

CURB & GUTTER LEGEND

Std. 7" Comb. C & G

Rev. 7" Comb. C & G

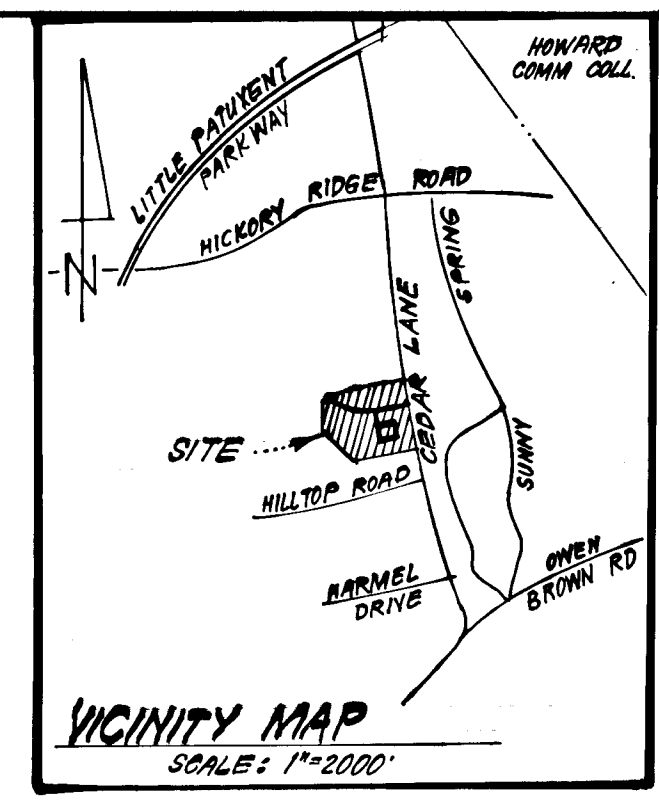
Std. 6" Comb. C & G

Rev. 6" Comb. C & G

STREET TREE SCHEDULE

KEY	DESCRIPTION	SIZE	QUANT.	ROOT
4A	FRAXINUS P. LANCEOLATA - SEE CLUES GREEN ASH	2 1/2" CAL. MIN.	39	BFB
2A	ACEF. RIBRUM 'ACTOBER GLORY' OCTOBER GLORY MAPLE	2 1/2" CAL. MIN.	41	BFB
2B	ACEF. RIBRUM 'RED SUNSET' RED SUNSET MAPLE	2 1/2" CAL. MIN.	21	BFB

NOTE: PLANTING TO COMPLY WITH L.C.A.M.V. LANDSCAPE SPECIFICATIONS. CONTRACTOR TO VERIFY UNDERGROUND UTILITIES BEFORE DIGGING. LOCATIONS OF TREES MAY VARY SLIGHTLY TO ACCOMMODATE FIELD CONDITIONS. STREET TREE PLANTING TO COMPLY WITH SECTION 16.191 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS.



- GENERAL NOTES**
- All storm drain and paving shall be constructed in accordance with the latest details and specifications of Howard County & Md. SHA.
 - Types of Storm Drain structures refer to the Standard Details of Howard County & Maryland State Highway Administration.
 - Trench compaction for storm drains, within Road or Street rights of way limits shall be in accordance with Howard Co. Design Manual Vol. II.
 - Information concerning underground utilities was obtained from available records, but the contractor must determine the exact location and elevation of the mains by digging test pits, by hand, at all utility crossings, well in advance of construction.
 - All utility companies shall be notified 24 hrs in advance of construction.
 - All traffic control services, parking, and signing to be done in accordance with the "Manual of Uniform Traffic Control Devices", 1971 Edition.
 - Sag and Crest Vertical curves were designed in accordance with "A Policy on Geometric Design of Rural Highways", 1965, by AASHTO.
 - Provide Concrete Sidewalk ramps, Ho Co. Std. Type A, R-4.01 where shown in plan.
 - Design Speed: 30 mph; Zoning: RSC.
 - All construction shall be coordinated with Capital Project J-3-4062.

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

Approved: Robert W. Zehner 8-10-84
Howard Co. S.C.D.

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: A. Hebl 8-10-84
U.S. Soil Conservation Service

APPROVED: DEPARTMENT OF PUBLIC WORKS:

James E. Quinn 8-13-84
Chief, Bureau of Engineering

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

Louis F. Dineen 8-13-84
Chief, Division of Land Development & Zoning Administration

CLARK • FINEFROCK & SACKETT
ENGINEERS • PLANNERS • SURVEYORS

11315 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301) 593-3400

DESIGNED	JLS	SCALE	As Shown
DRAWN	JLS	DRAWING	1 OF 7
CHECKED	JLS	JOB NO.	83-114
DATE	4-4-84	FILE NO.	8314-D

ROAD CONSTRUCTION PLANS
TREE SWALLOW COURT
CEDAR ACRES

SECTION ONE
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

FOR: BRANTLY DEVELOPMENT CORP.
5501 TWIN KINGS ROAD
COLUMBIA, MD. 21045

DEVELOPER'S CERTIFICATE

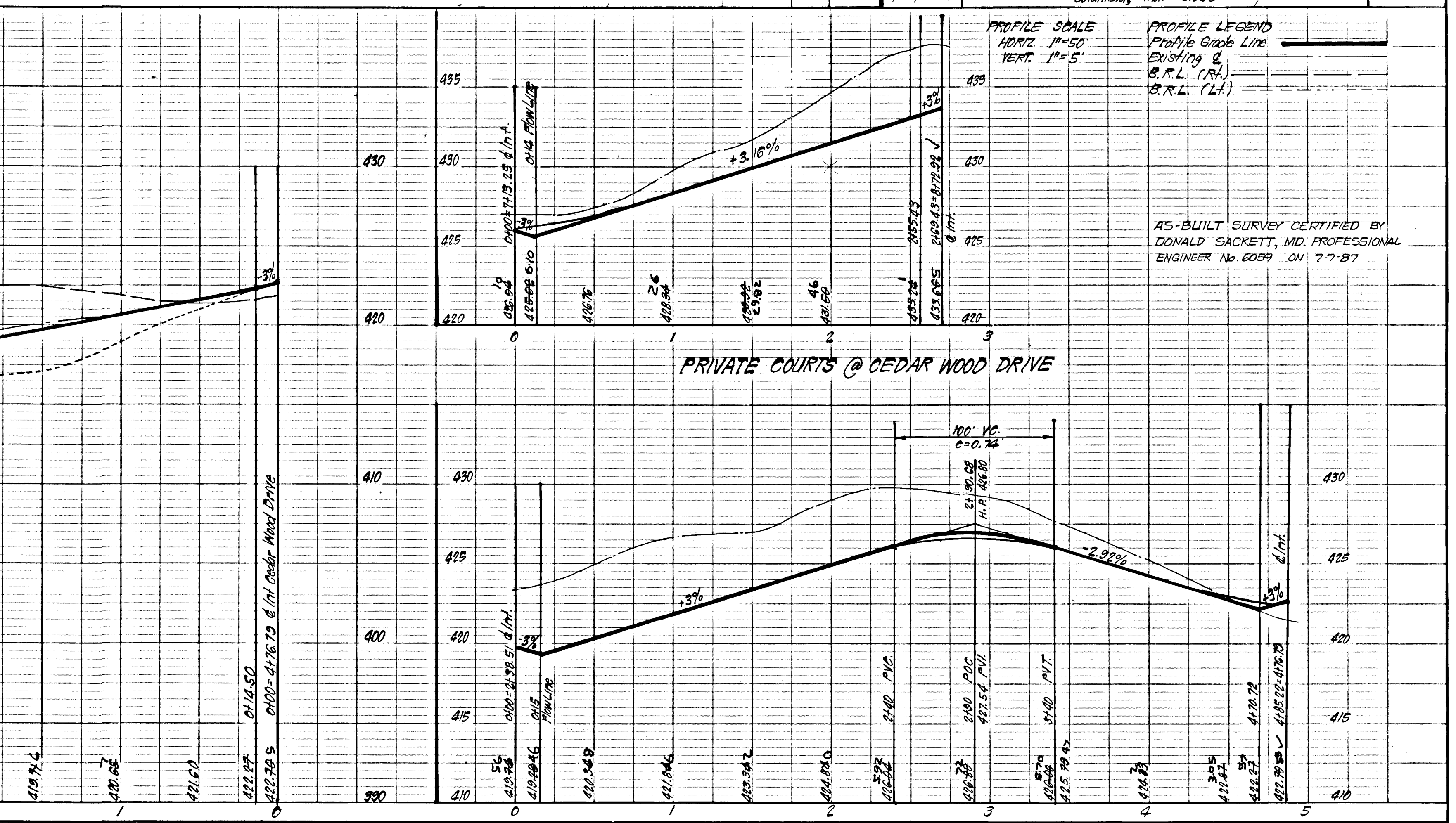
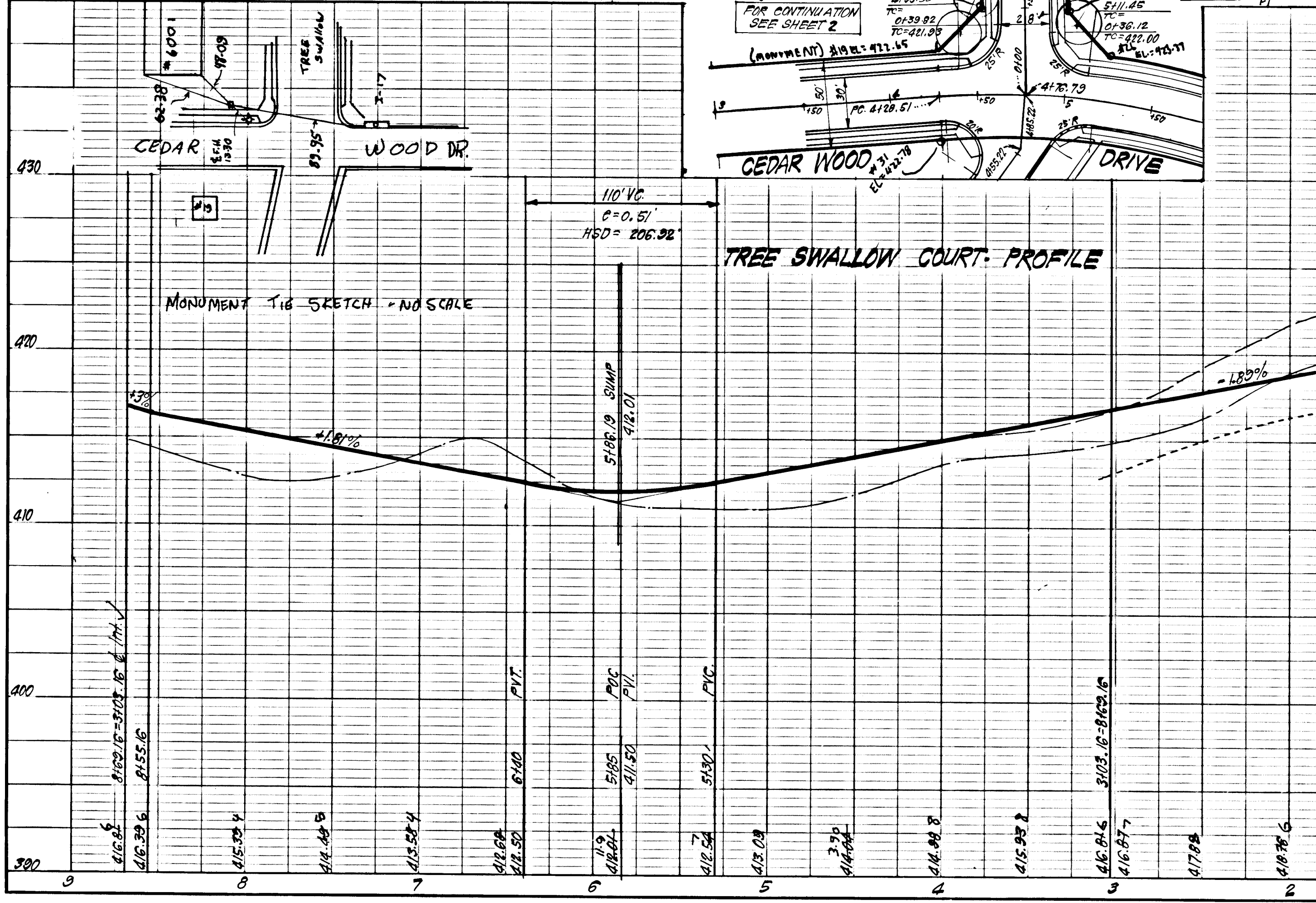
"I certify that all development and/or construction will be done according to these plans of development, pond construction and erosion and sediment control. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary. Deviation 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."

