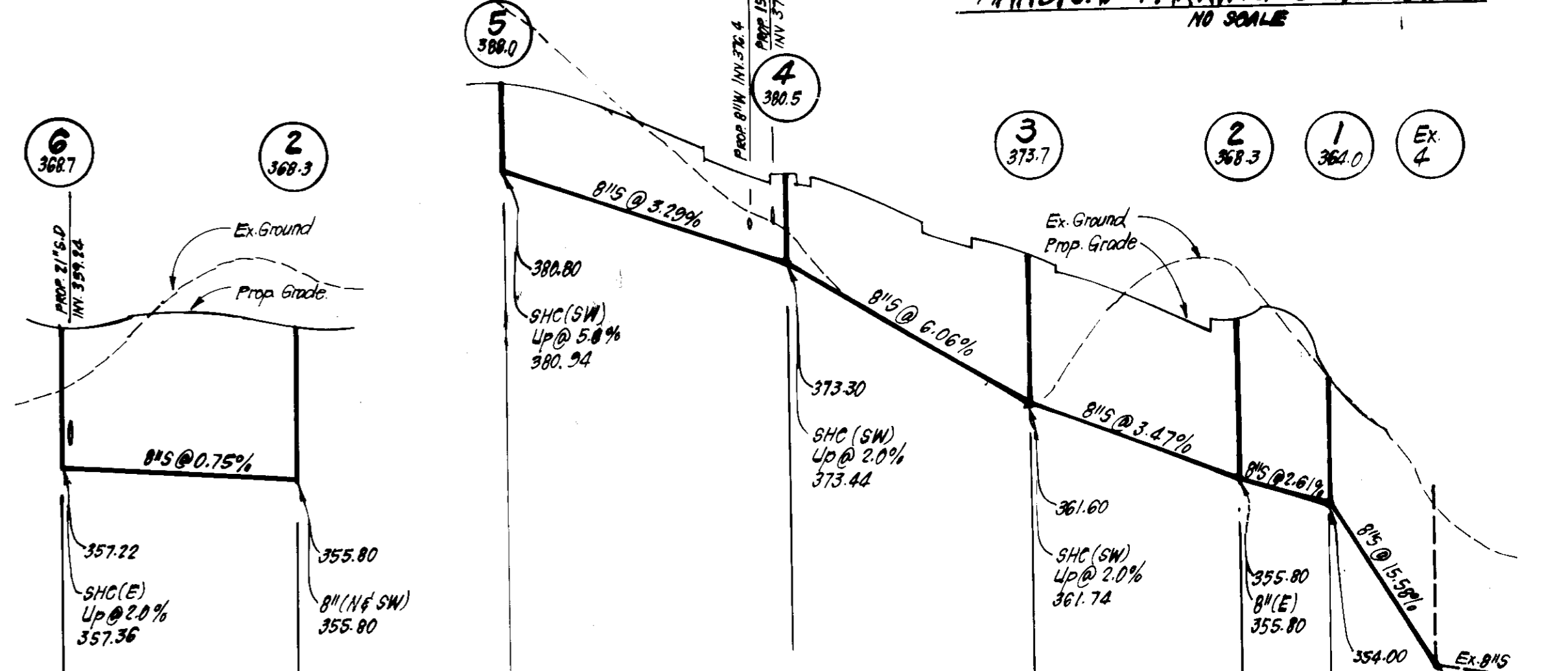


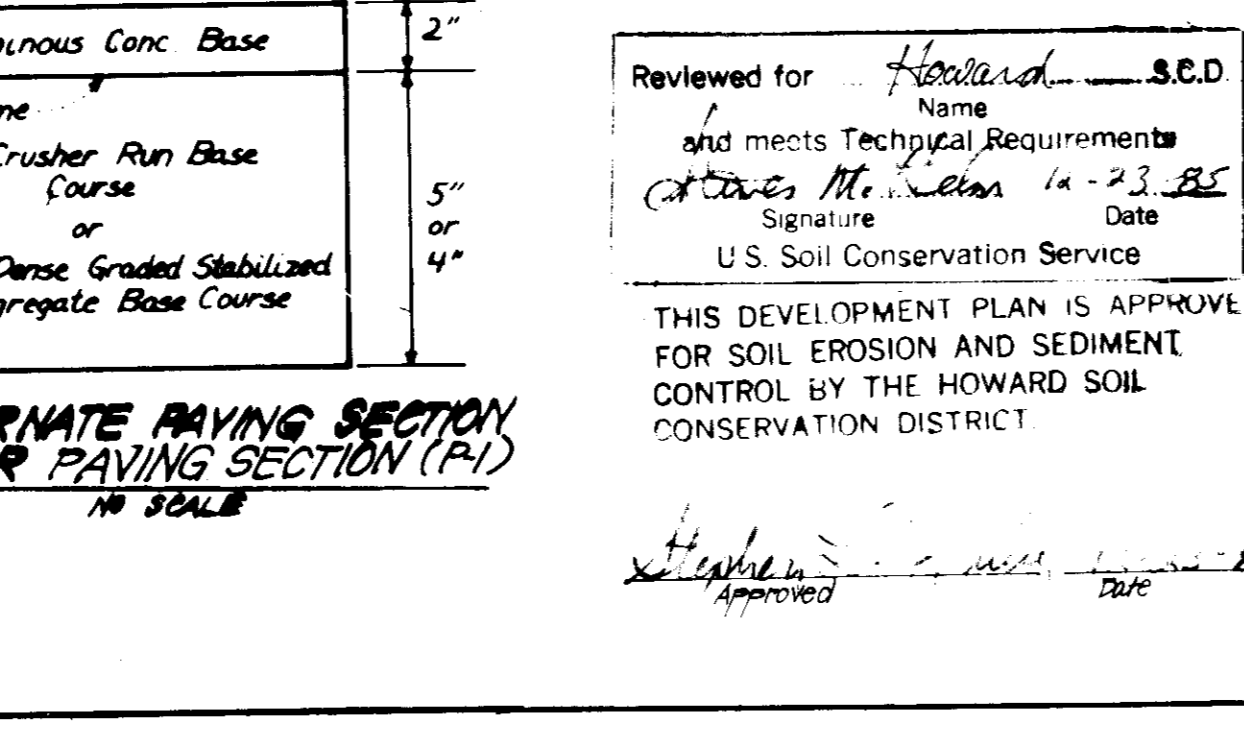
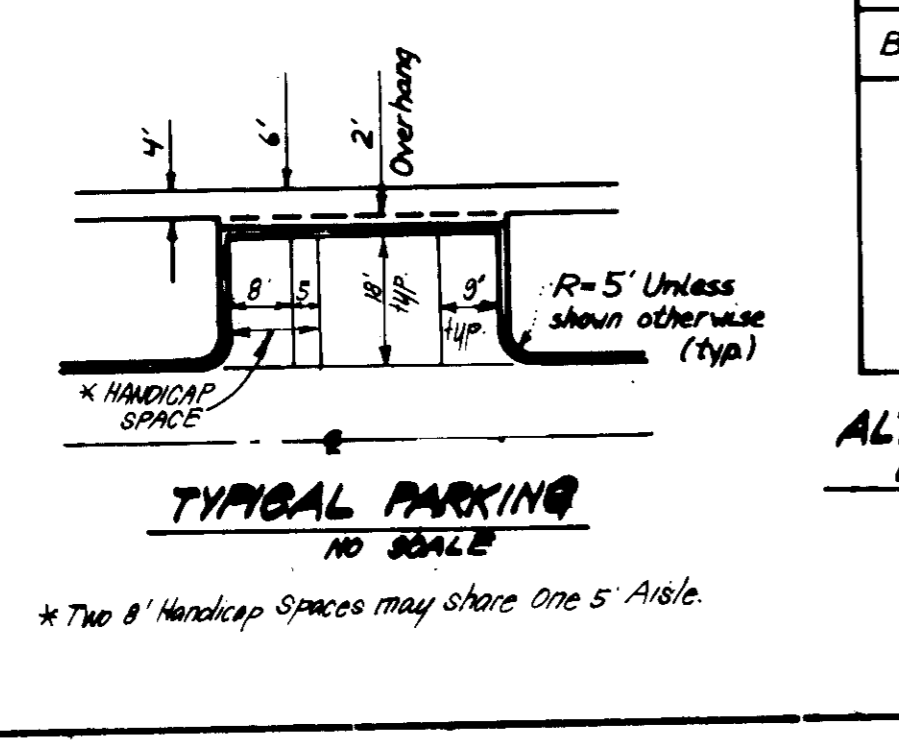
APPROVED
11-27-85
[Signature]



APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
1-2-85
[Signature]

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING
1-3-85
[Signature]

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
1-30-85
[Signature]



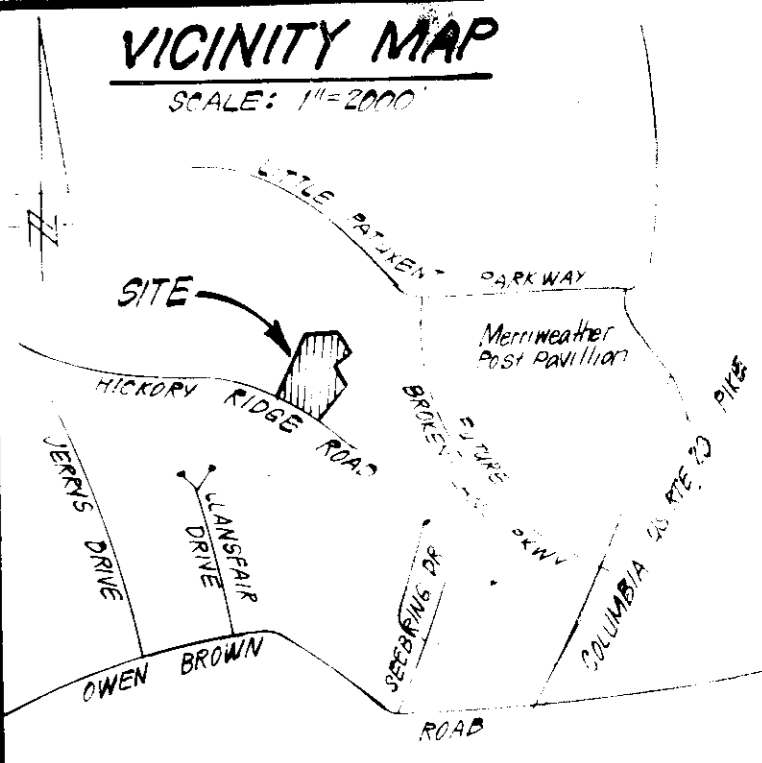
Reviewed for [Signature] S.C.D. Name and meets Technical Requirements
[Signature] 11-23-85 Date
U.S. Soil Conservation Service
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
[Signature] Approved Date

ENGINEER'S CERTIFICATE
I hereby certify that this plan for Erosion and Sediment Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.
[Signature] 12-9-85 Date

CLARK · FINEFROCK & SACKETT
ENGINEERS · PLANNERS · SURVEYORS
11315 LOCKWOOD DRIVE SILVER SPRING, MARYLAND 20904 (301) 583-3400

