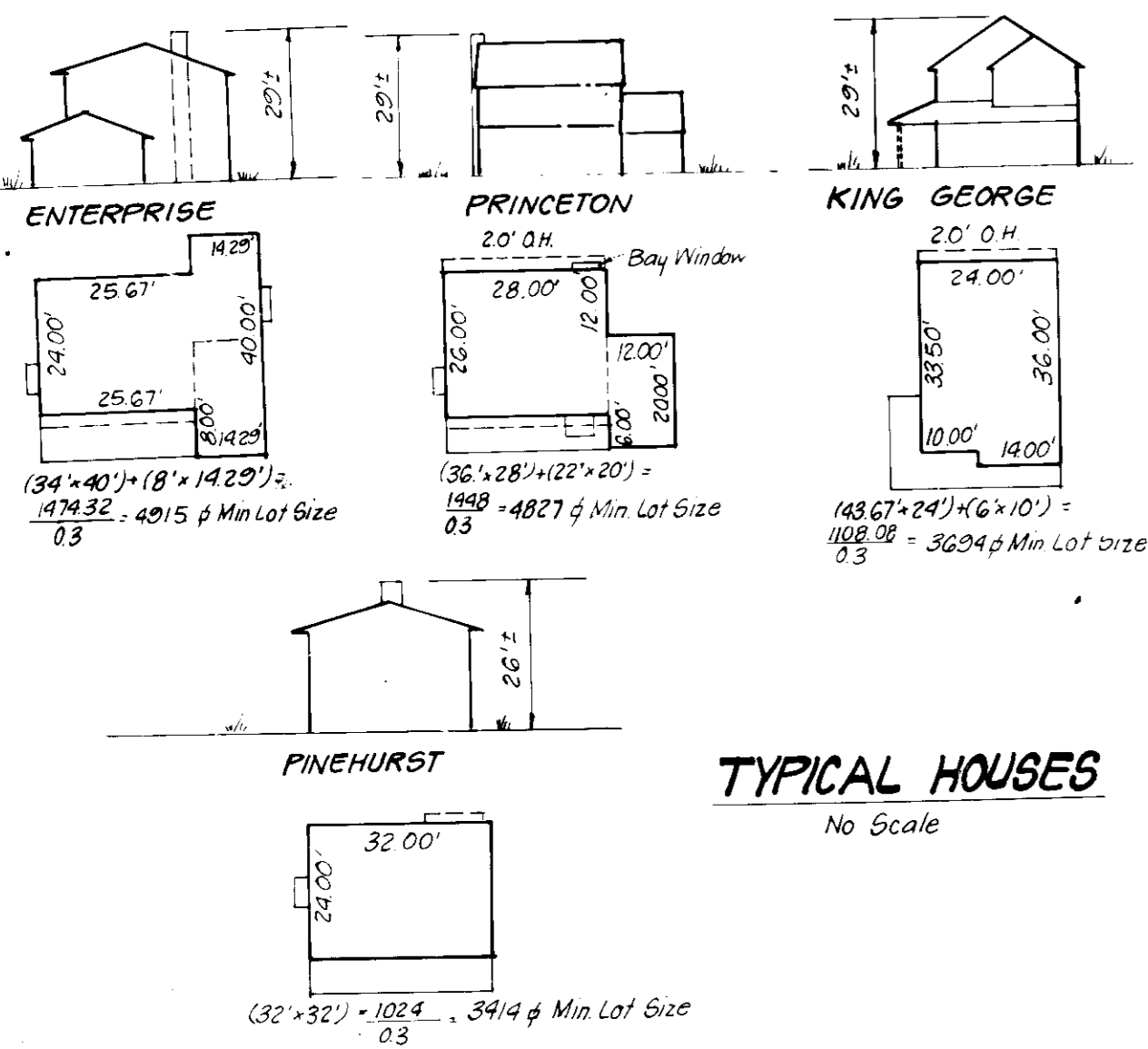


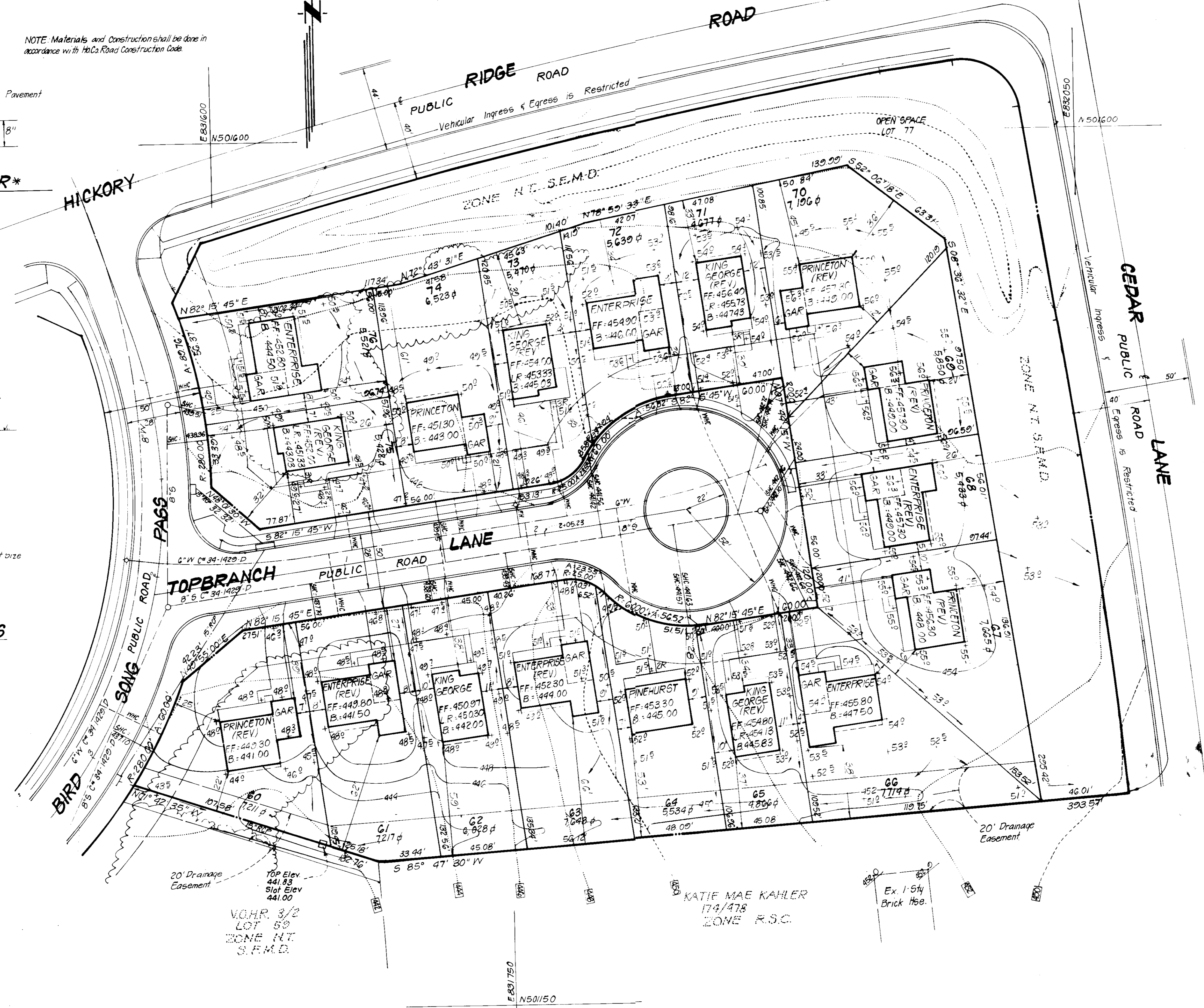
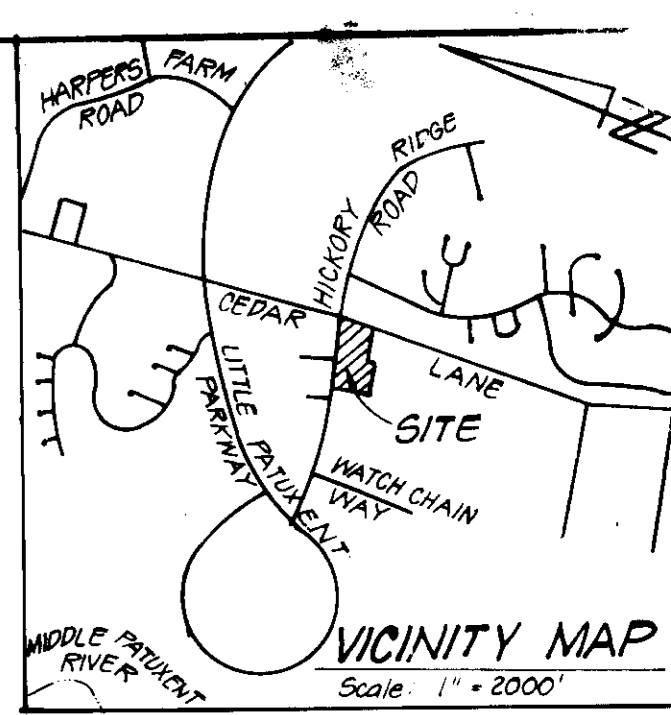
NOTE: Materials and Construction shall be done in accordance with HoCo Road Construction Code

DRIVEWAY ABUTTING MODIFIED CURB & GUTTER*

- ALTERNATE #1
 1" Bit Conc Surface
 4" Bit Conc Base (See Alternates Below)
 5" Gravel
- * See Ho Co Std R-301 For 5'11" Comb Curb & Gutter necessary on the Cul-De-Sac



TYPICAL HOUSES
No Scale



GENERAL NOTES:

- The Land included is zoned New Town S.F.M.D.
- Coordinates are based upon the Maryland State plane coordinate system. Reference Howard County control points 2639002 and 2639003
- All roads are public and existing
- Any damage to county owned rights of way to be corrected at the Developer's expense.
- Total Area included: 2.425 Acres
- Total Number of Lots: 17
- Storm Water Management for this site has been provided in VOHR 3/1, F.B.3-120 and VOHR 3/5, F.B.4-51
- Reference Final Development Plan Phase 1(B) Part I for zoning criteria

