

NO.	REVISIONS	DATE
1	Rev. house and grade lot 39	4-2-93
2	Rev. house and grade lot 49	12-17-93

- NOTES:**
1. Forest protection device only.
 2. Retention area will be set as part of the review process.
 3. Boundaries of retention area should be staked and flagged prior to installing device.
 4. Root barriers should be avoided.
 5. Protection signage may also be used.
 6. Device should be maintained throughout construction.

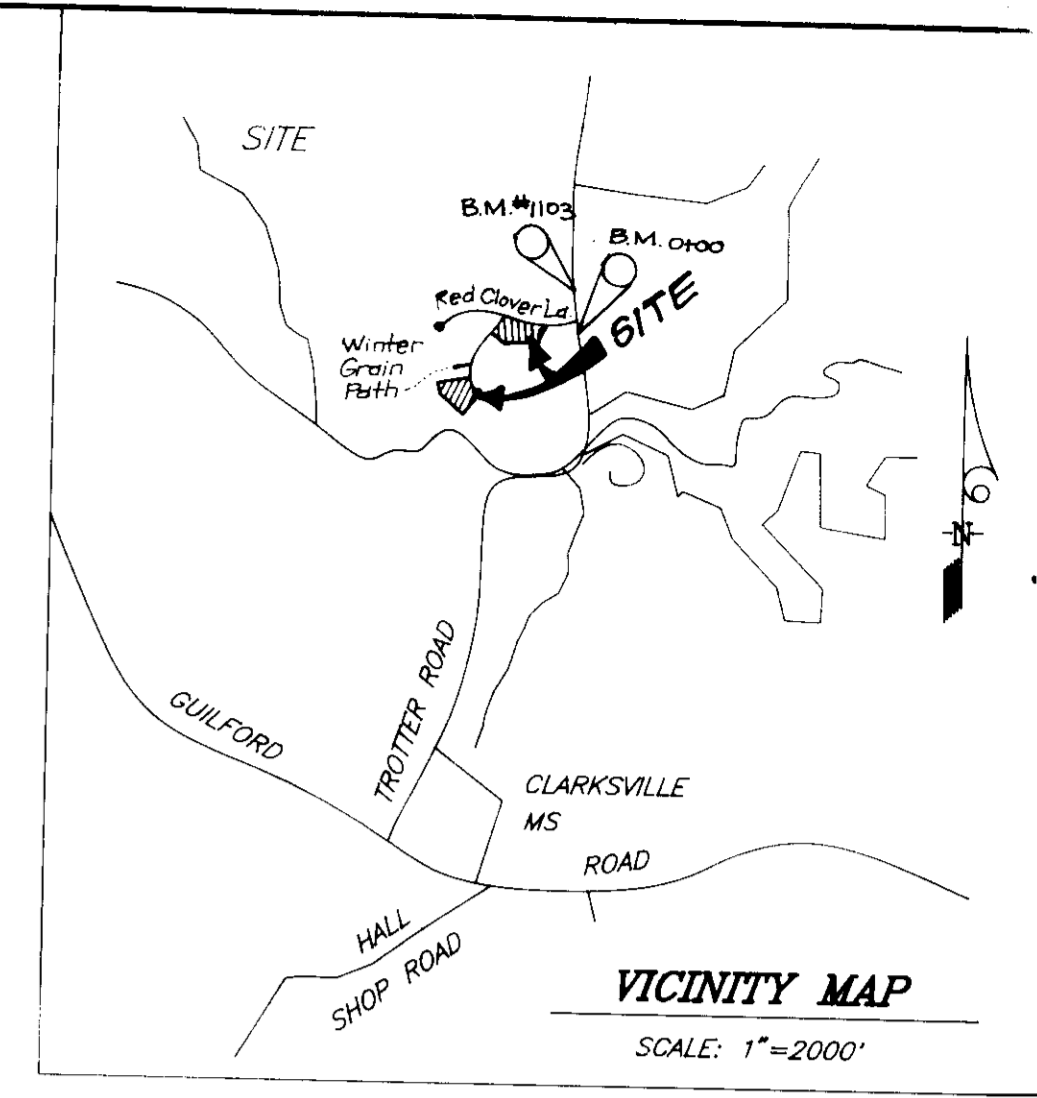
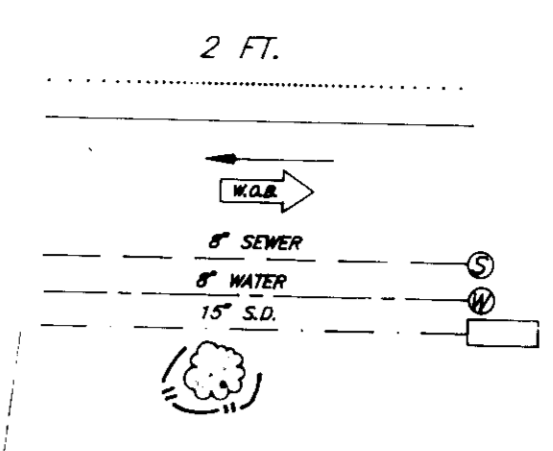
COLUMBIA V.O.R.H. SECTION 1 AREA 4 ZONED NEW TOWN