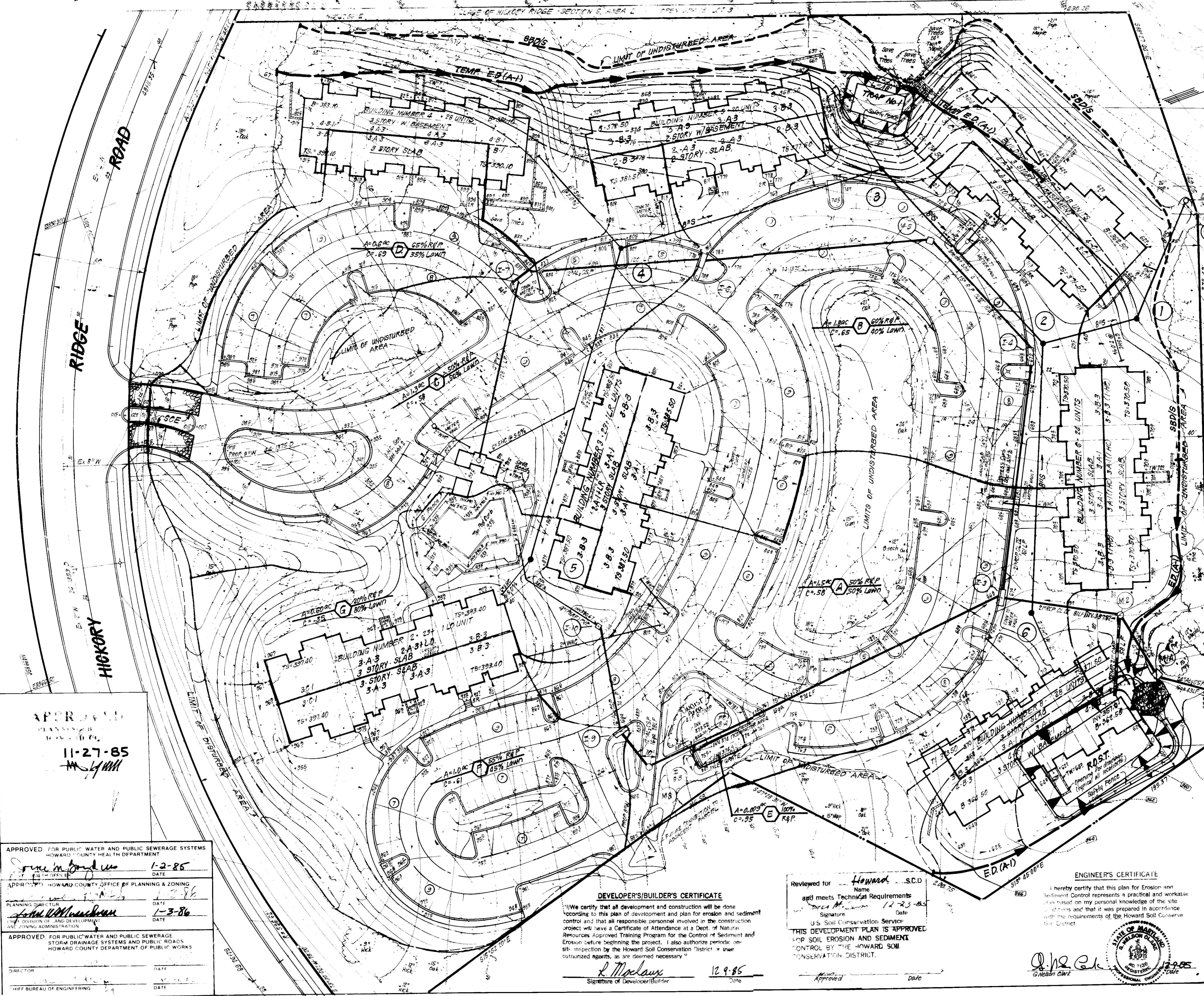
DESIGNED: JLS
DRAWN: KTW
CHECKED: GKG
DATE: Oct 85

REVISION SITE DEVELOPMENT PLAN PARCEL C (Revision to SDP 85-231c)
COLUMBIA
VILLAGE OF HICKORY RIDGE AREA 2
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
FOR: DROW, TERWILLIGER & MICHAUX, INC
5550 Herrett Place #201
Columbia, MD 21044
SDP-86-96c



TEMP TRAP #1 SOST (ST.VI)
 DA = 4.3 ACRES
 Storage Required = 4,319.00 = 5870cf
 Storage Provided = 5920 cf
 Depth = 4'
 Top of Stone Crest = 357.5
 Bottom Elevation = 352.5
 Bottom Dimensions = 36'x20.5'
 Clean Out Elev. = 354.5
 * 1:1 Slopes in Cut Areas.

- LEGEND:**
- Center Line
 - Existing Utility
 - Proposed Utility
 - Street Elevation
 - Direction of Drainage
 - East Trees Slab
 - Proposed Storm Drain
 - Proposed Sewer
 - Proposed Water
 - Earth Dike
 - SBDS
 - Straw Bale Dike or Silt Fence
 - Stabilized Construction Entrance
 - SCE



See Previously Approved Plan
 SDP-85-231 for Construction
 Sequence

ROST (ST.IV)
 DA = 7.8 Acres
 Storage Required = 7.8 x 1000 = 10040cf
 Storage Provided = 10040cf
 Top of Stone Crest = 358.0
 Bottom Elevation = 353.0
 Depth = 4'
 Bottom Dimensions = 74'x41'
 Clean Out Elev. = 355.0
 Top Berm Elev. = 362.0
 2-2'
 b=10'

APPROVED
 11-27-85
[Signature]

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT	<i>[Signature]</i>	DATE 1-2-86
APPROVED FOR HOWARD COUNTY OFFICE OF PLANNING & ZONING PLANNING DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION	<i>[Signature]</i>	DATE 1-3-86
APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	<i>[Signature]</i>	DATE 1-3-86
DIRECTOR	DATE	
CHIEF BUREAU OF ENGINEERING	DATE	

DEVELOPER'S/BUILDER'S CERTIFICATE
 We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary.
[Signature] 12-9-85
 Signature of Developer/Builder Date

