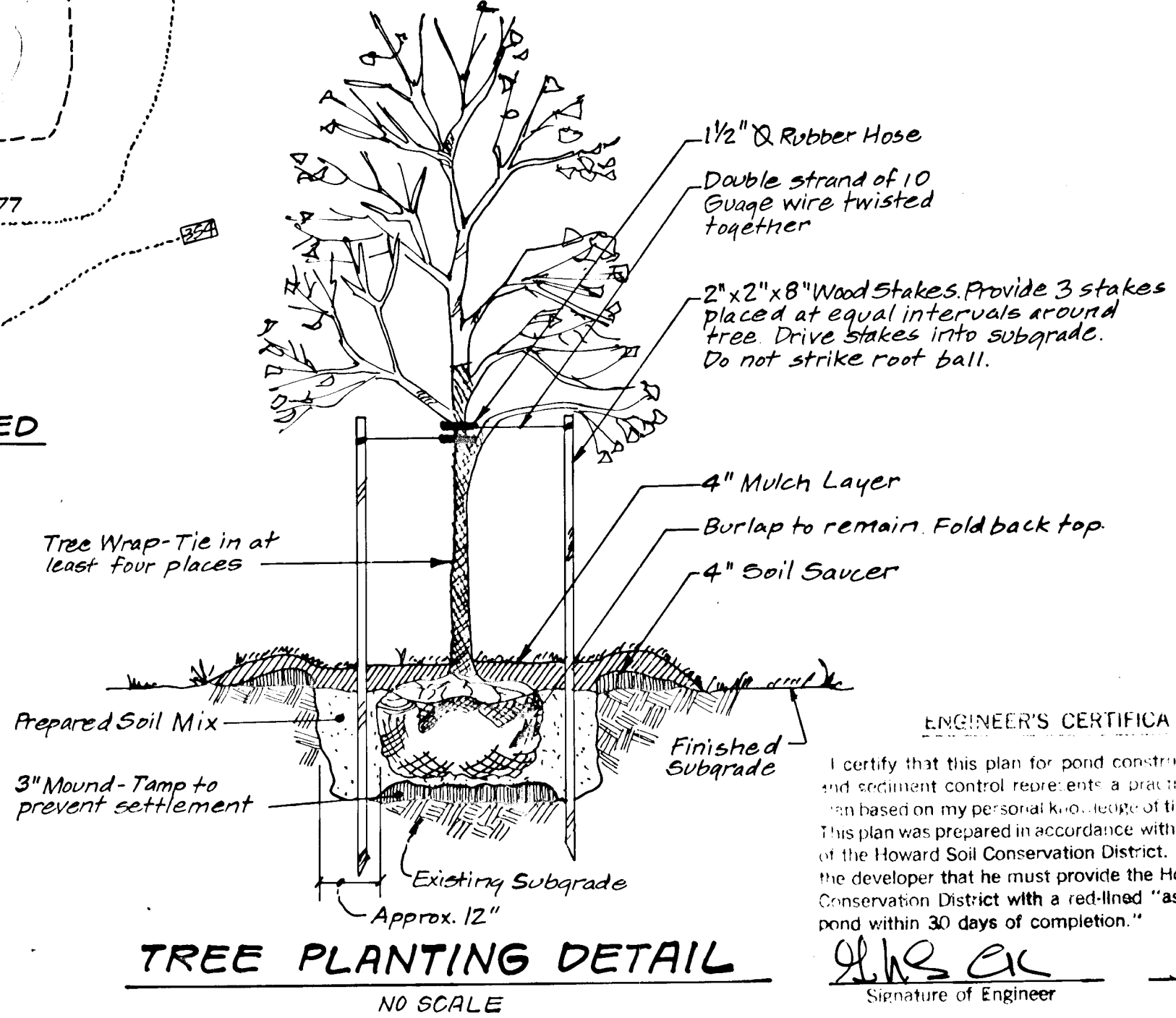


CENTERLINE CURVE DATA						
NAME # PC to PT	RADIUS	DELTA	ARC	TAN	CHORD	BEARING
BUTLER COURT	225.00	20.00	11.96	57.18	110.83	N08°44'32"W
BUTLER COURT	30.00	20.00	11.96	57.18	110.83	S68°00'00"E

CURB & GUTTER LEGEND	
Standard 7" C & G	—————
Standard 6" C & G	—————
Modified Comb. C & G	—————
Rev. Standard 7" C & G	—————
Rev. Standard 6" C & G	—————
Rev. Modified C & G	—————



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

Developers Certification:
"We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Environment & Approved Training Program for the Control of Sediment and Erosion before beginning the project. I will provide the Howard Soil Conservation District with an "as built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Signature of Developer: [Signature]
Date: 1-21-93

U.S. Soil Conservation Service Date

NO.	REVISIONS	DATE
1	Rev. grad. lot lines per resub plat, 8/14/91. For str. #7	11-20-91

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

[Signature] 4/14/93
CHIEF, LAND DEVELOPMENT DIVISION

[Signature] 4/15/93
CHIEF, BUREAU OF HIGHWAYS

[Signature] 4-20-93
CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING.

[Signature] 4/26/93
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

CLARK • FINEROCK & SACKETT, INC.
ENGINEERS • PLANNERS • SURVEYORS
7135 MINSTREL WAY • COLUMBIA, MD 21045 • (301) 381-7500 • BALTO. • (301) 621-8100 • WASH.

DESIGNED	COLUMBIA ROAD CONSTRUCTION PLANS	SCALE
D.G.T.	TARKINGTON PLACE & CHASE LIONS WAY	As Shown
DRAWN	PHASE I	DRAWING
PER.	COLUMBIA	2 OF 8
CHECKED	VILLAGE OF DORSEY'S SEARCH	JOB NO.
D.G.T.	SECTION 3, AREA 1	90-120
DATE	5 th ELECTION DISTRICT	FILE NO.
	HOWARD COUNTY, MARYLAND	90-120-D

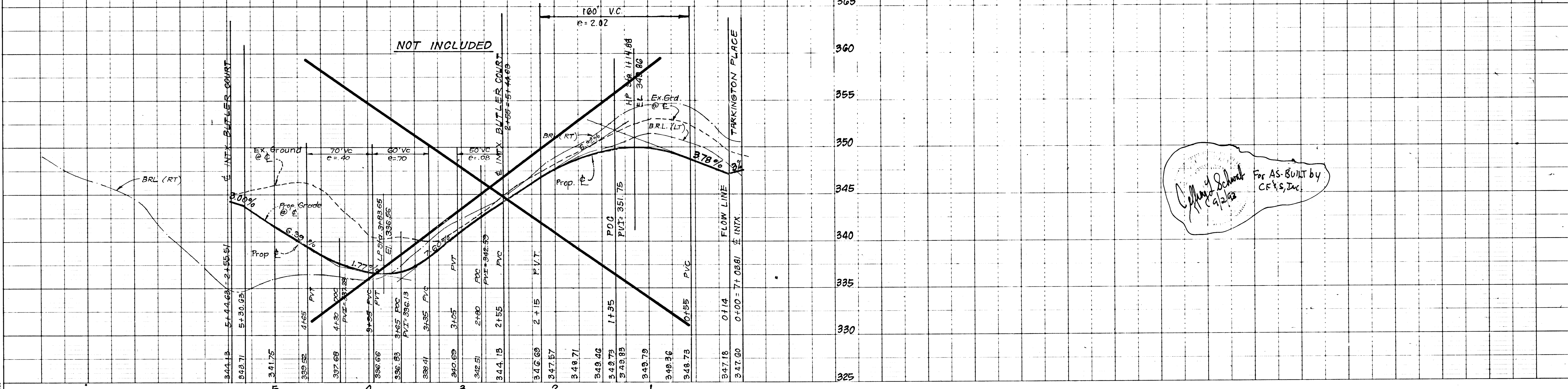
FOR: HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 Little Patuxent Parkway
Columbia, Maryland 21044

NOTE: Storm Drainage I-7 thru S-3 to be constructed by this plan.

BUTLER COURT
(PUBLIC)
See F-93-102

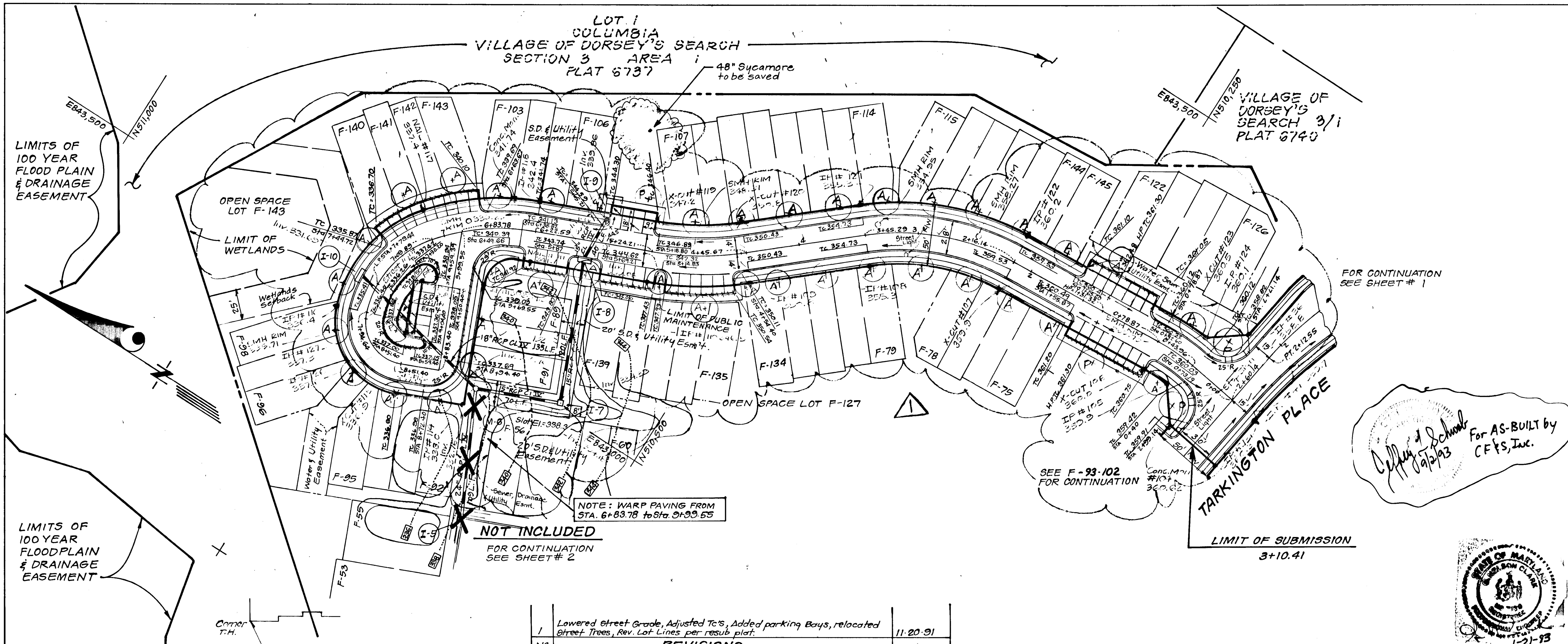
PROFILE SCALE
HORIZ. = 1" = 50'
VERT. = 1" = 5'

PROFILE LEGEND
Profile Grade Line
Existing E.
B.R.L. (Rt.)
B.R.L. (Lt.)



For AS-BUILT by
CF&S, Inc.

