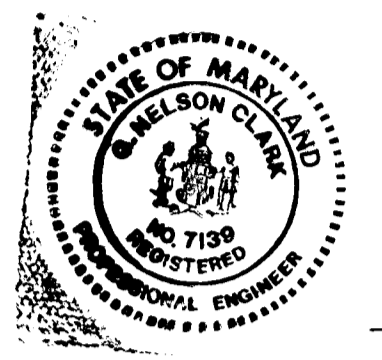


Submitted for Howard S.C.D.  
 Name  
 and meets Technical Requirements  
 Date 3-20-85  
 Signature  
 U.S. Soil Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 Approved Stephen L. Hanks Date 7-20-85

**DEVELOPER'S/BUILDER'S CERTIFICATE**  
 "I/We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as so desired hereinafter."  
 Signature of Developer/Builder G. Nelson Clark Date 11-7-84



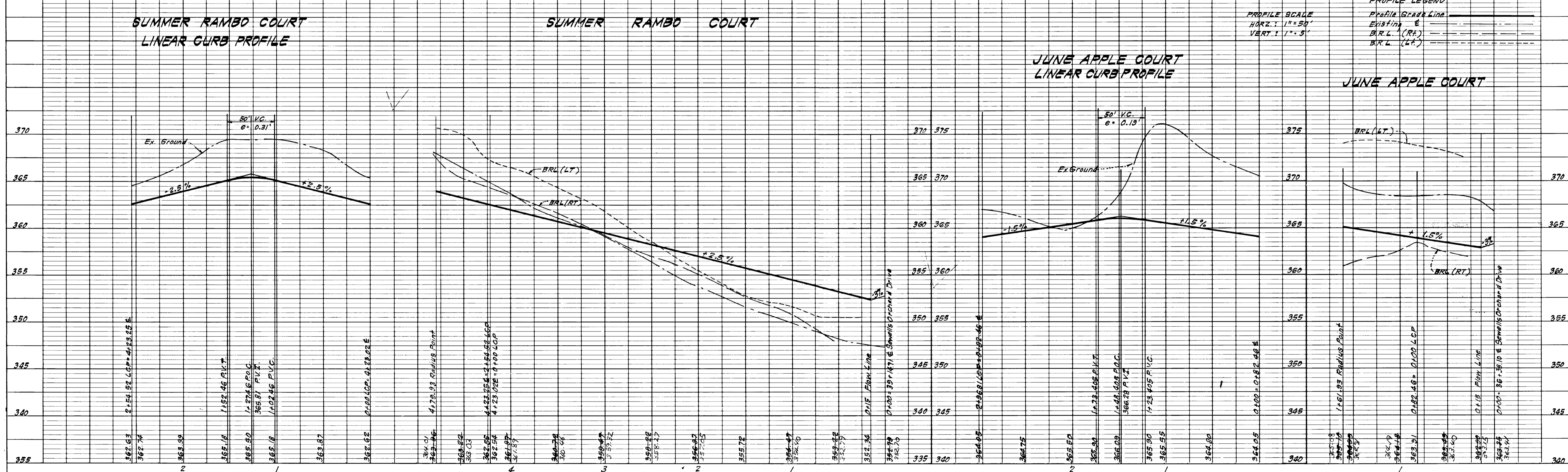
**ENGINEER'S CERTIFICATE**  
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 Signature G. Nelson Clark Date 11-6-84

APPROVED: Department of Public Works  
John W. Luschman 3/22/85  
 Chief, Bureau of Engineering Date  
 APPROVED: Howard County Office of Planning & Zoning  
John W. Luschman 3-22-85  
 Chief, Division of Land Development & Zoning Administration Date

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

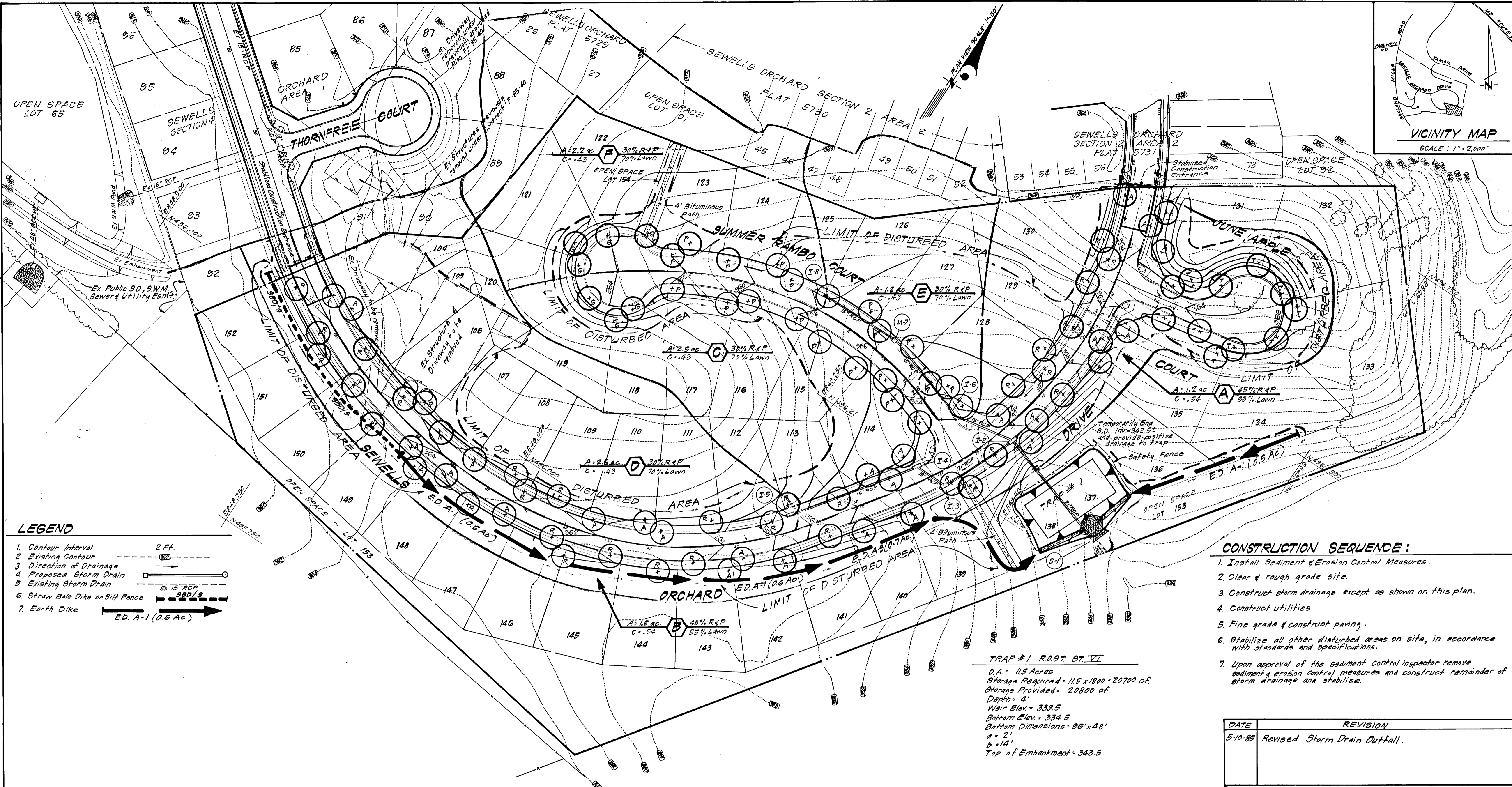
DESIGNED	J.L.S.	ROAD CONSTRUCTION PLANS SUMMER RAMBO COURT & JUNE APPLE COURT	SCALE	1"=50'
DRAWN	V.L.B.	<b>SEWELLS ORCHARD</b>	DRAWING	2 OF 5
CHECKED	J.L.S.		JOB NO.	84-047
DATE	Jan, 1985	SECTION 4 AREA 2 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	FILE NO.	84-047-D