HOWARD RESEARCH & DEVELOPMENT 410/348 ZONED: NEW TOWN

LOT 47 SHOWN FOR GRADING PURPOSES ONLY

JOHN L. DUE 480/622 ZONED: NEW TOWN

LEGEND
CONTOUR INTERVAL
EXISTING CONTOUR
PROPOSED CONTOUR
DIRECTION OF DRAINAGE
WALK OUT BASEMENT



GENERAL NOTES:

1. The contractor shall notify the Department of Public Works/Bureau of Construction Inspection at (301) 792-7272 at least five (5) working days prior to the start of work.
2. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
3. The existing topography shown was taken from F-92-87 that was prepared by John R. Hendrichs, P.E.
4. The coordinates shown herein are based upon the Howard County Geodetic Control which is based upon the NAD 27, Maryland Coordinate System - Control Stations No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
5. Storm water management is provided per: F-92-87.
6. Any damage to county owned rights-of-way shall be corrected at the developer's expense.
7. Utilities shown as existing are taken from approved water and sewer plan Contract #34-3178-D, approved road construction plans F-92-87, and actual field survey.
8. Department of Planning and Zoning reference file numbers are: 6-92-02, F.B. Case 274, WF-92-22, F-92-87, FDP-214.
9. All roadways are public and existing.
10. Subject property is zoned: New Town per 8-2-85 Comprehensive Zoning Plan.
11. The total area included in this submission is: 3.1584 Ac.
12. The total number of lots included in this submission are: 7
13. The minimum setback restrictions from the property lines and the public rights-of-way are to be in accordance with FDP-214.
14. The maximum lot coverage is: 30%
15. Improvement to property: Single Family Detached Unit
16. For driveway entrance details refer to Howard County Design Manual Volume III 9th Edition K-6.05, K-6.01.

SPECIAL NOTES:

1. This plan is for house siting and lot grading only. Improvements shown within the rights-of-way on this S.D.P. are not to be used for construction. For construction, see approved Road Construction Plans F-92-87 and/or approved Water and Sewer Plans Contract #C-34-3178-D.
2. Lots 36, 37 and 47 are shown for grading purposes only.

BENCH MARK DESCRIPTION

B.M. # 0+00 ELEV. 397.10
PK NAIL IN MACADAM IN TROTTER ROAD 5.9' FROM EDGE OF ROAD 58' SOUTH OF B.G. # 1103 ELEV. 408.218
B.M. # 1103 ELEV. 408.218
IRON PIPE 42" FROM EDGE OF TROTTER ROAD NE CORNER OF PROPERTY 34.8' WEST OF B.G. POLE # 170217.

LOT NUMBER	STREET ADDRESS
38	6044 WINTER GRAN PATH
39	6048 WINTER GRAN PATH
48	6009 RED CLOVER LANE
49	6005 RED CLOVER LANE

SUBDIVISION NAME	SECTION/AREA	LOTS/PARCELS
COLUMBIA VILLAGE OF RIVER HILL	1/4	36-39 & 47-49
PLAT NO. 10367	BLOCK NO. 8	TAX MAP NO. 35
10368	8	ELECTION DIST. 5TH
WATER CODE I-10	SEWER CODE 6653500	CENSUS TRACT 6055

SHEET INDEX

Sheet One - Site Development Plan
Sheets Two & Three - Sediment & Erosion Control Plan

CLARK • FINEPROCK & SACKETT, INC.
ENGINEERS • PLANNERS • SURVEYORS

725 MINNIE WAY • COLUMBIA, MD 21045 • (410) 867-7500 • FAX (410) 867-7500 • WA 410

DESIGNED VLP	SITE DEVELOPMENT PLAN LOTS 36, 39, 48, 49 GRADING PLAN LOTS 36, 37 & 47 LOTS 36 THRU 39 & 47 THRU 49 COLUMBIA VILLAGE OF RIVER HILL SECTION 1 AREA 4 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND FOR: NUHOMES, INC. 10480 Little Patuxent Parkway Columbia, Maryland 21044	SCALE 1"=30'
DRAWN VLP		DRAWING 10F3
CHECKED JME		JOB NO. 92-084
DATE JULY, 1992		FILE NO. 92-084

