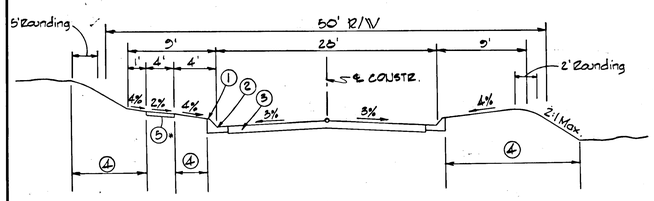
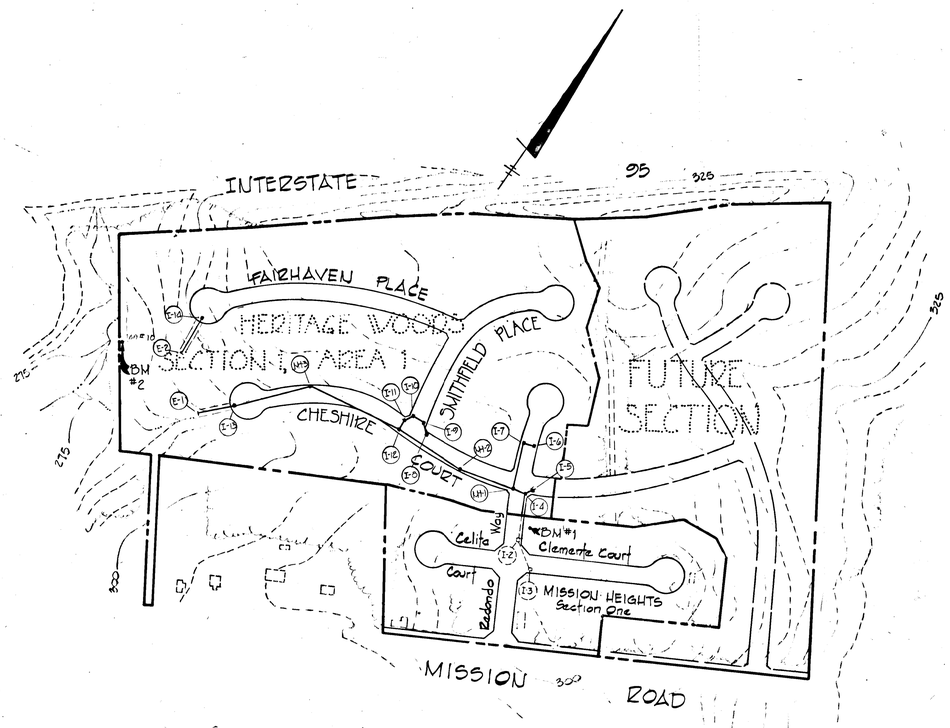
KEY:

1. PROFILE GRADE LINE (PGL)
2. MODIFIED CONCRETE CURB & GUTTER (R-3.01)
3. HOWARD COUNTY STANDARD PAVING SECTION P-2 (R-2.01)
4. PLACE 2" TOPSOIL SEED AND MULCH (R-3.05)
5. 4" CONCRETE SIDEWALK



TYPICAL SECTION

REDONDO WAY - STA. 5+06.39 TO CUL-DE-SAC
CHESHIRE COURT - STA. 3+32.78 WEST TO CUL-DE-SAC
SMITHFIELD PLACE - STA. 2+74.57 TO CUL-DE-SAC
FAIRHAVEN PLACE
CUL-DE-SAC STREET
ZONING R-SC
DESIGN SPEED - N/A
*Note: No Sidewalk On Redondo Way

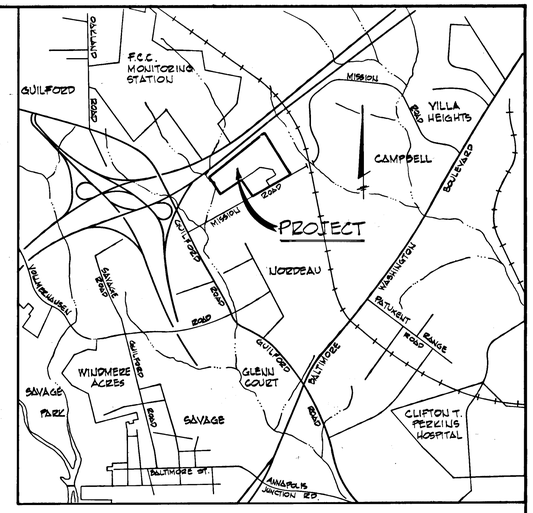


PLAN

Scale: 1" = 200'

BENCH MARKS:

BM #1 : 1/2 Spike Set in 12" Poplar
BM #2 : 1/2 Spike Set in 12" Maple
Orgin of Coordinates and Bench Marks: Howard County Geodetic Control Points No. 2243001-12 And 21d2003-12



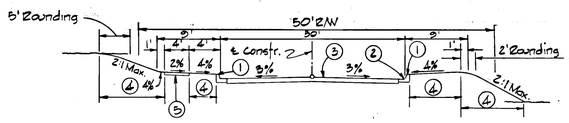
VICINITY MAP

Scale: 1" = 2,000

GENERAL NOTES

1.) Construction Shown Hereon Shall Be In Accordance With The Howard County Standard Specifications And Details.
2.) Page And Drawing No.'s Referenced Hereon Are Taken From The "Standard Specifications And Details".
3.) Elevations Shown Hereon Are Based On The Howard County Vertical Control Datum.
4.) See Sheet 6 Of 8 And 8 Of 8 For Sediment Control Plan & Details.
5.) Traffic Control Signs Shall Be In Accordance With The State Of Maryland Manual On Uniform Traffic Control Devices.
6.) Street Lights Shall Be 175 Watt Modern Mercury Vapor Lamp Post Top Fixtures Mounted On 14' Embedded Fiberglass Pole.

HOWARD COUNTY GEODETIC SURVEY MONUMENT NOS. 2243001 AND 2243002 WERE USED FOR HORIZONTAL AND VERTICAL CONTROLS.



TYPICAL SECTION

REDONDO WAY - STA. 3+80.89 TO STA. 5+06.39
CHESHIRE COURT - STA. 0+00 TO STA. 3+32.78 WEST
STA. 0+00 TO STA. 1+03. EAST
SMITHFIELD PLACE - STA. 0+00 TO STA. 2+74.57
LOCAL STREET
ZONING R-SC
DESIGN SPEED - 30MPH

INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION
1	INDEX OF DRAWINGS - TYPICAL ROAD SECTIONS
2	ROAD PLAN & PROFILE - REDONDO WAY AND SMITHFIELD PLACE
3	" " " " CHESHIRE COURT
4	" " " " FAIRHAVEN PLACE
5	STORM DRAIN PROFILES AND DETAILS
6	GRADING & SEDIMENT CONTROL PLAN - DRAINAGE AREA MAP
7	STORMWATER MANAGEMENT DETAILS
8	EROSION & SEDIMENT CONTROL DETAILS - CONSTRUCTION SEQUENCE

This Development Plan Is Approved For Soil Erosion And Sediment Control By The Howard Soil Conservation District.

APPROVED: Robert W. Zielmin, Howard Soil Conservation District — 9/28/82 Date

Reviewed For Howard Soil Conservation District And Meets Technical Requirements.

Signature, U.S. Soil Conservation District — 9/28/82 Date

OWNER & DEVELOPER
SECURITY DEVELOPMENT CORPORATION
P.O. Box 417
Ellicott City, Maryland 21043

PURDUM & JESCHKE
CONSULTING ENGINEERS
LAND SURVEYORS
1023 North Calvert Street
Baltimore, Maryland 21202 301/837-0194

APPROVED: Howard County Department Of Public Works.

Chief, Bureau Of Engineering — 10.1.82 Date

APPROVED: Howard County Office Of Planning And Zoning.

ACTING Chief, Division Of Land Development And Zoning Administration — 9-29-82 Date

DEVELOPER'S CERTIFICATION:
I Certify That All Development And/Or Construction Will Be Done In Accordance To This Plan Of Development And Plan Of Erosion And Sediment Control And I Also Authorized Periodic On-site Inspection By The Howard Soil Conservation District Or Their Authorized Agents As Deemed Necessary.

7/23/82

ENGINEERS CERTIFICATIONS:
I 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.

William G. Rasch II — 7/22/82 Date

TYPICAL ROAD SECTIONS - INDEX OF DWGS | SHEET 1 OF 8

HERITAGE WOODS

SECTION ONE - AREA ONE
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 42, PARCELS 371 294 & 77
SEPT. 10, 1982 SCALE AS SHOWN

DES: BE
DRW: RAZ
CHK: BE

REVISED AS NOTED 12-29-87

F-83-05

BRUNING ANE 1M3-2

This Development Plan Is Approved For Soil Erosion And Sediment Control By The Howard Soil Conservation District.

APPROVED: [signature] 9-28-82
Howard Soil Conservation District — Date

Reviewed For Howard Soil Conservation District And Meets Technical Requirements.

[signature] 9/28/82
Signature — Date
U.S. Soil Conservation District

PURDUM & JESCHKE
CONSULTING ENGINEERS
LAND SURVEYORS
1023 North Calvert Street
Baltimore, Maryland 21202 — 301/837-0194

APPROVED: Howard County Department Of Public Works.

[signature] 10-1-82
Chief, Bureau Of Engineering — Date

APPROVED: Howard County Office Of Planning And Zoning

Planning Director — Date

ACTING [signature] 9-29-82
Chief, Division Of Land Development And Zoning Administration — Date

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[signature] 7/23/82

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[signature] 7/22/82
William G. Rosch II — Date

ROAD PLAN AND PROFILE
SMITHFIELD PLACE - REDONDO WAY
HERITAGE WOODS
SECTION ONE - AREA ONE
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 42, PARCELS 371, 294 & 77
SEPT. 10, 1982 — SCALE AS SHOWN

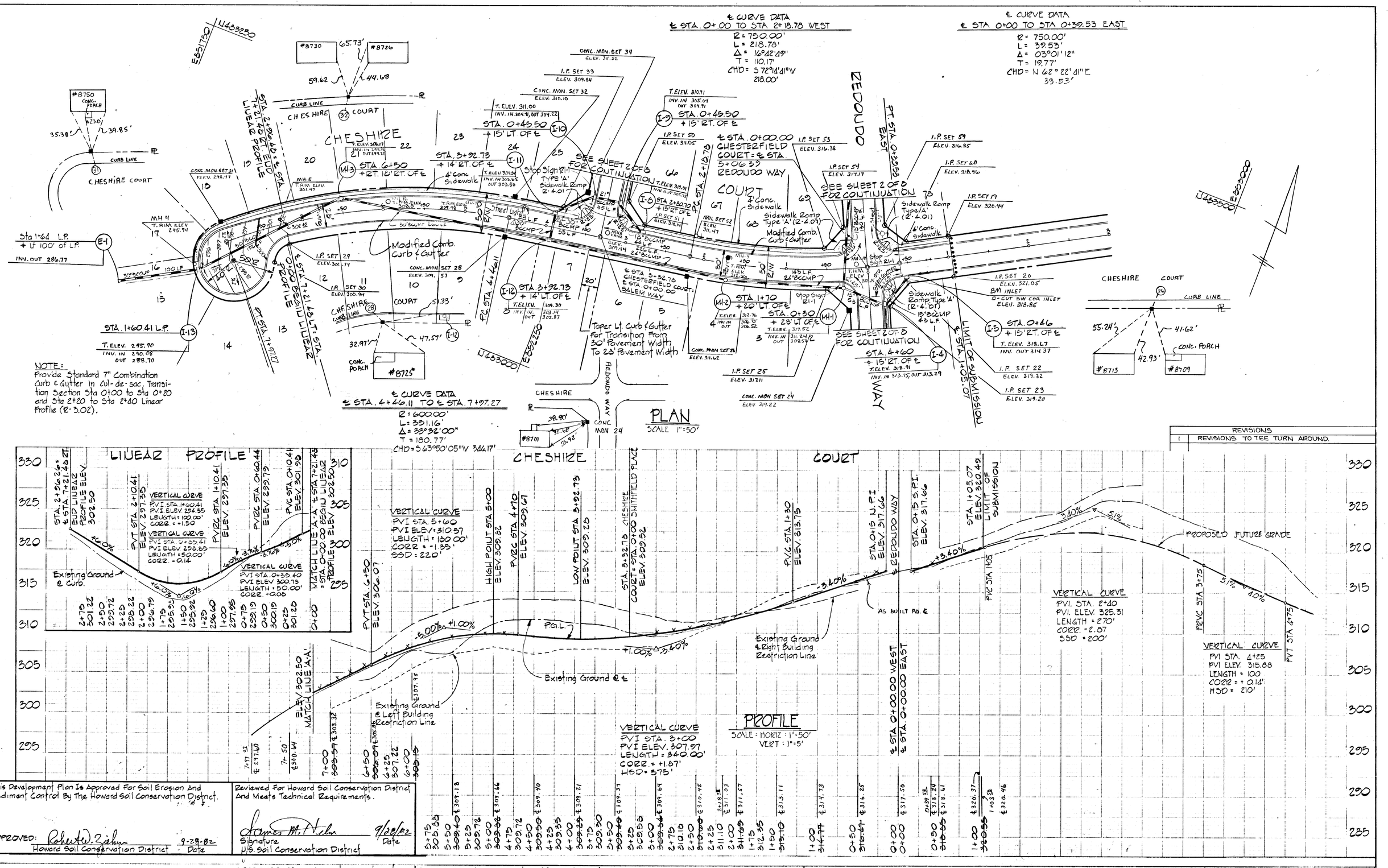
SHEET 2 OF 8

DES: BE
DRW: RAZ
CHK: BE

AS-BUILT 12-29-87

F-83-05

967



REVISIONS

1	REVISIONS TO TEE TURN AROUND.

This Development Plan Is Approved For Soil Erosion And Sediment Control By The Howard Soil Conservation District.