Signature of Developer: John F. Sparini 9/12/84
Date

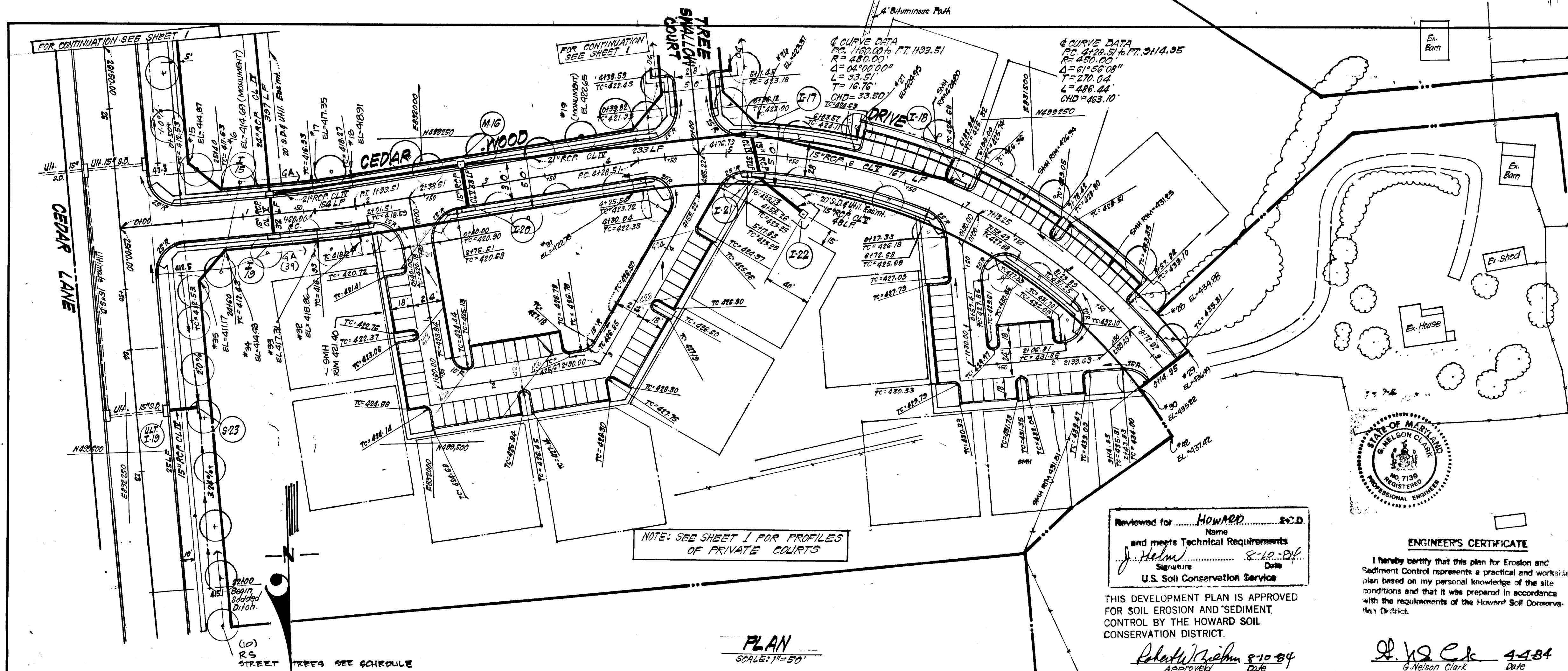
ENGINEER'S CERTIFICATE

"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."

Signature of Engineer: A. Hebl 4-4-84
Date



86



DEVELOPER'S/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."

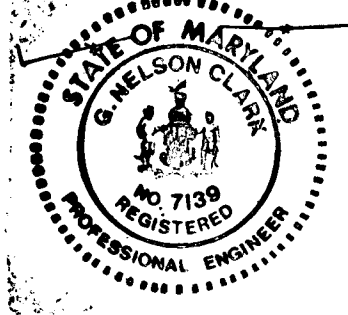
Signature of Contractor/Builder: _____ Date: _____

APPROVED: DEPARTMENT OF PUBLIC WORKS:
 Chief, Bureau of Engineering: _____ Date: 8-13-84
 APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
 Chief, Division of Land Development & Zoning Administration: _____ Date: 8-15-84

CLARK · FINEFROCK & SACKETT
 ENGINEERS · PLANNERS · SURVEYORS
 11315 LOCKWOOD DRIVE · SILVER SPRING, MARYLAND 20904 · (301) 593.3400

DESIGNED	JLS	ROAD CONSTRUCTION PLANS CEDAR WOOD DRIVE	SCALE	AS SHOWN
DRAWN	KTW	CEDAR ACRES	DRAWING	20#7
CHECKED	VLS	SECTION ONE 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO.	83-114
DATE	4.2.84	FOR: BRANTLY DEVELOPMENT CORP. ESD, Twin Knolls Road Columbia, Md 21045	FILE NO.	83-114-D

Reviewed for: HOWARD E.S.D.
 and meets Technical Requirements
 Signature: _____ Date: 8-12-84
 U.S. Soil Conservation Service

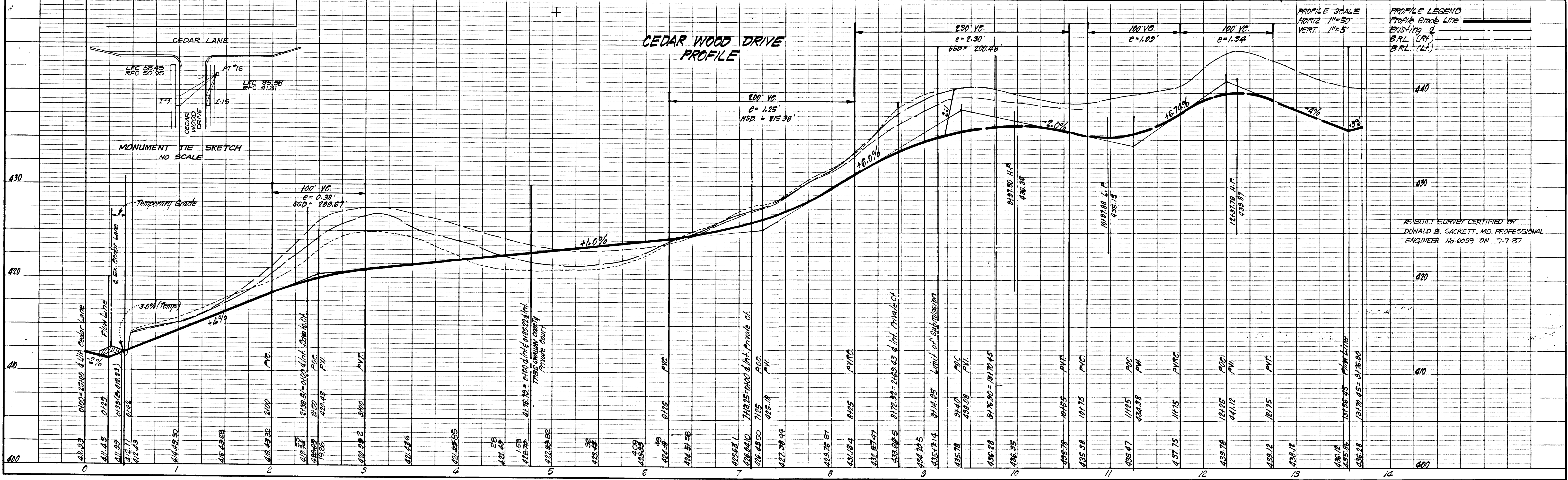


ENGINEER'S CERTIFICATE

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.

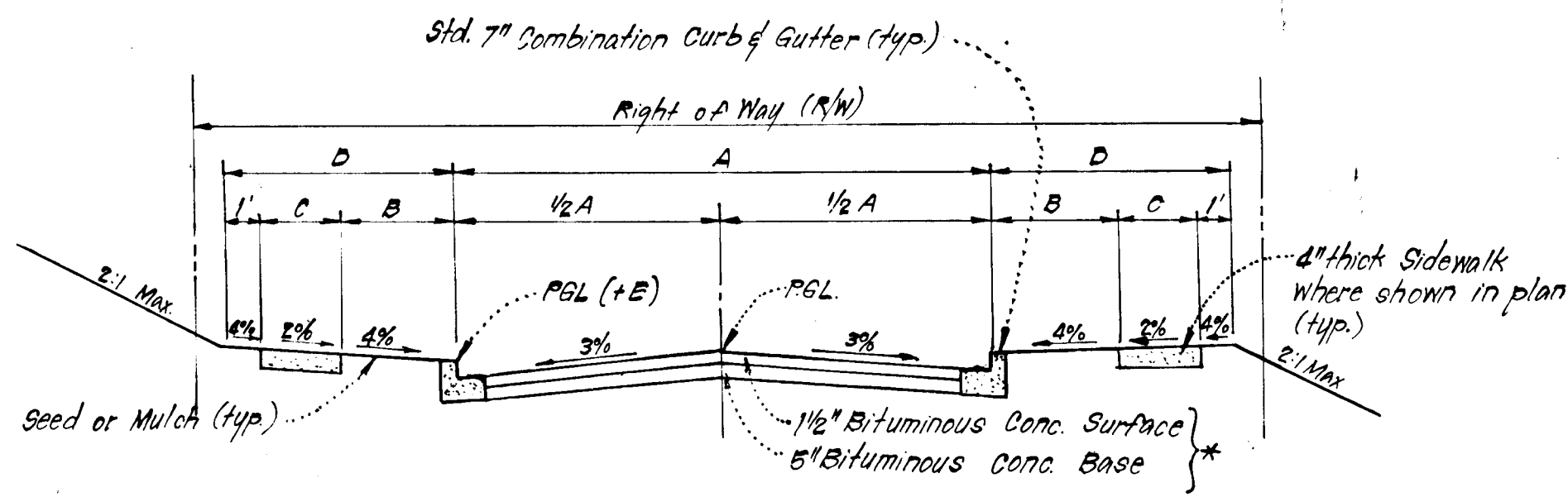
Signature: _____ Date: 8-12-84
 G. Nelson Clark

PLAN
 SCALE: 1"=50'



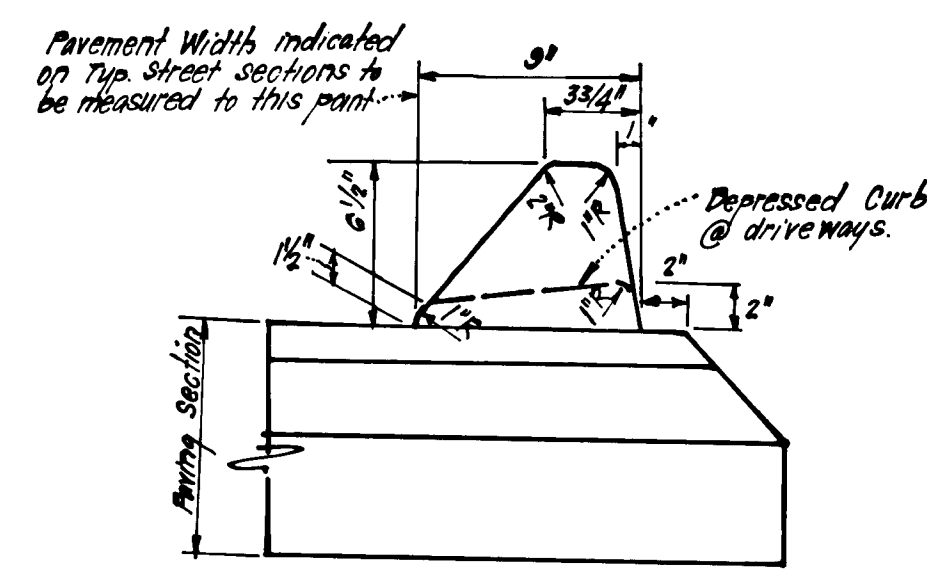
AS-BUILT SURVEY CERTIFIED BY
 DONALD B. SACKETT, MD, PROFESSIONAL
 ENGINEER No. 6059 ON 7-7-87

86



TYPICAL PAVING SECTION - PUBLIC ROADS
NO SCALE

STREET NAME & STATION	TYPE OF TRAFFIC	A	B	C	D	R/W	ZONING	DESIGN SPEED	E
CEDAR WOOD DR. 0100 to 0176.79	LOCAL	30'	4'	4'	9'	50'	RSC	30	10
CEDAR WOOD DR. 0176.79 to 0193.52	CUL-DE-SAC	28'	4'	4'	9'	50'	RSC	30	10
TREE SWALLOW CT. 0100 to 0163.16	CUL-DE-SAC	28'	4'	4'	9'	50'	RSC	30	10



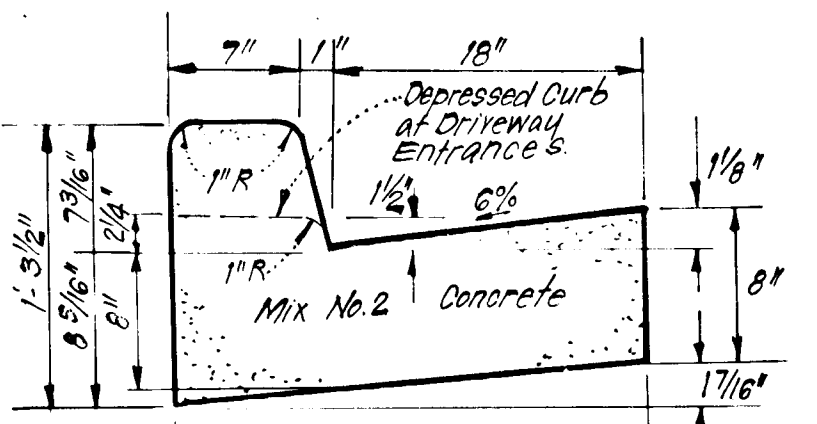
STANDARD BITUMINOUS CURB
NO SCALE

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

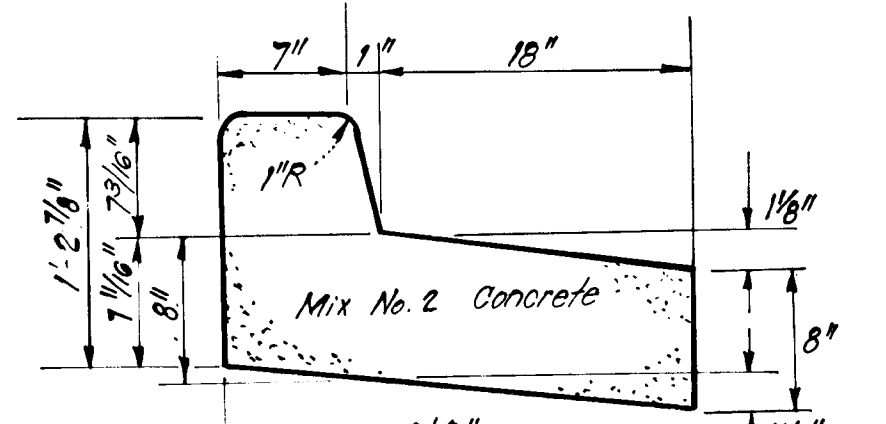
ALTERNATE PAVING SECTION FOR PUBLIC ROADS
NO SCALE

Bituminous Conc. Surface	1"
Bituminous Conc. Base	2"
Prime	
5" Crusher Run Base Course or 4" Dense Graded Stabilized Aggregate Base Course	5" or 4"