1159



CENTERLINE CURVE DATA					
NAME & P.C. to P.T.	RADIUS	DELTA	ARC	TAN	CHORD BEARING
CHASE LIONS WAY P.C. 0+43.96 to P.T. 0+78.87	160.00'	12° 30' 00"	34.91'	17.52'	34.84' N02° 15' 00" E
CHASE LIONS WAY P.C. 2+16.14 to P.T. 3+45.29	200.00'	37° 00' 00"	129.15'	66.92'	126.92' N22° 30' 00" W
CHASE LIONS WAY P.C. 4+45.67 to P.T. 5+24.21	250.00'	18° 00' 00"	78.54'	39.60'	78.22' N32° 00' 00" W
CHASE LIONS WAY P.C. 6+22.59 to P.C. 7+09.89	175.00'	28° 34' 54"	87.30'	44.58'	86.40' N37° 17' 27" W
CHASE LIONS WAY P.C. 7+09.89 to P.C. 7+94.64	83.00'	58° 30' 05"	84.75'	46.48'	81.11' N80° 49' 57" W
CHASE LIONS WAY P.C. 7+94.64 to P.T. 8+51.40	35.00'	92° 55' 00"	56.76'	36.83'	50.74' S23° 27' 30" W

CURB & GUTTER LEGEND

- Standard 7" C & G
- Standard 6" C & G
- Modified C & G
- Rev. Standard 7" C & G
- Rev. Standard 6" C & G
- Rev. Mod. Comb. C & G

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[Signature] 4/14/93
 CHIEF, LAND DEVELOPMENT DIVISION DATE

[Signature] 4/15/93
 CHIEF, BUREAU OF HIGHWAYS DATE

[Signature] 4-20-93
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[Signature] 1/24/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

CLARK • FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS

7135 MINSTREL WAY • COLUMBIA MD 21045 • (301) 381-7500 - BALTO • (301) 621-8100 - WASH

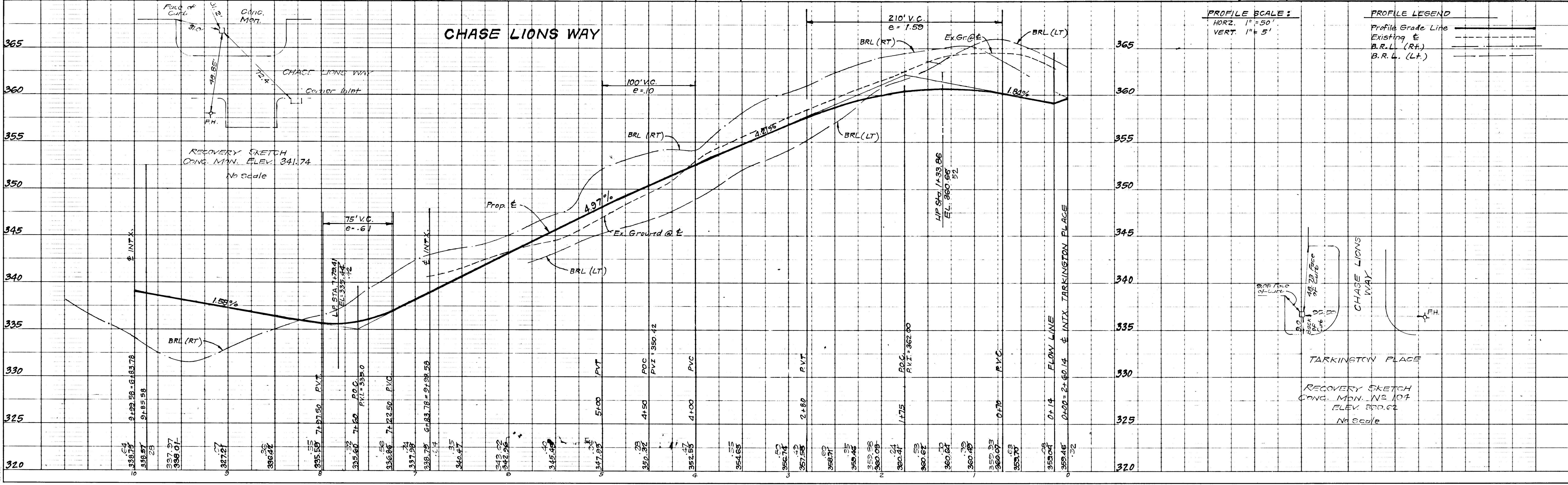
DESIGNED	D.G.T.	SCALE	As Shown
DRAWN	V.L.M.	DRAWING	3 OF 8
CHECKED	D.G.T.	JOB NO.	90-120
DATE	8-10-90	FILE NO.	90-120-D

ROAD CONSTRUCTION PLANS
 CHASE LIONS WAY
COLUMBIA
 VILLAGE OF DORSEY'S SEARCH
 SECTION 3 AREA
 5TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

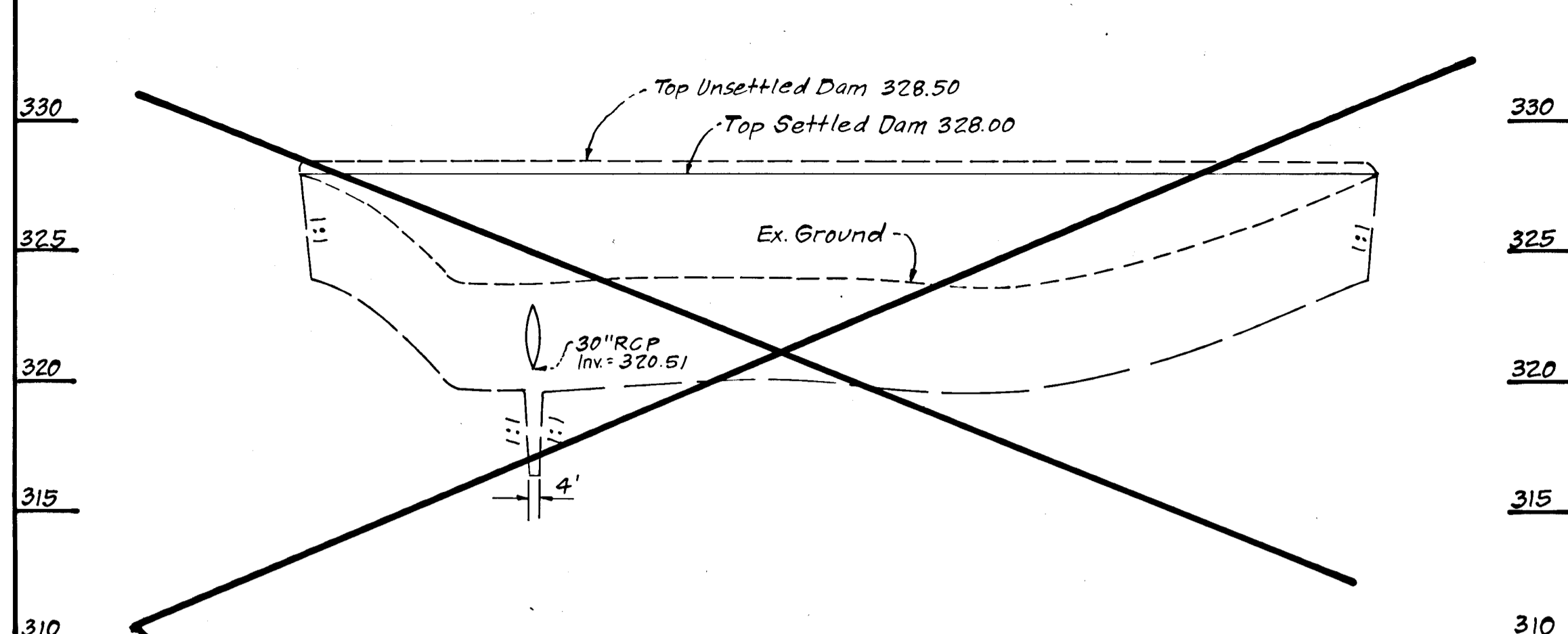
FOR: HOWARD RESEARCH & DEVELOPMENT COMPANY
 10275 Little Patuxent Parkway
 Columbia, Maryland 21044



NO	REVISIONS	Date
1	Lowered Street Grade, Adjusted T.C.'s, Added parking Bays, relocated Street Trees, Rev. Lot Lines per resub plat.	11-20-91