APPROVED: Robert W. Ziehm 9-28-82
Howard Soil Conservation District - Date

Reviewed For Howard Soil Conservation District And Meets Technical Requirements.

James M. Nelson 9/28/82
Signature Date
U.S. Soil Conservation District

PURDUM & JESCHKE
CONSULTING ENGINEERS
LAND SURVEYORS
1023 North Calvert Street
Baltimore, Maryland 21202 301/837-0194

APPROVED: Howard County Department Of Public Works.

William E. Riley 10-1-82
Chief, Bureau Of Engineering Date

APPROVED: Howard County Office Of Planning And Zoning.

Planning Director Date

ACTING Louis Hoerner 9-29-82
Chief, Division Of Land Development And Zoning Administration Date

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7/23/82

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William G. Rasch 7/22/82
William G. Rasch II Date

STATE OF MARYLAND
No. 4979

ROAD PLAN & PROFILE
CHESHIRE COURT
HERITAGE WOODS
SECTION ONE - AREA ONE
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 42, PARCELS 371, 294 & 77
SEPT. 10, 1982 SCALE AS SHOWN

SHEET 3 OF 8
DES: BE.
DRW: RAZ.
CHK: BE.
⚠ REVISE PIPE SIZES, 12/9/83

AS-BUILT 12-29-87

F-83-05

#967

NOTE:
Provide Standard 7" Combination Concrete Curb & Gutter in Cul-de-sac. Transition Sta. 0+00 to Sta 0+20 and Sta 2+34 to Sta 2+54 Linear Profile (12-3.02)

This Development Plan Is Approved For Soil Erosion And Sediment Control By The Howard Soil Conservation District.

APPROVED: Robert W. Zielin 9-28-82
Howard Soil Conservation District Date

Reviewed For Howard Soil Conservation District And Meets Technical Requirements.

Signature 9/28/82
U.S. Soil Conservation District Date

PURDUM & JESCHKE
CONSULTING ENGINEERS
LAND SURVEYORS
1023 North Calvert Street
Baltimore, Maryland 21202 301/837-0194

APPROVED: Howard County Department of Public Works.

10-1-82
Chief, Bureau Of Engineering Date

APPROVED: Howard County Office of Planning And Zoning.

Planning Director Date

ACTING
Chief, Division Of Land Development And Zoning Administration Date

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William G. Resch II 7/22/82
Date

ROAD PLAN & PROFILE
FAIRHAVEN PLACE
HERITAGE WOODS
SECTION ONE - AREA ONE
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 42, PARCEL 371, 254 & 77
SEPT. 10, 1982 SCALE AS SHOWN

SHEET 4 OF 8
DES: B.E.
DRW: R.A.Z.
CHK: B.E.

AS-BUILT 12-29-87

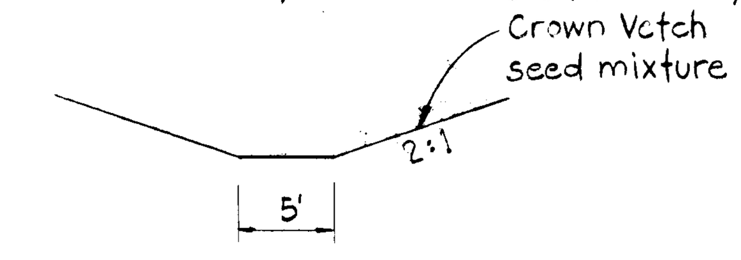
F-83-05

#967

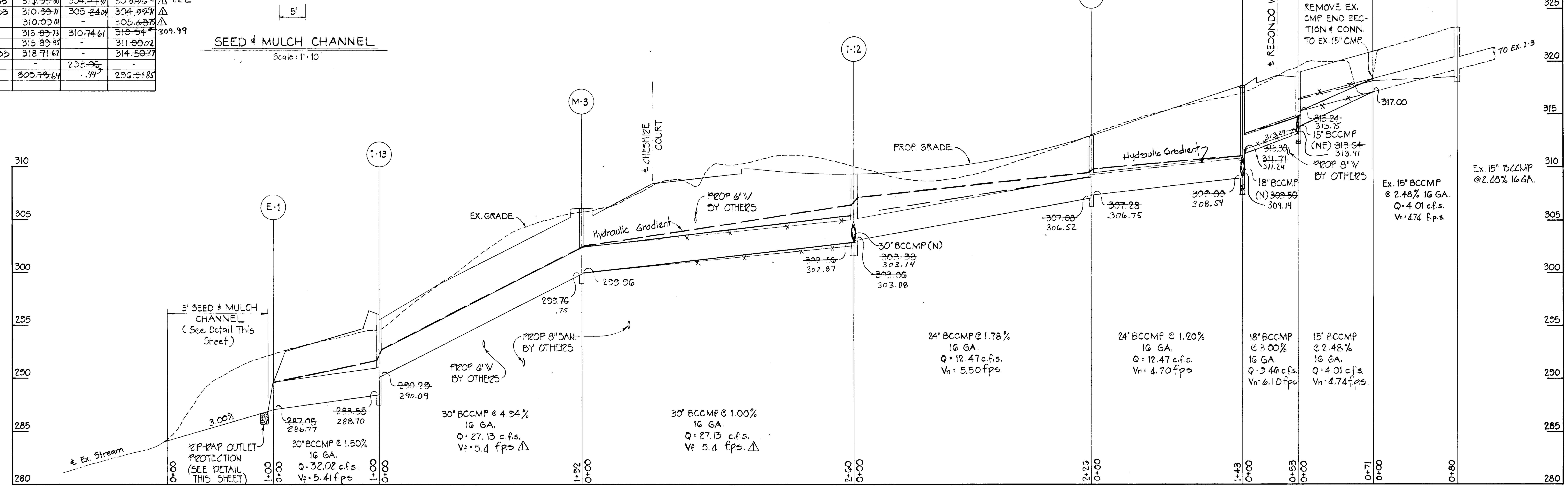
STRUCTURE SCHEDULE

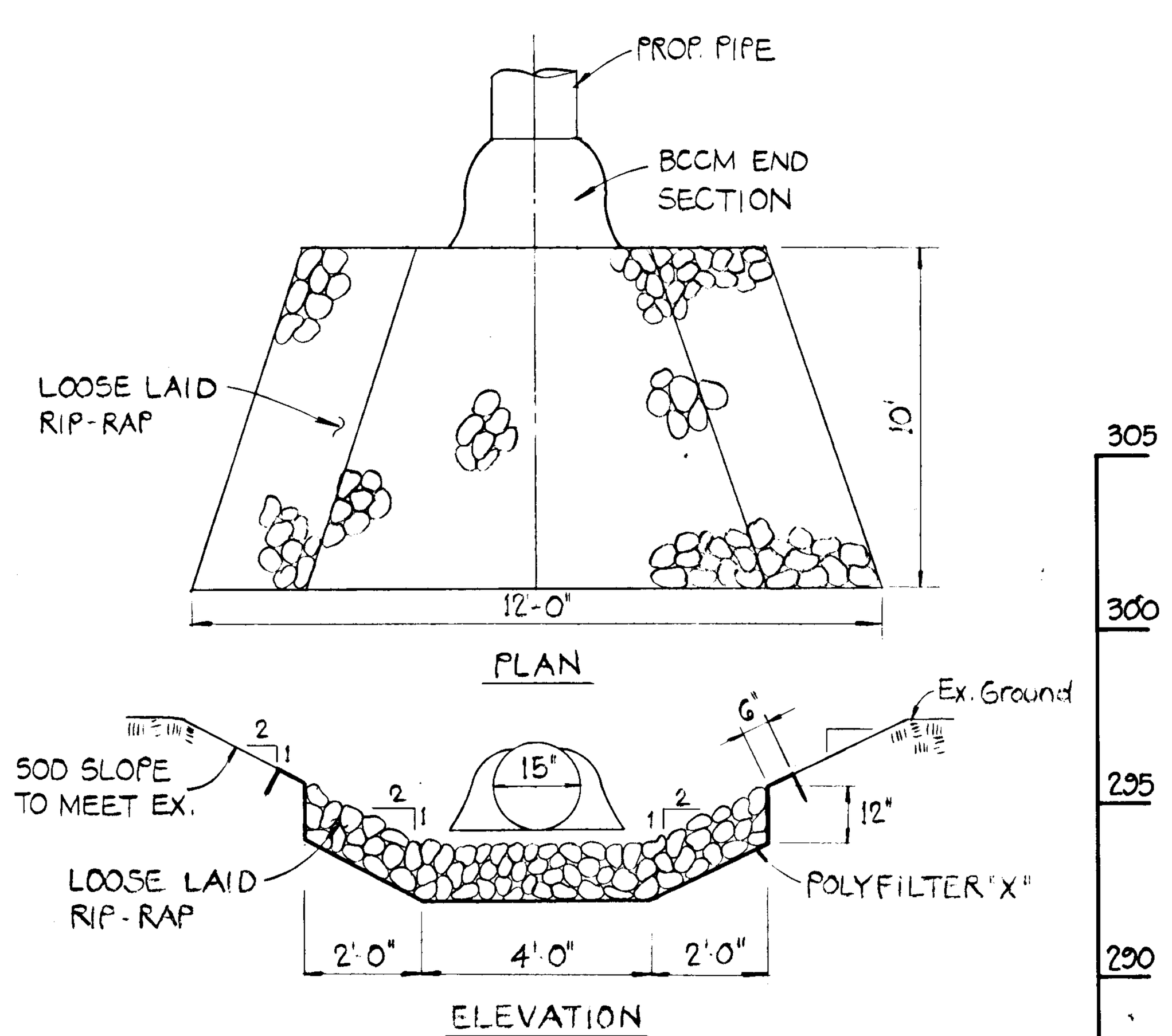
STRUCT. NO.	TYPE	STANDARD DETAIL	TOP ELEV.	INV. IN	INV. OUT
E-1	MT'L END SECT.	SD-5.61	-		~~287.05~~ 6.77
I-13	A-10	SD-4.02	295.~~85~~90	290.~~29~~08	288.~~55~~70
M-3	5' STD. MH	G-5.13/G-5.02	306.17	299.96	299.~~76~~75
I-12	A-5	SD-4.02	309.~~28~~30	303.14(E)	302.~~56~~87 △
M-2	4' STD. MH	G-5.01/G-5.12	312.85.76	306.~~28~~75	~~307.08~~ 6.52
M-1	"	"	317.~~66~~52	311.24(E)	~~309.09~~ 8.54
I-4	A-5 w/DEFL.	SD-4.01/SD-4.83	318.~~92~~91	313.75(E)	313.~~30~~29
I-11	A-5	SD-4.01	309.~~28~~34	303.~~70~~65	303.50 △
I-10	A-10 w/DEFL	SD-4.02/SD-4.83	310.~~99~~00	304.~~74~~41	30~~3.96~~ △ 4.22
I-9	A-5 w/DEFL.	SD-4.01/SD-4.83	310.~~99~~71	305.~~24~~04	304.~~99~~91 △
I-8	A-10	SD-4.02	310.~~09~~01	-	305.~~68~~75 △
I-7	A-5	SD-4.01	315.~~89~~73	310.~~74~~61	~~310.54~~ 309.99
I-6	"	"	315.~~89~~85	-	311.~~00~~02
I-5	A-10 w/DEFL	SD-4.02/SD-4.83	318.~~71~~67	-	314.~~50~~37
E-2	MT'L END SECT	SD-5.61	-	29~~3.06~~ .44	-
I-14	A-5	SD-4.01	305.~~73~~64		296.~~51~~85

NOTE: BEDDING FOR STORM DRAINS SHALL BE TYPE C BEDDING.

