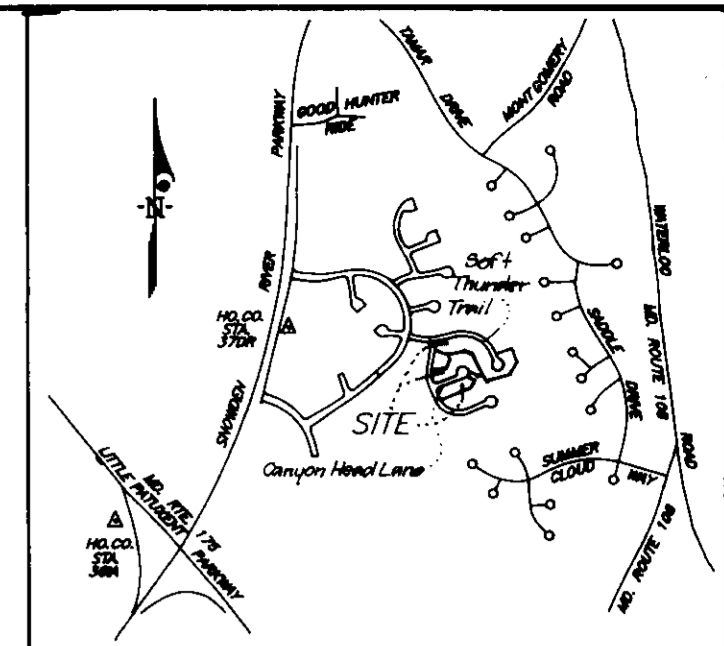
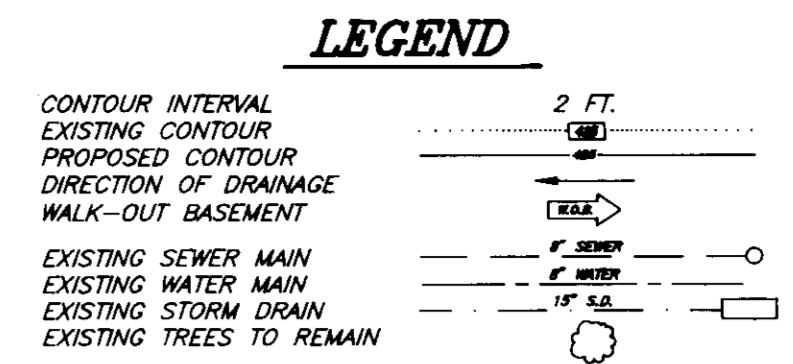


LOT NUMBER	STREET ADDRESS
222	6301 CANYON HEAD LANE
223	6305
224	6309
225	6313
226	6317
227	6321
228	6325
229	6329
230	6333
231	6337
232	6341
233	6345
234	6349
134	6353 Golf Thunder Trail
135	6357
136	6361
137	6365
138	6369
139	6373
140	6377
141	6381
142	6385
143	6389
144	6393
145	6397
146	6401
147	6405 Golf Thunder Trail