LEGEND:

- Contour Interval 2 ft
- Existing Contour 100
- Proposed Contour 410
- Spot Elevation +10.5
- Direction of Drainage
- Existing Trees to be saved

ADDRESS CHART

LOT#	STREET ADDRESS
60	10802 TOPBRANCH LANE
61	10806
62	10810
63	10814
64	10818
65	10822
66	10826
67	10830
68	10834
69	10838
70	10842
71	10846
72	10850
73	10854
74	10858
75	10862
76	10866

SUBDIVISION NAME: COLUMBIA	BLK/AREA: 3/7	LOTS: 60-76
VILLAGE OF HICKORY RIDGE		
PLAT#: 6703	BLOCK#: 3	ZONE: S.F.M.D.
WATER CODE: I-15	SEWER CODE: 8502000	

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
 COUNTY HEALTH OFFICER: *[Signature]* DATE: 5-21-86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING
 PLANNING DIRECTOR: *[Signature]* DATE: 5-22-86

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DIRECTOR: *[Signature]* DATE: 5-19-86

APPROVED: *[Signature]* DATE: 4-30-86

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 ENGINEERS · PLANNERS · SURVEYORS
 11315 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301) 583-3400

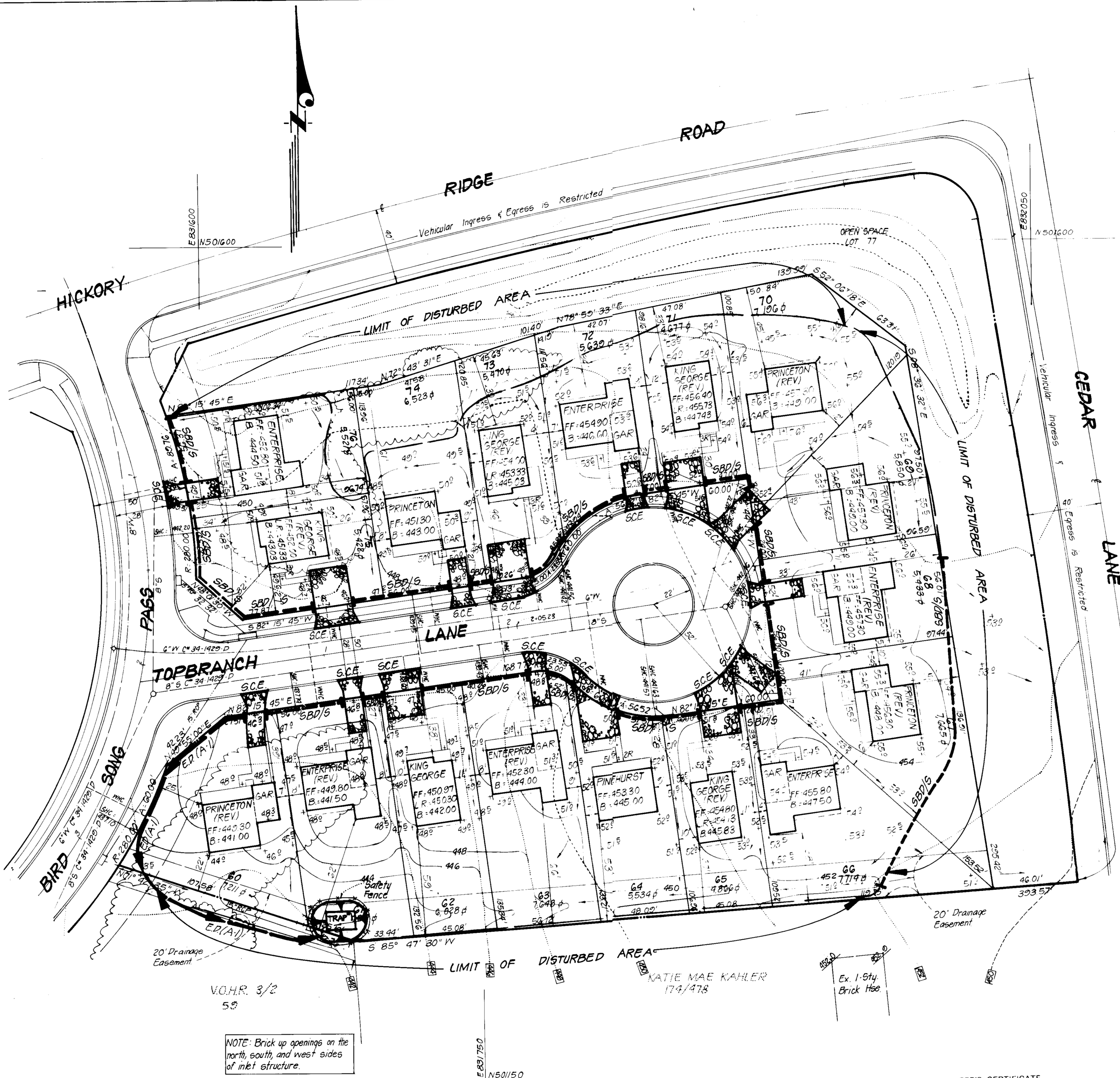
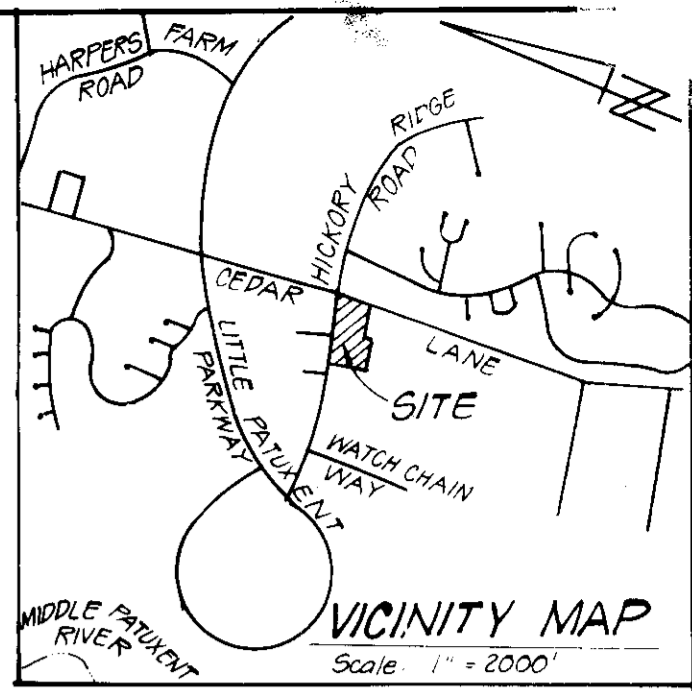
DESIGNED: CS
 DRAWN: VHL
 CHECKED: JME
 DATE: 4-1-86

