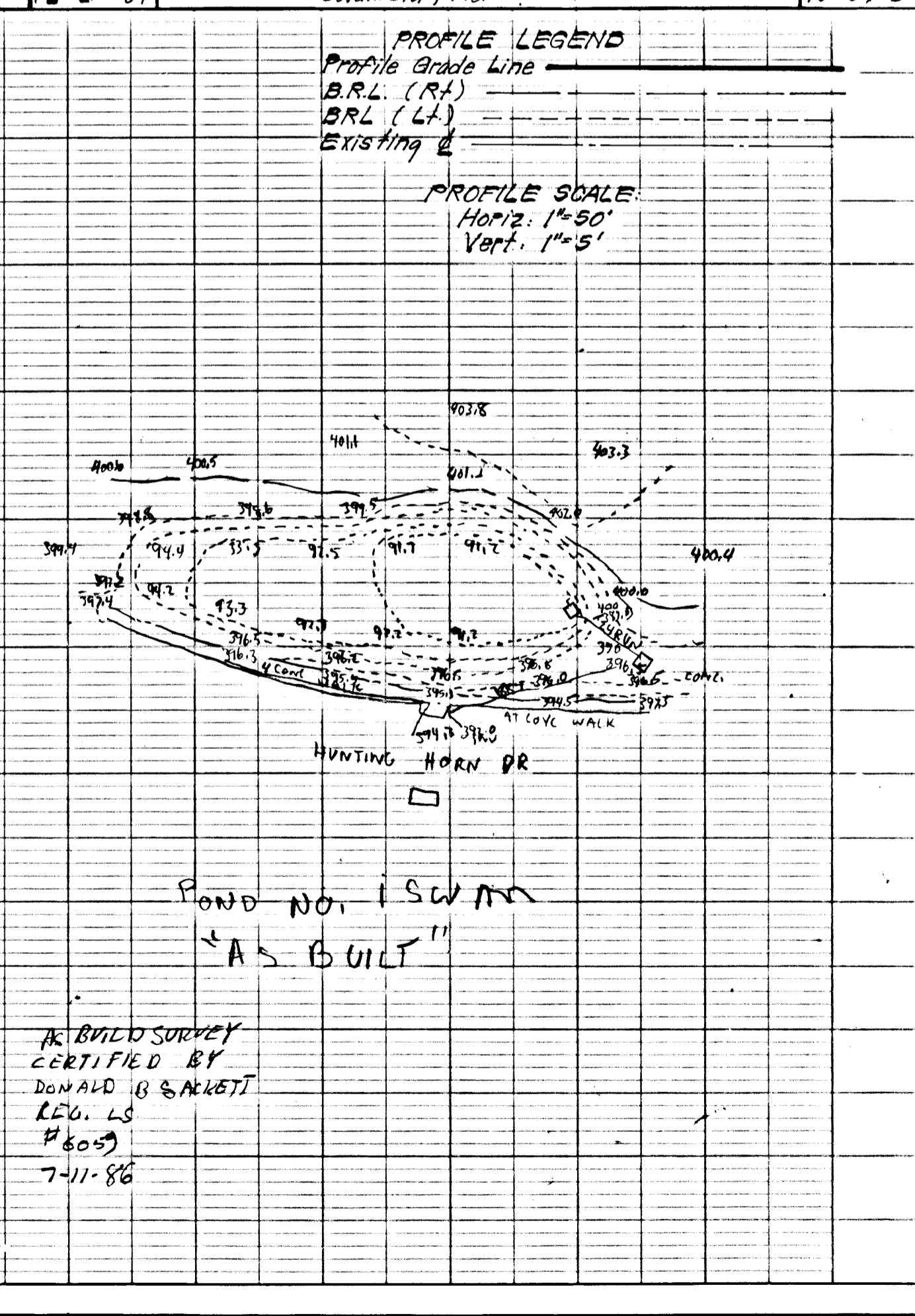
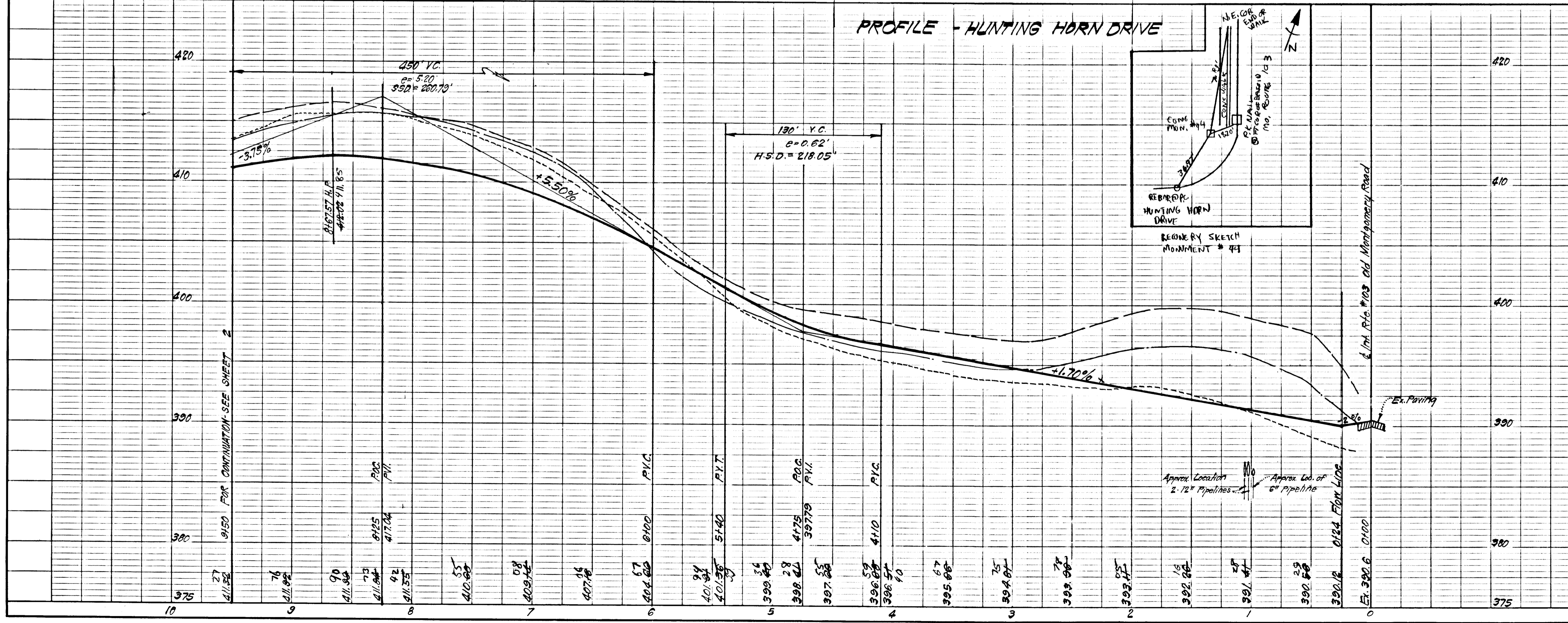
No	REVISION	DATE
1	Added Storm Drainage I-1-A to Ex I-1	1-8-85

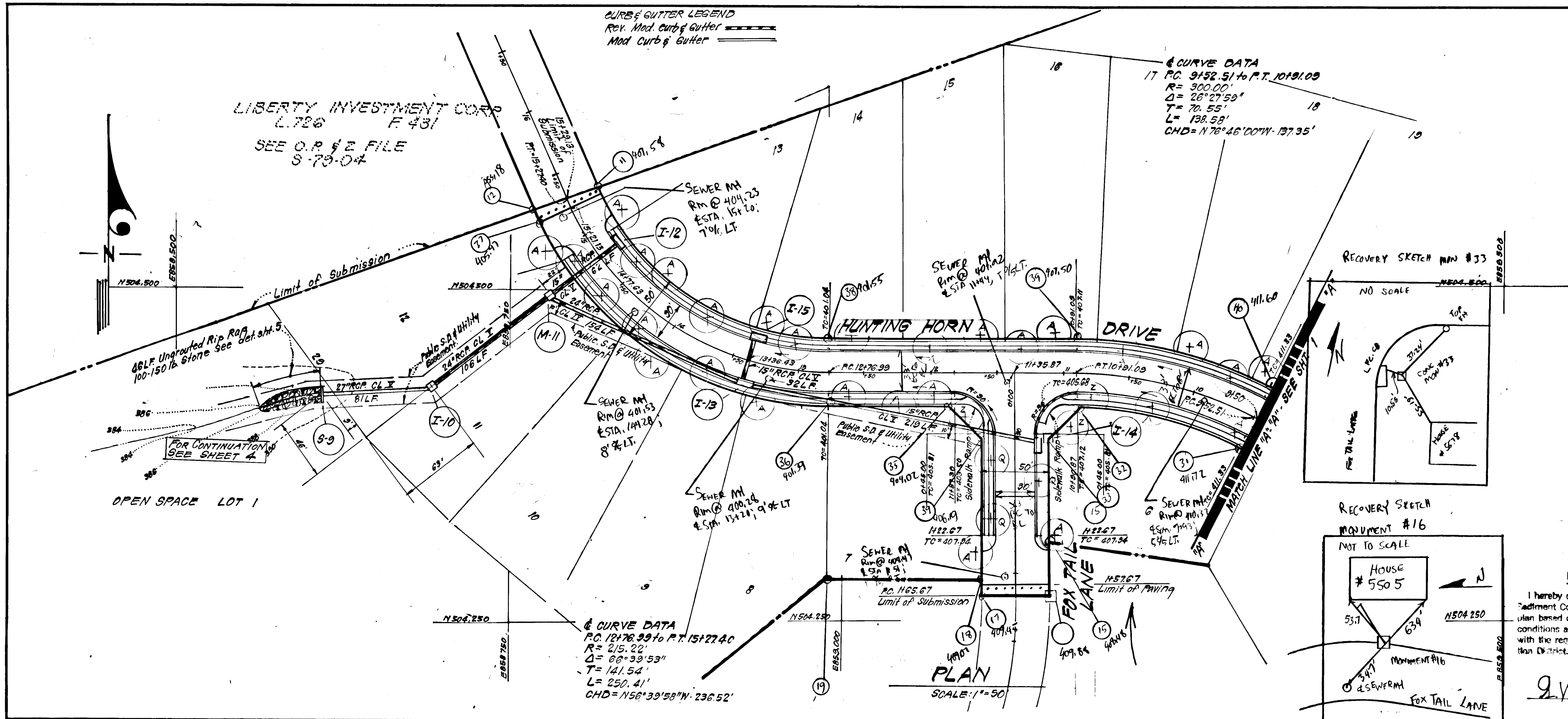
APPROVED: Department of Public Works
 Signature: *Robert W. Ziehm* Date: 7-15-84
 Chief, Bureau of Engineering

APPROVED: Howard County Office of Planning and Zoning
 Signature: *William M. ...* Date: 6-28-84
 Chief, Division of Land Development & Zoning Administration

CLARK • FINEFROCK & SACKETT
 ENGINEERS • PLANNERS • SURVEYORS
 11315 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301)-593-3400

DESIGNED J.L.S. D.A.B.	SCALE As Shown
DRAWN K.L.W.	DRAWING 10'x8'
CHECKED J.L.S. D.A.B.	JOB NO. 79-064
DATE 2-21-84	FILE NO. 79-064-D





KEY	PLANT NAME	SIZE	QUAN.	REMARKS
(A)	Acer rubrum 'October Glory' October Glory Maple	2 1/2" Cal. Min.	62	B&B Heavy Heads.
(Z)	Zelkova serr. 'Village Green' Village Green Zelkova	2 1/2" Cal. Min.	8	B&B Heavy Heads.
(Q)	Quercus palustris - Pin Oak	2 1/2" Cal. Min.	8	B&B Heavy Heads.
(Qr)	Quercus rubra - Northern Red Oak	2 1/2" Cal. Min.	5	B&B Heavy Heads.

ENGINEER'S CERTIFICATE
 I hereby certify that the plan and construction will be done according to the plan of location and plan for erosion and sediment control and that all reasonable personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary.

J. David Evans
 Signature of Developer/Builder

2/21/89
 Date

Reviewed for: HOWARD S.C.D.
 Name
 Technical Requirements
 Date
 U.S. Soil Conservation Service
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Robert J. Ziem 6-27-84
 Approved Date

APPROVED: Department of Public Works

William E. Ray 7-10-84
 Chief, Bureau of Engineering Date

APPROVED: Howard County Office of Planning & Zoning

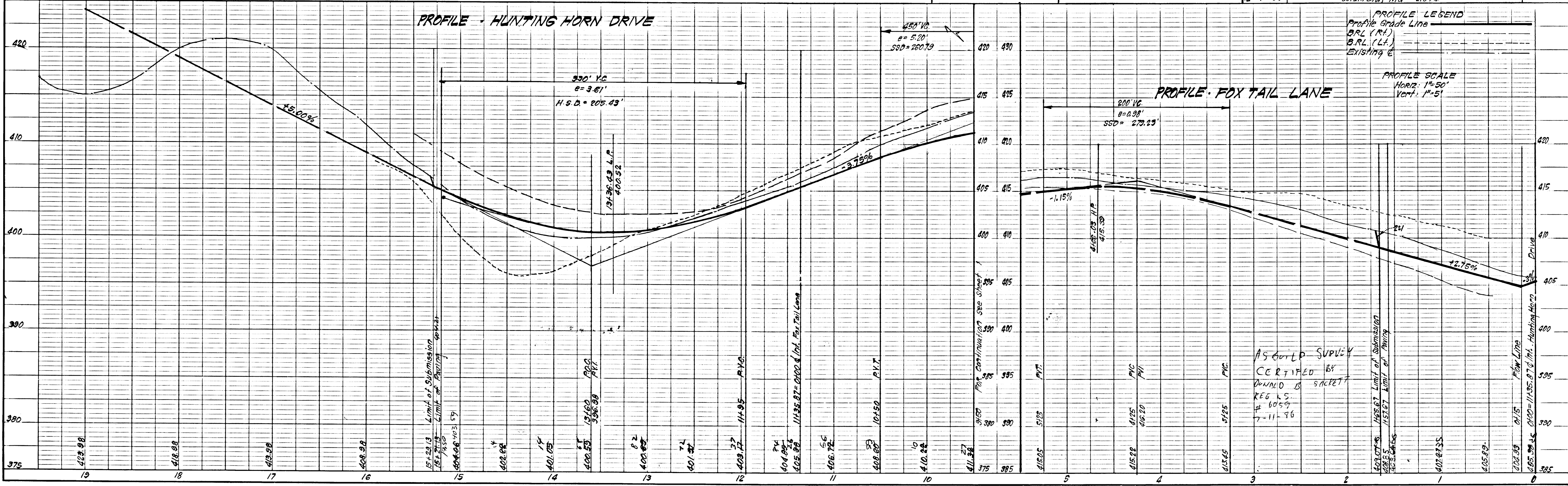
William E. Ray 6-28-84
 Chief, Division of Land Development & Zoning Administration Date

CLARK · FINEFROCK & SACKETT
 ENGINEER · PLANNERS · SURVEYORS
 11315 LOCKWOOD DRIVE SILVER SPRING, MARYLAND 20902 (301) 593-3400

DESIGNED: J.L.S. D.A.B.
 DRAWN: V.L.B. K.F.W.
 CHECKED: D.A.B.
 DATE: 2-21-89

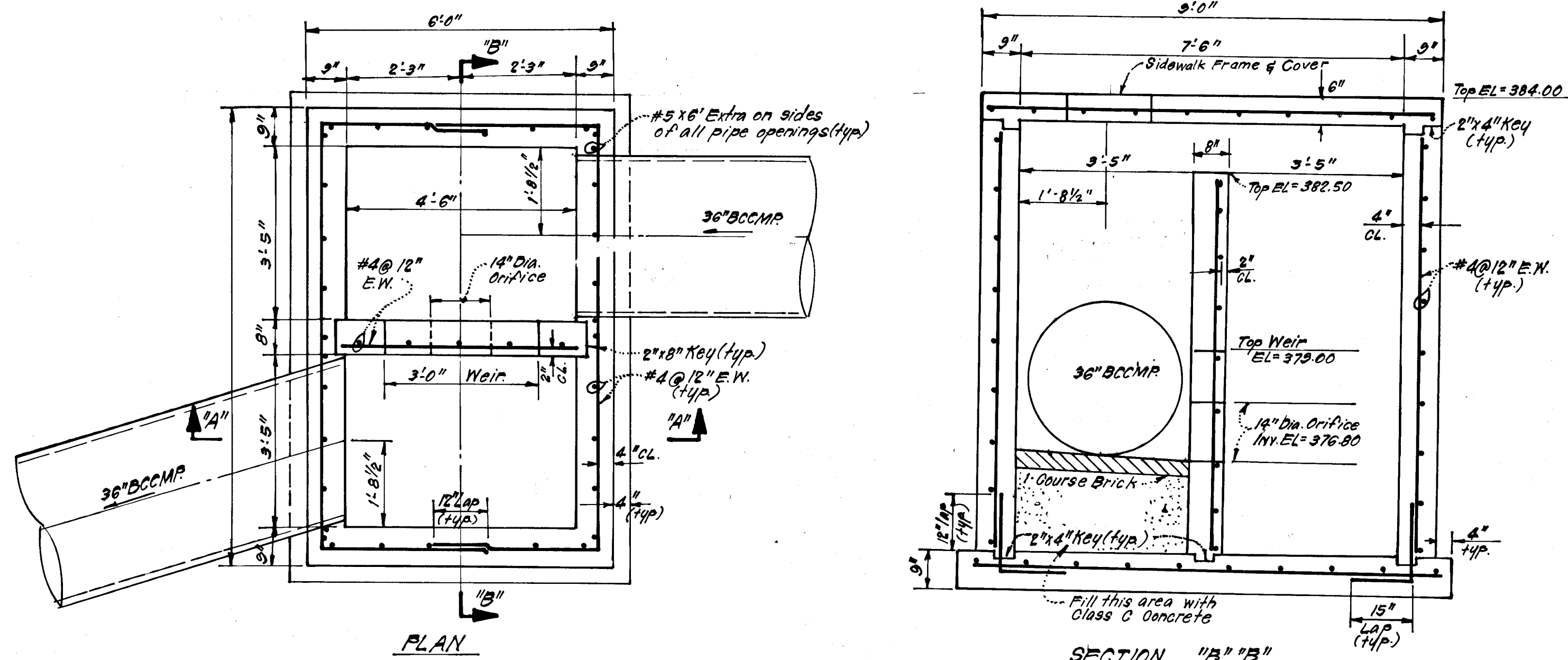
SCALE: As Shown
 DRAWING: HUNT COUNTRY ESTATES 2 of 8
 JOB NO.: 79-064
 FILE NO.: 79-064-D