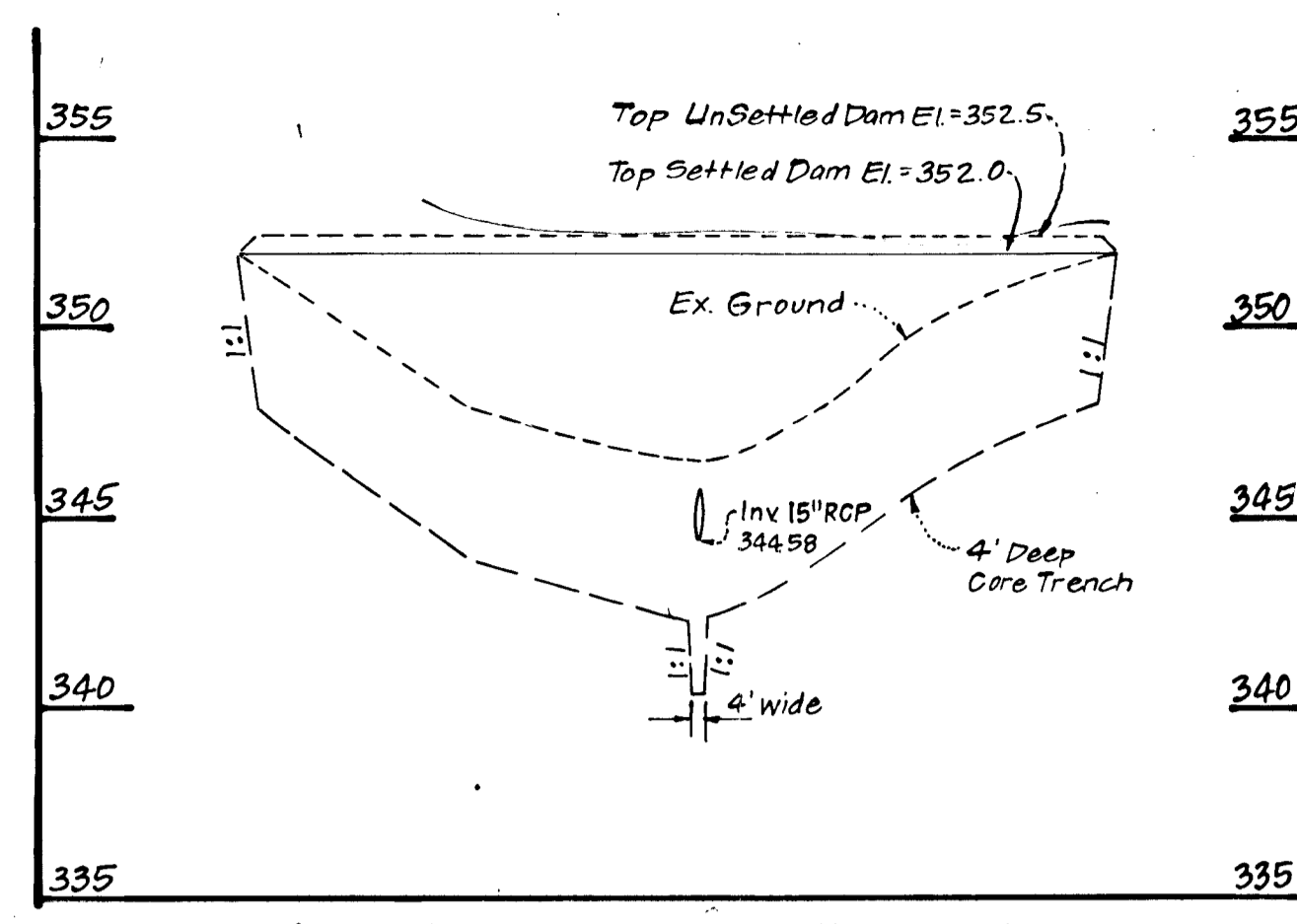


1159



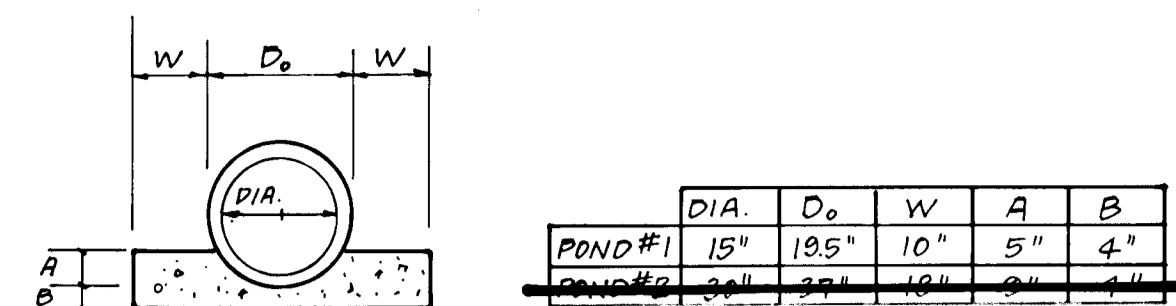
½ PROFILE EMBANKMENT
POND # 2

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

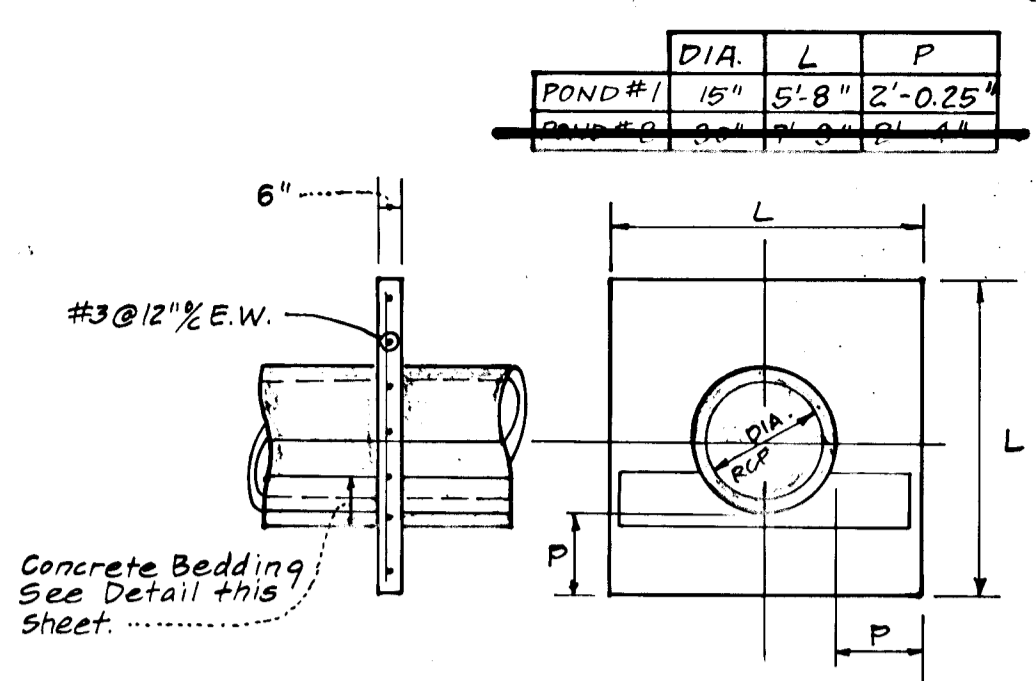


½ PROFILE EMBANKMENT
POND # 1

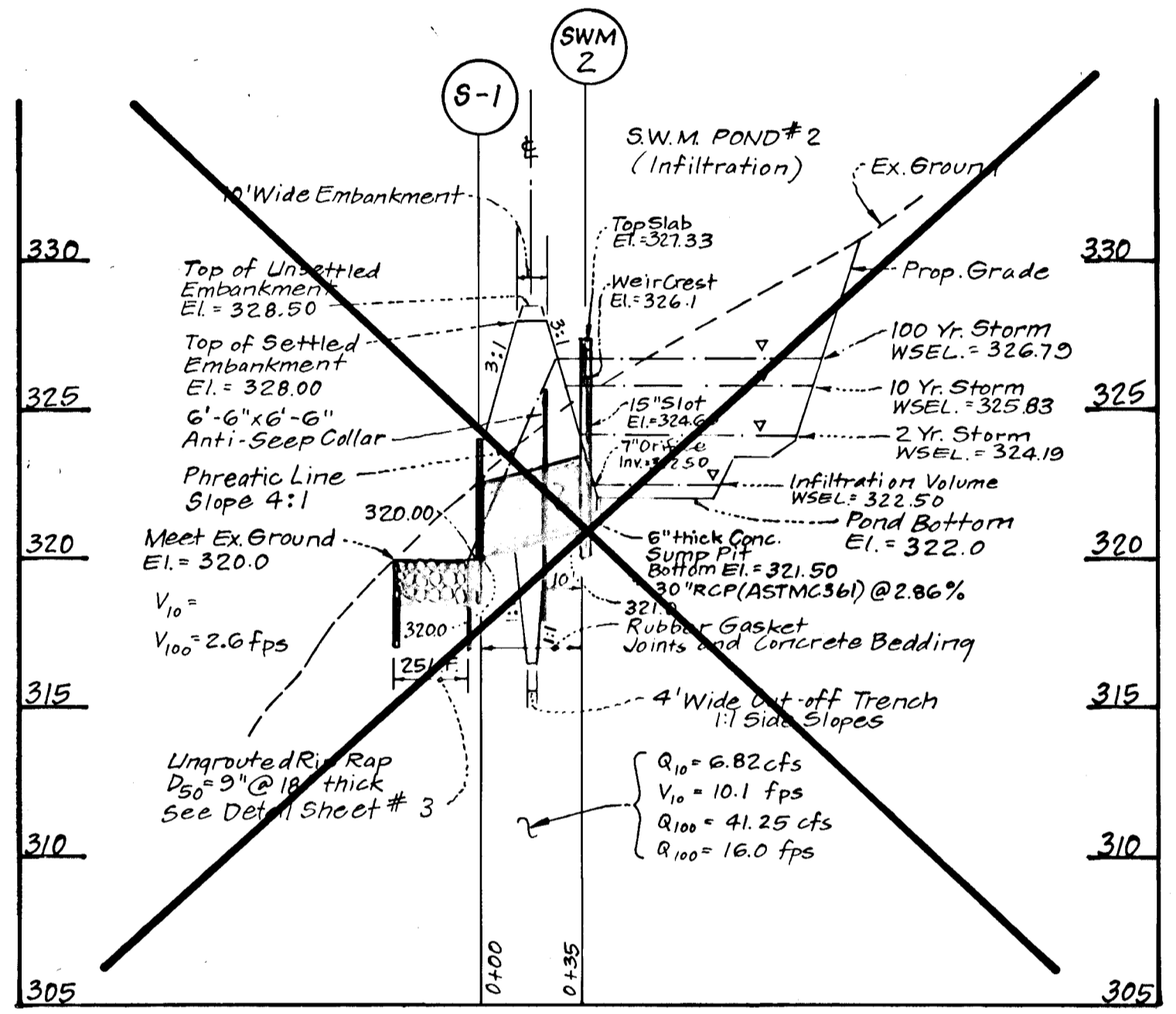
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



CONCRETE BEDDING DETAIL
NO SCALE

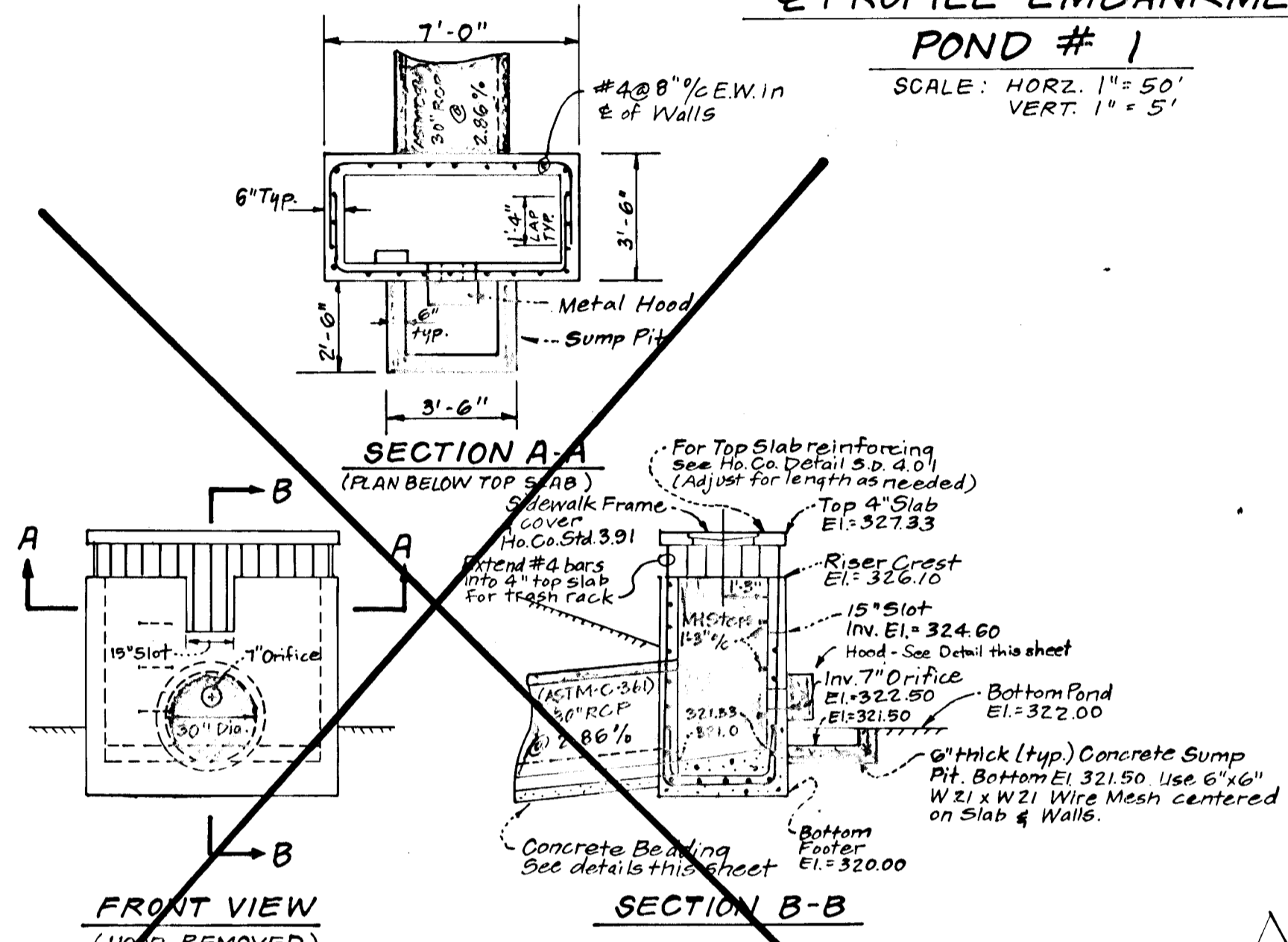


ANTI-SEEP COLLAR DETAIL
NO SCALE



PROFILE-STORM WATER MANAGEMENT
POND # 2

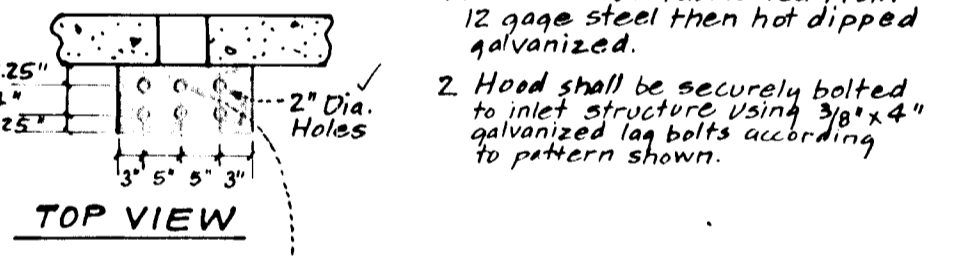
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



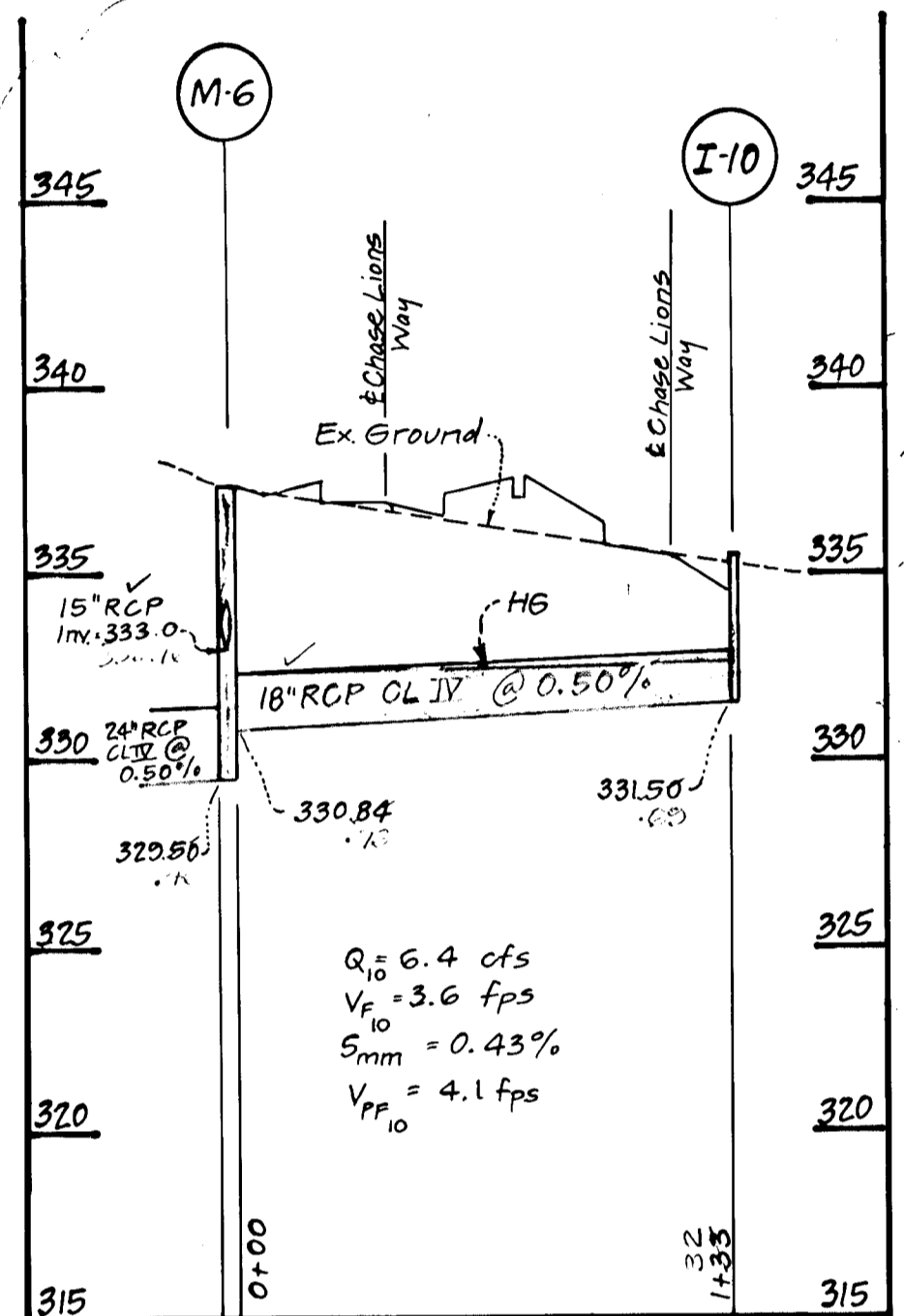
FRONT VIEW (HOOD REMOVED)
SECTION B-B
DETAIL - S.W.M.-1 (POND # 2)

SCALE: HORIZ. 1"=4'
VERT. 1"=4'

NOTES:
1. Hood shall be fabricated from 12 gage steel then hot dipped galvanized.
2. Hood shall be securely bolted to inlet structure using 3/8"x4" galvanized lag bolts according to pattern shown.