SITE DEVELOPMENT PLAN
 LOTS 60 THRU 76
COLUMBIA
 VILLAGE OF HICKORY RIDGE
 SECTION 3 AREA 2
 5TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

FOR: THE RYLAND GROUP, INC (Col Div)
 7100 Minstrel Way, Suite 215
 Columbia, MD 21045

SCALE: 1"=30'
 DRAWING: 1 of 3
 JOB NO.: 85-146
 FILE NO.: 85-146c

SDP 86-213c



- LEGEND:**
- 1 Contour Interval 2 ft
 - 2 Existing Contour $\text{---} \text{---} \text{---}$
 - 3 Proposed Contour $\text{---} \text{---} \text{---}$
 - 4 Spot Elevation $\text{---} \text{---} \text{---}$
 - 5 Direction of Drainage $\text{---} \text{---} \text{---}$
 - 6 Existing Trees to be saved $\text{---} \text{---} \text{---}$
 - 7 Straw Bale Dike/Silt Fence $\text{---} \text{---} \text{---}$ SBD/S
 - 8 Earth Dike $\text{---} \text{---} \text{---}$ E.D.
 - 9 Stabilized Construction Entrance $\text{---} \text{---} \text{---}$ SCE

TRAP #1 (G.I.S.T.) ST III

- 1 DA = 0.6 AC.
- 2 Storage Required = 1080 cf
- 3 Storage Provided = 1120 cf
- 4 Slot Elevation = 441.0
- 5 Depth = 4'
- 6 Bottom Elevation = 437.0
- 7 Bottom Dimensions = 10' x 16'
- 8 Clean-Out Elevation = 432.0

Reviewed for: HOWARD S.C.D.
 Name
 and meets Technical Requirements
 Signature: M. B. [unclear] Date: 5/16/86
 U.S. Soil Conservation Service

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

Robert W. Ziehm Approved 5/16/86 Date

NOTE: Brick up openings on the north, south and west sides of inlet structure.

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
[Signature] DATE 5-21-86
 COUNTY HEALTH OFFICER

APPROVED HOWARD COUNTY OFFICE OF PLANNING & ZONING
[Signature] DATE 5-21-86
 PLANNING DIRECTOR

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] DATE 5-19-86
 DIRECTOR

APPROVED DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION, HOWARD COUNTY, MARYLAND
 DATE 4-30-86
[Signature]

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] DATE 4/3/86
 Signature of Developer/Owner 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] DATE 4-4-86
 Signature of Engineer Date

SUBDIVISION NAME	COLUMBIA VILLAGE OF HICKORY RIDGE	SECT./AREA	3 / 7	LOTS	60-76
PLAT #		BLOCK #	35	ELEC. DIST.	5th
WATER CODE	I-15	SEWER CODE	6502000		

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

DESIGNED: MCB
 DRAWN: VHL
 CHECKED: MCB
 DATE: 4-3-86

SEDIMENT & EROSION CONTROL PLAN
 LOTS 60 THRU 76
COLUMBIA
 VILLAGE OF HICKORY RIDGE
 SECTION 3 AREA 2
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

FOR: THE RYLAND GROUP, INC. (Col. Div.)
 7180 Minstrel Way, Suite 215
 Columbia, MD 21045

SCALE: 1" = 30'
 DRAWING: 2 of 3
 JOB NO.: 85-146
 FILE NO.: 85-146 SE

SDP-86-213

SEDIMENT CONTROL NOTES

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

Total Area of Site	2.47 Acres
Area Disturbed	2.20 Acres
Area to be roofed or paved	0.50 Acres
Area to be vegetatively stabilized	1.70 Acres
Total Cu. yds	2520 Cu. yds
Total Fill	2220 Cu. yds
Offsite waste/borrow area location	N/A
- 8) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- 9) Additional sediment control must be provided, if deemed necessary by the Howard County 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-Built" basis, at random, Single Lot Sediment Control as shown below shall be implemented.
- 12) All pipes to be blocked at the end of each day (see detail below).
- 13) The total amount of straw bale dikes/silt fence equals 810 L.F.