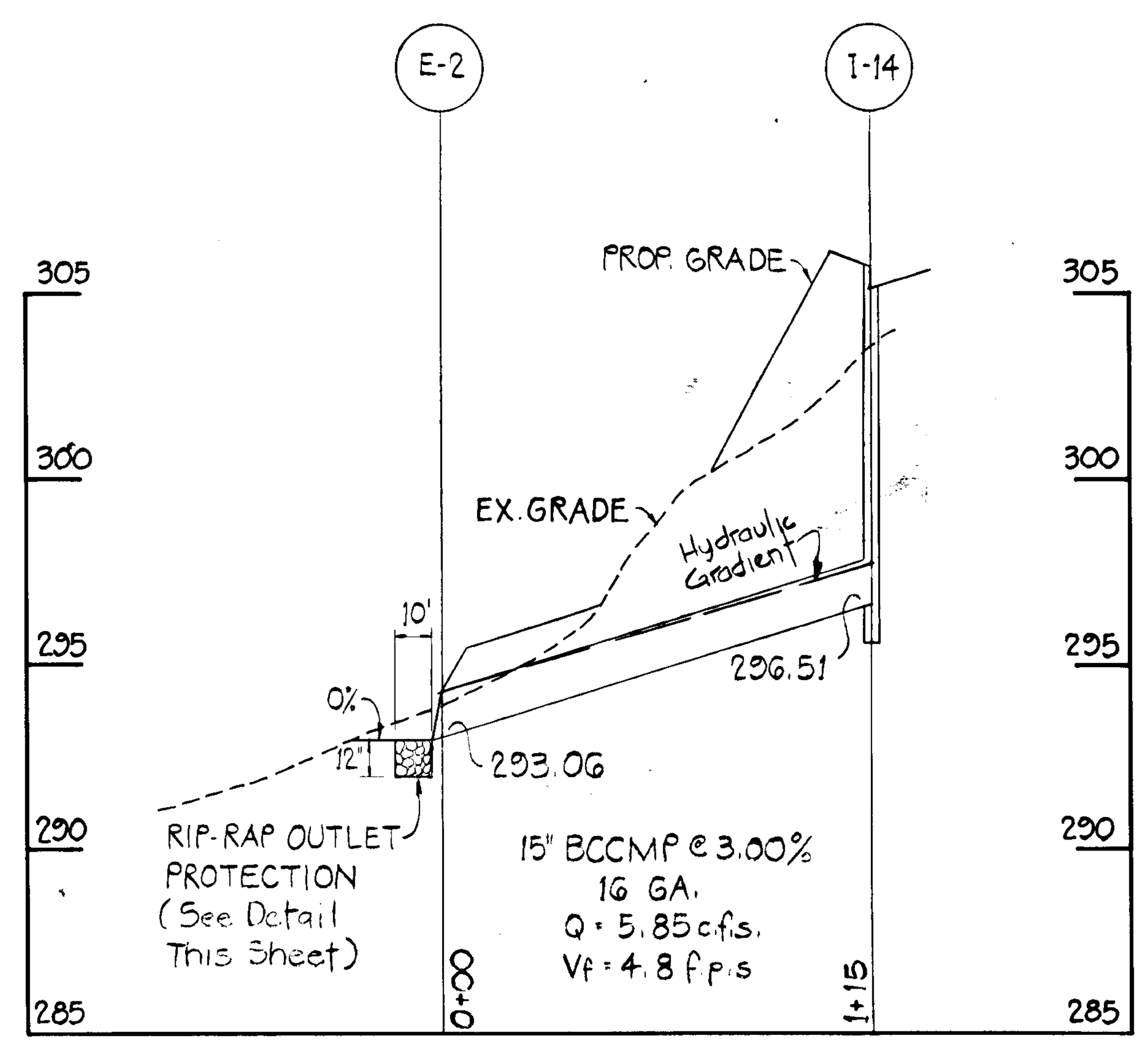


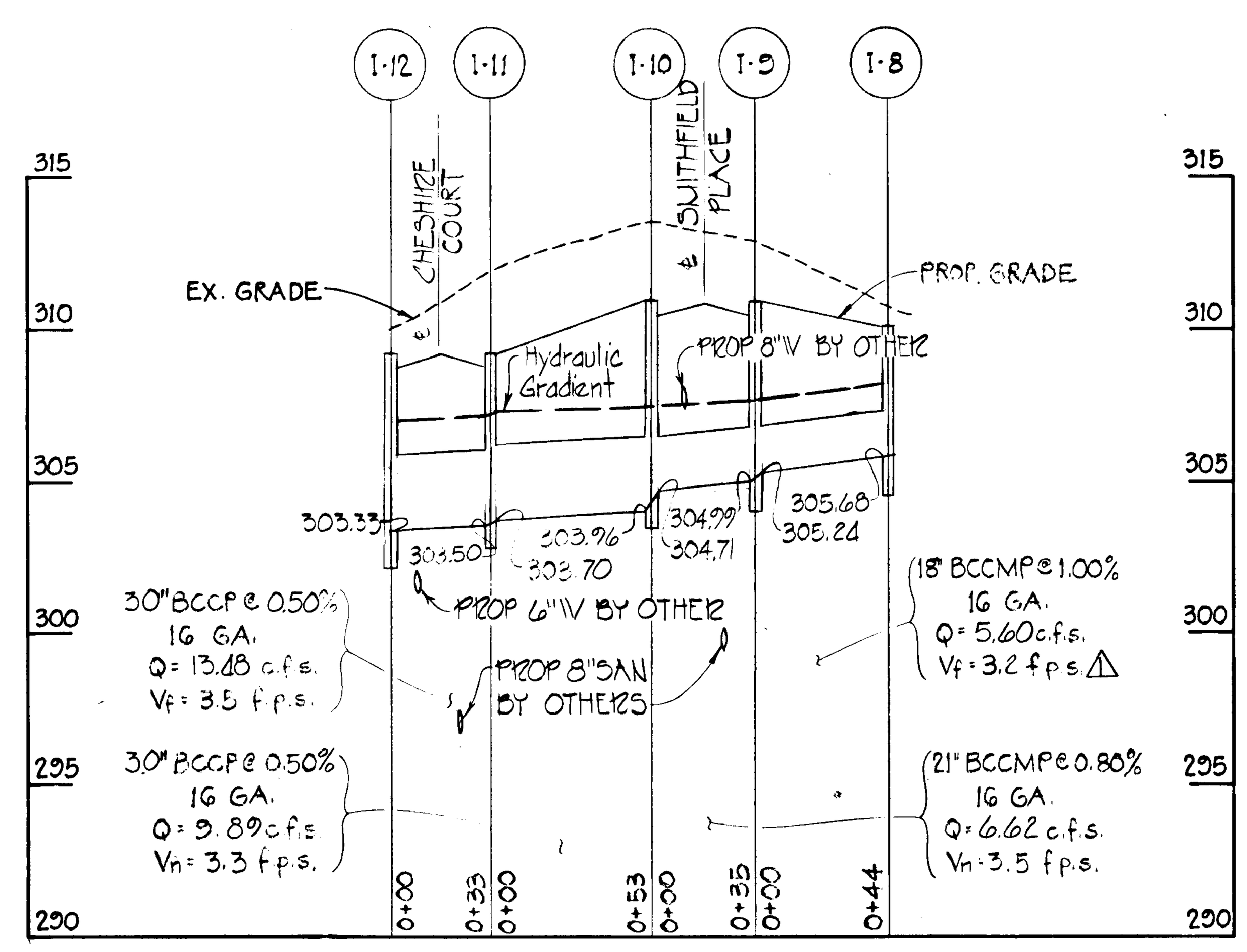
SEED & MULCH CHANNEL
Scale: 1"=10'