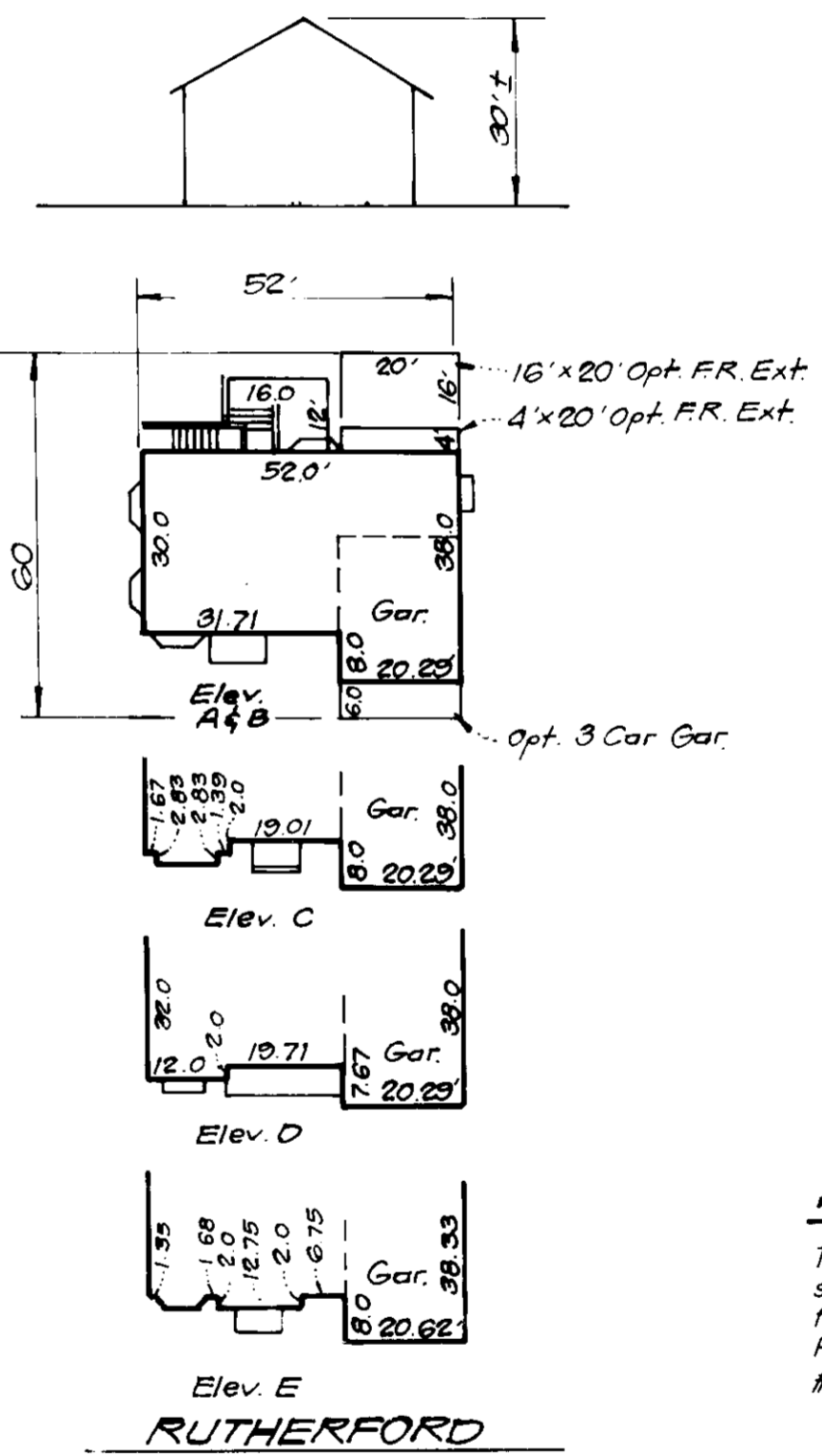
No	REVISIONS	Date
1	Rev. hse. f. grad. lot 230	12-19-96
2	Rev. hse. f. grad. lot 234	11-7-97



BENCHMARKS
 Ho. Co. Control Sta. 361A, Elev. 400.81
 N 55°13'0" E 1365.855 195
 Ho. Co. Control Sta. 370K, Elev. 380.34
 N 55°35'1" E 54, E 1366.025 090

GENERAL NOTES:

- Subject property is zoned: NTSFMD per 10-18-93 Comprehensive Zoning Plan.
- The total area included in this submission is: 6.84 Ac.
- The total number of lots included in this submission is: 27
- Improvement to property: Single Family Detached
- The maximum lot coverage permitted is: 30%
- Department of Planning and Zoning reference file numbers are: F-95-25, F-95-124, FDP Phase 216, P-04-16, SDP 06-54 & 07-18, A, W 07-10
- Utilities shown as existing are taken from approved Water and Sewer plans Contract #24-3355-D, approved Road Construction plans F-95-25, and actual field survey.
- Any damage to county owned rights-of-way shall be corrected at the developer's expense.
- All roadways are public and existing.
- The existing topography was taken from F-95-25 prepared by Clark, Finerock & Sackett, Inc. on August 1994.
- The coordinates shown hereon are based upon the Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System - Howard County Monument Nos.: 361A and 370K.
- The contractor shall notify the Department of Public Works/Division of Construction Inspection at (410) 313-1880 at least twenty-four (24) hours prior to the start of work.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
- For driveway entrance details, refer to Ho. Co. Design Manual Volume IV details R-6.03 and R-6.05.
- In accordance with Sections 128.A.1.b and .c of the Zoning Regulations, bay windows or chimneys not more than 4 feet in width may project not more than 4 feet into any setbacks; porches and decks may project not more than 10 feet into the front or rear setbacks.
- Stormwater Management is provided per: F-95-25
- No clearing, grading or construction is permitted within Wetlands and Stream Buffers or Forest Conservation Easements.
- SHC elevations shown are located at the property line.
- * Lots 147-150 & 222 - 234 were previously approved on SDP 06-54, and will be voided.