CONSTRUCTION SEQUENCE:

- Obtain Grading Permit and Install Sediment and Erosion Control Devices and Stabilize.
- Excavate for foundations and Rough Grade & Temporarily Stabilize.
- Construct Structures, Sidewalks and Driveways.
- Final Grade and stabilize in accordance with Stds. & Specs.
- Upon approval of the sediment control inspector, remove sediment and erosion controls and stabilize.

No. of Days	
2	
30	
60	
14	
2	

Reviewed for HOWARD COUNTY S.C.D.

and meets Technical Requirements
 Signature: *[Signature]* Date: 5/16/86
 Title: J.S. Soil Conservation Service

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

Approved: *[Signature]* Date: 5/16/86

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:

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

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

Mulching: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of 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.

Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

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

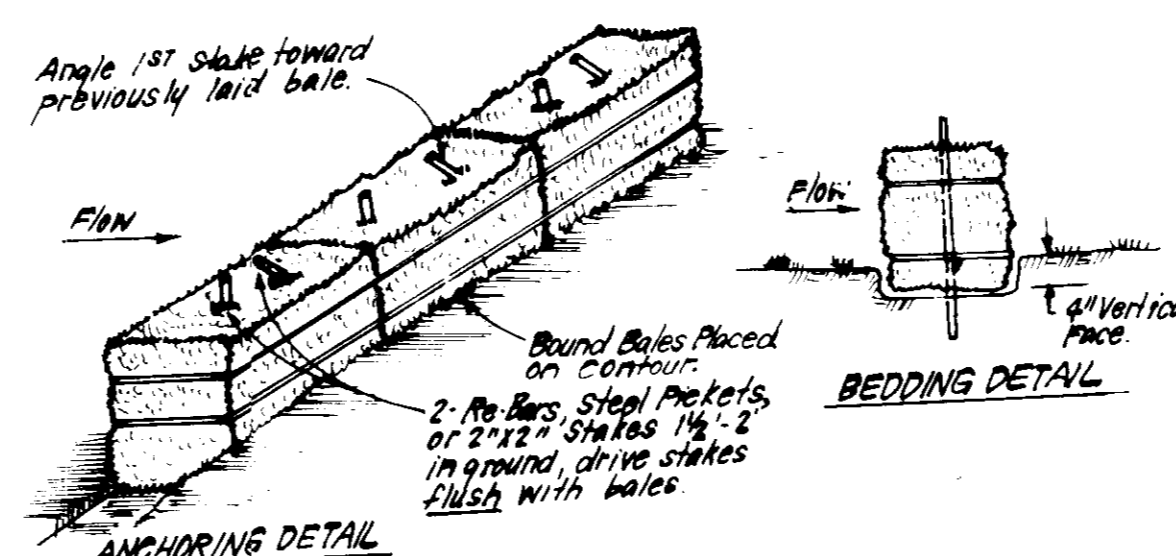
Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

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

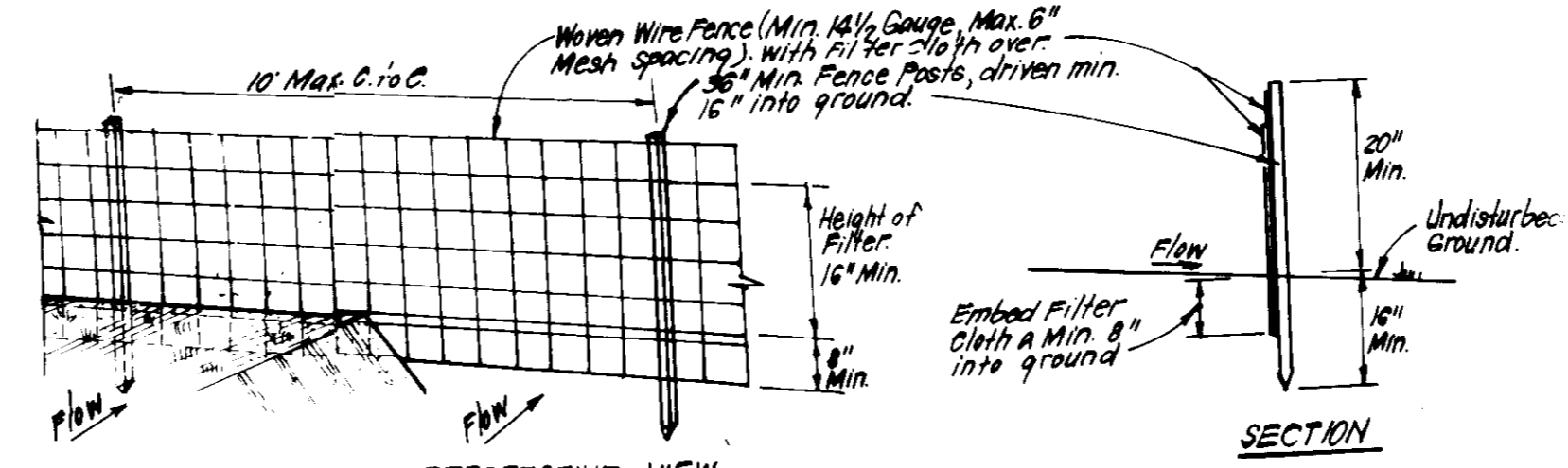
Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushel per acre of annual rye (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru February 28, protect 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 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.