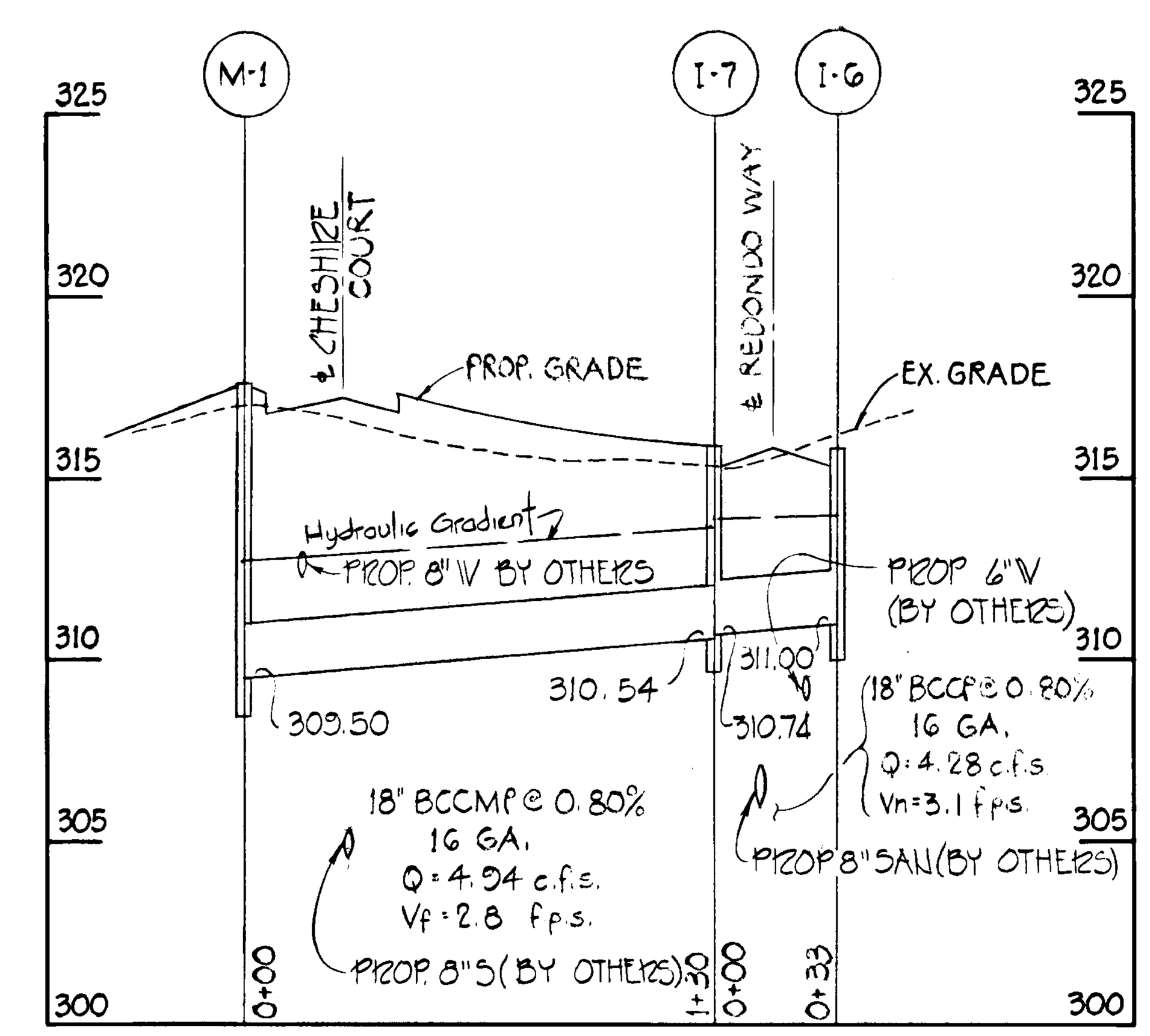


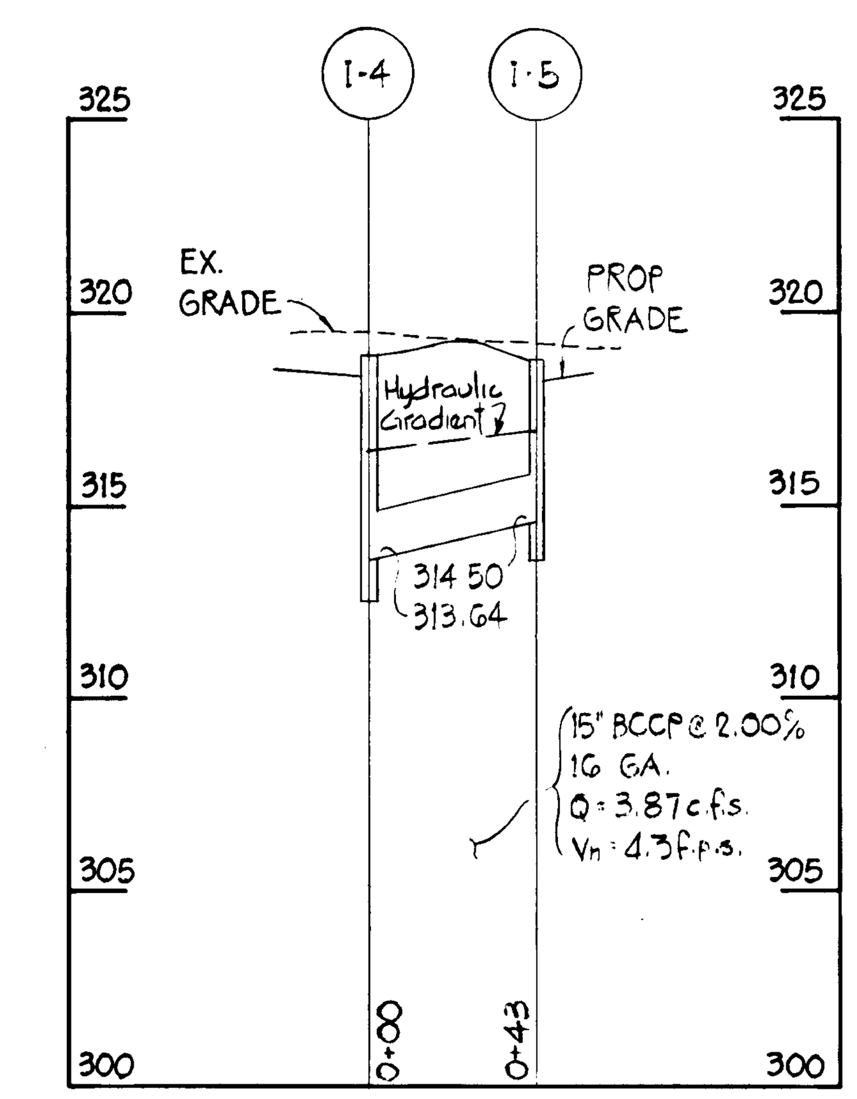


RIP-RAP OUTLET PROTECTION
No Scale









PROFILES
Scale: Horiz. 1"=50'
Vert. 1"=5'

This Development Plan Is Approved For Soil Erosion And Sediment Control By The Howard Soil Conservation District.

APPROVED [signature] 9-28-82
Howard Soil Conservation District — Date

Reviewed For Howard Soil Conservation District And Meets Technical Requirements.

[signature] 9-28-82
Signature — Date
U.S. Soil Conservation District

PURDUM & JESCHKE
CONSULTING ENGINEERS
LAND SURVEYORS
1023 North Calvert Street
Baltimore, Maryland 21202 — 301/837-0194

APPROVED: Howard County Department of Public Works.
[signature] 10-1-82
Chief, Bureau Of Engineering — Date

APPROVED: Howard County Office Of Planning And Zoning.
Planning Director — Date
ACTING [signature] 9-29-82
Chief, Division Of Land Development And Zoning Administration — Date

DEVELOPER'S CERTIFICATE:
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[signature] 7/23/82

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[signature] 7/22/82
William G. Rasch II — Date

STATE OF MARYLAND — Professional Engineers & Land Surveyors — No. 4575

STORM DRAIN PROFILES & DETAILS
HERITAGE WOODS
SECTION ONE - AREA ONE
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 42, PARCELS 371, 294 & 77
SEPT. 10, 1982 — SCALE AS SHOWN

SHEET 5 OF 8
DES. E.L.B., B.E.
DRW. R.E.C.
CHK. B.E.
△ EX. VELOCITIES, STRUCTURE SCHEDULE 12/29/82

AS-BUILT 12-29-87

F-83-05

#967

BRUNING ANE 1M5-2

LEGEND

- – – – DRAINAGE AREA BOUNDARY
- ——— SOILS MAPPING BOUNDARY
- (C) DRAINAGE AREA SYMBOL
- Lg SOILS MAPPING SYMBOL
- ——— LIMIT OF CLEARING
- - - 302 - - - EXISTING CONTOUR
- —— 298 —— PROPOSED CONTOUR
- — SF — SILT FENCE
- — DD — DIVERSION DIKE

PLAN

SCALE: 1" = 50'

NOTE:
EXISTING SEDIMENT TRAP #1 / S.W.M. FACILITY SHALL NOT BE REMOVED UNTIL CONSTRUCTION OF THE PROP. NEW STORMWATER MANAGEMENT FACILITY IS COMPLETE.

SEDIMENT TRAP #1

DRAINAGE AREA = 12.18 Ac.±
STORAGE VOLUME REQUIRED = 22,033 C.F.
STORAGE VOLUME PROVIDED = 24,850 C.F.
BOTTOM ELEVATION = 304.0'
HEIGHT OF EMBANKMENT = 5'
EXISTING OUTLET PIPE = 18" DIA.
EXISTING SPILLWAY ELEVATION = 307.3'±
PROPOSED S.O.S. CREST ELEV. = 308.3'±
PROPOSED S.O.S. LENGTH = 15'
CLEANOUT ELEVATION = 306.5'

This Development Plan Is Approved For Soil Erosion And Sediment Control By The Howard Soil Conservation District.

APPROVED: Robert W. Ziehm (signature) 9-28-82
Howard Soil Conservation District — Date

Reviewed For Howard Soil Conservation District And Meets Technical Requirements.

James M. Helm (signature) 9-28-82
Signature — Date
U.S. Soil Conservation District

PURDUM & JESCHKE
CONSULTING ENGINEERS
LAND SURVEYORS
1023 North Calvert Street
Baltimore, Maryland 21202 — 301/837-0194

APPROVED: Howard County Department Of Public Works.

William E. Riley (signature) 10-1-82
Chief, Bureau Of Engineering — Date

APPROVED: Howard County Office Of Planning And Zoning.

Planning Director — Date
ACTING Louis F. Dunn (signature) 9-29-82
Chief, Division of Land Development And Zoning Administration — Date

DEVELOPER'S CERTIFICATION
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(signature) 9/22/82

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William G. Rasch (signature) 9/22/82
Date

STATE OF MARYLAND — WILLIAM G. RASCH — No. 4573 — REGISTERED — Professional Engineers & Land Surveyors

EROSION & SEDIMENT CONTROL PLAN & DRAINAGE AREA MAP
HERITAGE WOODS
SECTION ONE - AREA ONE
6TH ELECTION DISTRICT
TAX MAP 42, PARCELS 371, 294 & 71
SEPT. 14, 1982 SCALE: 1" = 50'

SHEET 6 OF 8
DES: BE
DRW: RAZ
CHK: BE
⚠1 ADD ALL LOT LINES & NO'S 12/29/82

967

BRUNING AWE 1M3-2

F-83-05

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 designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be 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 and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

II. EARTH FILL

Material

The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversize stones, frozen or other objectionable materials. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased above the design elevation (including freeboard) as shown on the plans.

Placement

Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of the embankment.

Compaction

The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.

Where a minimum required density is specified, each layer of fill shall be compacted as necessary to obtain that density and is to be certified by the Engineer.

Cutoff Trench

Where specified, a cutoff trench shall be excavated along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be as shown on the drawings, with the minimum width being four feet. The depth shall be at least four feet or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the cutoff trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

III. STRUCTURAL BACKFILL

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

IV. PIPE CONDUITS

All pipes shall be circular in cross section.

A. Corrugated Metal Pipe

1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO 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.

   Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings are commercially available: Nexon, Plasti-Cote, Blac-Klad, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

   Materials - (Aluminized Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274-79I with watertight coupling bands or flanges.

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

2. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to the completely watertight. Dimple bands are not considered to be watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Laying pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.

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

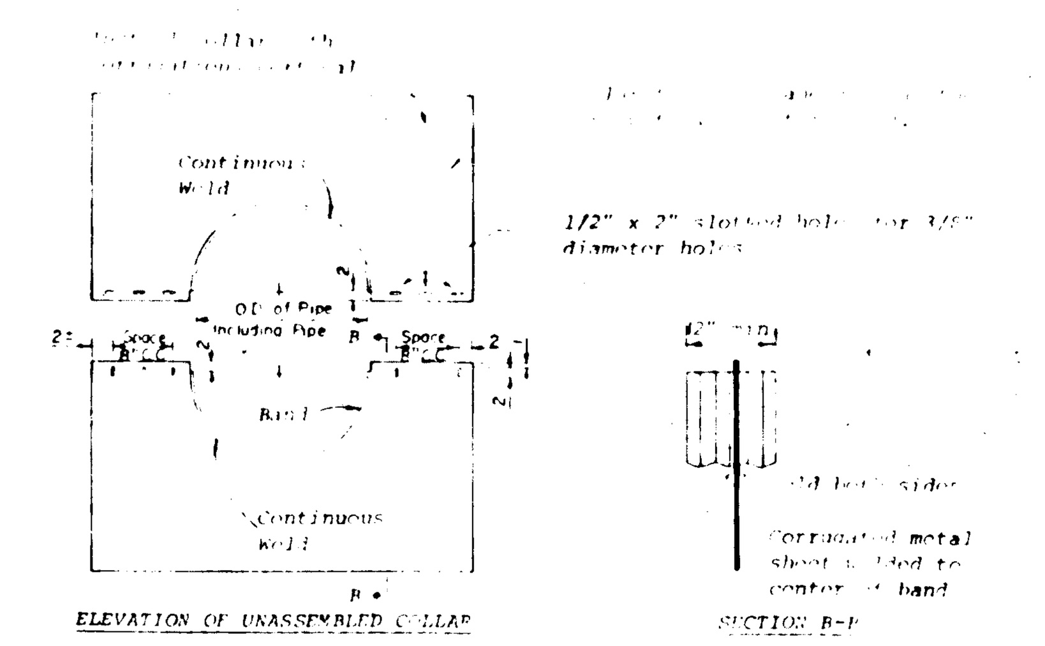
6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

V. STABILIZATION

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

VI. EROSION AND SEDIMENT CONTROL

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

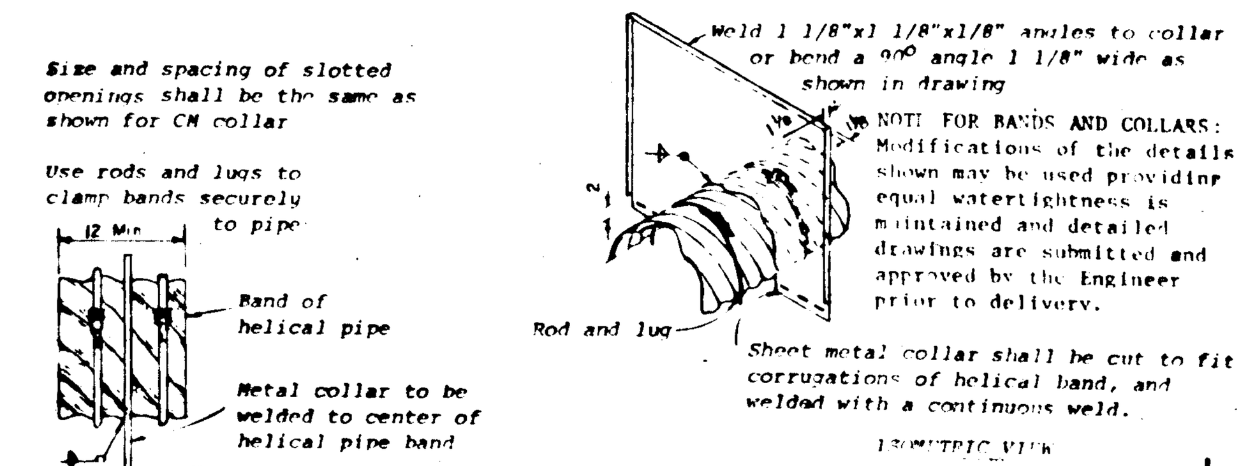


ELEVATION OF UNASSEMBLED COLLAR

SECTION B-B

NOTES FOR COLLARS:
1. All materials to be in accordance with construction and construction material specifications.
2. When specified on the plans, coating of collars shall be in accordance with construction and construction material specifications.
3. Unassembled collars shall be marked by painting or tagging to identify matching pairs.
4. The lap between the two half sections and between the pipe and connecting band shall be caulked with asphalt mastic at time of installation.
5. Each collar shall be furnished with two 1/2" diameter rods with standard tank lugs for connecting collars to pipe.