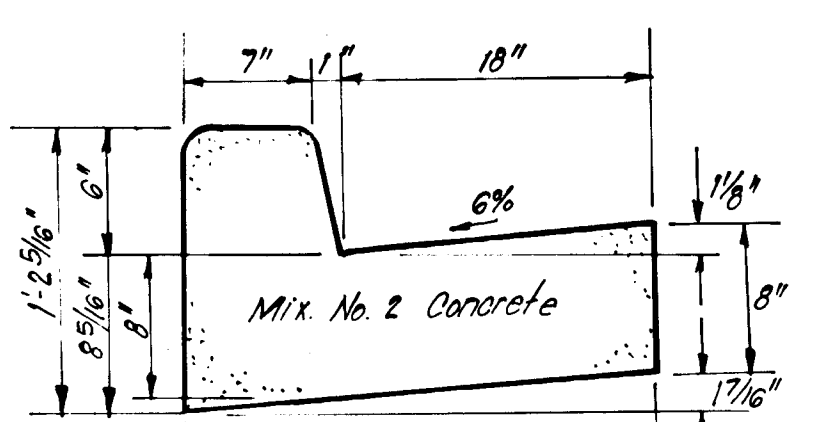
ALTERNATE PAVING SECTION FOR PARKING AREAS
NO SCALE



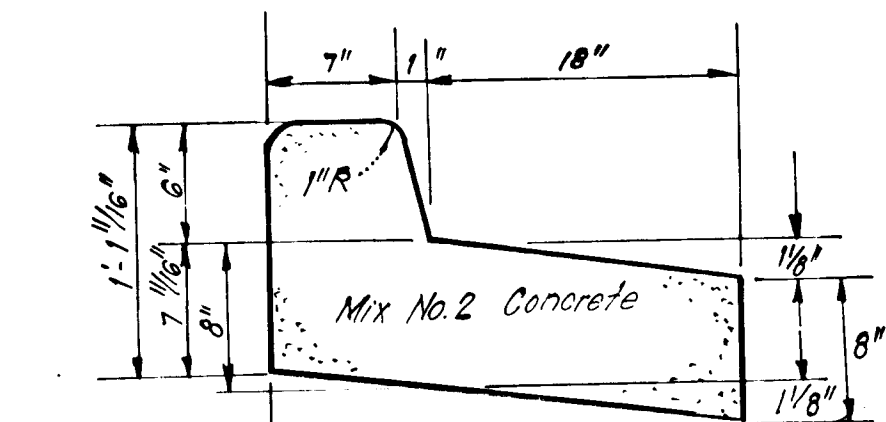
STANDARD 7" COMBINATION CURB & GUTTER
NO SCALE



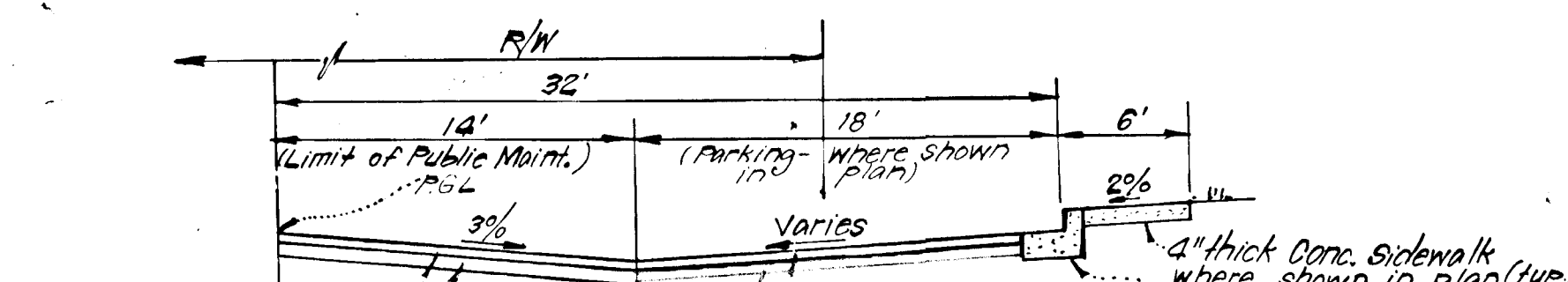
REVERSE 7" COMBINATION CURB & GUTTER
NO SCALE



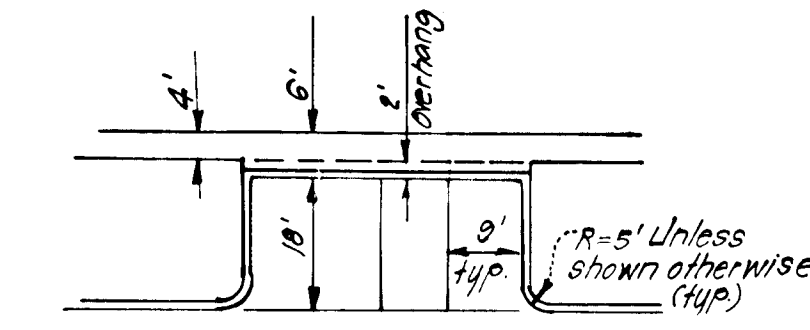
STANDARD 6" COMBINATION CURB & GUTTER
NO SCALE



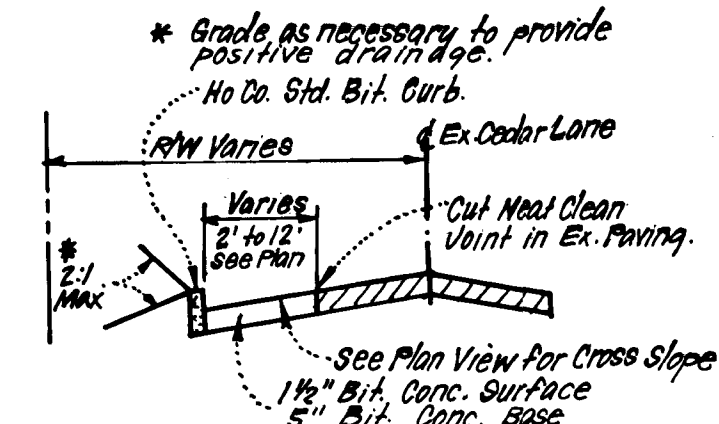
REVERSE 6" COMBINATION CURB & GUTTER
NO SCALE



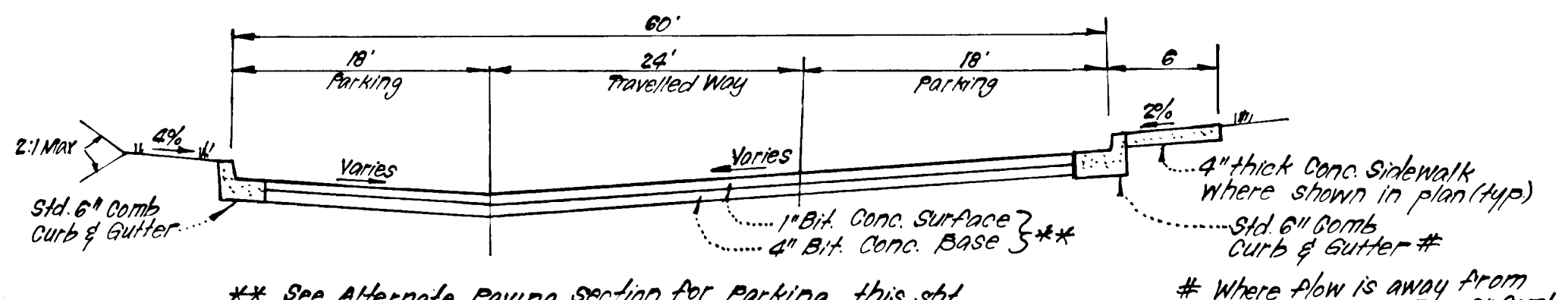
TYPICAL HALF SECTION - PARKING ADJACENT TO PUBLIC ROADS
CEDAR WOOD DR. (0103.52 to 0157.84) TREE SWALLOW CT. (0163.16 to 0169.16)
NO SCALE