SPECIAL NOTES:

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-95-25 and/or approved Water and Sewer Plans Contract # 24-3355-D

SHEET INDEX	
DESCRIPTION	SHEET No.
SITE DEVELOPMENT PLAN	1 and 2
SEDIMENT AND EROSION CONTROL PLAN	3-5

OWNER / DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORP.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

SUBDIVISION NAME	SECTION/AREA	LOTS/PARCELS
COLUMBIA VILLAGE OF LONG REACH	4/2	222-234
FLAT NO.	BLOCK NO.	ZONE
18900 #11670	13	9FMD
TAX MAP NO.	ELECTION DIST.	CENSUS TRACT
37	6TH	6067 03
WATER CODE	SEWER CODE	
E-07	3460000	

CLARK • FINEROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS
 7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 • BALTO • (301) 621-8100 • WASH.

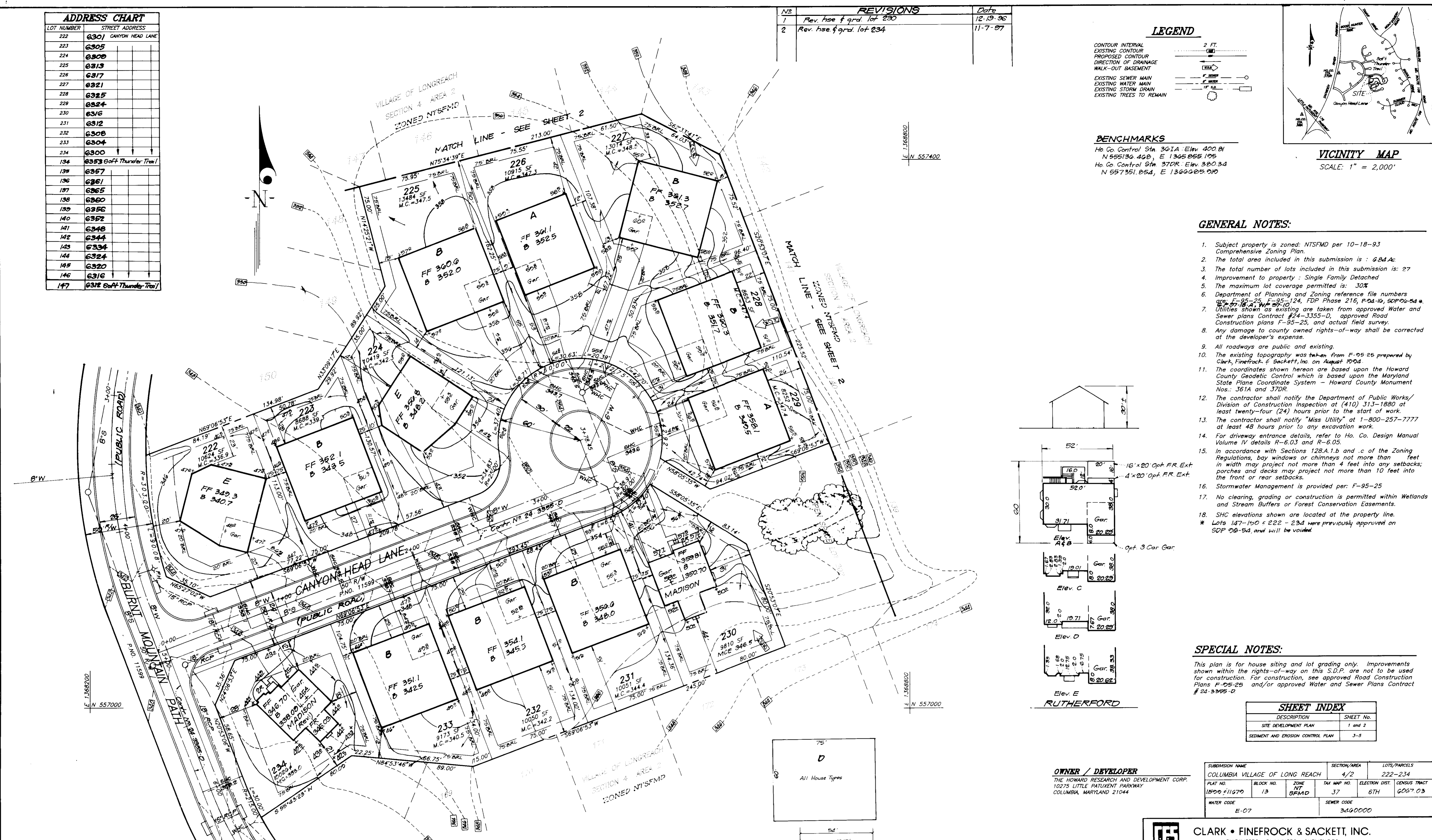
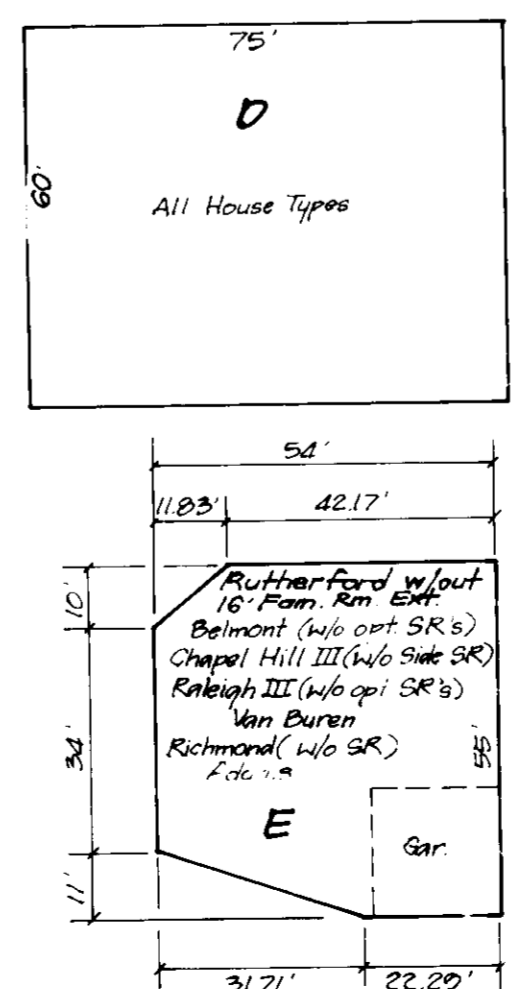
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DRAWN	ZH	DRAWING	1 of 5
CHECKED	jme	JOB NO.	96-106
DATE	9-18-94	FILE NO.	96-106X