FOR: J.D. EVANS, INC.
 5391 Light House Ct.
 Columbia, Md 21044

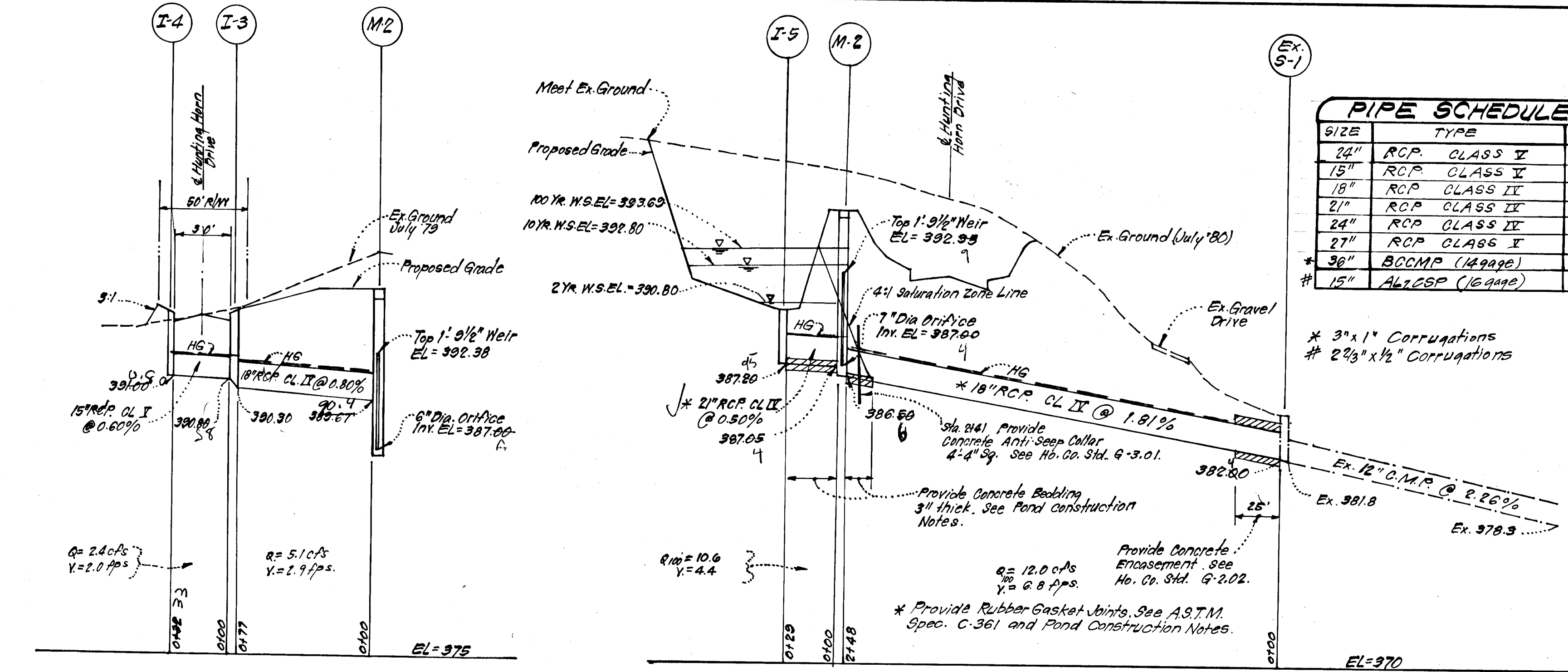


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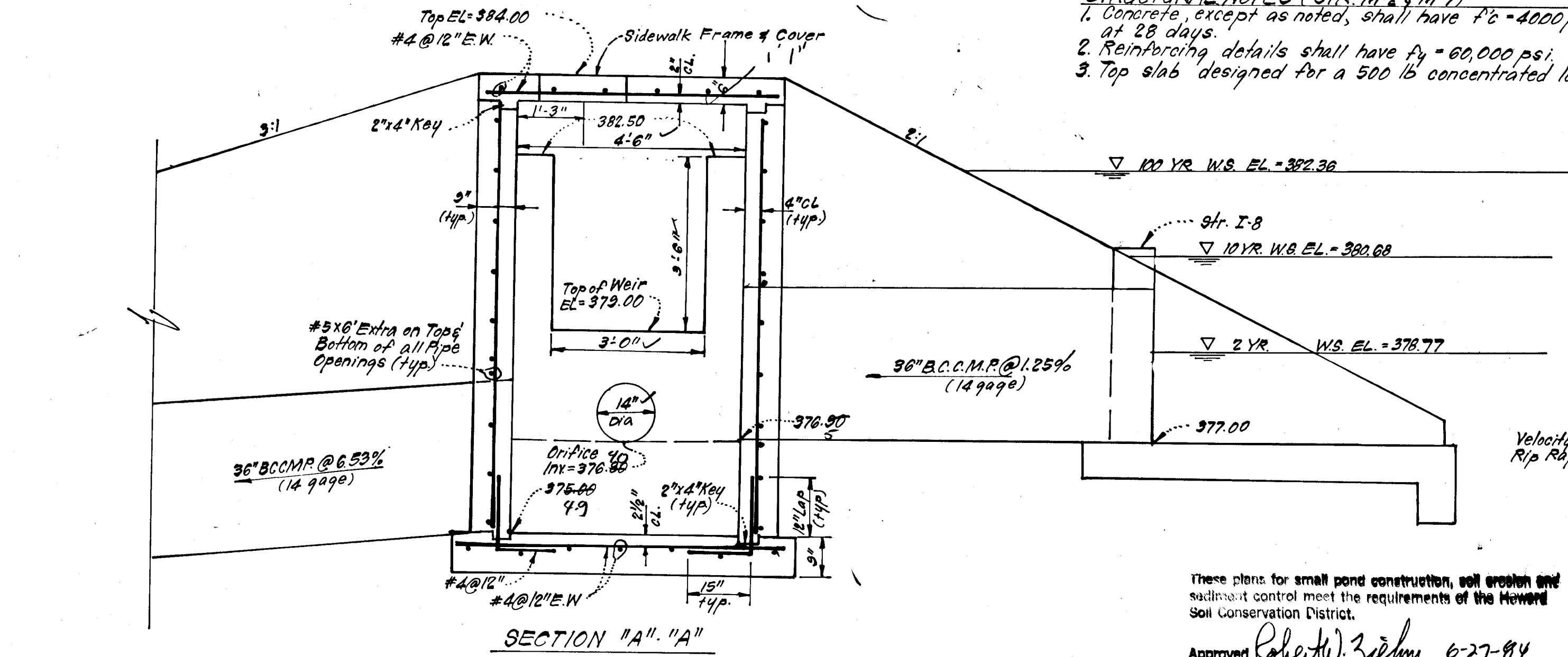
F-84-153 79-064-D



STRUCTURAL NOTES (STR. M-2 & M-7)
 1. Concrete, except as noted, shall have f'c = 4000 psi. at 28 days.
 2. Reinforcing details shall have fy = 60,000 psi.
 3. Top slab designed for a 500 lb concentrated load.

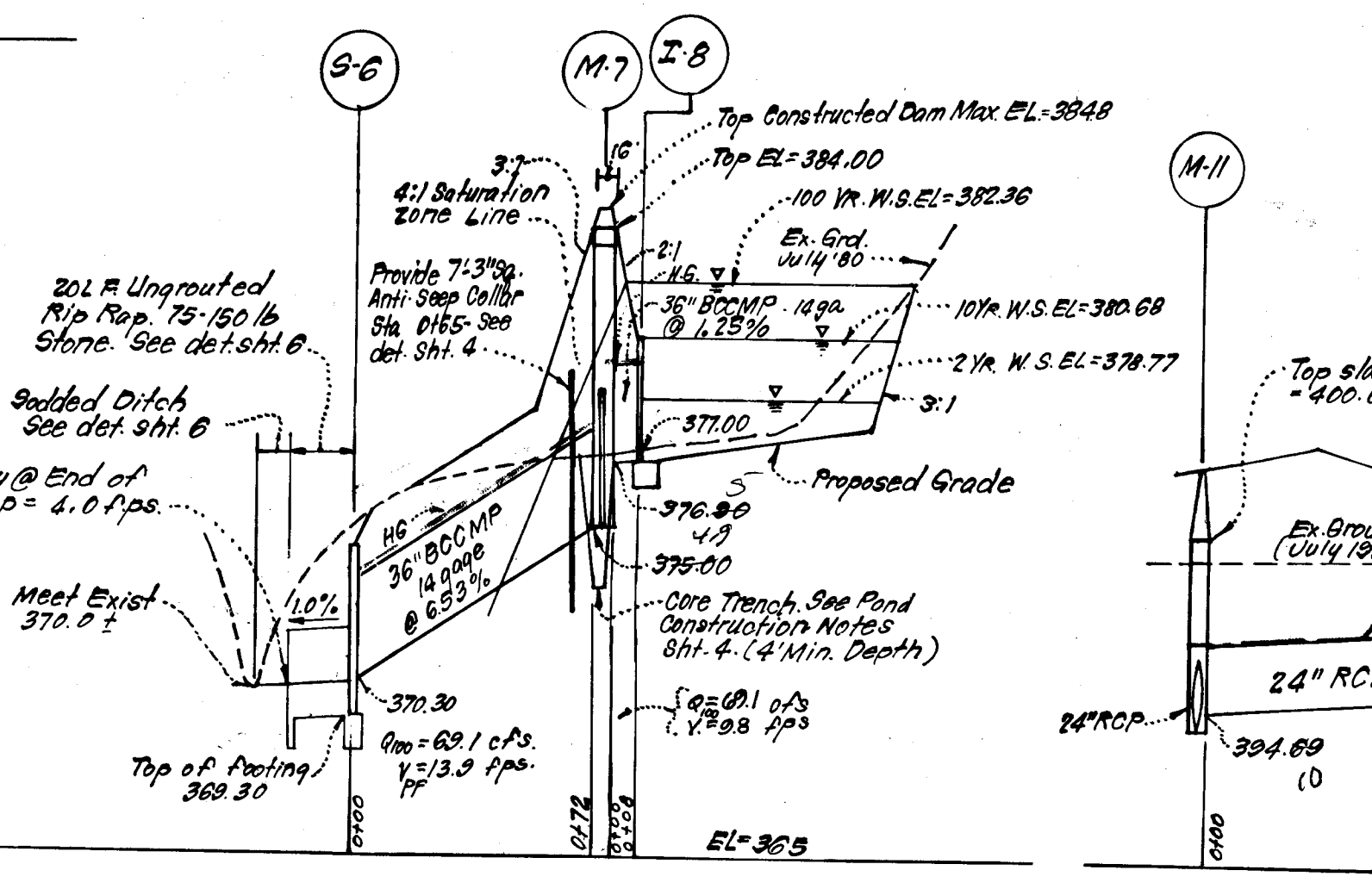


PIPE SCHEDULE			
SIZE	TYPE	LENGTH	
24"	RCP CLASS II	106 LF	
18"	RCP CLASS II	345 LF	
18"	RCP CLASS II	325 LF	
21"	RCP CLASS II	89 LF	
24"	RCP CLASS II	154 LF	
27"	RCP CLASS II	81 LF	
36"	BCOMP (14999)	80 LF	
15"	ALCSP (16499)	200 LF	



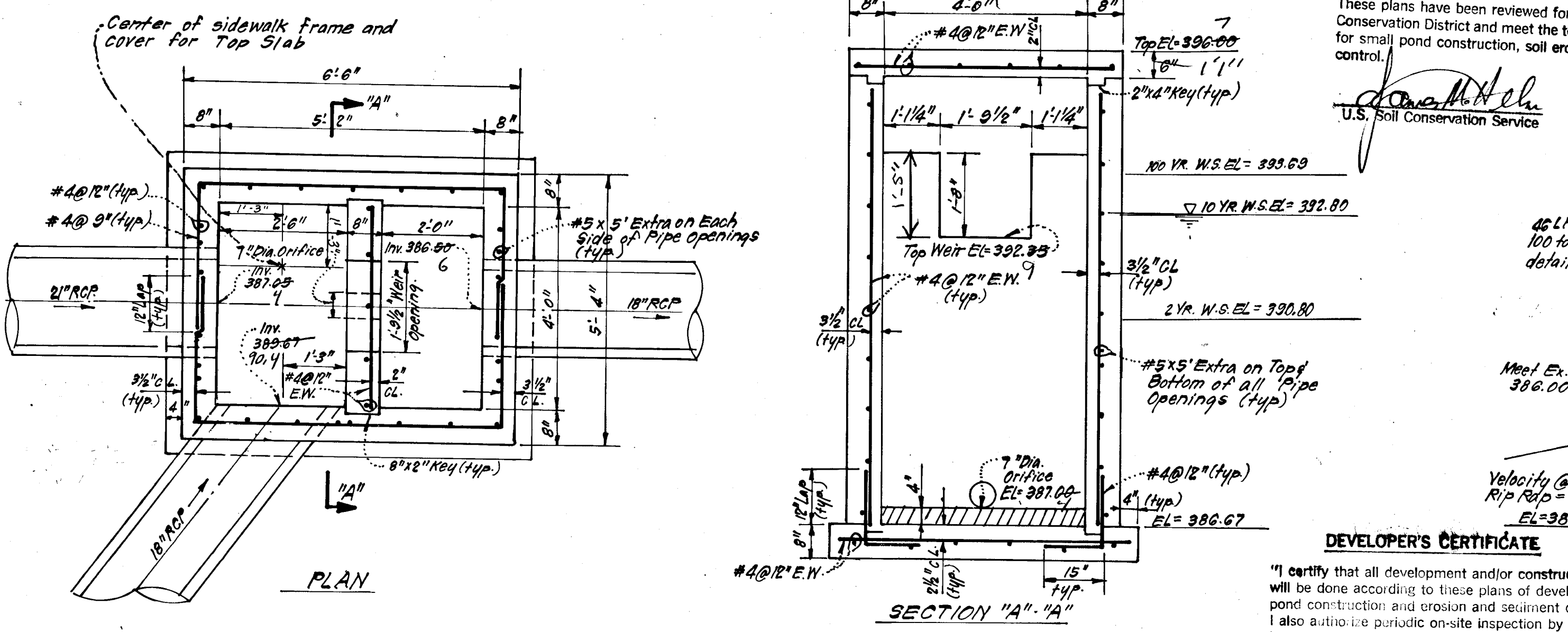
DETAIL OF STRUCTURE No. M-7 (BASIN No. 2)
 SCALE: 1/2" = 1'-0"

NOTE: Provide Sidewalk Frame & Cover in accordance with Ho. Co. Std. SD 3.91 in top slabs for Strs. M-7 and M-2. Provide Manhole Steps in accordance with Ho. Co. Std. G-5.21 for Strs. M-7 and M-2.