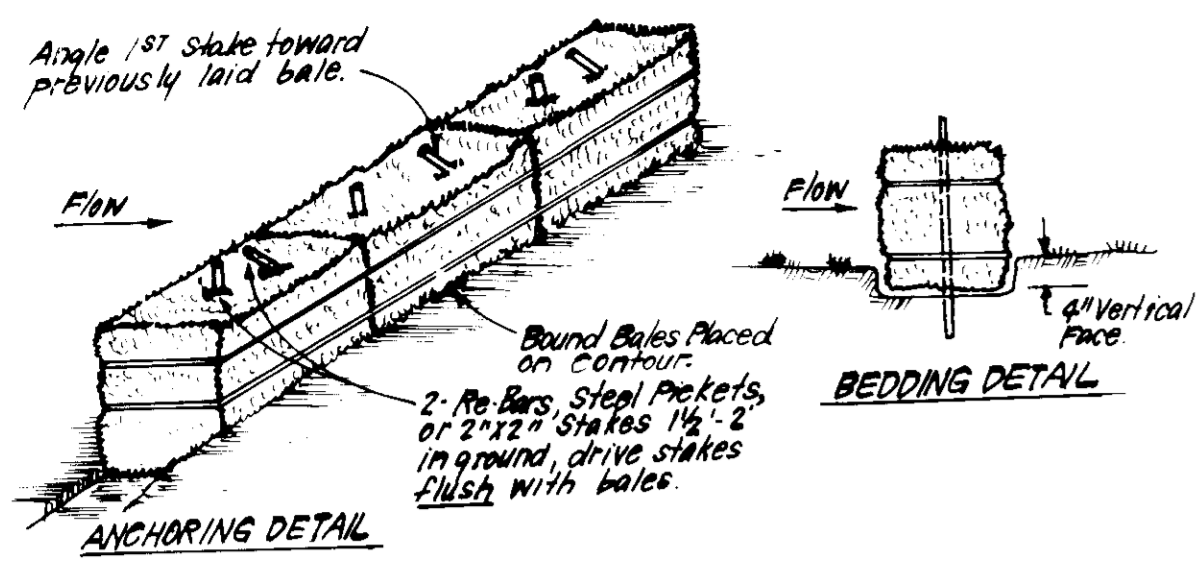
Reviewed for *Howard* S.C.D.
 Name
 and meets Technician Requirements
[Signature] 12-23-85
 Date
 U.S. Soil Conservation Service
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 12-9-85
 Approved Date

ENGINEER'S CERTIFICATE
 I hereby certify that this plan for Erosion and Sediment Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.
[Signature] 12-9-85
 G. Nelson Clark
 PROFESSIONAL ENGINEER

CLARK · FINEFROCK & SACKETT
 ENGINEERS · PLANNERS · SURVEYORS
 11312 LOCKWOOD DRIVE · SILVER SPRING, MARYLAND 20904 · 4011 593 3400

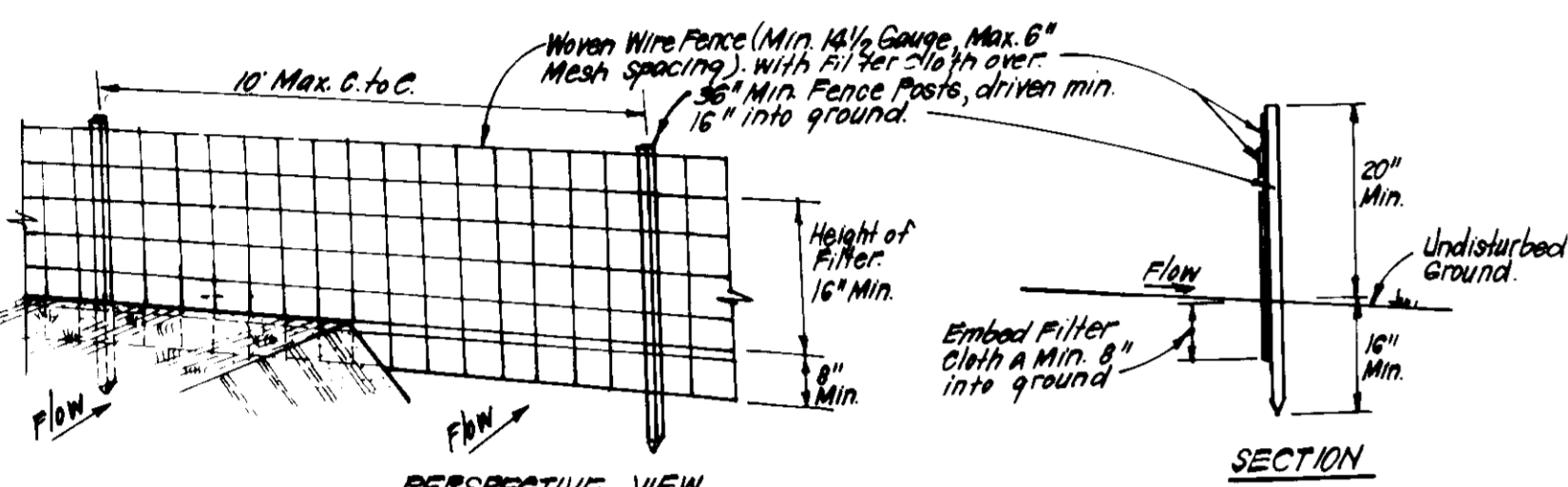
DESIGNED JLS WHT	REVISED SEDIMENT & EROSION CONTROL PLAN & DRAINAGE AREA MAP PARCEL C COLUMBIA VILLAGE OF HICKORY RIDGE SECTION 5 AREA 2 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND FOR: ORWY, TERWILLIGER, MICHAUX, INC. 5550 Sharrett Place #201 Columbia, Maryland 21044	SCALE 1" = 30'
DRAWN K/W		DRAWING 3 OF 5
CHECKED JLS WHT		JOB NO 85-021
DATE REVISED 10-18-85		FILE NO 85-021-SE

