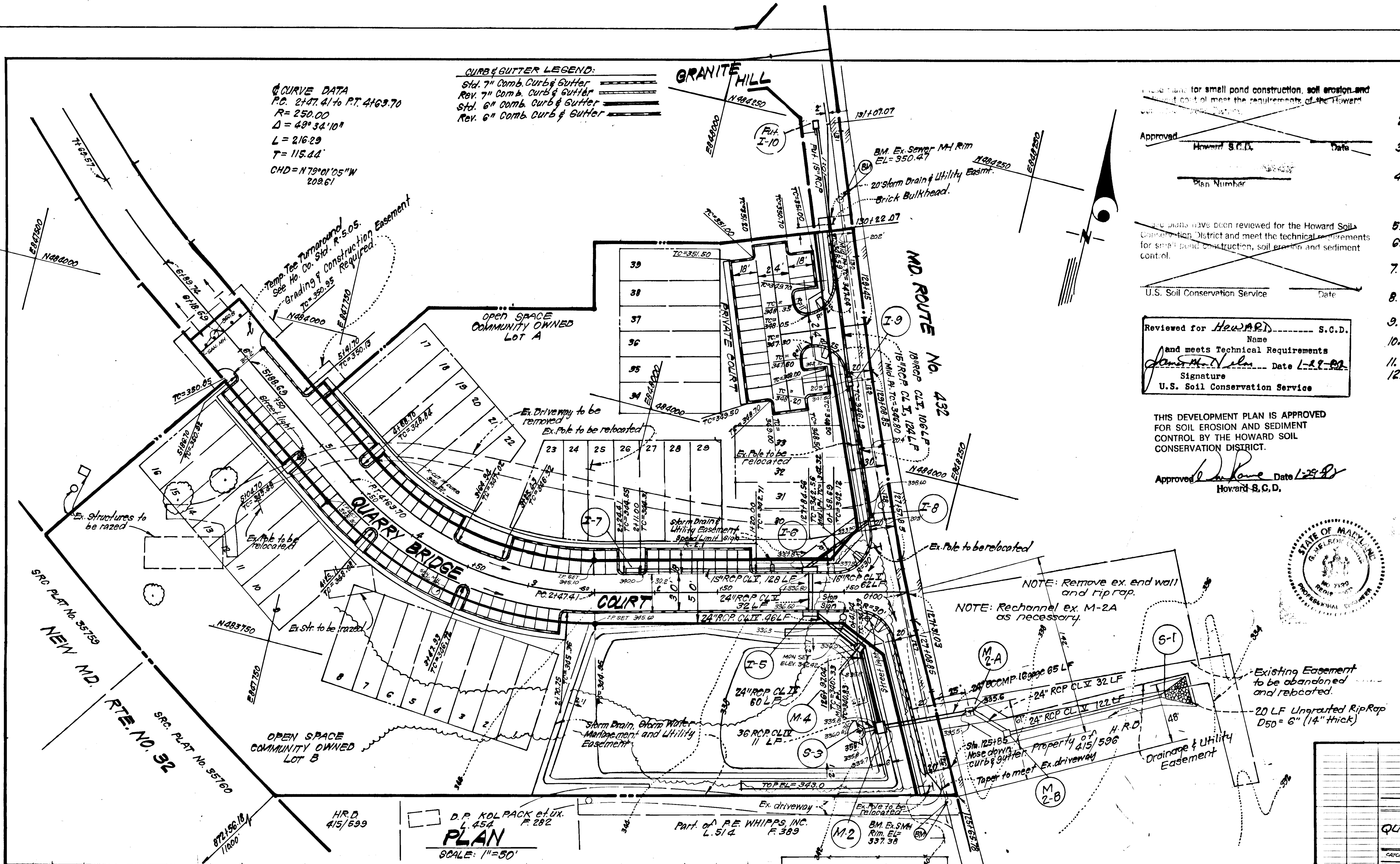


GENERAL NOTES

1. All storm drain & Paving shall be constructed in accordance with the latest details and Specifications of Howard Co. and Md. S.H.A.
2. Types of Storm Drain structures refer to the Standard Details of Howard County & Maryland State Highway Administration.
3. Trench Compaction for storm drains within Road or street right of way, limits shall be in accordance with Howard County Design Manual IV
4. 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.
5. All utility companies shall be notified 24 hrs. in advance of construction.
6. All traffic control services, parking and signing to be done in accordance with the "Manual of Uniform Traffic Control Devices", 1971 Edition.
7. Sag and Crest Vertical Curves were designed in accordance with "A Policy on Geometric Design of Rural Highways", 1965, by A.A.S.H.O.
8. Provide Concrete Sidewalk Ramps in Curbs, where shown in plan. (Max. 12:1 Slope) See Ho. Co. Std. Sidewalk Ramp, Type A - R-4.01.
9. Design Speed: 30 mph. Quarry Bridge Court.
10. Class "C" Bedding shall be used for all storm drainage construction unless otherwise noted. see Ho Co. Std. SD. 2.03.
11. Survey Based on Howard County Control Stations 224 2001-R & 224 2002.
12. Storm Drain Crossing at Old Md. Rte. No. 32 to be open cut.

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

~~Approved ____ Howard S.C.D. ____ Date~~

____ Plan Number

~~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.~~

~~U.S. Soil Conservation Service ____ Date~~

Reviewed for HOWARD S.C.D.
Name
and meets Technical Requirements
[signature] Date 1-29-82
Signature
U.S. Soil Conservation Service

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

Approved [signature] Date 1-29-82
Howard S.C.D.

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."

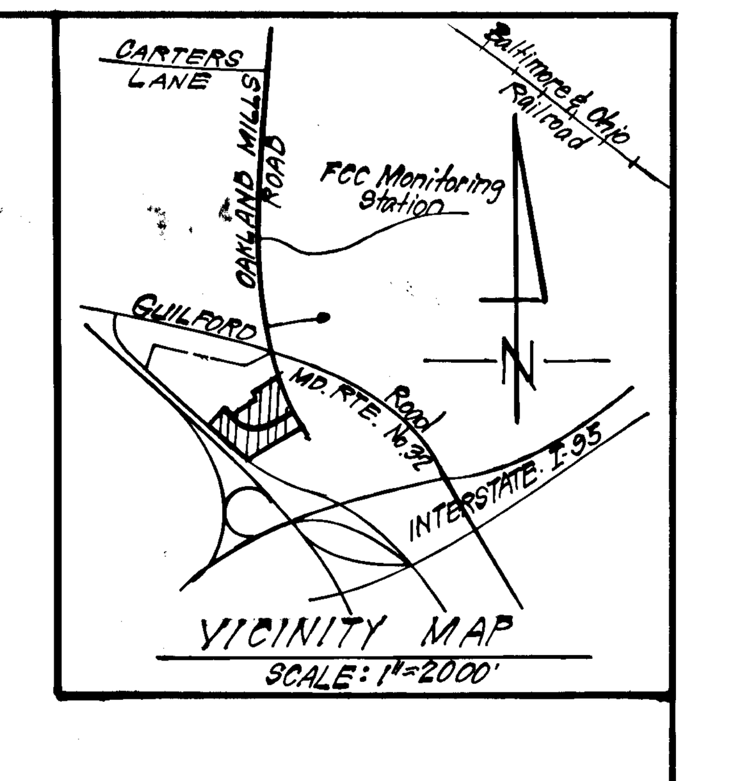
[signature] 12-9-81
Signature of Developer — Date
Earl Armiger

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] 12-9-81
Signature of Engineer — Date
G. Nelson Clark

STATE OF MARYLAND — G. NELSON CLARK — No. 7139 — REGISTERED PROFESSIONAL ENGINEER



AS-BUILT - SEPT. 16, 1983
AS-BUILT SURVEY CERTIFIED BY
DONALD B. SACKETT, MD. REG.
PROFESSIONAL ENGINEER-No.

No	REVISION	DATE
1	Added MH str No M-2A - Revised prop. grading in pond	2/26/82
2	Relocated Storm Drainage M-2A to S-1	9/26/90

APPROVED: Department of Public Works
[signature] 2-1-82
Chief, Bureau of Engineering [signature] 2-1-82 — Date

APPROVED: Howard County Office of Planning and Zoning
[signature] 1-29-82
Chief, Division of Land Development & Zoning Administration — Date

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ENGINEERS • PLANNERS • SURVEYORS
11315 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301) 593-3400.

DESIGNED	ROAD CONSTRUCTION PLANS	SCALE
J.L.S.	QUARRY BRIDGE COURT	As Shown
DRAWN	**GLEN OAKS**	DRAWING
K.I.W	SECTION ONE AREA ONE	1 of 5
CHECKED	6TH ELECTION DISTRICT	JOB NO.
J.L.S.	HOWARD COUNTY, MARYLAND	81-079
DATE	FOR: Earl Armiger, 3967 Ducks' Foot Lane, Ellicott City, Md 21043	FILE NO.
12-9-81		81-079-D