FOR: Orchard Associates  
 P.O. Box 919  
 Columbia, Maryland 21044



#85





- LEGEND**
- 1. Contour Interval 2 FT.
  - 2. Existing Contour
  - 3. Direction of Drainage
  - 4. Proposed Storm Drain
  - 5. Existing Storm Drain
  - 6. Straw Bale Dike or Silt Fence
  - 7. Earth Dike

- CONSTRUCTION SEQUENCE:**
1. Install Sediment & Erosion Control Measures.
  2. Clear & rough grade site.
  3. Construct storm drainage except as shown on this plan.
  4. Construct utilities
  5. Fine grade & construct paving.
  6. Stabilize all other disturbed areas on site, in accordance with standards and specifications.
  7. Upon approval of the sediment control inspector remove sediment & erosion control measures and construct remainder of storm drainage and stabilize.

**TRAP #1 R.O.S.T. ST. VI**  
 D.A. = 11.5 Acres  
 Storage Required = 11.5 x 1800 = 20700 cf.  
 Storage Provided = 20800 cf.  
 Depth = 4'  
 Weir Elev. = 339.5  
 Bottom Elev. = 334.5  
 Bottom Dimensions = 96' x 48'  
 a = 2'  
 b = 14'  
 Top of Embankment = 343.5

PLANT SCHEDULE				
KEY	PLANT NAME	SIZE	QUANT.	REMARKS
(P)	QUERCUS PALUSTRIS PIN OAK	2 1/2 CAL. MIN.	21	B & B HEAVY HEADS
(R)	QUERCUS RUBRA NORTHERN RED OAK		31	
(A)	ACER RUBRUM OCTOBER GLORY OCTOBER GLORY MAPLE		31	
(L)	TILIA CORDATA LITTLELEAF LINDEN		11	
(G)	FRAXINUS P. LANCEOLATA MARSHALLS' GREEN ASH		7	

NOTE: Contractor shall verify location of underground utilities prior to digging. Final locations of trees may be adjusted slightly to accommodate field conditions. Planting procedures shall comply with "Landscape Specifications for Baltimore-Washington Metropolitan Areas." Substitutions to the above species may be permitted, provided that the planting is in accordance with the street tree and landscape requirements as specified in Section 10.131 of the Howard County Subdivision Regulations.

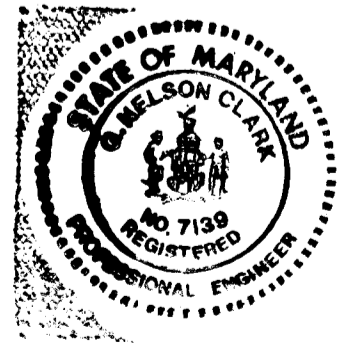
Reviewed for Howard S.C.D. Name and meets Technical Requirements  
 Signature: [Signature] Date: 2-20-85  
 U.S. Soil Conservation Service

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

Approved: [Signature] Date: 2/20/85

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 Signature: [Signature] Date: 11-7-84

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 Signature: G. Nelson Clark Date: 11-6-84



DATE	REVISION
5-10-85	Revised Storm Drain Outfall.

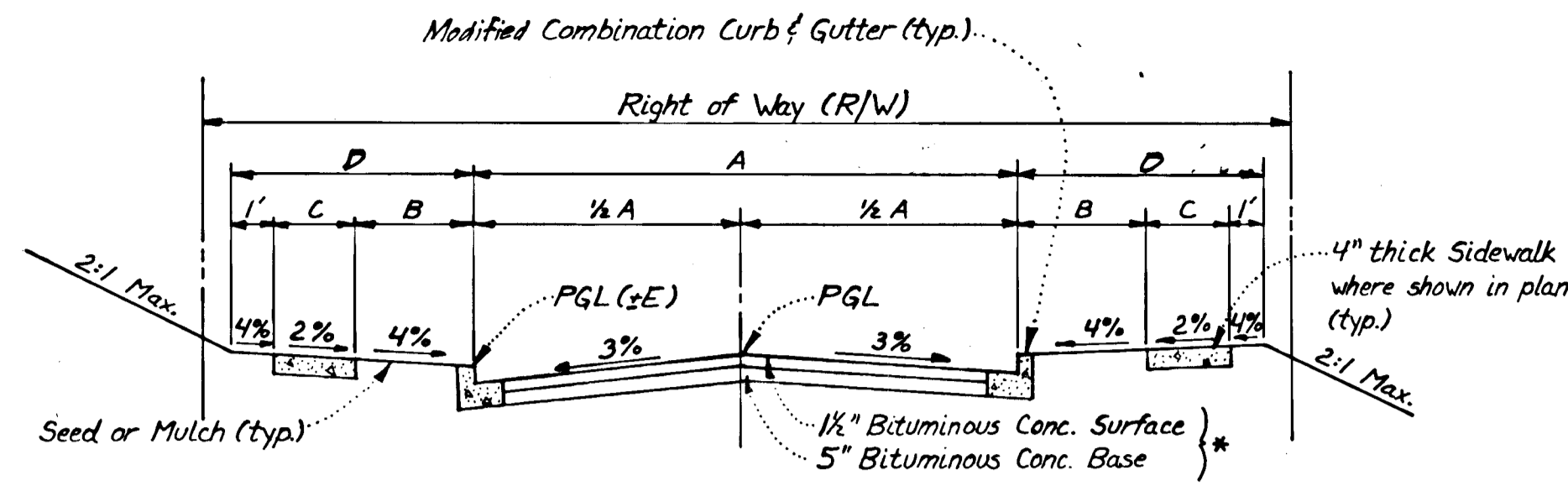
APPROVED: Department of Public Works  
 Chief, Bureau of Engineering [Signature] Date: 3-22-85