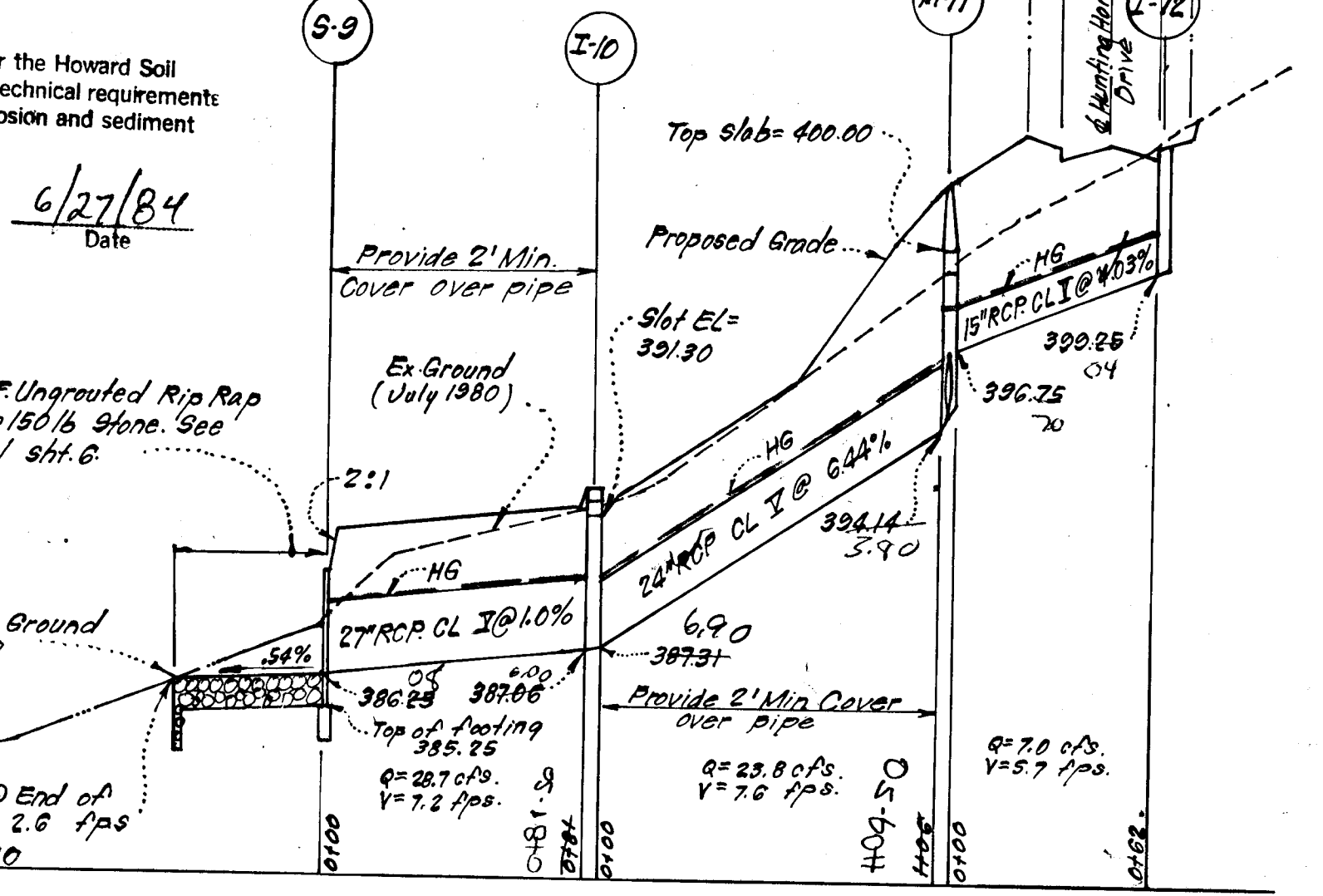
STORM DRAINAGE PROFILES
 SCALE: HORIZ. 1" = 50'
 VERT. 1" = 5'

AS BUILT SURVEY
 CERTIFIED BY
 DONALD B. SACKETT
 E.S. & L.S.
 # 5050
 7-11-86



DETAIL OF STRUCTURE No. M-2 (BASIN No. 1)
 Scale: 1/2" = 1'-0"

No.	REVISION	DATE
1	Revised V for Strs. I-5 to M-2 and Strs. I-8 to M-7	8-15-84
2	Added Str. I-1A to Structure Schedule & 200 LF ALCSP to Pipe Schedule	1-8-85
3	Added notes for Strs. M-2 and M-7	3-25-86



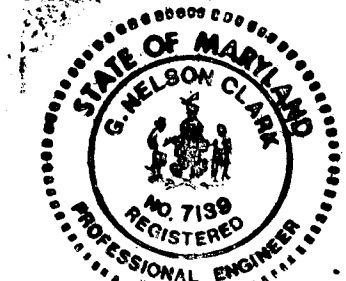
STRUCTURE SCHEDULE						
No.	TYPE	INV. IN	INV. OUT	TOP ELEV. Upper Lower	REMARKS	LOCATION
M-2	Special	376.50	376.50	376.00	See details this sht.	See Plan
I-3	A-10 Inlet W=3'-0"	390.80	390.30	394.66	Ho. Co. Std. SD 4.02	Lower end @ FC @ Sta. 2+76.93
I-4	A-10 Inlet W=2'-6"	391.00	391.00	394.60	Ho. Co. Std. SD 4.02	Lower end @ FC @ Sta. 2+76.73
I-5	Yard Inlet	-	-	387.50	SHA Sht. see detail sht 5	See Plan
I-6	C-End wall 36" Dia.	376.30	376.30	384.00	Ho. Co. Std. SD 5.21	See Plan
M-7	Special	376.30	376.30	384.00	See details this sht.	See Plan
I-8	C-End wall 36" Dia.	377.00	377.00	384.00	SHA STD. MD-300.01	See Plan
I-9	C-End wall 30" Dia.	377.00	377.00	384.00	Ho. Co. Std. SD 5.21	See Plan
I-10	C-End wall 48" Sq.	387.30	387.30	390.00	Ho. Co. Std. SD 4.11	See Plan
M-11	B. Manhole 48" Sq.	390.30	390.30	402.00	See details this sht.	See Plan
I-12	A-10 Inlet W=3'-0"	395.30	395.30	402.00	Ho. Co. Std. SD 4.02	Lower end @ FC @ Sta. 1+74.22
I-13	A-10 Inlet W=3'-0"	395.30	395.30	402.00	Ho. Co. Std. SD 4.02	End of Pipe Sta. 1+136.43 15' Lt.
I-14	A-10 Inlet W=2'-6"	396.30	396.30	402.00	Ho. Co. Std. SD 4.02	Lower end @ FC @ Sta. 1+74.22
I-15	A-10 Inlet W=2'-6"	396.30	396.30	402.00	Ho. Co. Std. SD 4.02	End of Pipe Sta. 1+136.14 15' Rt.
I-16	Std. W.R. Inlet	399.30	399.30	399.30	SHA Sht. MD 374.04	See Plan.

DEVELOPER'S CERTIFICATE
 "I certify that all development and/or construction will be done according to these plans of development, pond construction and erosion and sediment control. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary. Deviation from this plan will not be made unless authorized by The Howard Soil Conservation District. I will provide the Howard Soil Conservation District with a red-lined 'as built' of the pond within 30 days of completion."

ENGINEER'S CERTIFICATE
 "I certify that this plan for pond construction, erosion, and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with a red-lined 'as built' of the pond within 30 days of completion."

APPROVED: Department of Public Works
 Chief, Bureau of Engineering

APPROVED: Howard County Office of Planning and Zoning
 Chief, Division of Land Development & Zoning Administration



CLARK • FINEFROCK & SACKETT
 ENGINEERS • PLANNERS • SURVEYORS
 11315 LOCKWOOD DRIVE SILVER SPRING, MARYLAND 20904 (301) 593-3400

DESIGNED	SCALE
U.S. D.A.B.	AS SHOWN
DRAWN	DRAWING
U.S. K.T.M.	3 of 8
CHECKED	JOB NO.
U.S. D.A.B.	73-064
DATE	FILE NO.
2-21-84	73-064-D

HUNT COUNTRY ESTATES
 SECTION ONE
 1ST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 FOR: U.S. EVANS, INC.
 539 Light House Ct.
 Columbia, Md 21044

5-27-86 AS BUILT

STORM WATER MANAGEMENT POND NOTES

I. SITE PREPARATION:

- A. Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped no steeper than 1:1.
- B. Areas to be covered by pond or reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface.
- C. All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

II. EARTH FILL

- A. MATERIAL: The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversized stones, frozen or other objectionable materials. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased above the design elevation (including freeboard) as shown on the plans.
- B. PLACEMENT: Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of the embankment.
- C. COMPACTION: The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired, or vibratory roller. Fill material shall contain sufficient moisture so that the required degree of compaction can be obtained with the equipment used. Where a minimum required density is specified, each layer of fill shall be compacted as necessary to obtain that density and is to be certified by the Engineer.
- D. CUTOFF TRENCH: Where specified, a cutoff trench shall be excavated along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be as shown on the drawings, with the minimum width being four feet. The depth shall be at least four feet or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the cutoff trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

III. STRUCTURAL BACKFILL:

Backfill material shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall be driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of the structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe unless there is a compacted fill of twenty-four inches or greater over the structure or pipe.

IV. PIPE CONDUITS: (All pipes shall be circular in cross-section)

A. CORRUGATED METAL PIPE:

1. MATERIALS: (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specifications M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings are commercially available: Nexon, Plasti-Cote, Bloc-Klad, and Beth-Cu-Loy Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.
- MATERIALS (Aluminized Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274-791 with watertight coupling bands or flanges.
- MATERIALS (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Coupling bands, anti-seep collars, and sections, etc. must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of Zinc Chromate Primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be less than 9 and greater than 4.
2. CONNECTIONS: All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.
3. BEDDING: The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
4. LAYING PIPE: The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.
5. Backfilling shall conform to structural backfill as shown above.
6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

B. REINFORCED CONCRETE PIPE

1. MATERIALS: Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-361. An approved equivalent is AWWA Specification C-301.
 2. BEDDING: All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3", or as shown on the drawings.
 3. LAYING PIPE: Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe.
 4. Backfilling shall conform to structural backfill as shown above.
 5. Other details (anti-seep collars, valves, etc.) shall be shown on the drawings.
- C. For pipes of other materials, specific specifications shall be shown on the drawings.

V. CONCRETE

A. MATERIALS

1. CEMENT - Normal Portland cement shall conform to latest ASTM Specification C-150.
 2. WATER - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.
 3. SAND - The sand used in concrete shall be clean, hard, strong, and durable, and shall be well graded with 100% passing a one quarter inch sieve. Limestone sand shall not be used.
 4. COARSE AGGREGATE - The coarse aggregate shall be clean, hard, strong and durable, and free from clay and dirt. It shall be well graded with a maximum size of one-and-one-half (1 1/2) inches.
 5. REINFORCING STEEL - The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-615.
- B. DESIGN MIX - The concrete shall be mixed in the following proportions, measured by weight. The water-cement ratio shall be 5 1/2 to 6 U.S. Gals. of water/94-pound bag of cement. The proportion of materials for the trial mix shall be 1:2:3 1/2. The combination of the aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honeycombing in the structure.
 - C. MIXING - The concrete ingredients shall be mixed in batch mixers until the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than one and one-half minutes after all the ingredients, except the full amount of water, are in the mixer. The minimum mixing time is predicted on proper control of the speed of rotation of the mixture and of the introduction of the materials including water, into the mixer. Water shall be added prior to, during, and following the mixer-charging operations. Excessive overmixing requiring the addition of water to preserve concrete consistency shall not be permitted. Truck mixing will be allowed provided that the use of this method shall cause no violation of any applicable provisions of the specifications given here.
 - D. FORMS - The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, tamping and vibration without deflection from the prescribed lines. They should be mortar-tight and constructed so they can be removed without hammering or prying against the concrete. The inside of the forms will be oiled with a non staining mineral oil or thoroughly wetted before concrete is placed. Forms may be removed 24 hours after the placement of concrete. All wire ties and other devices used shall be recessed from the surface of the concrete.
 - E. REINFORCING STEEL - All reinforcing material shall be free of dirt, rust, scale, oil, paint or any other coatings. The steel shall be accurately placed and securely tied and blocked into position so that no movement of the steel will occur during placement of concrete.
 - F. CONSOLIDATION - Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be supplemented by spading and hand tamping as necessary to insure smooth and dense concrete along form surfaces in corners, and around embedded items.
 - G. FINISHING - Defective concrete, honey combed areas, voids left by removal of tie rods, ridges on all concrete surfaces permanently exposed to view or exposed to water on the finished structure, shall be repaired immediately after the removal of forms. All voids shall be reamed and completely filled with dry patching mortar.
 - H. PROTECTION AND CURING - Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be exposed to freezing during the curing period. Curing compound may also be used.
 - I. PLACING TEMPERATURE - Concrete may not be placed at temperature below 32°F with the temperature falling, or 34°F with the temperature rising.

VI. STABILIZATION

All borrow areas shall be graded to provide drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing, and mulching (if required) in accordance with the vegetative treatment specifications or as shown on the accompanying drawings.

VII. EROSION AND SEDIMENT CONTROL

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.

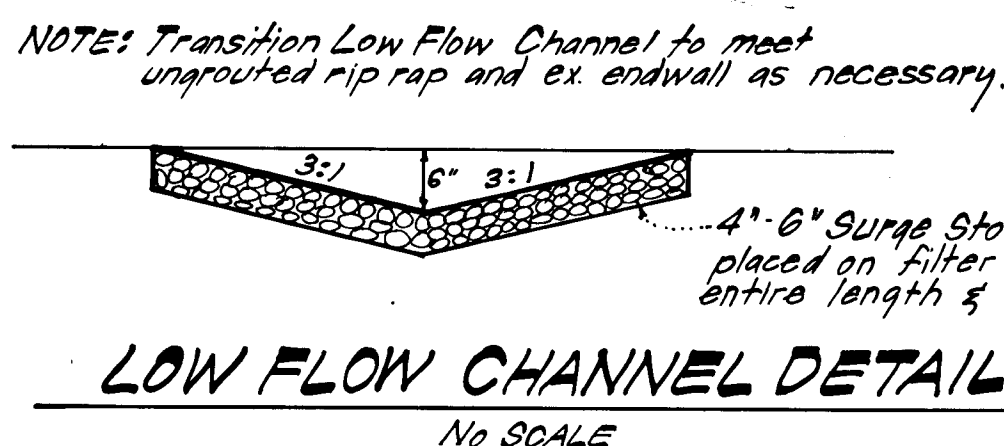
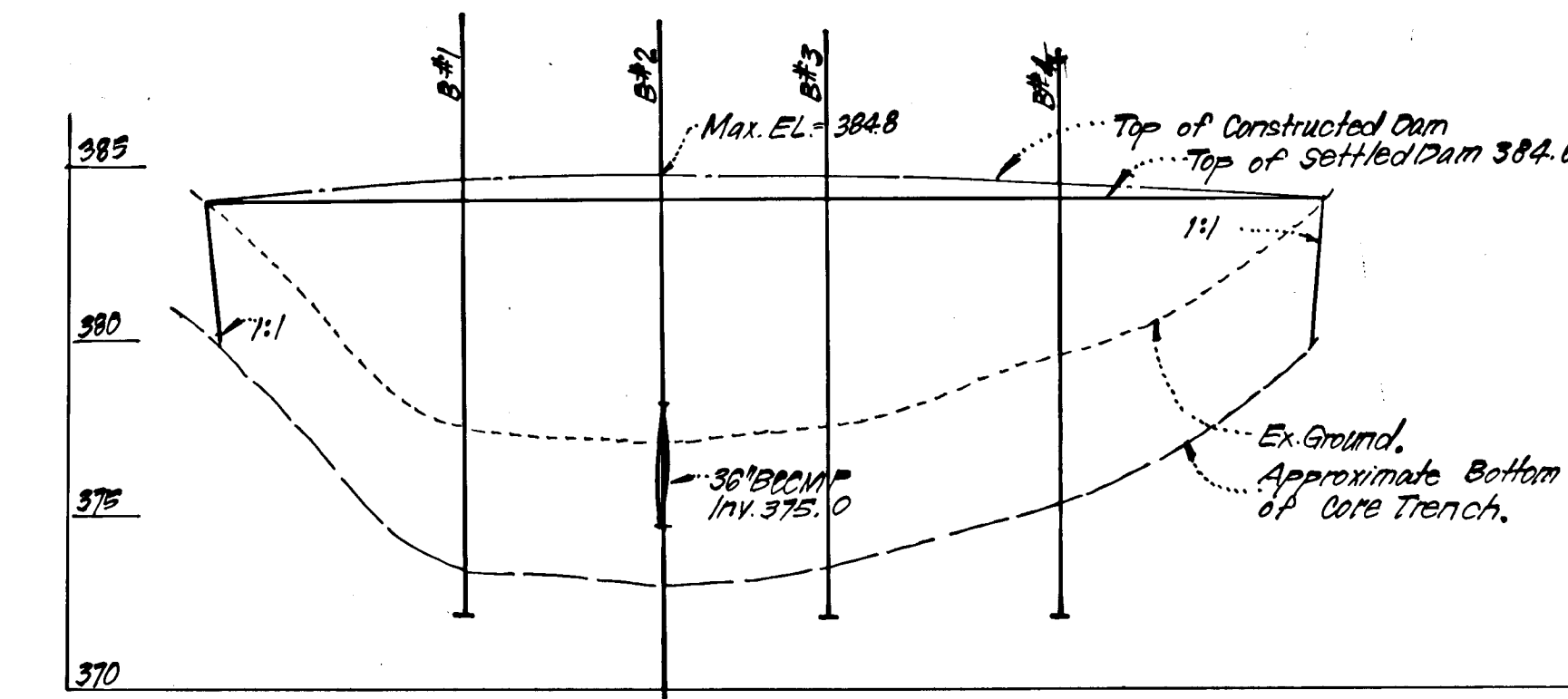
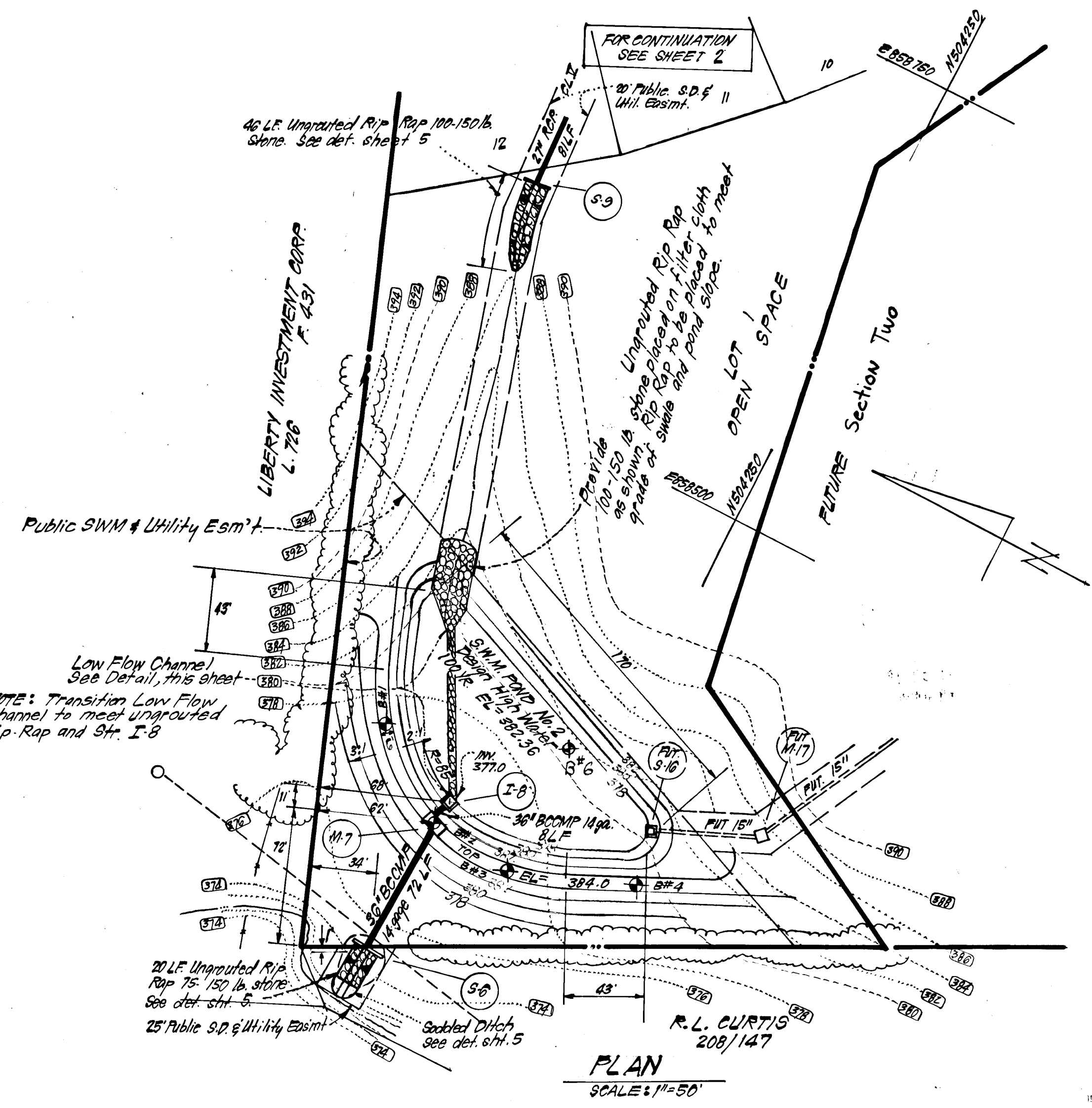
These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