AS-BUILT SEPT. 16, 1983

Printed by Cooper-Trent Division of K&E 48-7024S

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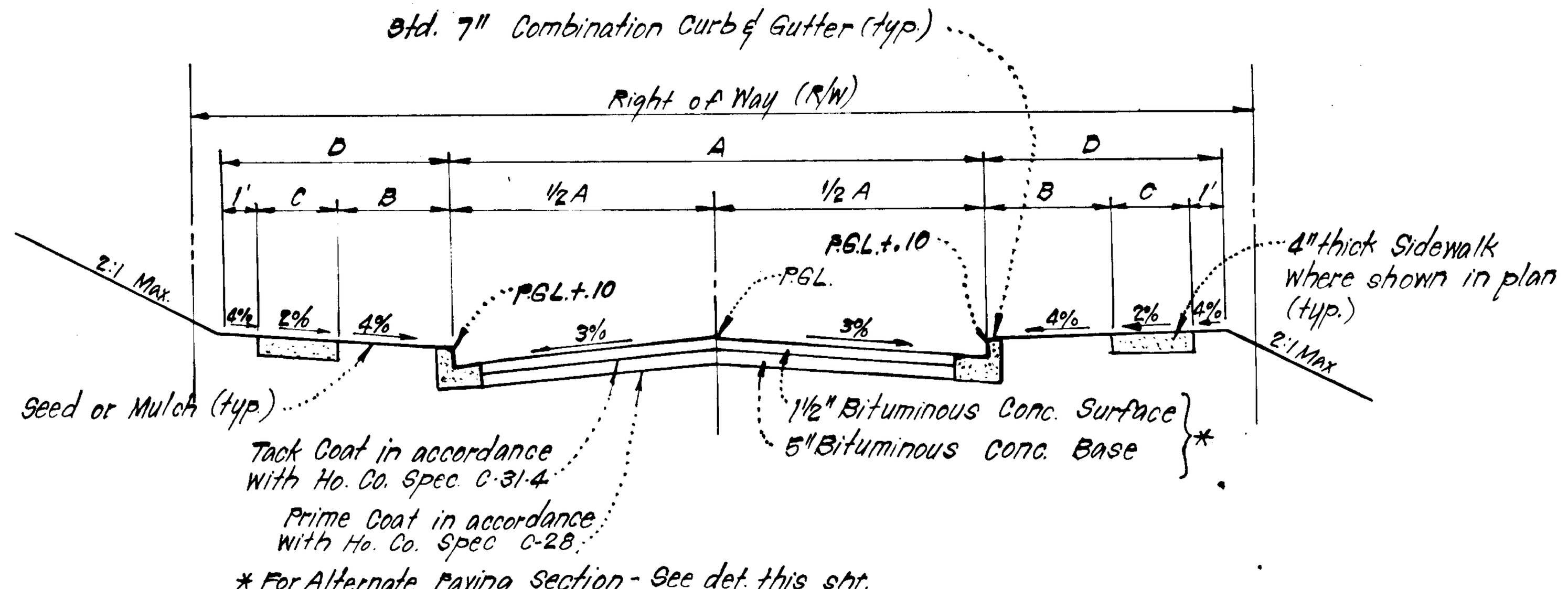
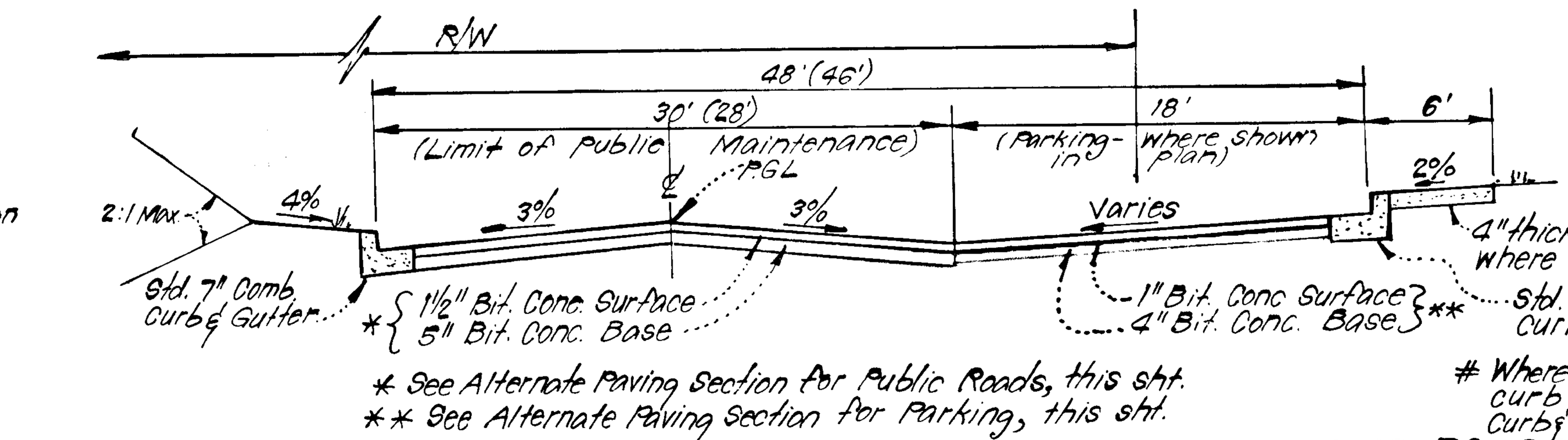


TYPICAL PAVING SECTION - PUBLIC ROADS

QUARRY BRIDGE COURT

NO SCALE

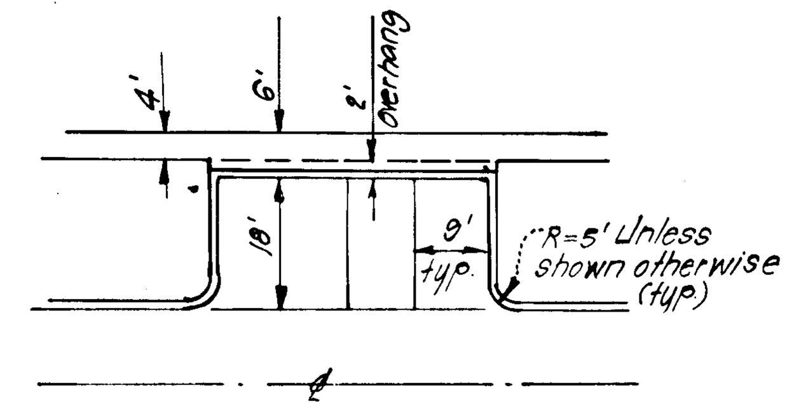
STREET NAME & STATION	ROADWAY CLASSIFICATION	A	B	C	D	R/W	ZONING	DESIGN SPEED
QUARRY BRIDGE CT. STA 0+00 to STA 1+20	LOCAL	30'	4'	4'	9'	50	RSC	30 mph



TYPICAL SECTION - PARKING ADJACENT TO PUBLIC ROADS

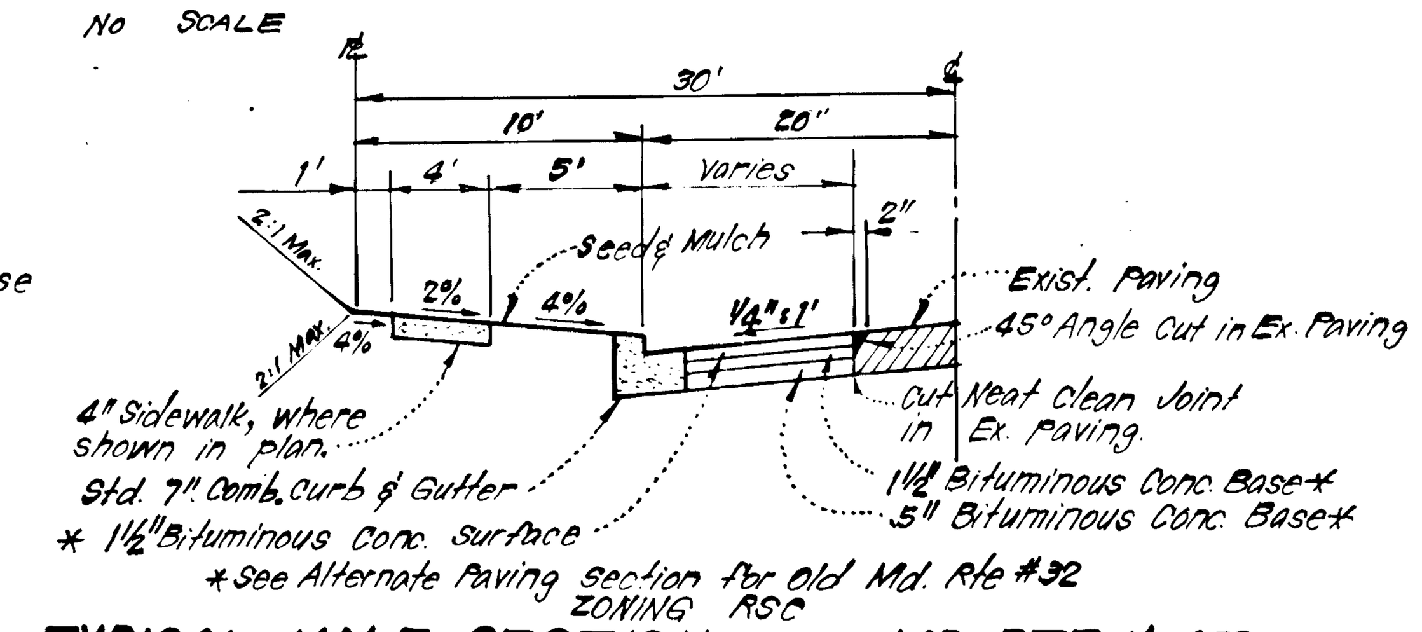
QUARRY BRIDGE COURT STA. 1+20 to 2+70.75