APPROVED: Howard County Office of Planning & Zoning  
 Chief, Division of Land Development & Zoning Administration [Signature] Date: 5-21-85

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

DESIGNED J.L.S.	SEDIMENT & EROSION CONTROL PLAN, LANDSCAPE PLAN AND DRAINAGE AREA MAP	SCALE As Shown
DRAWN V.L.B.	<b>SEWELLS ORCHARD</b>	DRAWING 3 OF 5
CHECKED J.L.S.	SECTION 4 AREA 2 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 84-047
DATE JAN, 1985	FOR: Orchard Associates P.O. Box 919 Columbia, Maryland 21044	FILE NO. 84-047-D

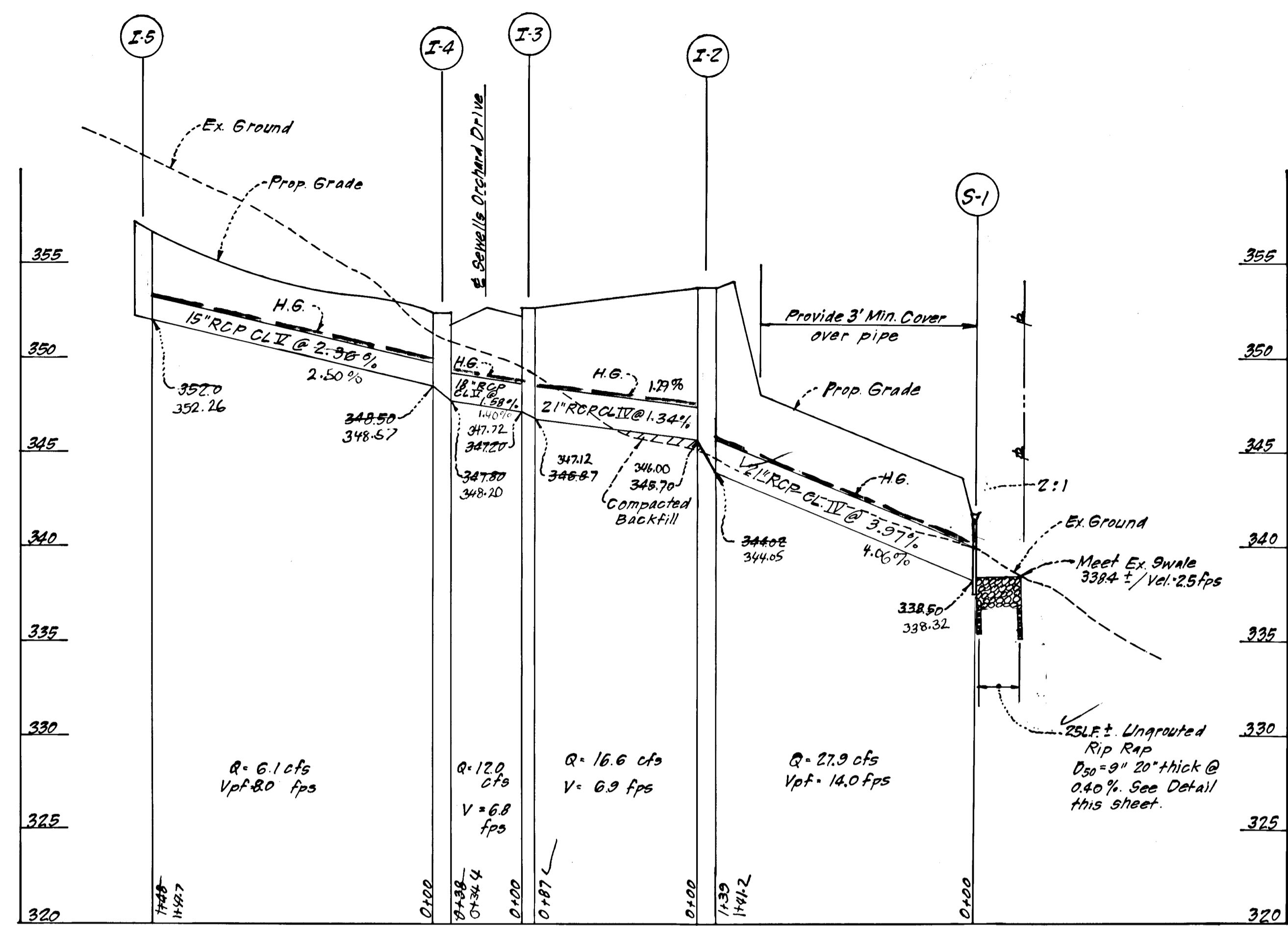
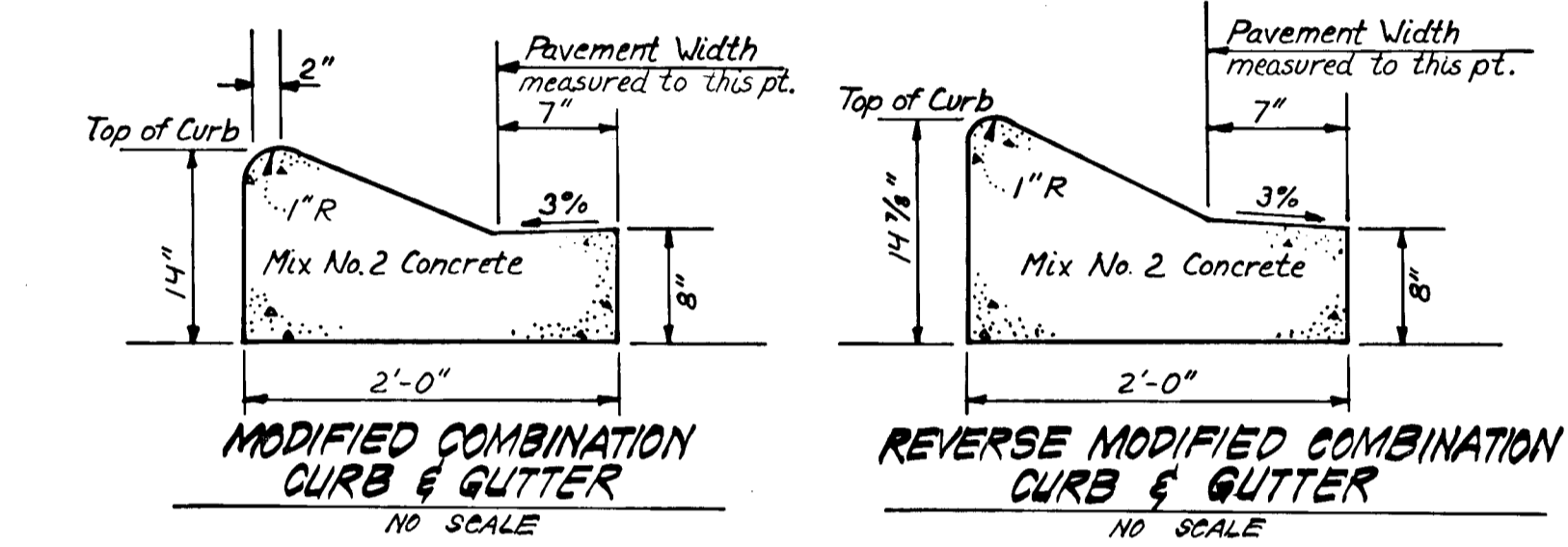




