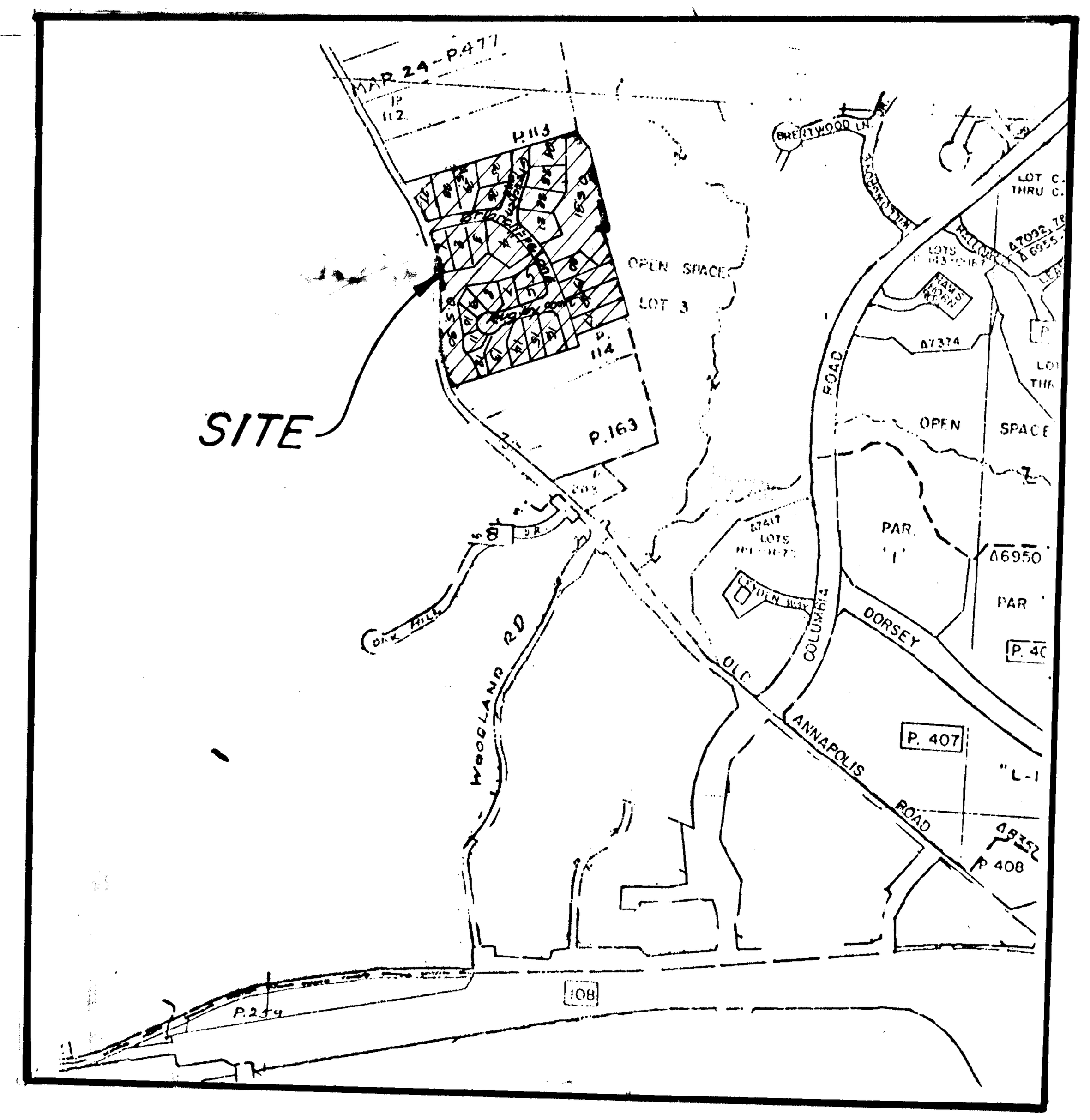
FINAL CONSTRUCTION DRAWINGS

BRIARCLIFFE

Lots 1 to 31

INDEX TO SHEETS



VICINITY MAP
SCALE: 1" = 600'

GENERAL NOTES:

1. All Construction shall be done in accordance with the Howard County Design manual.

2. Contact Howard County Construction Inspection Division at 301-792-7272 24 hours before starting work.

3. All horizontal controls are based on Maryland State Coordinate.

4. All vertical Controls are based on U.S.G.S. datum.

5. For details not shown on the drawings and for materials and construction methods, use Howard County Design Manual Volume IV, Standard Specifications and Details for Construction. The contractor shall have a copy of Volume IV on the job.

6. All street lights shall have high pressure sodium vapor luminairs. Wattage noted on plan sheets.

THE HORIZONTAL AND VERTICAL CONTROL IS BASED ON THE FOLLOWING HOWARD COUNTY CONTROL STATIONS:

STA. #3041002	N 516961.523 E 841543.135
STA. #3041003	N 516446.542 E 841032.288

AS BUILT 8/19/94

APPROVED:
HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 6/28/90

APPROVED:
HOWARD COUNTY DEPT. OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 5/21/90

CHIEF, BUREAU OF HIGHWAYS — DATE 5/16/90

CHIEF, BUREAU OF ENGINEERING — DATE 5-22-90

BRIARCLIFFE - LOTS 1 to 31

TAX MAP 30
HOWARD CO., MD.
2nd ELECTION DISTRICT

COVER SHEET

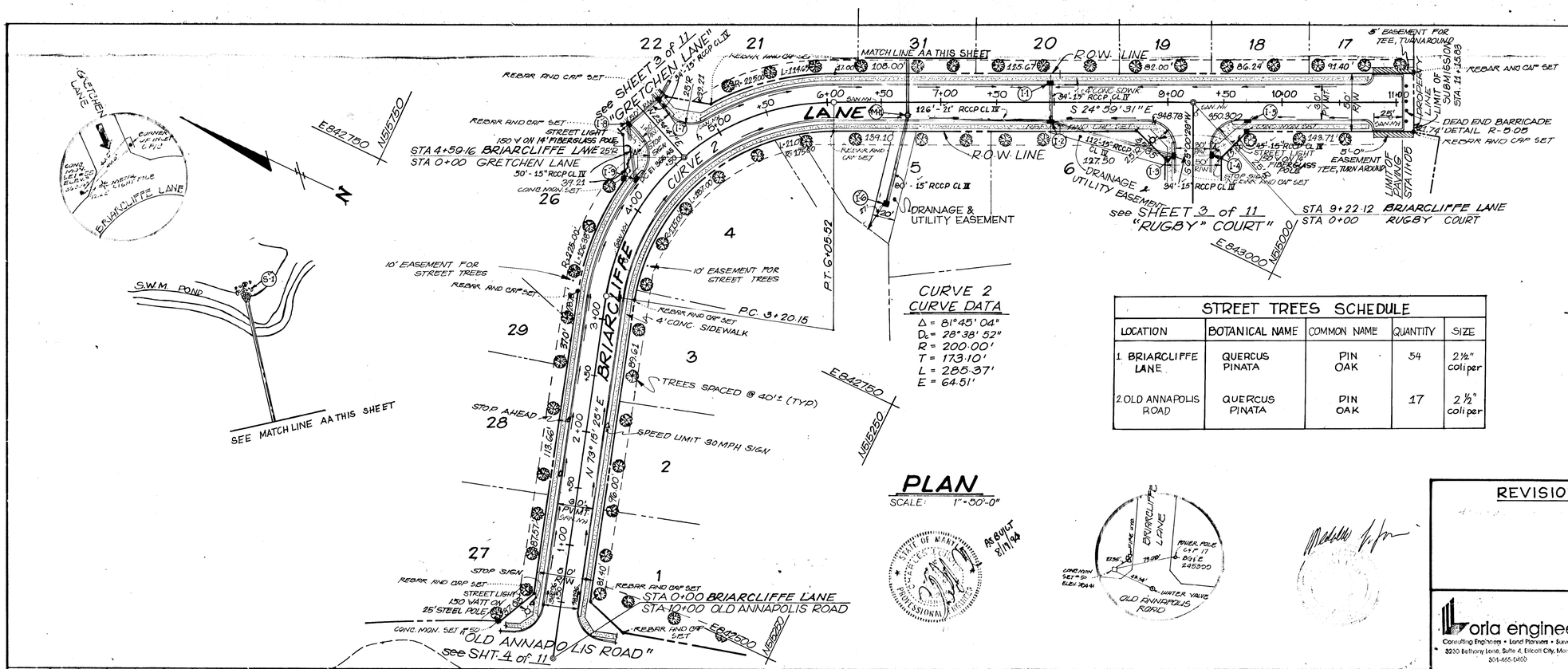
OWNER/ DEVELOPER
ROBERT AWALT BUILDERS
9051 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21043

Loria engineering inc.
Consulting Engineers • Land Planners • Surveyors
3230 Bethany Lane, Suite 4, Ellicott City, Maryland
301-465-0400

DRAWN BY: DRP/RM	SCALE: NONE	SHEET NO:
DESIGNED BY: ML	DATE: NOV.1989	1 OF 11
CHECKED BY: ML		

F-90-100

1576



CURVE 2 CURVE DATA

Δ = 81°45' 04"
D_c = 28°38' 52"
R = 200.00'
T = 173.10'
L = 285.37'
E = 64.51'

STREET TREES SCHEDULE

LOCATION	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE
1. BRIARCLIFFE LANE	QUERCUS PINATA	PIN OAK	54	2½" caliper
2. OLD ANNAPOLIS ROAD	QUERCUS PINATA	PIN OAK	17	2½" caliper

PLAN

SCALE: 1"=50'-0"

AS BUILT 8/19/98

APPROVED:
HOWARD COUNTY DEPT. OF PLANNING & ZONING
CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT — DATE 6/25/90

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, LAND DEVELOPMENT DIVISION — DATE 5/11/90
CHIEF, BUREAU OF HIGHWAYS — DATE 5/16/90
CHIEF, BUREAU OF ENGINEERING — DATE 5-22-90

REVISIONS

BRIARCLIFFE - LOTS 1 to 31
TAX MAP 30 PARCELS 91,100,101,102 & 127
HOWARD CO., MD.
2nd ELECTION DISTRICT

PLAN AND PROFILE
BRIARCLIFFE LANE

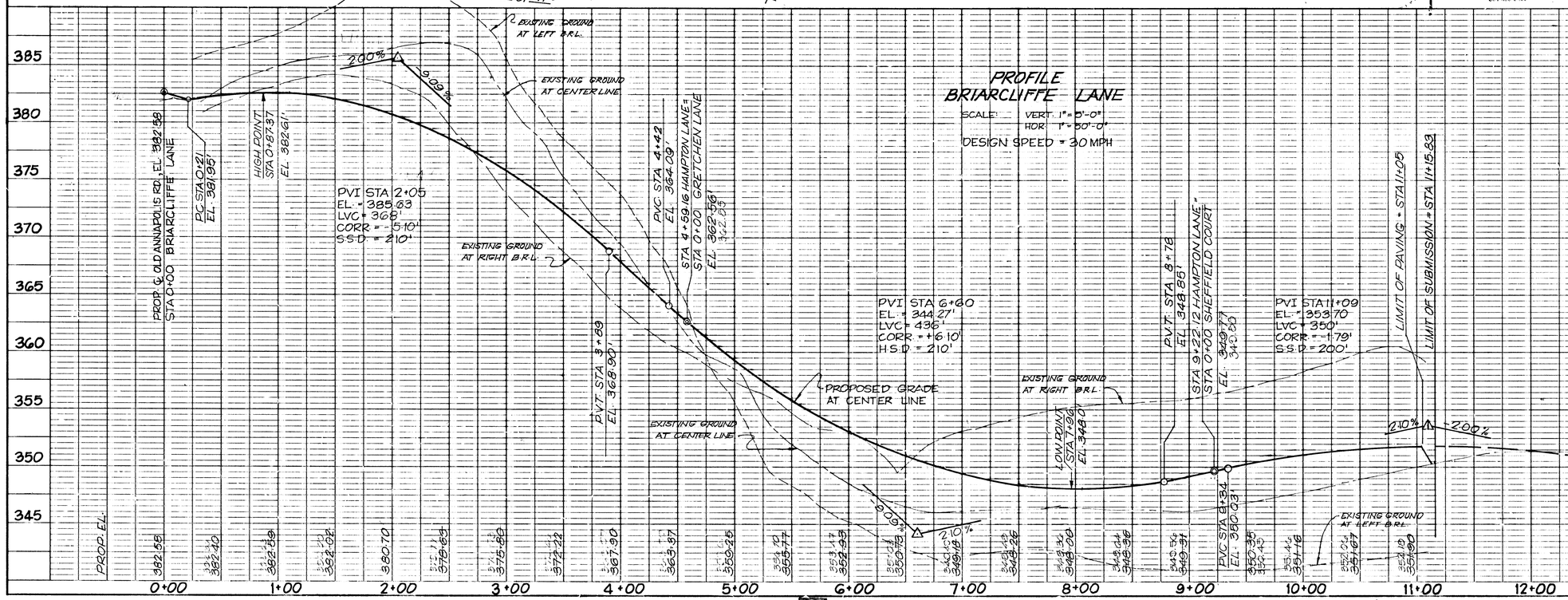
forla engineering inc.
Consulting Engineers • Land Planners • Surveyors
3230 Bethany Lane, Suite 4, Ellicott City, Maryland
301-465-0450

OWNER/DEVELOPER
ROBERT AWALT BUILDERS
9051 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MD. 21043

SCALE: 1"=50' | DATE: NOV 1989 | SHEET NO. 2 OF 4
DESIGNED: ML | DRAWN: DRP | CHECKED: ML

PLAN — SURVEYED: | PLOTTED: | NOTE BOOK: | No. | BY | DATE

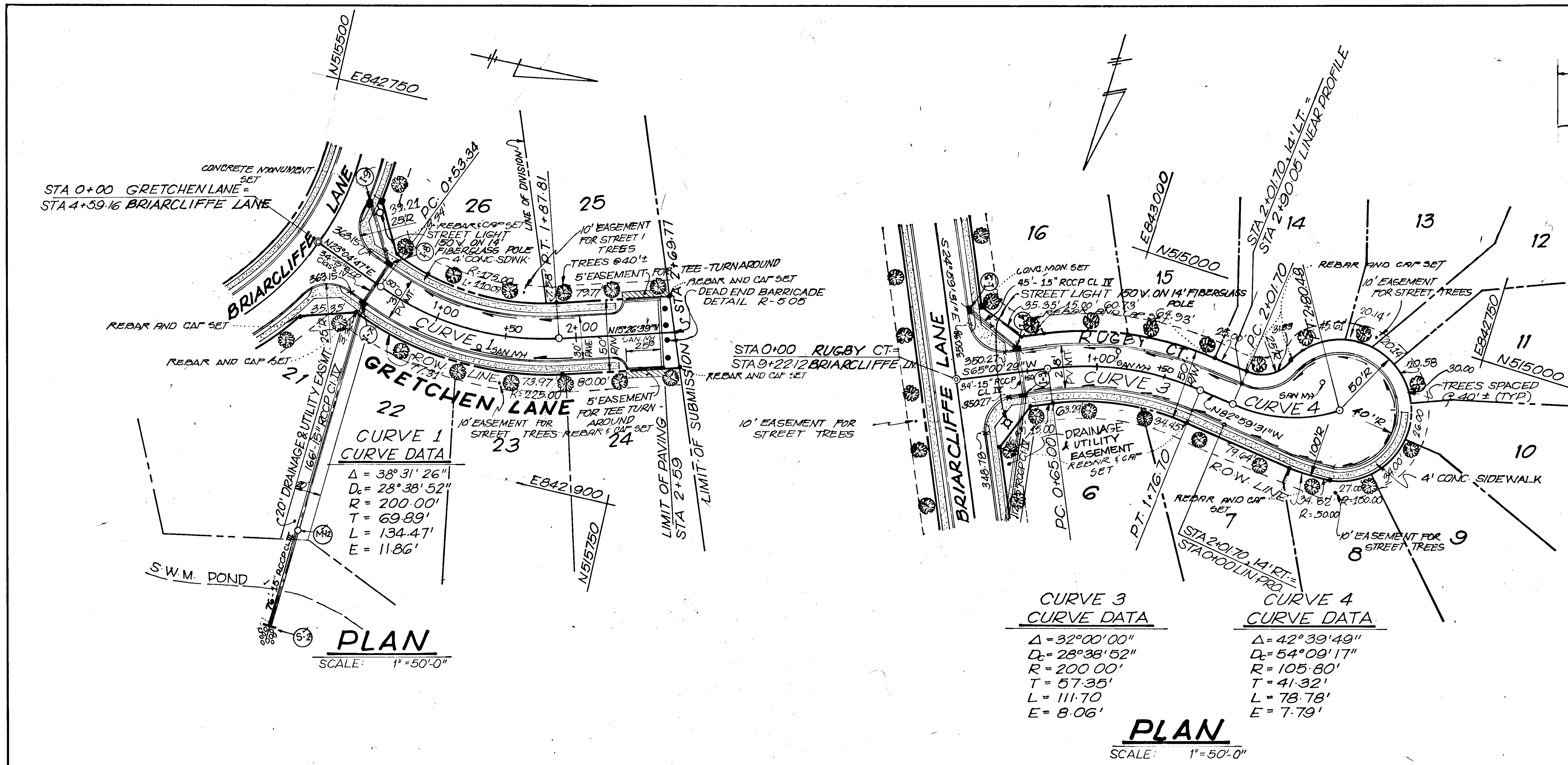
PROFILE — SURVEYED: | PLOTTED: | NOTE BOOK: | No. | BY | DATE | STRUCTURE NOTATIONS CHECKED

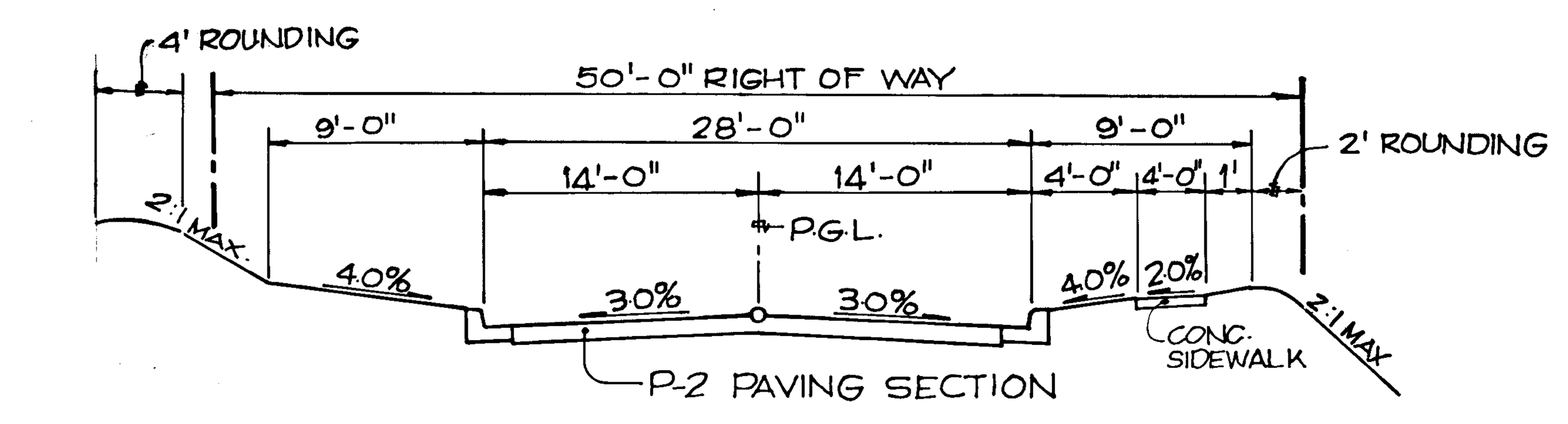


Keuffel & Esser Company
48 7024 Made in U.S.A.