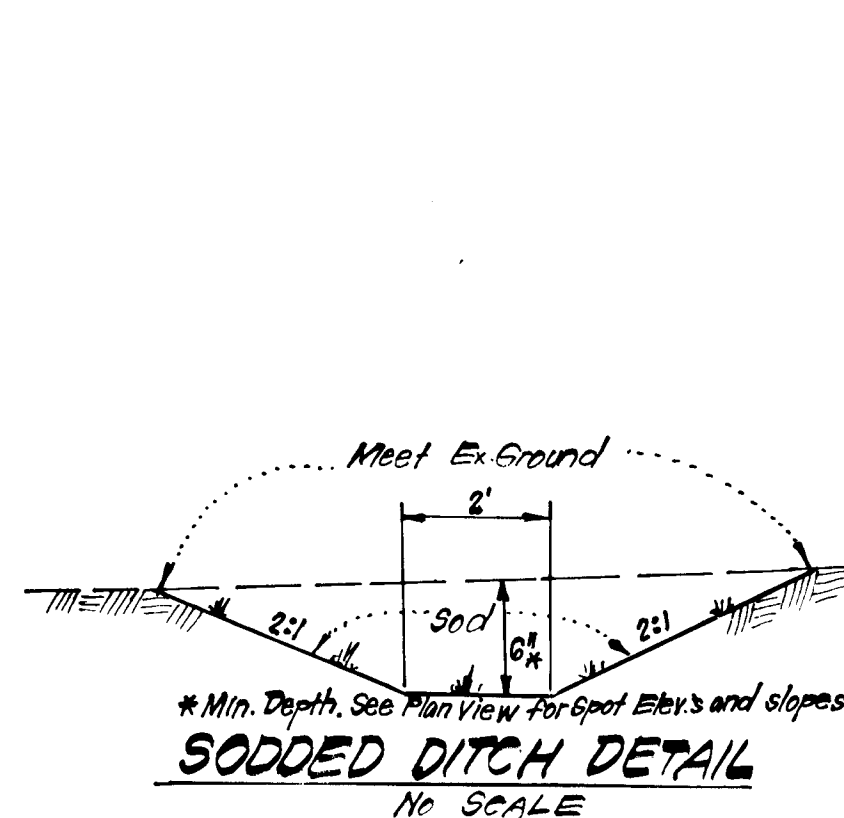
TYPICAL PARKING
NO SCALE



TYPICAL PAVING SECTION FOR TEMP WIDENING OF CEDAR LANE
NO SCALE

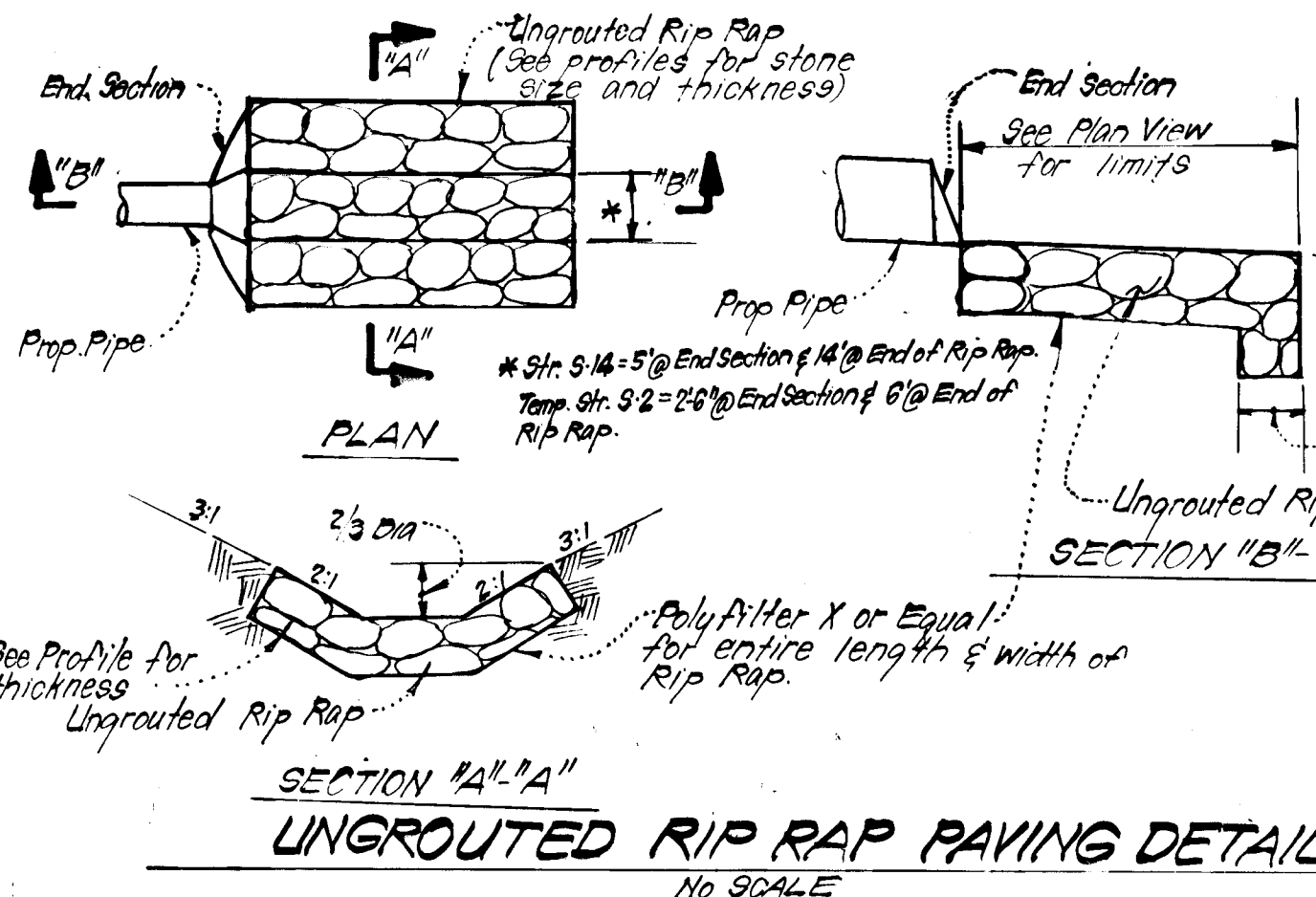


TYPICAL SECTION - PRIVATE DRIVE & PARKING
NO SCALE



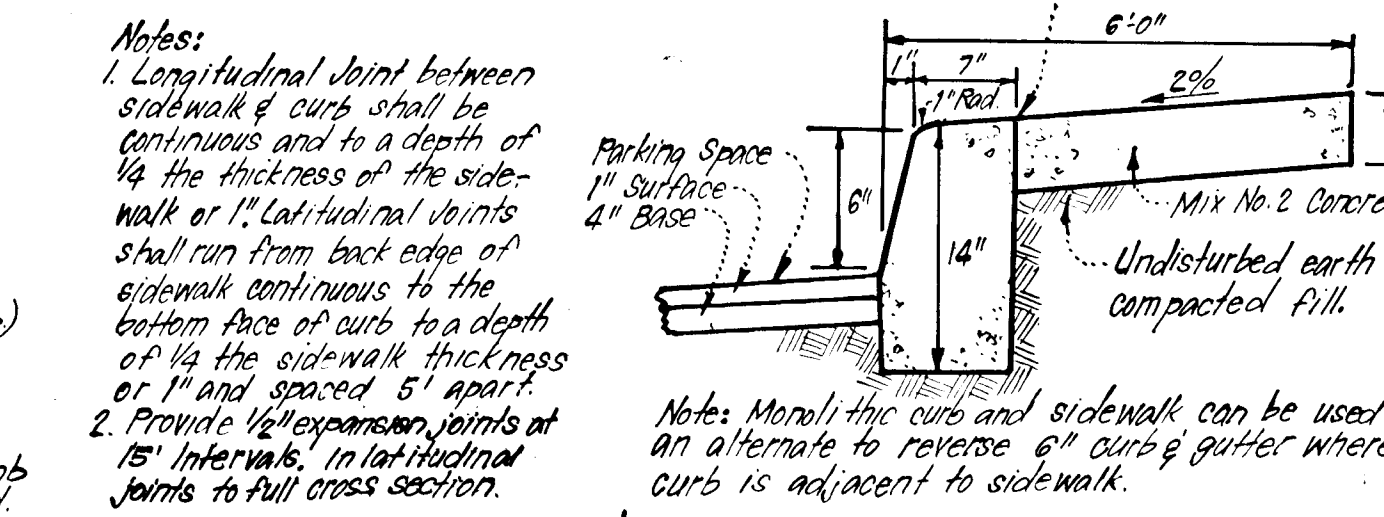
SODDED DITCH DETAIL
NO SCALE

- GENERAL SODDING NOTES:
- Apply 10-10-10 Fertilizer @ 1000#/acre (25#/1000 SF)
 - Apply Ground Agricultural Limestone @ 2000#/acre (50#/1000 SF)
 - Incorporate both Lime and Fertilizer into soil by discing. Firm up after incorporation.
 - 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.
 - All sod to be used must be certified by the state of Maryland.
 - Sod to be pegged and stapled.

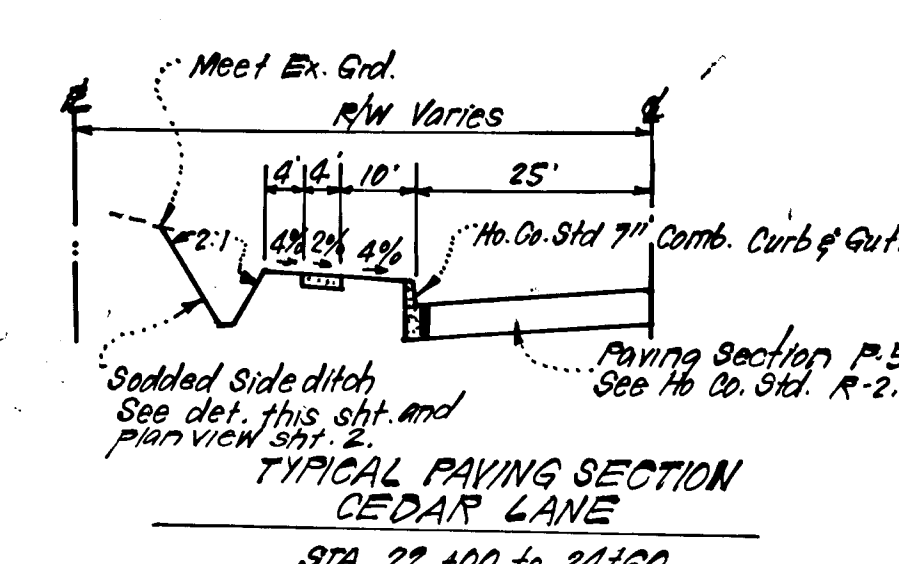


UNGROUTED RIP RAP PAVING DETAILS
NO SCALE

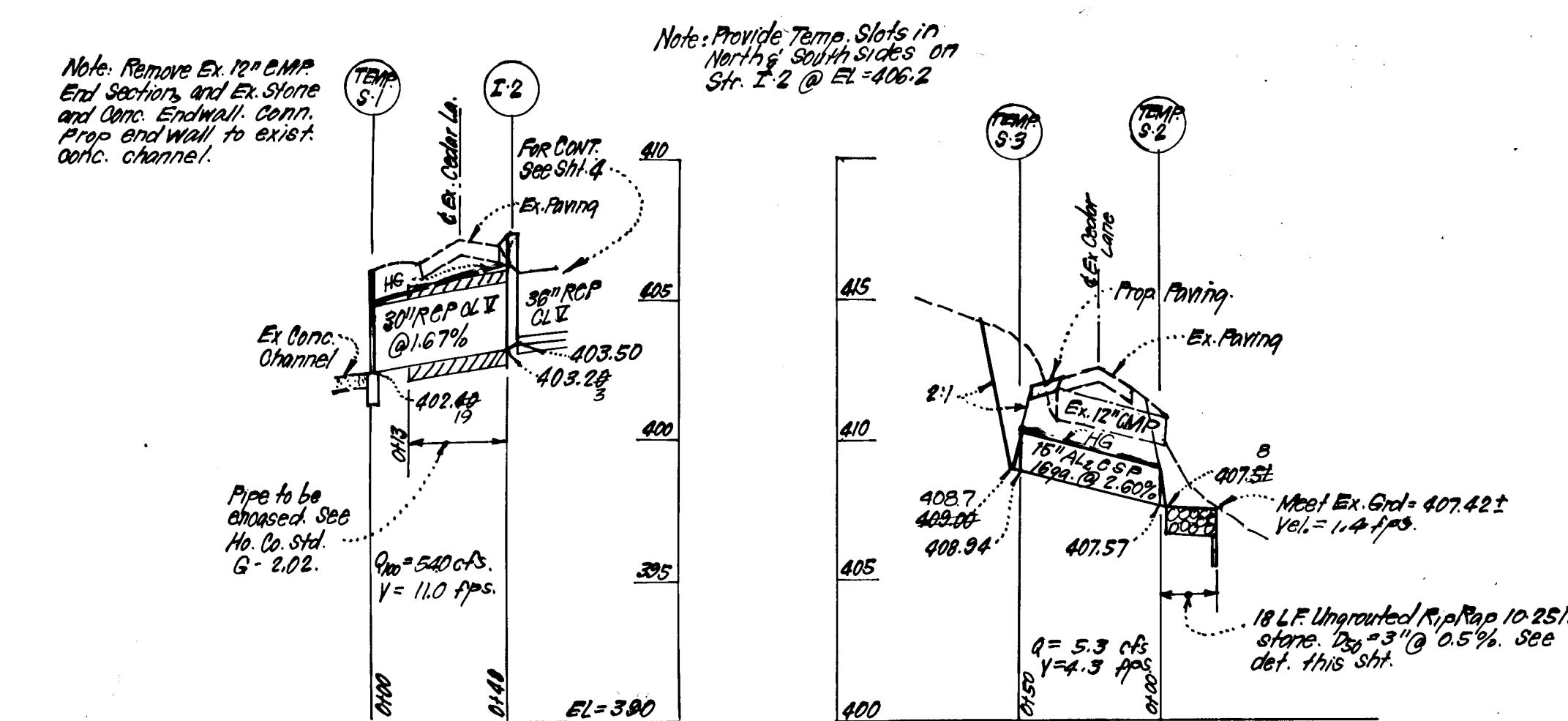
Note: See Hb. Co. R-5.07 for Alternate Section.



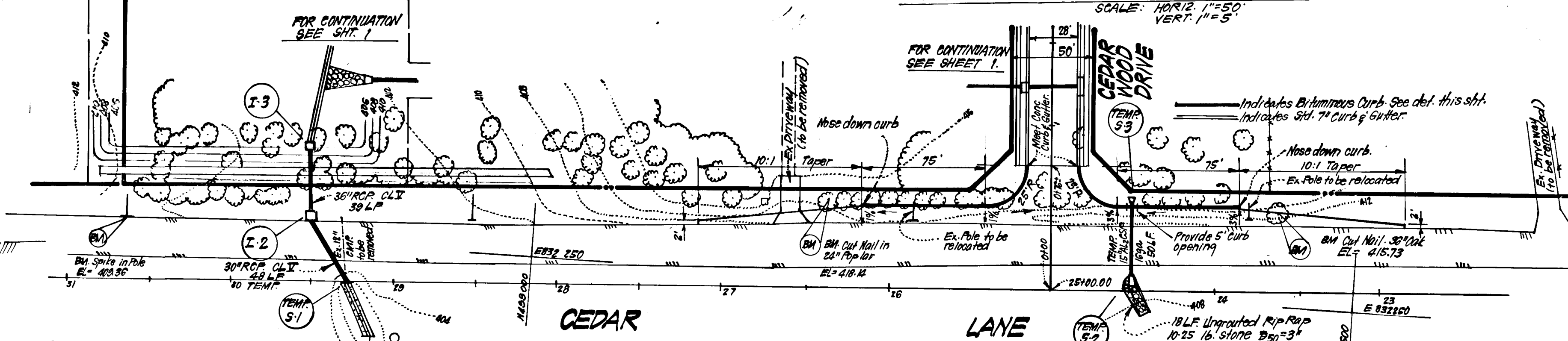
MONOLITHIC CURB & SIDEWALK - PRIVATE PARKING AREA
NO SCALE



TYPICAL PAVING SECTION CEDAR LANE
STA. 22+00 to 24+60
NO SCALE



PROFILES FOR TEMPORARY CONSTRUCTION
SCALE: HORIZ. 1"=50' VERT. 1"=5'



PLAN
SCALE: 1"=50'

No.	TYPE	INX IN	INX OUT	TOP ELEVATION	REMARKS	LOCATION
1	Exc. Wall	402.40	402.40		Hb. Co. Sht. SD/5.21 Dia=30"	See Plan
2	Metal End Section	407.00	409.94		" " SD/5.67 Dia=15"	" "
3	Metal End Section	407.57	407.57		" " SD/5.67 Dia=15"	" "

SIZE	TYPE	LENGTH
30"	ALCOSP 18" x 18"	50 L.F.
30"	RSC 18" x 18"	48 L.F.

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."

John L. Luperini 4/18/84
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 4-18-84
G. Nelson Clark Date

APPROVED: Department of Public Works

John L. Luperini 4-13-84
Chief, Bureau of Engineering Date

APPROVED: Howard County Office of Planning and Zoning

John L. Luperini 4-18-84
Chief, Division of Land Development & Zoning Administration Date

CLARK • FINEFROCK & SACKETT
ENGINEERS • PLANNERS • SURVEYORS
11314 LOCKWOOD DRIVE SILVER SPRING, MARYLAND 20904 (301) 593-3400

DESIGNED: JLS
DRAWN: JLS
CHECKED: JLS
DATE: 4-4-84

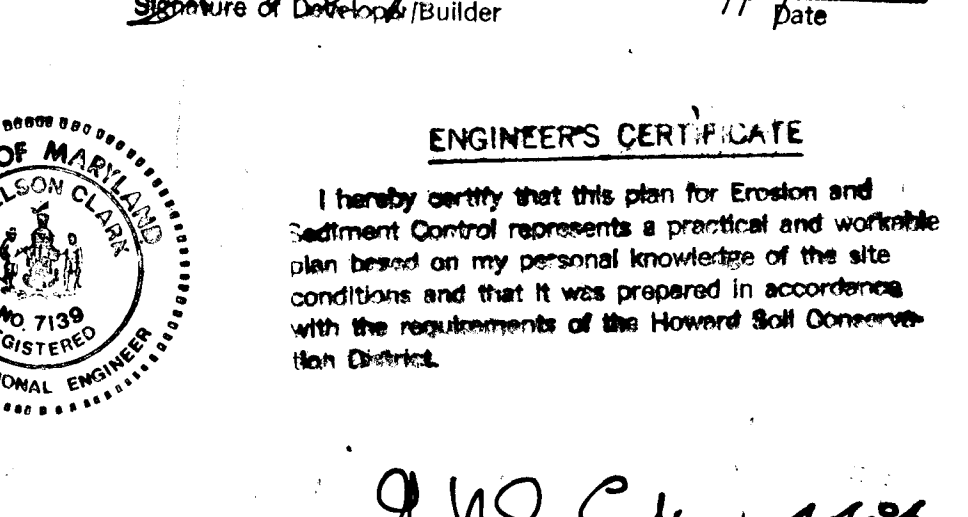
SCALE: As Shown
JOB NO.: 83-114
FILE NO.: 83-114-D

SECTION ONE
15TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
FOR: BRANTLY DEVELOPMENT CORP
5501 THIR KNOLLS ROAD
COLUMBIA, MD. 21045

Reviewed for: **HOWARD** E.C.D. Name
and meets Technical Requirements
John L. Luperini 4-10-84 Date
Signature
U.S. Soil Conservation Service