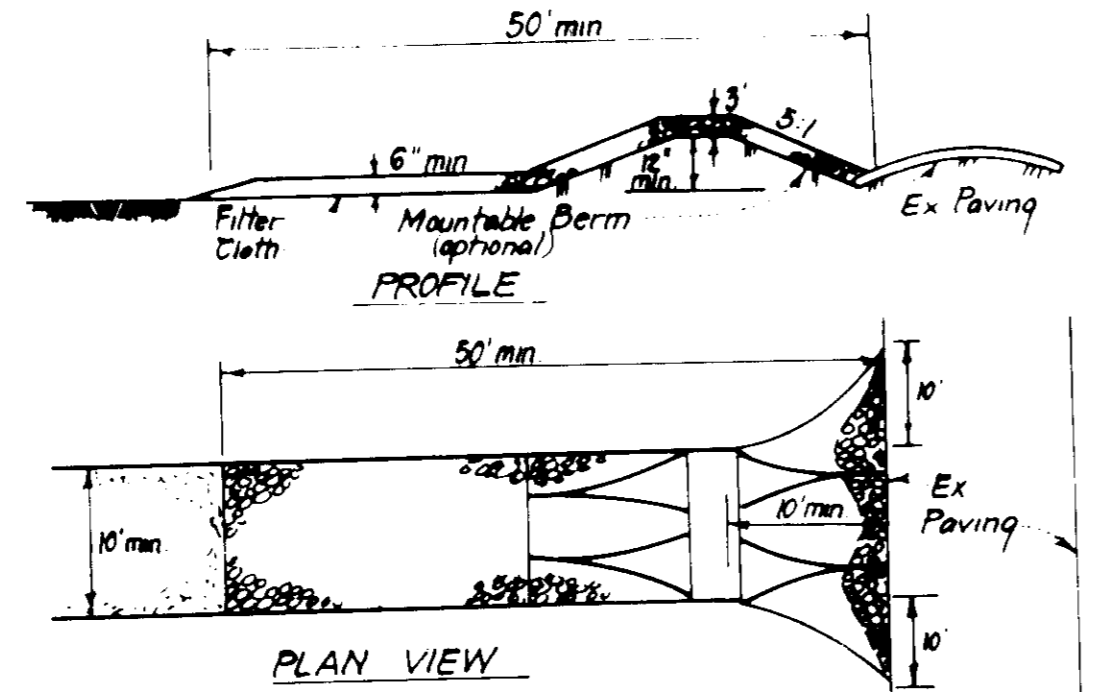
Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.