1576

F-90-100





TYPICAL SECTION
NO SCALE

RUGBY COURT
FROM STA 0+15 TO STA 2+75
(DESIGN SPEED = 25 MPH)

STREET TREE SCHEDULE				
LOCATION	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE
1. RUGBY COURT	QUERCUS PINATA	PIN OAK	16	2½" caliper
2. GRETCHEN LANE	QUERCUS PINATA	PIN OAK	14	2½" caliper

APPROVED:
HOWARD COUNTY DEPT. OF PLANNING & ZONING
CHIEF DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT — DATE 6/20/90

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, LAND DEVELOPMENT DIVISION — DATE 5/21/90
CHIEF, BUREAU OF HIGHWAYS — DATE 5/16/90
CHIEF, BUREAU OF ENGINEERING — DATE 5-22-90

BRIARCLIFFE - LOTS 1-31
TAX MAP 30 — PARCELS, 127,100,101,102 & 91
HOWARD CO. MD.
2nd ELECTION DISTRICT

PLAN AND PROFILE
GRETCHEN LANE & RUGBY COURT

OWNER/DEVELOPER
ROBERT AWALT BUILDERS
9051 BALTIMORE NATIONAL PIKE
ELLICOTT CITY MD. 21043

SCALE: 1" 50'	DATE: NOV 1989	SHEET NO: 3 OF 11
DESIGNED: M.L.	DRAWN: DRP	CHECKED: M.L.

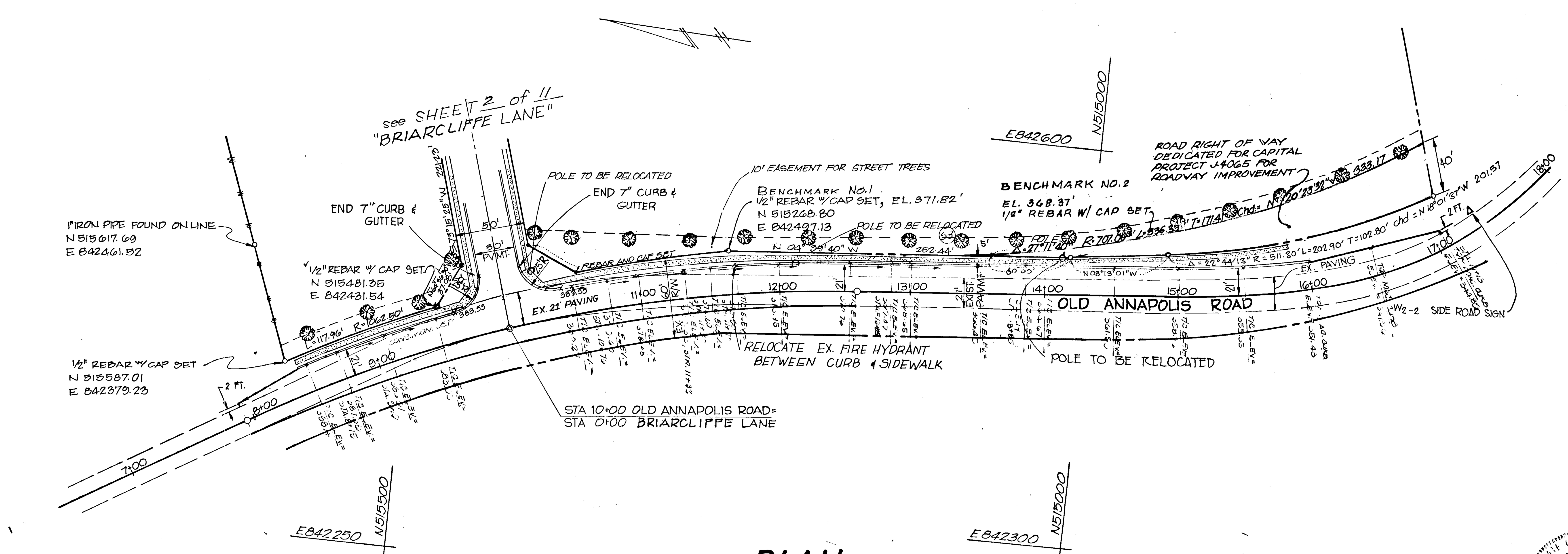
STATE OF MARYLAND — CHARLES J. CROWNO — No. 13204 — REGISTERED PROFESSIONAL ENGINEER
AS BUILT 8/19/94

Keuffel & Esser Company

F-90-100

AS-BUILT

1576



PLAN

SCALE: 1" = 50'-0"

BENCHMARK DATA:
STATION NO. 2941002
CONCRETE MONUMENT @ SURFACE 24' ± EAST OF OLD ANNAPOLIS ROAD ℄
ELEV. 394.333 FT.

PROFILE
OLD ANNAPOLIS ROAD

SCALE: 1" = 5'-00" VERT. 1" = 50'-00" HOR.

DESIGN SPEED = 40 MPH

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, LAND DEVELOPMENT DIVISION — 5/21/90
CHIEF, BUREAU OF HIGHWAYS — 5/16/90
CHIEF, BUREAU OF ENGINEERING — 5/02/90

BRIARCLIFFE LOTS 1-31
TAX MAP 30 PARCELS 127,100,101,102 & 91
HOWARD CO., MD.
2nd ELECTION DISTRICT

OLD ANNAPOLIS ROAD

OWNER/DEVELOPER
ROBERT AWALT BUILDERS
9051 BALTIMORE NATIONAL PIKE
ELLICOTT CITY MD. 21043

SCALE: 1" = 50'	DATE: NOV. 1989	SHEET NO.: 4 of 11
DESIGNED: ML	DRAWN: DRP	CHECKED: ML

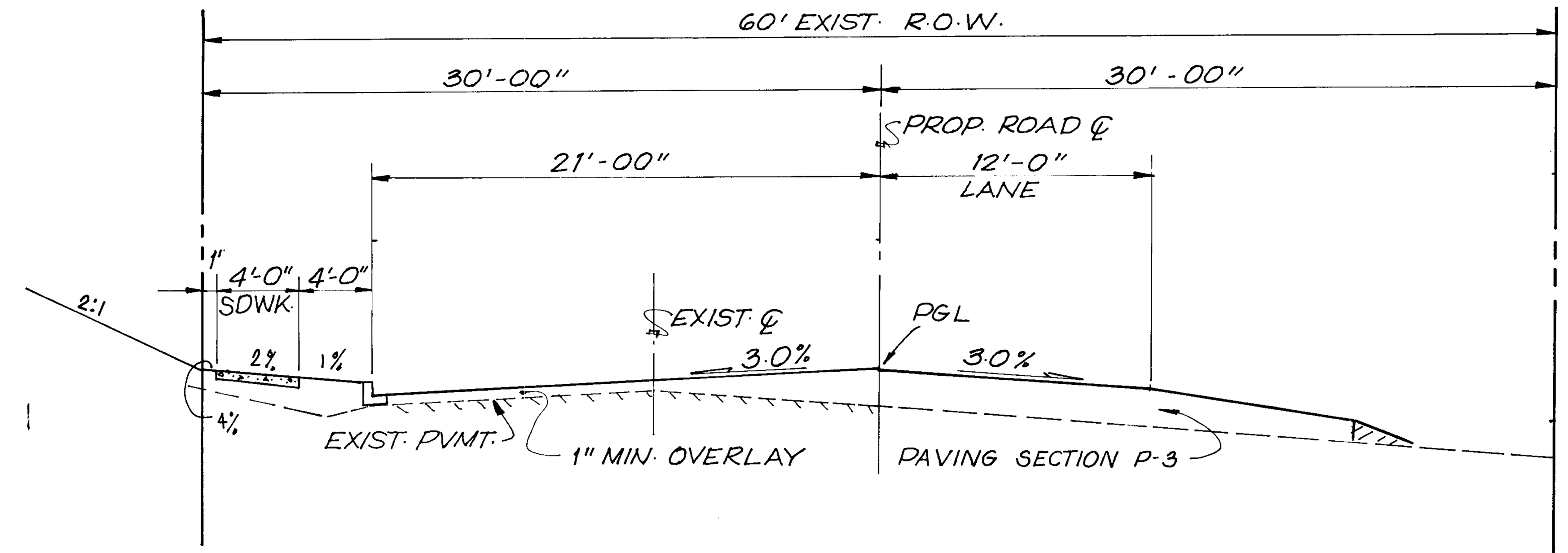
As Built 8/19/94

Keuffel & Esser Company 46 7024 Made in U.S.A.

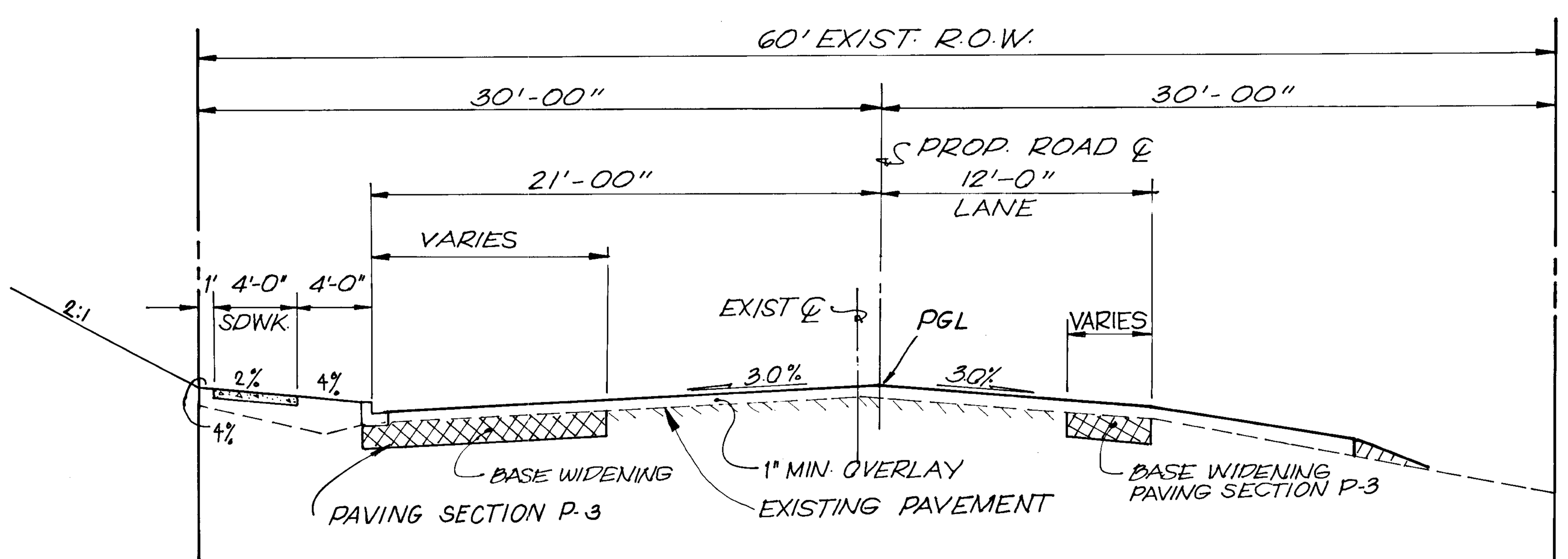
F-90-100

1576

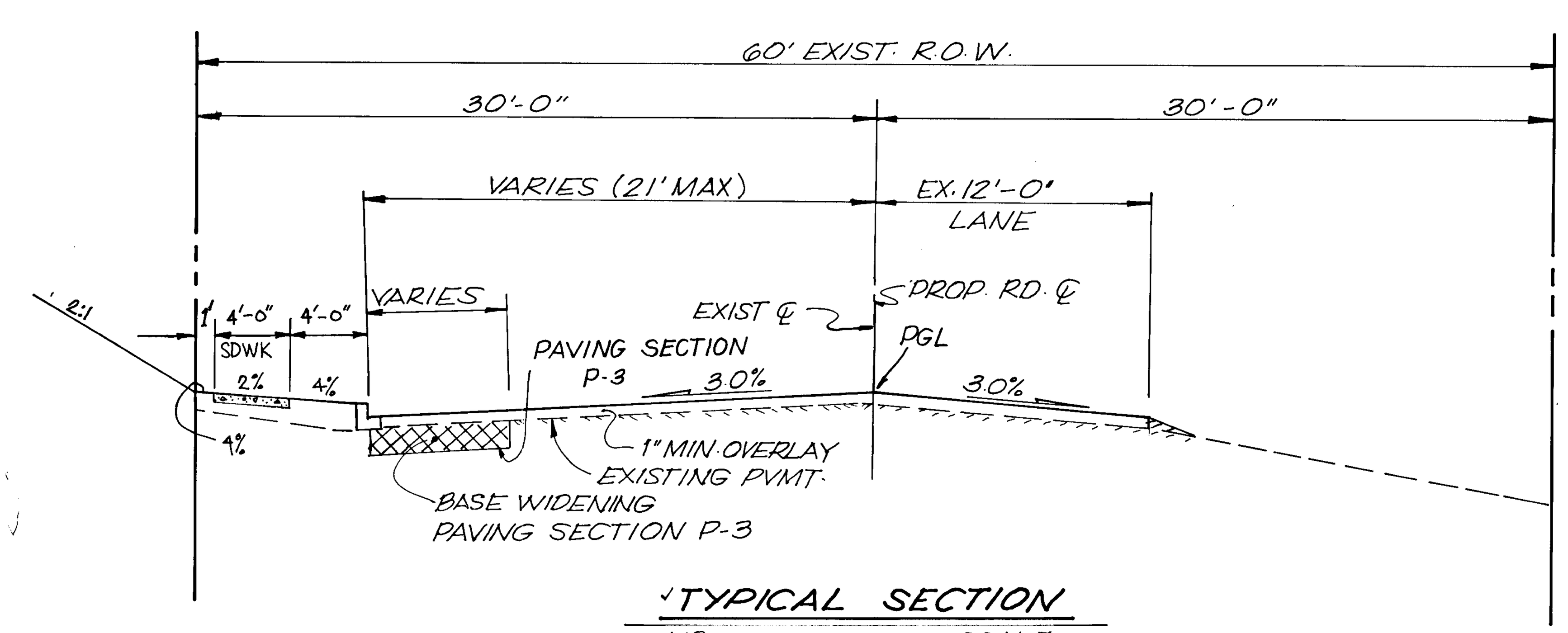
9/20/94 AS-BUILT



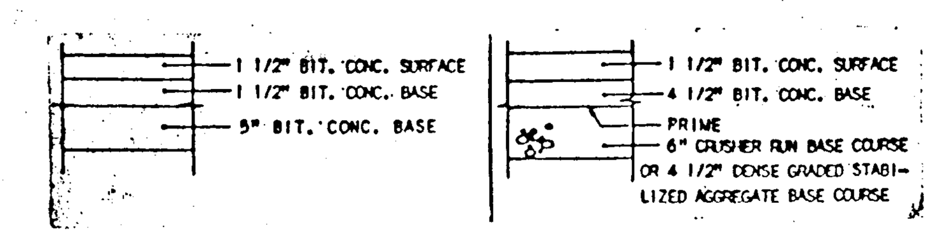
✓TYPICAL SECTION
NO SCALE
STA 9+60 TO STA 10+60
OLD ANNAPOLIS ROAD



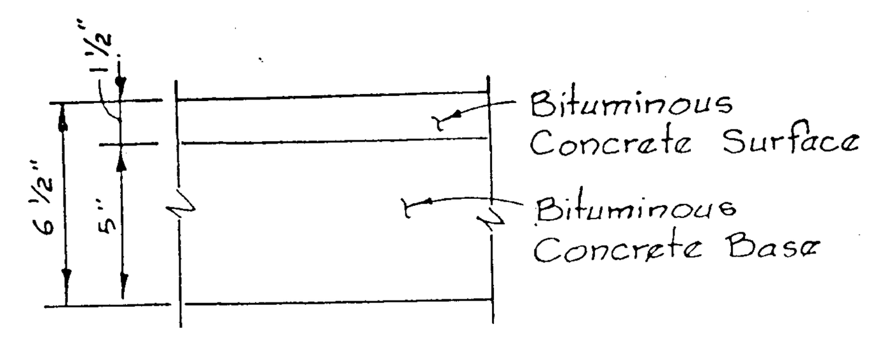
✓TYPICAL SECTION
NO SCALE
STA 8+50 TO STA 9+60
STA 10+60 TO STA 12+20
OLD ANNAPOLIS ROAD