SDP-86-96c



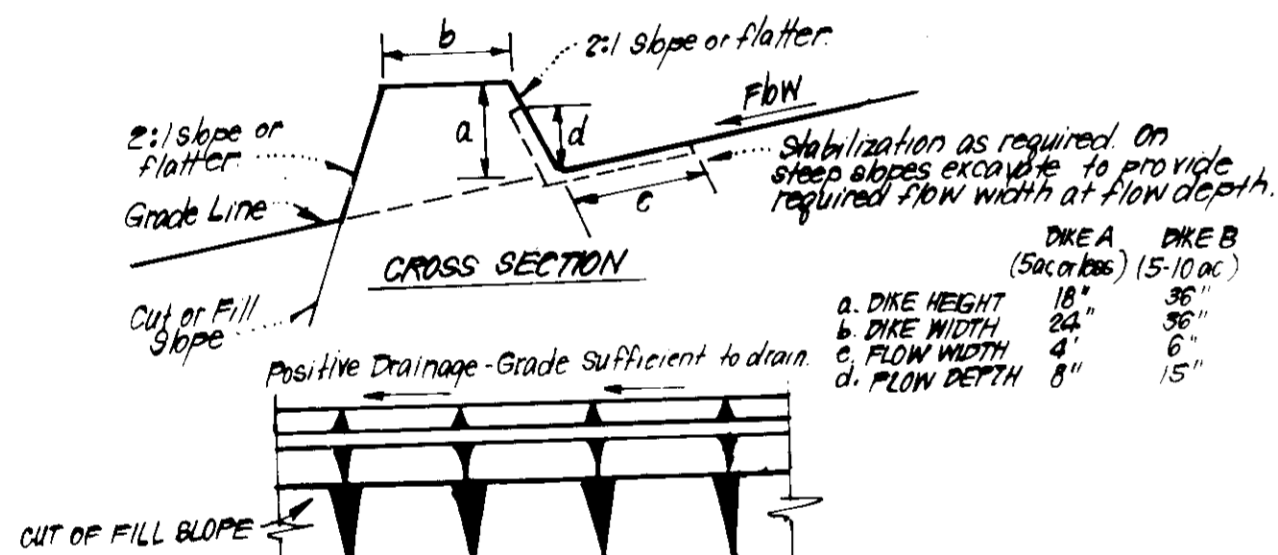
- CONSTRUCTION SPECIFICATIONS:**
- Bales shall be placed at the top of a slope or on the contour and in a row with ends tightly abutting the adjacent bales.
 - Each bale shall be embedded in the soil a min. of 4" and placed so the bindings are horizontal.
 - Bales shall be securely anchored in place by either 2 stakes or re-bars driven thru the bale. The 1st stake in each bale shall be driven forward, 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:**
- 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 30" 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 2" Hardwood
FENCE: Woven Wire, 14 1/2 Gauge
6" Max. Mesh opening
FILTER CLOTH: Filter-X, Miraflex, MXX, Stabilink, T140N or Approv. equal
PREFABRICATED UNIT: GeoFab, Envirofence, or Approv. equal

SILT FENCE DETAIL (S)
NO SCALE



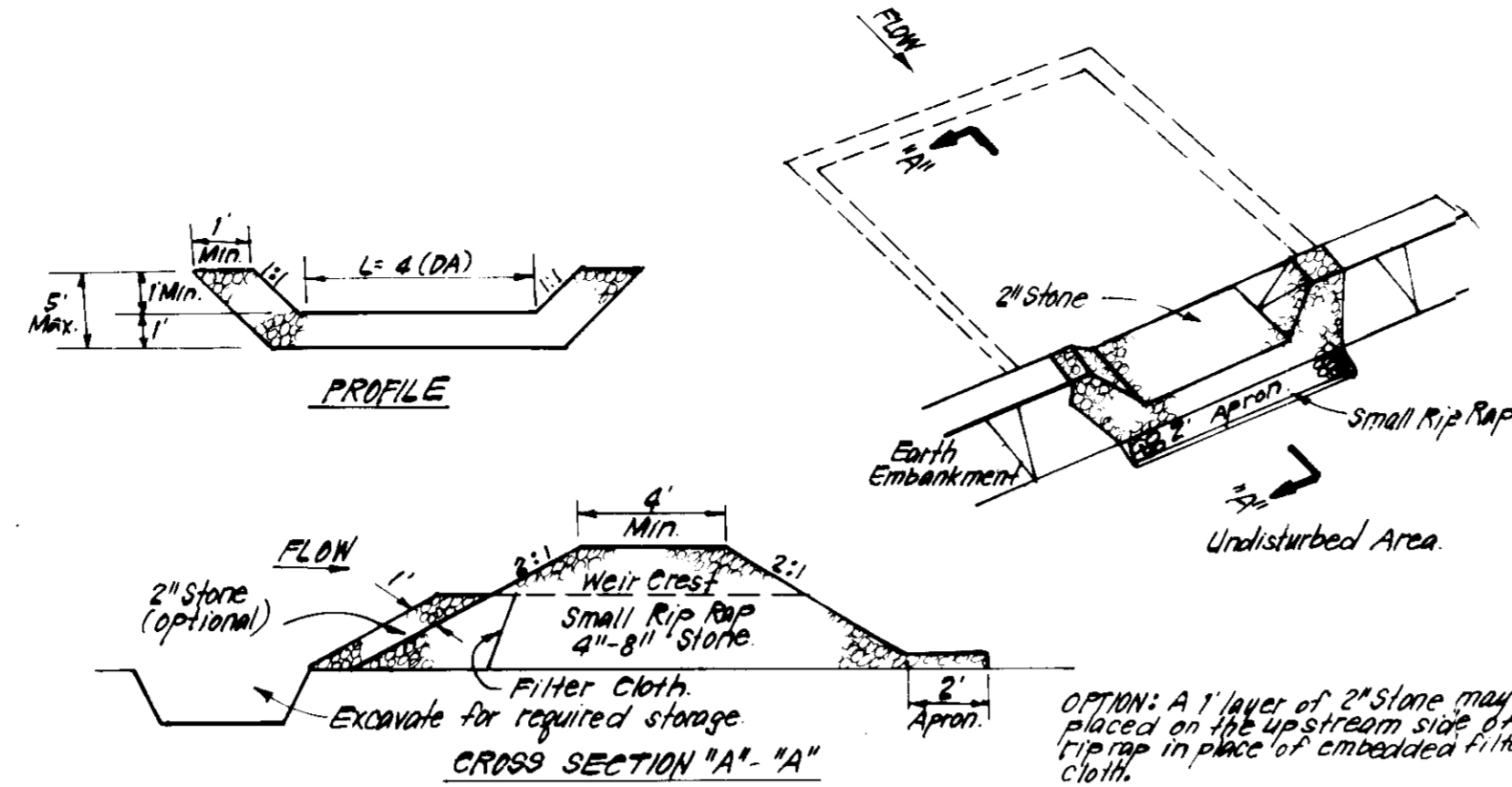
- CONSTRUCTION SPECIFICATIONS:**
- All dikes shall be compacted by earth-moving equipment.
 - All dikes shall have positive drainage to an outlet.
 - Top width may be wider and side slopes may be flatter if desired to facilitate crossing by construction traffic.
 - Field location should be adjusted as needed to utilize a stabilized soft outlet.
 - 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.
 - Stabilization shall be: (A) in accordance with standard specifications for seed and straw mulch or straw mulch if not in seeding season, (B) flow channel as per chart below.