DETAILS OF CORRUGATED METAL ANTI-SEEP COLLAR



PARTIAL ELEVATION

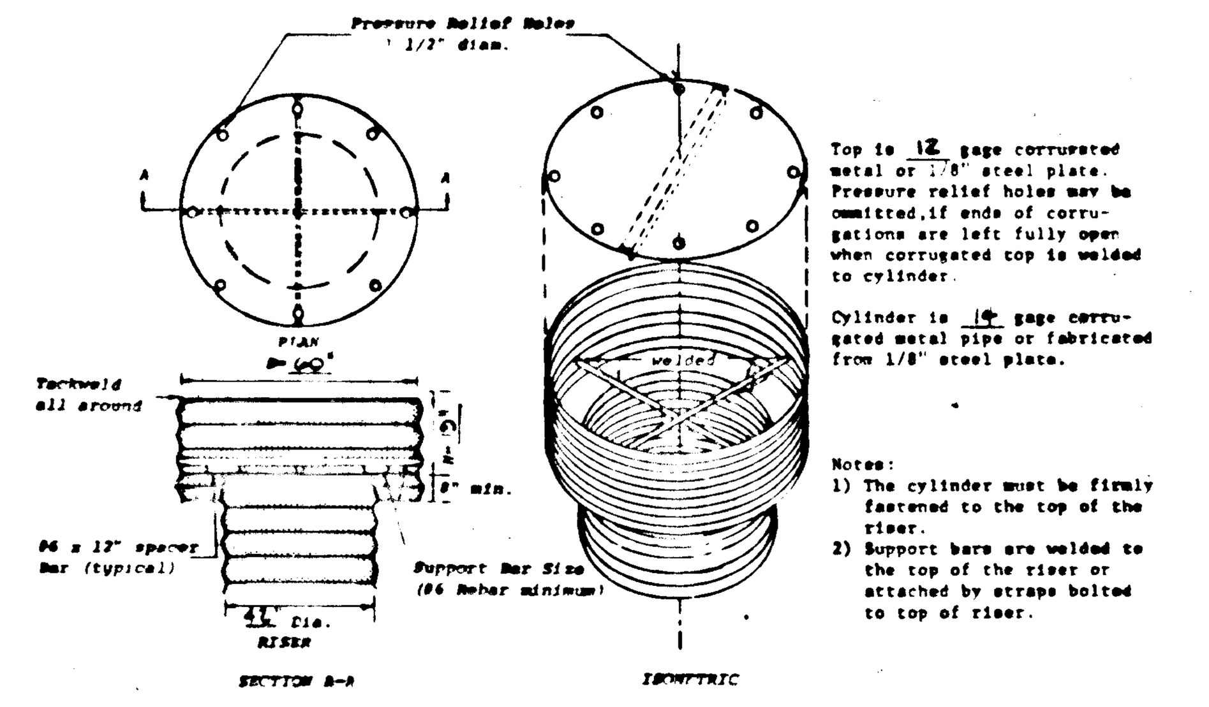
Ref: Engr. Field Manual

ISOMETRIC VIEW

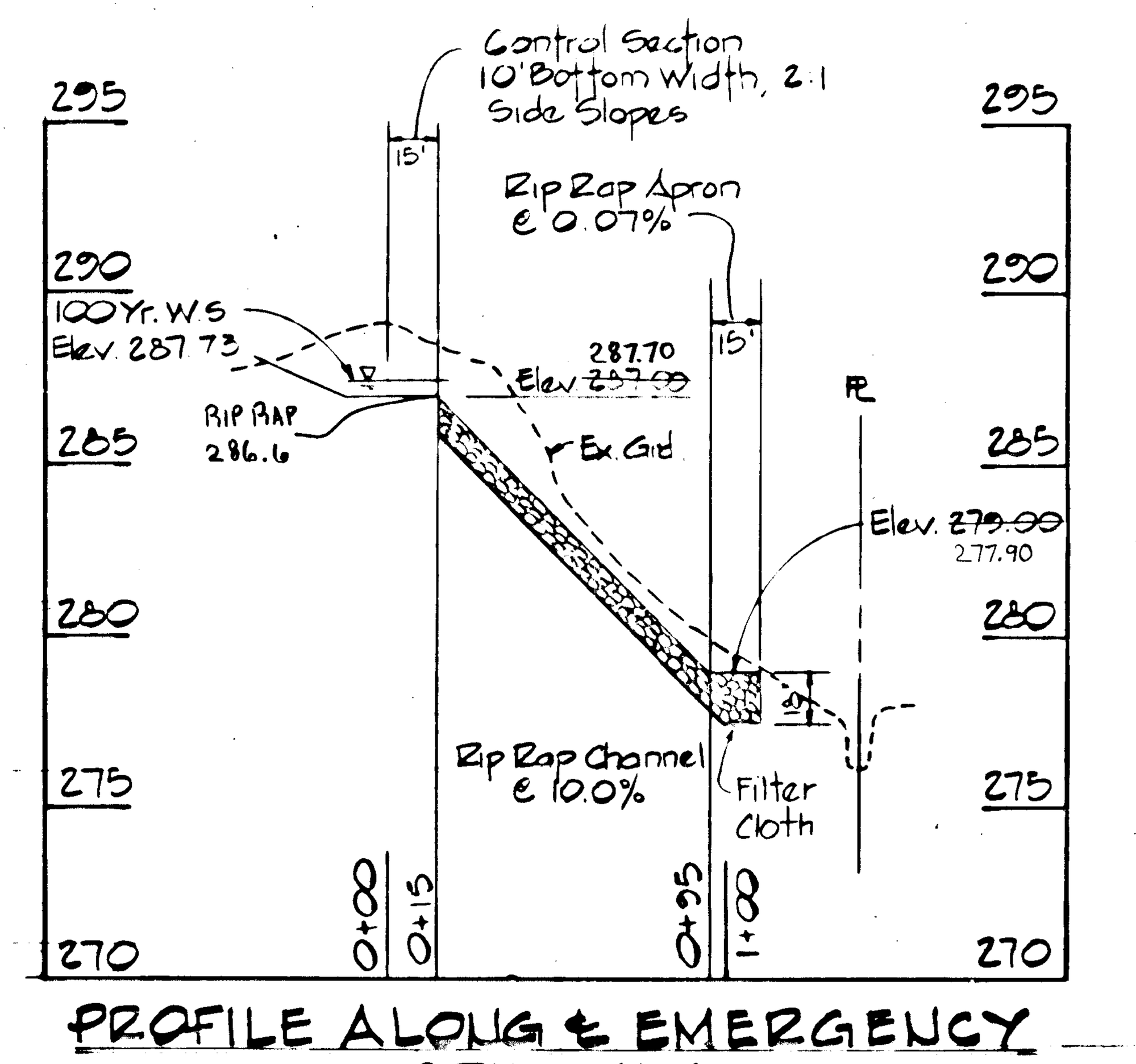
NOTE: For details of fabrication dimensions, minimum gages, slotted holes, and notes, see detail above.

DETAILS OF HELICAL PIPE ANTI-SEEP COLLAR

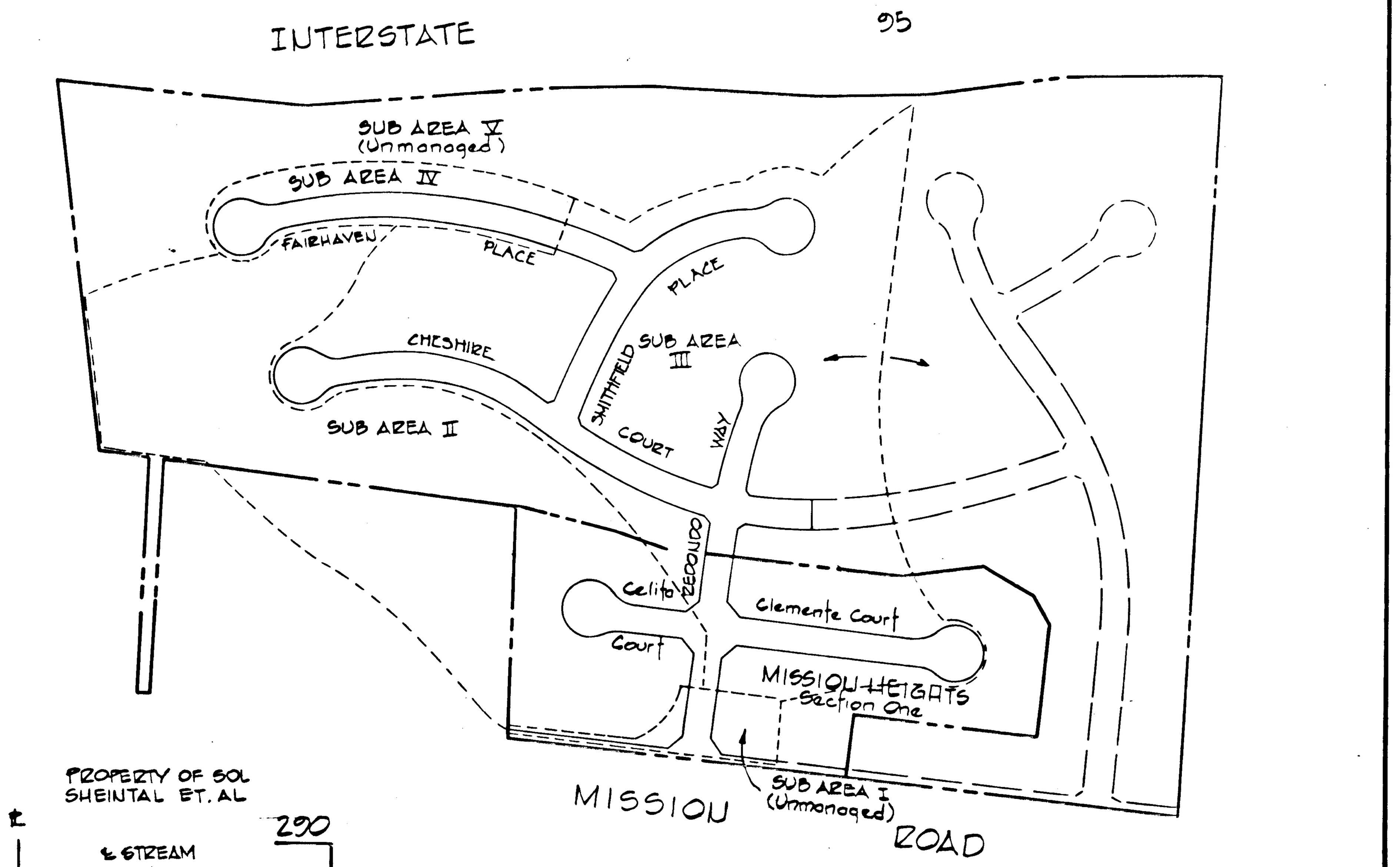
NOTE: Two other types of anti-seep collars are:
1. Corrugated metal, similar to upper detail, except shop welded to a short (4 ft.) section of the pipe and connected with connecting bands to the pipe.
2. Concrete, six inches thick formed around the pipe with #3 rebar spaced 15" horizontally and vertically.