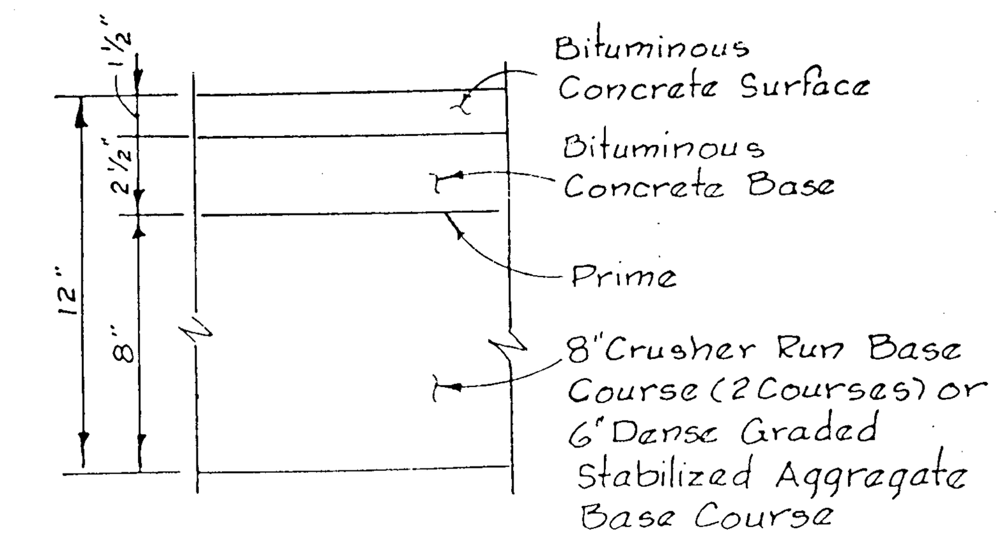
✓TYPICAL SECTION
NO SCALE
STA. 12+20 TO 16+00
OLD ANNAPOLIS ROAD



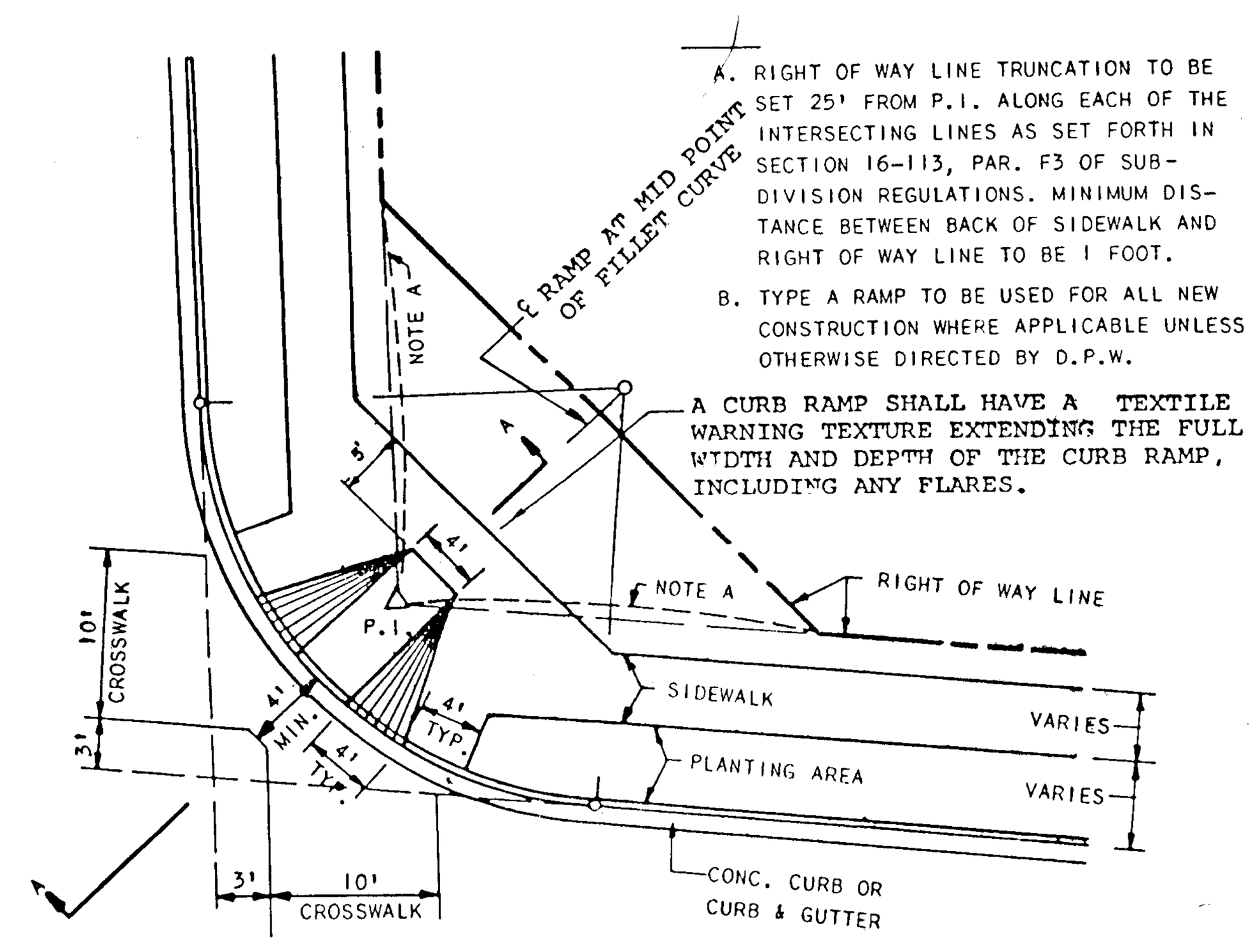
P-3 PAVING
✓PAVING DETAIL
NO SCALE



✓P-2 FULL DEPTH BITUMINOUS CONCRETE



✓P-2 GRANULAR BASE (ALTERNATE)

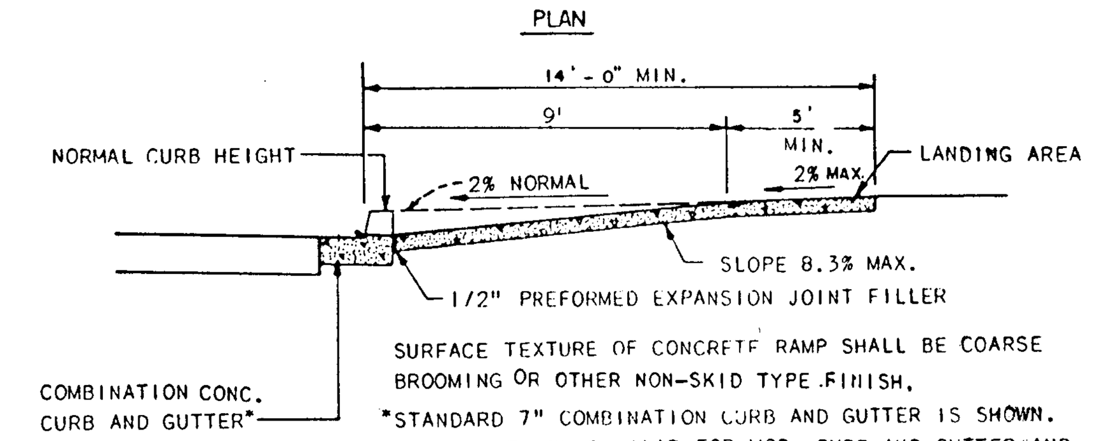


A. RIGHT OF WAY LINE TRUNCATION TO BE SET 25' FROM P.I. ALONG EACH OF THE INTERSECTING LINES AS SET FORTH IN SECTION 16-113, PAR. F3 OF SUBDIVISION REGULATIONS. MINIMUM DISTANCE BETWEEN BACK OF SIDEWALK AND RIGHT OF WAY LINE TO BE 1 FOOT.

B. TYPE A RAMP TO BE USED FOR ALL NEW CONSTRUCTION WHERE APPLICABLE UNLESS OTHERWISE DIRECTED BY D.P.W.

A CURB RAMP SHALL HAVE A TEXTILE WARNING TEXTURE EXTENDING THE FULL WIDTH AND DEPTH OF THE CURB RAMP, INCLUDING ANY FLARES.

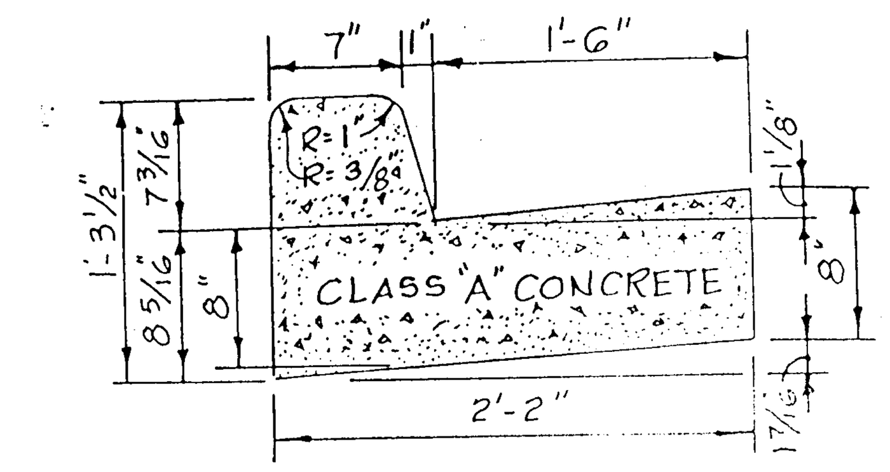
PLAN



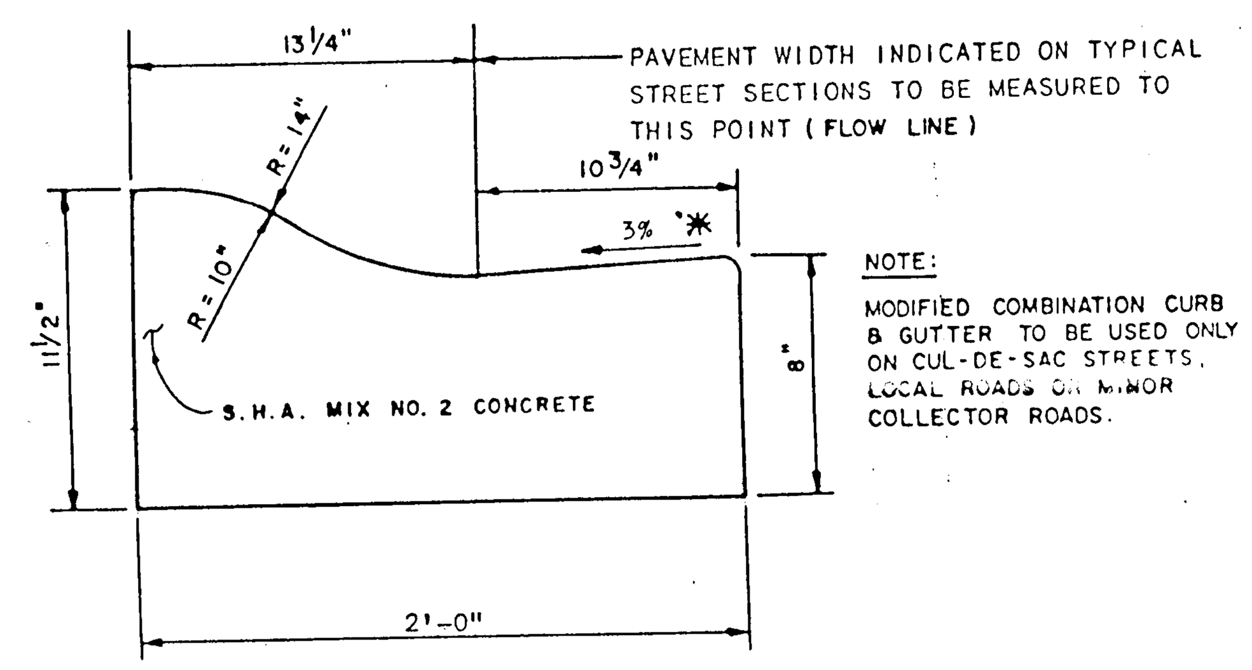
SURFACE TEXTURE OF CONCRETE RAMP SHALL BE COARSE BROOMING OR OTHER NON-SKID TYPE FINISH.

*STANDARD 7" COMBINATION CURB AND GUTTER IS SHOWN. DETAILS TO BE SIMILAR FOR MOD. CURB AND GUTTER AND BIT. CURB EXCEPT THAT FLOW LINE LIP IS TO BE OMITTED.

✓SECTION A-A



✓STANDARD 7" COMBINATION CURB AND GUTTER
NO SCALE

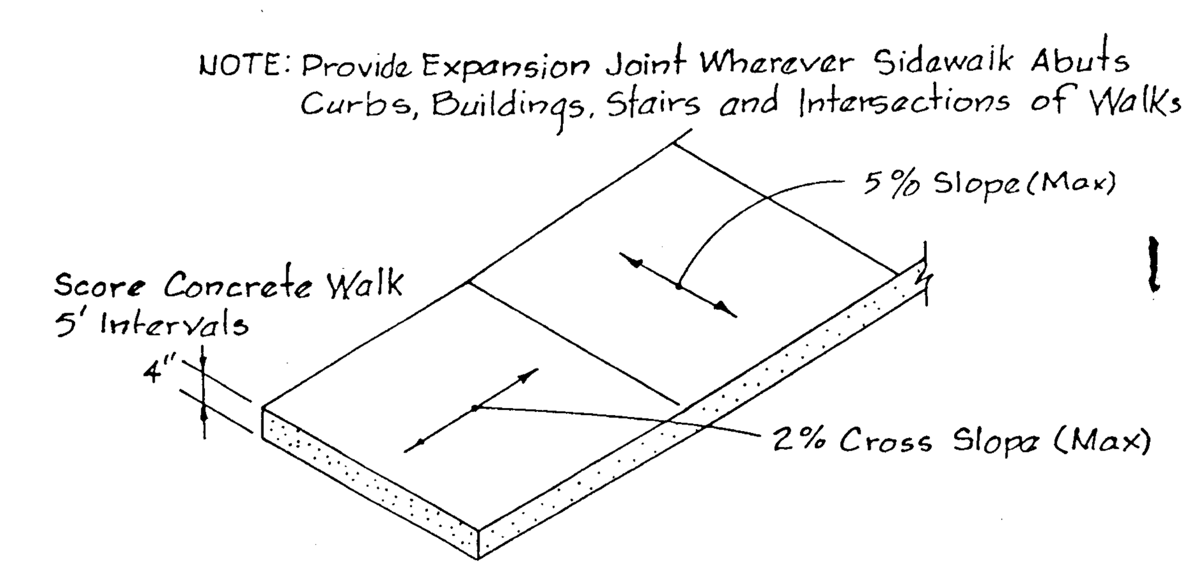


PAVEMENT WIDTH INDICATED ON TYPICAL STREET SECTIONS TO BE MEASURED TO THIS POINT (FLOW LINE)

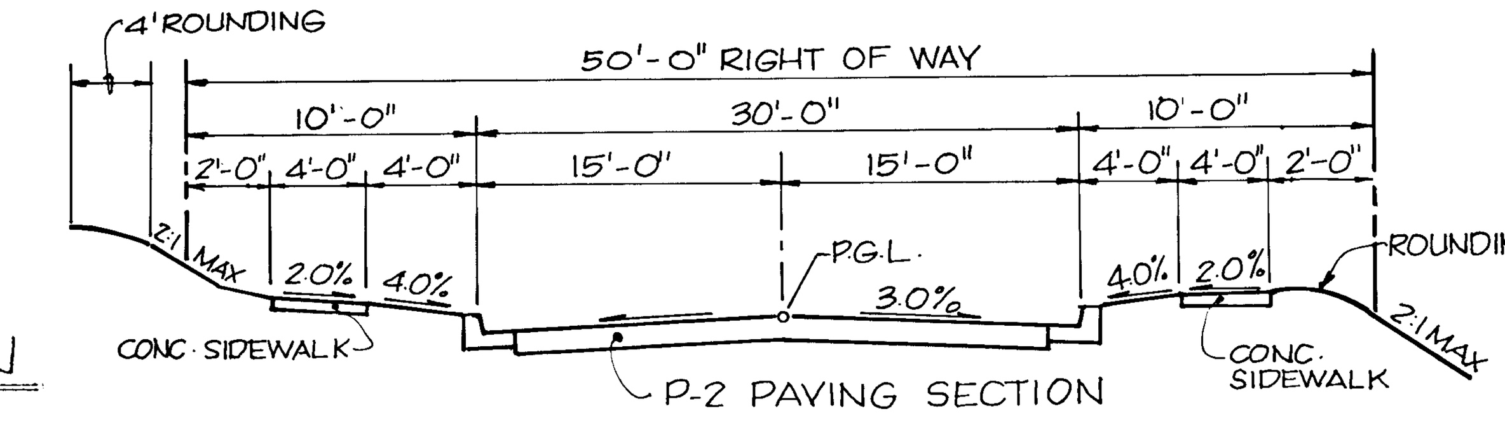
NOTE:
MODIFIED COMBINATION CURB & GUTTER TO BE USED ONLY ON CUL-DE-SAC STREETS, LOCAL ROADS OR MINOR COLLECTOR ROADS.