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

Robert J. Zehner 4-10-84
Approved Date



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 material. 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-274-781 with watertight coupling bands or flanges.
- MATERIALS (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-186 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:

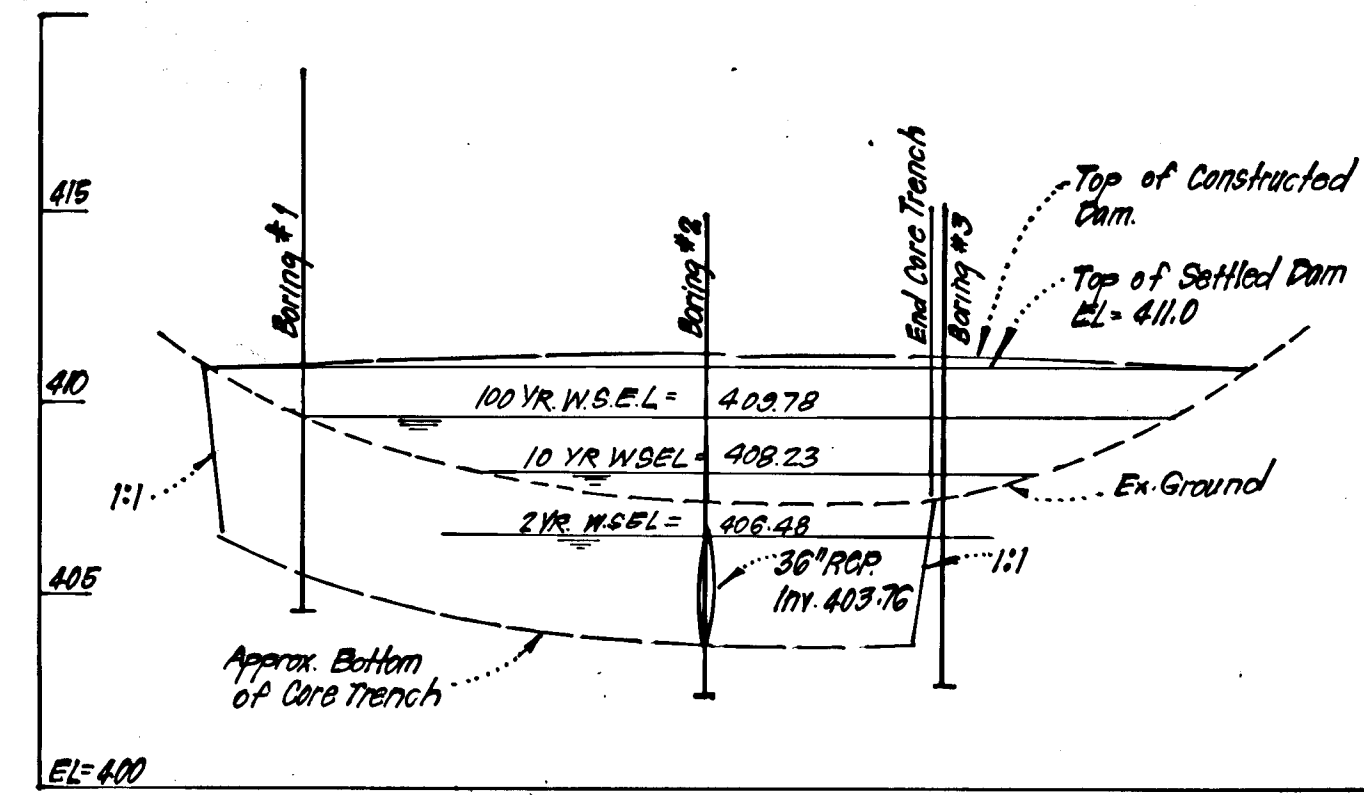
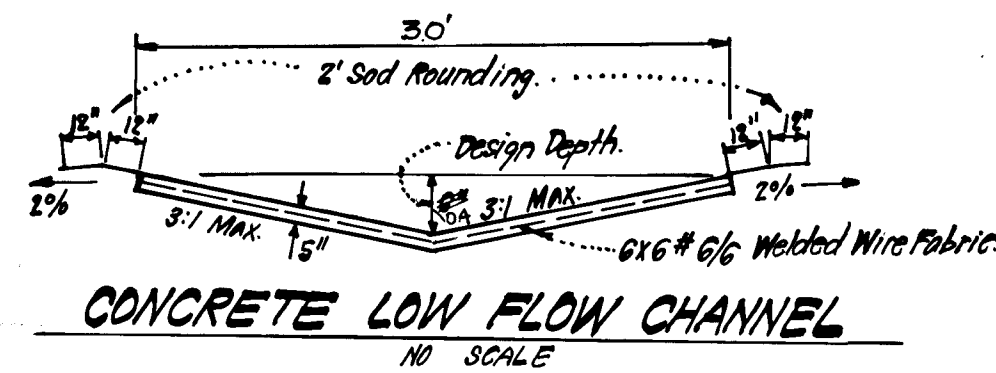
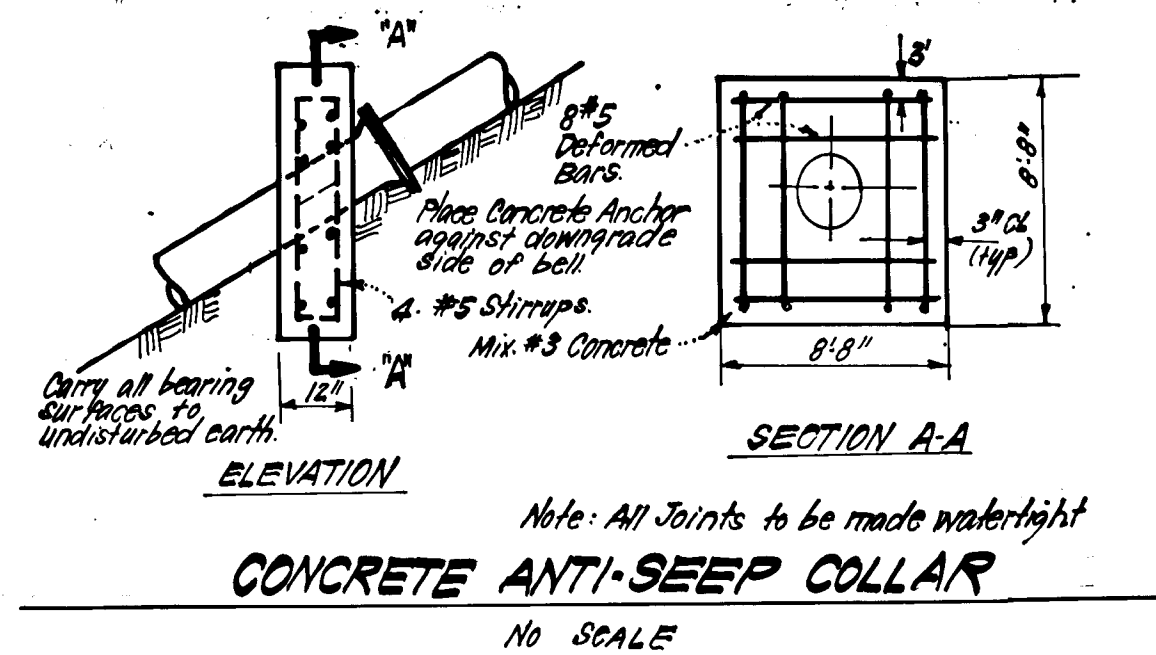
1. CEMENT - Normal Portland cement shall conform to latest ASTM Specification C-150.
 2. WATER - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.
 3. SAND - The sand used in concrete shall be clean, hard, strong, and durable, 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/34-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, honeycombed 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 37F with the temperature falling, or 34F 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 for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Approved: Alexander Siebu 8-10-84
Howard S.C.D.

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.

J. Helms 8-10-84
U.S. Soil Conservation Service Date

DEVELOPER'S CERTIFICATE:

"I certify that all development and/or construction will be done according to these plans of development, and construction and erosion and sediment control, 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."

John L. Siparini
Signature of Developer Date

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."

John H. Cole 4-4-84
Signature of Engineer Date



APPROVED: DEPARTMENT OF PUBLIC WORKS

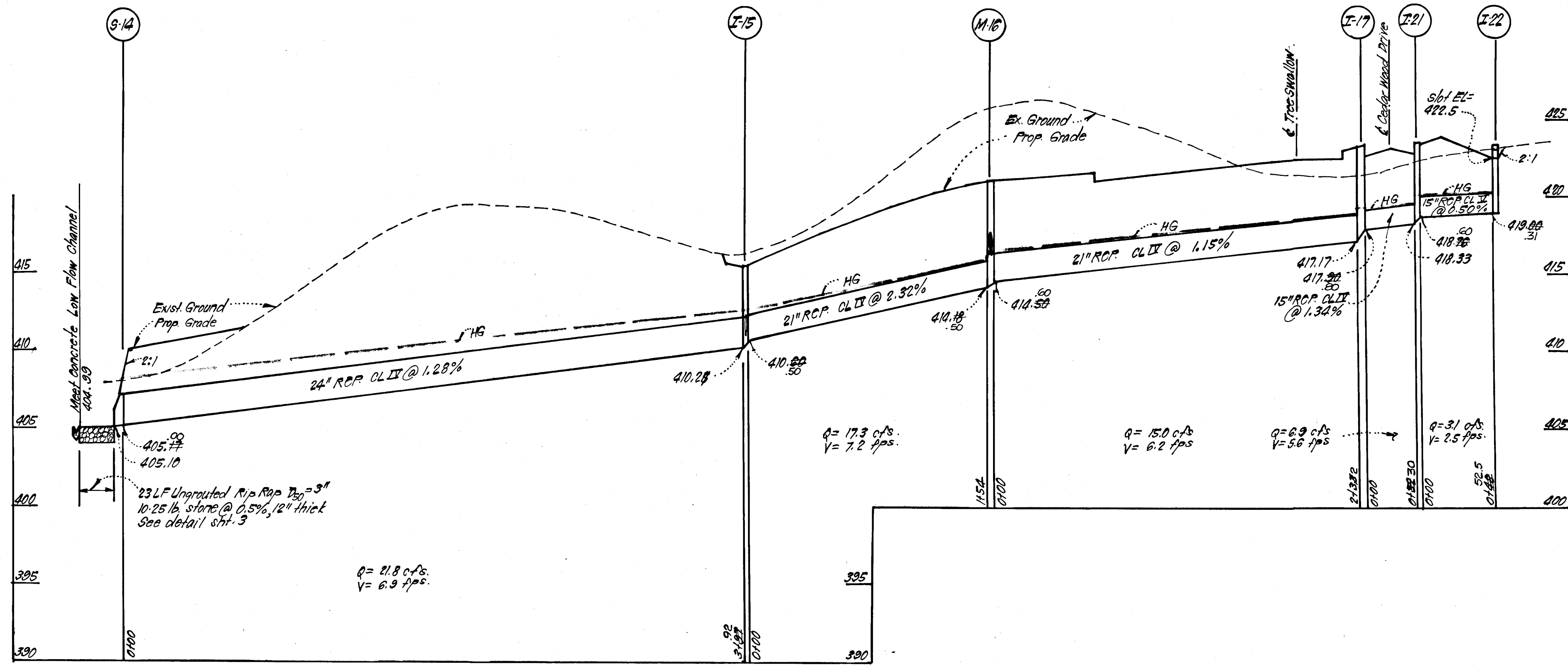
William E. Reddy 8-13-84
Chief, Bureau of Engineering Date

Louis F. Jones 8-13-84
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 JLS	ROAD CONSTRUCTION PLANS STORM WATER MANAGEMENT DETAILS	SCALE AS SHOWN
DRAWN JLS	CEDAR ACRES	DRAWING 4057
CHECKED JLS	SECTION ONE 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 83-114
DATE 4-4-84	FOR: BRANTLY DEVELOPMENT CORP. 5501 TWIN KINGS ROAD COLUMBIA, Md 21045	FILE NO. 83-114-D