Approved: *John M. Ald* 6/27/84
U.S. Soil Conservation Service Date

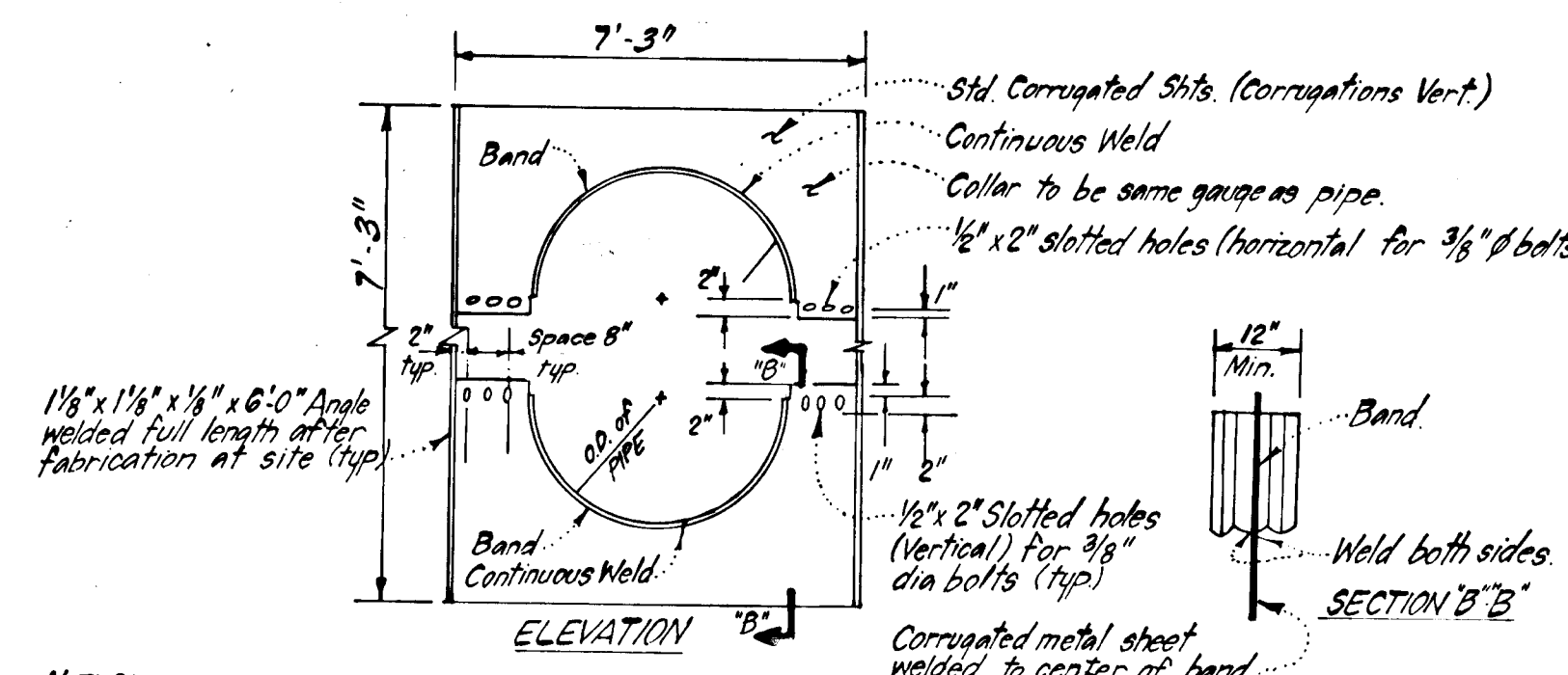
These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Approved: *Robert Richman* 6-27-84
Howard S.C.D. Date

Plan Number



LOW FLOW CHANNEL DETAIL
No SCALE



CORRUGATED METAL ANTI-SEEP COLLAR DETAILS
No SCALE (S.W.M. POND #2)

DEVELOPER'S CERTIFICATE

I certify that all development and/or construction will be done according to the plans of development, pond construction and erosion and sediment control. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary. Deviation from this plan will not be made unless authorized by The Howard Soil Conservation District with a red-lined 'as built' of the pond within 30 days of completion.

Approved: *John M. Ald* 6-27-84
Date

ENGINEER'S CERTIFICATE

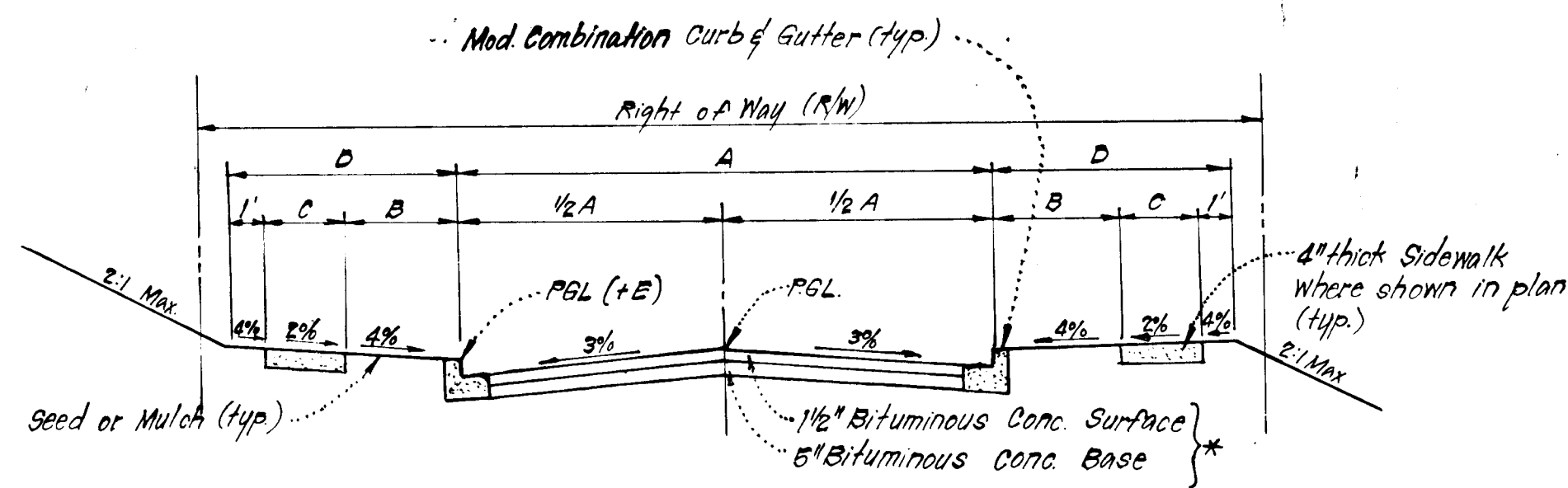
I certify that this plan for pond construction, erosion, and sediment control meets the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with a red-lined 'as built' of the pond within 30 days of completion.

Approved: *John M. Ald* 6-27-84
Date

APPROVED: DEPARTMENT OF PUBLIC WORKS
John M. Ald 6-27-84
Date

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING
John M. Ald 6-27-84
Date

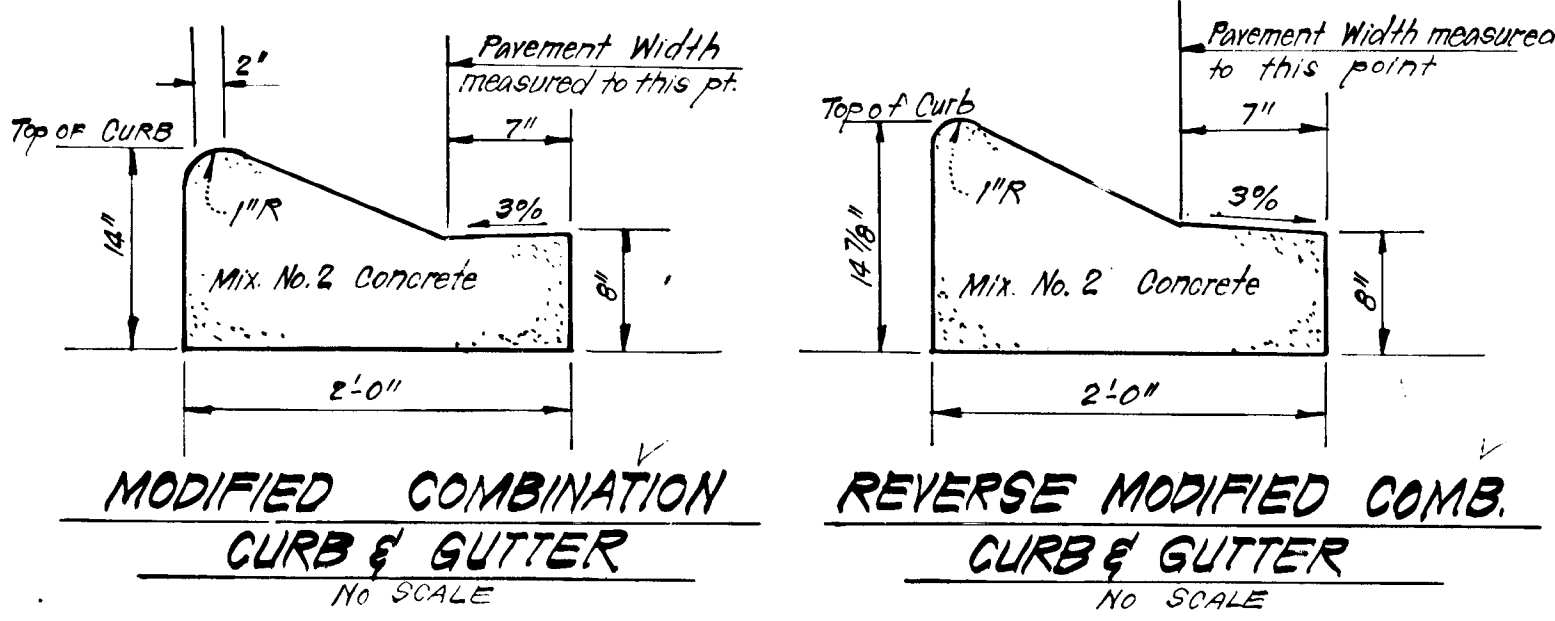
CLARK · FINEFROCK & SACKETT ENGINEERS · PLANNERS · SURVEYORS 11315 LOCKWOOD DRIVE SILVER SPRING, MARYLAND 20904 (301) 593-3400		DESIGNED	SCALE
		DRAWN	AS SHOWN
CHECKED	DATE	FILE NO.	
DATE			



TYPICAL PAVING SECTION - PUBLIC ROADS

NO SCALE

STREET NAME & STATION	TYPE OF TRAFFIC	A	B	C	D	R/W	ZONING	DESIGN SPEED	E
HUNTINGHORN DRIVE 0+00 to 15+29.13	LOCAL	30'	4'	6'	9'	50'	R-20	30	1.05
FOX HILL LANE 0+00 to 1+65.67	LOCAL	30'	4'	6'	9'	50'	R-20	30	1.05

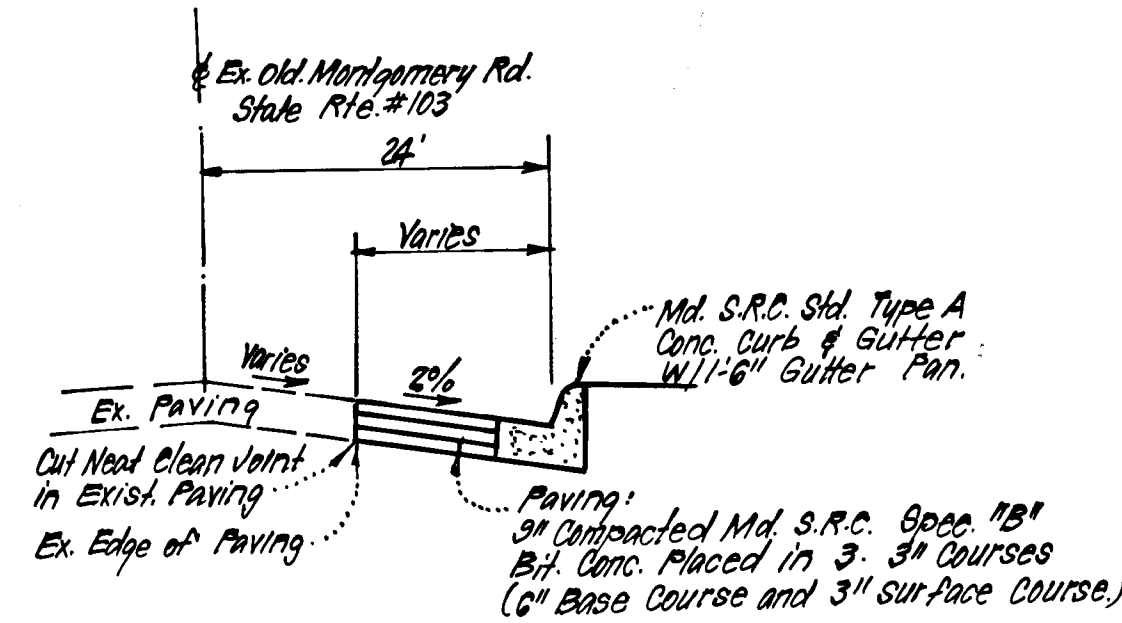


MODIFIED COMBINATION CURB & GUTTER

REVERSE MODIFIED COMB. CURB & GUTTER

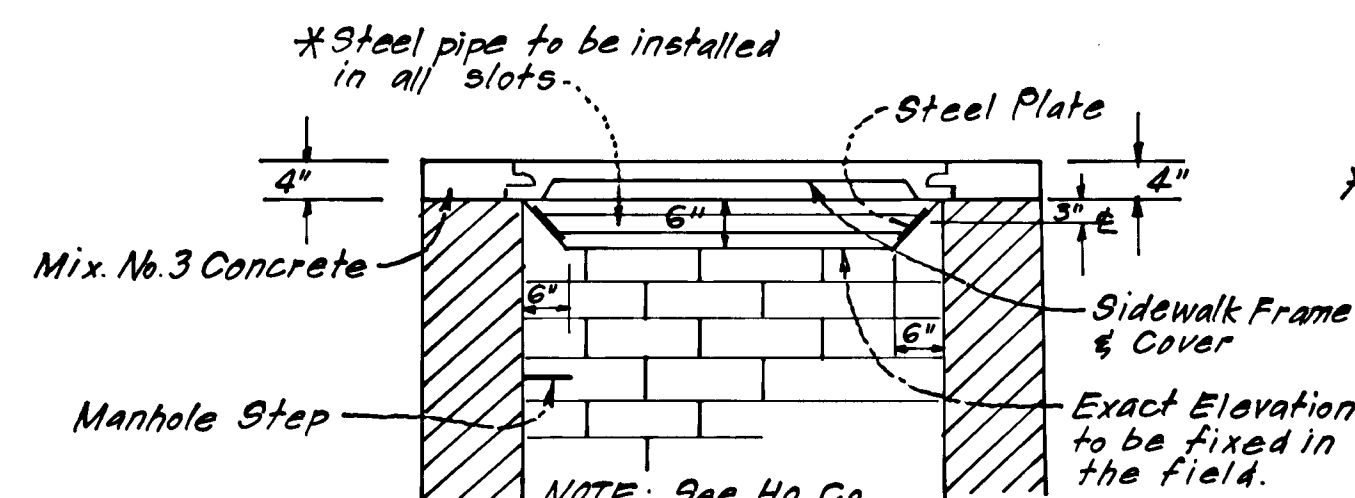
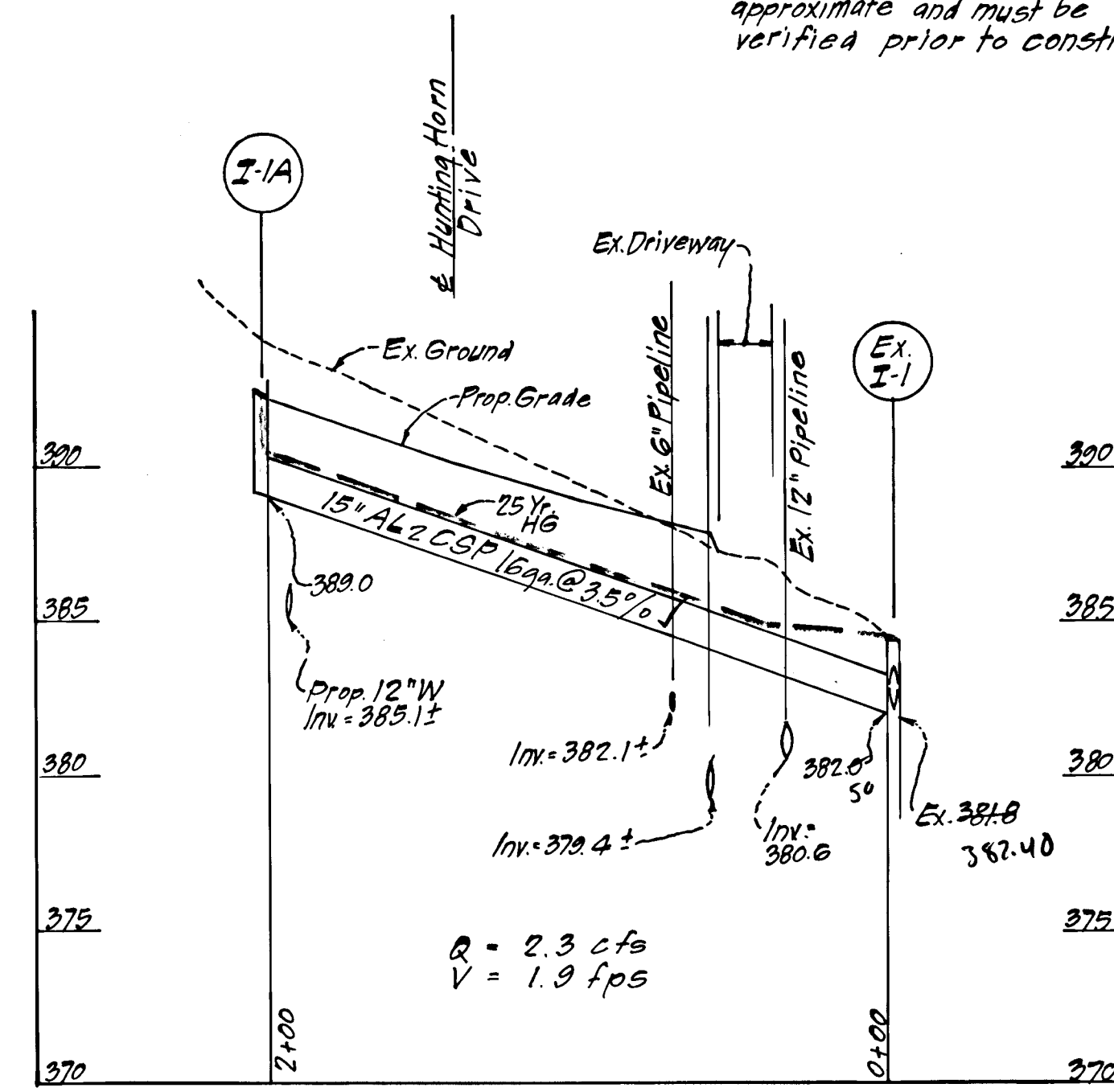
Bituminous Conc. Surface	1 1/2"
Bituminous Conc. Base	2 1/2"
Prime	1"
8" Crusher Run Base (Placed in 2 Courses) or 6" Dense Graded Stabilized Aggregate Base Course	8" or 6"