NO SCALE



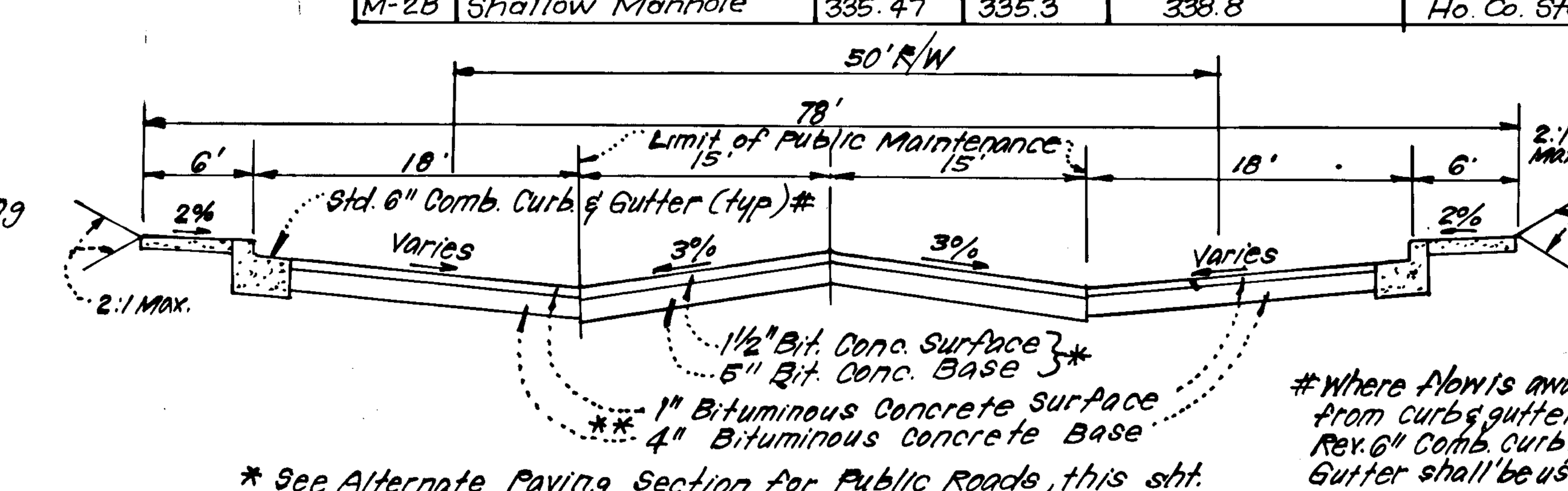
TYPICAL PARKING

NO SCALE



TYPICAL HALF SECTION - MD. RTE # 432

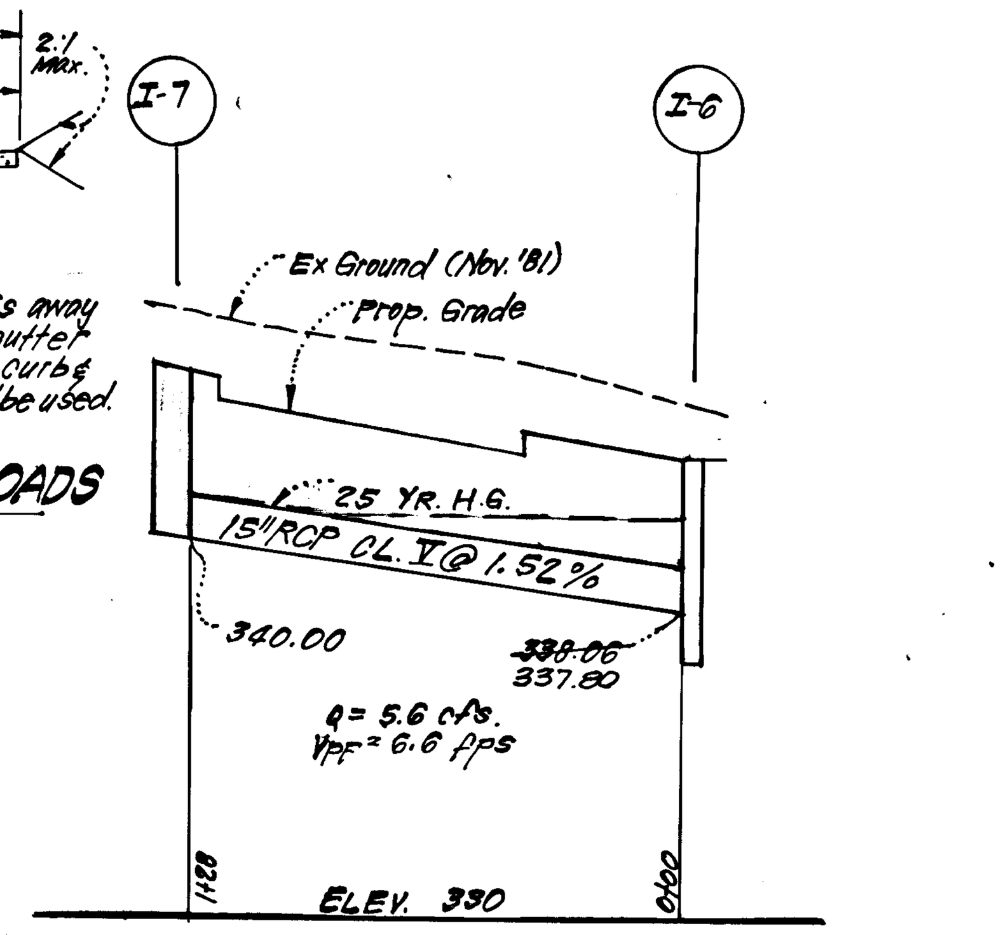
STA. 125+65.78 to STA 131+07.07

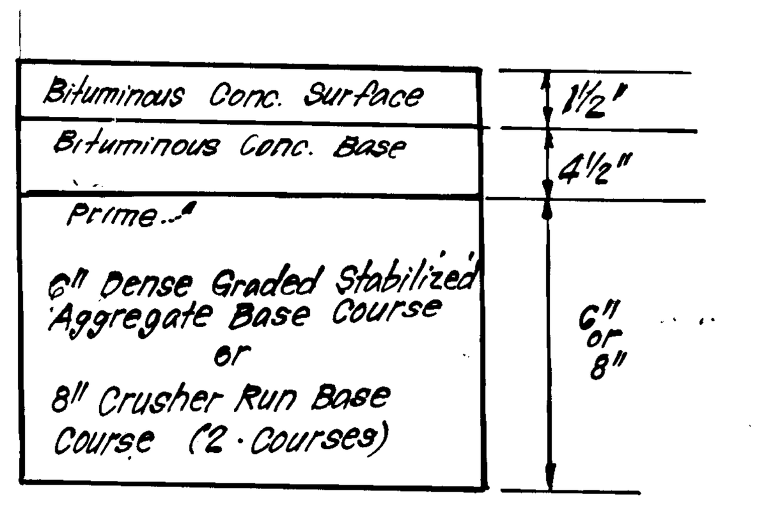


TYPICAL SECTION - PARKING ADJACENT TO PUBLIC ROADS

QUARRY BRIDGE COURT STA. 2+70.75 to 5+41.70

NO SCALE





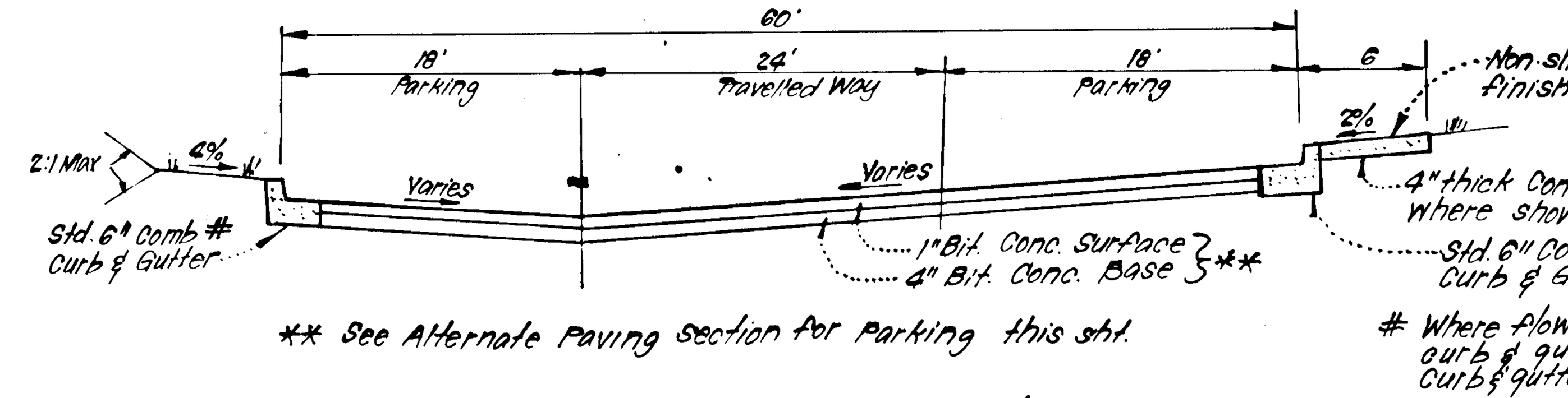
ALTERNATE PAVING SECTION OLD MD. ROUTE # 32

No SCALE

PIPE SCHEDULE ▲

	SIZE	TYPE	LENGTH
	15"	R.C.P. CL. V	252 LF.
	18"	R.C.P. CL. V	168 LF.
	24"	R.C.P. CL. IV	106 LF.
	24"	R.C.P. CL. V	186 LF.
	36"	R.C.P. CL. IV	11 LF.
*	24"	BCCMP 16ga	65 LF

▲ Pipe length does not include future extensions.
* 2 2/3 x 1/2" corrugations.



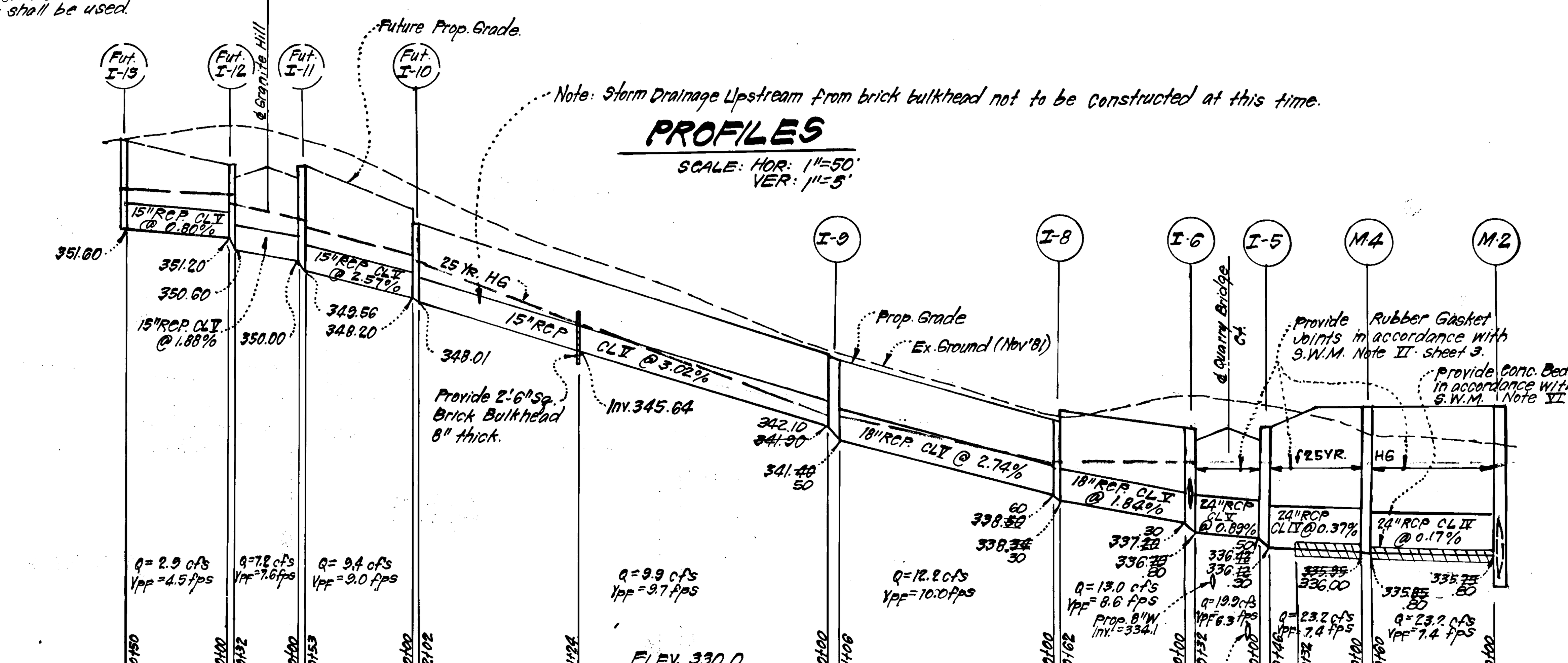
TYPICAL SECTION - PRIVATE DRIVE & PARKING