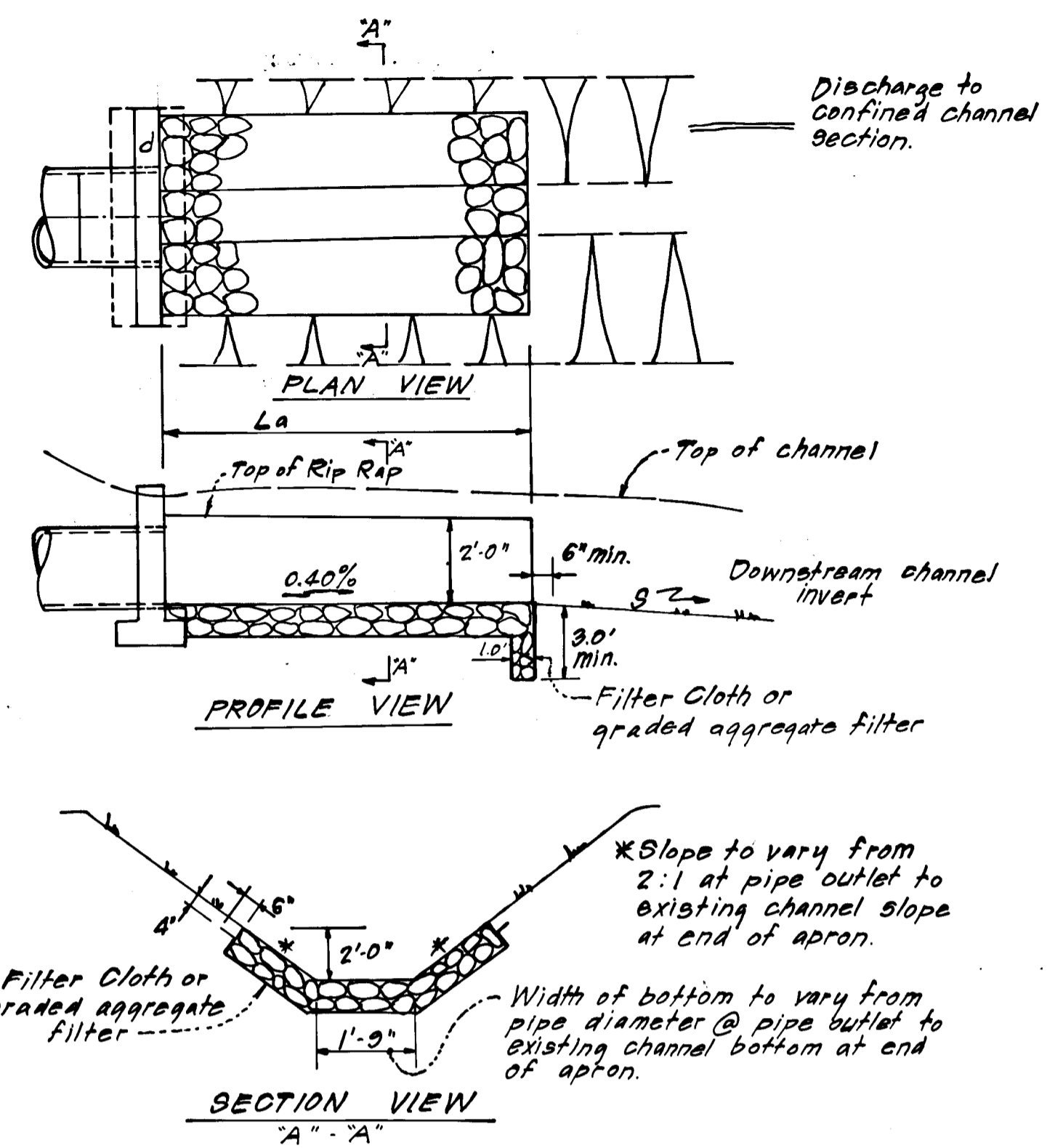
TYPICAL PAVING SECTION - PUBLIC ROADS

\* For Alternate Paving Section - See det. this sht.

STREET NAME & STATION	TYPE OF TRAFFIC	A	B	C	D	R/W	ZONING	DESIGN SPEED	E
Sewells Orchard Drive 35+28.10 to 48+20.72	Local	30'	4'	4'	9'	50'	RSC	30 MPH	1.05
Summer Ramble Court 0+00 to 4+79.34	Cul-de-sac	28'	4'	4'	9'	50'	RSC	30 MPH	1.08
June Apple Court 0+00 to 1+61.93	Cul-de-sac	24'	-	-	10'	50'	RSC	30 MPH	1.18