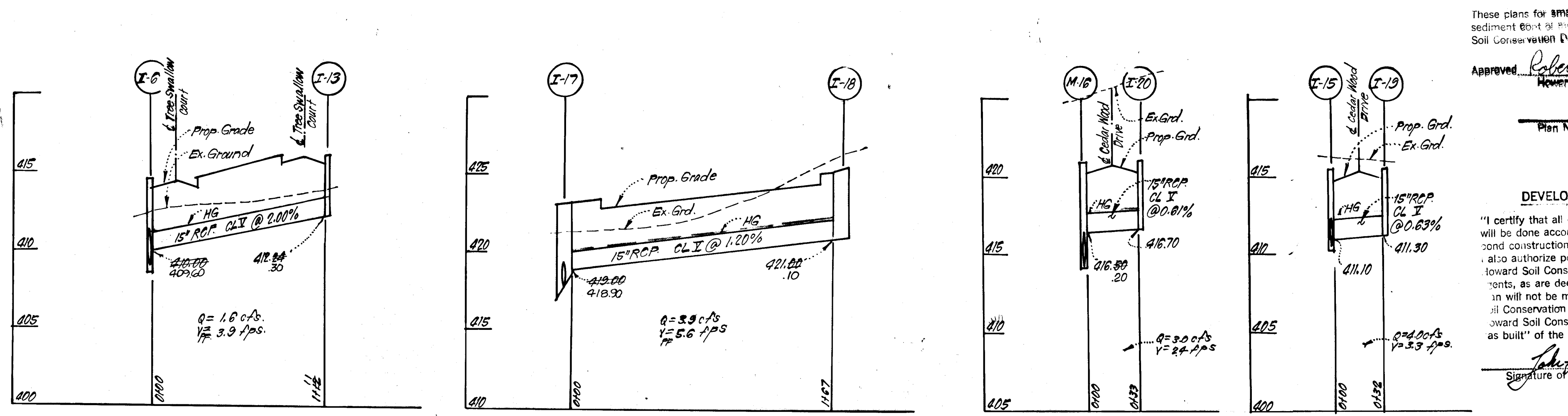
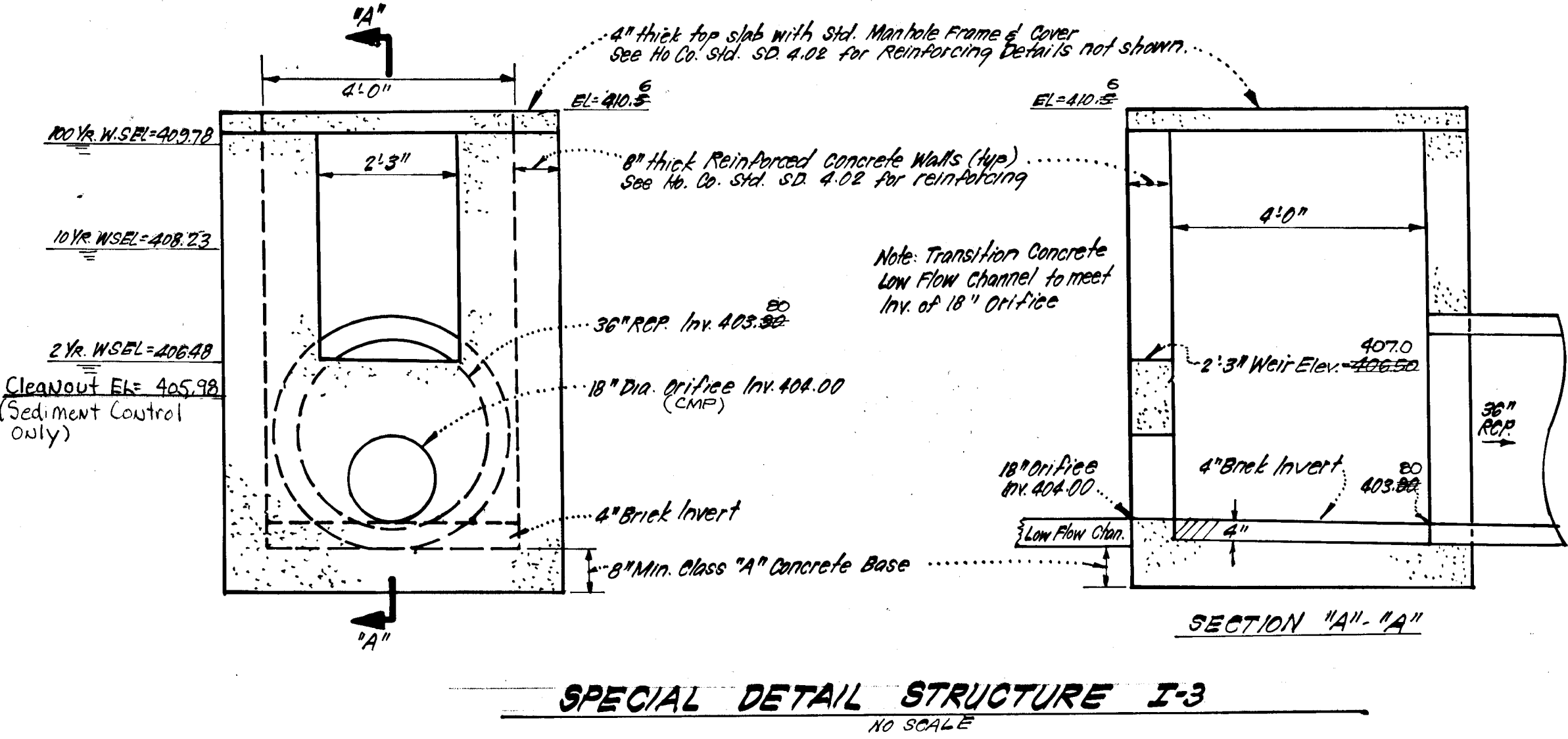
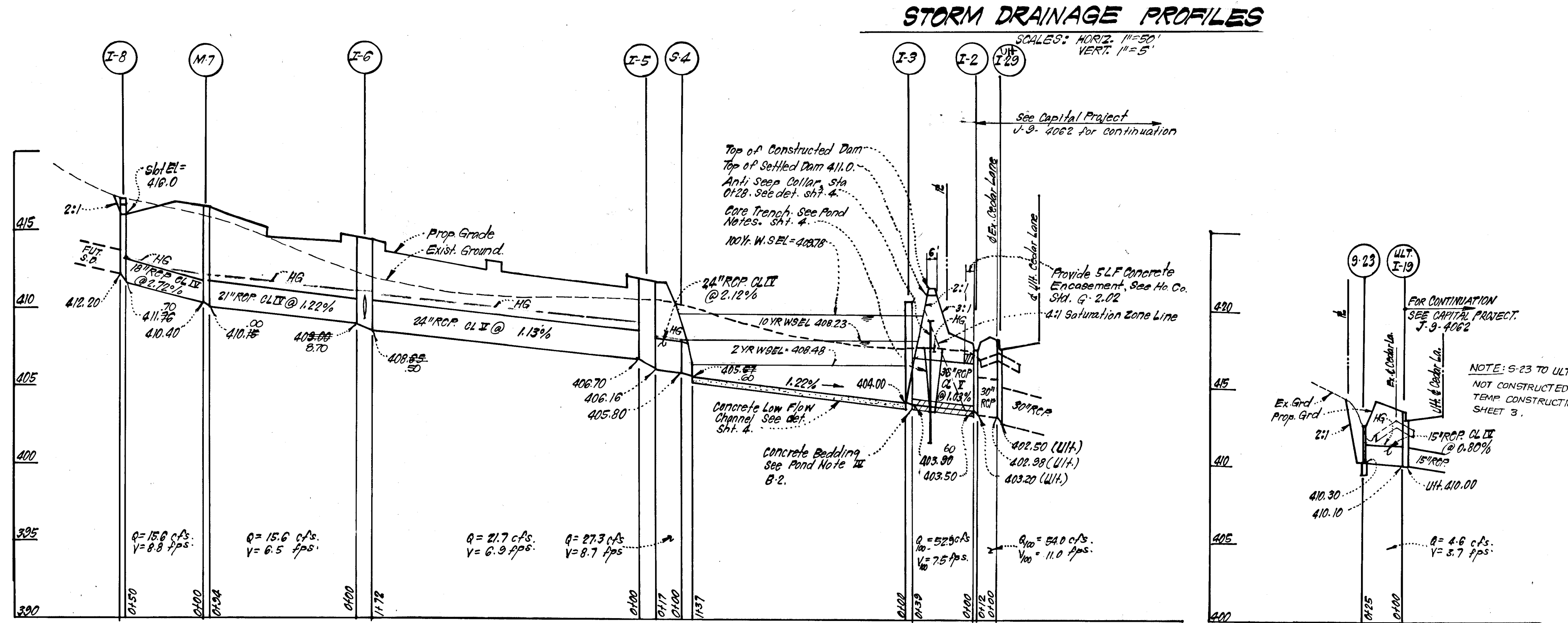
F-84-156 AS-BUILT 7-7-87

86



PIPE SCHEDULE

SIZE	TYPE	LENGTH
15"	RCP CL II	892 LF
18"	RCP CL II	57 LF
18"	RCP CL IV	50 LF
21"	RCP CL IV	4.81 LF
24"	RCP CL IV	172 LF
24"	RCP CL II	814 LF
36"	RCP CL II	39 LF



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

Approved: Robert W. Zichem 8-10-84
Howard S.C.D. Date

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: [Signature] 8-10-84
U.S. Soil Conservation Service Date

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."

Signature of Developer: [Signature] Date: 8/10/84

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."

Signature of Engineer: [Signature] Date: 8-10-84



APPROVED: Department of Public Works
Approved: [Signature] 8-13-84
Chief, Bureau of Engineering Date

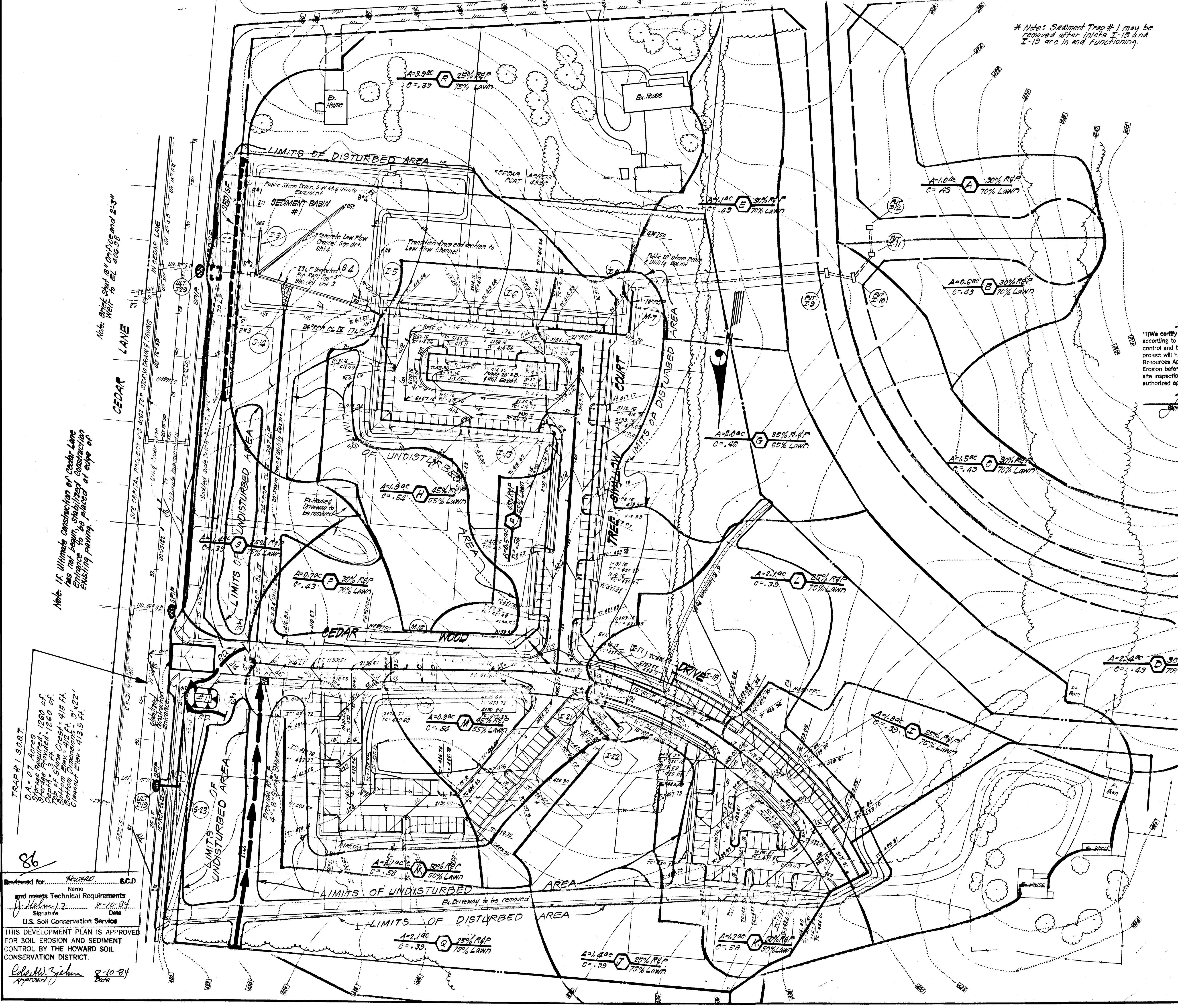
APPROVED: Howard County Office of Planning and Zoning
Approved: [Signature] 8-13-84
Chief, Division of Land Development & Zoning Administration Date

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

DESIGNED	JLS	SCALE	AS SHOWN
DRAWN	KIW	DRAWING	5077
CHECKED	JLS	JOB NO.	83-114
DATE	8-4-84	FILE NO.	83-114-D

ROAD CONSTRUCTION PLANS
STORM DRAIN PROFILES
CEDAR ACRES

SECTION ONE
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
FOR: BRANTLY DEVELOPMENT CORP
5501 TWIN KNOLLS ROAD
COLUMBIA, MD. 21045



* Note: Sediment Trap #1 may be removed after Inlets I-13 and I-15 are in and functioning.

CONSTRUCTION SEQUENCE

1. Install Stabilized Construction Entrance and Sediment Trap #1.
2. Construct S.W.M. Pond / Sediment Basin, and Storm Drainage I-13 thru I-15, I-3 thru Temp S-1 or to L.H. I-29 and SBD/S.F.
3. Install Inlet Protection for Inlets in Cedar Lane if applicable and Perimeter Dike.
4. Clear and Rough Grade Site.
5. Construct remainder of Storm Drainage.
6. Construct Utilities.
7. Final Grade and Construct Paving.
8. Stabilize all other disturbed areas onsite in accordance with State and specs.
9. Flush out Storm Drainage System.
10. Remove sediment & erosion control measures after all areas draining to them have been stabilized and convert Sediment Basin to S.W.M. Pond as follows:
 - A. Clean out and corralize pond as necessary.
 - B. Construct Low Flow Channels and rip rap and stabilize pond area.
 - C. Remove blocking from Str. I-3.

LEGEND:

1. Existing Contour (2' Ft. Interval)
2. Proposed Contour
3. Proposed Storm Drain
4. Perimeter Dike
5. Straw Bale Dike or Silt Fence
6. Stone Filter Inlet Protection



DEVELOPER'S/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."