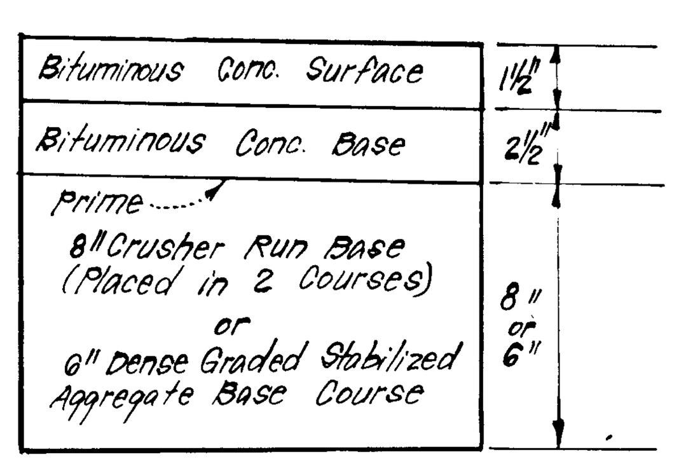
NO SCALE

• Note: Storm Drainage Upstream from brick bulkhead not to be constructed at this time.

PROFILES

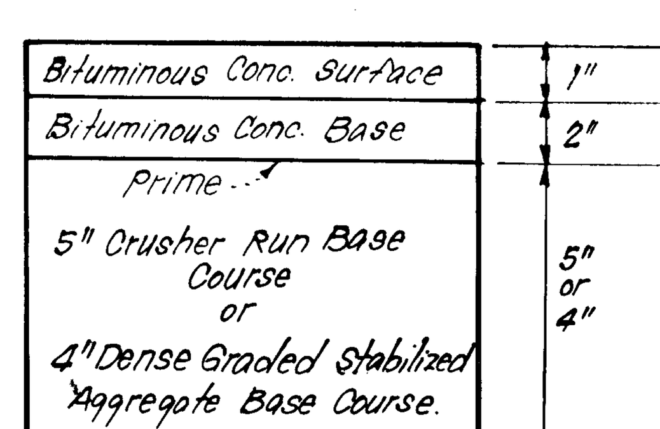
SCALE: HOR: 1"=50' VER: 1"=5'





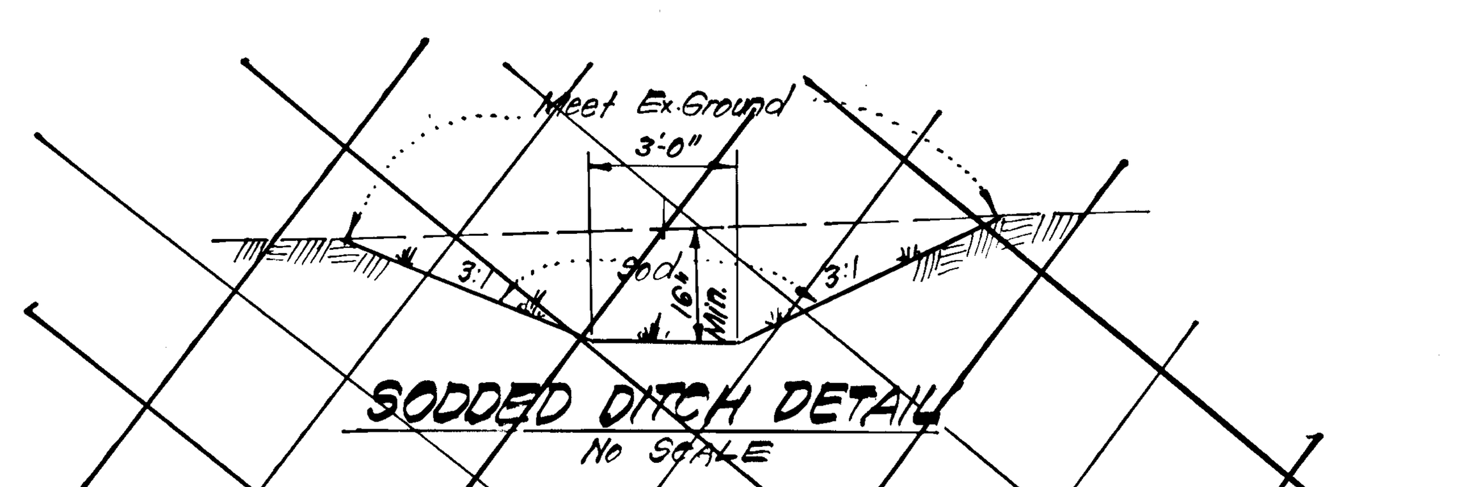
ALTERNATE PAVING SECTION FOR PUBLIC ROADS

No Scale



ALTERNATE PAVING SECTION FOR PARKING AREAS

NO SCALE

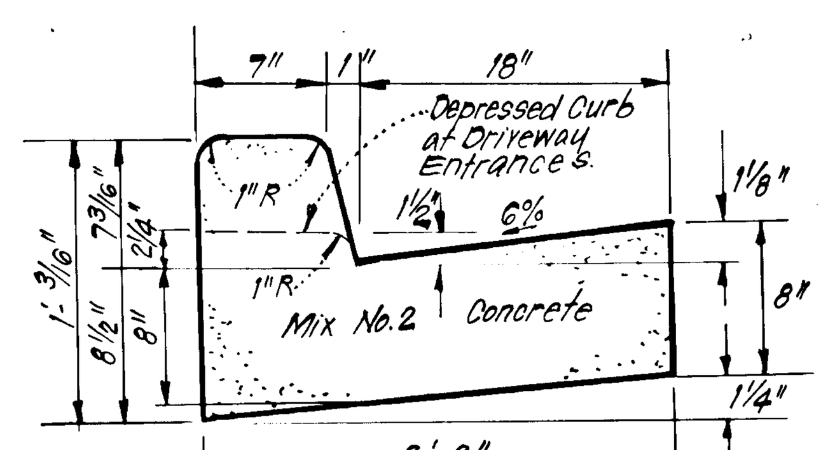


SODDED DITCH DETAIL

No SCALE

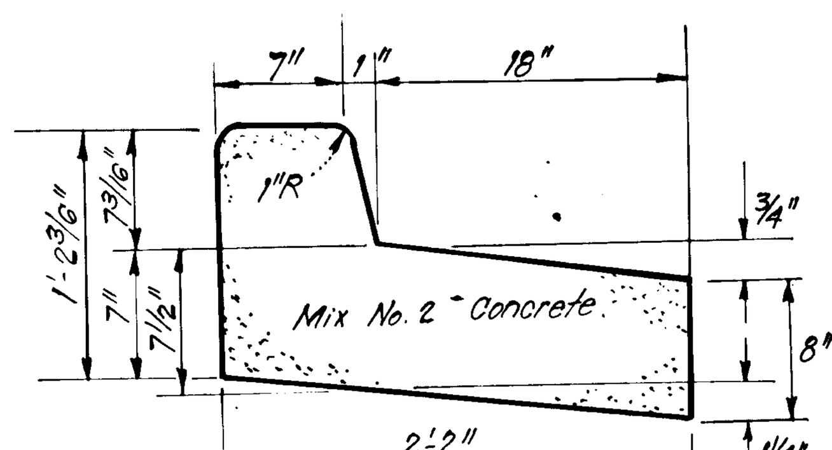
GENERAL SODDING NOTES:

1. Apply 10-10-10 Fertilizer @ 1000#/acre (25#/1000 sf)
2. Apply Ground Agricultural Limestone @ 2000#/acre (50#/1000 sf)
3. Incorporate both Lime and Fertilizer into soil by discing. Firm up after incorporation.
4. Lay sod in 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.