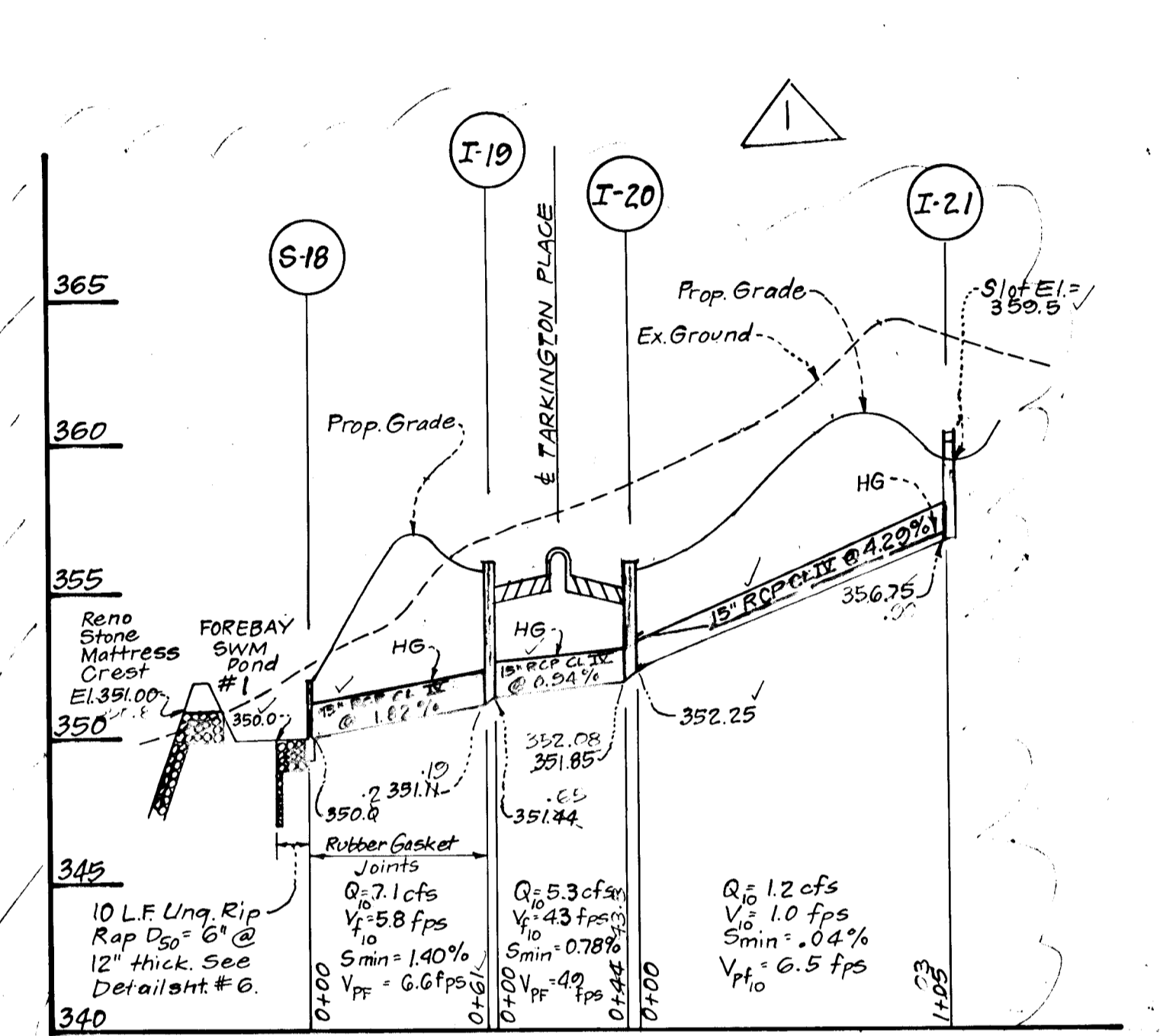


TOP VIEW
FRONT VIEW (FRONT PLATE REMOVED)
SECTION B-B
DETAIL - PERMANENT SWALE

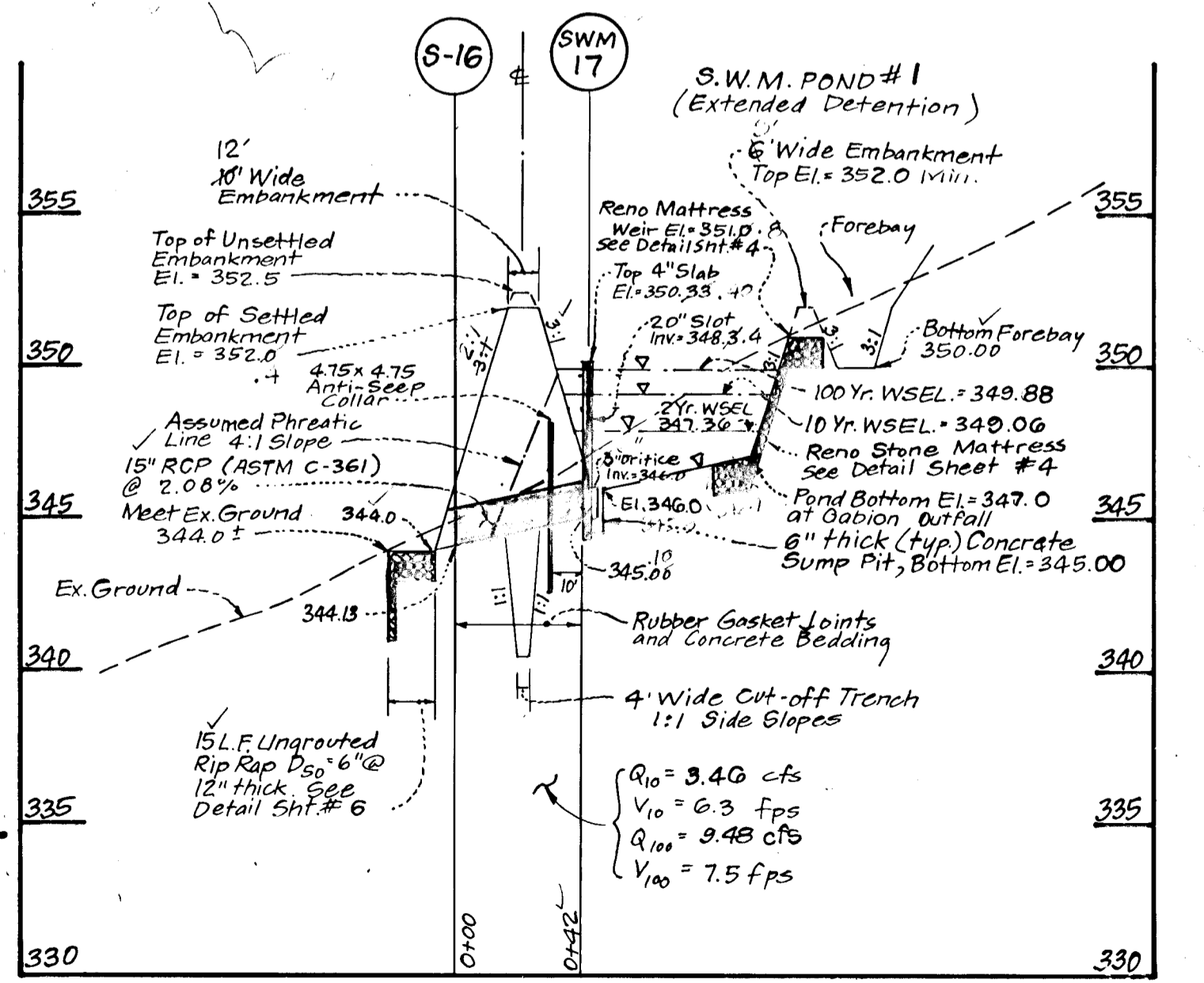


PARABOLIC CROSS-SECTION
DETAIL - PERMANENT SWALE

NOTE: See 1083 MD Std. 5 Specs. for Soil Erosion & Sediment Control - Standard Drawing SW-1 for Construction Specifications.

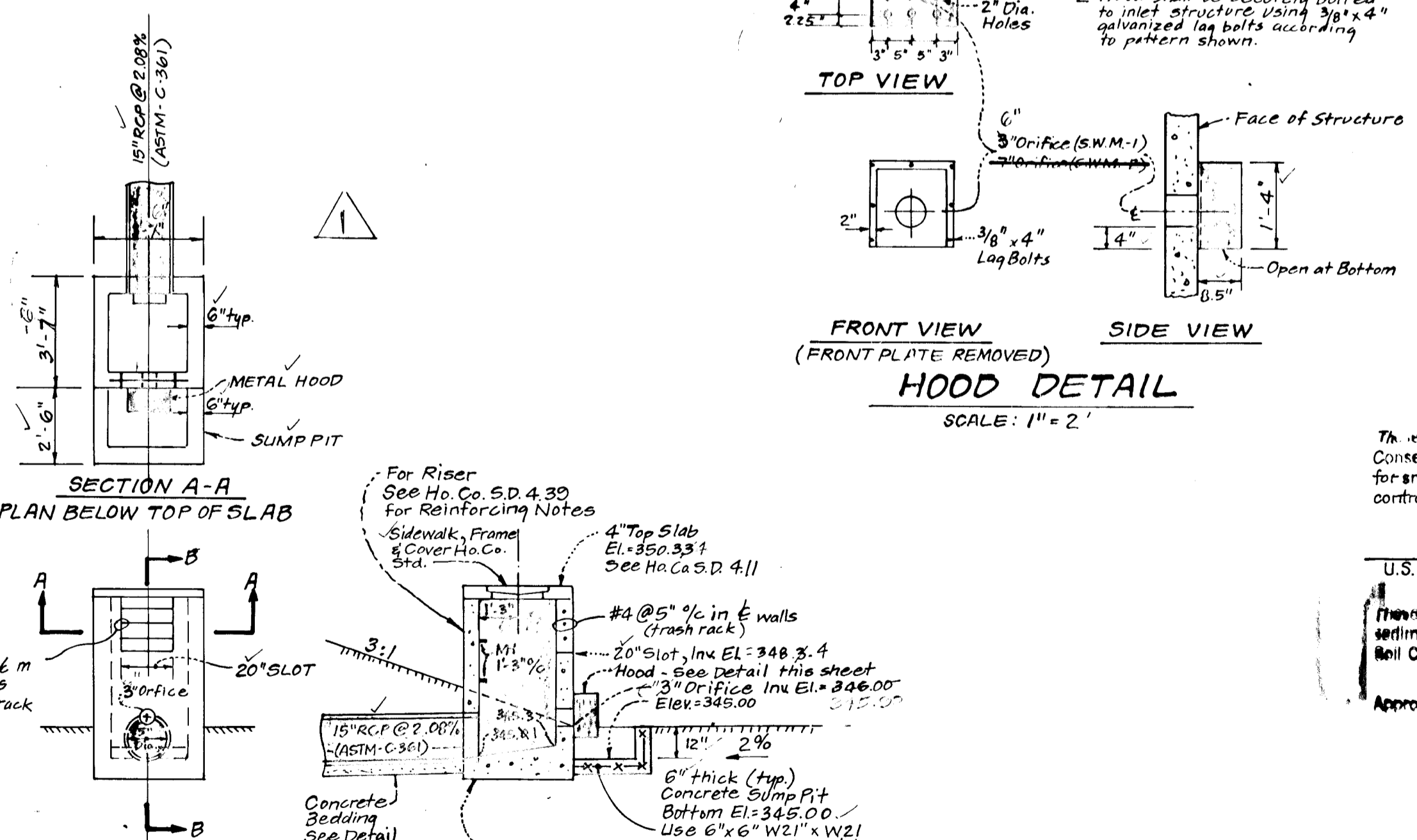


HANDICAP RAMP DETAIL
CORNER HANDICAP RAMP DETAIL



PROFILE-STORM WATER MANAGEMENT
POND # 1

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



FRONT VIEW (HOOD REMOVED)
SECTION B-B
DETAIL - S.W.M.-17 (POND # 1)

SCALE: HORIZ. 1"=4'
VERT. 1"=4'

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
Approved: Howard S.C.D.
Date: _____

Developers Certification:
"We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I will provide the Howard Soil Conservation District with an "as built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Approved: _____
Date: 1-20-93
Signature of Developer

ENGINEER'S CERTIFICATE

"I certify that this plan for pond construction, erosion and sediment control represents a plan of construction 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: _____
Date: 1-21-93
Signature of Engineer



Jeffrey R. Schaub
1/21/93
For AS-BUILT
by CF&S, Inc.

No.	REVISION	DATE
1.	Revise Storm Drain Profiles 3-18 thru I-21, added swale detail, pond bottom 1 WSEL's.	11-20-91

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, LAND DEVELOPMENT DIVISION: _____
DATE: 4/14/93

CHIEF, BUREAU OF ENGINEERING: _____
DATE: 4/15/93

CHIEF, BUREAU OF ENGINEERING: _____
DATE: 4-20-93

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING.

CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT: _____
DATE: 4/26/93

CLARK • FINEFROCK & SACKETT, INC.
ENGINEERS • PLANNERS • SURVEYORS

7135 MINSTREL WAY • COLUMBIA MD 21045 • (301) 381-7500 - BALTO. • (301) 621-8100 - WASH.

DESIGNED: _____
DATE: 4/14/93

DRAWN: _____
DATE: 4/15/93

CHECKED: _____
DATE: 4-20-93

DATE: 8-10-90

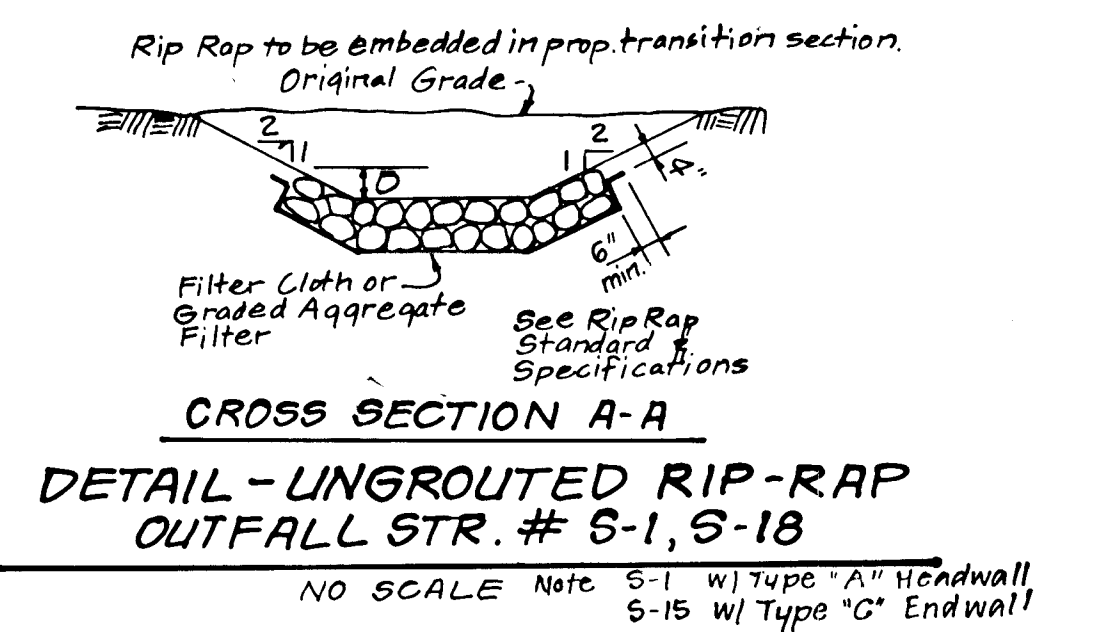
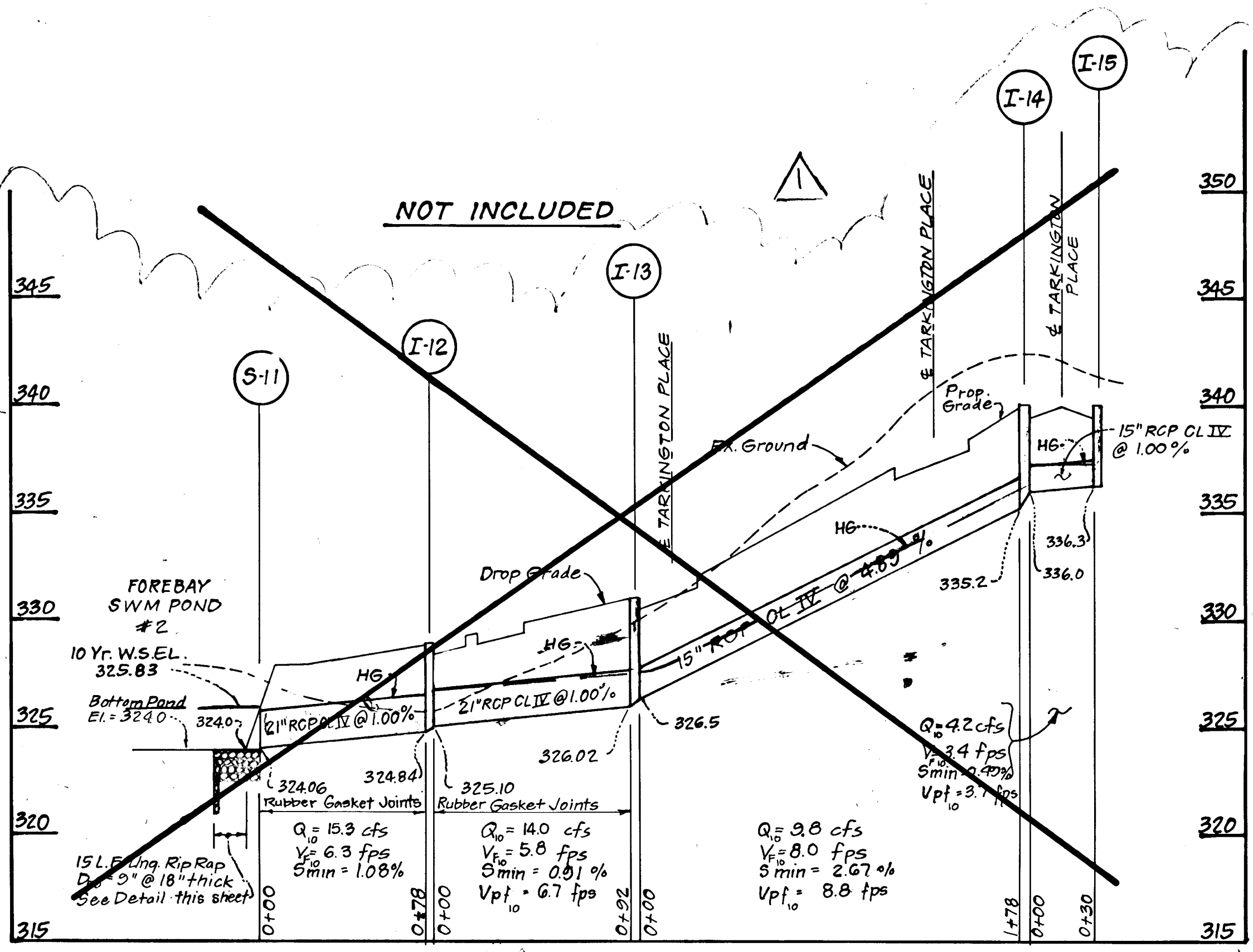
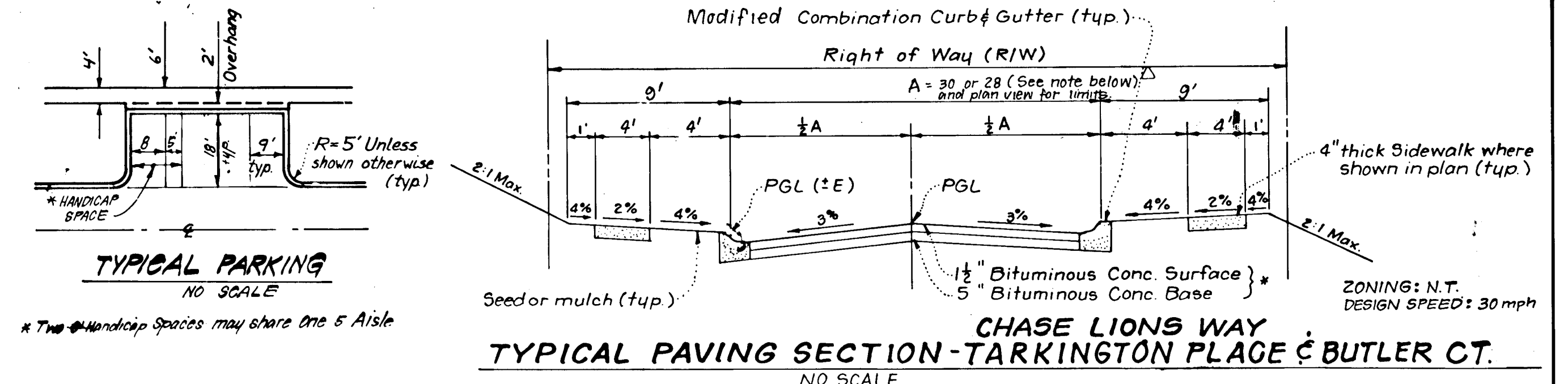
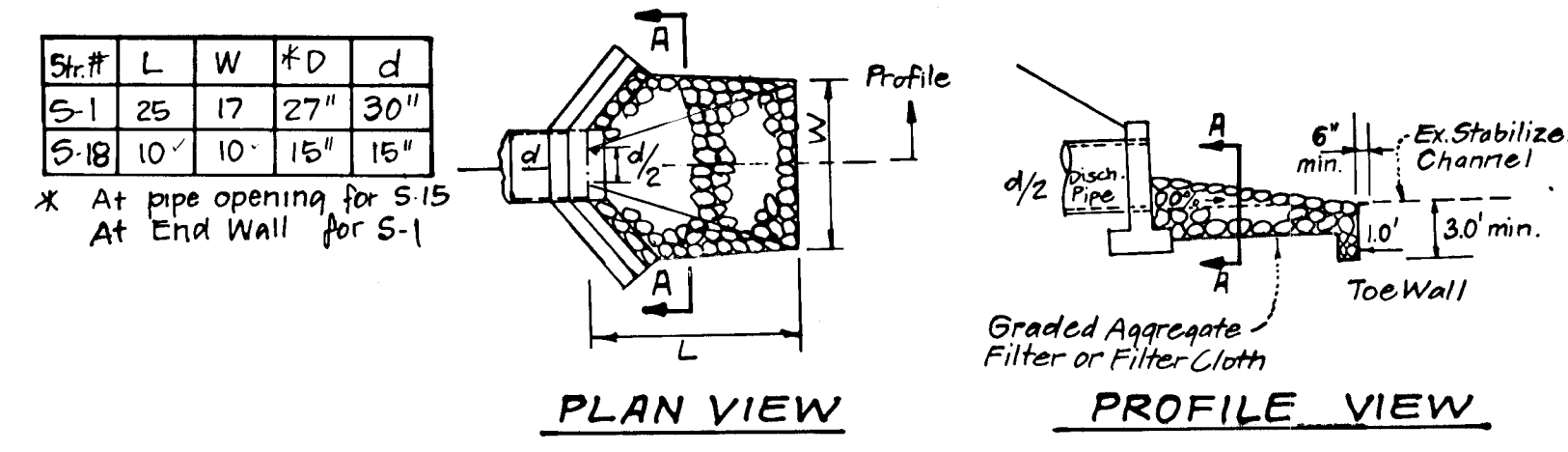
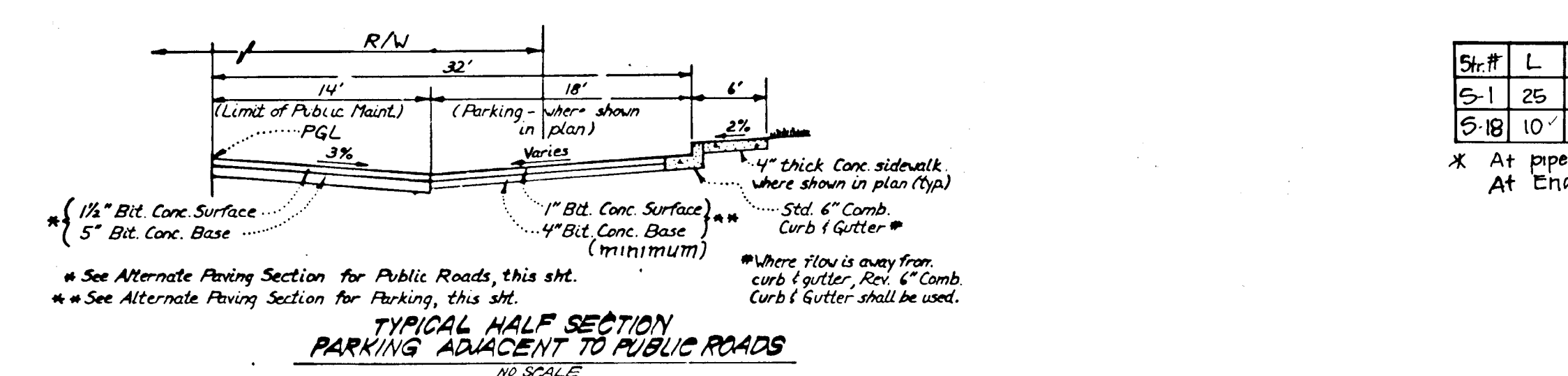
SCALE: As Shown