ALTERNATE PAVING SECTION FOR PUBLIC ROADS

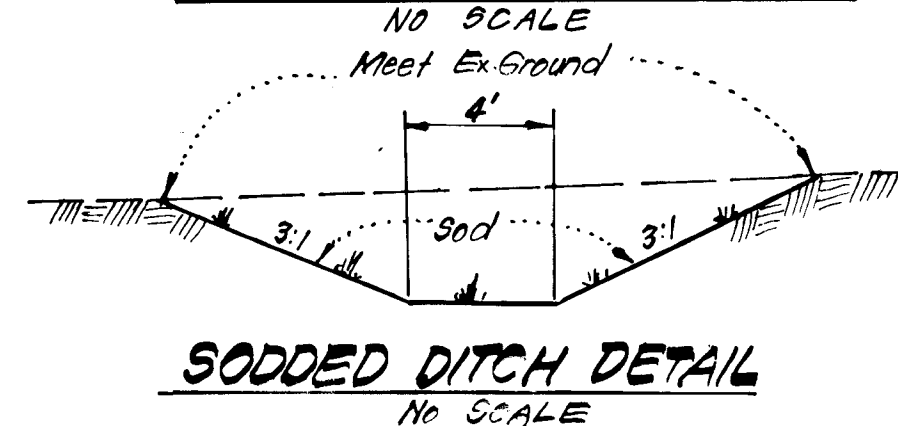


TYPICAL PAVING SECTION MONTGOMERY ROAD

NOTE: Test Pits to be dug by hand to locate existing pipelines. Pipeline locations shown are approximate and must be verified prior to construction.



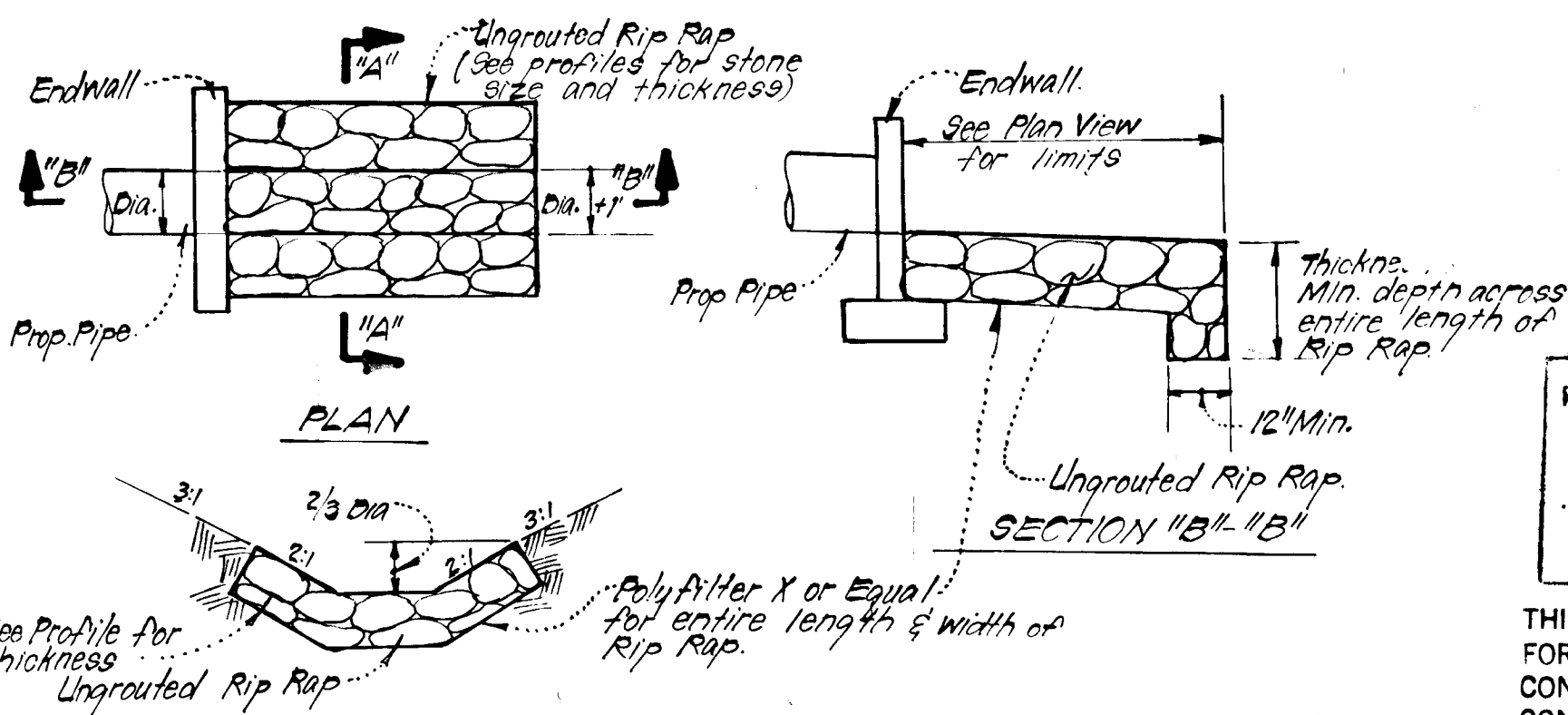
TYPE "D" REVISED INLET GRATE DETAIL



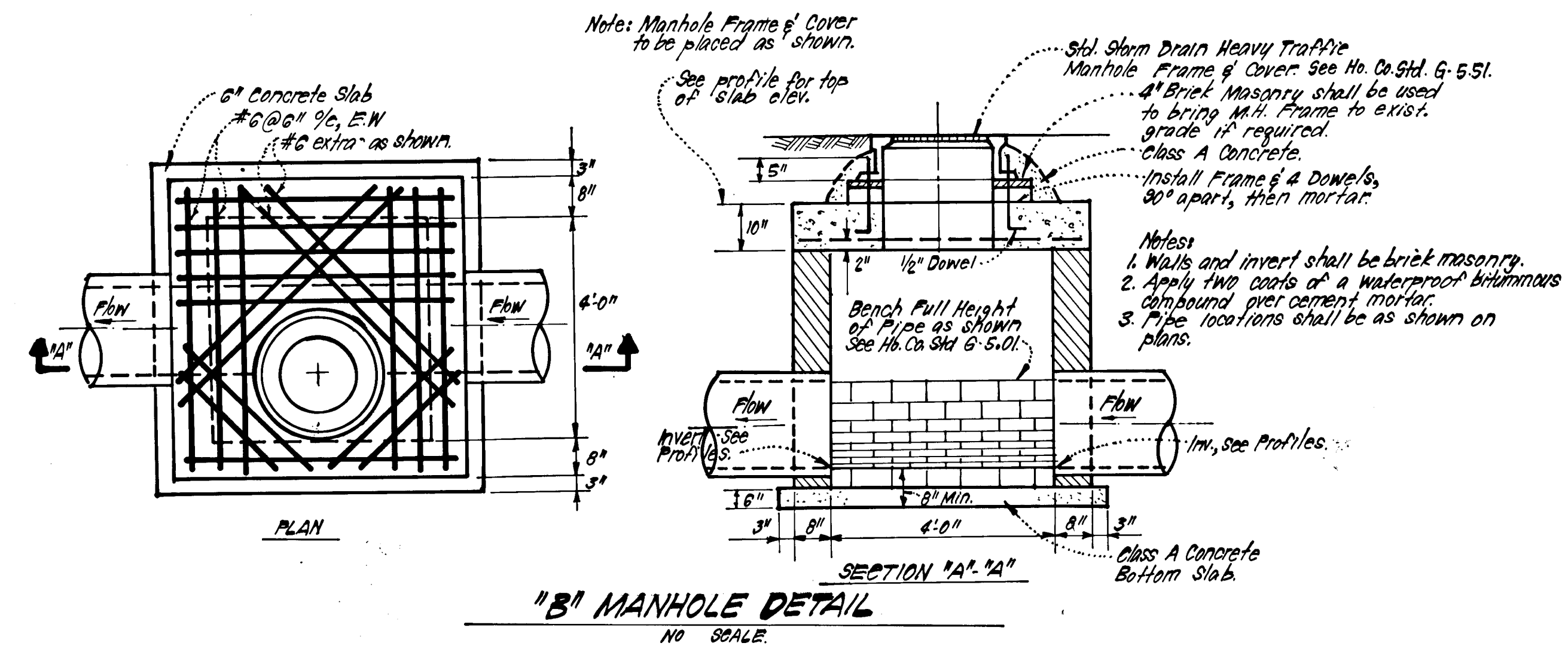
SODDED DITCH DETAIL

GENERAL SODDING NOTES:

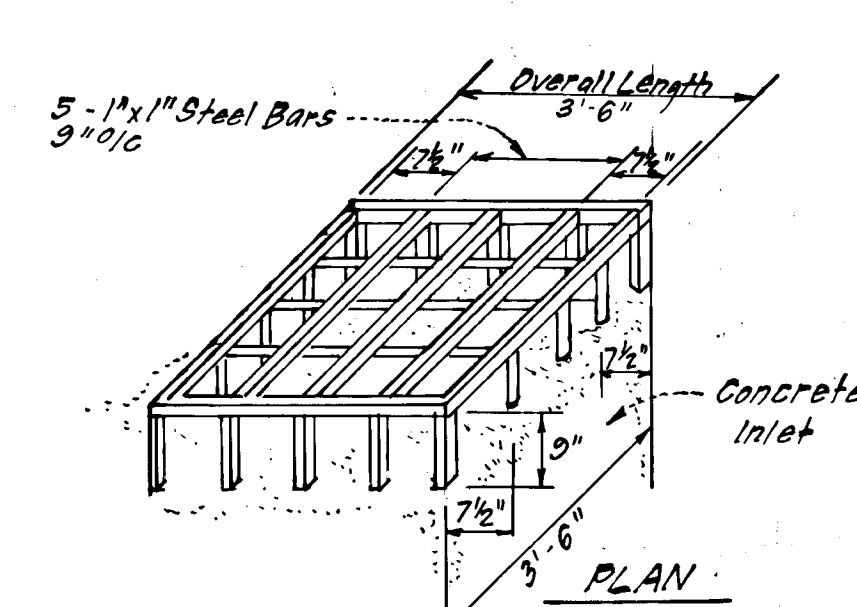
1. Apply 10-10-10 Fertilizer @ 1000#/acre (25#/1000 sq ft)
2. Apply Ground Agricultural Limestone @ 2000#/acre (50#/1000 sq ft)
3. Incorporate both Lime and Fertilizer into soil by discing. Firm up after incorporation.
4. Lay sod to a tight fit. Roll to insure contact with underlying soil. Water as necessary for 1st 2 weeks in summer to ensure establishment.
5. All sod to be used must be certified by the state of Maryland.
6. Sod to be pegged and stapled.



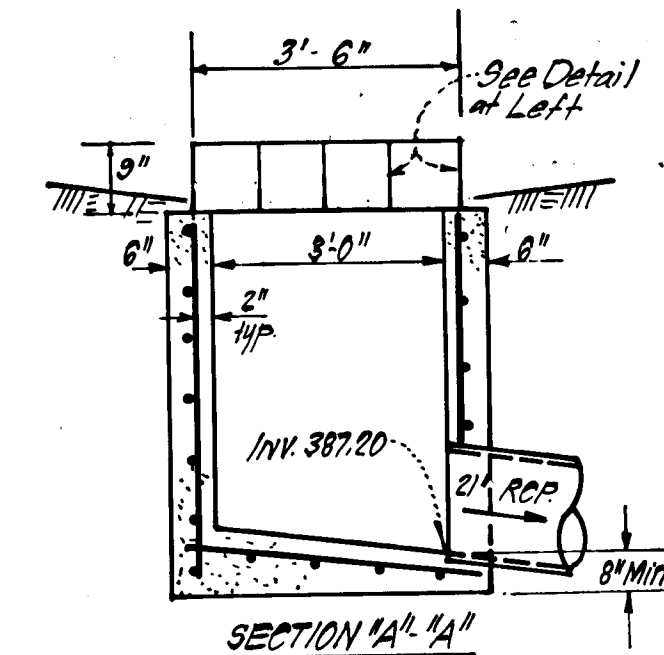
UNGROUTED RIP RAP PAVING DETAILS



"B" MANHOLE DETAIL

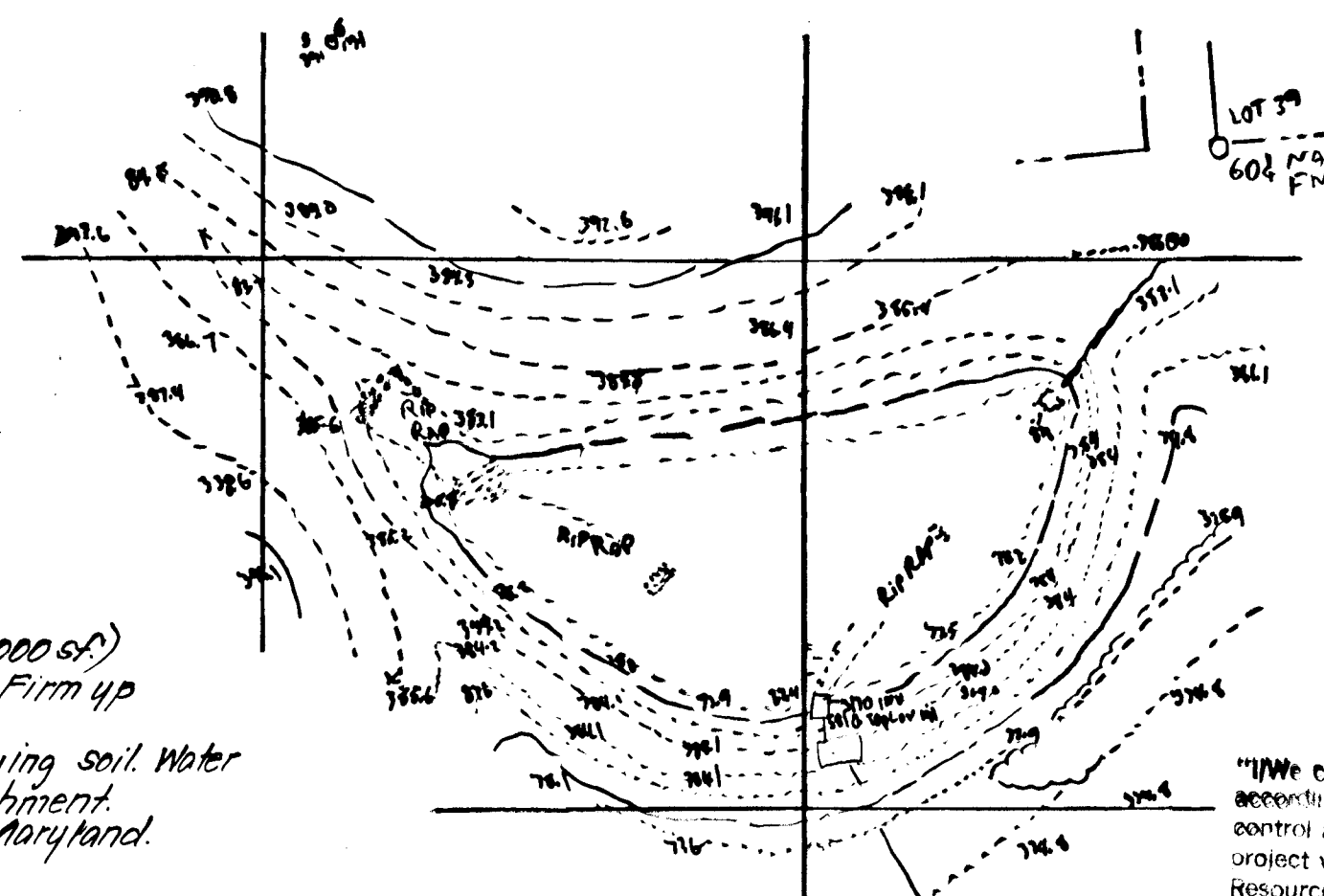


YARD INLET DETAIL AT STR I-5



SECTION "A"-"A"

- NOTES:
1. All reinforcing to be #4 deformed bars @ 6" @.
 2. All concrete to be class A Concrete.
 3. Grating to be 1" x 1" steel bars butt welded.
 4. After grate is fabricated, it shall be painted with 1 coat rust preventive, Alkyd primer and 2 coats black Alkyd Glass Enamel or equal.
 5. Grate to be embedded into concrete a min. of 6".