SITE DEVELOPMENT PLAN
 LOTS 134-147 & 222 - 234
COLUMBIA VILLAGE OF LONG REACH
 SECTION 4 AREA 2
 SIXTH (6th) ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 FOR: NV HOMES
 2200 DEFENSE HIGHWAY SUITE 301
 CRAYTON MD 21114

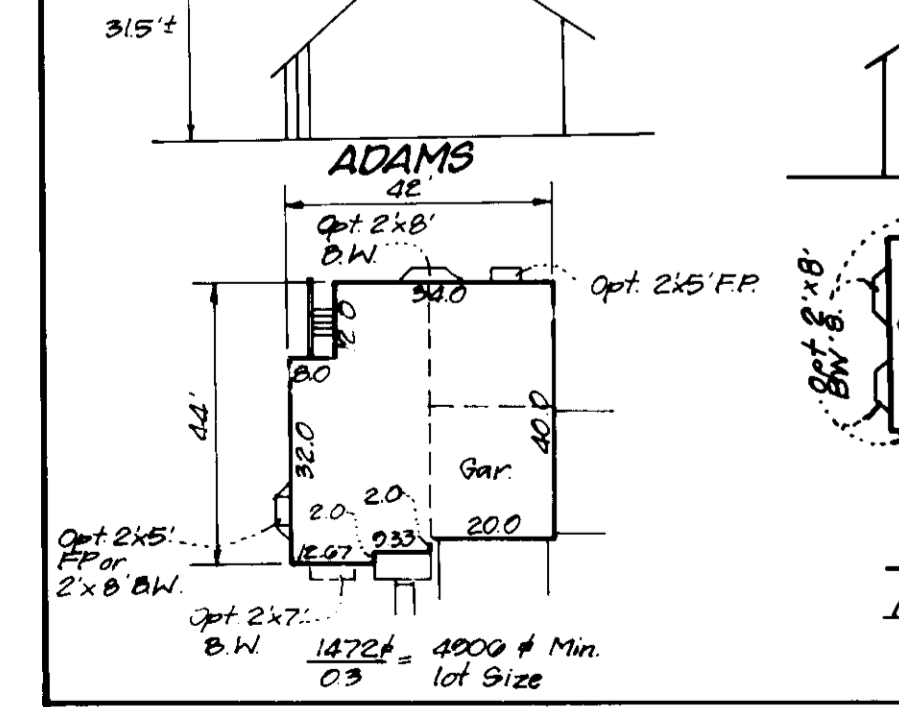
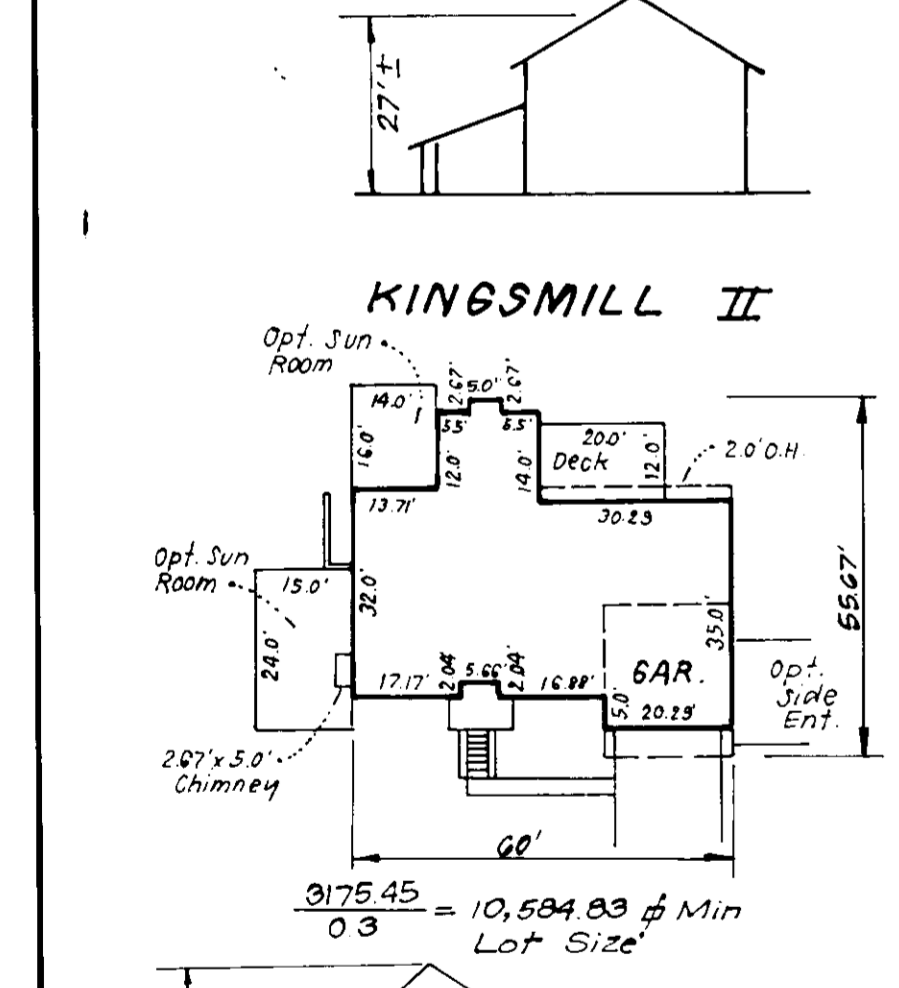
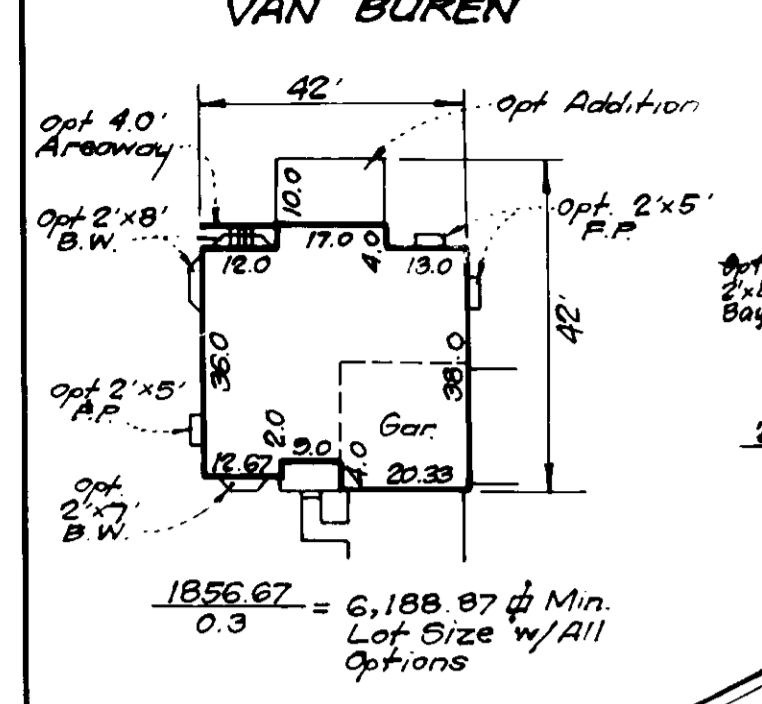
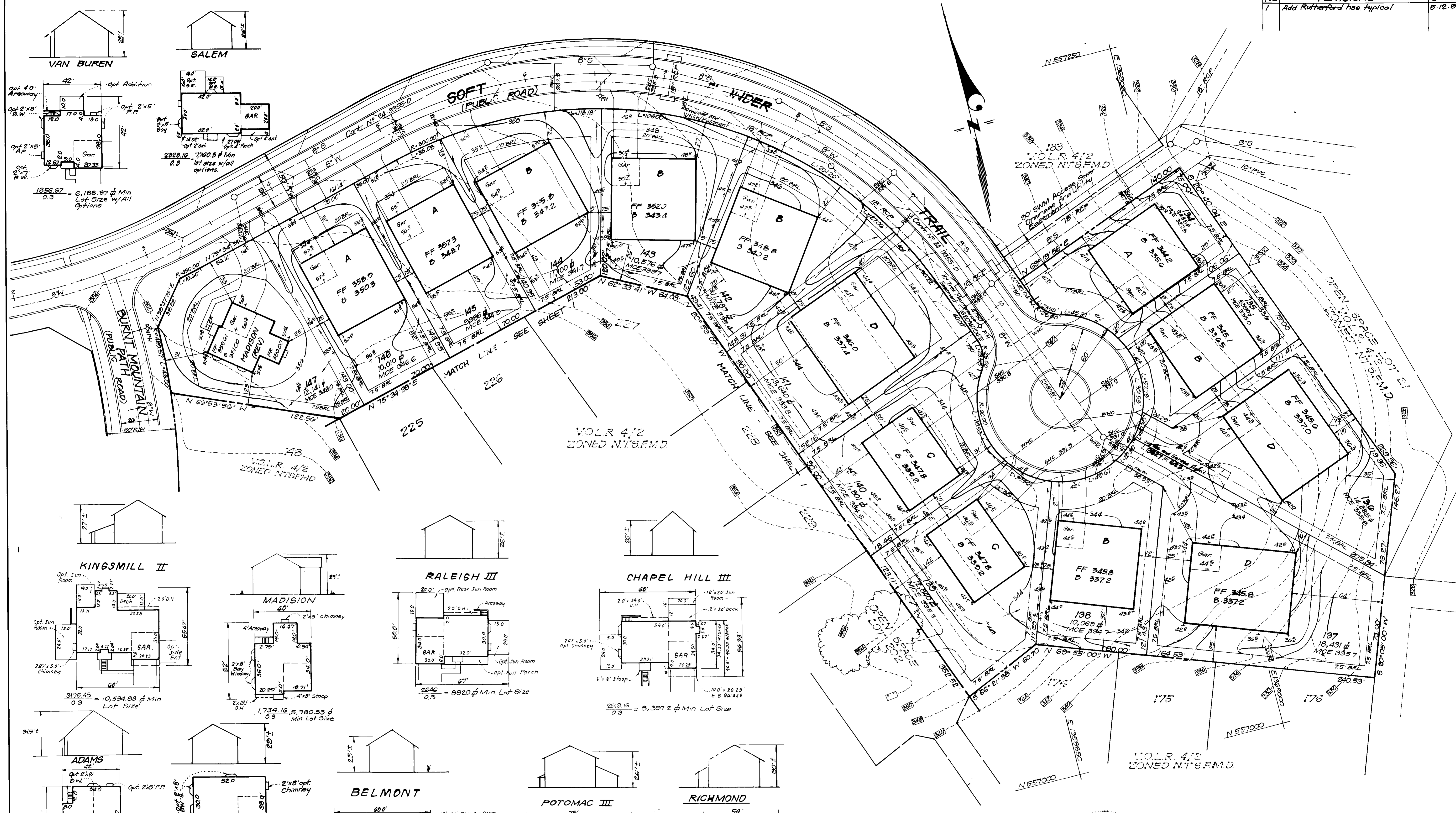
APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division MK 9/26/96
 Chief, Division of Land Development and Research JA 10/14/96
 Director (Acting) 11/12/96