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. Boyd 8/25/92
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Wanda Hill 9/1/92
DATE

Wanda Hill 8/19/92
DATE

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

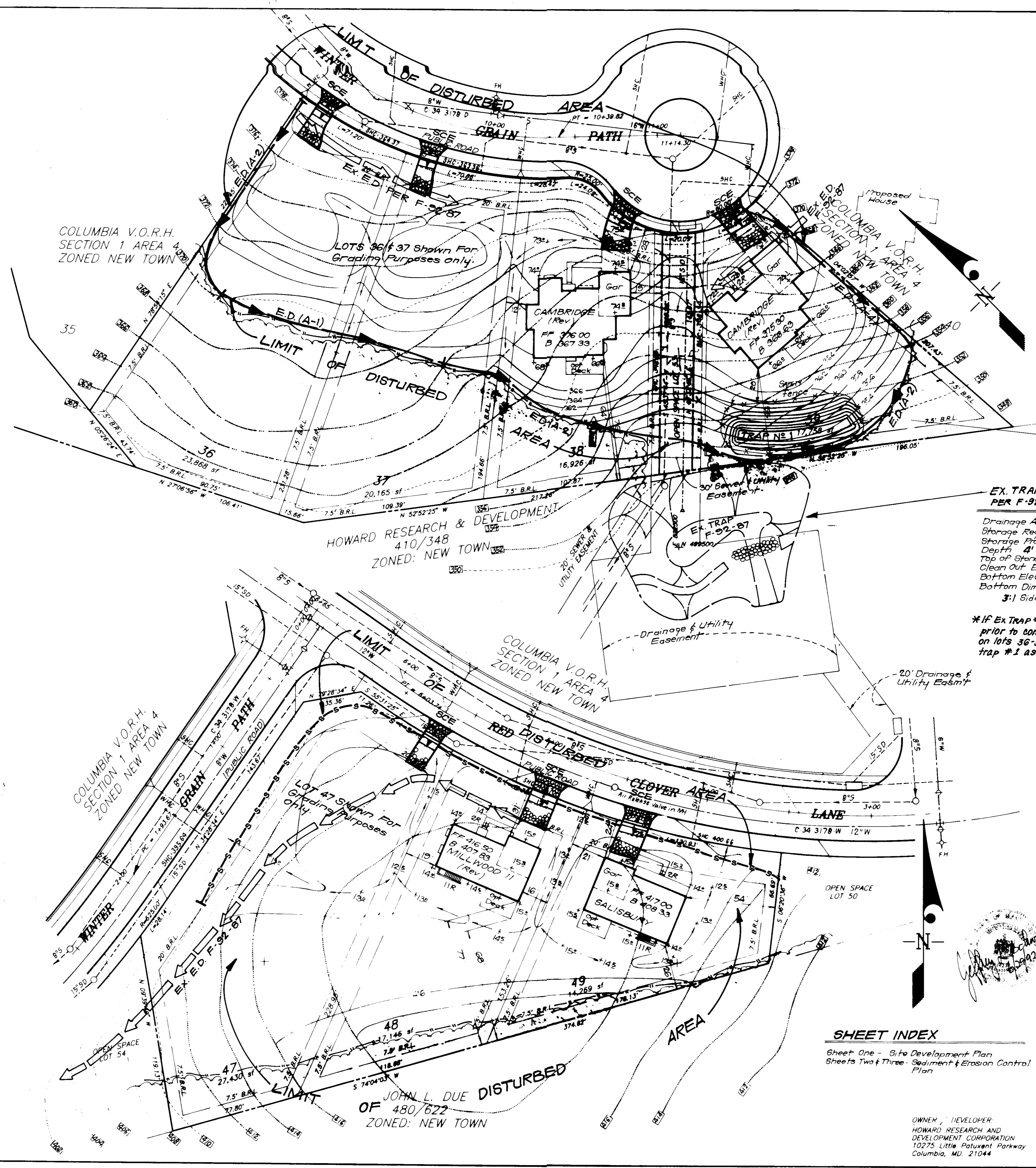
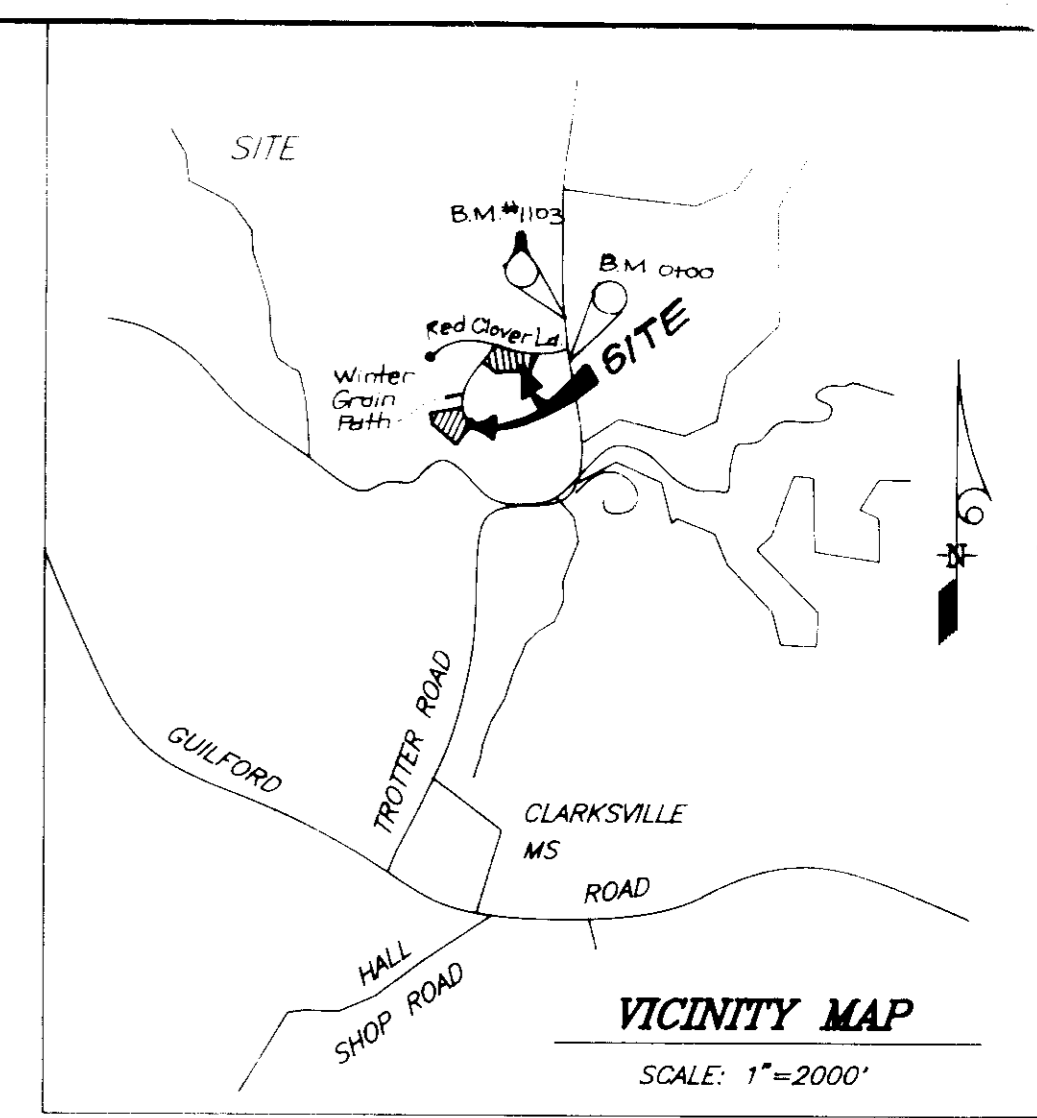
Robert B. JMI 8-20-92
DATE