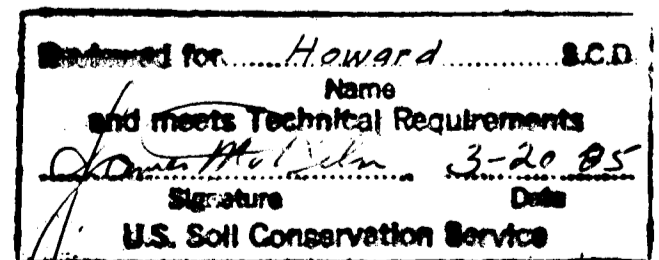
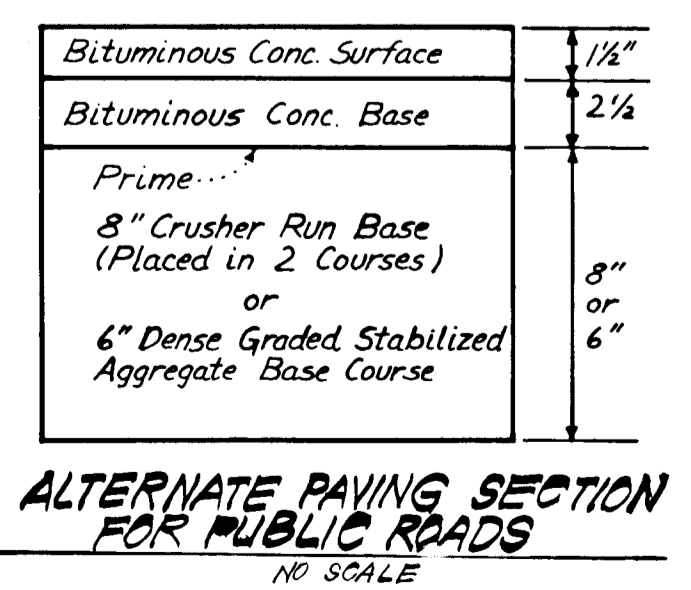
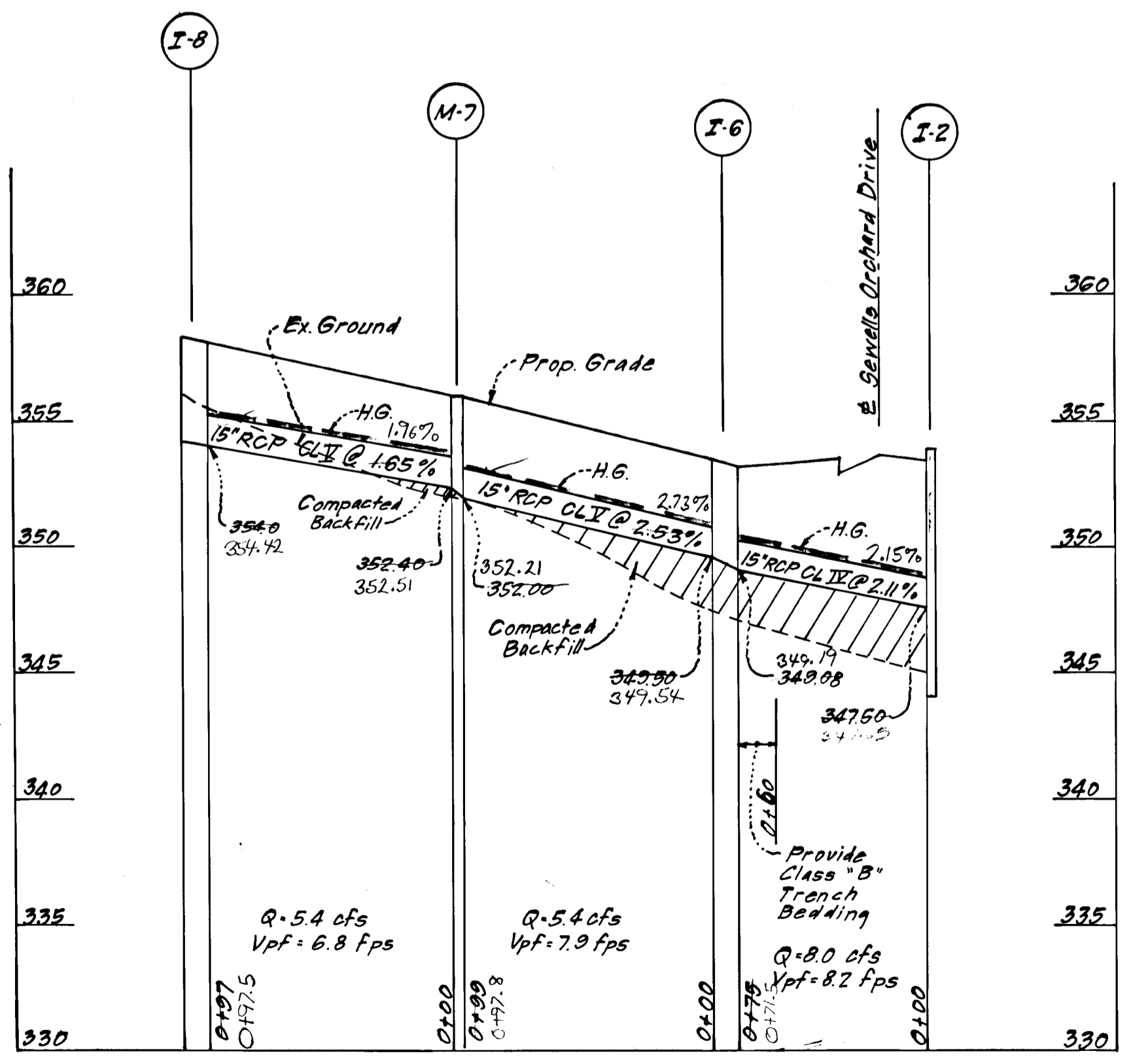
SIZE	TYPE	LENGTH
15"	RCP CL IV	344 L.F.
15"	RCP CL IV	75 L.F.
18"	RCP CL IV	38 L.F.
21"	RCP CL IV	226 L.F.



RIP RAP OUTLET PROTECTION - II  
No Scale

NR	TYPE	INV. IN	INV. OUT	TOP ELEVATION		REMARKS	LOCATION
				UPPER	LOWER		
S-1	A-Entrance	338.32	338.32	-	-	No. Co. Std. S.D. 5.11 Dia. = 21"	See Plan
I-2	A-10 Inlet	345.85	344.05	353.90	353.81	No. Co. Std. S.D. 4.02 W. 3'-6"	E. Inlet Sta. 38+56.90 D. 15' L.F.
I-3	A-10 Inlet	347.72	347.12	352.88	352.88	No. Co. Std. S.D. 4.02 W. 3'-6"	E. Inlet Sta. 39+48.46 S.D. 15' L.F.
I-4	A-10 Inlet	348.57	348.20	352.57	351.43	No. Co. Std. S.D. 4.02 W. 2'-6"	E. Inlet Sta. 39+88.02 S.D. 15' R.F.
I-5	A-10 Inlet w/Def.	-	352.26	357.19	356.76	No. Co. Std. S.D. 4.02 W. 2'-6"	E. Inlet Sta. 41+25.00 S.D. 15' R.F.
I-6	A-10 Inlet	349.54	348.19	353.24	353.09	No. Co. Std. S.D. 4.02 W. 2'-6"	E. Inlet Sta. 41+50.12 S.D. 14' R.F.
M-7	Shallow Brick Manhole	352.81	352.21	356.01	356.01	No. Co. Std. G. 5.05 48" dia.	E. Man. Sta. 14+50.00 S.D. 22' R.F.
I-8	A-10 Inlet w/Def.	-	352.42	358.53	358.32	No. Co. Std. S.D. 4.02 W. 2'-6"	E. Inlet Sta. 24+80.00 S.D. 14' R.F.

△ All inverts to be fully developed.  
# See No. Co. Std. R. 306 for inlet stakeout  
\* See No. Co. Std. S.D. 483 for Inlet Deflectors.