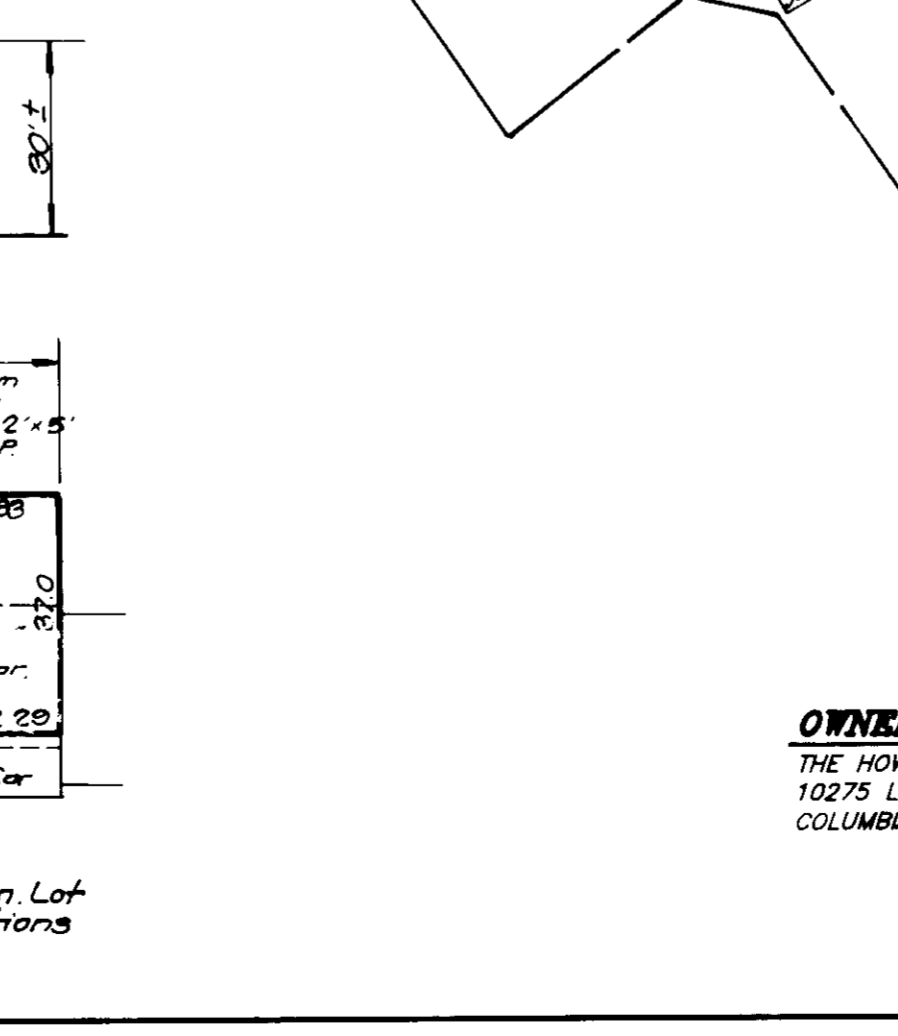
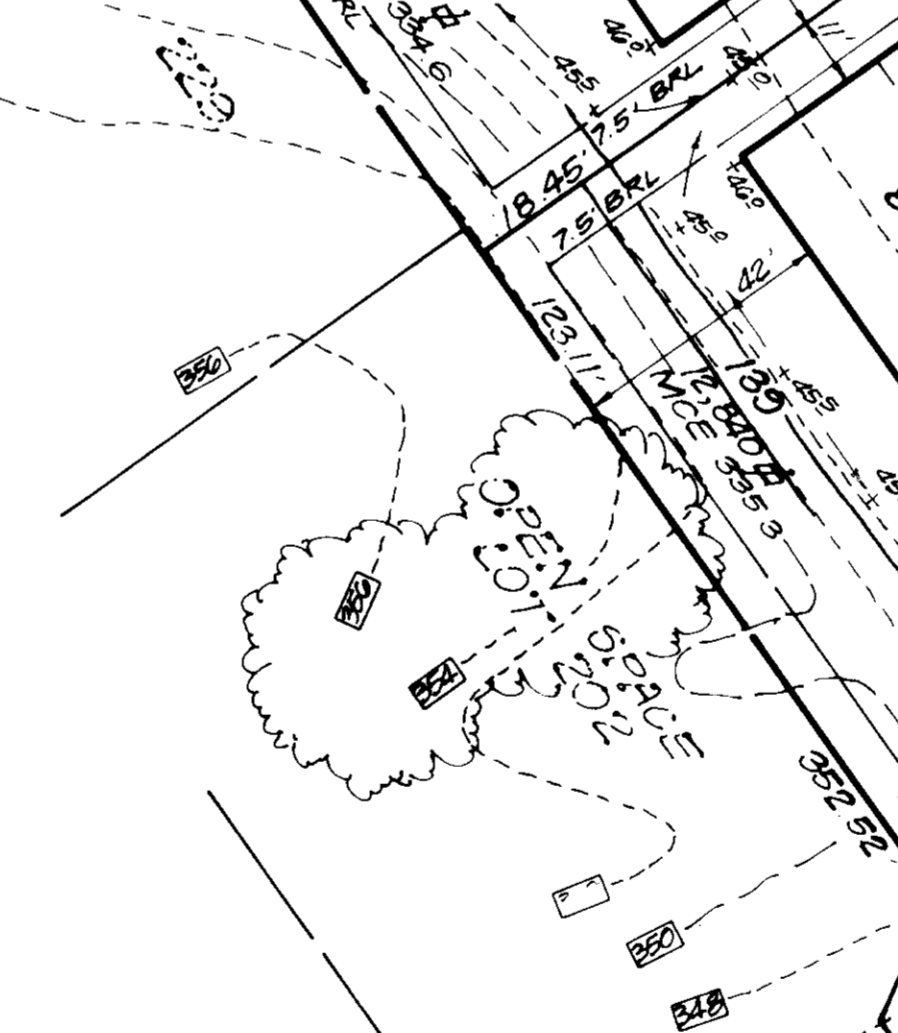