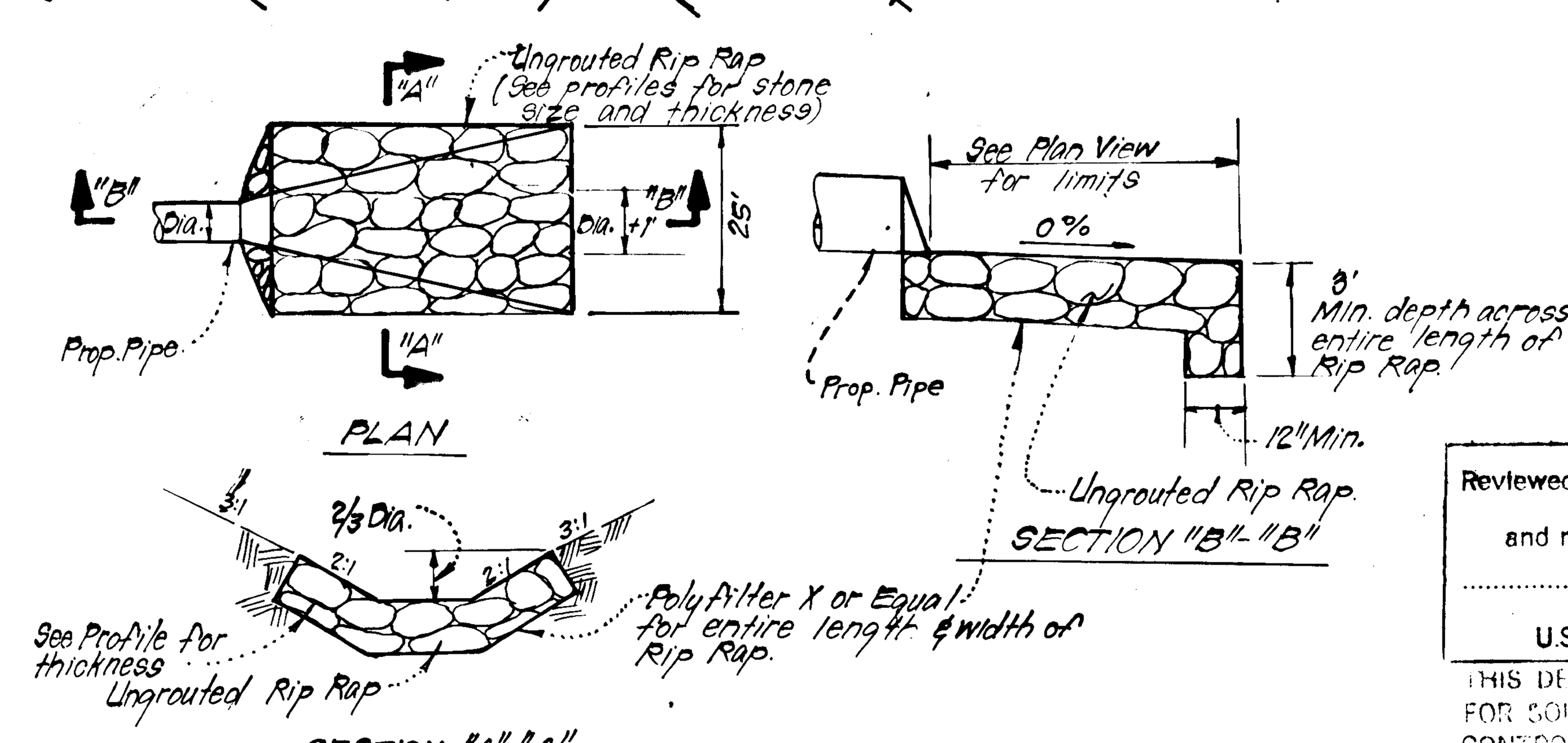
STANDARD 7" COMBINATION CURB & GUTTER

No SCALE



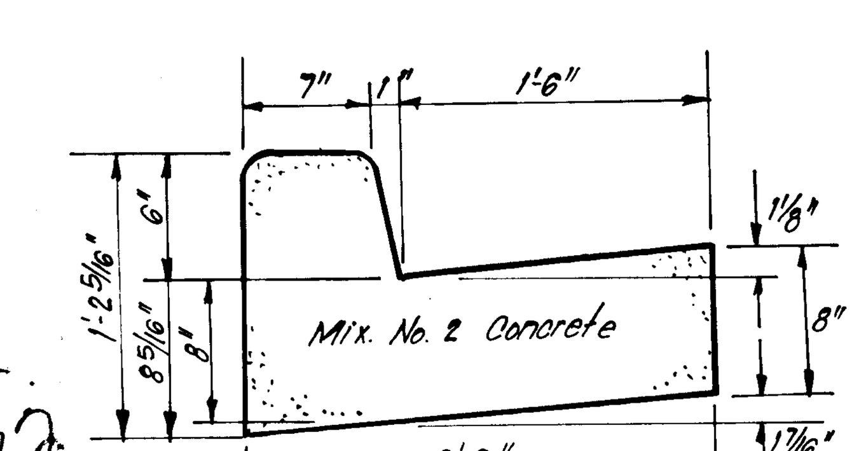
REVERSE 7" COMBINATION CURB & GUTTER

No SCALE



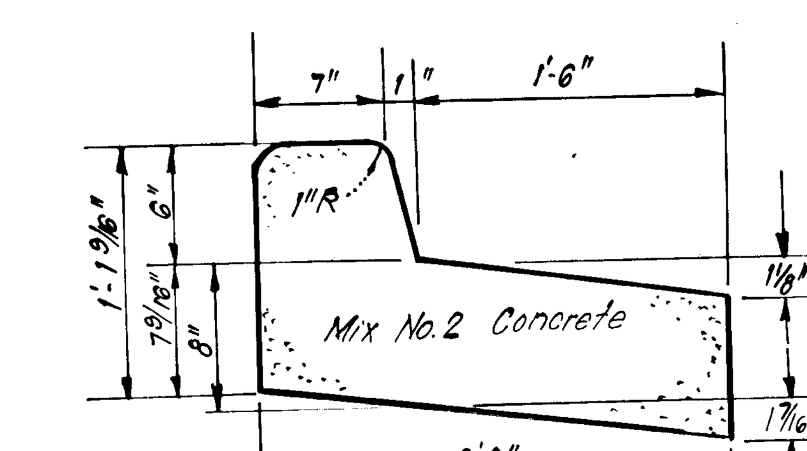
UNGROUTED RIP RAP PAVING DETAILS

NO SCALE



STANDARD 6" COMBINATION CURB & GUTTER

No SCALE



REVERSE 6" COMBINATION CURB & GUTTER

No SCALE

STRUCTURE SCHEDULE

▲ Future Inlets; not to be constructed at this time.

	No.	TYPE	INVERT IN	INVERT OUT	TOP ELEVATION UPPER	TOP ELEVATION LOWER	REMARKS	LOCATION
*	S-1	Conc. End Section	334.42	334.38	-		Ho. Co. Std. SD/5.21 Dia.=24"	See Plan
	M-2	Special	335.75 335.15	335.65	343.00		See det sht. 3	℄ Sta. 126+32.78 Md. #432 45.5' Lt.
	S-3	A-Endwall	335.80	335.80	-		Ho. Co. Std. SD/5.11 Dia=36"	℄ Sta 126+32.78 Md #432 59.5' Lt.
	M-4	B-Manhole	335.95	335.85	343.00		Ho. Co. Std. SD/3.03 48" Sq.	℄ Sta. 0+37 Quarry Bridge Ct 44' Lt.
	I-5	A-10 Inlet	336.42	336.12	342.10	341.91	Ho. Co. Std. SD/4.02 W=4'-0"	℄ Sta 0+80 Quarry Bridge Ct. 15' Lt.
	I-6	A-10 Inlet	337.20 338.06	336.70	342.10	341.91	Ho. Co. Std. SD/4.02 W=3'-0"	℄ Sta 0+80 Quarry Bridge Ct. 15' Rt.
	I-7	A-10 Inlet	-	340.00	344.52	344.33	Ho. Co. Std. SD/4.02 W= 2'-6"	℄ Sta. 2+17.70 Quarry Bridge 15' Rt.
	I-8	SHA Std. W.R. Inlet	338.50	338.34	342.89	342.66	SHA Std. MD 374.04 W=3'-5 1/8"	℄ Sta. 127+91.02 Md #432 20' Lt.
	I-9	SHA Std. W.R. Inlet	341.90	341.40	346.03	345.81	SHA Std. MD 374.04 W=3'-5 1/8"	℄ Sta 129+01.54 Md #432 20' Lt.
▲	I-10	SHA Std. W.R. Inlet	348.20	348.01	352.59	352.45	SHA Std. MD 374.04 W=3'-5 1/8"	℄ Sta 131+08.54 Md #432 20' Lt.
▲	I-11	A-10 Inlet	350.00	349.56	354.89	354.65	Ho. Co. Std SD/4.02 W 2'-6"	℄ Sta 0+58.39 Granite Hill 15' Lt.
▲	I-12	A-10 Inlet	351.20	350.60	354.90	354.66	Ho. Co. Std. SD/4.02 W=2'-6"	℄ Sta 0+58.67 Granite Hill 15' Rt.
▲	I-13	SHA Std. W.R. Inlet	-	351.60	355.90	355.69	SHA Std. MD 374.04 W=3'-5 1/8"	℄ Sta. 132+11.46 Md. #432 20' Lt.
	M-2-A	B-Manhole	Ex. 335.9	335.7	339.30		Ho. Co. Std. SD/3.03 48" Sq.	See Plan.

All Inverts to be fully developed.
* Increase H dimension by 12" to allow for Rip Rap construction.

M-2B	Shallow Manhole	335.47	335.3	338.8		Ho. Co. Std. G5.05 48" Sq.	See Plan

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."

Earl Armiger (signature) — 12-9-81

Signature of Developer/Builder — Date

Earl Armiger

Reviewed for HOWARD S.C.D.
Name
and meets Technical Requirements

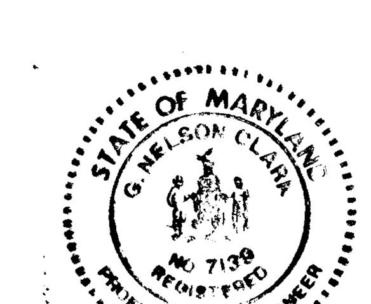
Signature — Date

U.S. Soil Conservation Service

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

(signature) — 1-29-82

Approved — Date



AS-BUILT SEPT. 16, 1983
AS-BUILT SURVEY CERTIFIED BY DONALD B. SACKETT, PROFESSIONAL LAND SURVEYOR No. 6059

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) — 12-9-81

G. Nelson Clark — Date

NO	REVISION	DATE
1	Revised profile 6TR I-5 - M-2 - Structure Schedule & Pipe Sch	2/26/82
2	Revise Rip Rap Outfall, Delete Sodded Ditch Detail, Revise Str. & Pipe Schedule	9-26-90