Wanda Hill 8-12-92
DATE

CHIEF BUREAU OF ENGINEERING

LEGEND

- Contour Interval 2 Ft
- Existing Contour
- Proposed Contour
- Spot Elev.
- Direction of Drainage
- Ex. Trees to Remain
- Silt Fence
- Proposed Earth Dike
- Existing Earth Dike
- Stabilized Construction Entrance w/ Mountable Berm
- Safety Fence



Howard
 James M. Helton/JMH 8/7/92
 Approved

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

John L. Robertson 8/7/92
 Approved

TRAP #1 S.O.S.T. (ST. I) *
 Drainage Area = 1.2 Acres
 Storage Req'd = 2160 cf
 Storage Provided = 2160 cf
 Depth = 3'
 Top of Stone Weir = 349.0
 Clean Out Elev. = 346.5
 Bottom Elev. = 345.0
 Bottom Dimensions = 6'0" x 7'
 1:1 Side Slopes in Cut
 L = 5'

EX. TRAP #5 S.O.S.T. ST. I
PER F-92-87 to be Utilized *
 Drainage Area = 1.47 Acres
 Storage Required = 2696 cf
 Storage Provided = 5100 cf
 Depth = 4'
 Top of Stone Weir = 348.0
 Clean Out Elev. = 341.5
 Bottom Elev. = 339.0
 Bottom Dimensions = 18' x 9.0'
 3:1 Side Slopes in Cut

* If Ex Trap #5 has been removed prior to construction of the houses on lots 36-39 install proposed trap #1 as shown.