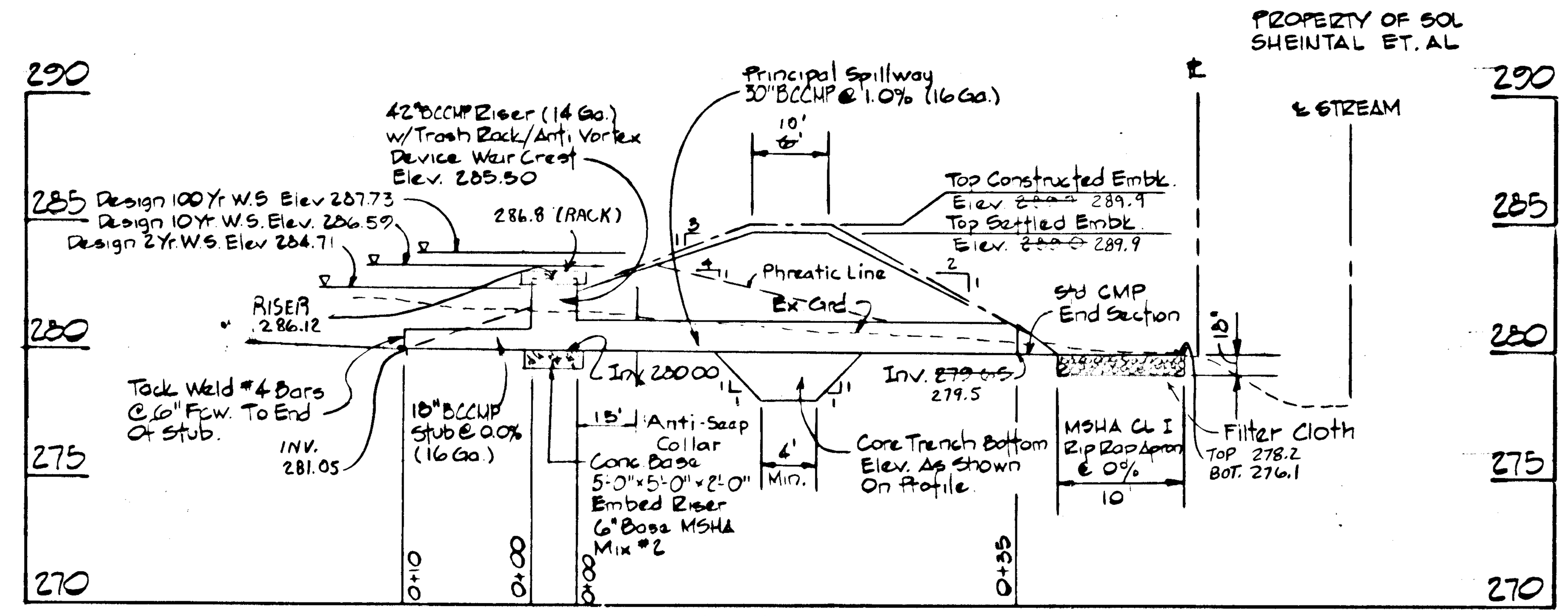
CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE
(not to scale)



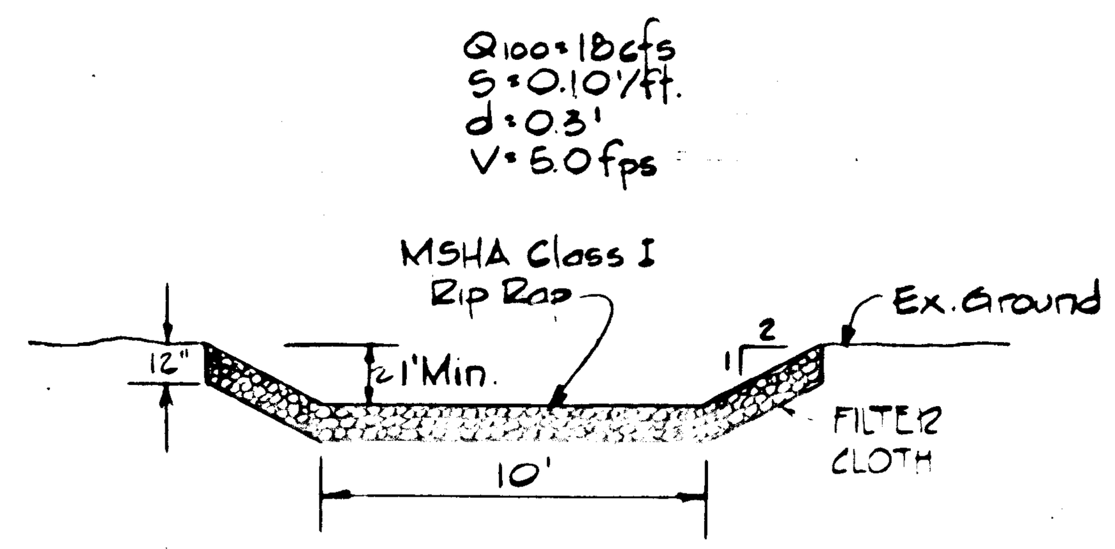
PROFILE ALONG ℄ EMERGENCY SPILLWAY
Scale: 1"=50 Horz.
1"=5' Vert.



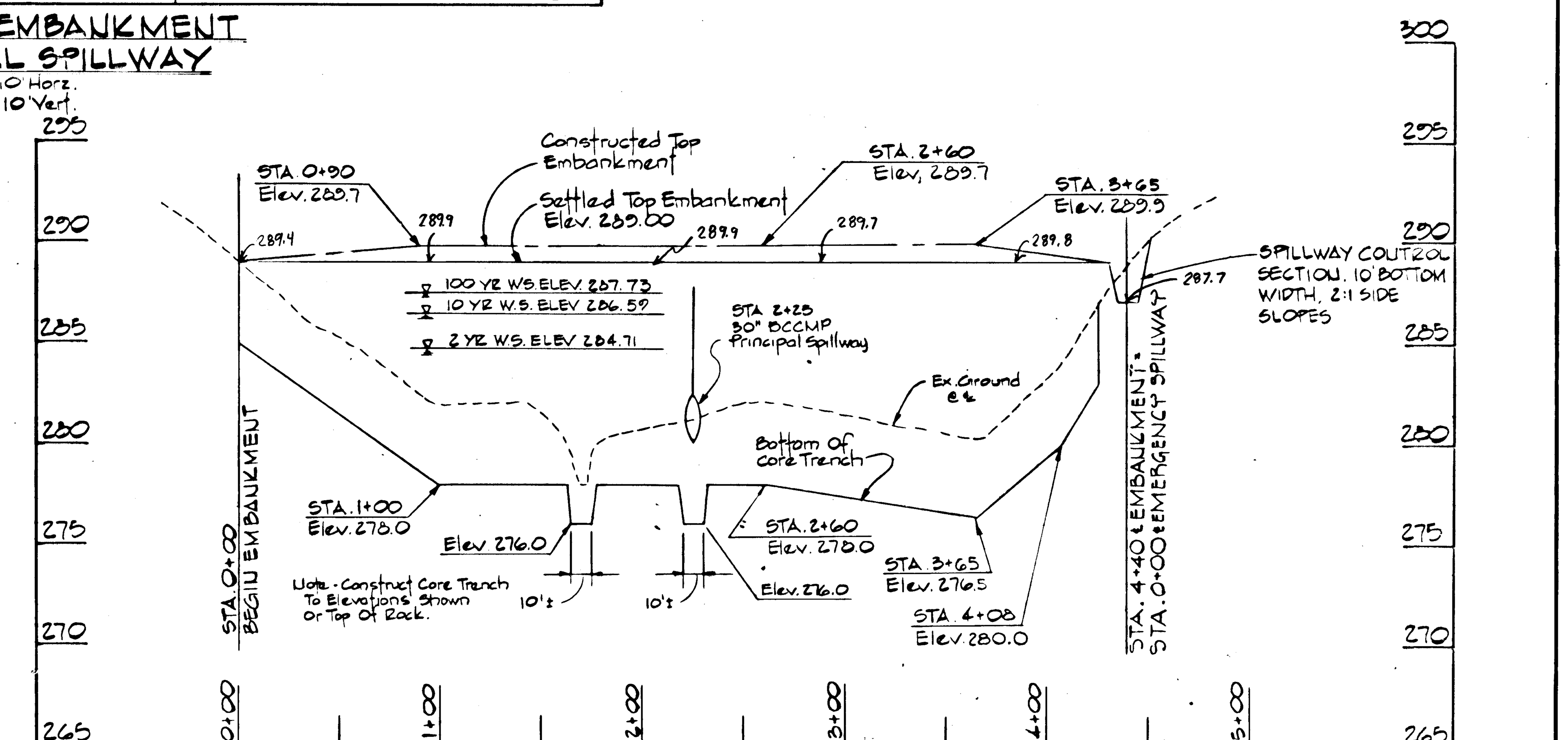
STORMWATER MANAGEMENT
WATERSHED MAP
Scale: 1"=200'



SECTION THRU EMBANKMENT
@ ℄ PRINCIPAL SPILLWAY
Scale: 1"=10' Horz.
1"=10' Vert.



EMERGENCY SPILLWAY
OUTLET CHANNEL
No Scale



PROFILE ALONG ℄ EMBANKMENT
Scale: Horz. 1"=50
Vert. 1"=5

This Development Plan Is Approved For Soil Erosion And Sediment Control By The Howard Soil Conservation District.

APPROVED: Robert W. Zichen 9-28-82
Howard Soil Conservation District Date

Reviewed For Howard Soil Conservation District And Meets Technical Requirements.

James M. Helm 9-28-82
Signature Date
U.S. Soil Conservation District

#967

PURDUM & JESCHKE
CONSULTING ENGINEERS
LAND SURVEYORS
1023 North Calvert Street
Baltimore, Maryland 21202 301/837-0194

APPROVED: Howard County Department of Public Works.

10-1-82
Chief, Bureau Of Engineering Date

APPROVED: Howard County Office of Planning And Zoning.

Planning Director Date

ACTING 9-29-82
Chief, Division Of Land Development And Zoning Administration Date

DEVELOPER'S CERTIFICATE
I Certify That All Development And/Or Construction Will Be Done In Accordance To This Plan Of Development, And Plan Of Erosion And Sediment Control And I Also Authorized Periodic Onsite Inspection By The Howard Soil Conservation District Or Their Authorized Agents As Deemed Necessary.

9/22/82

ENGINEER'S CERTIFICATION:
I 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.

William G. Rasch II 9/22/82
Date

STATE OF MARYLAND — WILLIAM G. RASCH II — No. 4575 — REGISTERED — Professional Engineers & Land Surveyors

STORM WATER MANAGEMENT
HERITAGE WOODS
SECTION ONE AREA ONE
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 42, PARCELS 371, 294 & 77
SEPT. 10, 1982 SCALE AS SHOWN