✓MODIFIED COMBINATION CURB AND GUTTER

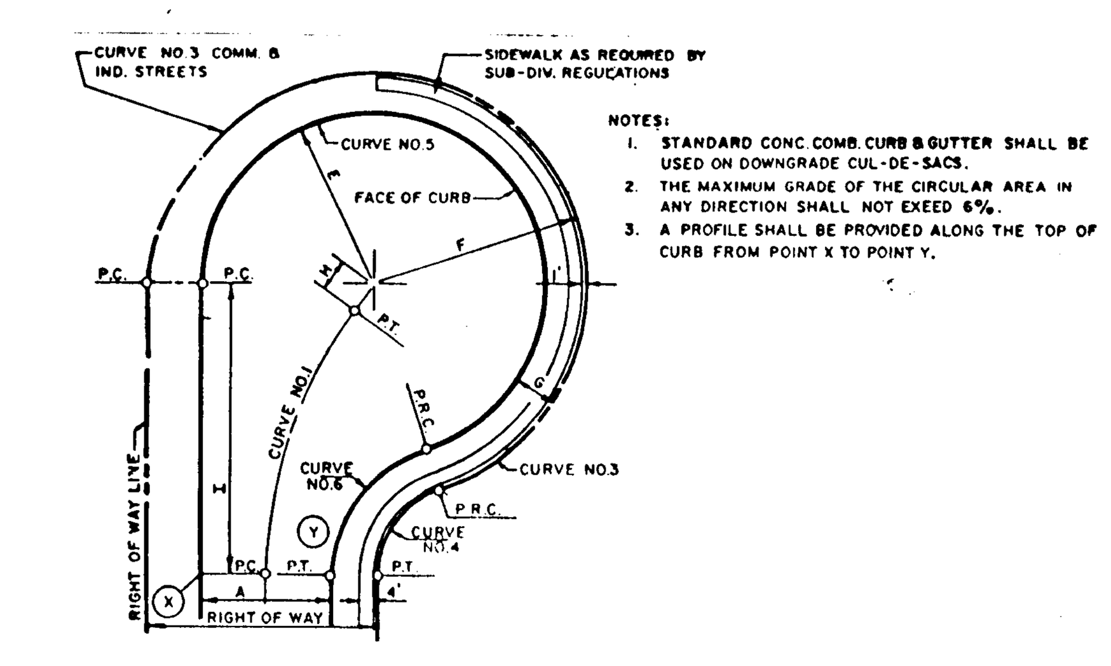
NOTE: Provide Expansion Joint Wherever Sidewalk Abuts Curbs, Buildings, Stairs and Intersections of Walks



✓TYPICAL SIDEWALK DETAIL
NO SCALE



✓TYPICAL SECTION
NO SCALE
BRIARCLIFFE LANE STA. 0+00 - STA. 11+10
GRETCHEN LANE STA. 0+00 - STA. 2+69.77



NOTES:
1. STANDARD CONC. COMB. CURB & GUTTER SHALL BE USED ON DOWNGRADE CUL-DE-SACS.
2. THE MAXIMUM GRADE OF THE CIRCULAR AREA IN ANY DIRECTION SHALL NOT EXCEED 6%.
3. A PROFILE SHALL BE PROVIDED ALONG THE TOP OF CURB FROM POINT X TO POINT Y.

✓CUL-DE-SAC DETAIL
NO SCALE

APPROVED
DEPT.
[signature] 6/2?/9?

APPROVED
[signature] 5/21/90
Granville W. Wehland 5/16/90
[signature] 5/22/90

BRIARCLIFFE

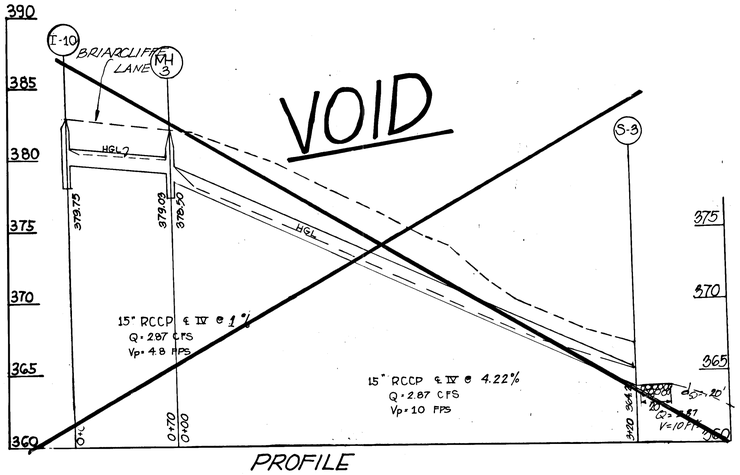
REVISION(S):

TYPICAL SECTIONS & DETAILS

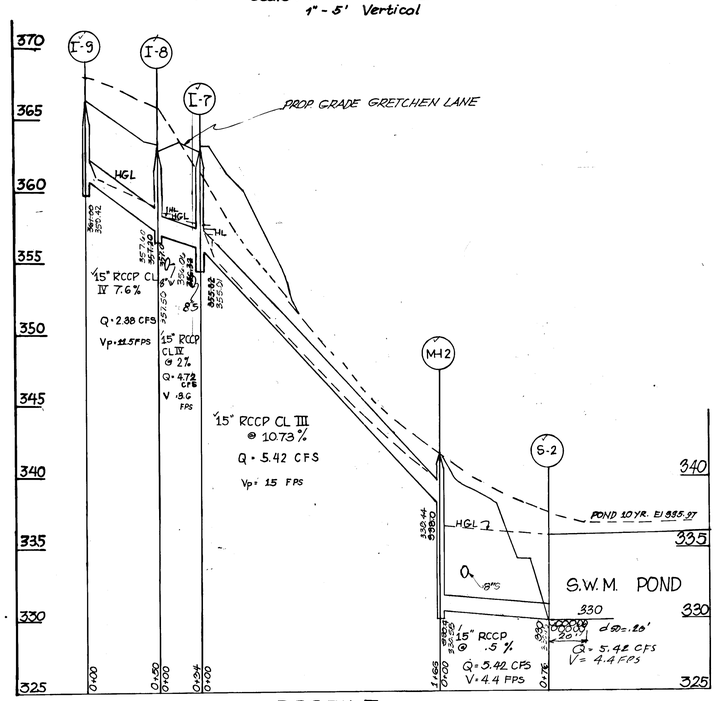
OWNER / DEVELOPER
ROBERT AWALT BUILDERS
9051 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21043

DRP. M.L.
M.L.
AS SHOWN
NOV. 1989
5 of 11

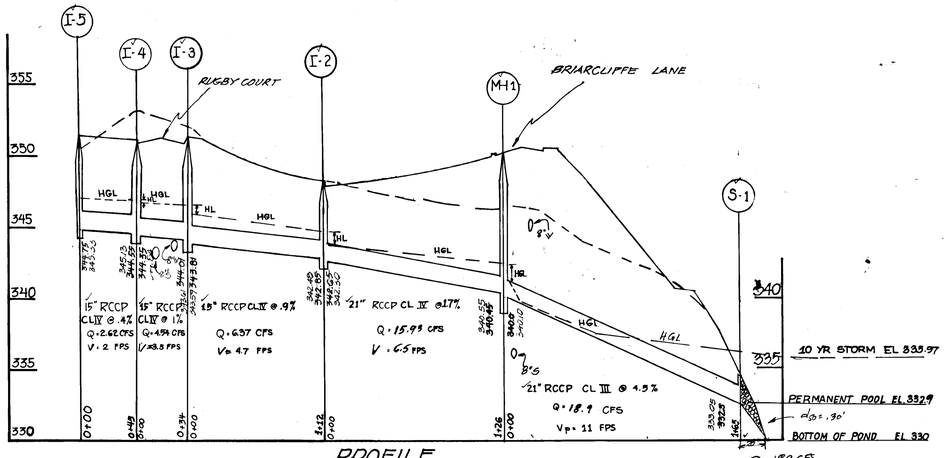
1576



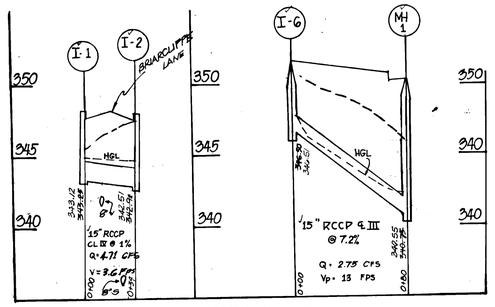
PROFILE
Scale : 1"-50' Horizontal
1"-5' Vertical



PROFILE
Scale : 1"-50 Horizontal
1"-5 Vertical



PROFILE
Scale : 1"-50' Horizontal
1"-5' Vertical



PROFILE
Scale : 1"-50 Horizontal
1"-5 Vertical

STRUCTURE SCHEDULE

NO.	TYPE	INV. IN	INV. OUT	TOP EL.	REMARKS
I-1	TYPE A-5 INLET	343.12 343.25		348.30 348.16	STATION 7+96.16 HAMPTON LANE 17' L HOWARD CO. STANDARD DETAIL SD 4.01
I-2	TYPE A-5 INLET	342.40 342.38 S 342.91 E 342.51	342.30 342.65	348.52 348.16	STATION 7+96.18 HAMPTON LANE 17' R HOWARD CO. STANDARD DETAIL SD 4.01
I-3	TYPE A-10 INLET	343.41 344.01	343.59 343.81	351.20 350.85	STATION 0+45 SHEFFIELD COURT 17' R HOWARD CO. STANDARD DETAIL SD 4.02
I-4	TYPE A-10 INLET	345.13 344.83	344.84 344.85	351.37 350.85	STATION 0+45 SHEFFIELD COURT 17' L HOWARD CO. STANDARD DETAIL SD 4.02
I-5	TYPE A-10 INLET	348.33 349.75		351.01 350.86	STATION 9+70 HAMPTON LANE 17' R HOWARD CO. STANDARD DETAIL SD 4.02
I-6	TYPE K	344.51 345.50		351.32 351.50	STANDARD K INLET SD. 4.12
I-7	TYPE A-5 INLET	355.01 355.82	355.81 355.82	362.18 363.88	STATION 0+52 GRECHEN LANE 17' R HOWARD CO. STANDARD DETAIL SD 4.01
I-8	TYPE A-10 INLET	357.00 357.20	357.58 357.0	363.27 363.88	STATION 0+52 GRECHEN LANE 17' L HOWARD CO. STANDARD DETAIL SD 4.02
I-9	TYPE A 10 W/ DEFLECTORS	359.42 361.0		366.45 366.25	STATION 4+20 HAMPTON LANE 17' L HOWARD CO STANDARD DETAIL SD 4.01 AND SD 4.03
M-1	STANDARD PRECAST MANHOLE	340.55 340.73	340.10 340.0	350.04 349.67	STATION 6+70 HAMPTON LANE 12' R HOWARD CO STANDARD DETAIL G.5.12
S-1	TYPE A HEADWALL	333.05 332.5		336.54 333.75	SEE PLAN FOR LOCATION HOWARD CO. STANDARD DETAIL SD 5.11
S-2	TYPE A HEADWALL	330.10 330.0			SEE PLAN FOR LOCATION HOWARD CO. STANDARD DETAIL SD 5.11
M-2	STANDARD PRECAST MANHOLE	330.44 330.	330.50 333.59	341.75 341.50	STATION SEE PLAN HOWARD CO. STANDARD DETAIL G.5.12

AS BUILT 8/29/94

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — 6/28/90

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, LAND DEVELOPMENT DIVISION — DATE 5/24/90
CHIEF, BUREAU OF HIGHWAYS — DATE 5/16/90
CHIEF, BUREAU OF ENGINEERING — DATE 5/22/90

REVISION(S):

STORM DRAIN
PROFILE & SCHEDULE

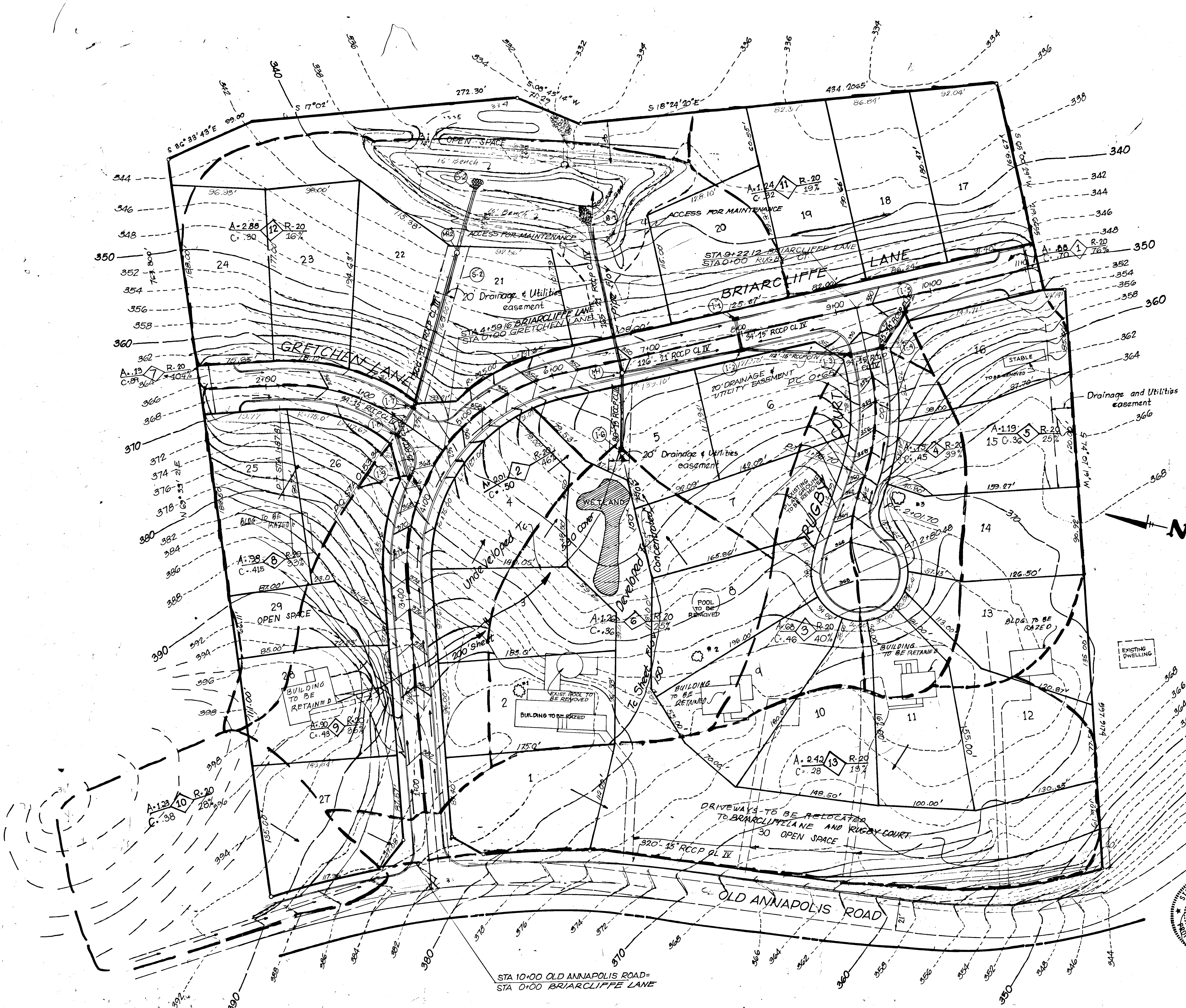
BRIARCLIFFE

OWNER/DEVELOPER
ROBERT AWALT BUILDERS
9051 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21043

loria engineering inc.
Consulting Engineers • Land Planners • Surveyors
3230 Bethany Lane, Suite 4, Ellicott City, Maryland
301-465-0400

SCALE : AS SHOWN | DATE : NOV 1989 | SHEET NO. 6 OF
DESIGNED: M.L. | DRAWN: R.M. | CHECKED:

1576



Scale : 1"- 50'

N

NOTE:

Structures on lots 9, 11 & 28 are to remain. No new building extension, addition to the existing buildings are to be constructed at a distance less than what the zoning regulation require.

APPROVED PLAN REVISION	
SCD	
SCS	
Technical Review	Date

LEGEND:

- #1 STAND OUT TREES
- WETLANDS

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

Approved [signature] Date 4/19/90
Howard S.C.D.