DEVELOPMENT PLANER'S CERTIFICATE

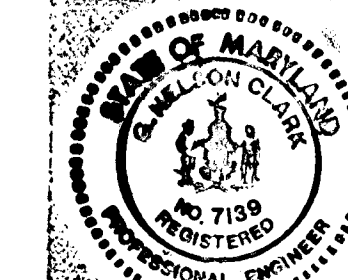
I hereby certify that the development and construction will be done according to the plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary.

J. David Evans
Signature of Developer/Owner
2-24-84
Date

Reviewed for HOWARD S.C.D. Name and meets Technical Requirements of Howard Soil Conservation Service. Date 6-27-84. Signature of Howard Soil Conservation Service.

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

AS BUILT SURVEY CERTIFICATE BY SACKETT & SACKETT. R.E.G. 65, H.6059, 7-11-86.



ENGINEERS CERTIFICATE

I hereby 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.

G. Wilson Clark
Signature
7-21-84
Date

NO	REVISION	DATE
1	Added Profile I-1A to EX-I-1	1-8-85
2	Added Type "D" Revised Inlet Detail to be used on Lot 11.	2-22-85

APPROVED: Department of Public Works

Approved: Chief, Bureau of Engineering & Planning
Approved: Chief, Division of Planning and Zoning
Approved: Chief, Division of Land Development & Zoning Administration

CLARK · FINEFROCK & SACKETT
ENGINEERS · PLANNERS · SURVEYORS

11314 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301) 593-1400

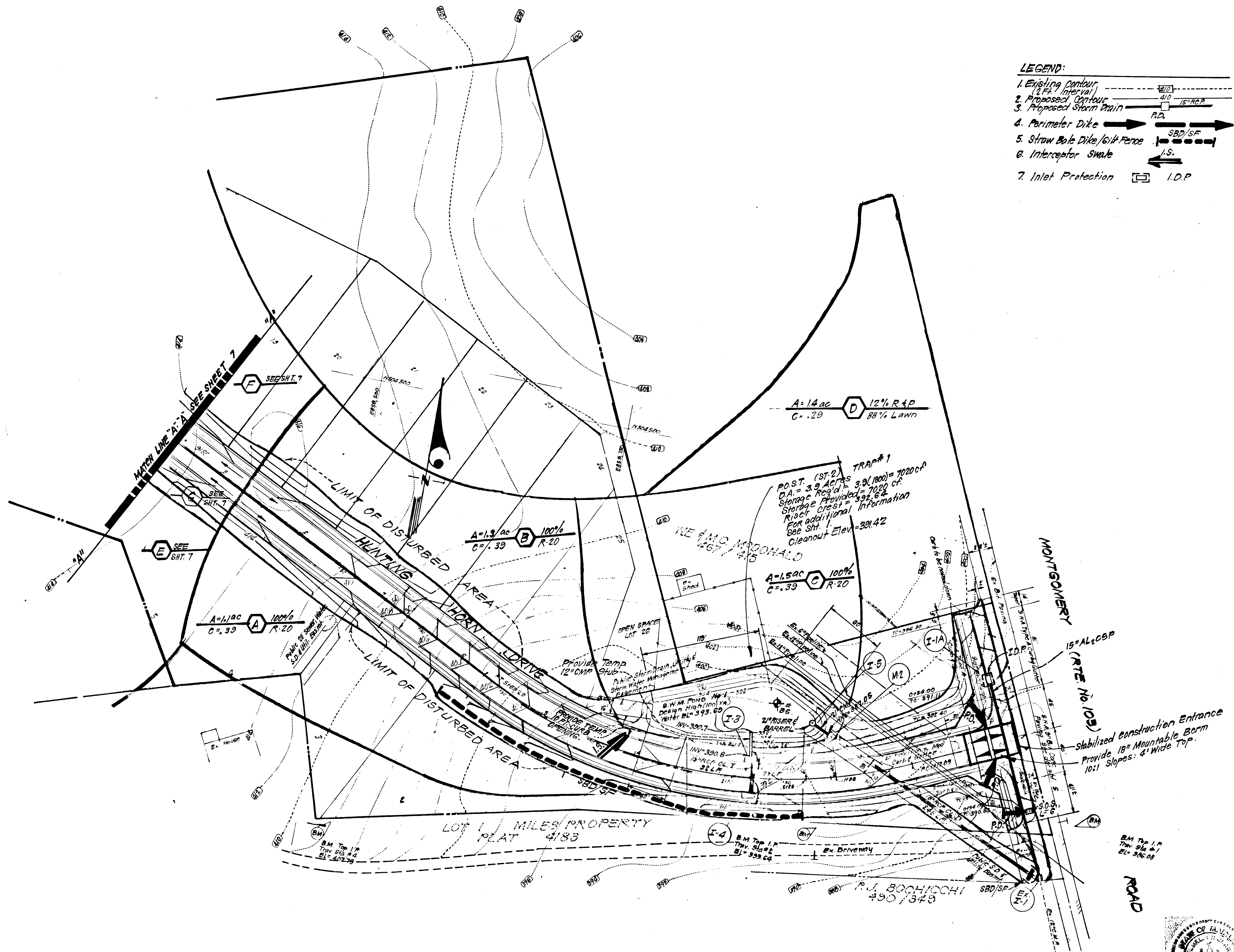
DESIGNED: DAB
DRAWN: YLB
CHECKED: YLB
DATE: 2-21-84

SCALE: As Shown
DRAWING: 504 B
JOB NO.: 79-062
FILE NO.: 79-062-D

ROAD CONSTRUCTION PLANS
STORM DRAINAGE & PAVING DETAILS
HUNT COUNTRY ESTATES

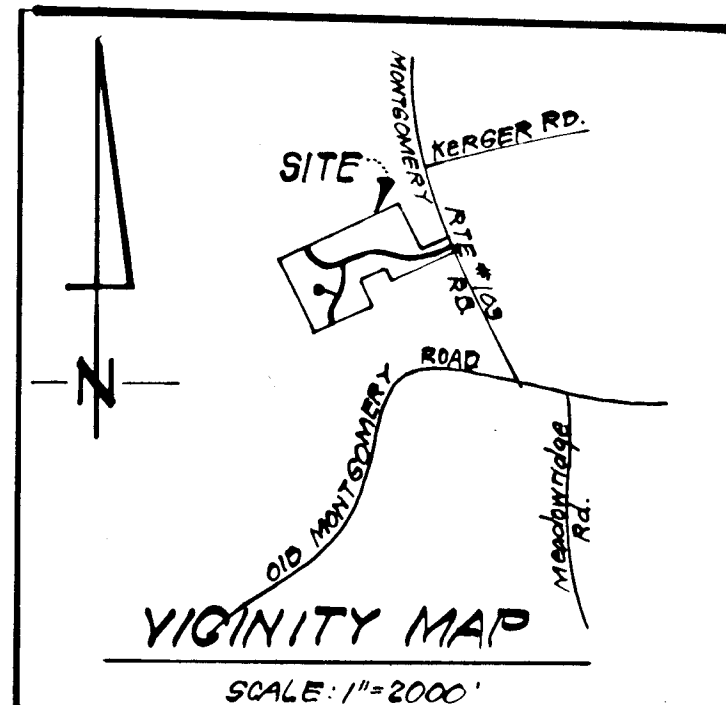
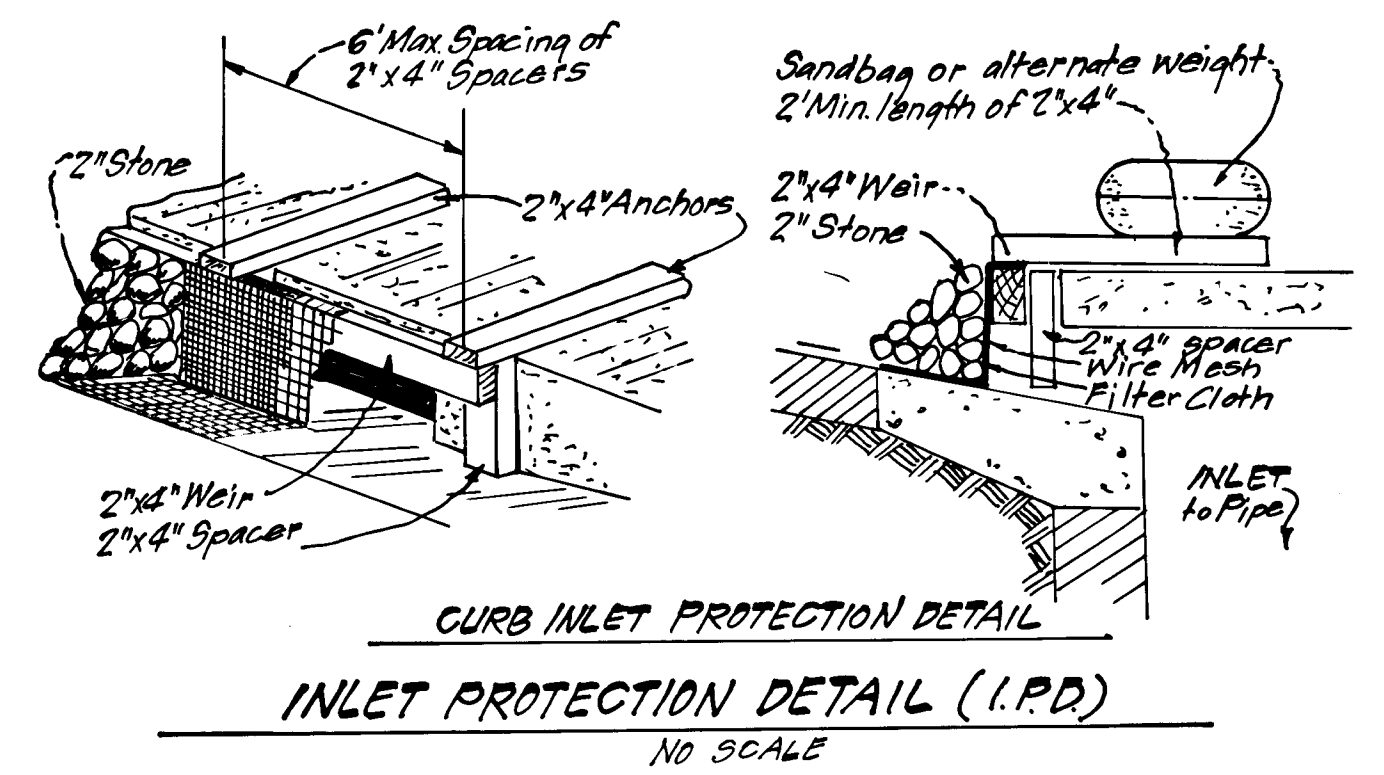
SECTION ONE
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

FOR: U.D. EVANS, INC.
5391 Light House Ct.
Columbia, Md. 21044



- LEGEND:**
- 1. Existing Contour (dashed line)
 - 2. Proposed Contour (solid line)
 - 3. Proposed Storm Drain (line with 'S.D.' label)
 - 4. Perimeter Dike (line with arrows)
 - 5. Straw Bale Dike/Gilt Fence (line with 'SBD/SF' label)
 - 6. Interceptor Swale (line with 'I.S.' label)
 - 7. Inlet Protection (square symbol with 'I.D.P.' label)

- CONSTRUCTION SEQUENCE:**
1. Install Stabilized Construction Entrance.
 2. Construct S.W.M. Pond #2 and drainage S-8 to S-6, except Str. S-8, and install 21" Barrel and 42" Riser as shown.
 3. Construct S.W.M. Pond #1 and Storm Drainage M-2 to Ex. I-1 & install 21" Riser and Barrel for Sediment Trap.
 4. Install remainder of sediment & erosion control measures.
 5. Clear & Rough Grade site.
 6. Construct remainder of storm drainage except at S-5 & at S-8 and Temp. 21" Stub & brick shut. 18" RCP leaving Str. I-3 and install remaining SBD/SF.
 7. Construct Utilities.
 8. Fine Grade and construct paving, curb & gutter and sidewalk.
 - Note: Curb opening to remain in place until:
 1. Base course for Derby Drive is constructed for area draining to Trap #1.
 2. S.W.M. and side slopes for Derby Drive are stabilized for area draining to Trap #1.
 9. Stabilize all other disturbed areas in accordance with stds. & specs.
 - * 10. Upon approval of Sediment Control Inspector, remove sediment erosion control measures after all areas draining to them have been stabilized and convert sediment basin and sediment trap to S.W.M. Ponds as follows:
 - A. Clean Out Pond and regrade in accordance with plans.
 - B. Remove CMP Risers and construct storm drainage S-8 to M-1 & I-5 to M-2.
 - C. Immediately stabilize regraded pond in accordance with stds. and specs.
- * NOTE:** Conversion of basins 1 and 2 to storm water use to be delayed until all site grading for present and future plans on this tract is complete and stabilized.



N ^o	REVISION	DATE
1.	Added Drainage Area to I-1A, Inlet Protection Detail	1-8-85

Review #1 for Howard S.C.D.
 Name: Howard
 Date: 6/27/84
 U.S. Soil Conservation Service
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Robert Ziehm 6/27/84
 Approved Date

DEVELOPER/BUILDER'S CERTIFICATE
 "I/We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."
J. Paul Evans 2-24-84
 Signature of Developer/Builder Date

ENGINEER'S CERTIFICATE
 I hereby 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.
G. Nelson Clark 2-21-84
 Date

APPROVED: Department of Public Works
W. Edwin E. Reay 7-12-84
 Chief, Bureau of Engineering & Planning Date
 APPROVED: Howard County Office of Planning and Zoning
William M. Huseman (6288)
 Chief, Division of Land Development & Zoning Administration Date

CLARK • FINEFROCK & SACKETT
 ENGINEERS • PLANNERS • SURVEYORS
 11315 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301) 593-3400

DESIGNED ULS	ROAD CONSTRUCTION PLANS SEDIMENT & EROSION CONTROL PLANS & DRAINAGE AREA MAP HUNT COUNTRY ESTATES SECTION ONE 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND FOR: J. D. EVANS, INC. 5391 Light House Ct. Columbia, Md 21044	SCALE As Shown
DRAWN K.L.W.		DRAWING 6 of 8
CHECKED ULS		JOB NO. 79064
DATE 2-21-84		FILE NO. 79064-D

#105D

F-84-153

LIBERTY INVESTMENT CORP.
 6811
 1966
 FILE 9-20-64

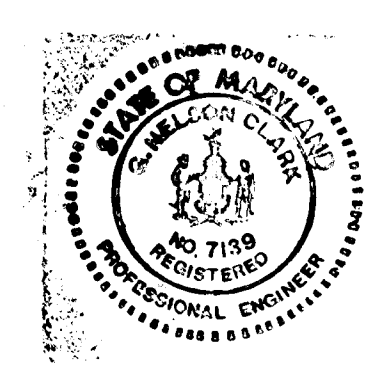
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 17 PC 9152.57+P.T. 10191.00
 R= 300.00
 Δ= 28°27'59"
 T= 76.55'
 L= 138.92'
 CHD= 170°46'00" 137.95'

Reviewed for Howard S.C.D.
 Name
 and Final Requirements
 Date 6/27/84
 Signature
 U.S. Soil Conservation Service

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

Robert W. Zickler 6-27-84
 Approved Date

DEVELOPER'S CERTIFICATE
 "I/we certify that all development and construction will be done
 according to this plan of development and plan for erosion and sediment
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 authorized agents, as are deemed necessary."
 J. David Evans
 Signature of Developer/Builder
 2-24-84
 Date



ENGINEER'S CERTIFICATE
 I hereby 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 Conserva-
 tion District.

g. Nelson Clark 2-21-84
 Date

APPROVED Department of Public Works		7-12-84 Date	
Approved: <u>William E. Podes</u> Chief, Bureau of Engineering		6/28/84 Date	
APPROVED: <u>William E. Podes</u> Chief, Division of Land Development & Zoning Administration		6/28/84 Date	
CLARK • FINEFROCK & SACKETT ENGINEERS • PLANNERS • SURVEYORS			
11315 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301) 593-3400			
DESIGNED	VLS	ROAD CONSTRUCTION PLANS SEDIMENT EROSION CONTROL PLANS DRAINAGE AREA MAPS	SCALE As Shown
DRAWN	VLS K.L.W.	HUNT COUNTRY ESTATES	DRAWING 7 of 8
CHECKED	VLS	SECTION ONE 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 79064
DATE	2-21-84	FOR: J. D. EVANS, INC. 5391 Lybri House Ct. Columbia, MD 21044	FILE NO. 79064-D