DRAWING: 5 OF 8

JOB NO.: 90-120

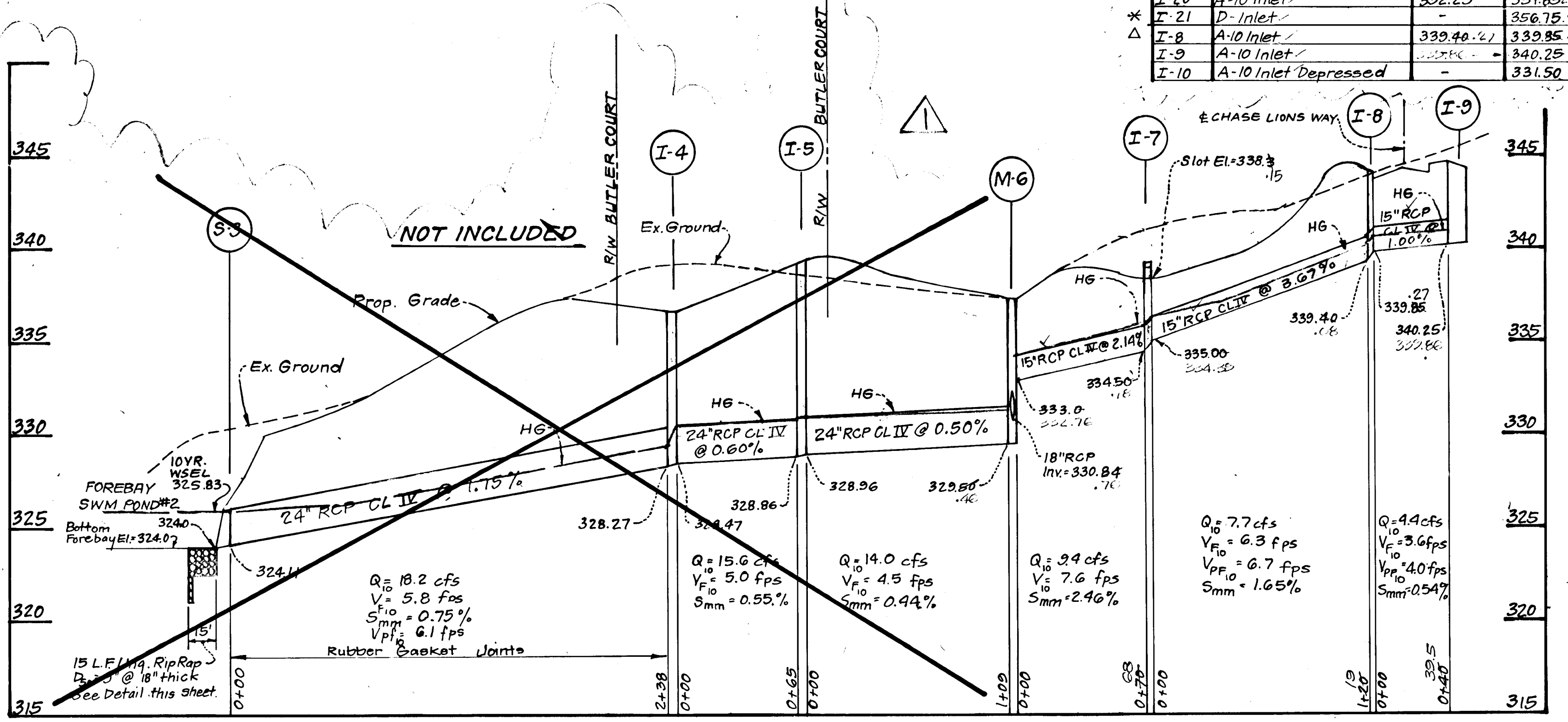
FILE NO.: 90-120-D

FOR: HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 Little Patuxent Parkway
Columbia, Maryland 21044



SIZE	TYPE	LENGTH
15"	RCP CL IV	370'
15"	RCP CL IV w/ Rubber Gasket Joints	61'
24"	RCP CL IV	194'
24"	RCP CL IV w/ Rubber Gasket Joints	230'
30"	RCP (ASTM C-301) w/ Rubber Gasket Joints	85'
15"	RCP (ASTM C-301) w/ Rubber Gasket Joints	42'

NR	TYPE	INV. IN	INV. OUT	TOP ELEVATION		REMARKS	LOCATION
				UPPER	LOWER		
S-1	Type 'A' Headwall	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-2	Concrete End Section	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-3	A-10 Inlet Depressed	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-4	A-10 Inlet	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-5	A-10 Inlet	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-6	A-10 Inlet	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-7	A-10 Inlet	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-8	A-10 Inlet	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-9	A-10 Inlet	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-10	A-10 Inlet	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-11	A-10 Inlet	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-12	A-10 Inlet	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-13	A-10 Inlet	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-14	A-10 Inlet	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-15	A-10 Inlet	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-16	Concrete End Section	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-17	Special Structure	322.00	322.00	324.00	324.00	M-6 EN DETAIL S-6.5	See Plan
S-18	Type 'C' Endwall 15" Dia	350.00	350.00	352.00	352.00	" " " S.D. 5.21	See Plan
I-19	A-10 Inlet	351.44	351.18	353.85	355.65	" " " S.D. 4.02	See Plan
I-20	A-10 Inlet	352.25	351.85	355.88	355.69	" " " S.D. 4.02	See Plan
I-21	D Inlet	356.15	360.33	360.33	360.33	" " " S.D. 4.11 W/25'	See Plan
I-8	A-10 Inlet	339.40	339.85	344.87	343.91	" " " S.D. 4.02	See Plan
I-9	A-10 Inlet	340.25	344.84	344.84	344.84	" " " S.D. 4.02	See Plan
I-10	A-10 Inlet Depressed	331.50	335.33	335.33	335.33	" " " S.D. 4.02	See Plan



See Ho. Co. Std. Detail S.D. 4.83 for Inlet Deflectors
 * Slots on all sides.
 O All inverts to be fully developed.

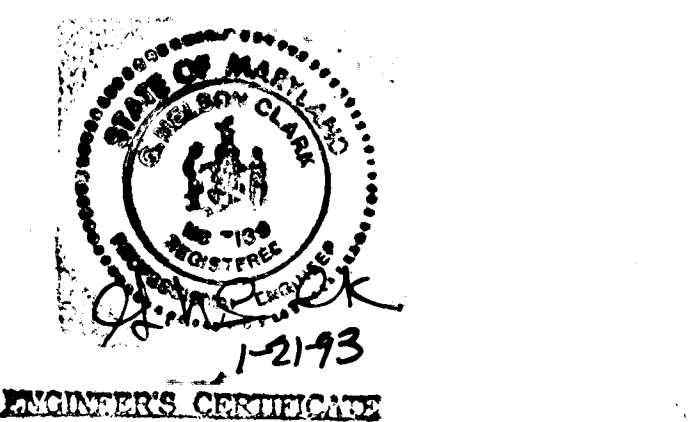
Reviewed for HOWARD S.C.U. Name and meets Technical Requirements
 Signature: _____ Date: _____
 U.S. Soil Conservation Service

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

Approved Date: _____
 DEVELOPER'S/SURVEYOR'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 the Environment. 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.

For AS BUILT by C.F.S., Inc.
 Signature: _____ Date: _____



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.

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

Material	Thickness	Material	Thickness	Material	Thickness
Bituminous Conc. Surface	1"	Bituminous Conc. Surface	1 1/2"	Bituminous Conc. Surface	1 1/2"
Bituminous Conc. Base	2"	Bituminous Conc. Base	4 1/2"	Bituminous Conc. Base	2 1/2"
Prime		Prime		Prime	
5" Crusher Run Base	5"	6" Crusher Run Base (Placed in 2 Courses)	6"	8" Crusher Run Base (Placed in 2 Courses)	8"
4" Dense Graded Stabilized Aggregate Base Course	4"	4" Dense Graded Stabilized Aggregate Base Course	4 1/2"	4" Dense Graded Stabilized Aggregate Base Course	6"

ALTERNATE PAVING SECTION FOR PARKING AREAS (SECTION P-1)
 ALTERNATE PAVING SECTION FOR MAJOR & MINOR COLLECTOR (SECTION P-3)
 ALTERNATE PAVING SECTION FOR PUBLIC ROADS (SECTION P-2)

No.	REVISION	DATE
1.	Revise Storm Drainage Profiles Str # M-6 thru # I-8, revised structure schedule.	11-20-91

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Signature: _____ Date: 4/14/93
 CHIEF LAND DEVELOPMENT DIVISION
 Signature: _____ Date: 4/15/93
 CHIEF, BUREAU OF HIGHWAYS
 Signature: _____ Date: 4-20-93
 CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Signature: _____ Date: 4/26/93
 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT

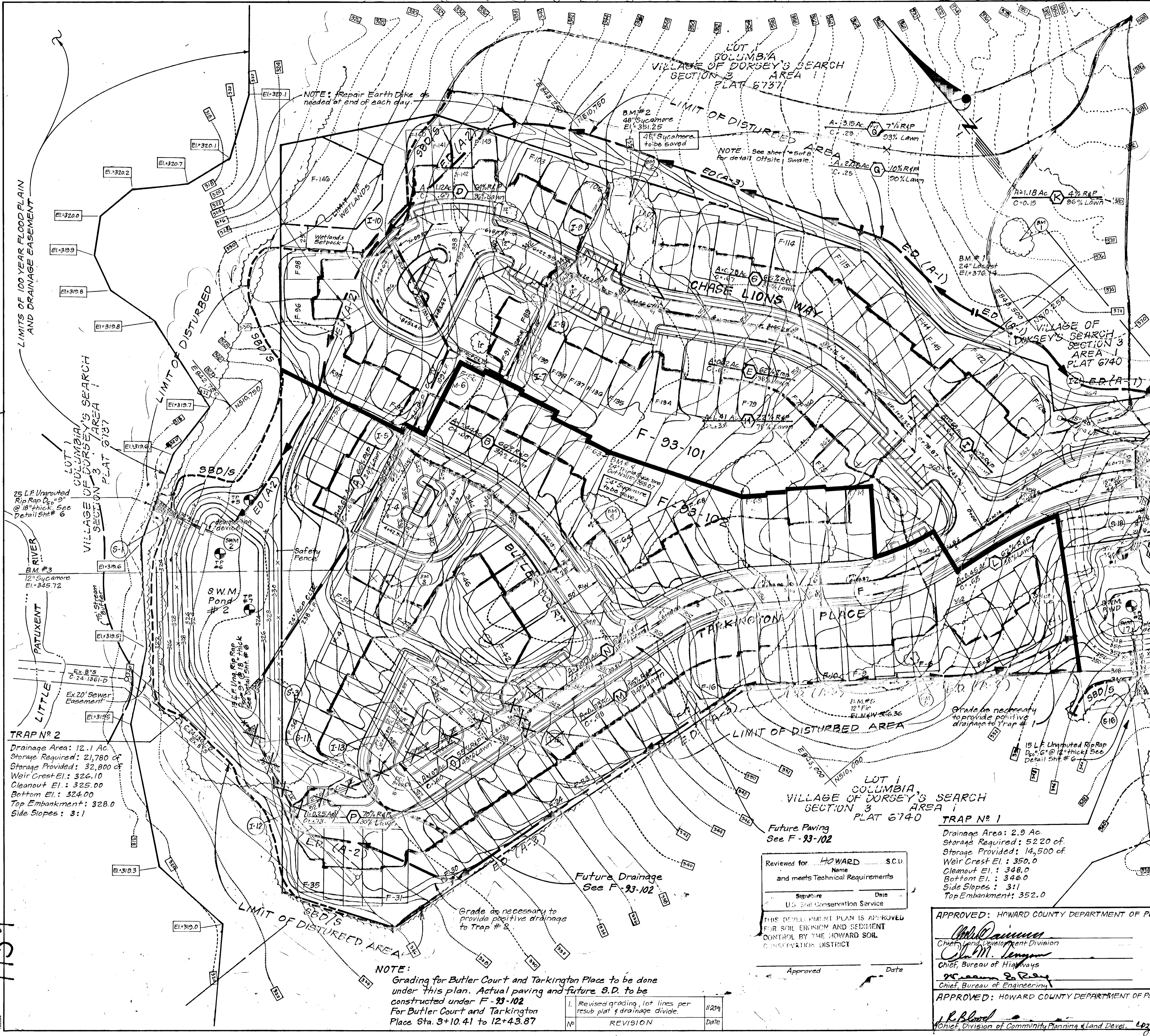
CLARK • FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS
 7135 MINSTREL WAY • COLUMBIA MD 21045 • (301) 381-7500 - BALTO • (301) 621-8100 - WASH

DESIGNED: D.G.T.
 DRAWN: V.L.M.
 CHECKED: D.G.T.
 DATE: 8-10-90

ROAD CONSTRUCTION PLANS
 STORM DRAIN PROFILES & DETAILS
 COLUMBIA
 VILLAGE OF DORSEY'S SEARCH
 SECTION 3, AREA 1
 5TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE: As Shown
 DRAWING: 6 OF 8
 JOB NO.: 90-120
 FILE NO.: 90-120-D

FOR: HOWARD RESEARCH & DEVELOPMENT CORPORATION
 10275 Little Patuxent Parkway
 Columbia, Maryland 21044



BORING B-1						BORING B-6					
ELEV.	SOIL DESCRIPTION	DEPTH	BLOWS	NR	REMARKS	ELEV.	SOIL DESCRIPTION	DEPTH	BLOWS	NR	REMARKS
5-4-5	Dark brown silty sand	1	1	DS	5' Topsoil	2-2-2	1	DS			
3-4-4	Light brown silty sand	2	DS			7-7-8	2	DS			
5-9-15	Dark brown micaceous silty sand	3	DS			5-5-5	3	DS			
3-4-4	Bottom of Boring at 10.0 feet	4	DS			4-5-7	4	DS			

BORING B-2						BORING B-7					
ELEV.	SOIL DESCRIPTION	DEPTH	BLOWS	NR	REMARKS	ELEV.	SOIL DESCRIPTION	DEPTH	BLOWS	NR	REMARKS
3-3-3	Brown sandy clay silt	1	DS		5' Topsoil	3-3-4	1	DS			
5-7-6	Light brown sand	2	DS			4-4-3	2	DS			
5-8-5	Dark brown micaceous silty sand	3	DS			4-5-8	3	DS			
3-4-7	Bottom of Boring at 10.0 feet	4	DS			4-3-4	4	DS			

BORING B-5					
ELEV.	SOIL DESCRIPTION	DEPTH	BLOWS	NR	REMARKS
1-1-2	Brown sandy clay silt	1	DS		
4-7-8	Brown micaceous sandy silt	2	DS		
4-5-7	Dark brown micaceous silty sand	3	DS		
3-5-6	Bottom of Boring at 10.0 feet	4	DS		

As-Built by
CEFS, Inc.
10/2/93

- ### LEGEND
- Contour Interval 2 Ft.
 - Existing Contour
 - Proposed Contour
 - Drainage Flow
 - Storm Drain pipe
 - Existing Trees
 - Ex. Trees to be Saved
 - Straw Bale Dike or Silt Fence
 - Earth Dike
 - Stabilized Construction Entrance with mountable berm
 - Borings

Approximate location of Ex. B.G. & E. Switch Gear and High Voltage Cable. Test Pit area for location of all electrical conduits; well before start of construction. Contact Miss Utility and B.G. & E. Relocate if necessary.