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	0.5 - 3.0%	Seed & Straw Mulch	Seed or Straw Mulch
2	3.1 - 5.0%	Seed & Straw Mulch	Seed with or Excelsior, Sod, 2" Stone
3	5.1 - 8.0%	Seed with or Sod, 2" Stone	Lined Rip Rap 4"-8" Stone
4	8.1 - 20.0%	Lined Rip Rap 4"-8" Stone	Engineering Design

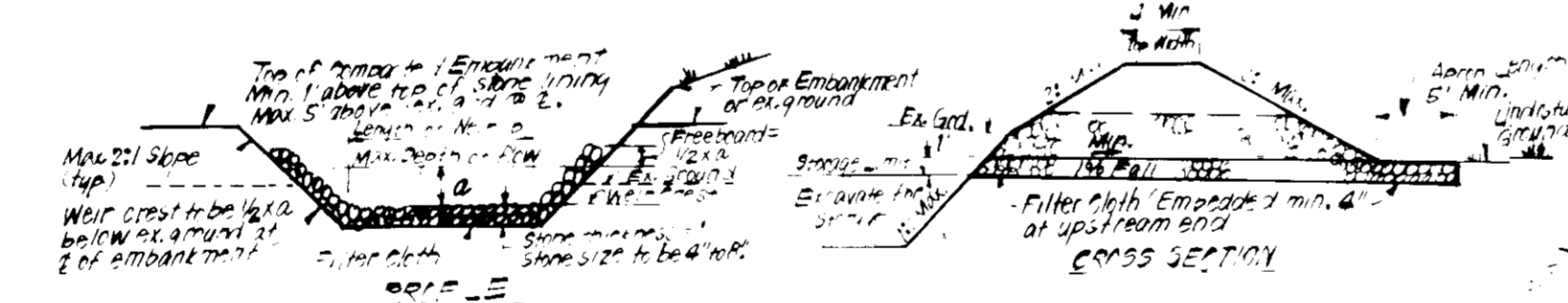
A Stone to be 2" Stone, or recycled concrete equivalent, in a layer at least 3" thick and be pressed into soil with construction equipment.
 B Rip Rap to be 4"-8" in a layer at least 8" thick, pressed into soil.
 C Approved equivalents can be substituted for any of the above materials.
 7. Periodic inspection and Required Maintenance must be provided after each rain.

EARTH DIKE DETAIL (E.D.)
NO SCALE



- CONSTRUCTION SPECIFICATIONS:**
- Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The soil shall be compacted.
 - 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.
 - All cut and fill slopes shall be 2:1 or flatter.
 - 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 of embedded filter cloth in the rip rap.
 - 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.
 - The structure shall be inspected after each rain and repairs made as needed.
 - Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
 - The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

STONE OUTLET SEDIMENT TRAP (S.O.ST.) ST-V
NO SCALE



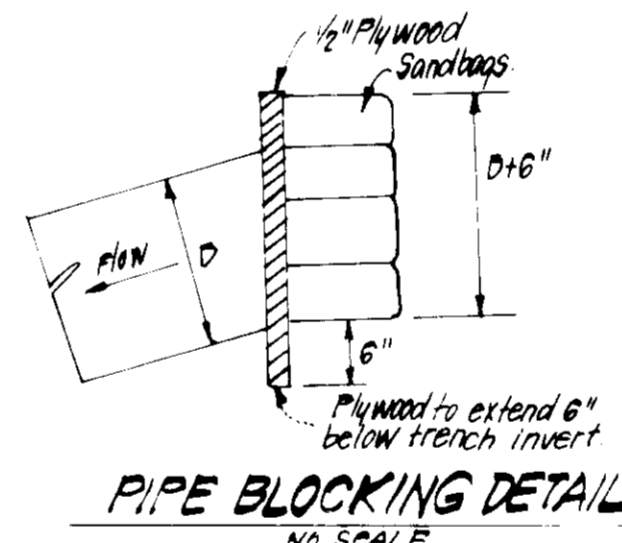
- CONSTRUCTION SPECIFICATIONS:**
- The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The soil shall be compacted.
 - The fill material for the embankment shall be free of roots or other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Max height of embankment shall be 5' measured at 2' of embankment.
 - All fill slopes shall be 2:1 or flatter; 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 well 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 shall be embedded 1" back into the upstream face of the outlet stone and 1" thick layer of 2" or finer aggregate shall be placed on the upstream face of the outlet.
 - 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.
 - 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

SEDIMENT CONTROL NOTES

- 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)
- 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.
- Following initial soil disturbance or disturbance, 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.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 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.
- 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.
- Site Analysis:

Total Area of Site	10,000 Acres
Area Disturbed	8,200 Acres
Area to be roofed or paved	4,340 Acres
Area to be vegetatively stabilized	4,860 Acres
Total Cut	42,180 Cu. yds
Total Fill	25,220 Cu. yds
Offsite waste/borrow area location	N/A
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County DW sediment control inspector.
- 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 processing 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.
- If houses are to be constructed on an "As-Sold" basis, at random, Single lot Sediment Control as shown below shall be implemented.
- All pipes to be blocked at the end of each day (see detail below).
- The total amount of straw bale dikes/silt fence equals 810 L.F.