I hereby certify that the design and construction of the drainage system is in accordance with the standards and specifications of the Maryland Department of Transportation, Division of State Highways, and the standards and specifications of the Maryland Department of the Environment, Division of Water Control Administration.

Harry C. Bowie
 6-27-92

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer in the State of Maryland.

Jeffrey L. Schwab
 6/29/92

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT
 James M. Boydland/psj 8/25/92
 COUNTY HEALTH OFFICER

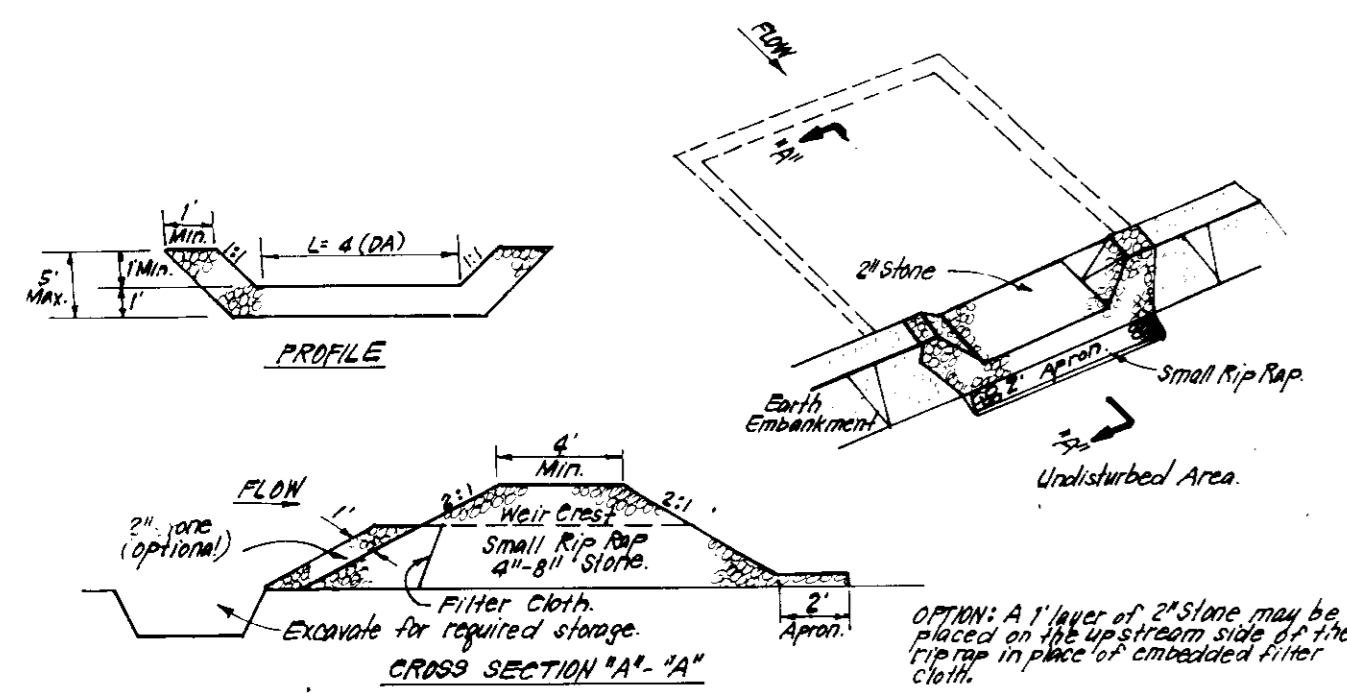
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 James M. Helton 8/1/92
 DIRECTOR

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
 STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Robert Beniger/for JMI 8-20-92
 DIRECTOR