John J. Linnain
Signature of Developer/Builder

4/2/84
Date

ENGINEER'S CERTIFICATE

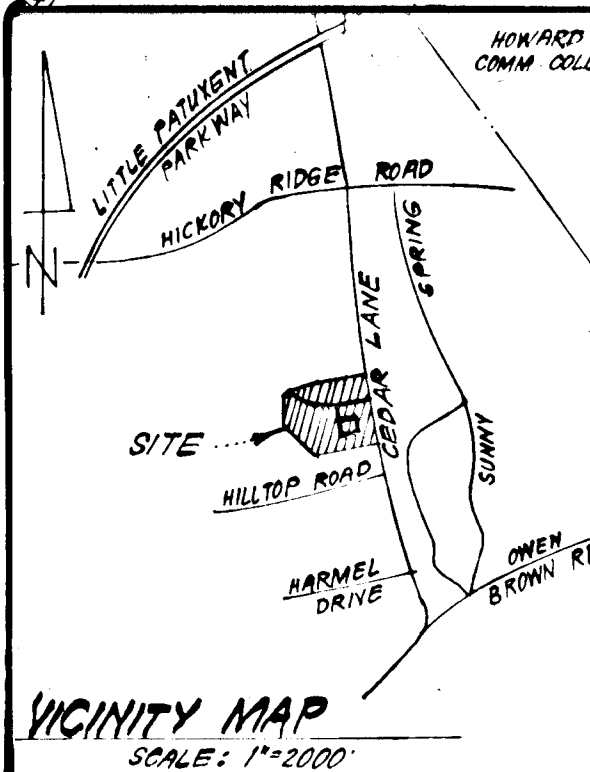
"I hereby certify that this plan for Erosion and Sediment Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

G. Nelson Clark
G. Nelson Clark
Date

Note: If Ultimate Construction on Cedar Lane has not begun, stabilize construction entrance to be paved at edge of existing paving.

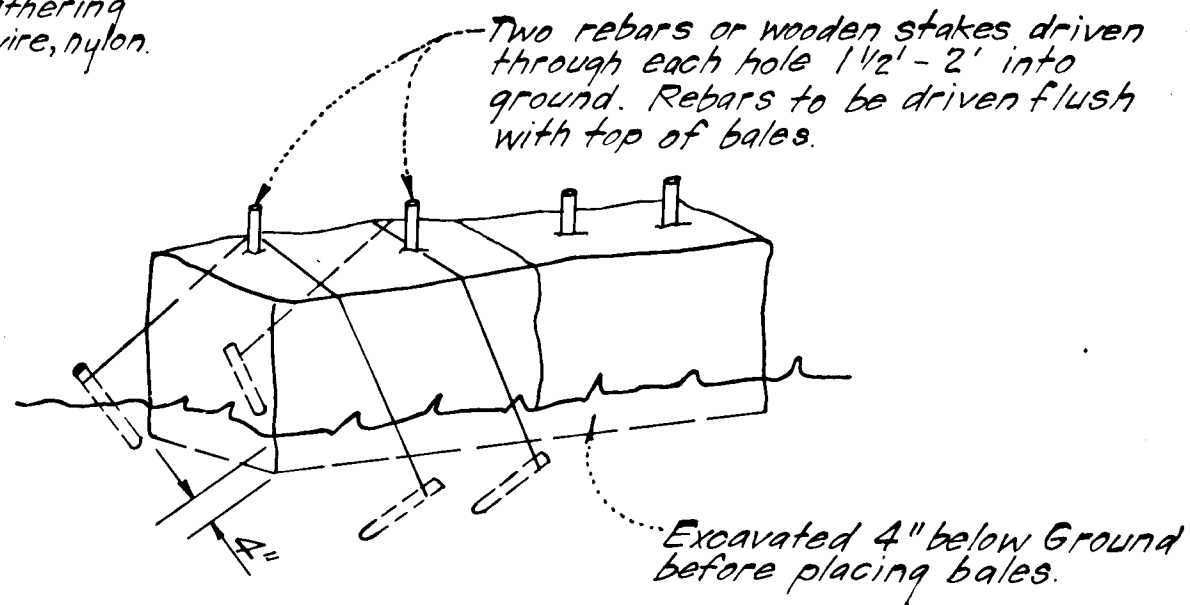
TRAP #1 3087
C.A. = 0.7 Acres
Storage Required = 1260 cf.
Depth = 3.0 ft.
Top of Spillway = 419.4 ft.
Bottom Elev. = 415.4 ft.
Crest Dimensions = 9' x 22'
Crest Elev. = 413.5 ft.

86
Reviewed for *Howard S.C.D.*
Name
and meets Technical Requirements
J. Helms 8-10-84
Signature Date
U.S. Soil Conservation Service
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
Robert Ziemer 8-10-84
Approved Date



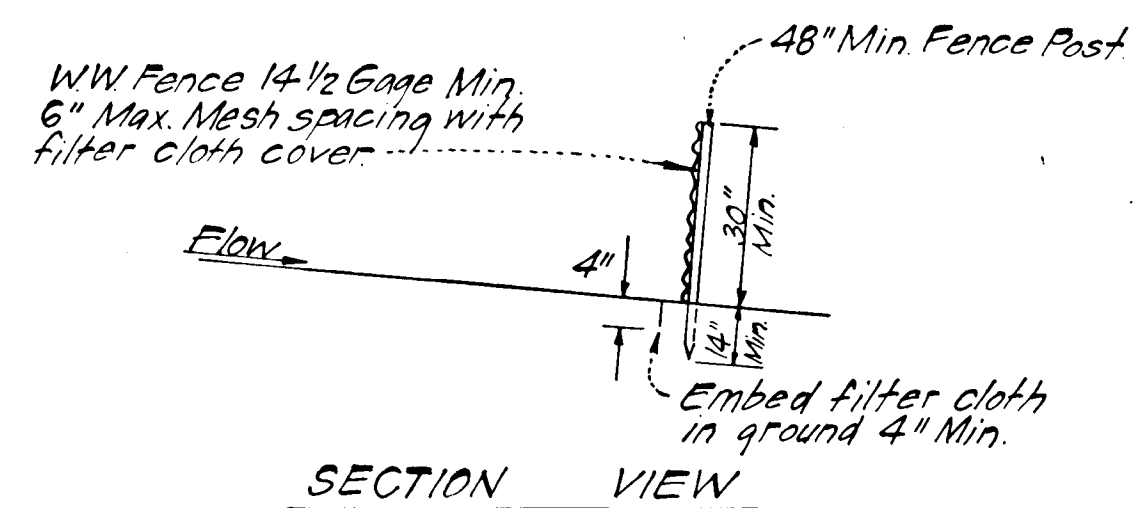
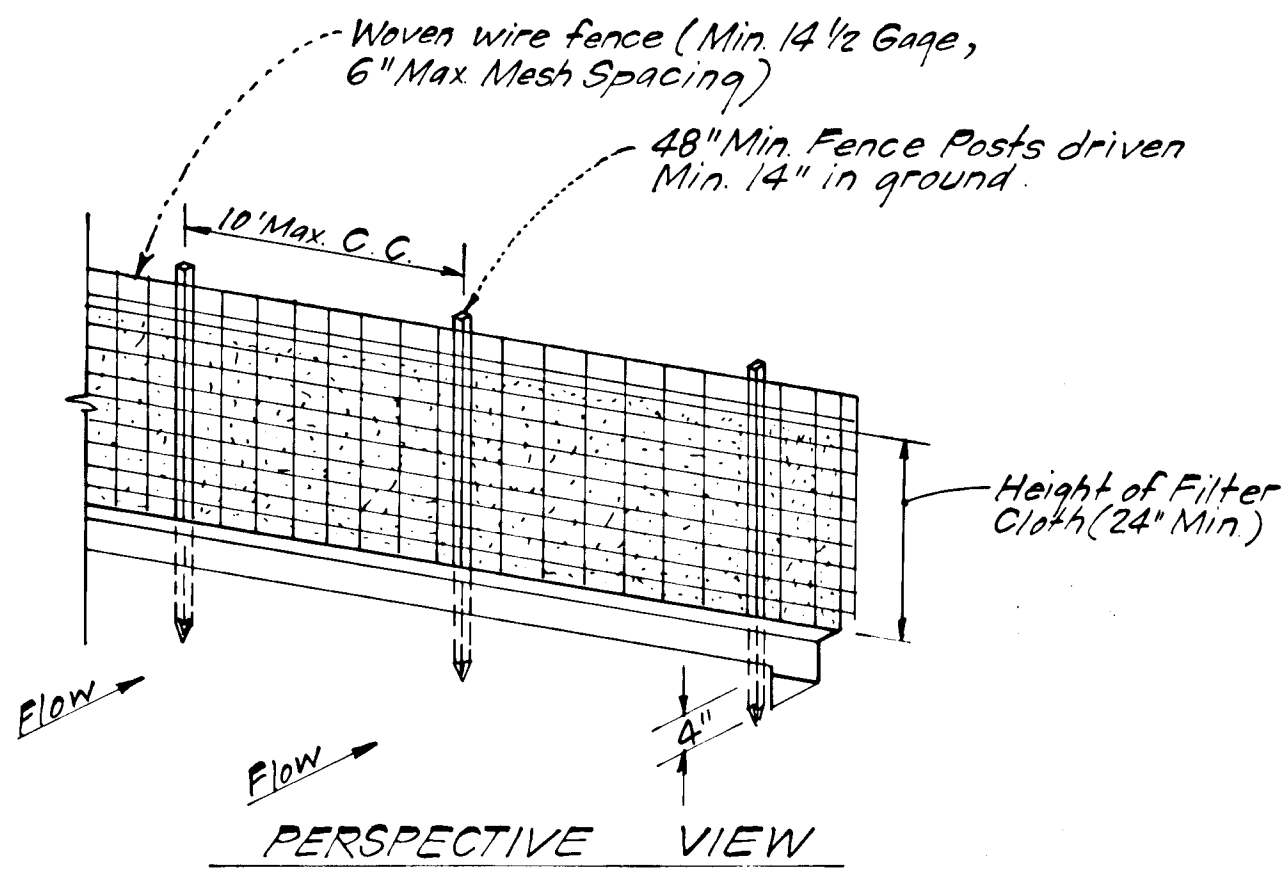
APPROVED: DEPARTMENT OF PUBLIC WORKS:		8-13-84	
<i>John J. Linnain</i> Chief, Bureau of Engineering		Date	
APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING		8-13-84	
<i>Louis F. Owen</i> Chief, Division of Land Development & Zoning Administration		Date	
CLARK • FINEFROCK & SACKETT ENGINEERS • PLANNERS • SURVEYORS			
11315 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301) 593-3400			
DESIGNER	JLS	SCALE	AS SHOWN
DRAWN	JLS	DRAWING	6 OF 7
CHECKED	KTW	JOB NO.	83-114
DATE	JLS	FILE NO.	83-114-3
SECTION ONE 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND FOR BRANTLY DEVELOPMENT CORP. 5501 TWIN KINGS ROAD COLUMBIA, MD 21045			
F-84-1562			

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



Note:
1. 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.)

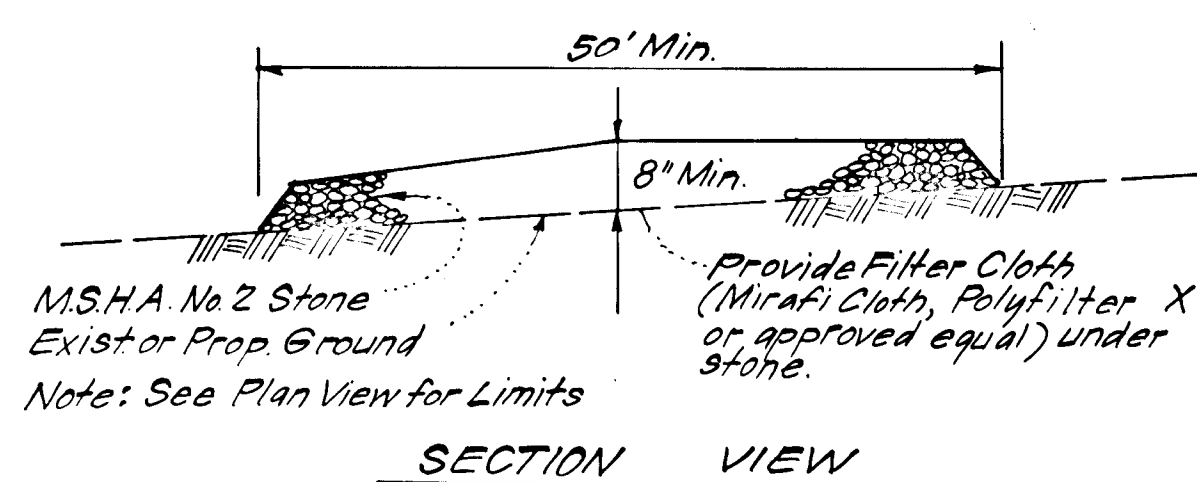
STRAW BALE DIKE DETAIL (S.B.D.)
NO SCALE



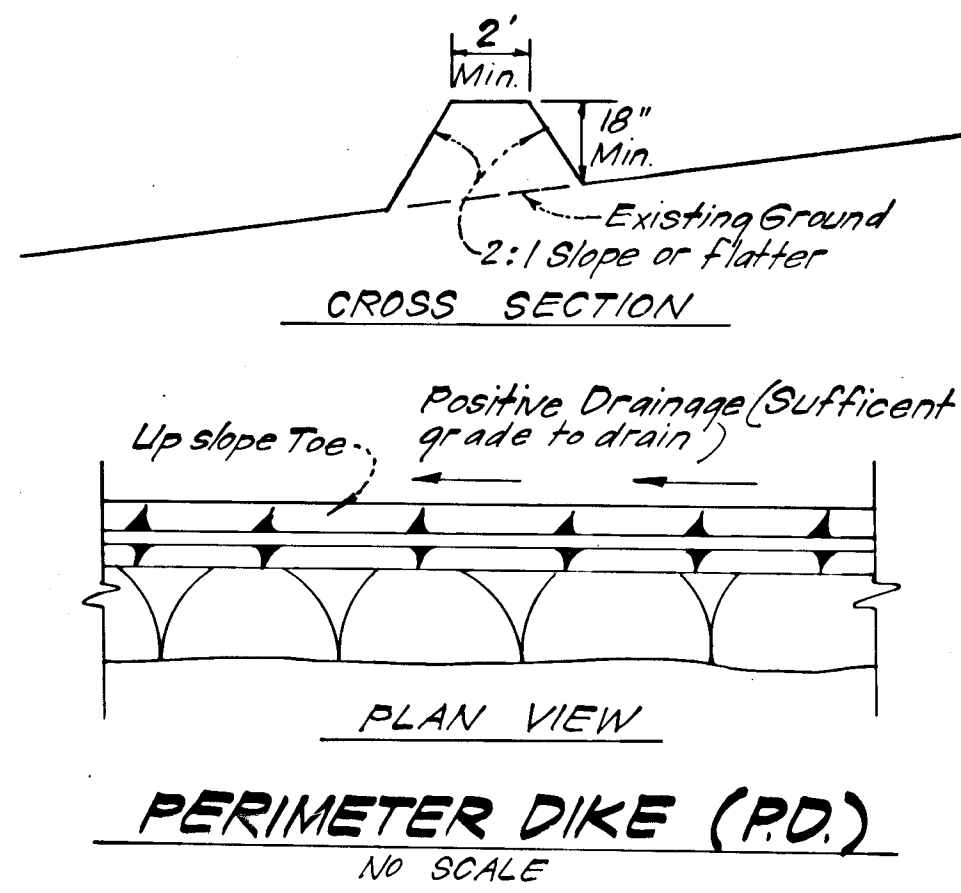
CONSTRUCTION NOTES:
1. Waven wire fence to be fastened securely to fence posts with wire ties or staples.
2. Filter cloth to be fastened securely to waven wire fence with wire ties spaced every 24 inches at top and mid-section.