SHEET 7 OF 8
DES: DE
DRW: RAZ
CHK: DE

AS-BUILT 12-29-87

F-83-05

BRUNING ANE 1M3-2

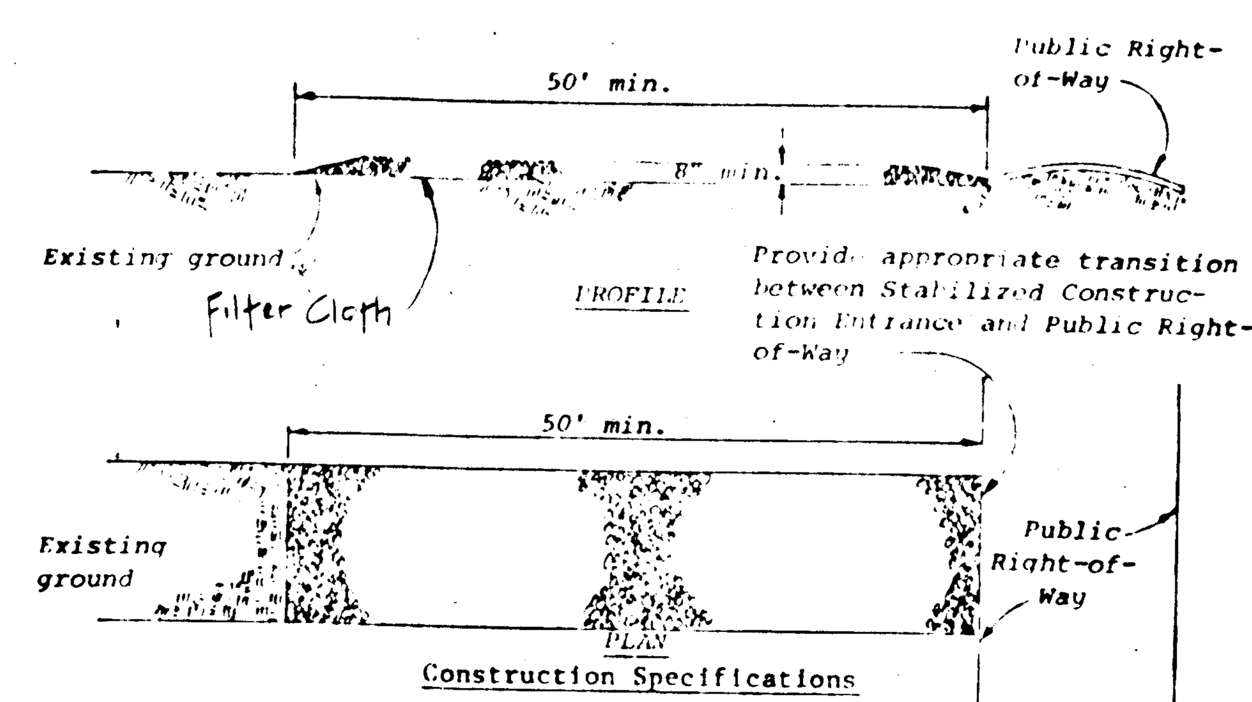
SEDIMENT CONTROL NOTES

1. Specifications for the Sediment Control Details shown hereon are included in the U.S.D.A. Soil Conservation Service "Standards and Specifications for Soil Erosion and Sediment Control in Developing Areas."
2. The developer shall notify the Howard County Office of Inspection and Permits at least 24 hours prior to beginning any construction shown hereon (992-2435 or 992-2436).
3. All sediment control structures to remain in place until permission for their removal has been obtained from the Howard County Office of Inspection and Permits (992-2435 or 992-2436).
4. All graded areas shall be stabilized in accordance with the following requirements:
   1. Site Preparation:
      A. Harrow or disc the areas to be seeded with the following materials at the specified rate to a depth of 3".
         1) Pulverized limestone at 1½ tons/acre.
         2) Commercial fertilizer 10-10-10 at 3/4 tons/acre.
         3) Super phosphate at 600 lbs./acre.
   2. Seeding:
      A. Sow the following seed mixture at the specified rate with a mechanical spreader.
         1) Temporary - Italian or Perennial Ryegrass (1 lb./1000 sq. ft.)
         2) Permanent - (Slopes flatter than 3:1) - Common Kentucky Bluegrass 40%, Menon Bluegrass 40%, Red Fescue 20% (3 lb./1000 sq. ft.) (Slopes steeper than 3:1) - Ground Cover
      B. The seeded area shall be raked with a York Rake (minimum of 2 passes), covered and compacted with a cultipacker or other approved method.
   3. Mulching:
      A. Seeded areas shall be uniformly mulched immediately after seeding with unweathered small grain straw at the rate of 1½ to 2 tons/acre.
      B. Tie mulch down with liquid asphalt at 0.1 gal./s.y. or emulsified asphalt at 0.04 gal./s.y.
   4. Sodding:
      A. Apply 10-10-10 fertilizer at 1000 lbs./acre. (25 lbs./1000 s.f.)
      B. Apply ground agricultural limestone at 2000 lbs./acre. (50 lbs./1000 s.f.)
      C. Incorporate both lime and fertilizer into soil by discing. Firm up after incorporation.
      D. Lay sod to a tight fit. Roll to insure contact with underlying soil. Water as necessary for first two weeks (in summer) to ensure establishment.
   5. Ground Cover:
      A. Crown vetch (innoculated) at 15 lbs./acre, and Kentucky 31 Tall Fescue (certified) at 40 lbs./acre. (2:1 maximum slope)
5. The contractor shall place plywood braced with sand bags at the inlet end of unfinished drain pipes at the end of each work day.
6. All stockpiles shall be protected with straw bale dikes, silt fences, or other approved sediment control devices.

CONSTRUCTION SCHEDULE

1. Obtain Grading Permit
2. Install temporary diversion dikes and silt fence along Cheshire Court, Smithfield Place and Redondo Way.
3. Modify existing Sediment Trap #1 as shown.
4. Clear and grade roads to subgrade (except Fairhaven Place).
5. Install storm drain system from E-1 to connection with existing system. Block all inlets.
6. Begin construction of Stormwater Management Facility
7. Install water and sewer in Redondo Way, Cheshire Court and Smithfield Place Repair sediment control devices as required after installation.
8. Install sediment control devices for Fairhaven Place.
9. Clear and grade Fairhaven Place to subgrade. Construct storm drain system from E-2 to I-14. Block inlet.
10. Install water and sewer in Fairhaven Place. Repair sediment control devices as required after installation.
11. Seed all disturbed areas outside limits of streets as grading is completed.
12. Install curb and gutter. Pave streets.
13. Remove temporary sediment control devices upon approval of Sediment Control Inspector after areas are stabilized.

STABILIZED CONSTRUCTION ENTRANCE
(not to scale)

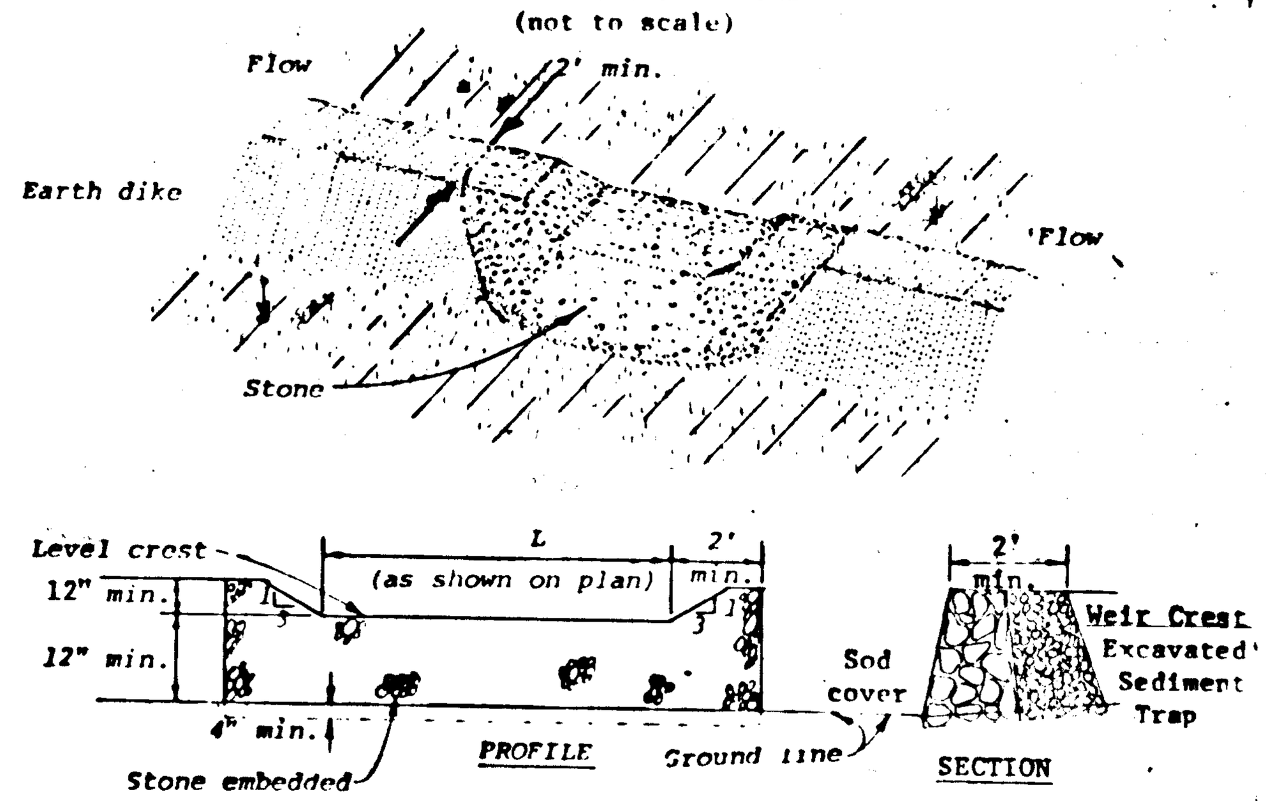


Construction Specifications

1. Stone size - Use MSHA size No. 2 (2-1/2" to 1") or AASHTO designation M43, size No. 2 (2-1/2" to 1-1/2"). Use crushed stone.
2. Length - As effective, but not less than 50 feet.
3. Thickness - Not less than eight (8) inches.
4. Width - Not less than full width of all points of ingress or egress.
5. Washing - When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public right-of-way. When washing is required, it shall be done on an area stabilized with crushed stone which drains into an approved sediment trap or sediment basin. All sediment shall be prevented from entering any storm drain, ditch, or watercourse through use of sand bags, gravel, boards or other approved methods.
6. 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.

Standard Symbol SCE

STONE OUTLET STRUCTURE*
(not to scale)



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 or 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. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
4. The structure shall be inspected after each rain and repairs made as needed.
5. Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
6. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
7. All cut and fill slopes shall be 2:1 or flatter.
8. The crushed stone used in the outlet shall meet AASHTO designation M43, Size No. 2 or 24 or its equivalent such as MSHA No. 2. Gravel, meeting the above gradation, may be used if crushed stone is not available. Crusher run is not acceptable.
9. Outside half of Stone Outlet shall consist of 4" to 7" gabion stone.

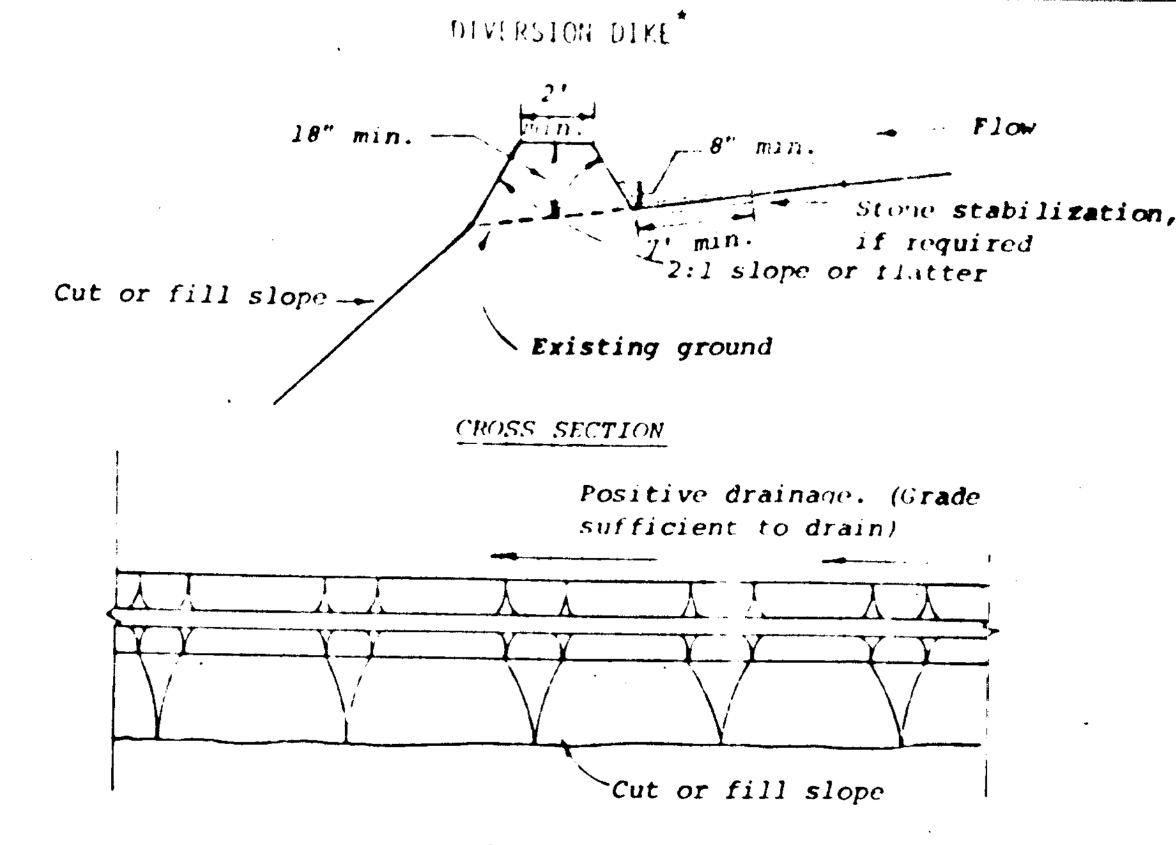
Standard Symbol

L =

* Drainage area less than 5 acres

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE College Park, Md.	STONE OUTLET STRUCTURE	Standard Drawing SOS-1

DIVERSION DIKE*



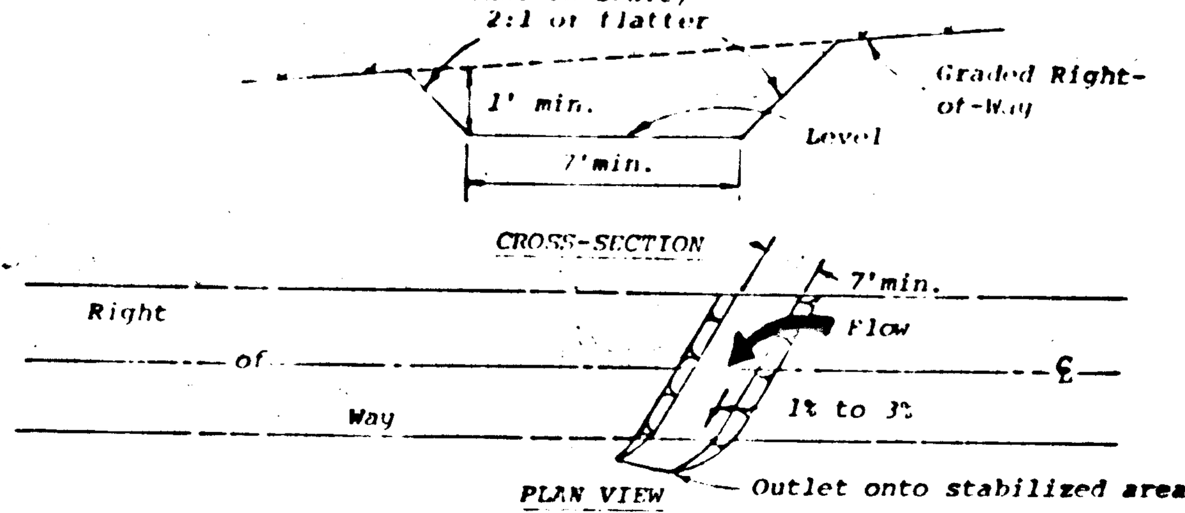
Construction Specifications.