APPROVED FOR HOWARD COUNTY  
Name: Stephen C. Fink  
Signature: [Signature]  
Date: 3-20-85  
U.S. Soil Conservation Service

DEVELOPER'S/BUILDER'S CERTIFICATE  
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Signature: [Signature]  
Date: 11-7-84

ENGINEER'S CERTIFICATE  
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Signature: G. Nelson Clark  
Date: 11-6-84

Date	REVISION
5-10-85	Revised Storm Drainage I-5 to S-1

**AS-BUILT**

APPROVED: DEPARTMENT OF PUBLIC WORKS  
Chief, Bureau of Engineering: [Signature] Date: 3-22-85  
APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
Chief, Division of Land Development & Zoning Administration: [Signature] Date: 3-21-85

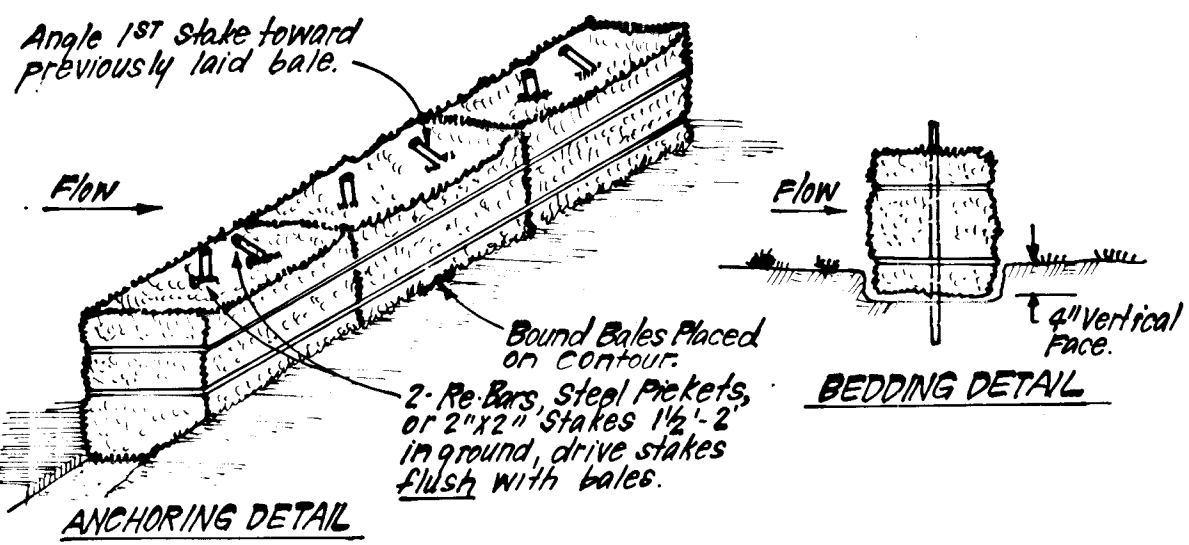
DESIGNED J.L.S.	ROAD CONSTRUCTION PLANS STORM DRAINAGE PROFILES AND PAVING DETAILS	SCALE AS SHOWN
DRAWN K.L.B.	SEWELLS ORCHARD SECTION 4 AREA 2 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	DRAWING 4 OF 5
CHECKED J.L.S.		JOB NO. 84-047
DATE Jan, 1985	FOR: Orchard Associates P.O. Box 919 Columbia, Maryland 21044	FILE NO. 84-047-D

# 850



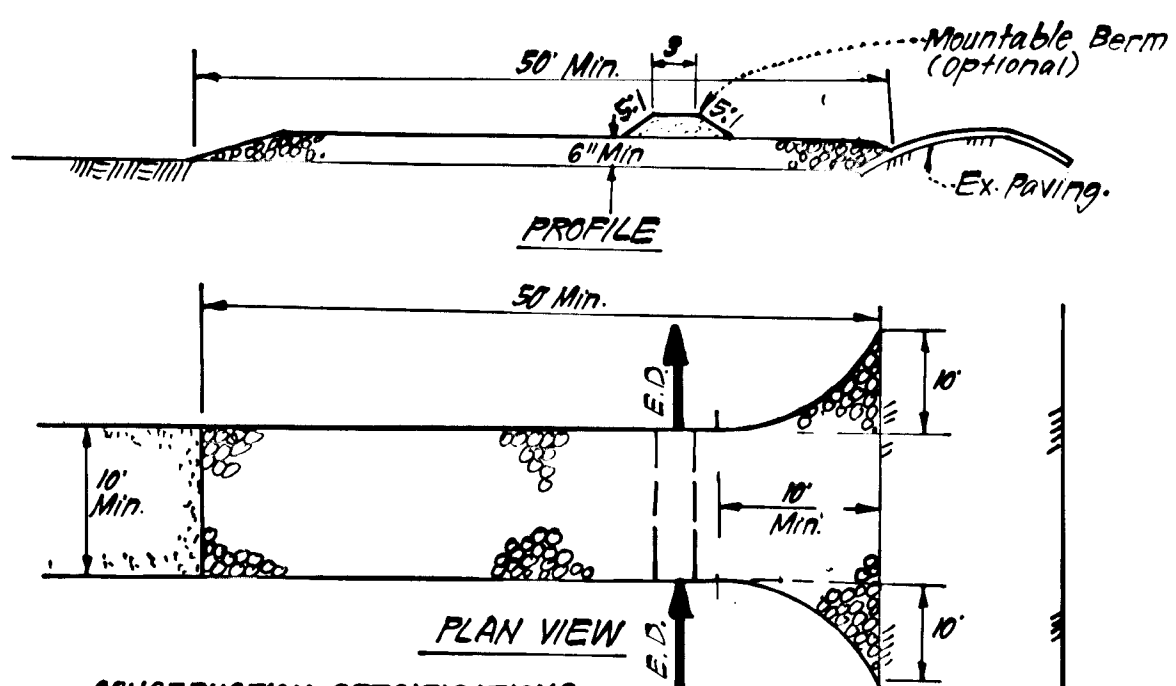
**GENERAL NOTES**

- Grading Permits shall be obtained prior to installation of sediment control.
- All Sediment Control Measures will be installed and stabilized according to this plan prior to any other grading, clearing or disturbance of existing surface of site.
- Notify the Bureau of Inspections and Permits at least 24 hours before starting any work.
- All Sediment Control Practices to conform to the "Standards and Specs. for Soil Erosion and Sediment Control in Developing Areas", and shall be adjusted to meet actual field conditions.
- All structural Sediment Control Measures are to remain in place until permission for their removal has been obtained from the Bureau of Inspections and Permits.
- On site inspection and maintenance of all sediment control measures including clean-out of Sediment Traps and Dikes, and proper establishment of all planned vegetative measures will be the responsibility of the developer or his representative on the site, on a continuing day to day basis.
- It will be the developer's responsibility to provide additional Sediment & Erosion Control Devices to protect stabilized areas during construction.
- The contractor shall keep all public roads free of sediment deposits left from traffic leaving construction site.
- Approval of this plan is conditional upon the approval of Sediment Control Plan for the off-site waste or borrow area prior to the import of any borrow or export of waste to or from this site.
- See Pages 51.01 - 51.08 of the Maryland State & Specs for Soil Erosion and Sediment Control for Permanent Seeding and Pages 50.01 - 50.05 for Temporary Seeding.
- As per COMAR 08.05.01.06 -- "Following initial soil disturbance or redistribution, 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 one vertical (3:1) and (b) fourteen days as to all other disturbed or graded areas on the project site."
- All Pipes to be blocked at the end of each day (See detail below).
- The total amount of Straw Bale Dikes/Silt Fence shown = 265 LF
- SITE ANALYSIS:**
  - A Total Area: 14.5158 Acres
  - B Area to be Roofed: 0.0000 Acres
  - C Area to be Paved: 1.9000 Acres
  - D Area to be Seeded: 4.6700 Acres
  - E Area Undisturbed: 7.9458 Acres
- All sediment traps shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chap. 12, of The Howard County Design Manual for Storm Drainage.
- Total Cut - 9,865 CY  
Total Fill - 13,910 CY