STRAW BALE DIKE DETAIL (SBD)
NO SCALE



SILT FENCE DETAIL (S)
NO SCALE

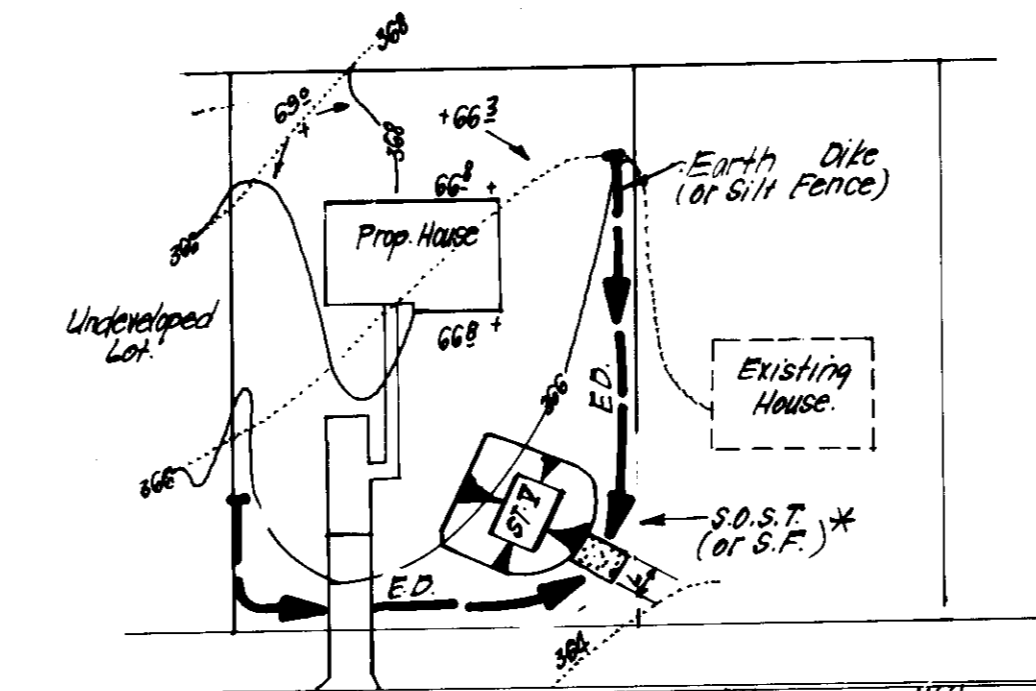


- CONSTRUCTION SPECIFICATIONS:**
1. Stone size - Use 2" stone, or reclaimed or recycled concrete equivalent.
 2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
 3. Thickness - Not less than six (6) inches.
 4. Width - Ten (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 mound 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 conditional demand and repair and/or cleanup of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
 8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
 9. Periodic inspection and needed maintenance shall be provided after each rain.

STABILIZED CONSTRUCTION ENTRANCE (SCE)
NO SCALE

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

- POSTS:** Steel, either T or U Type or 2" Hardwood.
FENCE: Woven Wire, 1/4" Gauge, 6" Max. Mesh Opening.
FILTER CLOTH: Filter Cloth, Miraflex 100X, Stab Liner, T1400N or Approved.
PREFABRICATED UNIT: Geotextile, Environment or Approved, equal



* NOTE: Single lot detail can not be utilized if any two lots sharing common property lines are to be disturbed at the same time or on any lots showing a sediment trap.

M.S.D.S.T. (ST.V)	PA	16.12
LOT SIZE	(VA)C	(VA)C I.A.C.
1	2	2
2	2	2
3	2	2
4	2	2
5	2	2
6	2	2
7	2	2
8	2	2
9	2	2
10	2	2
11	2	2
12	2	2
13	2	2
14	2	2
15	2	2
16	2	2
17	2	2
18	2	2
19	2	2
20	2	2
21	2	2
22	2	2
23	2	2
24	2	2
25	2	2
26	2	2
27	2	2
28	2	2
29	2	2
30	2	2
31	2	2
32	2	2
33	2	2
34	2	2
35	2	2
36	2	2
37	2	2
38	2	2
39	2	2
40	2	2
41	2	2
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50	2	2

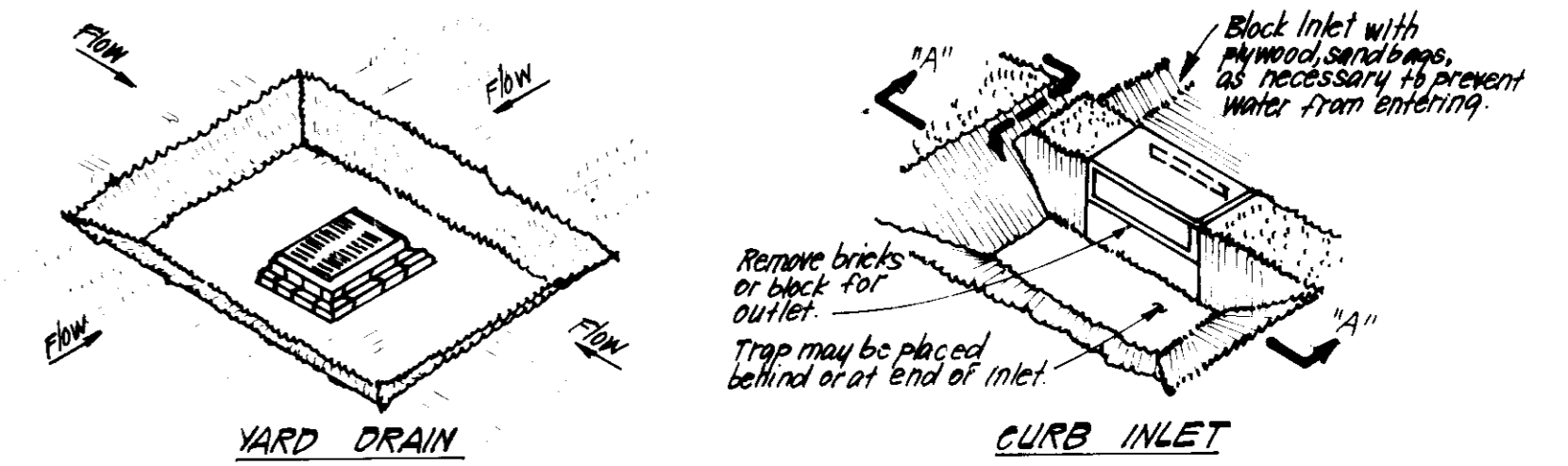
SINGLE LOT SEDIMENT CONTROL PLAN
NO SCALE

DEVELOPER'S CERTIFICATE
 I warrant that all development and construction will be done in accordance with the approved plan and that the sediment control measures and responsible personnel involved in the construction of this project are in compliance with the requirements of the Natural Resources Training Program for the Control of Sediment and Erosion on the project. I also authorize any and all actions on site by the Howard Soil Conservation District or their authorized agents, as are deemed necessary.