APPROVED:
HOWARD COUNTY DEPT. OF PLANNING & ZONING
[signature] 6/28/9_
CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT — DATE

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[signature] 5/21/90
CHIEF, LAND DEVELOPMENT DIVISION — DATE
[signature] 5/16/90
CHIEF, BUREAU OF HIGHWAYS — DATE
[signature] 5/22/90
CHIEF, BUREAU OF ENGINEERING — DATE

STATE OF MARYLAND — CHARLES J. CROVO SR. — No. 13__ REGISTERED — PROFESSIONAL ENGINEER

AS BUILT 8/19/94

BRIARCLIFFE - LOTS 1 to 31

TAX MAP 30 PARCELS 91,100,101,102 & 127
HOWARD CO., MD.
2nd ELECTION DISTRICT

GRADING PLAN

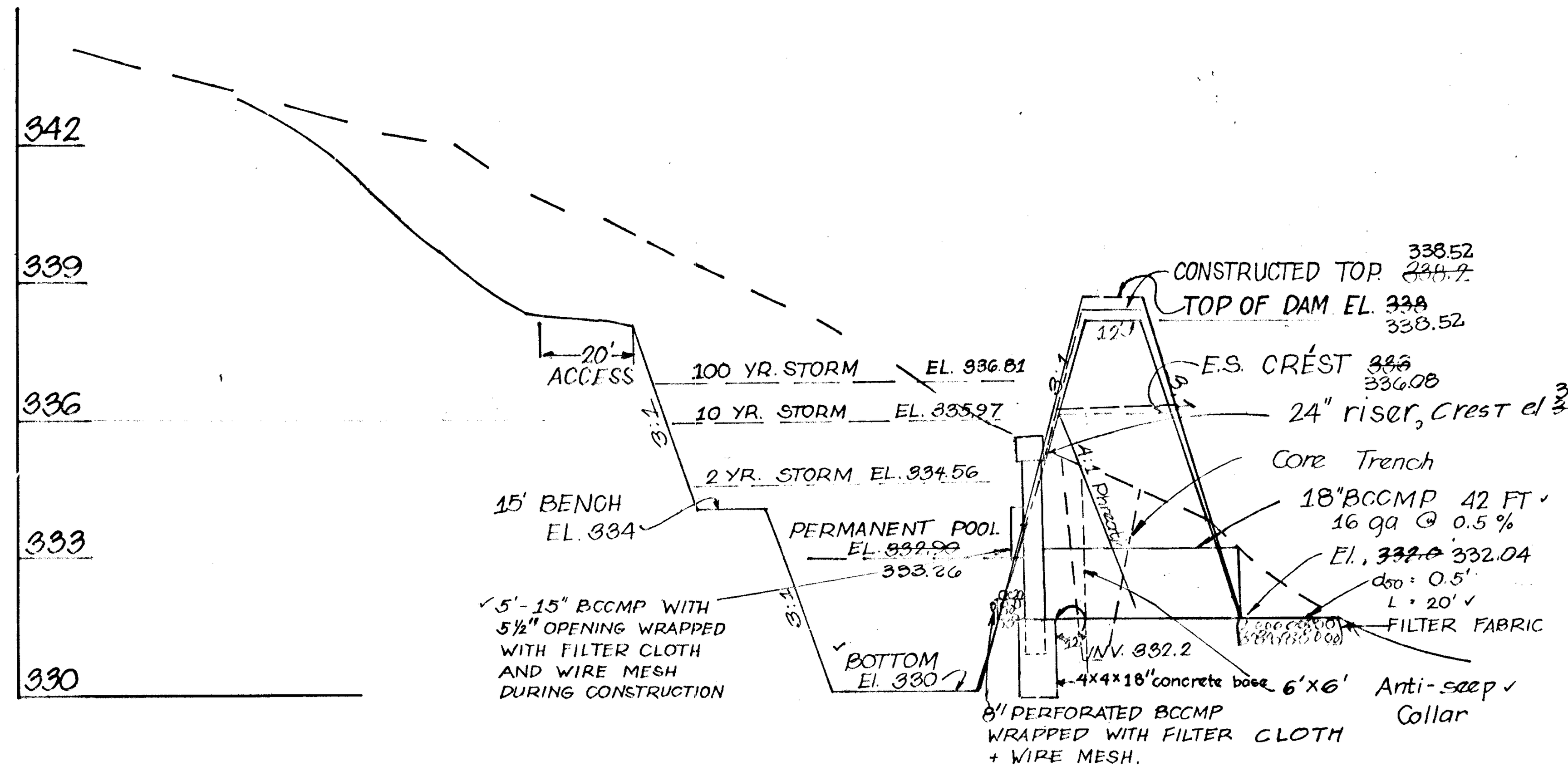
Loria engineering inc.
Consulting Engineers • Land Planners • Surveyors
3230 Bethany Lane, Suite 4, Ellicott City, Maryland
301-465-0400

OWNER/DEVELOPER
ROBERT AWALT BUILDERS
9051 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MD. 21043

SCALE: 1"=50'	DATE: NOV 1989	SHEET NO: 7 OF 11
DESIGNED: ML	DRAWN: RMF	CHECKED: ML

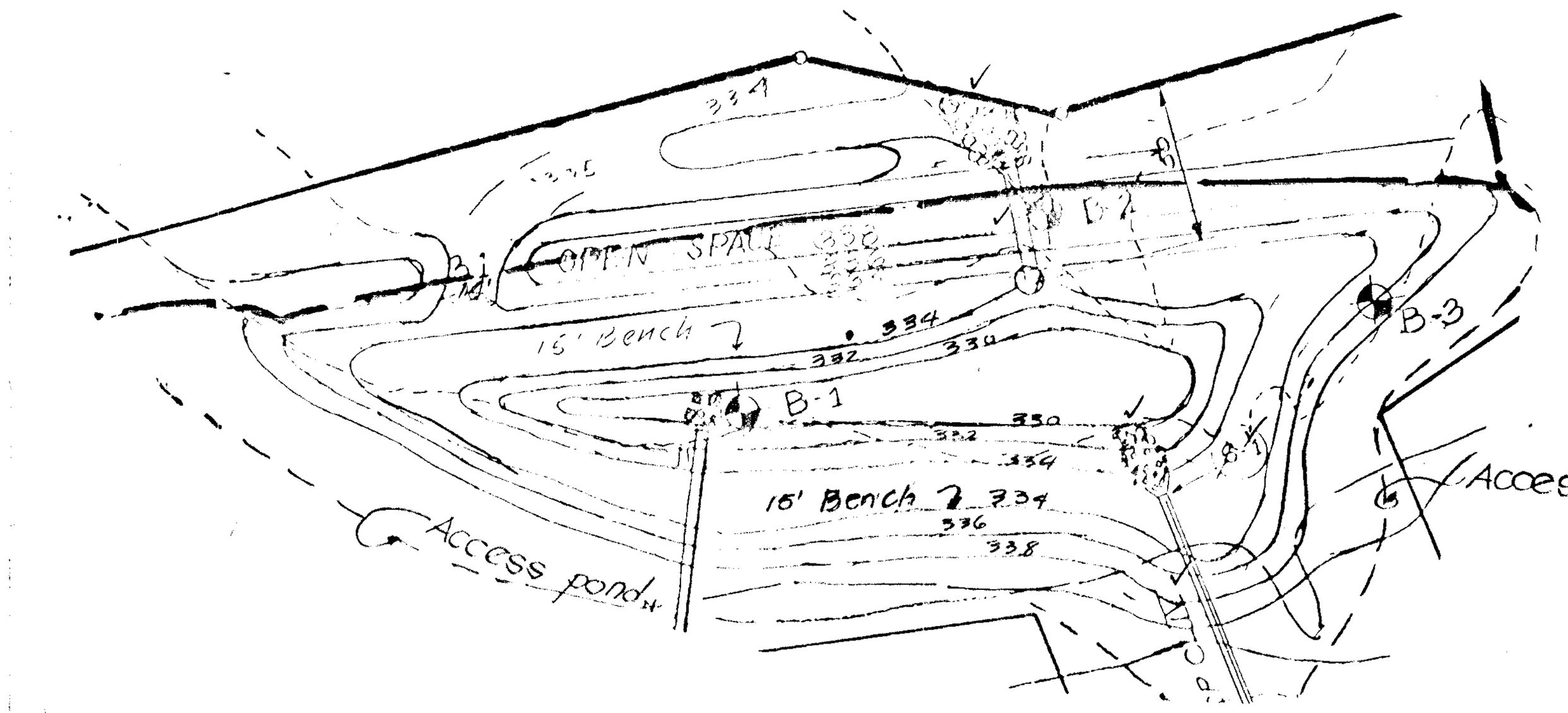
AS-BUILT

1576



SECTION THROUGH RISER

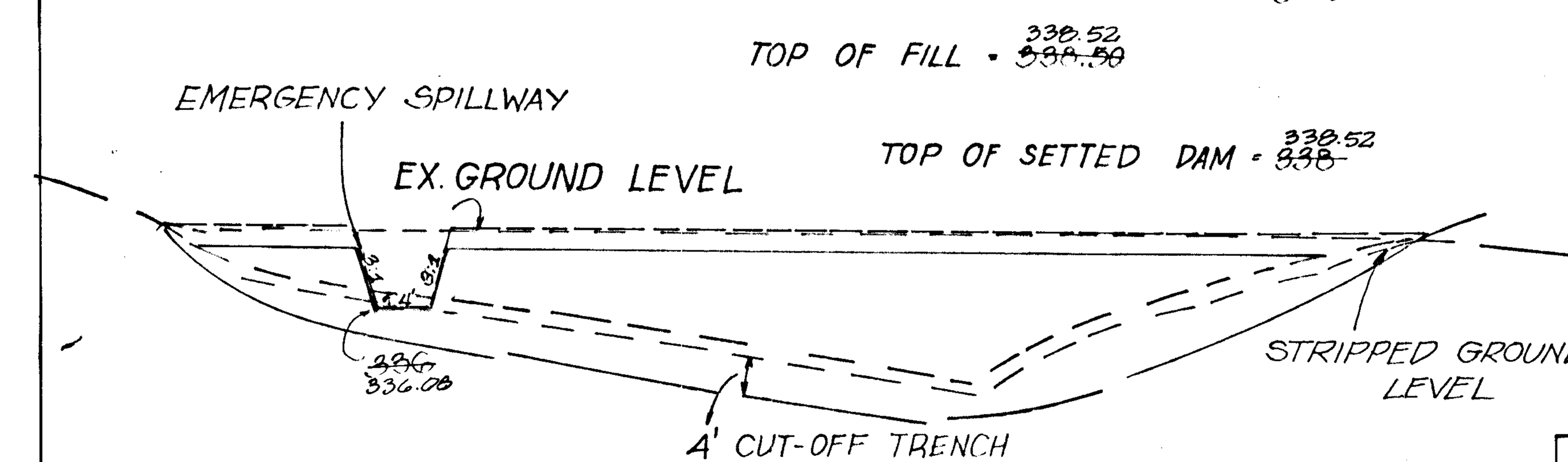
SCALE : 1" = 30' horizontal
1" = 3' Vertical



PLAN

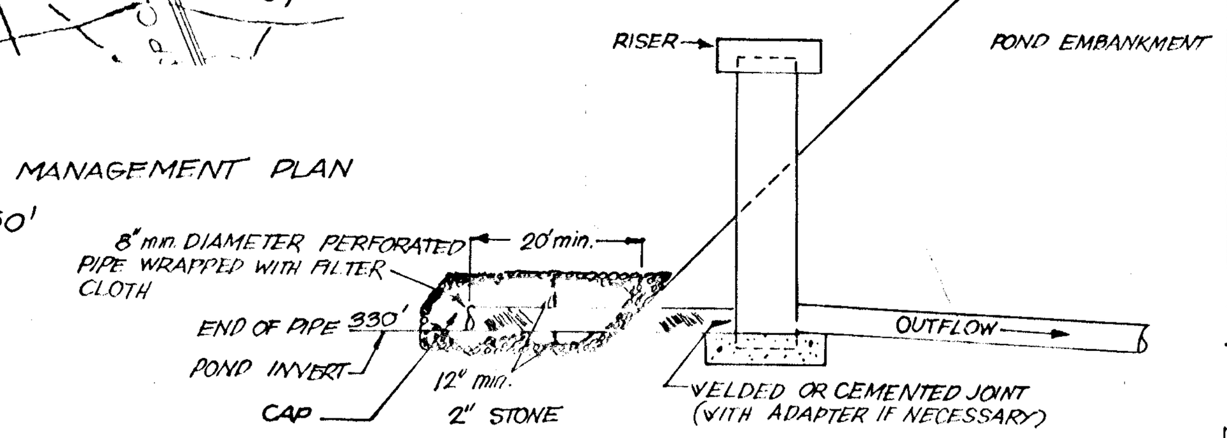
PERMANENT STORM WATER MANAGEMENT PLAN

SCALE : 1" = 50'

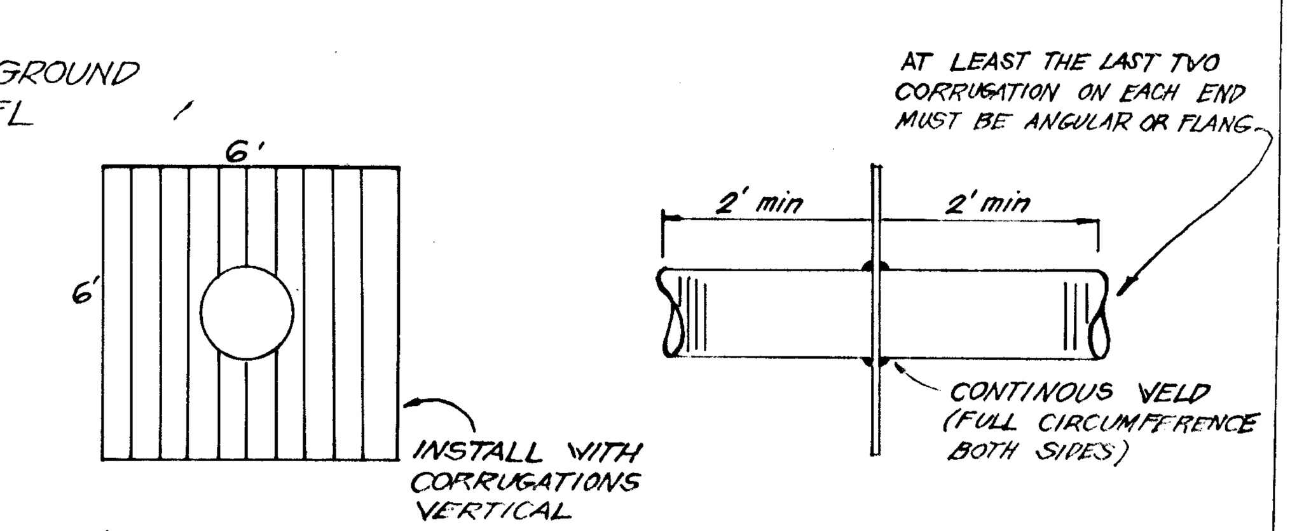


CROSS-SECTION ALONG CENTER LINE OF DAM
LOOKING DOWNSTREAM

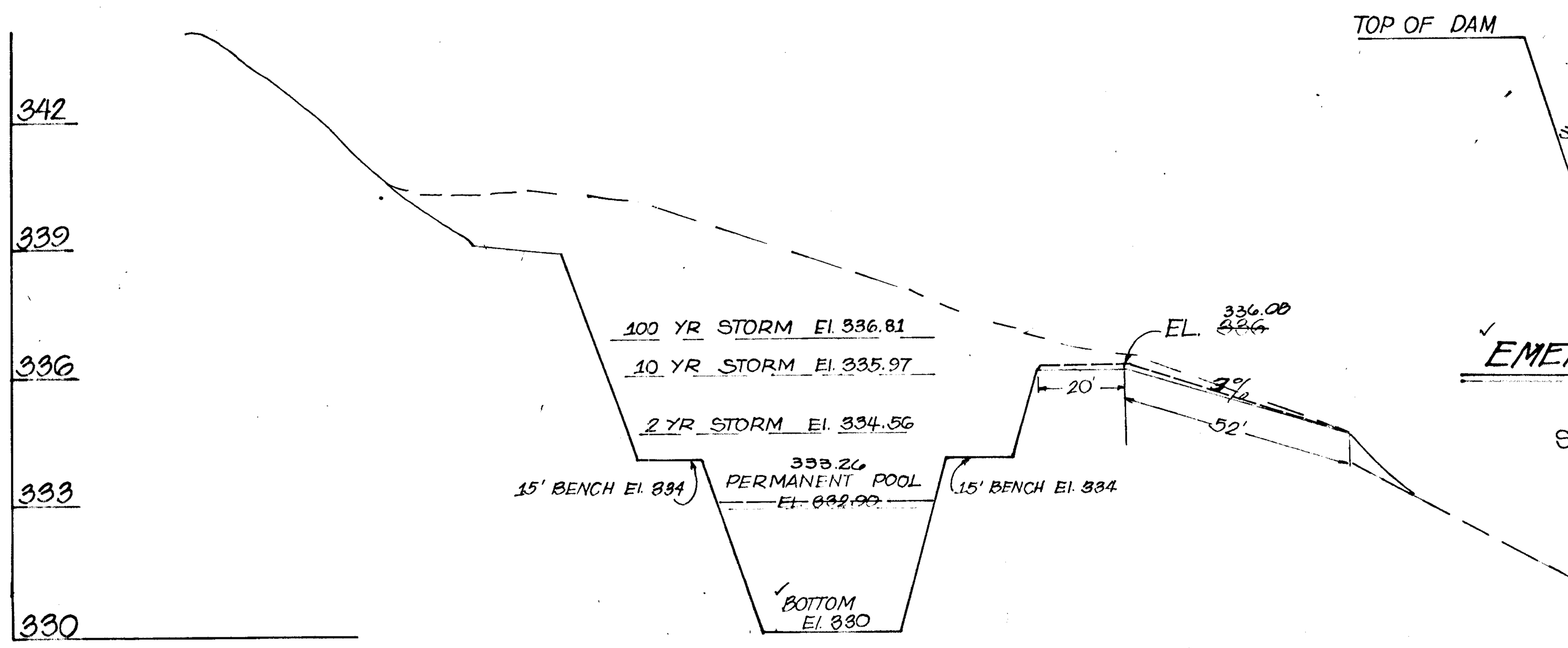
SCALE : 1" = 50' horizontal
1" = 5' Vertical