DEVELOPER'S/BUILDER'S CERTIFICATE

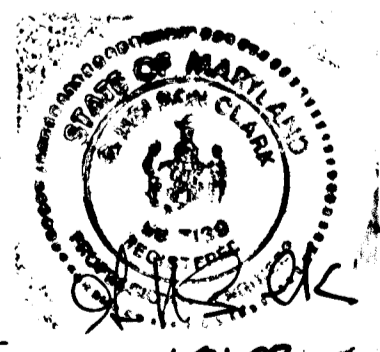
"I/We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of the Environment Approved Training 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 Developer 1/20/93
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 of Engineer 1-21-93
G. Nelson Clark Date



Reviewed for HOWARD COUNTY 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

Approved: _____ Date: _____

TRAP # 1
Drainage Area: 2.9 Ac.
Storage Required: 5220 cf.
Storage Provided: 14,500 cf.
Weir Crest El.: 350.0
Cleanout El.: 348.0
Bottom El.: 346.0
Side Slopes: 3:1
Top Embankment: 352.0

TRAP # 2
Drainage Area: 12.1 Ac.
Storage Required: 21,780 cf.
Storage Provided: 32,800 cf.
Weir Crest El.: 326.10
Cleanout El.: 325.00
Bottom El.: 324.00
Top Embankment: 328.0
Side Slopes: 3:1

NOTE: Grading for Butler Court and Tarkington Place to be done under this plan. Actual paving and future S.D. to be constructed under F-93-102. For Butler Court and Tarkington Place Sta. 3+10.41 to 12+43.87

NO.	REVISION	DATE
1.	Revised grading, lot lines per resub plat & drainage divide.	11/27/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Signature 4/14/93
Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Signature 4/15/93
Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Signature 4-20-93
Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Signature 4/20/93
Date

CLARK • FINEFROCK & SACKETT, INC.
ENGINEERS • PLANNERS • SURVEYORS
7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (301) 381-7500 - BALTO. • (301) 621-8100 - WASH.

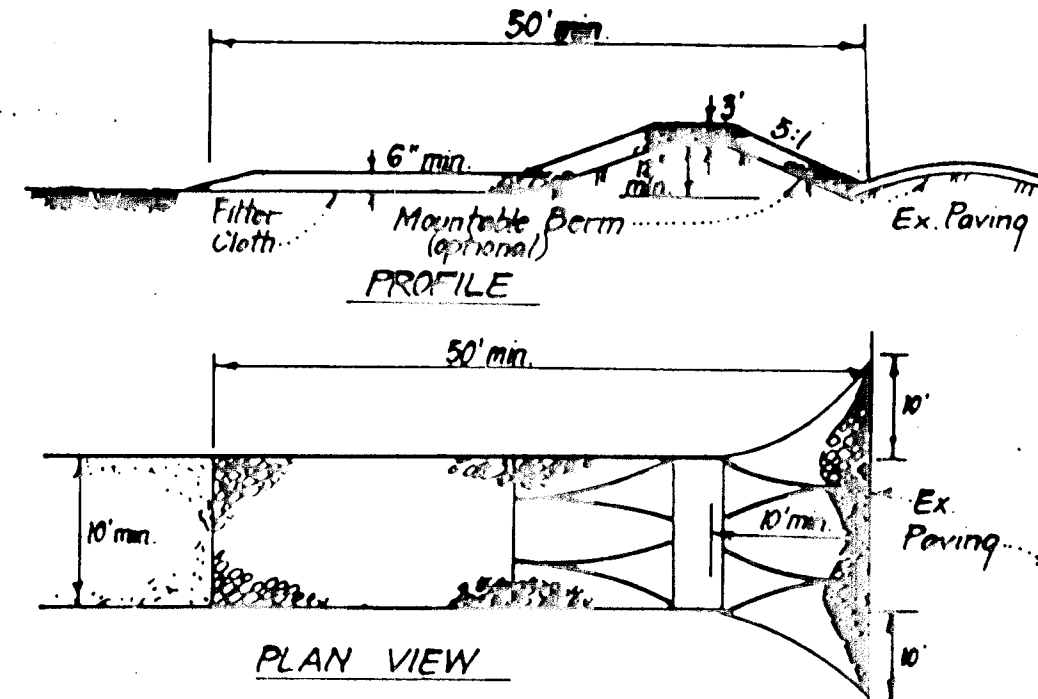
DESIGNED: ROAD CONSTRUCTION PLANS, GRADING AND SEDIMENT AND EROSION CONTROL PLAN AND DRAINAGE AREA MAP
D.G.T.
DRAWN: R.M.Q.
V.L.M.
CHECKED: V.L.M.
DATE: 8-10-90

SCALE: 1" = 50'
DRAWING: 7 OF 8
JOB NO.: 90-120
FILE NO.: 90-120-D

FOR: HOWARD RESEARCH & DEVELOPMENT COMPANY
10275 Little Patuxent Parkway
Columbia, Maryland 21044

159

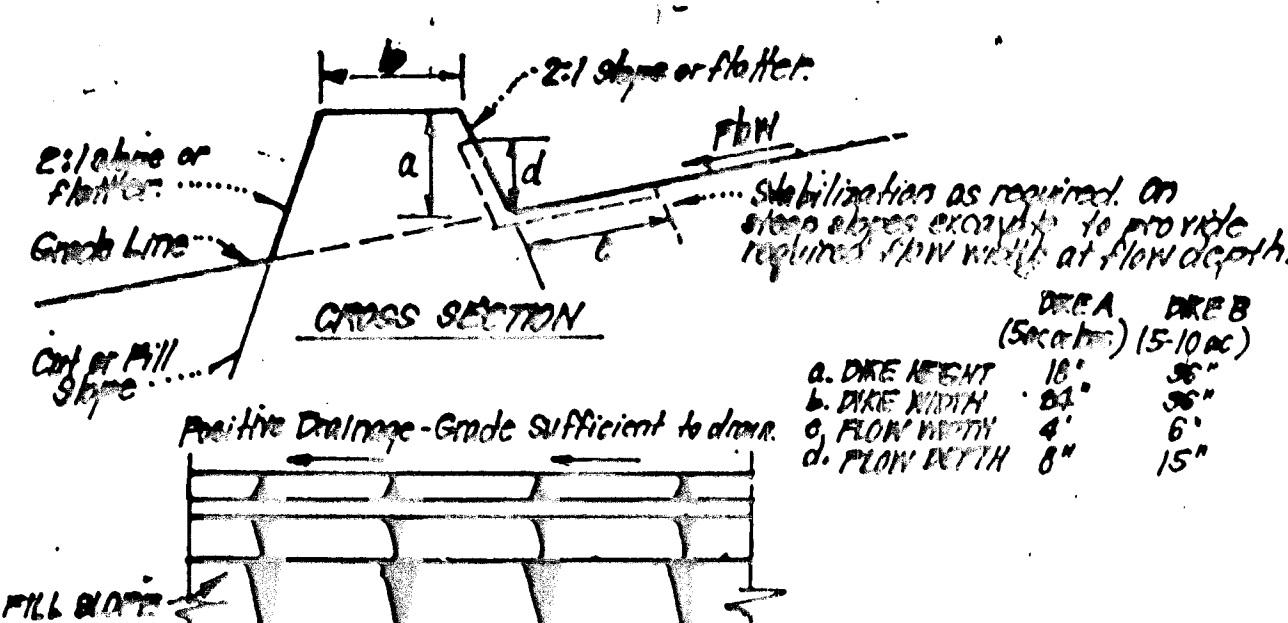
AS-BUILT F93-101



- CONSTRUCTION SPECIFICATIONS:**
1. Stone size - Use 2" stone or reclaimed or recycled concrete equivalent.
 2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
 3. Thickness - Not less than six (6) inches.
 4. Width - Ten (10) feet minimum, but not less than the full width at points where ingress or egress occurs.
 5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
 6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mounded berm with 5:1 slopes will be permitted.
 7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as per instructions on filter cloth and/or cleanup of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
 8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
 9. Periodic inspection and needed maintenance shall be provided after each rain.

STABILIZED CONSTRUCTION ENTRANCE (SCE)

NO SCALE



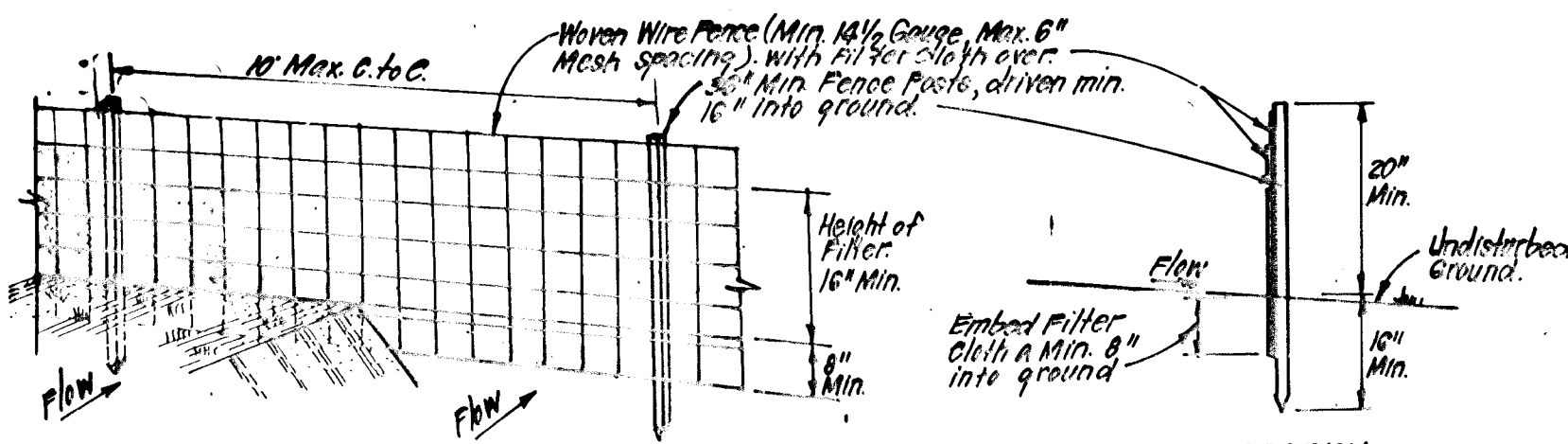
- CONSTRUCTION SPECIFICATIONS:**
1. All dikes shall be constructed by earth-moving equipment.
 2. All dikes shall have positive drainage to an outlet.
 3. Top width may be wider and side slopes may be flatter if desired, to facilitate clearing by construction traffic.
 4. Filter cloth shall be adjusted as needed to utilize a stabilized safe outlet.
 5. Earth dikes shall have an outlet that functions with a minimum of erosion. Runoff shall be conveyed to a sediment trapping device such as a sediment trap or sediment basin where either the dike channel or the drainage area above the dike are not adequately stabilized.
 6. Stabilization shall be: (A) in accordance with standard specifications for seed and straw mulch or straw mulch if not in seeding season, (B) flow channel as per chart below.

TYPE OF TREATMENT	QUANTITY	DIKE A	DIKE B
1	1.5 - 2.0%	Seed & Straw Mulch	Seed or Straw Mulch
2	3.1 - 4.0%	Seed & Straw Mulch	Seed with or Excelsior; 2" Stone
3	5.1 - 6.0%	Seed with or Straw Mulch	Lined Rip Rap 2" Stone
4	6.1 - 8.0%	Lined Rip Rap 4" Stone	Engineering Design

- A. Stone to be 2" Stone or recycled concrete equivalent, in a layer at least 3" thick and be placed into soil with construction equipment.
 B. Rip Rap to be 4" in a layer of base of flow channel into soil.
 C. Approved equivalents can be substituted for any of the above materials.