SHEET INDEX

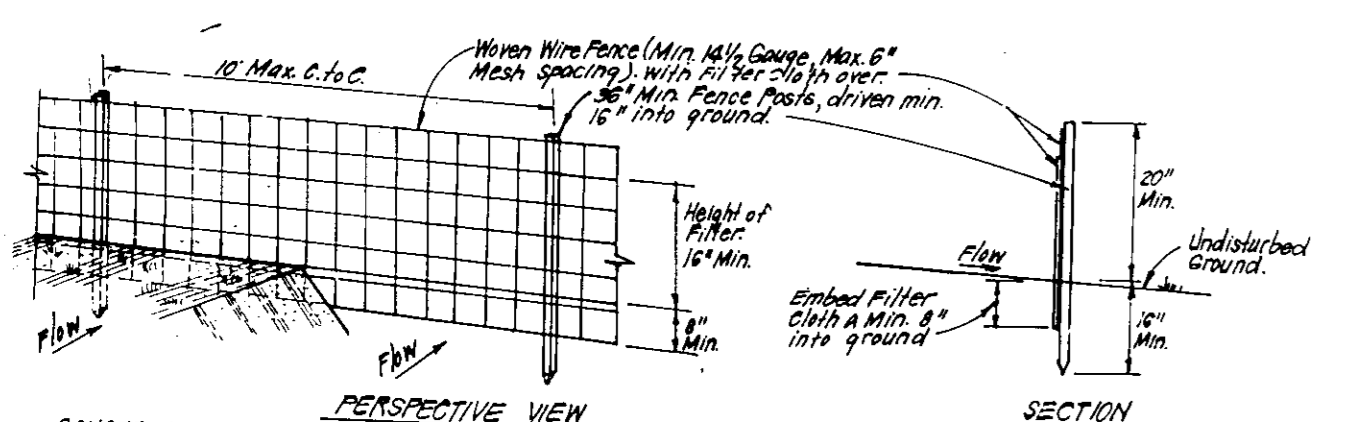
Sheet One - Site Development Plan
 Sheets Two & Three - Sediment & Erosion Control Plan

CLARK • FINEFROCK & SACKETT, INC. ENGINEERS • PLANNERS • SURVEYORS		
DESIGNED KIWM	SEDIMENT & EROSION CONTROL PLAN LOTS 36 THRU 39 & 47 THRU 49 COLUMBIA VILLAGE OF RIVER HILL SECTION 1 AREA 4 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND FOR: NU HOMES, INC. 10480 Little Patuxent Parkway Columbia, Maryland 21044	SCALE 1" = 30'
DRAWN BAL		DRAWING 2 OF 3
CHECKED KIWM		JOB NO 92-084
DATE Jul. 7, 1992		FILE NO 92-084SE



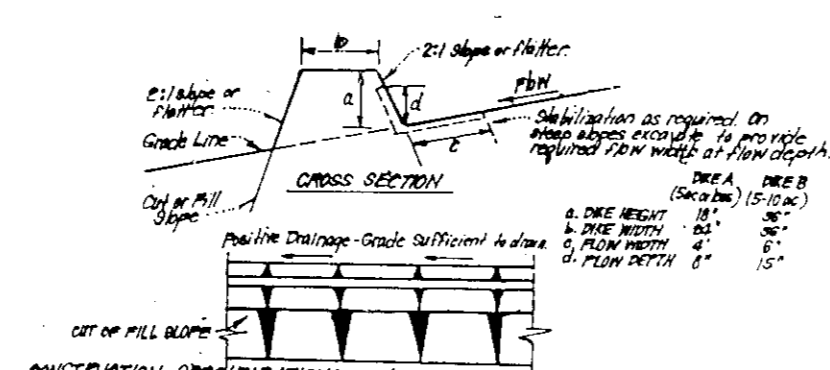
- CONSTRUCTION SPECIFICATIONS:**
1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The root area shall be covered.
 2. The fill material for the embankment shall be free of rocks and other woody vegetation as well as over sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
 3. All cut and fill slopes shall be 2:1 or steeper.
 4. The stone used in the outlet shall be small rip-rap 4"-8" along with 1" thickness of 2" aggregate placed on the up-grade side on the small rip-rap or expanded filter cloth on the rip-rap.
 5. Sediment shall be removed and trap restored to its original state when the sediment has accumulated to 1/2 the design depth of the trap.
 6. The structure shall be inspected after each rain and repairs made as needed.
 7. Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
 8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

STONE OUTLET SEDIMENT TRAP (S.O.S.T.) TRAP
NO SCALE



- CONSTRUCTION SPECIFICATIONS:**
1. When 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 ties spaced every 24" at top and mid sections.
 3. When 2 sections of filter cloth adjoin each other they shall be overlapped 12" and stapled.
 4. Maintenance shall be determined as needed and material removed when "bulges" develop in silt fence.
- POSTS:** Signal either T or U type or Hand wood.
- FENCE:** Woven wire, 1/2" gauge, 6" Max. Mesh Opening.
- FILTER CLOTH:** Filter, Miraflo, Rock Stabilizer, TWIN or Approx. equiv.
- PREFABRICATED UNITS:** Geotex, Envirofence, or Approx. equal.