PIPE BLOCKING DETAIL
NO SCALE

DEVELOPER/BUILDER'S CERTIFICATE

I hereby certify that all development and construction will be done in accordance with the provisions of the Howard County sediment control plan and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary.

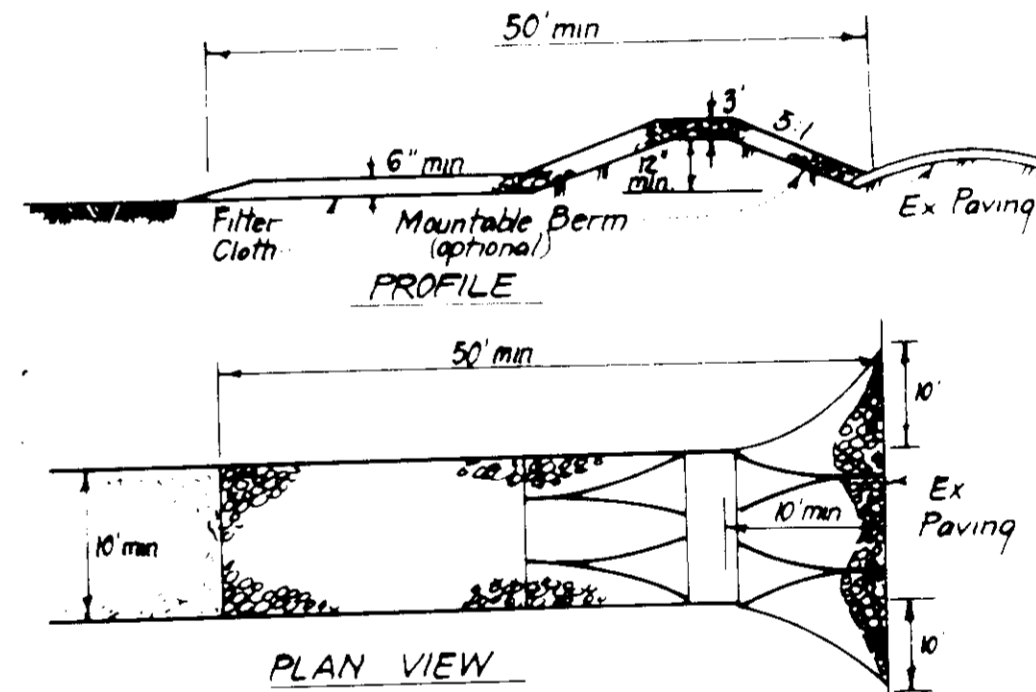
S. Michaux
Signature of Developer/Builder
12-9-85
Date

PERMANENT SEEDING NOTES

- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
- Seedbed Preparation:** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.
- Soil Amendments:** In lieu of soil test recommendations, use one of the following schedules:
- 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 (9 lbs/1000 sq ft).
 - Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil.
- Seeding -** For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.
- Mulching -** Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of rotted small grain straw immediately after seeding. Anchor mulch immediately after application using straw anchoring tool or 218 gallons per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq ft) for anchoring.
- Maintenance -** Inspect all seeded areas and make needed repairs, replacements and reseeds.

TEMPORARY SEEDING NOTES

- Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.
- Seedbed Preparation:** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.
- Soil Amendments:** Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft)
- Seeding -** For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushel per acre of annual rye (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
- Mulching:** Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of rotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes, 8 ft or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.
- Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.



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 30 foot minimum length would apply.
- Thickness - Not less than six (6) inches.
- Width - Ten (10) feet minimum, but not less than the full width of points where ingress or egress 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 mountable 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 periodic top dressing with additional stone as conditions demand and repair and/or cleanup of any measures used to trap sediment. All sediment soiled, 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 (SCE)
NO SCALE

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
Paul J. ...
1-2-85
DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING
...
1-3-86
DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
...
DATE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: 11-27-85
...

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

DESIGNED: VLS
DRAWN: KTW
CHECKED: VLS
DATE: Oct. 85

REVISOR: [Signature]
REVISION: [Signature]

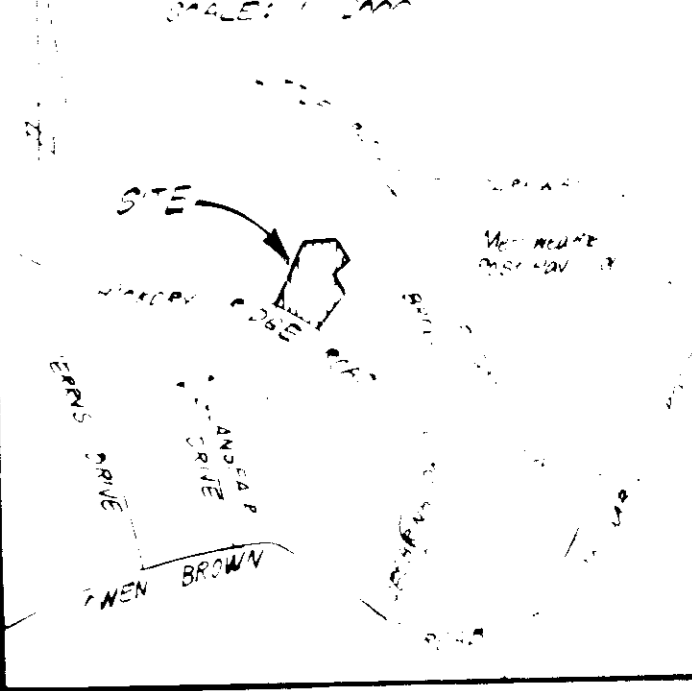
COLUMBIA
VILLAGE OF HICKORY RIDGE
SECTION 5 AREA 2
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