PASTS: Steel, either T or U type or 2" Hardwood.
FENCE: Waven wire, 1 1/2 Ga., Max 6" Mesh Opening.
FILTER CLOTH: Filter X, Mirafi 100X, Laurel Erosion Control Cloth, Bidim, Polyfilter X or equal.

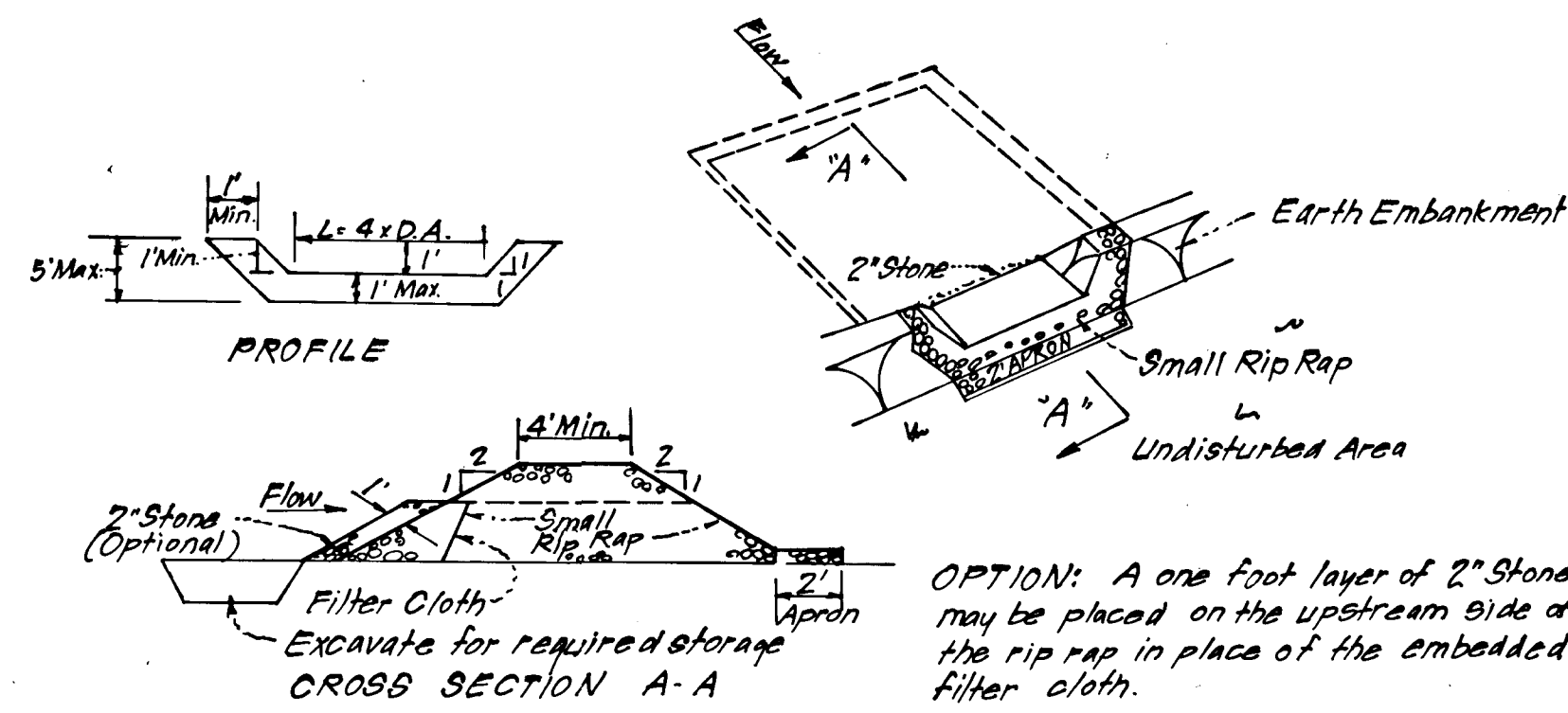
SILT FENCE DETAIL (S.F.)
NO SCALE



STABILIZED CONSTRUCTION ENTRANCE
NO SCALE

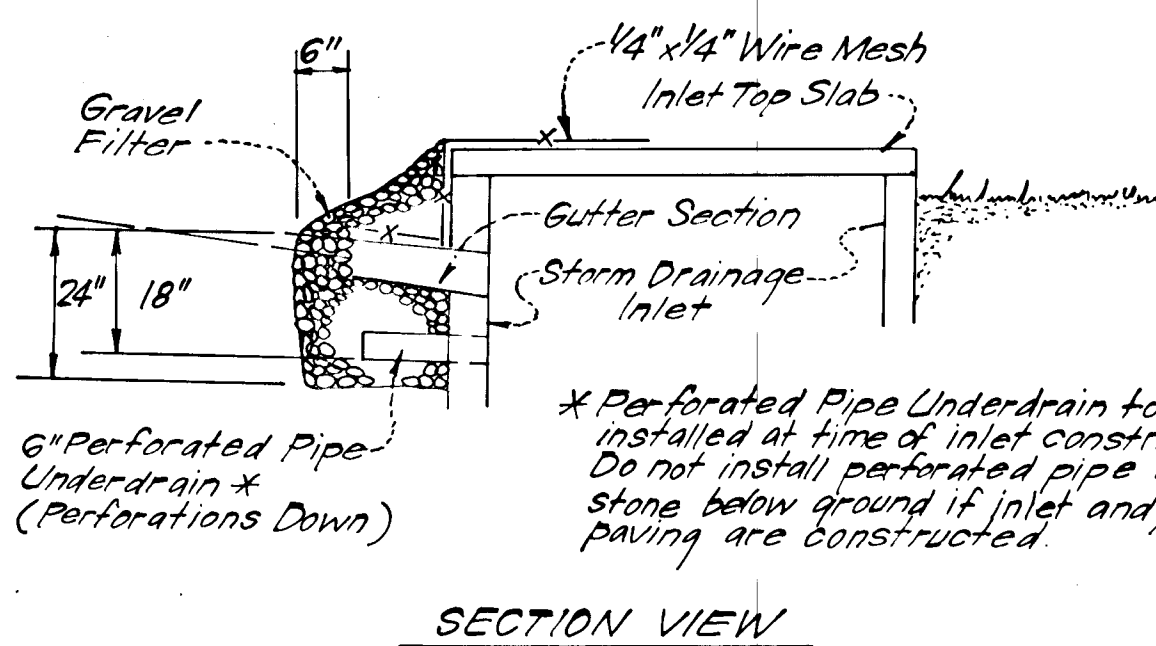
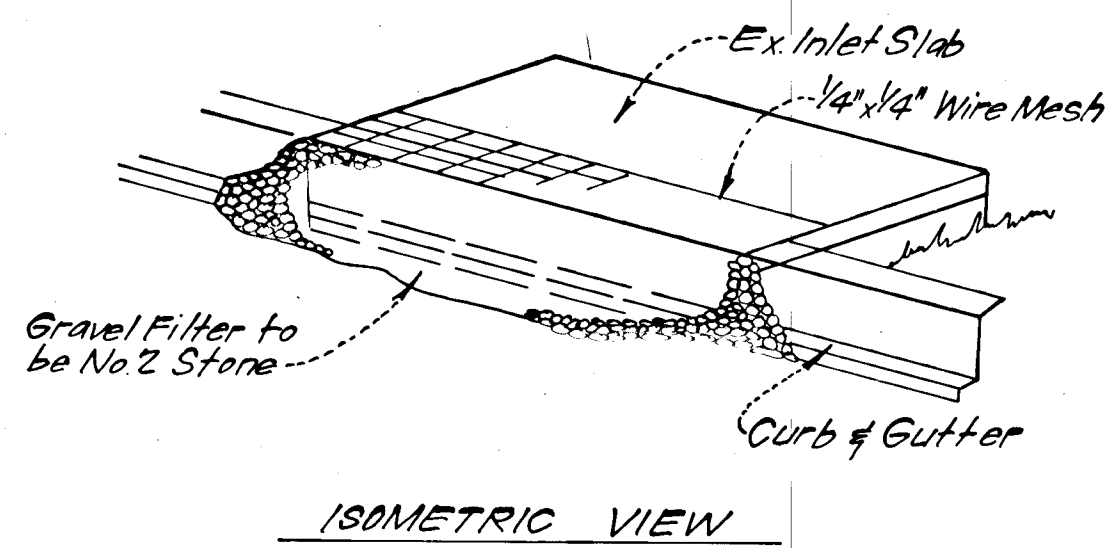


PERIMETER DIKE (P.D.)
NO SCALE



Construction Specifications for ST-V:
1. Area under embankment shall be cleared, grubbed & 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 and 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. All cut and fill slopes shall be 2:1 or flatter.
4. The stone used in the outlet shall be small rip rap 9"-8" along with a 1" thickness of 2" aggregate placed on the upgrade side on the small rip rap or embedded filter cloth in the rip rap.
5. 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.
6. The structure shall be inspected after each rain and repairs made as needed.
7. Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

DETAILS OF STONE FILTER OUTLET FOR STONE OUTLET SEDIMENT TRAP (S.O.S.T.)
NO SCALE



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

Reviewed for... *[Signature]* E.C.D.
Name
and meets Technical Requirements
[Signature] Date 8-10-84
Signature Date
U.S. Soil Conservation Service

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

[Signature] 8-10-84
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."

[Signature] 4/12/84
Signature of Developer/Builder Date

ENGINEER'S CERTIFICATE

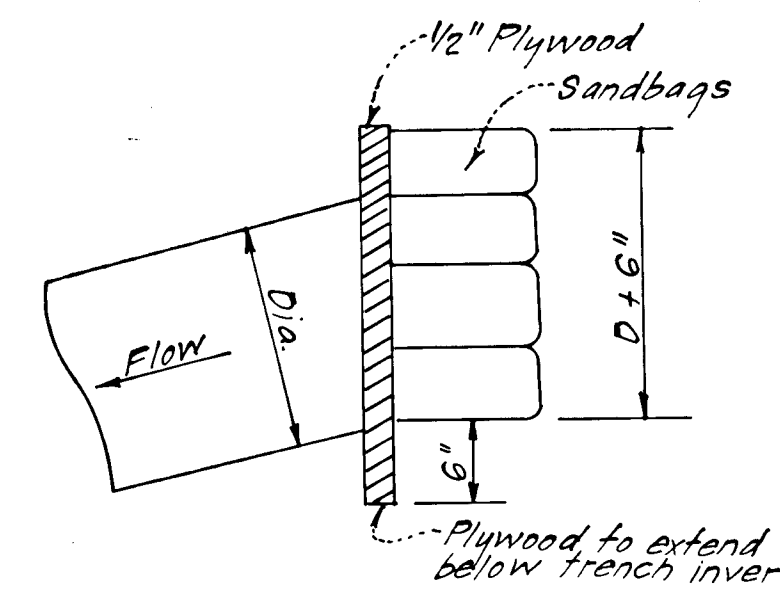
I hereby certify that this plan for Erosion and Sediment Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

[Signature] 4-4-84
G. Nelson Clark Date

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 1.4 lbs./1000 sf.
- Notify the Bureau of Inspections and Permits at least 24 hours 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 areas 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 - 315 LF.
- SITE ANALYSIS:**
 - Total Area: 24.077 Acres.
 - Area to be Roofed: None Acres.
 - Area to be Paved: 2.70 Acres.
 - Area to be Seeded: 5.80 Acres.
 - Area Undisturbed: 15.577 Acres.
- All disturbed areas not subject to active construction after 30 days shall be stabilized immediately in accordance with Standards and Specifications for Soil Erosion and Sediment Control in developing areas for temporary seeding pgs. 50.01 to 50.05.

* NOTE: All seeding and mulching to be done in accordance with Standards and Specifications for Soil Erosion and Sediment Control in developing areas.



PIPE BLOCKING DETAIL
NO SCALE

APPROVED: Department of Public Works
[Signature] 8-13-84
Chief, Bureau of Engineering
APPROVED: Howard County Office of Planning and Zoning
[Signature] 8-13-84
Date
ACTIVE *[Signature]* 8-13-84
Chief, Division of Land Development & Zoning Administration Date



CLARK • FINEFROCK & SACKETT ENGINEERS • PLANNERS • SURVEYORS 1131C LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301) 593-3400		
DESIGNED	VLS	SCALE
DRAWN	R/W	As Shown
CHECKED	VLS	DRAWING
DATE	4-4-84	70x7
ROAD CONSTRUCTION PLANS SEDIMENT & EROSION CONTROL DETAILS CEDAR ACRES		
SECTION ONE 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND FOR: BRANTLY DEVELOPMENT CORP. 5501 TWIN KNOLLS ROAD Columbia, Md. 21045		
		JOB NO.
		83-112
		FILE NO.
		83-112-D