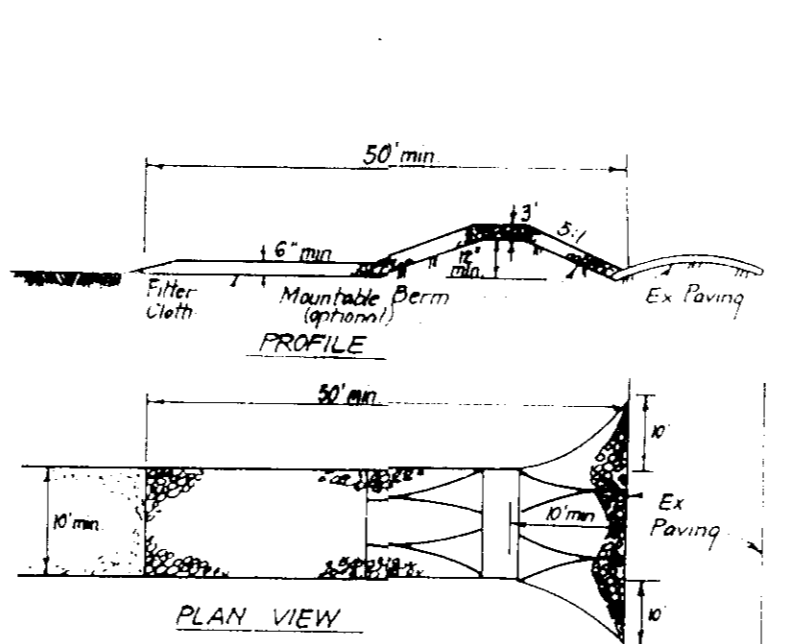
SILT FENCE DETAIL (S)
NO SCALE



- CONSTRUCTION SPECIFICATIONS:**
1. All dikes shall be constructed by earth moving equipment.
 2. All dikes shall have positive drainage to an outlet.
 3. The dike shall be wider and side slopes may be flatter if desired to facilitate travel by construction trucks.
 4. Filter cloth should be adjusted as needed to utilize a stabilized seed with 2" aggregate on the up-grade side on the small rip-rap or expanded filter cloth on the rip-rap.
 5. Sediment shall be removed and trap restored to its original state when the sediment has accumulated to 1/2 the design depth of the trap.
 6. The structure shall be inspected after each rain and repairs made as needed.
 7. Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
 8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

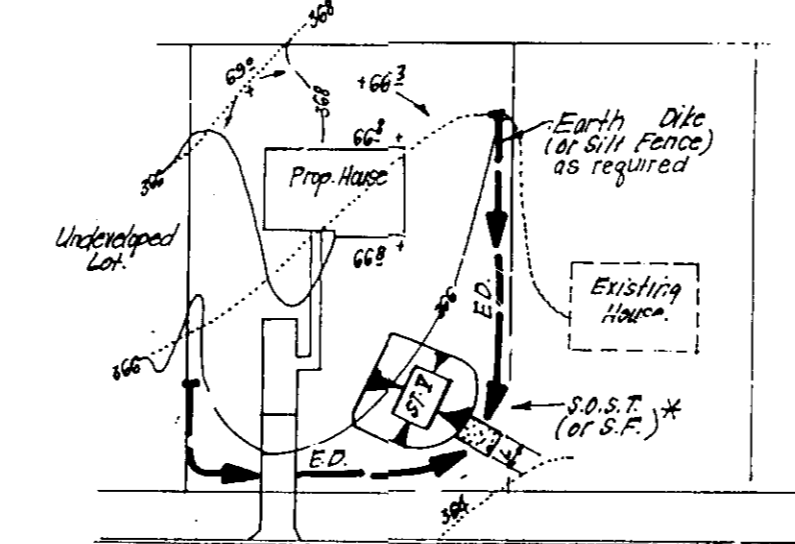
TYPE OF STABILIZATION	CHANNEL GRADE	DIKE A	DIKE B
1	1:1-2:1	2'-4" Stone	2'-4" Stone
2	1:1-2:1	2'-4" Stone	2'-4" Stone
3	1:1-2:1	2'-4" Stone	2'-4" Stone
4	1:1-2:1	2'-4" Stone	2'-4" Stone