FOR: CROW, TERWILLIGER, MICHAUX, INC.
5550 Sismet Place #201
Columbia, Maryland 21044

SCALE: 1" = 30'
DRAWING: 40F5
JOB NO.: 85-021
FILE NO.: 85-021 SE

SDP-86-96

VICINITY MAP



Eastern 20 Street
Dotted Line to East

Legend

Tree Type	Quantity	Value as Shade Tree	Total
Maple	130	1.0	130
Redwood	195	6.3	1228.5
Other	116	0.5	58.0
Total Shade Trees Provided			1463.5

Land Design
Land Design
Landscape Architecture Land Planning

#84239



DATE	1-2-85
DATE	1-2-86

CLARK · FINEFROCK & SACKETT
ENGINEERS · PLANNERS · SURVEYORS
11317 LOCKWOOD DRIVE
SILVER SPRING, MARYLAND 20904

DESIGNED: **REVISED LANDSCAPE PLAN**
DRAWN: **PARCEL C**
K/IW
CHECKED: **(Revision to SDP 85-231c)**
DATE: **COLUMBIA**
VILLAGE OF HICKORY RIDGE
SECTION 5 SECTION 2
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
RFP: 15W TEPW/LGEP/ MICHALK, V
5500 Spring Place #20
Columbia, Maryland 21044
SDP-86-96c

Landscape Plan 17 June 1985

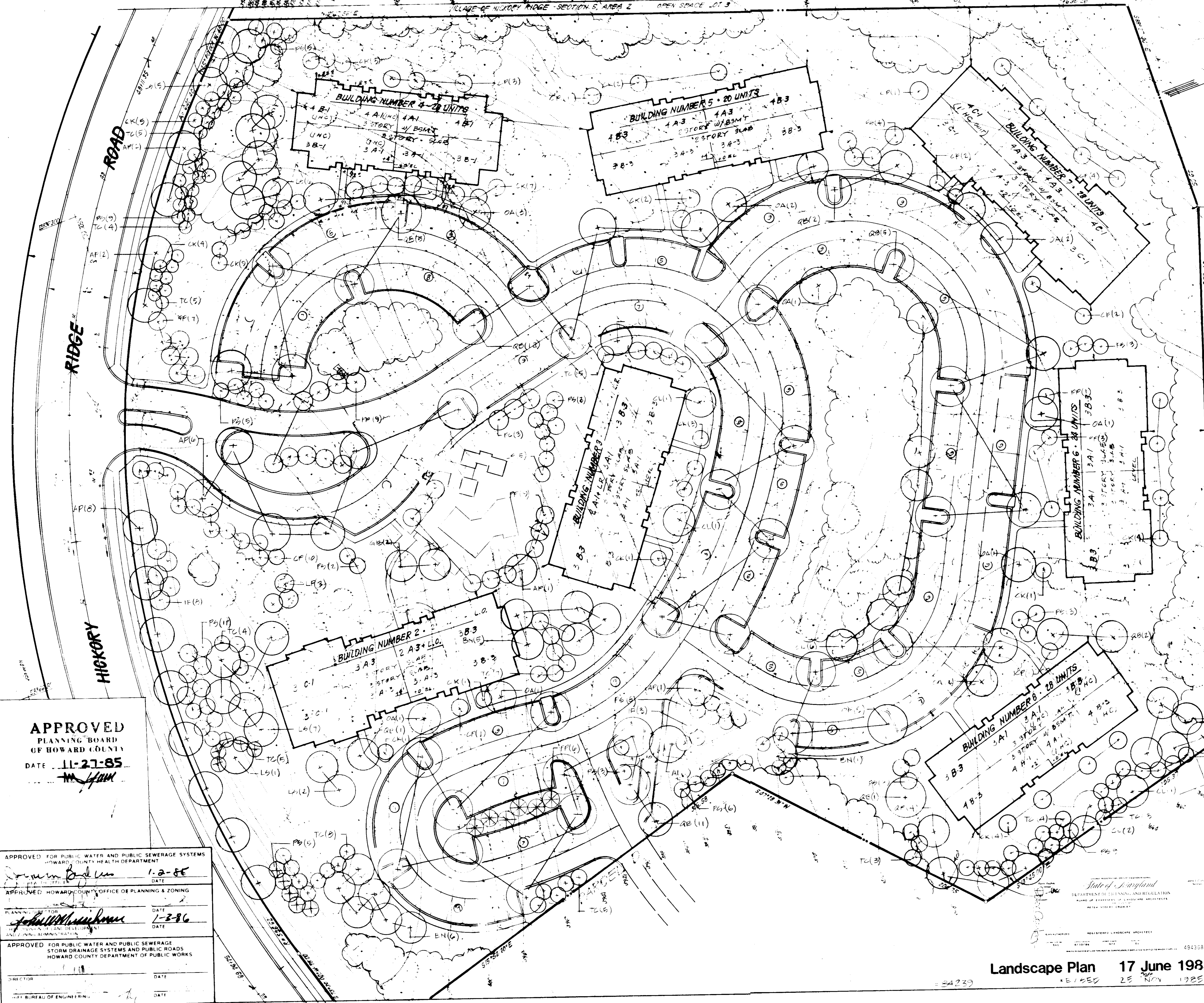
#84239 *E1 SDP 25 NOV 1985

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 11-27-85

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
DATE 1-2-85

APPROVED HOWARD COUNTY OFFICE OF PLANNING & ZONING
DATE 1-2-86

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS



HICKORY RIDGE ROAD