APPROVED: Department of Public Works

(signature) — 2-1-82

Chief, Bureau of Engineering — Date

APPROVED: Howard County Office of Planning and Zoning

(signature) — 1-7-9-82

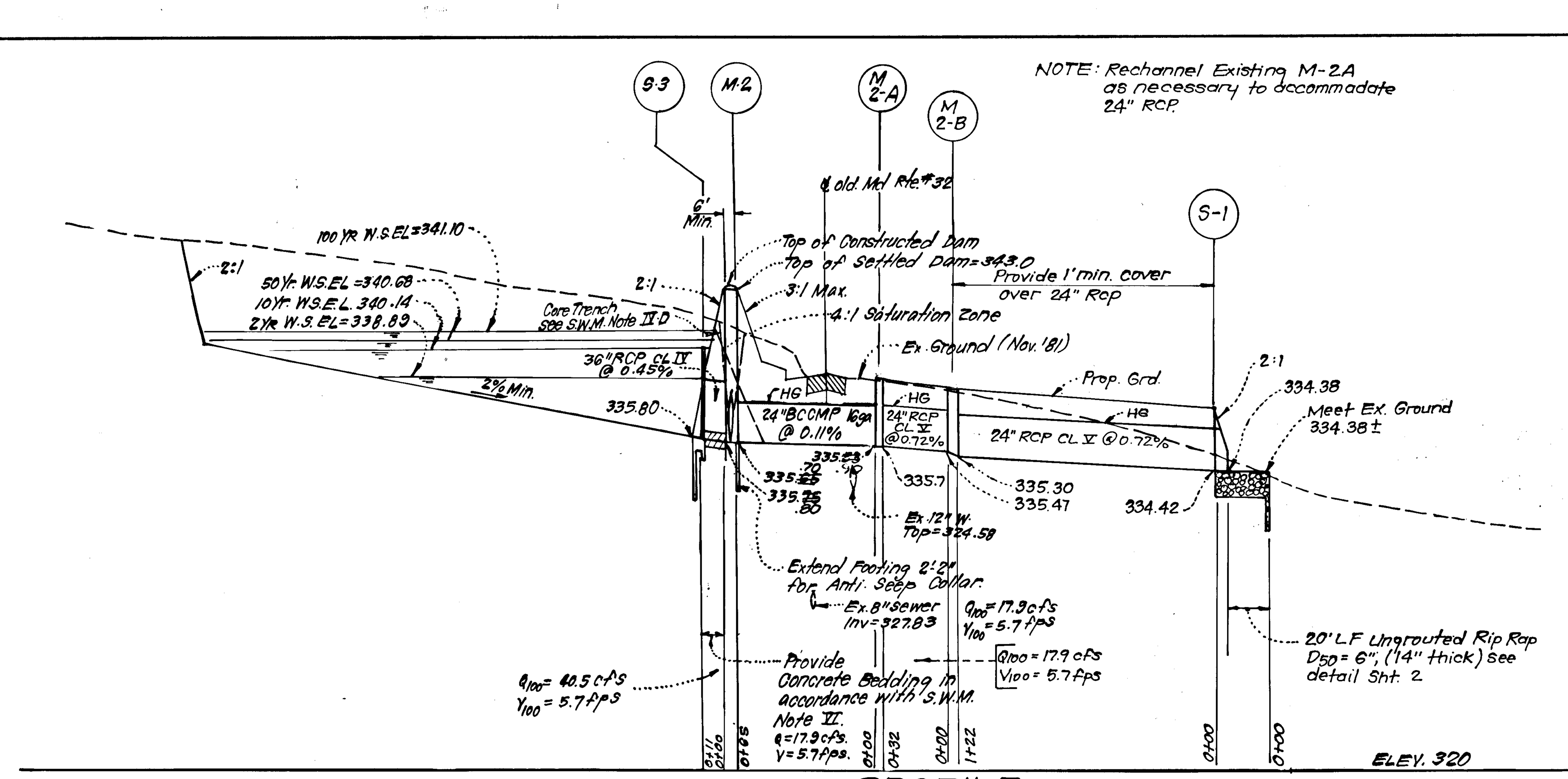
Chief, Division of Land Development & Zoning Administration — Date

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

DESIGNED	ROAD CONSTRUCTION PLAN STORM DRAIN AND PAVING DETAILS	SCALE
J.L.S.		As Shown
DRAWN	GLEN OAKS	DRAWING
K.I.W.		2 OF 5
CHECKED	SECTION ONE AREA ONE 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO.
J.L.S.		81-079
DATE	FOR: EARL ARMIGER 3967 Ducks Foot Lane Ellicott City, Md. 21043	FILE NO.
12-9-81		81-079-D

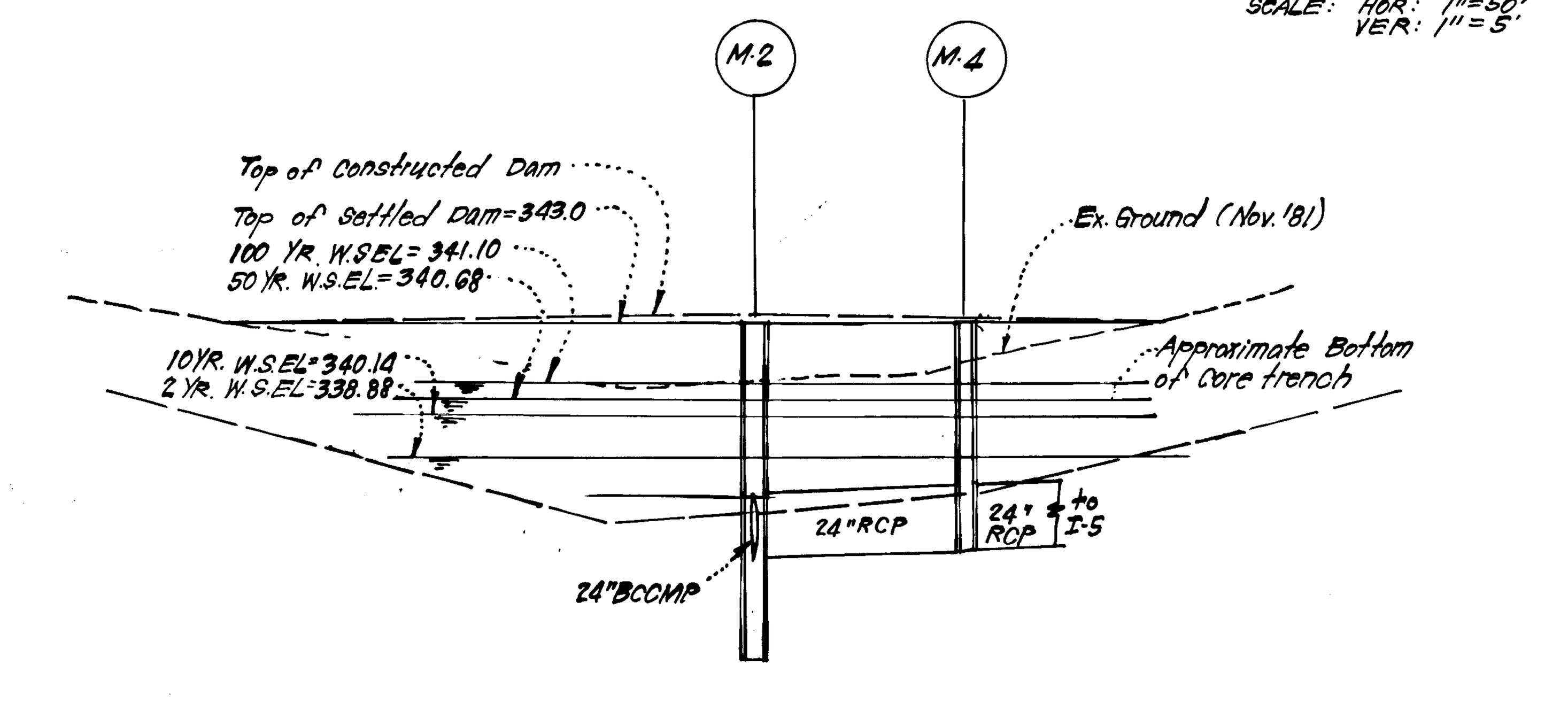
F-82-67 AS-BUILT 9-16-83

D-3381



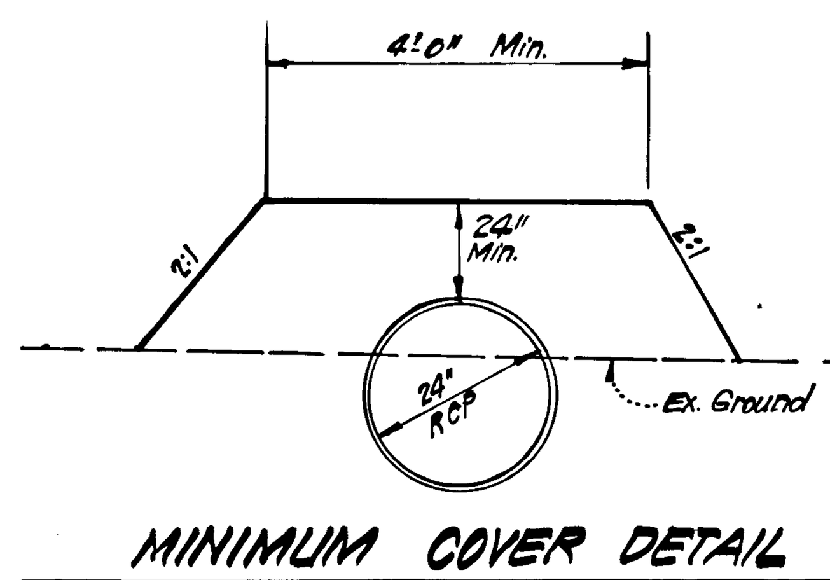
PROFILE

SCALE: HOR: 1"=50' VER: 1"=5'



PROFILE ALONG ℄ OF DAM

SCALE: HOR 1"=50' VER 1"=5'

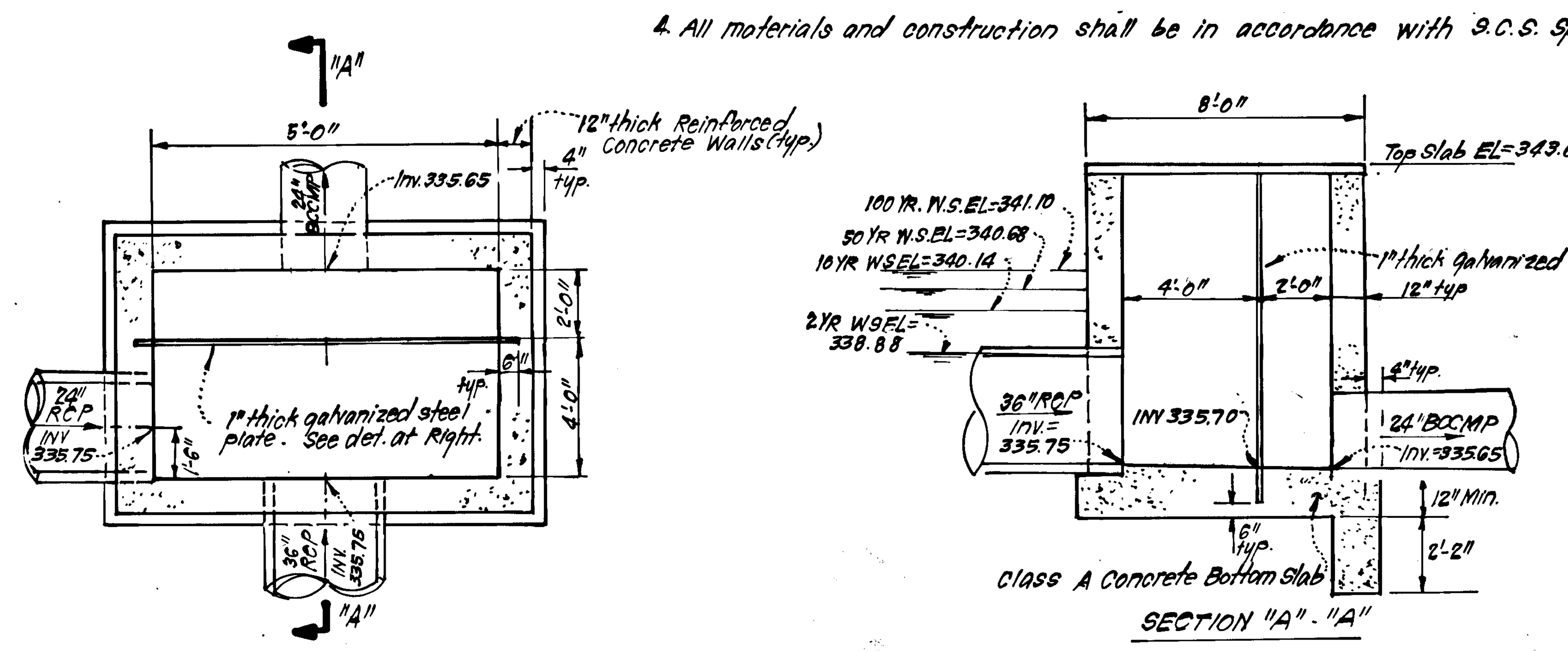


MINIMUM COVER DETAIL

No SCALE

Notes: 1. For top slab and wall reinforcing and details not shown See Ho. Co. Std. SD/4.02.
2. Top Slab to be 8'-0" X 7'-0"
3. Pipes to be cast in place.