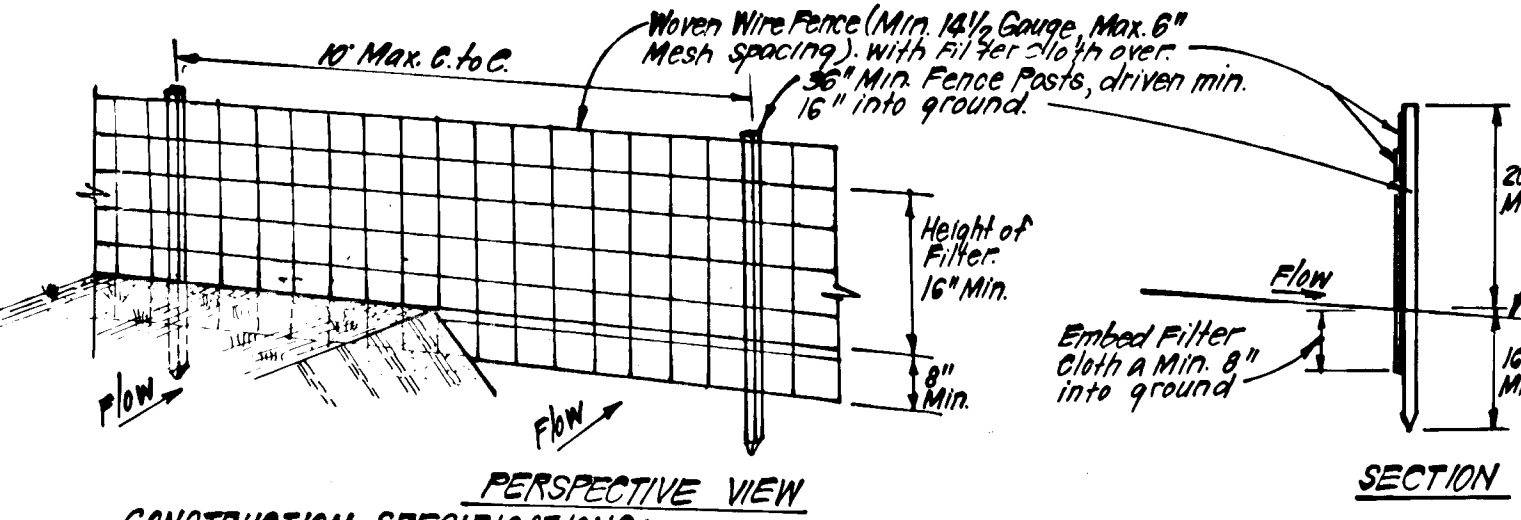
- CONSTRUCTION SPECIFICATIONS:**
- Bales shall be placed at the top of a slope or on the contour and in a row with ends tightly abutting the adjacent bales.
  - Each bale shall be embedded in the soil a min of 4" and placed so the bindings are horizontal.
  - Bales shall be securely anchored in place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

**STRAW BALE DIKE DETAIL (SBD)**  
NO SCALE



- CONSTRUCTION SPECIFICATIONS:**
- Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
  - Length - As required, but not less than 50 feet (except on a single residence lot where a 130' min length would apply).
  - Thickness - Not less than 6".
  - Width - Ten foot min, but not less than the full width at point where ingress occurs.
  - 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.
  - Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mounable berm with 5:1 slopes will be permitted.
  - 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 watering with water from a nearby source as conditions demand. Sediment spilled, dropped, washed or tracked onto public rights of way must be removed immediately.
  - 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.
  - Periodic inspection and needed maintenance shall be provided after each rain.

**STABILIZED CONSTRUCTION ENTRANCE (S.C.E.)**  
NO SCALE



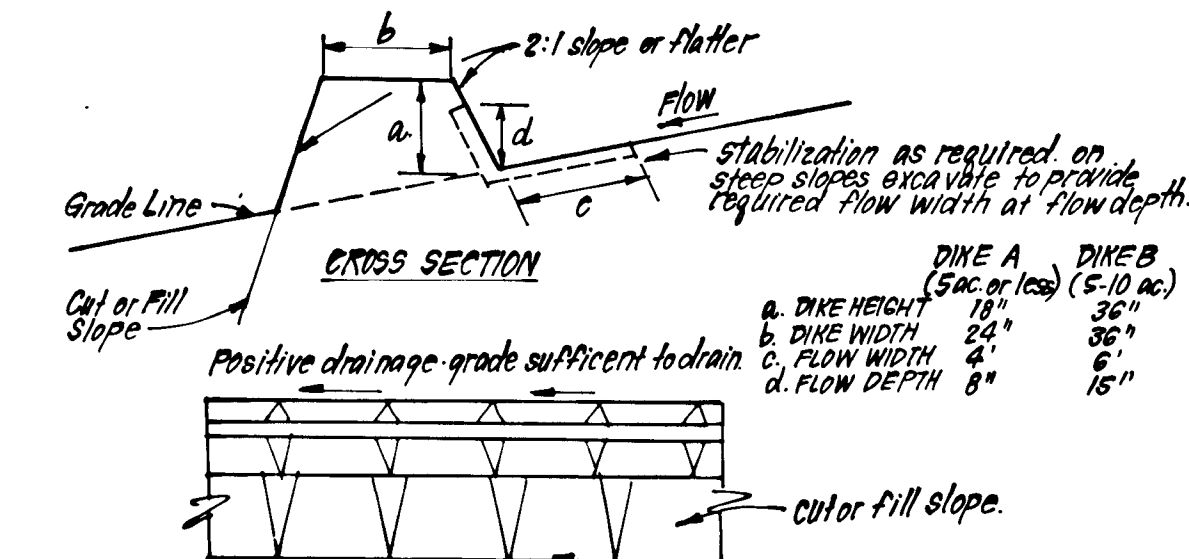
- CONSTRUCTION SPECIFICATIONS:**
- Woven wire fence to be fastened securely to fence posts with wire ties or staples.
  - Filter cloth to be fastened securely to woven wire fence with ties spaced every 24" at top and mid section.
  - When 2 sections of filter cloth adjoin each other they shall be overlapped by 6" and stapled.
  - Maintenance shall be performed as needed and material removed when "bulges" develop in Silt Fence.
- POSTS: Steel either T or U Type or Hardwood  
FENCE: Woven Wire, 1 1/2 Gauge, 6" Max. Mesh Opening  
FILTER CLOTH: Filter X, Mirafix, Mox, Slablinka, T140N or Approx. equal  
PREFABRICATED UNIT: Geofab, Envirofence, or Approx. equal