F-84-153

1050

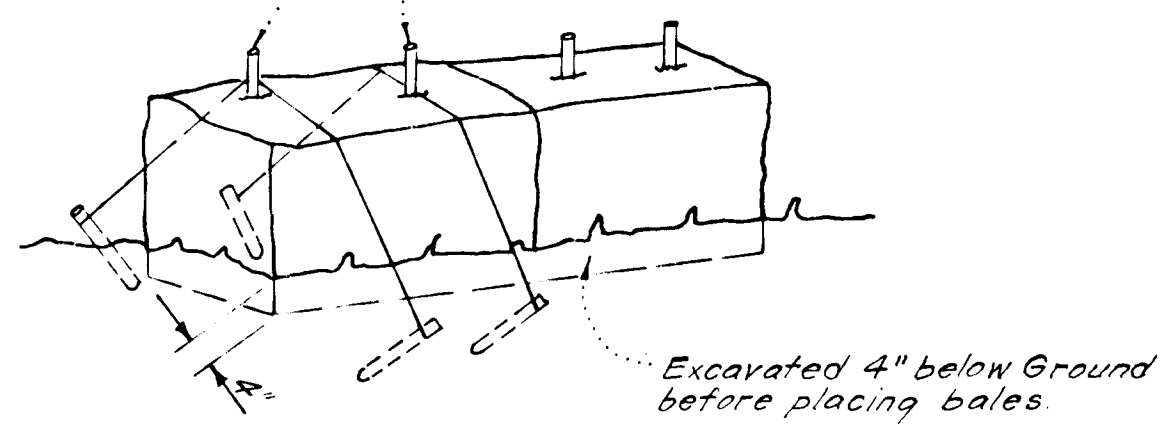
GENERAL NOTES

- Grading Permits shall be obtained prior to installation of Sediment Control & Grading.
- All Sediment and Erosion Control Measures will be installed and stabilized according to this plan prior to any other grading, clearing or disturbance of the existing surface of the site. See note #6 for stabilization except that the seed mixture will be annual rye applied at a rate of 14 lbs/1000 sf.
- Notify the Bureau of Inspections and Permits at least 24 hrs. before starting any work.
- All Sediment Control Practices to conform to the "Standards and Specifications for Soil Erosion and Sediment Control in Developing Areas" and shall be adjusted to meet actual field conditions.
- Stabilization of Disturbed ground to be done as soon after construction as possible.
- All disturbed area to be stabilized in accordance with the following Specifications:
 - Seed - certified 85% germination applied at the rate of 3 lbs/1000 sf. Mixture - 40% Kentucky Blue, 20% chewing Fescue, 20% Kentucky 31 and 20% annual rye.
 - Fertilizer - 10-10-10 applied at a rate of 23 lbs/1000 sf. Ground Agricultural Lime or Dolomitic Lime applied at a rate of 30 lbs/1000 sf.
 - Mulch - Weed free grain straw applied at a rate of 70-90 lbs/1000 sf. Mulch shall be secured to the ground by any approved method i.e.; asphalt tacks, chemical binder etc.
 - All Sod used shall be Maryland State Certified.
- All structural Sediment Control Measures are to remain in place until permission for their removal has been obtained from the Bureau of Inspections and Permits.
- On-Site Inspection and Maintenance of all Sediment Control Measures including clean out of Sediment Traps and Dikes, and proper establishment of all planned vegetative measures will be the responsibility of the developer or his representative on the site, on a continuing day to day basis.
- It will be the developer's responsibility to provide additional Sediment & Erosion Control Devices to protect stabilized areas during construction.
- The Contractor shall keep all public roads free of sediment deposits left from traffic leaving construction site.
- Approval of this plan is conditional upon the approval of Sediment Control Plan for the off-site waste or borrow area prior to the import of any borrow or export of waste to or from this site.
- All pipes to be blocked at the end of each day. See detail this sheet.
- Total Amount of Straw Bales or Silt Fence shown = 715 L.F.

- SITE ANALYSIS:**
- Total Area: 4.200 Acres.
 - Area to be Roofed: NONE Acres.
 - Area to be Paved: 1.300 Acres.
 - Area to be Seeded: 2.300 Acres.
 - Area Undisturbed: NONE Acres.

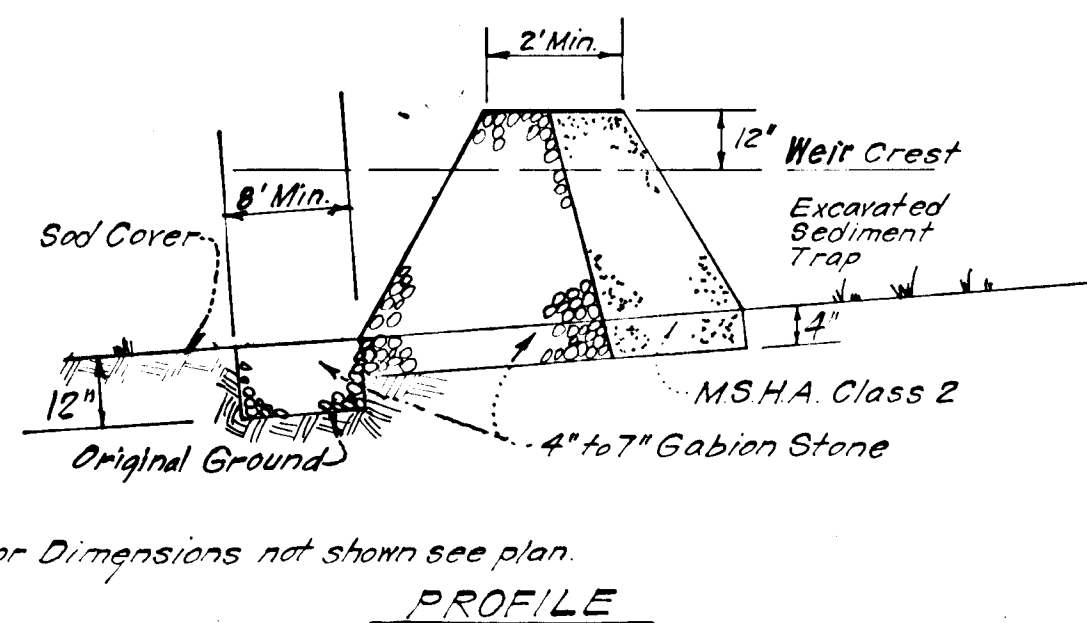
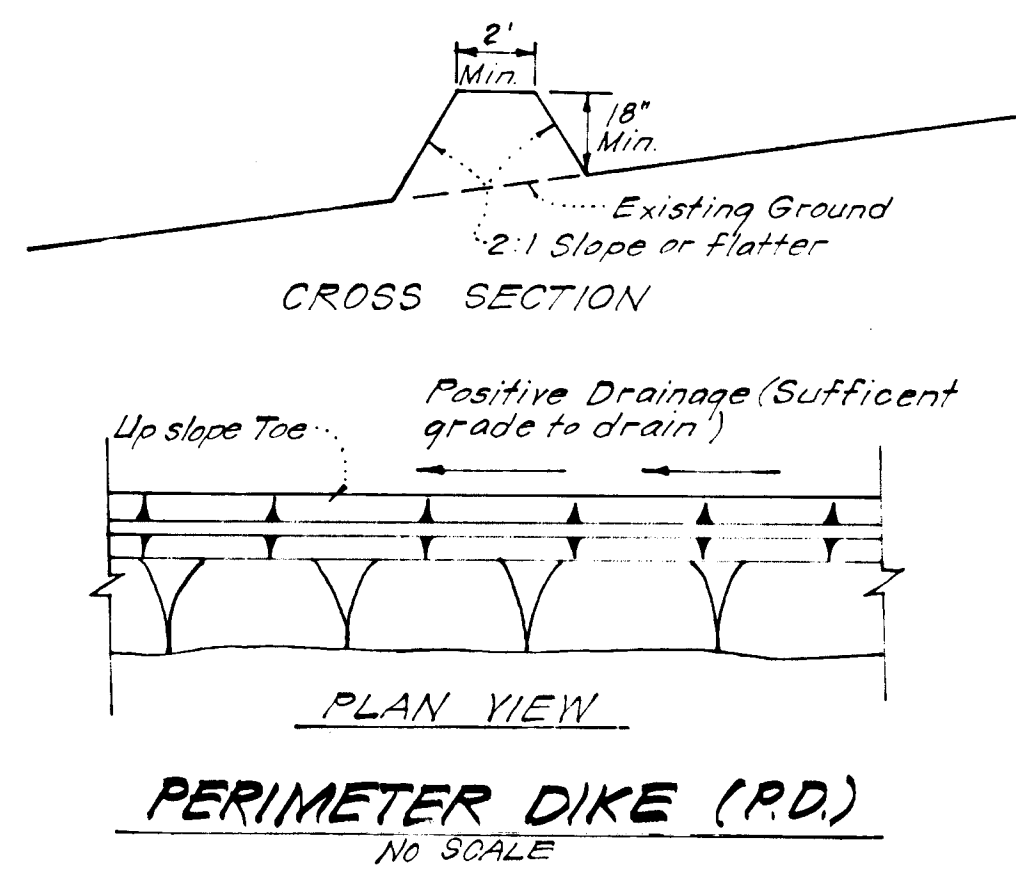
All bales shall be tied with non-weathering materials, i.e. wire nylon.

Two rebars or wooden stakes driven through each hole 1 1/2"-2" into ground. Rebars to be driven flush with top of bales.

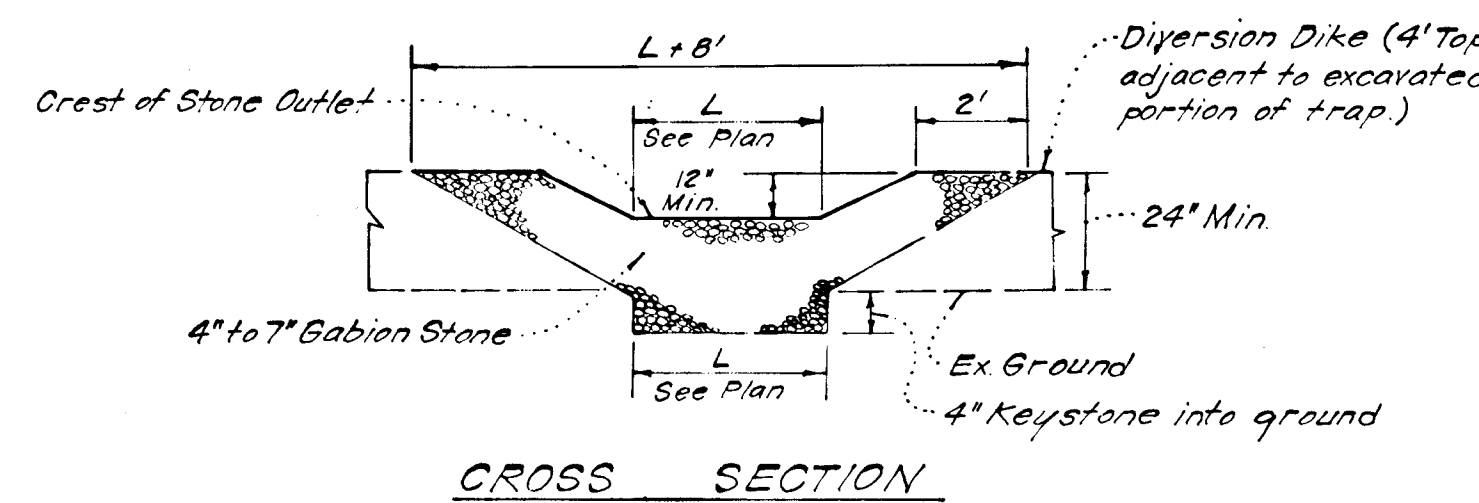


Note: In lieu of the use of rebars each straw bale may be fastened to ground with pegs (4 per bale and wire or nylon as shown above.)

STRAW BALE DIKE DETAIL (S.B.D)
No SCALE

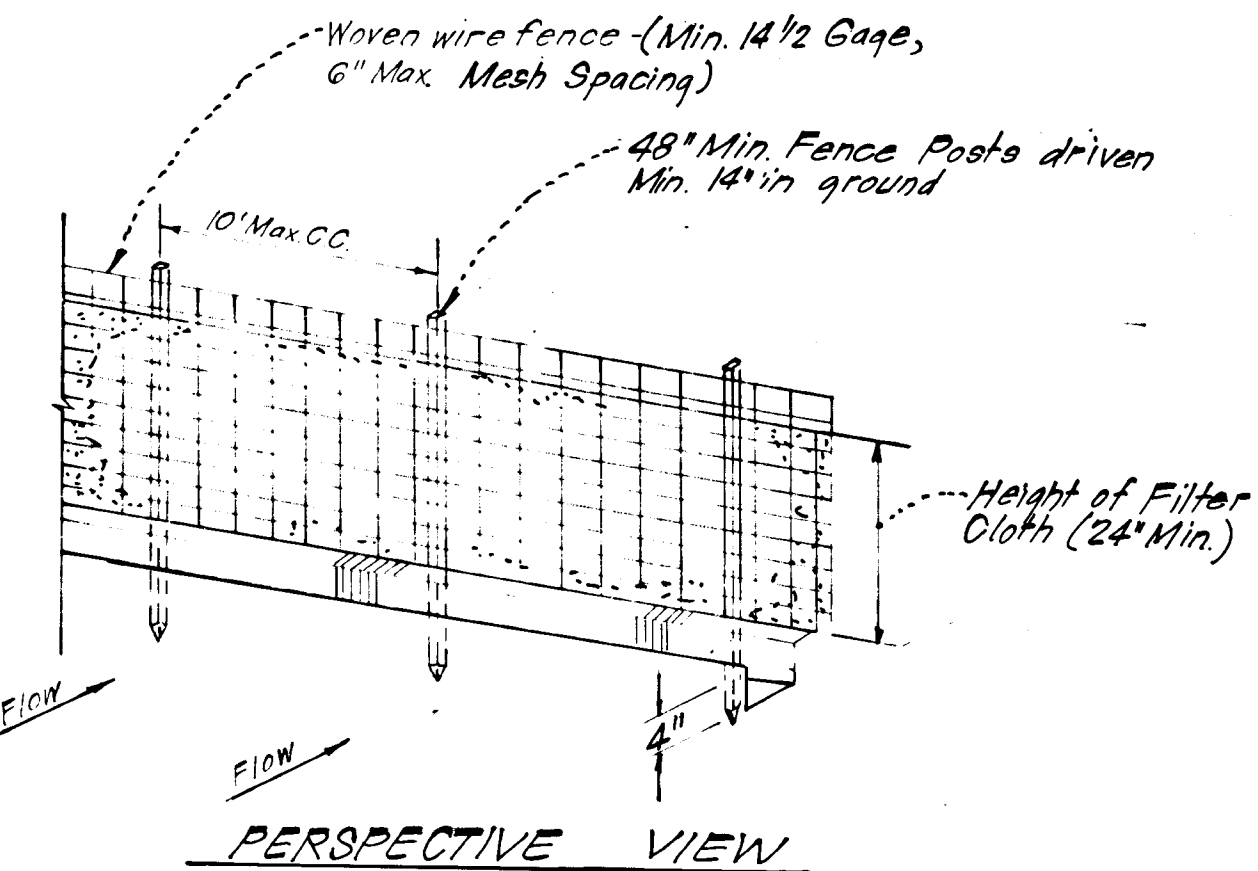


Note: For Dimensions not shown see plan



- Notes:**
- Sediment Trap to be cleaned out when sediment reaches a level of 1ft below crest of stone outlet.
 - Bottom of Sediment Trap to be level and constructed to the dimensions shown on plan.
 - Stone Outlet to be constructed through diversion dike adjacent to excavated.

DETAILS OF STONE FILTER OUTLET FOR STONE OUTLET SEDIMENT TRAP
No SCALE



W.W. Fence 1 1/2 Gage Min. 6" Max. Mesh spacing with filter cloth cover

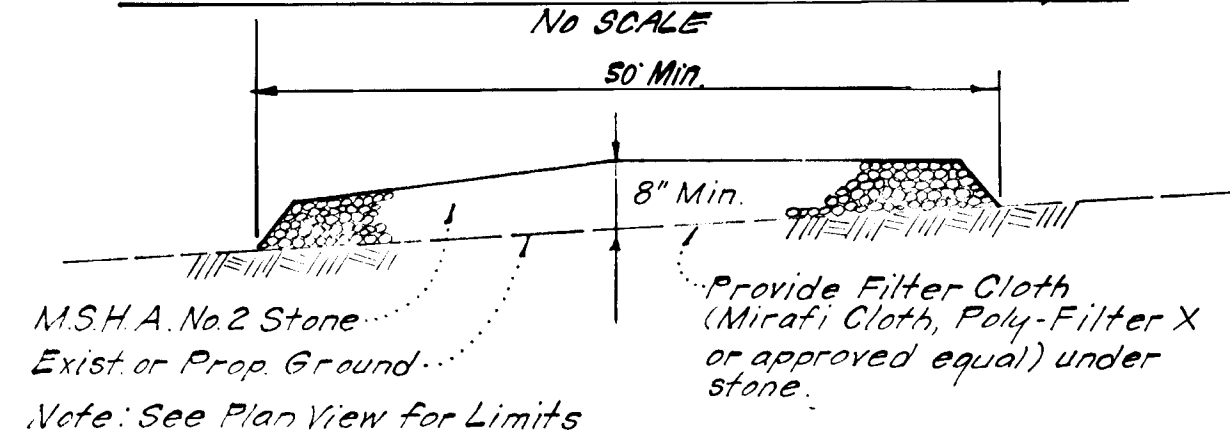
48" Min. Fence Post driven Min. 14" in ground

Height of Filter Cloth (24" Min.)