EARTH DIKE DETAIL (E.D.)

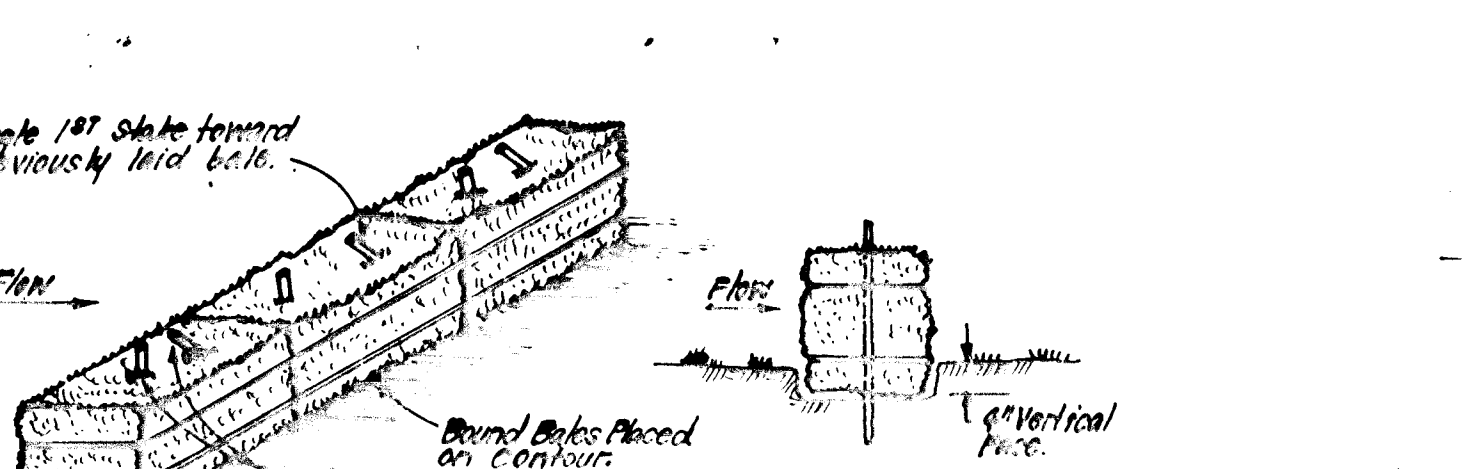
NO SCALE



- CONSTRUCTION SPECIFICATIONS:**
1. Woven wire fence to be fastened securely to fence posts with wire ties or staples.
 2. Filter cloth to be fastened securely to woven wire fence with ties spaced every 24" at top and mid section.
 3. When 2 sections of filter cloth adjoin each other they shall be overlapped by 6" and folded.
 4. Maintenance shall be performed as needed and material removed when bulges develop in Silt Fence.

SILT FENCE DETAIL (S)

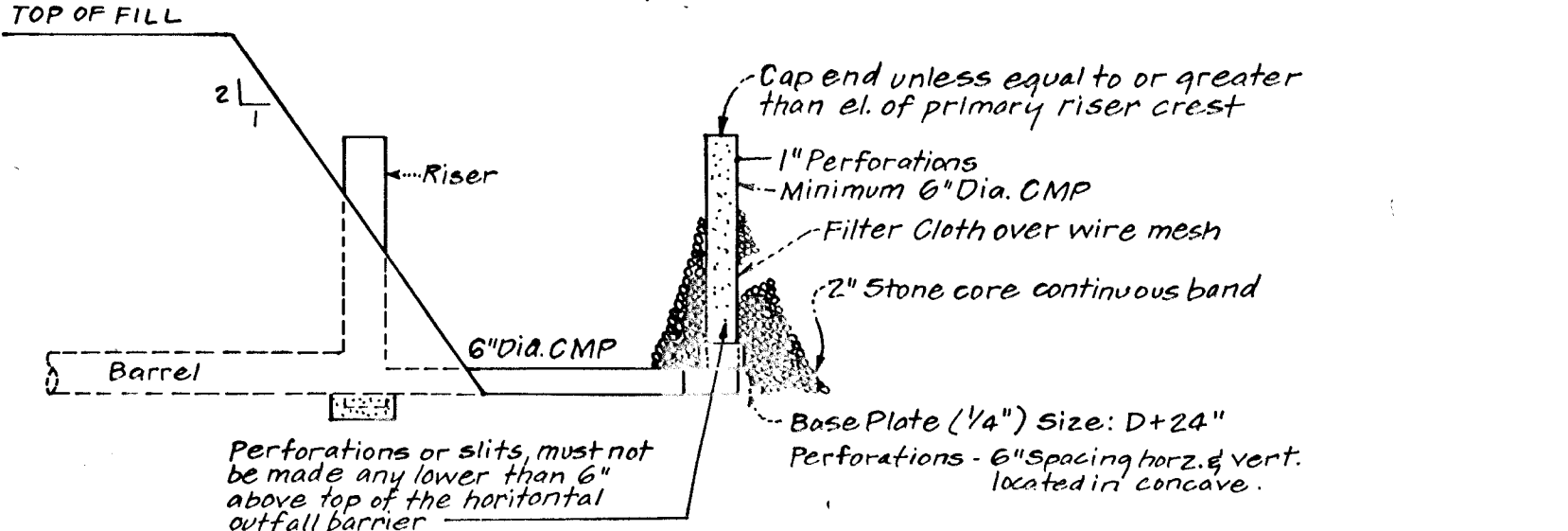
NO SCALE



- CONSTRUCTION SPECIFICATIONS:**
1. Bales shall be placed at the top of a slope or on the contour and in a row with ends tightly abutting the adjacent bales.
 2. Each bale shall be embedded in the soil a min. of 4" and placed so the bindings are horizontal.
 3. Bales shall be securely anchored in place by either 2 stakes or re-bars driven thru the bale. The 1st stake in each bale shall be driven before the previously laid bale at an angle to force the bales together. Stakes shall be driven flush with the bale.
 4. Inspection shall be frequent and repair replacement shall be made promptly as needed.
 5. Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.

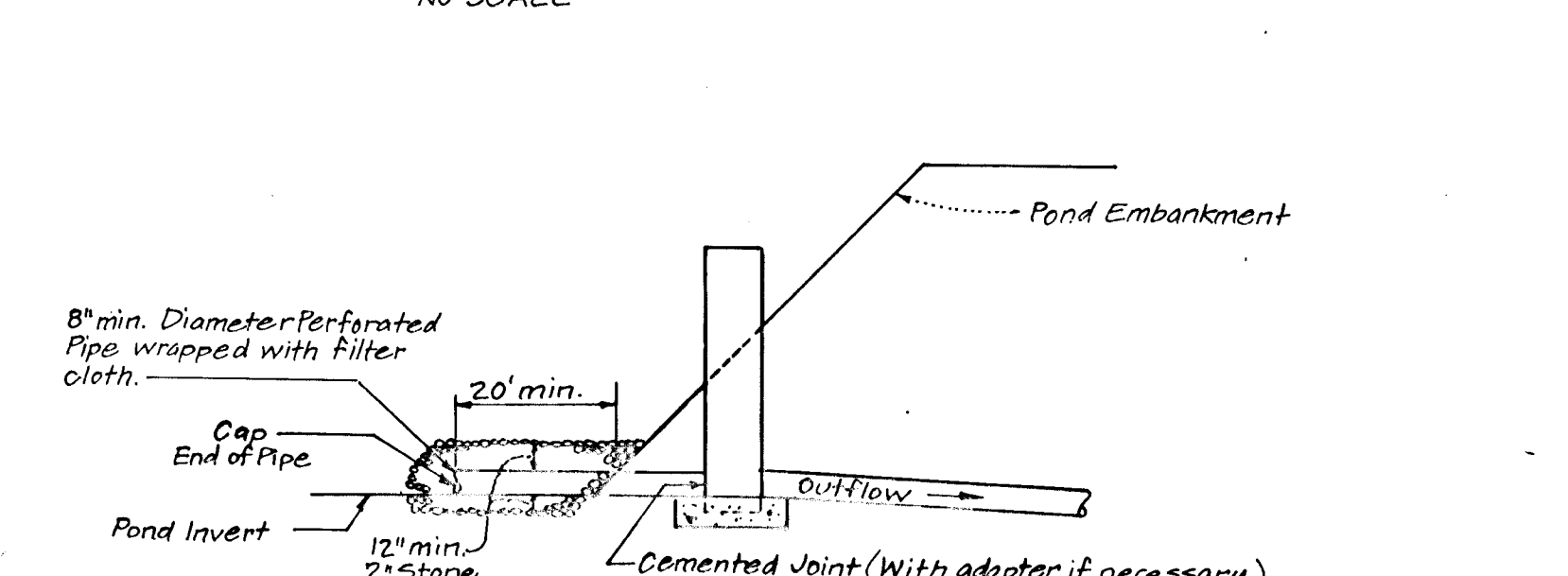
STRAW BALE DIKE DETAIL (SBD)

NO SCALE



OPTIONAL SEDIMENT BASIN DEWATERING DEVICE I WITH 6" PERFORATED RISER

NO SCALE



OPTIONAL SEDIMENT BASIN DEWATERING DEVICE II

NO SCALE

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq ft).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil.

Seeding - For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching - Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of rotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq ft) for anchoring.

Maintenance - Inspect all seeded areas and make needed repairs, replacements and reseeds.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft)

Seeding - For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushel per acre of annual rye (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of rotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes, 8 ft or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

SEDIMENT CONTROL NOTES

- 1) A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437)
- 2) All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 3) Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- 4) All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 5) All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51) sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- 6) All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- 7) Site Analysis:

Total Area of Site	13.11 Acres
Area to be roofed or paved	14.7 Acres
Area to be vegetatively stabilized	5.5 Acres
Total Cut	26,000 Cu. yds
Total Fill	26,000 Cu. yds
Offsite waste/borrow area location	N/A
- 8) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- 9) Additional sediment control must be provided, if deemed necessary by the Howard County DW sediment control inspector.
- 10) On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- 11) If houses are to be constructed on an "As-Built" basis, at random, Single Lot Sediment Control as shown below shall be implemented.
- 12) All pipes to be blocked at the end of each day (see detail below).
- 13) The total amount of straw bale dikes/silt fence equals 1550 L.F.

CONSTRUCTION SEQUENCE:

	# OF DAYS
1. Obtain grading permit.	7
2. Install S&E Controls including Sediment Traps 1 & 2, peripheral earth dikes and silt fence and stabilized construction entrance. Construct SWM Pond 1 & 2 risers and outfalls for use on Traps 1 & 2. Mortar shut 15" slot in Structure #SWM-1 to weir crest EL 326.10 and 20" slot in Structure #SWM-14 to weir crest EL 350.00. Leave Top off SWM-14. Install dewatering device to Structure #SWM-1 and SWM-14 through 7" and 6" orifices respectively.	10
3. Clear and grub where needed. Save 24" and 48" Sycamores as shown on plans.	7
4. Grade site. Temporarily Stabilize according to standards and specifications.	30
5. Install storm drainage & utilities.	24
6. Construct roadways and sidewalks.	80
7. Permanently stabilize all remaining disturbed areas.	14
8. Once complete stabilization of their respective drainage areas and upon approval of the sediment control inspector, convert Traps 1 & 2 to S.W.M. Ponds # 1 & 2 as per approved plan and to the following: (a) pump out impounded water (b) Remove inlet blocking dewatering device and accumulate sediment & place sediment as directed by S&E Inspector. (c) Grade Basin to final dimensions and grades as per plan. (d) Permanently stabilize.	14
9. Remove all other S&E Controls	7

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Chad Robinson 4/14/93
 CHIEF, LAND DEVELOPMENT DIVISION
Chad Robinson 4/15/93
 CHIEF, BUREAU OF HIGHWAYS
Chad Robinson 4-20-93
 CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING.

Chad Robinson 4/14/93
 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT

CLARK • FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS
 7135 MINSTREL WAY • COLUMBIA, MD 21045 • (301) 381-7500 - BALTO • (301) 621-8100 - WASH.

DESIGNED D.G.T.	ROAD CONSTRUCTION PLAN SEDIMENT & EROSION CONTROL NOTES PHASE I	SCALE As Shown
DRAWN P.E.R. V.L.M.	COLUMBIA VILLAGE OF DORSEY'S SEARCH SECTION 3, AREA 1	DRAWING 8 OF 8.
CHECKED D.G.T.	5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 90-120
DATE 8-10-90	FOR: HOWARD RESEARCH & DEVELOPMENT CORPORATION 10275 Little Potomac Parkway Columbia, Maryland 21044	FILE NO. 90-120-D

Reviewed for HOWARD COUNTY, D.C.D. Name and meets Technical Requirements
 Signature Date
 U.S. Soil Conservation Service

DEVELOPER'S/WORLDER'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 the Environment 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."

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

Approved Date
 Signature of Developer Date

Gregory R. Han 1/20/93
 Signature of Developer Date

1	Revised Earthwork	11-20-91
No.	REVISION	DATE

ENGINEER'S CERTIFICATE
 I hereby certify that this plan for Erosion and Sediment Control represents a practical and effective 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 1-21-93
 G. Nelson Clark Date