Signature: *[Signature]* Date: 4/3/86

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.

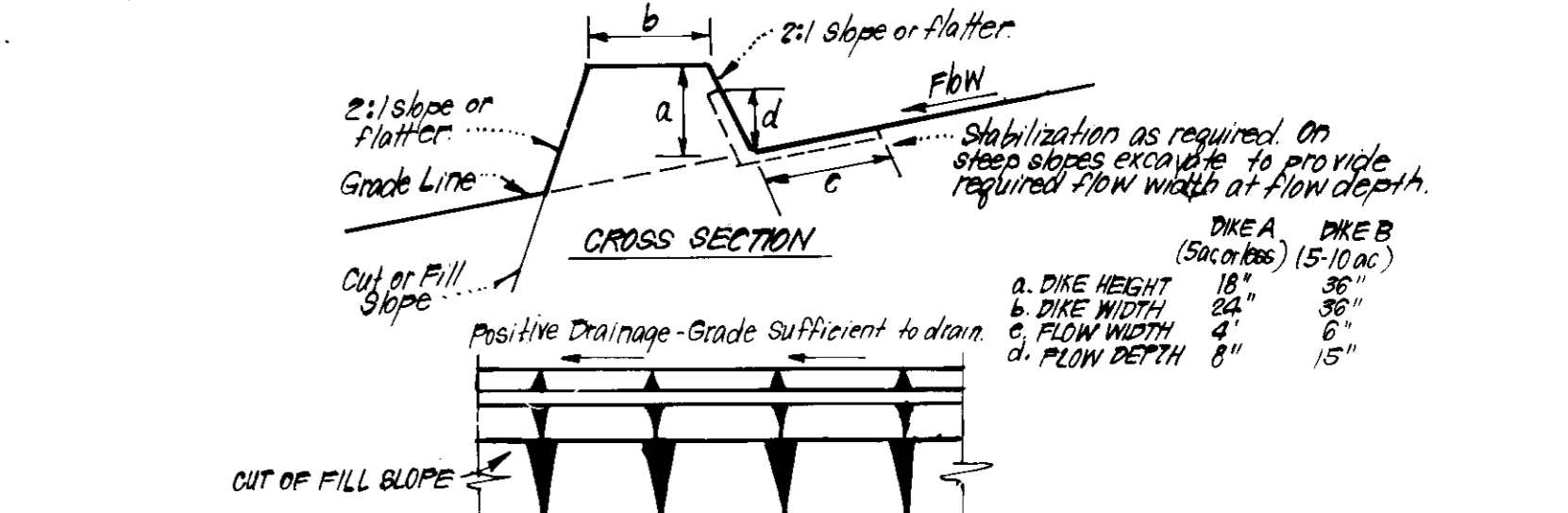
Signature: *[Signature]* Date: 4-4-86



YARD DRAIN
NO SCALE

- CONSTRUCTION SPECIFICATIONS:**
1. Sediment shall be removed and the trap restored to its original dimensions when 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 volume of sediment storage shall be 1800 cu. ft./acre of contributory drainage.
 3. The structure shall be inspected after each rain and repairs made as needed.
 4. Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
 5. The sediment trap shall be removed and the area stabilized when the constructed drainage area has been properly stabilized.
 6. All cut slopes shall be 1:1 or flatter.

STORM INLET SEDIMENT TRAP (S.I.S.T.) ST. III
NO SCALE



- CONSTRUCTION SPECIFICATIONS:**
1. All dikes shall be constructed by earth-moving equipment.
 2. All dikes shall have positive drainage to an outlet.
 3. Top width may be wider and side slopes may be flatter if desired, to facilitate 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 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, Wattle, or Excelsior's Sed., 2" Stone
3	5.1 - 8.0%	Seed, Wattle, 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 3" thick, pressed into soil.
 C. Approved equivalents can be substituted for any of the above materials.

EARTH DIKE DETAIL (E.D.)
NO SCALE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
 Signature: *[Signature]* Date: 5-21-86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
 Signature: *[Signature]* Date: 5-22-86

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Signature: *[Signature]* Date: 5-16-86

APPROVED: DIVISION OF PLANNING AND DEVELOPMENT & ZONING ADMINISTRATION, HOWARD COUNTY, MARYLAND
 Signature: *[Signature]* Date: 4-30-86

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

DESIGNED: MCB
DRAWN: VHL
CHECKED: MCB
DATE: 4-3-86

SEDIMENT & EROSION CONTROL PLAN
 LOTS 60 THRU 76
COLUMBIA
 VILLAGE OF HICKORY RIDGE
 SECTION 3 AREA 2
 5TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

FOR: THE RYLAND GROUP, INC. (Col. Div.)
 7180 Minnetel Way, Suite 215
 Columbia, MD 21045

SCALE: As Shown
 DRAWING: 3 of 3
 JOB NO.: 85-140
 FILE NO.: 85-140 SE

SDP-86-213