1. All dikes shall be machine compacted.
2. All diversion dikes shall have positive drainage to an outlet.
3. A. Diverted runoff from a protected or stabilized area shall outlet directly to an undisturbed stabilized area or into a level spreader or grade stabilization structure.
   B. Diverted runoff from a disturbed or exposed upland area shall be conveyed to a sediment trapping device such as a sediment trap or a sediment basin or to an area protected by any of these practices.
4. Stabilization, as specified by the plans, shall be: (1) in accordance with Standard and Specifications for Grassed Waterway, and the area to be stabilized shall be the channel (flow area); or (2) the flow area shall be lined with stone that meets MSHA size No. 2 or AASHTO M43 size No. 2 or 24 which is placed in a 3 inch thick layer and pressed into the soil. The area covered by the stone shall be as shown on the drawing above.
5. Periodic inspection and required maintenance shall be provided.

Standard Symbol DD

* Drainage area less than 5 acres

INTERCEPTOR SWALE
(not to scale)

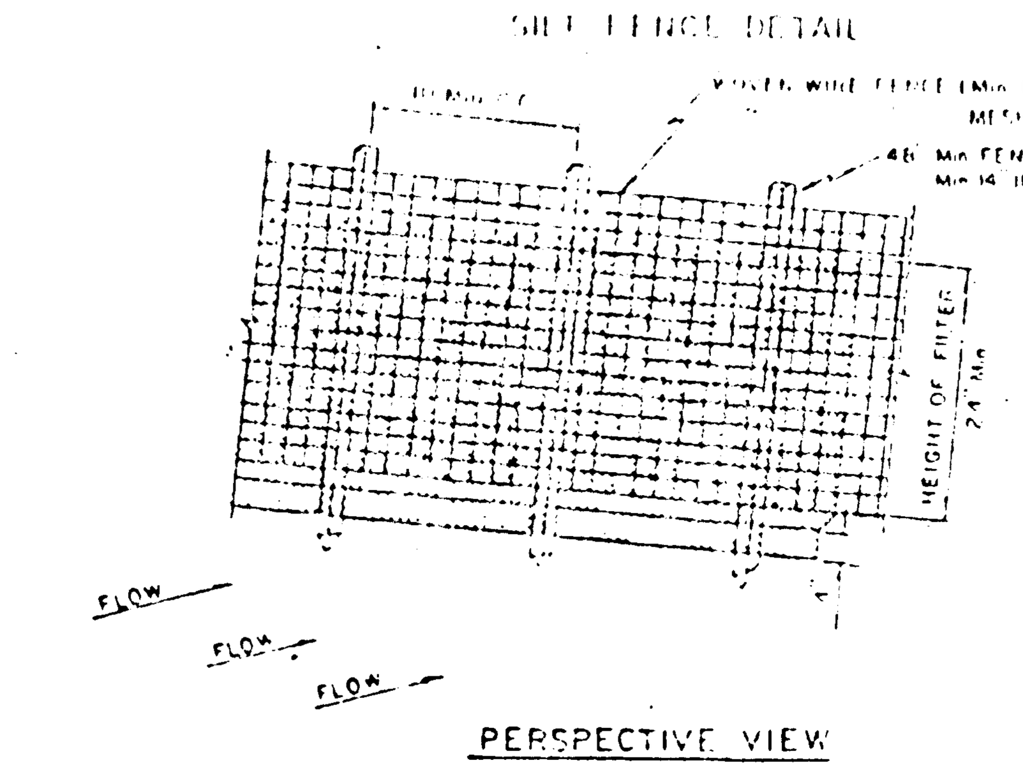


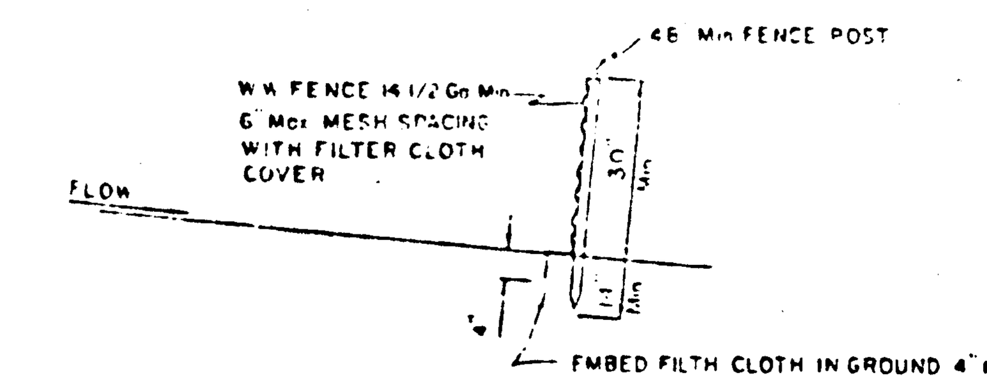
Construction Specifications

1. All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.
2. The swale shall be excavated or shaped to line, grade, and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
3. Fills shall be compacted as needed to prevent unequal settlement that would cause damage in the complete swale.
4. All earth removed and not needed in construction shall be spread or disposed of so that it will not interfere with the functioning of the swale.
5. Interceptor swales shall have a minimum grade of one percent and the bottom shall be level.
6. An interceptor swale shall have an outlet that functions with a minimum of erosion.
7. Runoff shall be conveyed to a sediment trapping device such as a sediment trap or sediment basin.
8. The on-site location may need to be adjusted to meet field conditions in order to utilize the most suitable outlet.
9. Stabilization shall be: (1) in accordance with the Standard and Specifications for Grassed Waterway; or (2) by lining the flow area with stone that meets MSHA size No. 2 or AASHTO M43 size No. 2 or 24 in a layer at least 3 inches in thickness and pressed into the soil. The lining shall extend across the bottom and up both sides of the channel a height of at least 8 inches vertically above the bottom.
10. Periodic inspection and required maintenance shall be provided.

Standard Symbol IS

SILT FENCE DETAIL





CONSTRUCTION NOTES

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 WIRE TIES SPACED EVERY 24" AT TOP AND MID SECTION

POSTS: STEEL EITHER T or U TYPE OR 2" HARDWOOD

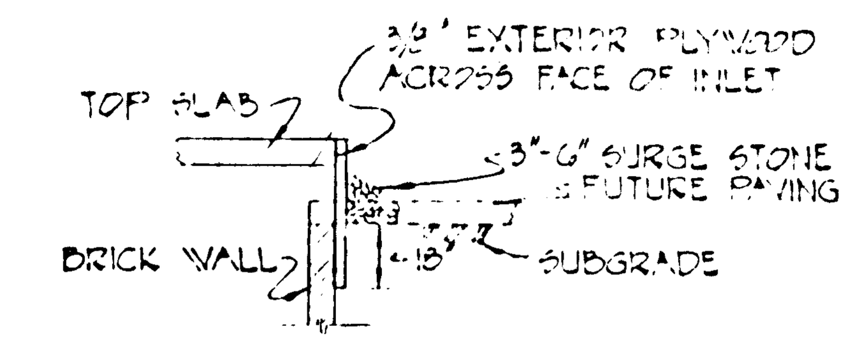
FENCE: WOVEN WIRE, 14 1/2 Ga Max 6" MESH OPENING

FILTER CLOTH: FILTER MIRIFI 100X, LAUREL EROSION CONTROL CLOTH BIDIM POLYFILTER X OR EQUAL

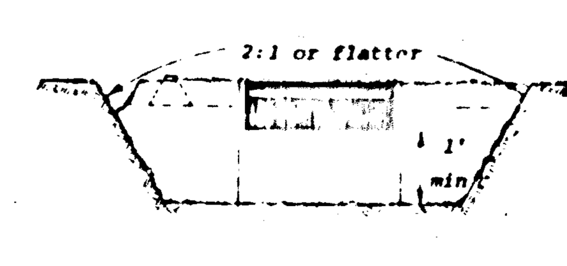
STANDARD SYMBOL

* DRAINAGE AREA LESS THAN 1/2 ACRE

TYPE 'X' INLET PROTECTION DETAIL



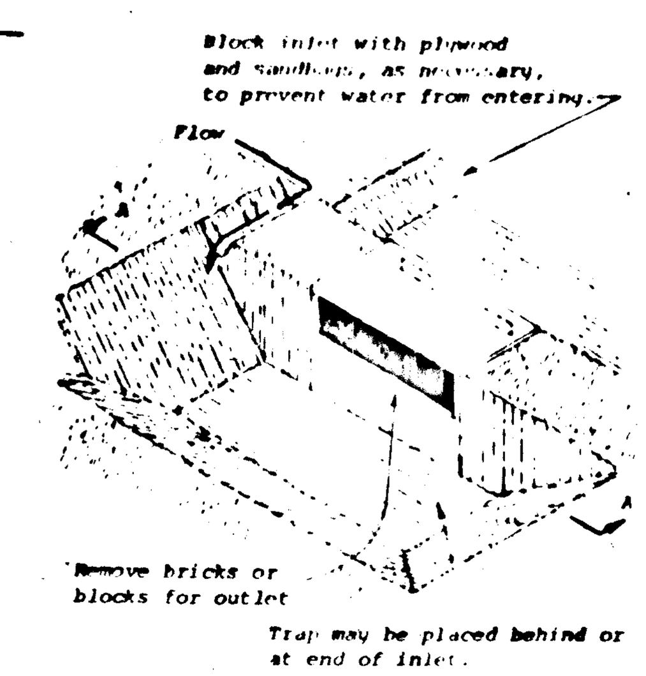
CURB DRAIN



SECTION A-A

CURB DRAIN

NOTE: Where curb is in place, provide a 1 ft. wide opening in the curb or use a sandbag dam to force water over the curb to the trap.



CONSTRUCTION SPECIFICATIONS

1. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
2. The structure shall be inspected after each rain and repairs made as needed.
3. Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
4. The sediment trap shall be removed and area stabilized when the remaining drainage area has been properly stabilized.
5. All cut and fill slopes shall be 2:1 or flatter.

*Drainage area less than 5 acres.

This Development Plan Is Approved For Soil Erosion And Sediment Control By The Howard Soil Conservation District.

APPROVED: Robert W. Ziehm 9-28-82
Howard Soil Conservation District — Date

Reviewed For Howard Soil Conservation District And Meets Technical Requirements.

James M. Helm 9-28-82
Signature — Date
U.S. Soil Conservation District

PURDUM & JESCHKE
CONSULTING ENGINEERS
LAND SURVEYORS
1023 North Calvert Street
Baltimore, Maryland 21202 301/837-0194

APPROVED: Howard County Department Of Public Works.

William E. Riley 10-1-82
Chief Bureau Of Engineering — Date

APPROVED: Howard County Office Of Planning And Zoning

Planning Director — Date

ACTING Louis F. Dennis 9-29-82
Chief Division Of Land Development And Zoning Administration — Date

DEVELOPER'S CERTIFICATION:
I Certify That All Development And/Or Construction Will Be Done In Accordance To This Plan Of Development And Plan Of Erosion And Sediment Control And I Also Authorized Periodic Onsite Inspection By The Howard Soil Conservation District Or Their Authorized Agents As Deemed Necessary.
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William G. Rasch II 9/22/82
Date

STATE OF MARYLAND — WILLIAM G. RASCH II — No. 4575 — REGISTERED — Professional Engineers & Land Surveyors

EROSION & SEDIMENT CONTROL DETAILS

HERITAGE WOODS

SECTION ONE - AREA ONE
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 42 PARCELS 371, 294 & 77
JUNE 25, 1982 SCALE AS SHOWN

SHEET 8 OF 8
DES. BE.
DRW. SPB.
CHK. BF.

F-83-05

#967

BRUNING ANE 1M3-2