4. All materials and construction shall be in accordance with S.C.S. Specs. MD 3.78.

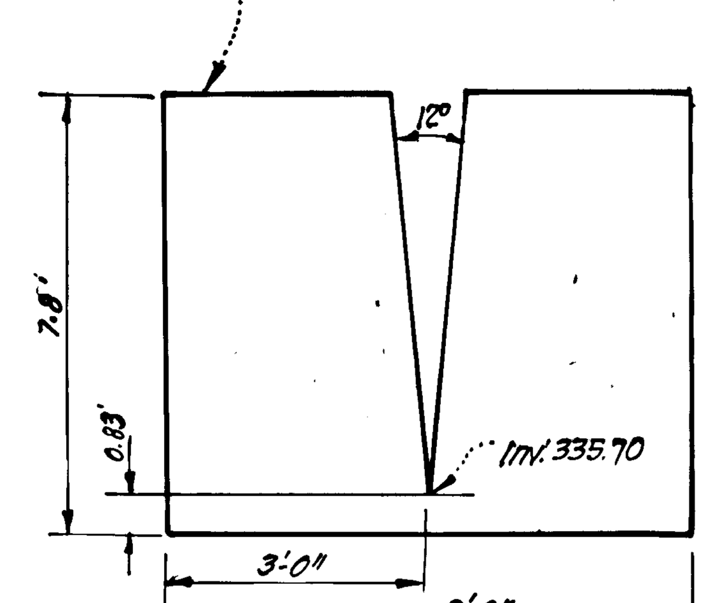


PLAN
(Top Slab Removed)

SECTION "A"-"A"

SPECIAL DETAIL AT STRUCTURE M-2

No SCALE



STEEL PLATE DETAIL

No SCALE

STORM WATER MANAGEMENT POND NOTES

I. CONCRETE:

A. MATERIALS:

a. Cement: Normal Portland Cement shall conform to the latest ASTM Spec. C-150.

b. Water: The water used in concrete shall be clean free from oil, acid, alkali, scales, organic matter or other objectionable substances.

c. Sand: The sand used in concrete shall be clean, hard, strong and durable, and shall be well graded with 100 percent passing a one-quarter inch sieve. Limestone sand shall not be used.

d. Coarse Aggregate: The coarse aggregate shall be clean, hard, strong and durable, and free from clay or dirt. It shall be well graded with a maximum size of one and one half (1½) inches.

e. 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 5½ : 6 U.S. gallons of water per 94 pound bag of cement. The proportion of materials for the trial mix shall be 1:2:3½. The combination of aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honey combing in the structure.

C. MIXING:
The concrete ingredients shall be mixed in batch mixes untill the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than 1½ minutes after all the ingredients, except the full amount of water are in the mixer. The minimum mixing time is predicated on proper control of the speed of rotation at the mixer 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 the required 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 specs. given here.

D. FORMS:

a. The forms shall have sufficient strength and rigidity to hold the concrete and to with stand the necessary pressure tamping and vibration without deflection from the prescribed lines. They shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete.

b. The inside of forms shall be oiled with a non-staining mineral oil or thoroughly wetted before concrete is placed.

c. Forms may be removed 24 hrs. 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. CONSOLIDATING:
Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be suplemented 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 the removal of tie rods, ridges on all concrete sufaces permanently exposed to view or exposed to water or 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 the first 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 compounds may also be used.

I. PLACING TEMPERATURE:
Concrete may not be placed at temperatures below 37° F with the temperature falling, or 34° F with the temperature rising.

II. STABILIZATION:

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

III. SITE PREPARATION:

A. Areas under the borrow areas, embankment, and structural works shall be cleared, grubbed and the top-soil stripped to remove all trees vegetation, roots or other objectionable material.

B. Channel Banks and sharp breaks shall be sloped to no steeper than 1:1. Areas covered by the 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 the limits of the dam and reservoir as directed by the owner or his representative. When specified a sufficient quanity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

IV. 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, over size 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" max. 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 such that the required degree of compaction can be obtained with the equipment used.

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 governed by the equipment used for excavation, 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 1:1 or flatter. The backfill material for the cutoff trench shall be the most impervious material available onsite and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

V. 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 driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall the contractor drive equipment 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.

VI. REINFORCED CONCRETE PIPE:

A. MATERIALS: Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed A.S.T.M. Specification C-361. Approved equivalents are AWWA Specification C-300, 301 & 302.

B. 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 diameter with a minimum thickness of 3". W.S.S.C. low cradle bedding is an approved equivalent.

C. 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 on 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.

D. Backfilling shall conform to structural backfill as shown above.

E. Other details (Anti-seep collars, valves, etc.) shall be as shown on the drawings.

See below left for Continuation of S.W.M. Notes.

Storm Water Management Notes CONTINUED:

VII.

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 Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.
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 shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight.
3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unsuitable 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 the longitudinal 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 shown on the drawings.

Reviewed for Howard S.C.D.
Name
and meets Technical Requirements
Signature — Date 1-29-82
U.S. Soil Conservation Service

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

Approved ______ Date 1-29-82
Howard S.C.D.

~~These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for ... soil erosion and sediment ...~~
~~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 — Howard S.C.D. — Date~~
Plan Number

STATE OF MARYLAND — G. NELSON CLARK — No. 7139 — REGISTERED PROFESSIONAL ENGINEER

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: Earl Armiger — Date: 12-9-81

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: G. Nelson Clark — Date: 12-9-81

AS-BUILT SEPT. 16, 1983
AS-BUILT SURVEY CERTIFIED BY DONALD B. SACKETT, PROFESSIONAL LAND SURVEYOR No. 6059

No	REVISION	DATE
1	Added Notes & Revised Profiles	2/26/82
2	Revise Storm Drainage M-2A to S-1	9.26.90

APPROVED: Department of Public Works
Chief, Bureau of Engineering — Date 2-1-82

APPROVED: Howard County Office of Planning and Zoning
Chief, Division of Land Development & Zoning Administration — Date 1-29-82

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

DESIGNED J.L.S.	ROAD CONSTRUCTION PLANS STORM WATER MANAGEMENT DETAILS	SCALE As Shown
DRAWN K.I.W.	GLEN OAKS	DRAWING 3 OF 5
CHECKED J.L.S.	SECTION ONE AREA ONE 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 81-079
DATE 12-9-81	FOR: EARL ARMIGER 3867 Ducks Foot Lane Ellicott City Md. 21043	FILE NO. 81-079-D

F-82-67 AS-BUILT 9-16-83

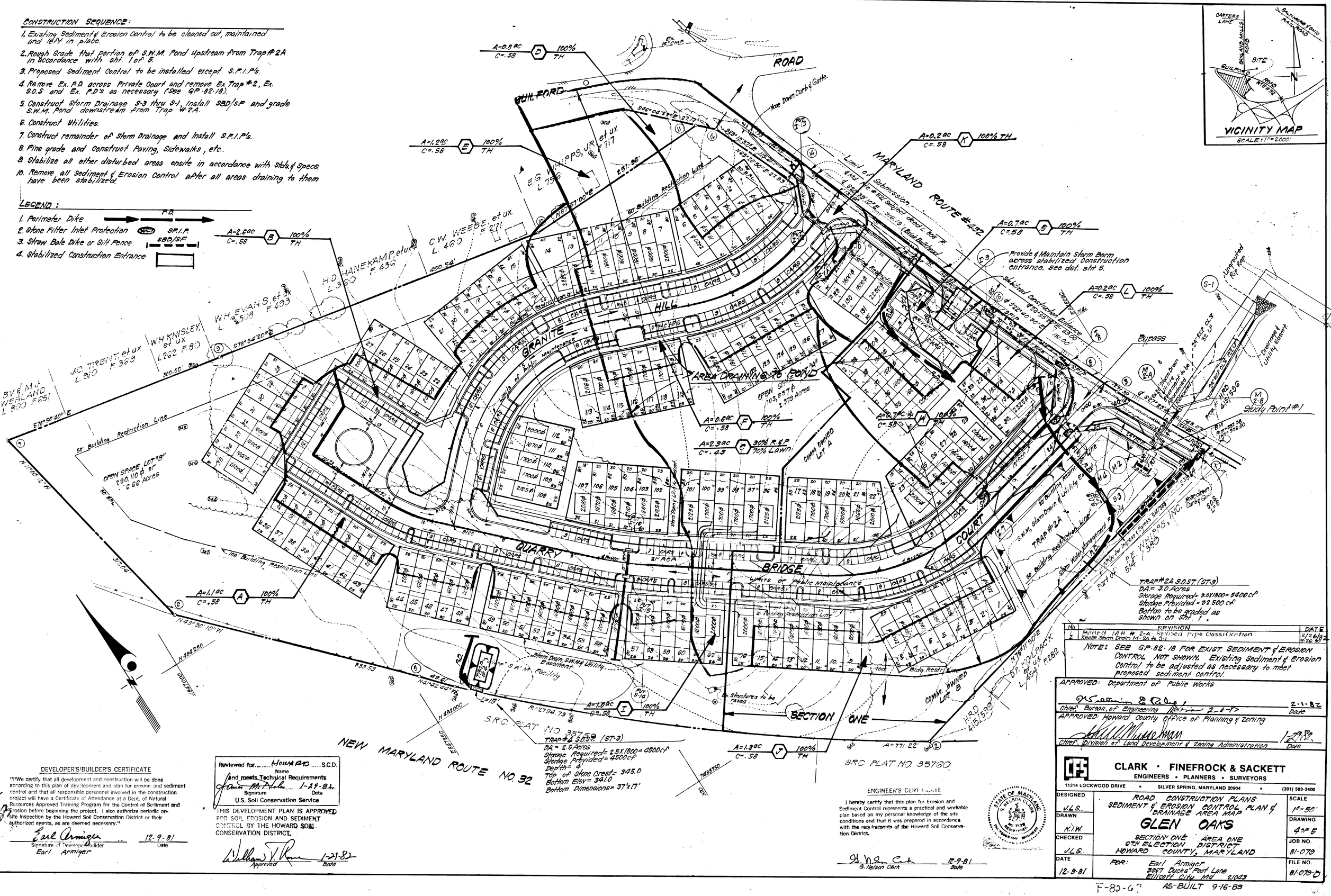
D 3381

CONSTRUCTION SEQUENCE:

1. Existing Sediment & Erosion Control to be cleaned out, maintained and left in place.
2. Rough Grade that portion of S.W.M. Pond upstream from Trap #2A in accordance with sht. 1 of 5.
3. Proposed Sediment Control to be installed except S.F.I.P's.
4. Remove Ex. P.D. across Private Court and remove Ex Trap #2, Ex. S.O.S and Ex. P.D's as necessary (See GP-82-18).
5. Construct Storm Drainage S-3 thru S-1, Install SBD/SF and grade S.W.M. Pond downstream from Trap #2A.
6. Construct Utilities.
7. Construct remainder of Storm Drainage and Install S.F.I.P's.
8. Fine grade and Construct Paving, Sidewalks, etc..
9. Stabilize all other disturbed areas onsite in accordance with Stds. & Specs.
10. Remove all Sediment & Erosion Control after all areas draining to them have been stabilized.

LEGEND:

1. Perimeter Dike — P.D.
2. Stone Filter Inlet Protection — S.F.I.P.
3. Straw Bale Dike or Silt Fence — SBD/SF
4. Stabilized Construction Entrance



TRAP #2A S.O.S.T. (ST-3)
DA. = 3.0 Acres
Storage Required = 3.0X1800 = 5400 cf
Storage Provided = 32 500 cf
Bottom to be graded as shown on sht. 1.

TRAP #4 S.O.S.T. (ST-3)
DA. = 2.5 Acres
Storage Required = 2.5X1800 = 4500 cf
Storage Provided = 4500 cf
Depth = 4'
Top of Stone Crest = 345.0
Bottom Elev = 341.0
Bottom Dimensions = 37'x17'

No	REVISION	DATE
1	Added MH # 2-A. Revised Pipe Classification	2/26/82
2	Revise Storm Drain M-2A to S-1	9-26-90

NOTE: SEE GP-82-18 FOR EXIST. SEDIMENT & EROSION CONTROL NOT SHOWN. Existing Sediment & Erosion Control to be adjusted as necessary to meet proposed sediment control.

APPROVED: Department of Public Works

William E. Riley 2-1-82
Chief, Bureau of Engineering — Date

APPROVED: Howard County Office of Planning & Zoning

1-29-82
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	ROAD CONSTRUCTION PLANS SEDIMENT & EROSION CONTROL PLAN & DRAINAGE AREA MAP	SCALE
J.L.S.		1"=50'
DRAWN	**GLEN OAKS**	DRAWING
K.I.W.		4 of 5
CHECKED	SECTION ONE AREA ONE 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO.
J.L.S.		81-079
DATE	FOR: Earl Armiger 3967 Ducks' Foot Lane Ellicott City Md 21043	FILE NO.
12-9-81		81-079-D

F-82-67 AS-BUILT 9-16-83

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."

Earl Armiger — 12-9-81
Signature of Developer/Builder — Date
Earl Armiger

#932

Reviewed for Howard S.C.D.
Name
and meets Technical Requirements
James McHale 1-29-82
Signature Date
U.S. Soil Conservation Service

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

William V. Rowe 1-29-82
Approved — Date

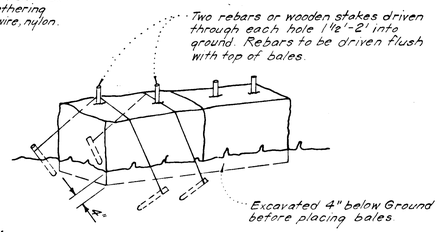
ENGINEER'S CERTIFICATE

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 — 12-9-81
G. Nelson Clark — Date

G. NELSON CLARK No 7139

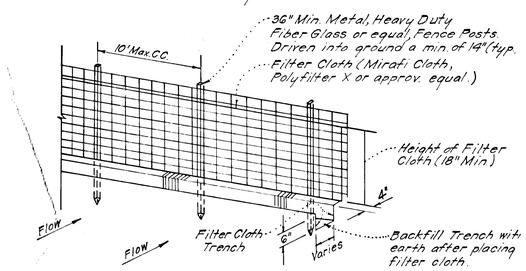
All bales shall be tied with non-weathering materials, i.e., wire, nylon.



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

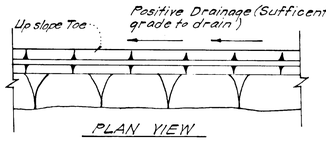
Woven wire fence - Min. 14 gage; 6" Max. spacing



Notes:
1. Woven Wire Fence to be fastened securely to fence posts by use of wire ties.
2. Filter Cloth to be fastened securely to Woven Wire, by use of wire ties spaced every 24"x24."

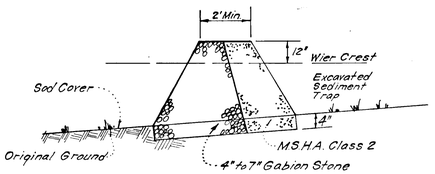
SILT FENCE DETAIL (S.F)
No SCALE

CROSS SECTION



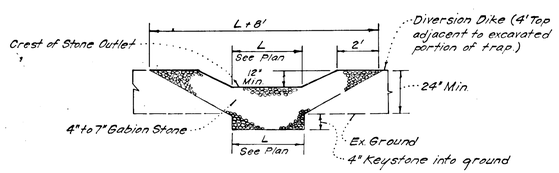
PLAN VIEW

PERIMETER DIKE (P.D.)
No SCALE



Note: For Dimensions not shown see plan.

PROFILE



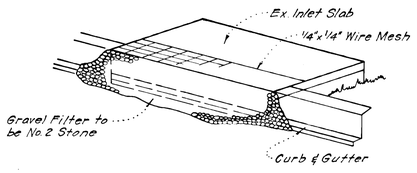
CROSS SECTION

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

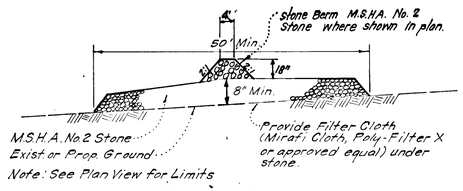
DETAILS OF STONE FILTER OUTLET FOR STONE OUTLET SEDIMENT TRAP
NO SCALE

GENERAL NOTES

1. Grading Permits shall be obtained prior to installation of Sediment Control & Grading.
2. 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 s.f.
3. Notify the Bureau of Inspections and Permits at least 24 hrs. before starting any work.
4. 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.
5. Stabilization of Disturbed ground to be done as soon after construction as possible.
6. All disturbed area to be stabilized in accordance with the following Specifications:
   A. Seed - certified 85% germination applied at the rate of 3lbs/1000 s.f. Mixture - 40% Kentucky Blue, 20% chewing Fescue, 20% Kentucky 31 and 20% annual rye.
   B. Fertilizer - 10-10-10 applied at a rate of 23 lbs/1000 s.f. Ground Agricultural Lime or Dolomatic Lime applied at a rate of 90 lbs/1000 s.f.
   C. 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 ie.; asphalt tacks, chemical binder etc.
   D. All Sod used shall be Maryland State Certified.
7. 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.
8. 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.
9. It will be the developers responsibility to provide additional Sediment & Erosion Control Devices to protect stabilized areas during construction.
10. The Contractor shall keep all public roads free of sediment deposits left from traffic leaving construction site.
11. 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.
12. All pipes to be blocked at the end of each day. See detail this sheet.
13. Total Amount of Straw Bales or Silt Fence shown = 160 L.F.
14. SITE ANALYSIS:
    A. Total Area: 5.297 Acres.
    B. Area to be Roofed 0 Acres.
    C. Area to be Paved 1.070 Acres.
    D. Area to be Seeded 2.084 Acres.
    E. Area Undisturbed 2.143 Acres.



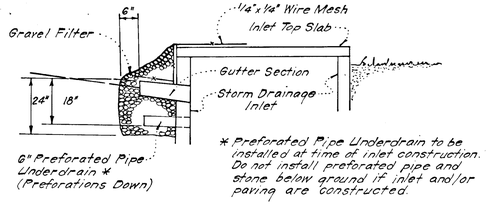
ISOMETRIC VIEW



Note: See Plan View for Limits

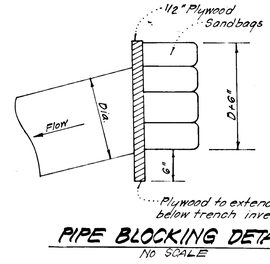
SECTION VIEW

STABILIZED CONSTRUCTION ENTRANCE
No SCALE



SECTION VIEW

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



PIPE BLOCKING DETAIL
No SCALE

Reviewed for .... HOWARD .....S.C.D.
Name
and meets Technical Requirements
Signature 1-29-82
Date
U.S. Soil Conservation Service

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

William J. Renner 1-29-82
Approved Date

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."

Earl Armiger 12-9-81
Signature of Developer/Builder Date
Earl Armiger

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 12-9-81
G. Nelson Clark Date

STATE OF MARYLAND — G. NELSON CLARK — NO. 7198 — REGISTERED PROFESSIONAL ENGINEER

APPROVED: Department of Public Works

Chief, Bureau of Engineering 2-1-82 Date

APPROVED: Howard County Office of Planning and Zoning

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 J.L.S.	ROAD CONSTRUCTION PLANS SEDIMENT & EROSION CONTROL DETAILS	SCALE As Shown
DRAWN K.I.W.	GLEN OAKS	DRAWING 5 OF 5
CHECKED V.L.S.	SECTION ONE AREA ONE 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO 81-079
DATE 12-9-81	FOR: EARL ARMIGER 3967 Bucks Foot Lane Ellicott City, MD 21043	FILE NO 81-079-D

#4 G53

F-82-67 AS-BUILT 9-16-83