EARTH DIKE DETAIL (E.D.)
NO SCALE



- CONSTRUCTION SPECIFICATIONS:**
1. Stone size - Use 2" stone or equivalent in recycled concrete equivalent.
 2. Length - As required, but not less than 50 feet, except on a single residence lot where a 30' minimum length would apply.
 3. Thickness - Not less than six (6) inches.
 4. Width - Ten (10) feet minimum, but not less than the full width of points where ingress or egress occurs.
 5. Filter Cloth - Will be placed over the entire area prior to placing of stone.
 6. Surface Water - All surface water flowing or quartered toward construction entrances shall be roped across the entrance. If roping is impractical, a mound of earth with 3" slopes will be permitted.
 7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and/or repair and/or cleanup of any materials used in trap development. All sediment applied, applied, applied or tracked onto public rights-of-way must be removed immediately.
 8. Marking - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When marking is required, it shall be done on an area stabilized with stone, or which stands on an approved sediment trapping device.
 9. Periodic inspection and needed maintenance shall be provided after each rain.

STABILIZED CONSTRUCTION ENTRANCE (SCE)
NO SCALE



*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.

NO.	DESCRIPTION	DATE	BY
1	DESIGNED	8/17/92	JL
2	CHECKED	8/17/92	JL
3	DRAWN	8/17/92	JL
4	APPROVED	8/17/92	JL

SINGLE LOT SEDIMENT CONTROL PLAN
NO SCALE

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, if not previously loosened.

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. Narrow 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).
- 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. Narrow 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 (30 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 318 gallons per acre (8 gal/1000 sq ft) for anchoring.

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

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redistributed 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, if not previously loosened.

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 August 1 thru November 15, seed with 25 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 (30 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 318 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.

- 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 periods 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	3.157 Acres
Area Disturbed	2.30 Acres
Area to be roofed or paved	0.62 Acres
Area to be vegetatively stabilized	1.68 Acres
Total Cut	8370 Cu. yds
Total Fill	4090 Cu. yds
Offsite waste/borrow area location	*
 - 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 DEW sediment control inspector.
 - 10) On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
 - 11) If houses are to be constructed on an "As-Sold" basis, at random, Single Lot Sediment Control as shown below shall be implemented.
 - 12) All pipes to be blocked at the end of each day (see detail below).
 - 13) The total amount of straw bale dikes/silt fence equals 390 L.F.

* It is the responsibility of the contractor to identify the spot/borrow site and notify HCSCD of the site and its grading permit no. at the time of construction.

CONSTRUCTION SEQUENCE:

NO.	DESCRIPTION	NO. OF DAYS
A.	Obtain grading permit.	7
B.	Install Sediment Erosion Control devices; refurbish exist trap #5 as necessary. Install tree protection fence and stabilize.	14
C.	Excavate for foundations and Rough Grade & Temporarily Stabilize.	30
D.	Construct Structures, Sidewalks and Driveways.	30
E.	Final Grade and stabilize in accordance with Stds. & Specs.	14
F.	Upon approval of the sediment control inspector, remove sediment and erosion controls and stabilize.	7

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPARTMENT
James M. Boydland per S. J. ... 8/25/92
COUNTY HEALTH OFFICER

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
James L. Smith 9/1/92
DATE
Stefanie J. Howard 8/20/92
DATE
CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE.
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Robert Beninger per JMT 8-20-92
DIRECTOR
DATE
D. C. ... 8-20-92
CHIEF BUREAU OF ENGINEERING
DATE

Reviewed for HOWARD COUNTY S.C.D. Name and meets Technical Requirements
James M. Boydland 8/27/92
Signature Date
U.S. Soil Conservation Service

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 Department of the Environment 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."

John K. G... 8/17/92
Approved
Signature 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.

Jeffrey L. Schwab 8/29/92
Signature Date



OWNER / DEVELOPER:
HOWARD RESEARCH AND DEVELOPMENT CORPORATION
10275 Little Patuxent Parkway
Columbia, MD 21044

CLARK • FINEROCK & SACKETT, INC.
ENGINEERS • PLANNERS • SURVEYORS
7115 MINISTERS LANE • COLUMBIA, MD 21045 • (410) 871-7600 • FAX (410) 871-7600 • WASH.

DESIGNED KIWM	SEDIMENT & EROSION CONTROL PLAN LOTS 38 THRU 39 & 47 THRU 49 COLUMBIA VILLAGE OF RIVER HILL SECTION 1 AREA 4 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE 1" = 30'
DRAWN BAL		DRAWING 3 OF 3
CHECKED KIWM	JOB NO. 92-084	FILE NO. 92-084SE
DATE JULY, 1992	FOR: NU HOME 9, INC. 10480 Little Patuxent Parkway Columbia, Maryland 21044	

S.D.P. 92-126