SEDIMENT BASIN DEWATERING DEVICE
Not to Scale

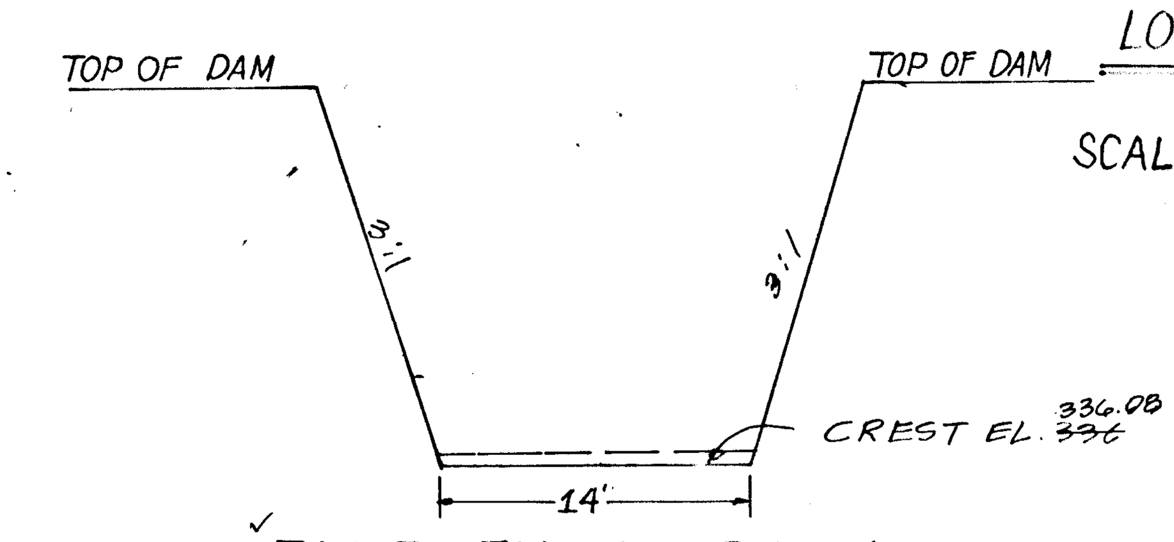


ANTI - SEEP COLLARS DETAIL
NOT TO SCALE



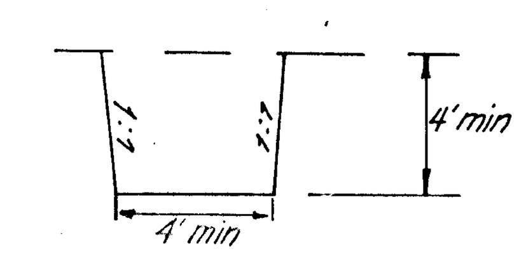
SECTION THROUGH EMERGENCY SPILLWAY

Scale : 1" = 30' horizontal
1" - 3' vertical

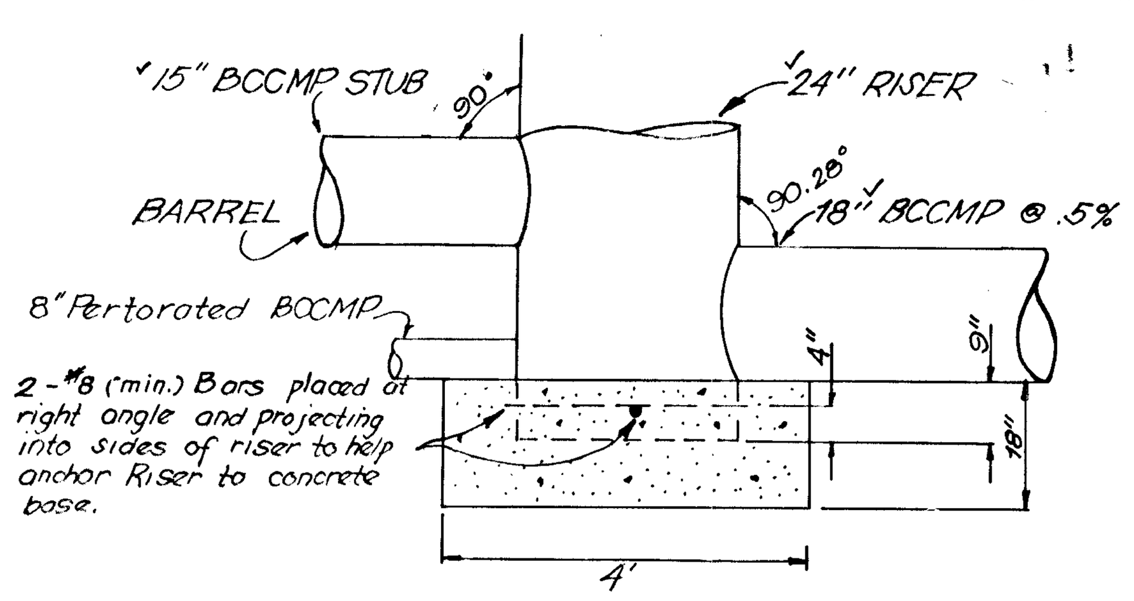


EMERGENCY SPILLWAY
SECTION

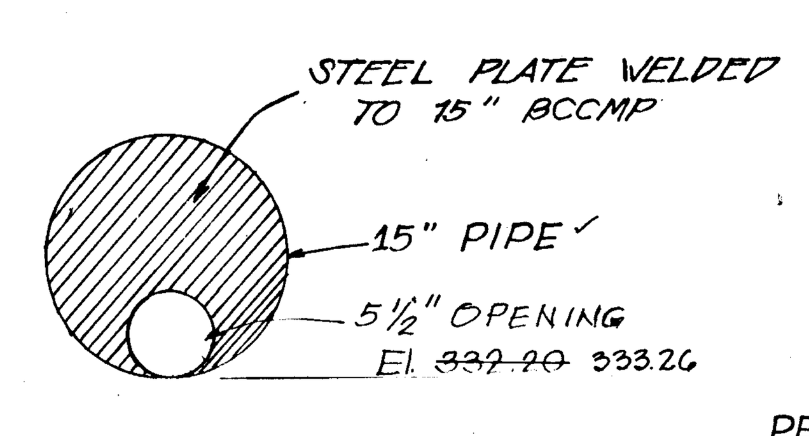
Scale : 1' - 10 HORIZONTAL
1' - 1' VERTICAL



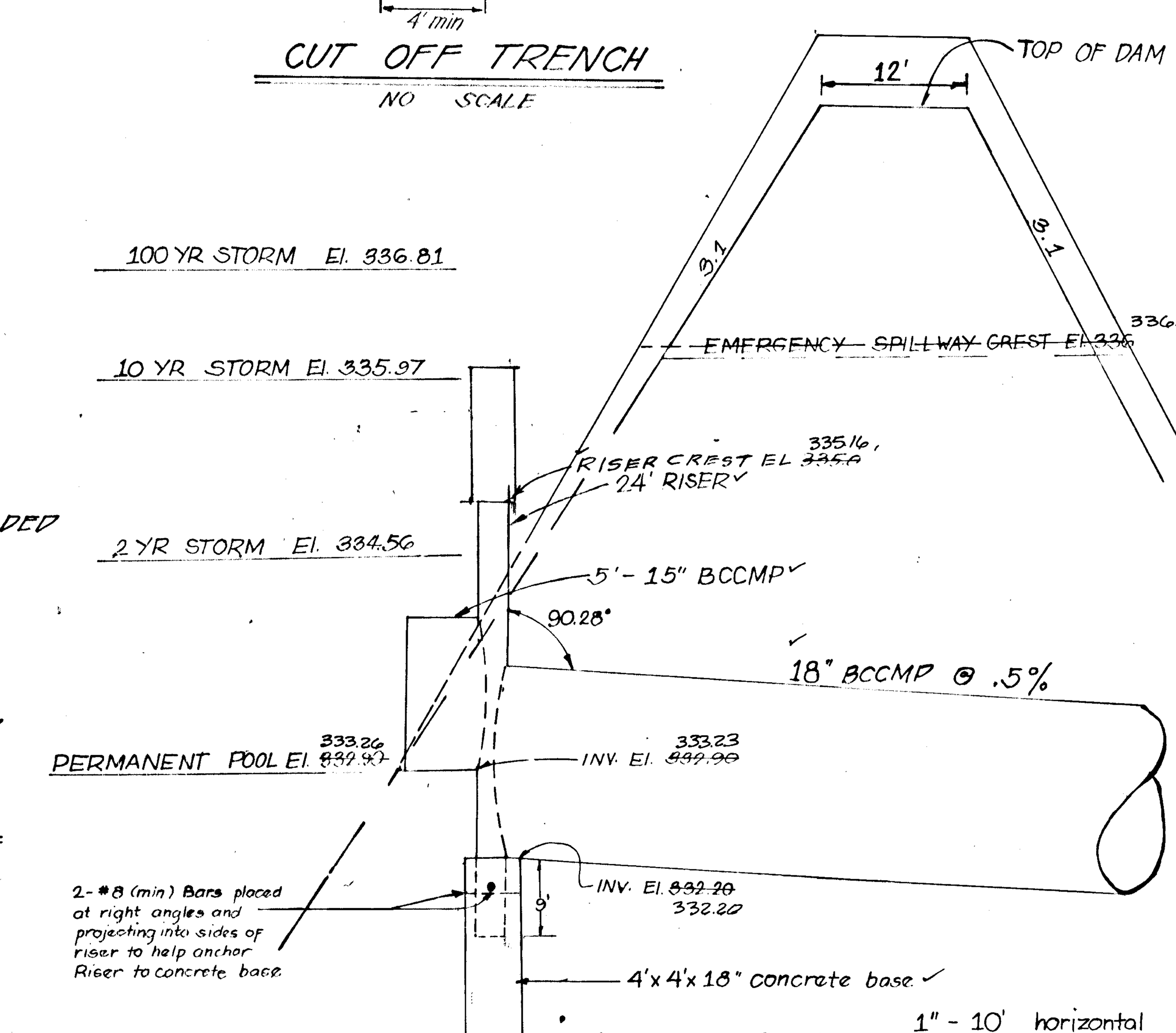
CUT OFF TRENCH
NO SCALE



RISER BASE DETAIL
NOT TO SCALE



DETAIL OF PIPE OPENING
Scale : 1" - 10'



Scale : 1" - 10' horizontal
1" - 1' vertical

NOTES :
1. Only ML, CL, MH or CH Soils will be allowed in Core Trench.
2. Water will be pumped from the Core trench during construction.

Boring No.: B-1	Total Depth: 20.0 ft.	Elevation: 337.0±	Location: See Boring Location Plan			
Type of Boring: Hollow-stem Auger	Started: 5-18-89	Completed: 5-18-89	Driller: B. Organ, CME-55			
Elevation	Depth	Description of Materials (Classification)	Sample Blows	Sample Depth (Feet)	% Core Recovery	Remarks
	0.5	Organic Matter/Contaminated Soil				Groundwater Data
	2.0	Brown slightly micaceous fine sandy clayey SILT, moist, loose (SILT LOAM)	1 2-1	1.5		
		Brown slightly micaceous fine to coarse SAND with some to a trace of gravel/rock fragments and a trace to a little silt, moist, medium dense (LOAMY SAND)	6 9-11	4.0		
	7.6		6 8-5	7.5		M/C - 12.6%
		Gray, yellow and light brown mottled slightly micaceous silty CLAY with some fine to coarse sand, moist, stiff (CLAY LOAM)	3 4-5	10.0		M/C - 25.2%
	12.5	Reddish and golden-brown to dark and olive brown slightly micaceous fine to coarse SAND with some to a trace of gravel/rock fragments and a trace of silt, moist, medium dense (SAND) (SM)	8 18-12	15.0		M/C - 14.4% Groundwater initially encountered at 4.0 feet. At completion, groundwater level at 9.8 feet.
	20.0	BORING TERMINATED @ 20.0 FEET	12 13-13	20.0		Boring caved at 12.7 feet following removal of drilling augers.

Boring No.: B-2	Total Depth: 20.0 ft.	Elevation: 334.0±	Location: See Boring Location Plan			
Type of Boring: Hollow-stem Auger	Started: 5-18-89	Completed: 5-18-89	Driller: B. Organ, CME-55			
Elevation	Depth	Description of Materials (Classification)	Sample Blows	Sample Depth (Feet)	% Core Recovery	Remarks
	0.6	Organic Matter/Contaminated Soil				Groundwater Data
	2.5	Dark brown slightly micaceous clayey SILT with a little fine to coarse sand, moist, loose (SILT LOAM)	1 2-2	1.5		
	4.8	Gray to yellow brown micaceous clayey silty fine SAND, moist, loose (SANDY LOAM)	1 2-2	4.0		
	8.2	Bluish-gray micaceous fine to medium sandy silty CLAY, moist, medium stiff (CLAY LOAM) (CL)	2 3-3	7.5		M/C - 22.1%
	12.8	Gray micaceous fine to coarse SAND with some silty clay and a trace of gravel, moist, loose (SANDY LOAM)	4 3-5	10.0		M/C - 17.1%
		Olive orangish-rust brown to very dark rust brown slightly micaceous fine to coarse SAND with some gravel /rock fragments and a trace to a little silt, moist, medium dense (SAND)	7 9-6	15.0		
	20.0	BORING TERMINATED @ 20.0 FEET	9 10-15	20.0		M/C - 17.3% Groundwater initially encountered at 5.0 feet At completion, groundwater level at 9.8 feet. Boring caved at 12.7 feet following removal of drilling augers.

Boring No.: B-3	Total Depth: 20.0 ft.	Elevation: 337.0±	Location: See Boring Location Plan			
Type of Boring: Hollow-stem Auger	Started: 5-18-89	Completed: 5-18-89	Driller: B. Organ, CME-55			
Elevation	Depth	Description of Materials (Classification)	Sample Blows	Sample Depth (Feet)	% Core Recovery	Remarks
	0.5	Organic Matter/Contaminated Soil				Groundwater Data
	2.3	Brown slightly micaceous clayey SILT with a little fine sand, moist, soft (SILT LOAM)	1 2-2	1.5		
	5.5	Brown micaceous fine to coarse SAND with some silty clay and a trace of gravel, damp, medium dense (SANDY LOAM)	6 6-6	4.0		M/C - 14.7%
	8.0	Brown and gray slightly micaceous silty CLAY with some fine to medium sand, moist, stiff (SILTY CLAY LOAM)	4 5-6	7.5		M/C - 26.9%
	12.0	Gray and brown mottled slightly micaceous CLAY with a trace of fine to medium sand, moist, stiff (SILTY CLAY) (CH)	4 5-5	10.0		M/C - 30.0%
		Bluish-gray and tan micaceous fine to medium SAND with some clayey silt, moist, loose to medium dense (SANDY LOAM)	4 3-3	15.0		
	20.0	BORING TERMINATED @ 20.0 FEET	4 6-10	20.0		M/C - 15.4% Groundwater initially encountered at 12.4 feet. At completion, water level at 13.8 feet. Boring caved at 14.6 feet following removal of drilling augers.

AS BUILT 8/19/94

NOTE : Proposed pond is Hazard Class A. The principal and emergency spillways outlet into an open space leading to a 100 yr. flood plain. No structures exist within this open space area.

DEPARTMENT OF PLANNING AND ZONING
Chief, Division of Community Planning and Land Development — 6/28/90 Date
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Engineering — 5-22-90 Date
Chief, Bureau of Highways — 5/16/90 Date
Chief, Land Development Division — 5/21/90 Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil and sediment control.
U.S. Soil Conservation Service — 4-19-90 Date

These plans for small pond construction, soil and sediment control meet the requirements of the Howard Soil Conservation District.
Howard Soil Conservation District — 4/19/90 Date

oria engineering inc.
Consulting Engineers • Land Planners • Surveyors
3230 Bethany Lane, Suite 4, Ellicott City, Maryland
301-465-0400

By the Engineer

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 an "as-built" plan of the pond within 30 days of completion.

Signature of Engineer — 4-5-90 Date

By the developer

I/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 Natural Resources Approved Training Program for Control of Sediment and Erosion before beginning the project. I will provide Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

Pres. Robert Awalt Builders Inc.
HUNTRIDGE JOINT VENTURE
Signature of Developer — 4/5/90 Date

REVISION:

BRIARCLIFFE

DAM, TRASH RACK and RISER DETAIL

OWNER / DEVELOPER
ROBERT AWALT BUILDERS
9051 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21043

DRAWN BY : R.M.	SCALE : AS SHOWN	SHEET No.: 8 of 11
DESIGNED BY : M.L.		
CHECKED BY : M.L.	DATE : NOV. 1989	

AS-BUILT F-90-100

1576

SOIL CONSERVATION SERVICE
MARYLAND
CONSTRUCTION SPECIFICATIONS
FOR
PONDS

These specifications are appropriate to ponds within the scope of the Standard for practice 378.

I. SITE PREPARATION

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

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 quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

II. EARTH FILL

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 elevatior (including freeboard) as shown on the plans.

Placement

Areas on which fill is to be placed shall be scarified prior to place-ment of fill. Fill materials shall be placed in 8-inch maximum thick-ness (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.

Compaction

The mevement 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 suf-ficient moisture such that the required degree of compaction can be obtained with the equipment used.

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 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 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.

IV. PIPE CONDUITS

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.

Materials - (Aluminum Pipe) - This pipe and its appurt-enances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands. Coupling bands, anti-seep collars, end 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.

Helically corrugated pipe in addition to the requirements above shall have either continuously welded seams or have lock seams which are caulked, during fabrication, with a neoprene bead.

2. Connections - All connections with pipes must be com-pletely 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 com-pletely 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 com-pacted to provide adequate support.

4. Laying pipe - The pipe shall be placed with inside circum-ferential 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. Approved equivalents are AWWA Specification C-300, 301, and 302.

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 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 accord-ance 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 as shown on the drawings.

C. For pipes of other materials, specific specifications shall be shown on the drawings.

V. CONCRETE

1. Materials

a. Cement - Normal Portland cement shall conform to the latest ASTM Specification 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 (1-1/2) inches.

e. Reinforcing Steel - The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel confoming to ASTM Specification A-615

2. 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. gallons of water per 94 pound bag of cement. The proportion of materials for the trial mix shall be 1:2:3-1/2. The combination of aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honeycombing in the structure.

3. 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 in-gredients, except the full amount of water, are in the mixe The minimum mixing time is predicted on proper control of the speed of rotation of 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 con-sistency 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 specifi-cations given here.

4. Forms - The forms shall have sufficient strength and rigidi to hold the concrete and to withstand the necessary pressur tamping, and vibration without deflection from the pre-scribed lines. They shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete.

The inside of forms shall 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 concret All wire ties and other devices used shall be recessed from the surface of the concrete.

5. 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.

6. 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.