**SILT FENCE DETAIL (S)**  
NO SCALE

FLOW CHANNEL STABILIZATION			
TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	.5 - 30%	Seed & Straw Mulch	Seed & Straw Mulch
2	3.1 - 5.0%	Seed & 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

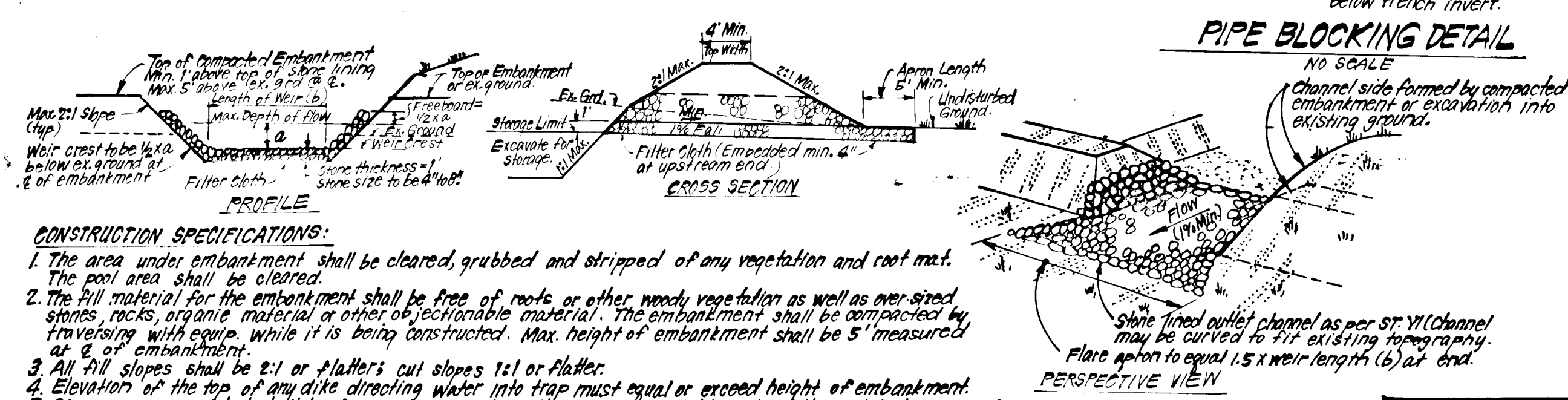
- Stone to be 2 inch stone, or recycled concrete equivalent, in a layer at least 3 inches in thickness and be pressed into the soil with construction equipment.
- Rip Rap to be 4-8 inches in a layer at least 8 inches in thickness and pressed into the soil.
- Approved equivalents can be substituted for any of the above materials.

**EARTH DIKE CHART**



- CONSTRUCTION SPECIFICATIONS:**
- All dikes shall be compacted by earth moving equipment.
  - All dikes shall have positive drainage to an outlet.
  - Top width may be wider and side slopes may be flatter if desired to facilitate crossing by construction traffic.
  - Field location shall be adjusted as needed to utilize a stabilized safe outlet.
  - Earth dikes shall have an outlet that functions with a min of erosion. Runoff shall be conveyed to a sediment trapping device such as sediment trap or sediment basin where either the dike or the drainage area above the dike are not adequately stabilized.
  - Stabilization shall be: (A) in accordance with the Specs & Specs for Seed and Straw Mulch if not in seeding season (B) flow channel as per chart, this sheet.
  - Periodic inspection and required maintenance must be provided after each rain event.

**EARTH DIKE DETAIL (ED)**  
NO SCALE



- CONSTRUCTION SPECIFICATIONS:**
- The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
  - 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 traveling with equip. while it is being constructed. Max. height of embankment shall be 5' measured at 4' of embankment.
  - All slopes shall be 2:1 or flatter's cut slopes 1:1 or flatter.
  - Elevation of the top of any dike directing water into trap must equal or exceed height of embankment.
  - Storage area provided shall be figured by computing the volume available behind the outlet channel up to an elevation of 1' below the lower weir crest.
  - Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Sections of fabric must overlap at least 1' with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.
  - Stone used in the outlet channel shall be 4" to 8" rip rap. To provide a filtering effect, a layer of filter cloth aggregate shall be placed on the upstream side of the outlet.
  - Sediment shall be removed any time restloped to its original dimensions when the sediment has accumulated to 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.
  - The structure shall be inspected after each rain and repaired as needed.
  - Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
  - The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
  - Drainage area for this practice is limited to 15 acres or less.

**RIPRAP OUTLET SEDIMENT TRAP - ST-VI**  
NO SCALE

**DEVELOPER'S/BUILDER'S CERTIFICATE**

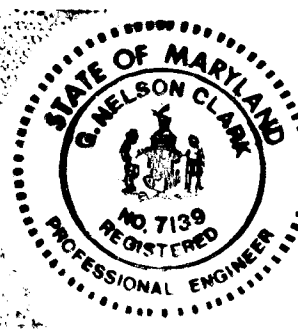
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*[Signature]* 11-7-84  
Signature of Developer/Builder Date

**ENGINEER'S CERTIFICATE**

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*[Signature]* 11-6-84  
G. Nelson Clark Date



APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 3-22-85  
Chief, Bureau of Engineering Date

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
*[Signature]* 3-21-85  
Chief, Division of Land Development & Zoning Administration Date

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

DESIGNED J.L.S.	ROAD CONSTRUCTION PLANS AND SEDIMENT & EROSION CONTROL DETAILS	SCALE As Shown
DRAWN V.L.B.	<b>SEWELLS ORCHARD</b>	DRAWING 5 OF 5
CHECKED J.L.S.	SECTION 4 AREA 2 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 83-047
DATE Jan., 1985	FOR: Orchard Associates P.O. Box 919 Columbia, Maryland 21044	FILE NO. 84-087-D

Reviewed for Howard S.C.D. and meets Technical Requirements  
*[Signature]* 3-20-85  
Signature Date  
U.S. Soil Conservation Service

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*[Signature]* 3/20/85  
Approved Date

# B50