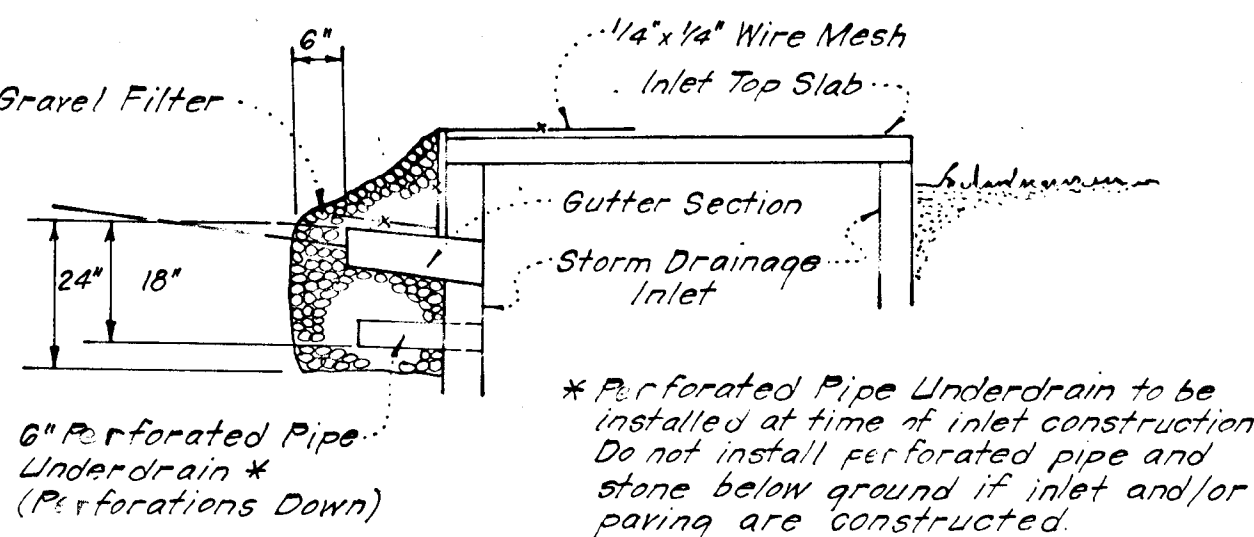
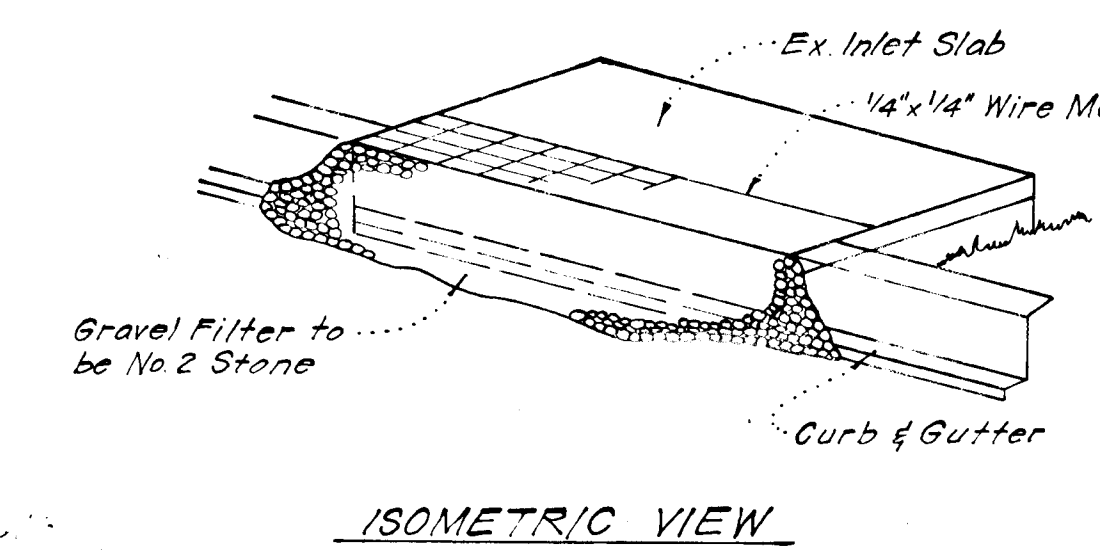
SECTION VIEW

- CONSTRUCTION NOTES:**
- 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 wire ties spaced every 24" at top and mid-section.
- POSTS: Steel, either T or L type or 2" Hardwood.
- FENCE: Woven wire, 1 1/2 Ga., Max 6" Mesh Opening.
- FILTER CLOTH: Filter X, Mirafi 100X, Laurel Erosion Control Cloth, Bidim, Polyfilter X or equal.

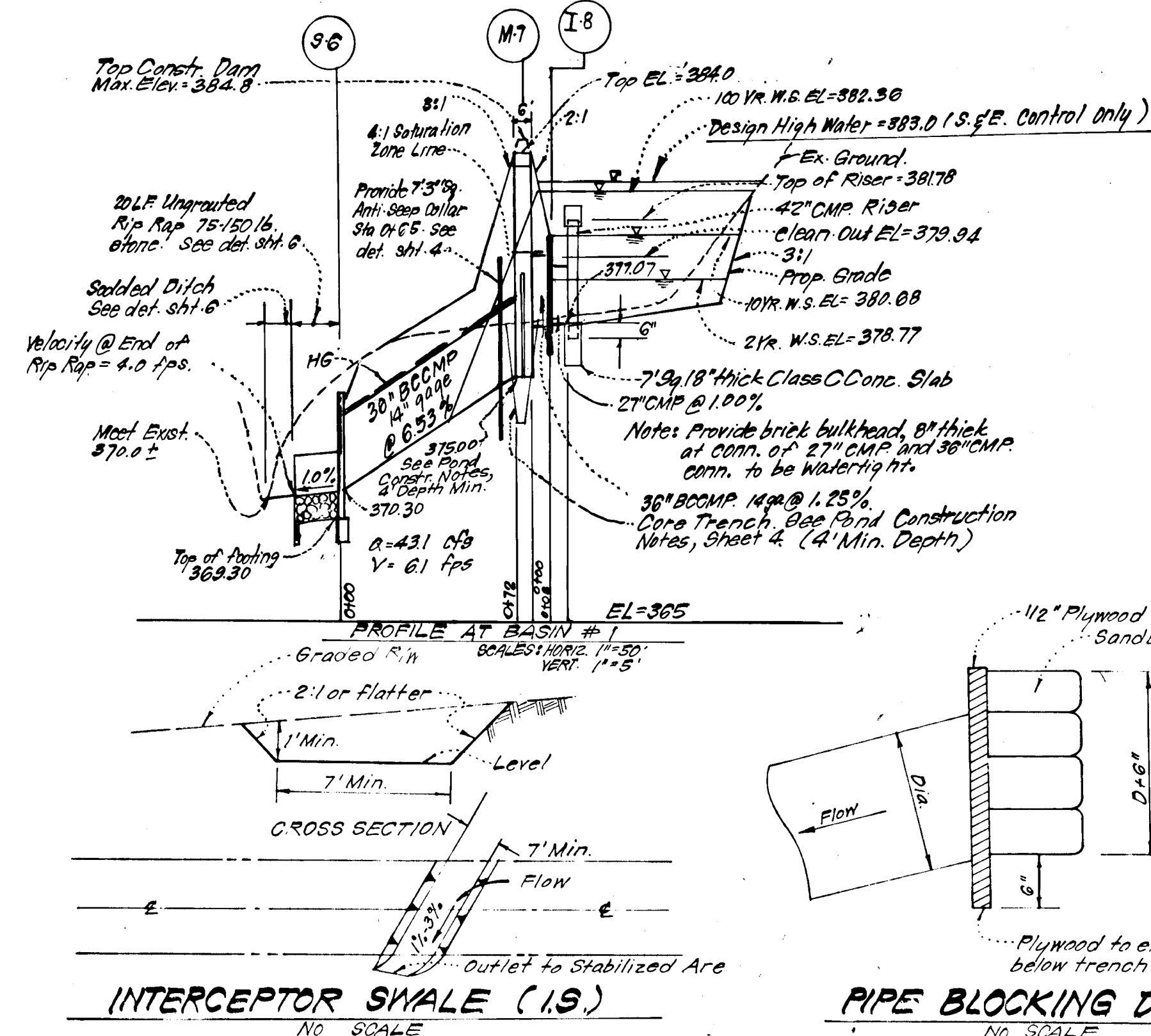
SILT FENCE DETAIL (S.F.)
No SCALE



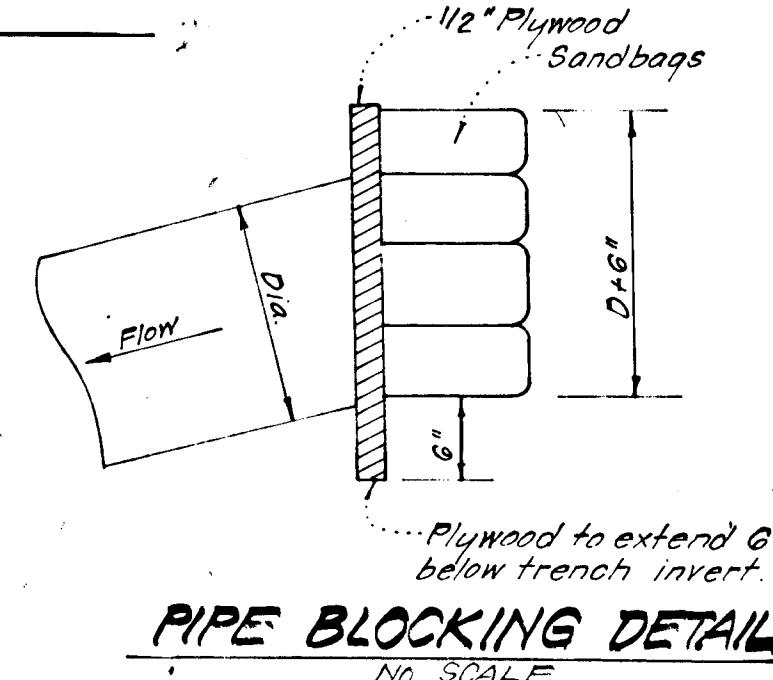
STABILIZED CONSTRUCTION ENTRANCE
No SCALE



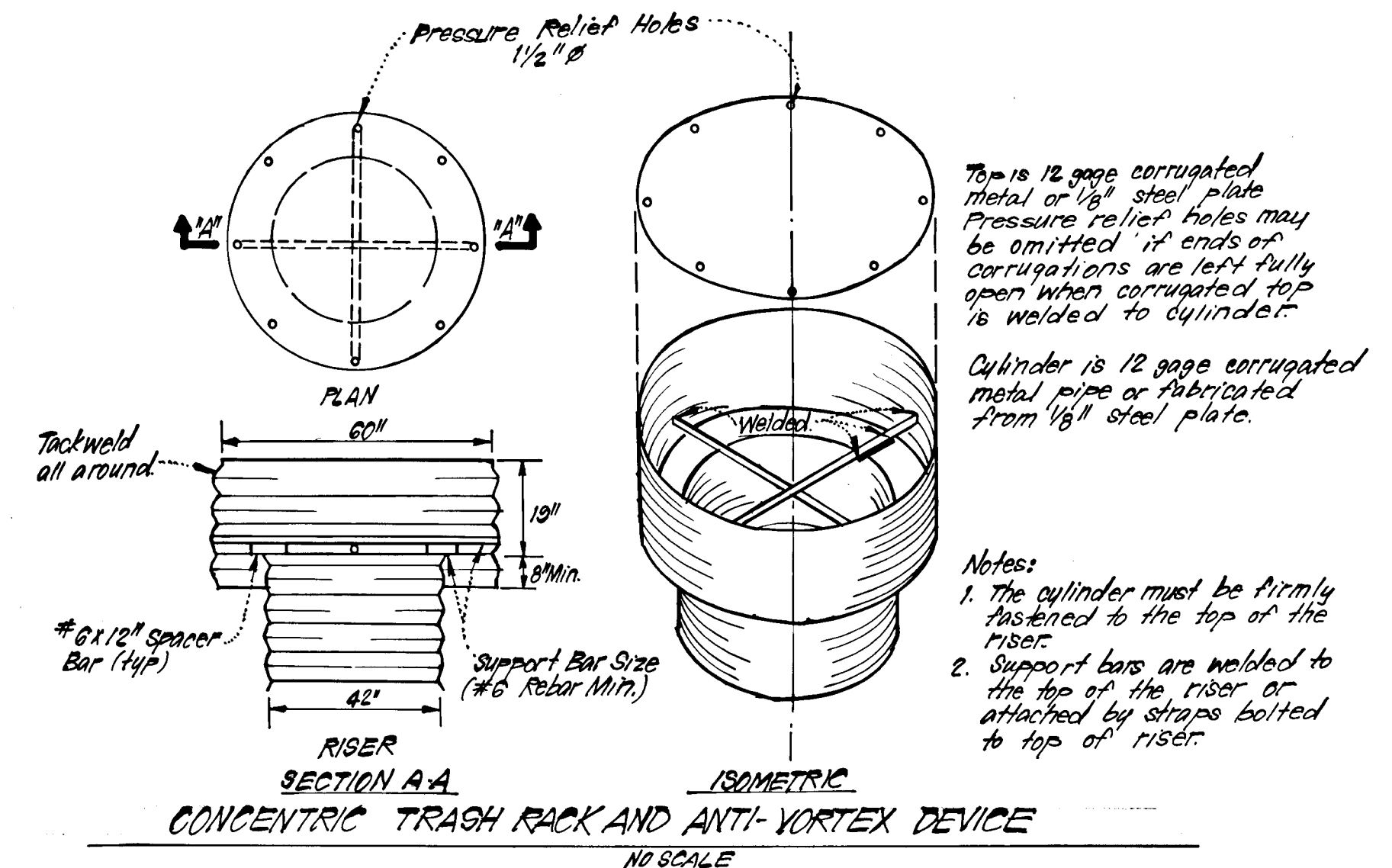
STONE FILTER INLET PROTECTION (S.F.I.P.)
No SCALE



INTERCEPTOR SWALE (I.S.)
No SCALE

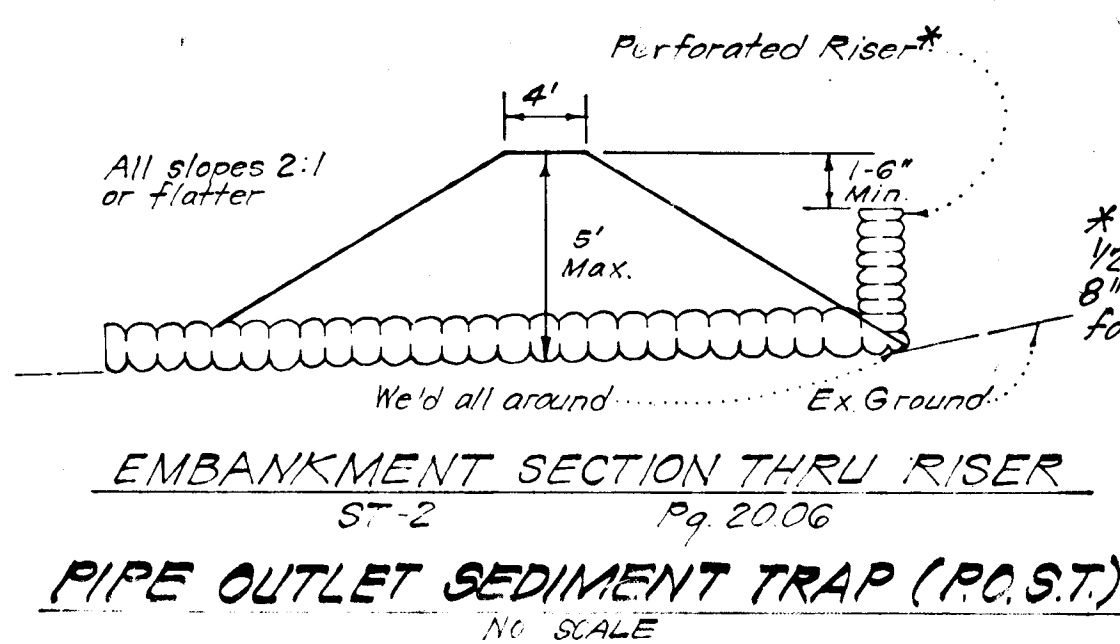


PIPE BLOCKING DETAIL
No SCALE



SECTION A-A CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE
No SCALE

- Notes:
- The cylinder must be firmly fastened to the top of the riser.
 - Support bars are welded to the top of the riser or attached by straps bolted to top of riser.



PIPE OUTLET SEDIMENT TRAP (P.O.S.T.)
No SCALE

Reviewed for... HOWARD... S.C.D.
Name of Client
Howard County
Date 6-27-84
U.S. Soil Conservation Service
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Robert W. Ziem 6-27-84
Approved Date

DEVELOPER'S/BUILDER'S CERTIFICATE

"I hereby certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."

J. David Evans 6-24-84
Signature of Developer/Builder Date

ENGINEER'S CERTIFICATE

I hereby 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.

G. Nelson Clark 6-21-84
Date

APPROVED: Department of Public Works

Asst. Chief of Eng. & Plan. 7-10-84
Chief, Bureau of Engineering

APPROVED: Howard County Office of Planning and Zoning
Chief, Division of Land Development & Zoning Administration Date

CLARK • FINEFROCK & SACKETT
ENGINEERS • PLANNERS • SURVEYORS
1115 LUX WOOD DRIVE • GREEN SPRING, MARYLAND 20884

DESIGNED	JLS	ROAD CONSTRUCTION PLANS	SCALE
DRAWN	VLB	SEDIMENT & EROSION CONTROL DETAILS	As Shown
CHECKED	KIN		8 OF 8
DATE	JLS	SECTION ONE	JOB #
		1ST ELECTION DISTRICT	79-064
		HOWARD COUNTY, MARYLAND	
		FOR: J. D. EVANS, INC.	
		5391 Light House Ct.	
		Columbia, Md. 21044	
		2-21-84	79-064-D