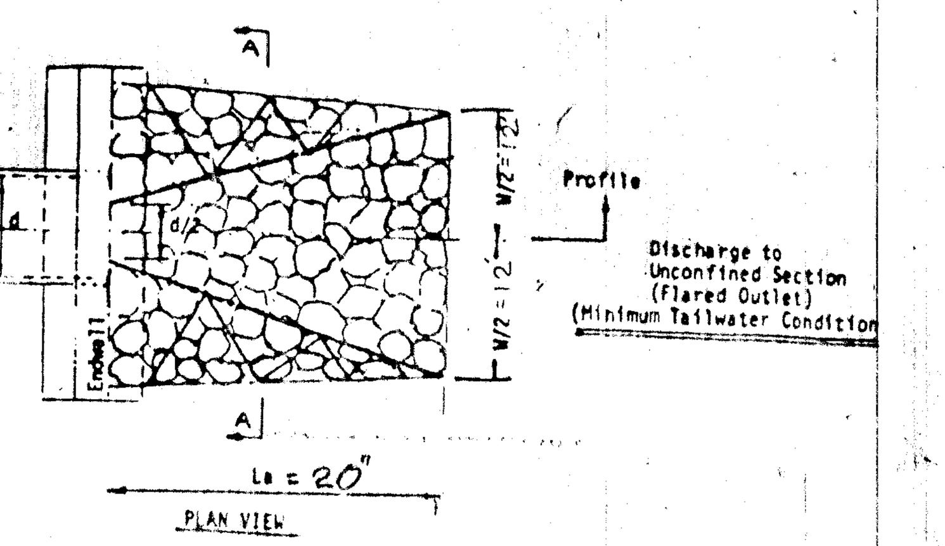
7. Finishing - Defective concrete, honeycombed areas, voids left by the removal of tie rods, ridges on all concrete surfaces permanently exposed to view or exposed to water on the fin-ished structure, shall be repaired immediately after the removal of forms. All voids shall be reamed and completely filled with dry-patching mortar.

8. Protection and Curing - Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first 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 compounds may also be used.

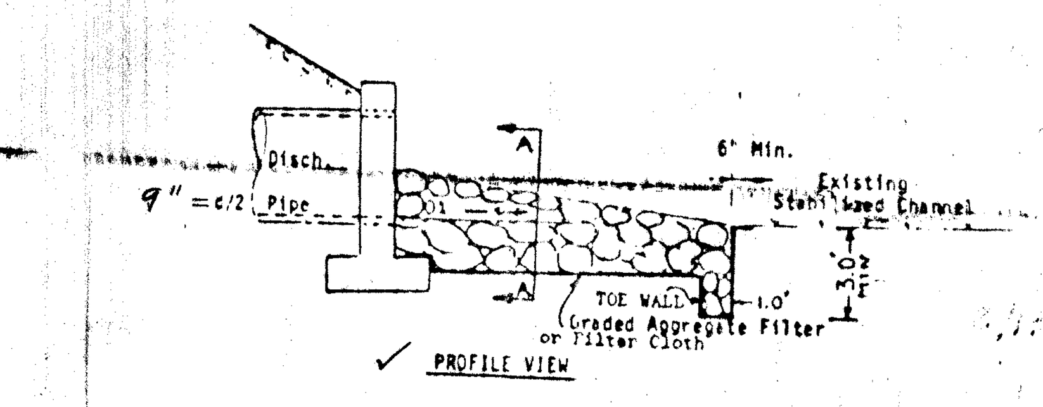
9. Placing Temperature - Concrete may not be placed at temp-eratures below 37° F with the temperature falling, or 32° with the temperature rising.

VI. STABILIZATION

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

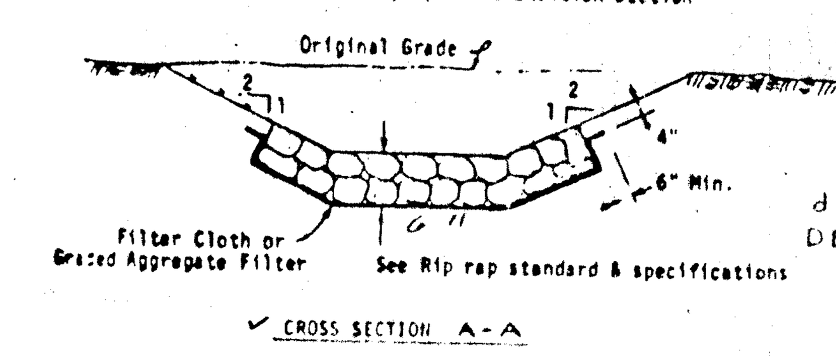


PLAN VIEW



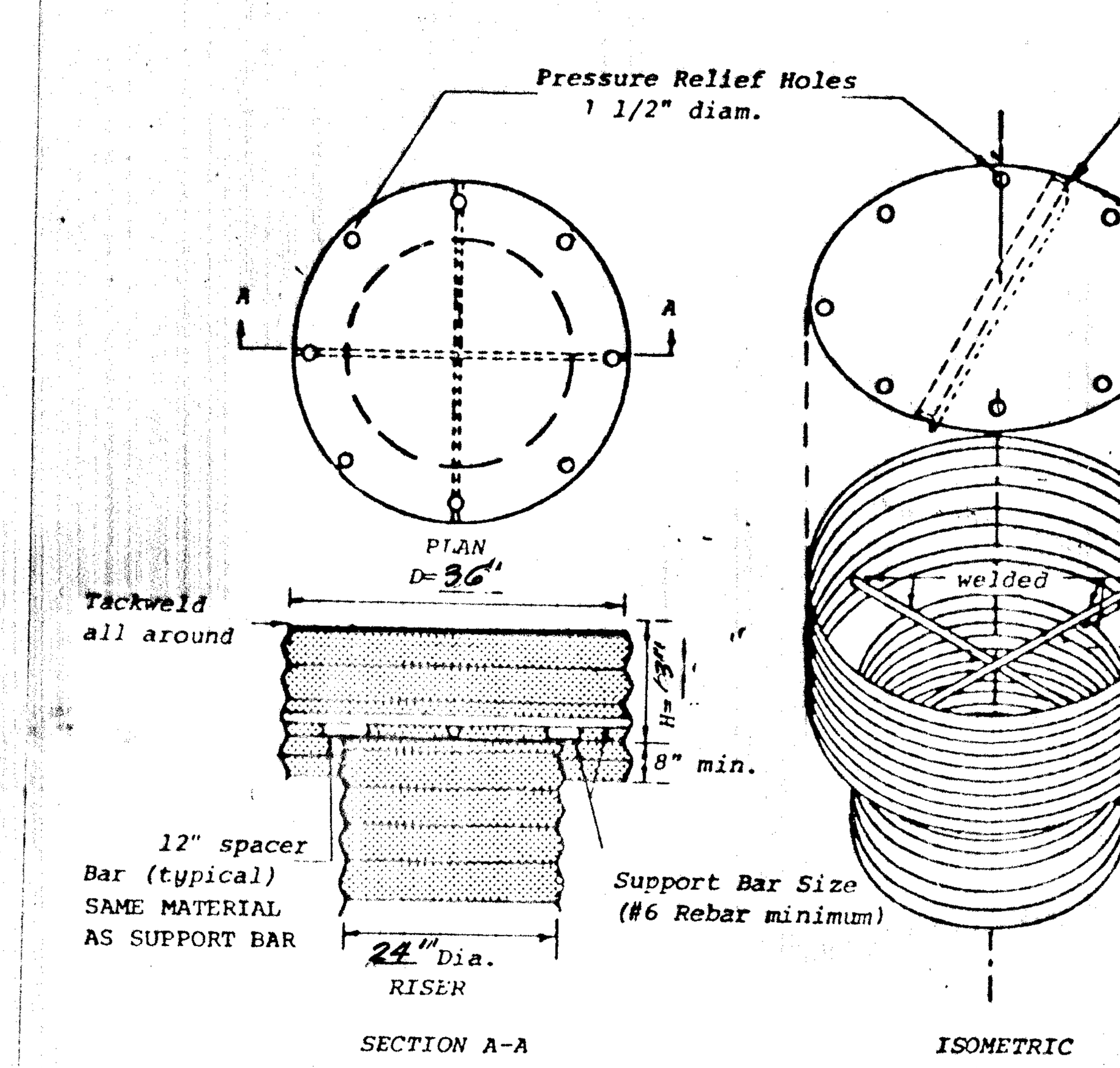
✓ PROFILE VIEW

Rip rap to be embedded in proposed transition section



d 50 = 6"
DEPTH = 14"

✓ CROSS SECTION A-A



Top stiffener (if re-quired) is _ x _ x _ angle welded to top and or-iented perpendicular to corrugations.

Top is 14 gage corrugated metal or 1/8" steel plate. Pressure relief holes may be ommitted, if ends of corru-gations are left fully open when corrugated top is welded to cylinder.

Cylinder is 16 gage corru-gated metal pipe or fabricated from 1/8" steel plate.

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

✓CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE
(not to scale)

DEPARTMENT OF PLANNING AND ZONING
[signature] 6/20/[illegible]
Chief, Division of County Planning and Land Development — Date
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[signature] 5-22-90
Chief, Bureau of Engineering — Date
[signature: Granville W. Wehland] 5/16/90
[illegible] of Highways
[signature] 5/21/90
[illegible] Land Dev. [illegible] Division

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil and sediment control.
[signature] 4-19-90
U.S. Soil Conservation Service — Date

These plans for small pond construction, soil and sediment control meet the requirements of the Howard Soil Conservation District.
[signature: Robert W. Ziehm] 4/19/90
Howard Soil Conservation District

Loria engineering inc.
Consulting Engineers • Land Planners • Surveyors
3230 Bethany Lane, Suite 4, Ellicott City, Maryland
301-465-0400

By the Engineer

I certify that this plan for pond constreuction, 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 an "as-built" plan of the pond within 30 days of completion.
[signature] 4-5-90
Signature of Engineer — Date

By the developer

I/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 Natural Resources Approved TTraining Program for Control of Sediment and Eroision before beginning the project. I will provide Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspection by the Howard Soil Conservation District.
[signature] Pres. Robert Awalt Builders Inc
HUNTRIDGE JOINT VENTURE 4/5/90
Signature of Developer — Date

REVISION:

BRIARCLIFFE

GENERAL NOTES & TRASH RACK & RIP-RAP DETAIL

OWNER/DEVELOPER
ROBERT AWALT BUILDERS
9051 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21043

DRAWN BY: R.M.F.	SCALE: NO SCALE	SHEET No.: 9 of 11
DESIGNED BY:	DATE: NOV. 1989	
CHECKED BY: M.L.		

AS-BUILT F-90-100

TEMPORARY SEDIMENT TRAP NO 1.

TYPE	= SEDIMENT BASIN
DRAINAGE AREA	= 12.20 ACRES
STORAGE REQUIRED	= 21,960 CU. FT.
STORAGE PROVIDED	= 30,869 CU. FT.
OUTLET PIPE	= 18" BCCMP
CLEAN OUT ELEV.	= 333.0 FT.
EMBANKMENT HEIGHT	= 7 FT.
OUTLET ELEV.	= 336.00 FT.

Reviewed for HOWARD SCD and meets technical requirements

4-19-90

U.S. SOIL CONSERVATION SERVICE

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

Robert W. Zelum 4/19/90

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 COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

Pres. Robert Awalt Builders Inc., PARTNER HUNTRIDGE JOINT VENTURE 4/5/90

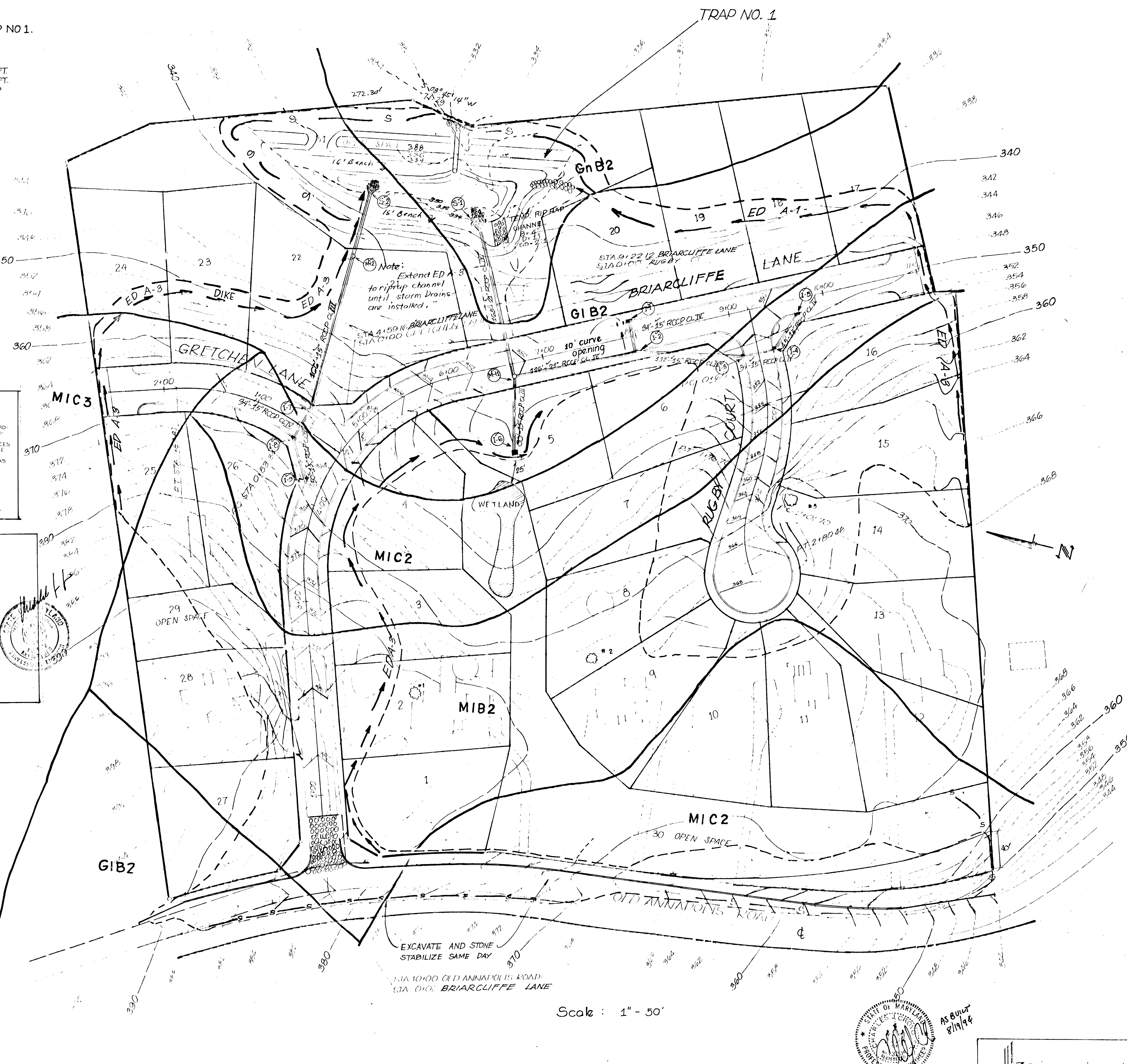
DEVELOPER/BUILDER DATE

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 COUNTY SOIL CONSERVATION DISTRICT.

4-5-90

DATE



Scale: 1" - 50'

SOILS	TYPE
GIB2	B
GnB2	B
MIB2	B
MIC2	B
MIC3	B

BRIARCLIFFE SEDIMENT CONTROL

① CONSTRUCTION SEQUENCE

1. Obtain a grading permit, fence off wetland.
2. Clear for and construct sediment controls including pond to be used as a sediment basin. Install riprap drops.
3. Grade and Construct Roads and utilities.
4. Provide continuous maintenance on sediment controls.
5. Seed and mulch disturbed areas.
6. Remove Sediment controls and stabilize
7. Convert sediment basin to permanent swim pond by pumping dry, removing silt, opening low flow and stabilize disturbed areas.
8. Remove Sediment controls after recieving Sediment control Inspector's permission.

LEGEND

SILT FENCE	S —— S —— S
DISTURB LIMIT	—— —— ——
EARTH DIKE	——→ A-1 ——→

APPROVED: HOWARD COUNTY DEPT OF PLANNING & ZONING 6/20/90

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 5/21/90

5/16/90

5/22/90

AS BUILT 8/19/94

BRIARCLIFFE

HOWARD CO., MD.

SEDIMENT CONTROL PLAN

oria engineering inc.

ROBERT AWALT BUILDERS

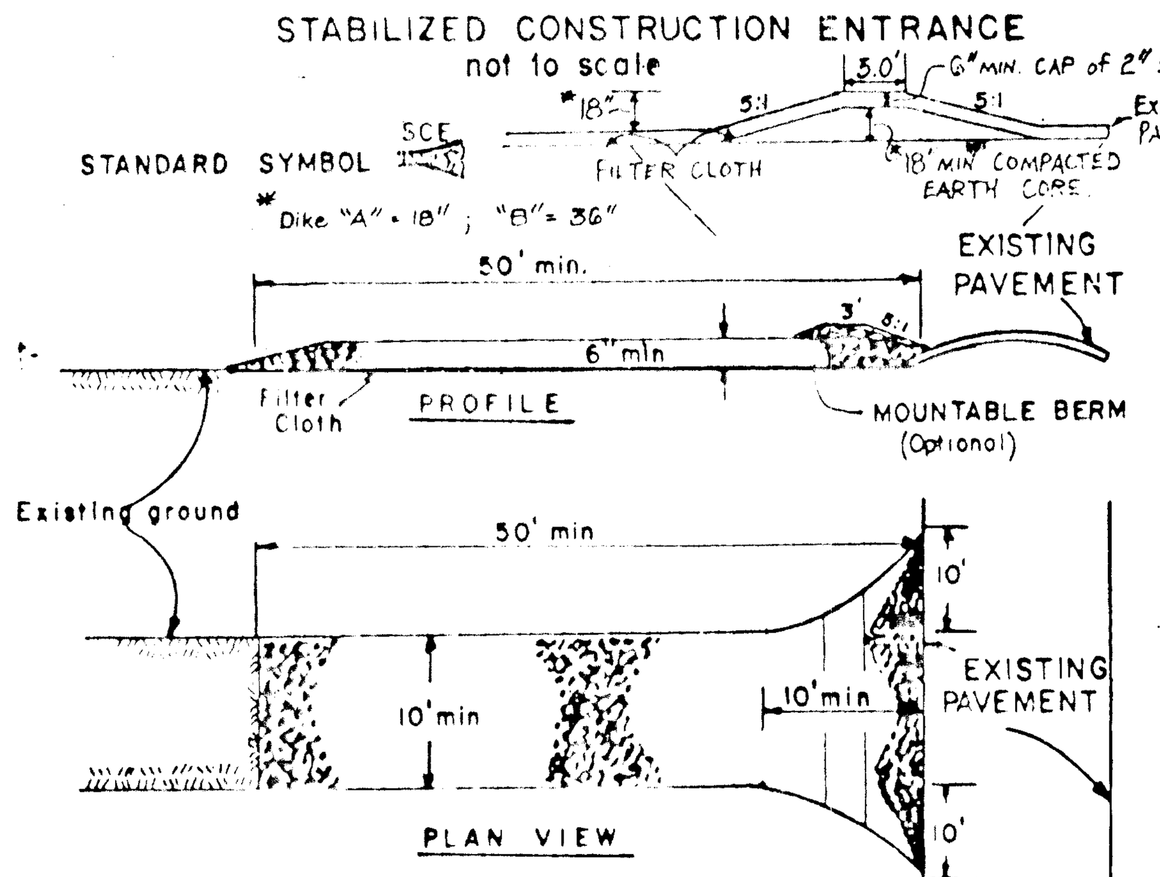
NOV. 1989 ML RMF ML 10 of 11

AS-BUILT F-90-100

1576

STABILIZED CONSTRUCTION ENTRANCE

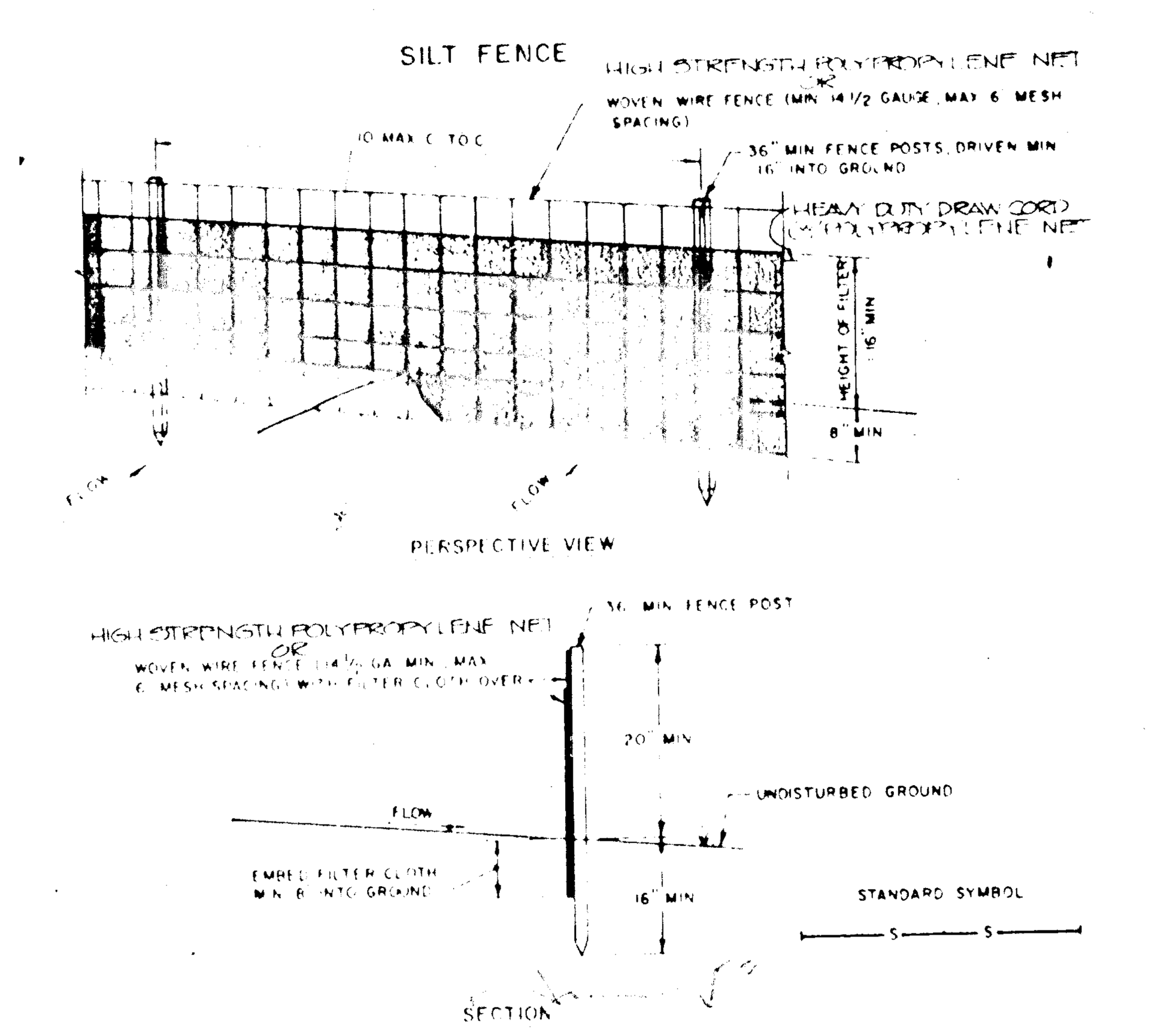
not to scale



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) foot 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 mountable 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 conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
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.

SILT FENCE



PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE FUTURE DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

Seedbed Preparation: Loosen upper 3 inches of soil by raking, discing or other acceptable means before seeding.

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 square 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 (9lbs./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 1½ to 2 tons per acre (70 to 90 lbs./1000 sq.ft.) of unrotted 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 reseedings.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREA LIKELY TO BE REDISTURBED WHERE A STORT-TERM VEGETATIVE COVER IS NEEDED.

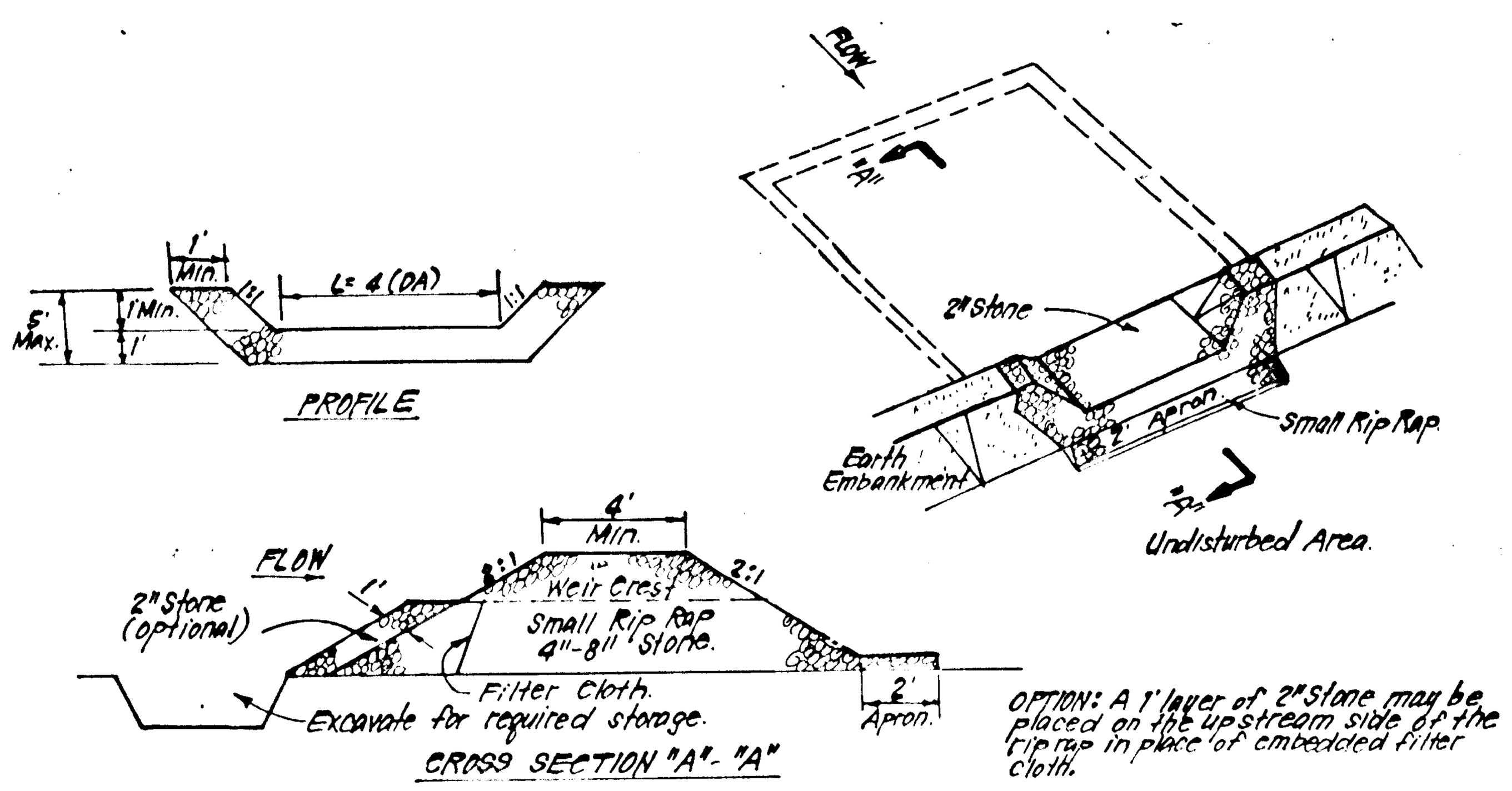
Seedbed Preparation: Loosen upper 3 inches of soil by raking, discing or other acceptable means before seeding.

Soil Amendments: Apply 60 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 2½ bu. 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 1½ to 2 tons per acre (70 to 90 lbs./1000 sq,ft.) of unrotted 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 MD. STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.



CONSTRUCTION SPECIFICATIONS:

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots 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 4"-8" along with 1' thickness of 2" aggregate placed on the up-grade side on the small rip rap or embedded filter cloth in the rip rap.
5. Sediment shall be removed and trap restored to its orginal dimensions when the sediment has accumulated to ½ 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 than erosion and water pollution is minimized.
8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

STONE OUTLET SEDIMENT TRAP (S.O.S.T.) ST.V.

NO SCALE

STANDARD AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION WITH SOD

SPECIFICATIONS

1. Class of turfgrass sod shall be Maryland or Virginia State Certified, or Maryland or Virginia State approved sod.
2. Sod shall be machine cut at a uniform soil thickness of 3/4 inch, plus or minus 1/4 inch, at the time of cutting. Measurement for thickness shall exclude top growth and thatch.
3. Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
4. Individual pieces of sod shall be cut to the suppliers width and length. Maximum allowable deviation from standard widths and lengths shall be 5 percent. Broken pads and torn or uneven ends will not be acceptable.
5. Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
6. Sod shall be harvested, delivered and installed within a period of 36 hours. Sod not transplanted within this period shall be inspected and approved prior to its installation.

I. Site Preparation

Fertilizer and lime application rates shall be determined by soil tests. Under unusual circumstances where there is insufficient time for a complete soil test, fertilizer and lime materials may be applied in amounts shown under B, below.

A. Prior to sodding, the surface shall be cleared of all trash, debris, and of all roots, brush, wire, grade stakes and other objects that would interfere with planting, fertilizing or maintenance operations.

B. Where the soil is acid or composed of heavy clays, ground limestone shall be spread at the rate of 2 tons/acre or 100 pounds per 1,000 square feet. In all soils 1,000 pounds per acre or 25 pounds per 1,000 square feet of 10-10-10 fertilizer or equivalent shall be uniformly applied and mixed into the top 3 inches of soil with the required lime.

C. All areas receiving sod shall be uniformily fine graded Hard-packed earth shall be scarefied prior to placement of sod.

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 redisturbance, 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, Chaper 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	15.93	Acres
Area Disturbed	9.5	Acres
Area to be roofed or paved	1.50	Acres
Area to be vegetatively stabilized	8 -	Acres
Total Cut	10,000	Cu. yds
Total Fill	2000	Cu. yds
Offsite waste/borrow area location	NONE	

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 DPW 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-Sold" 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 2200 L.F.

GENERAL NOTES

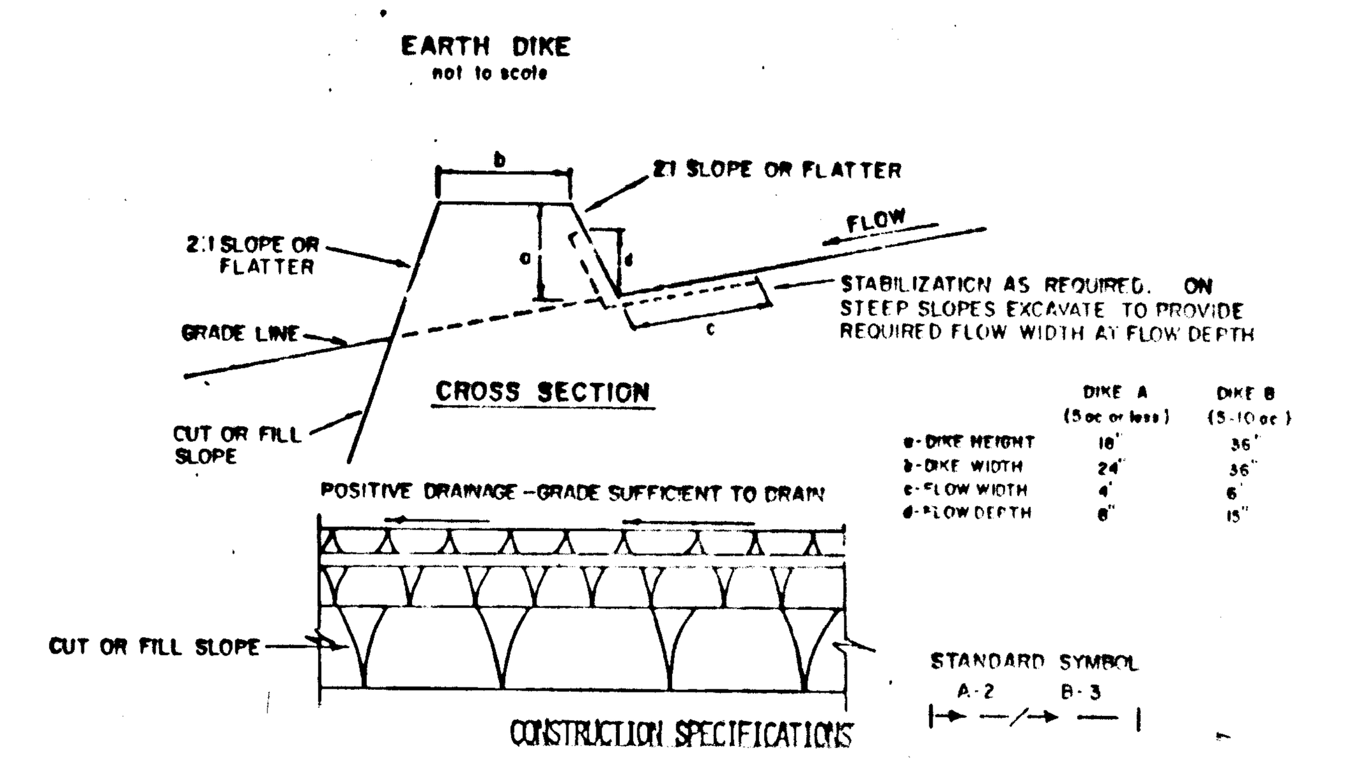
1) Refer to "1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for standard details and detailed specifications of each practice specified herein.
2) With the approval of the sediment control inspector, minor field adjustments can and will be made to insure the control of any sediment. Changes in sediment control practices require prior approval of the sediment control inspector and the County Soil Conservation District.
3) At the end of each working day, all sediment control practices will be inspected and left in operational condition.
4) Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a.) seven calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1) and b.) fourteen days as to all other disturbed or graded areas on the project site.
5) Any change to the grading proposed on this plan requires re-submission to County Soil Conservation District for approval.
6) Dust control will be provided for all disturbed areas. Refer to 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control, pp 6201 and 62.02 for acceptable methods and specifications for dust control.
7) Any variation from the sequence of operations stated on this plan requires the approval of the sediment control inspector and the County Soil Conservation District prior to the initiation of the change.
8) Excess cut or borrow material shall go to or come from, respectively, a site with an approved sediment control plan.

The following item may be used as applicable:

9) Refer to "Maryland's Guidelines to Waterway Construction" by the Water Resources Administration (WRA), dated January, 1986 for standard details and detailed specifications of each practice specified herein for waterway construction.

EARTH DIKE

not to scale



CONSTRUCTION SPECIFICATIONS

1. ALL DIKES SHALL BE COMPACTED 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 CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD 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 THE CHART BELOW.

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSIOR; SOD; 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP-RAP 4-8"
4	8.1-20%	LINED RIP-RAP 4-8"	ENGINEERING DESIGN

A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.

7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

APPROVED:
HOWARD COUNTY DEPT. OF PLANNING & ZONING
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 6/28/90

APPROVED:
HOWARD COUNTY DEPT. OF PUBLIC WORKS
CHIEF, LAND DEVELOPMENT DIVISION — DATE 5/21/90
CHIEF, BUREAU OF HIGHWAYS — DATE 5/16/90
CHIEF, BUREAU OF ENGINEERING — DATE 5/22/90

Reviewed for HOWARD SCD and meets technical requirements
4-19-90
U.S. SOIL CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY HOWARD COUNTY SOIL CONSERVATION DISTRICT.
4-19-90
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 COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

HUNTRIDGE JOINT VENTURE INC, — 11-13-89
ROBERT AWALT BUILDERS INC, PARTNER — 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 COUNTY SOIL CONSERVATION DISTRICT.

11-14-89
DATE

Loria engineering inc.
Consulting Engineers · Land Planners · Surveyors
3230 Bethany Lane, Suite 4, Ellicott City, Maryland
301-465-0400

LOT 1 - 31
SEDIMENT CONTROL NOTE
OWNER/ DEVELOPER

DRAWN BY:	SCALE:	SHEET NO.
DESIGNED BY:	DATE:	11
CHECKED BY:		

1576

F-90-100