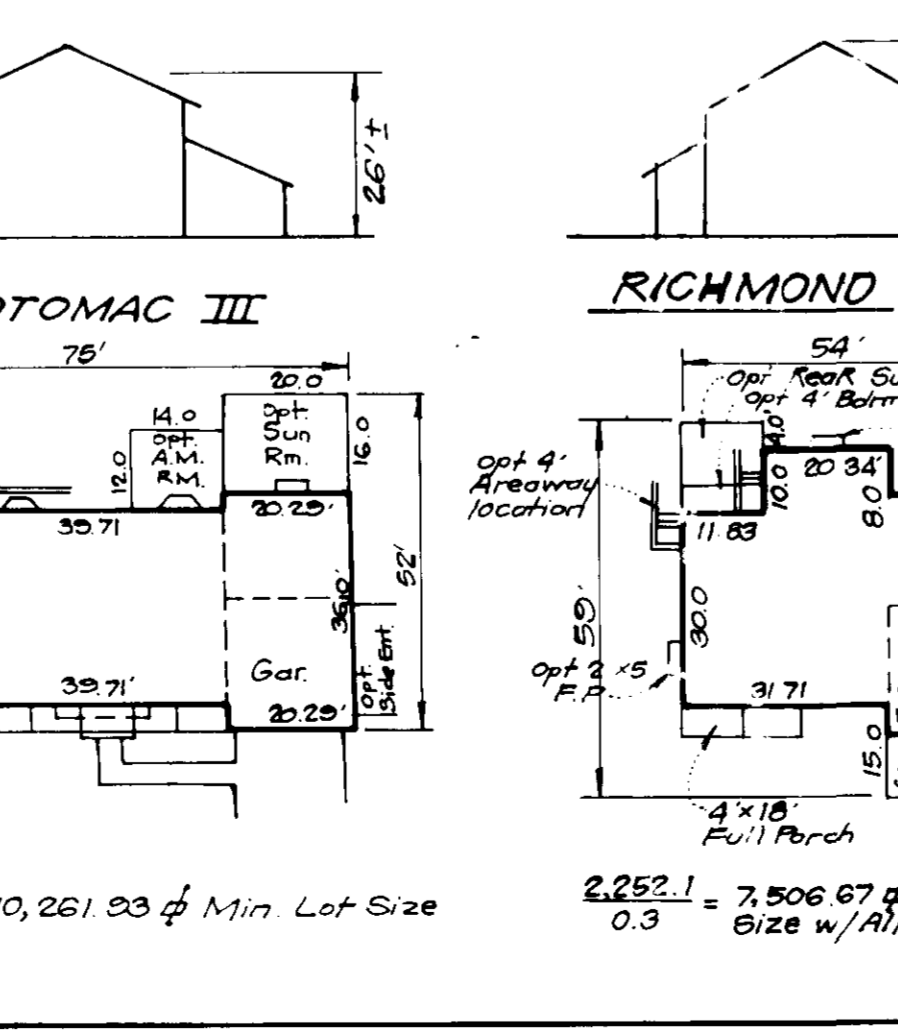
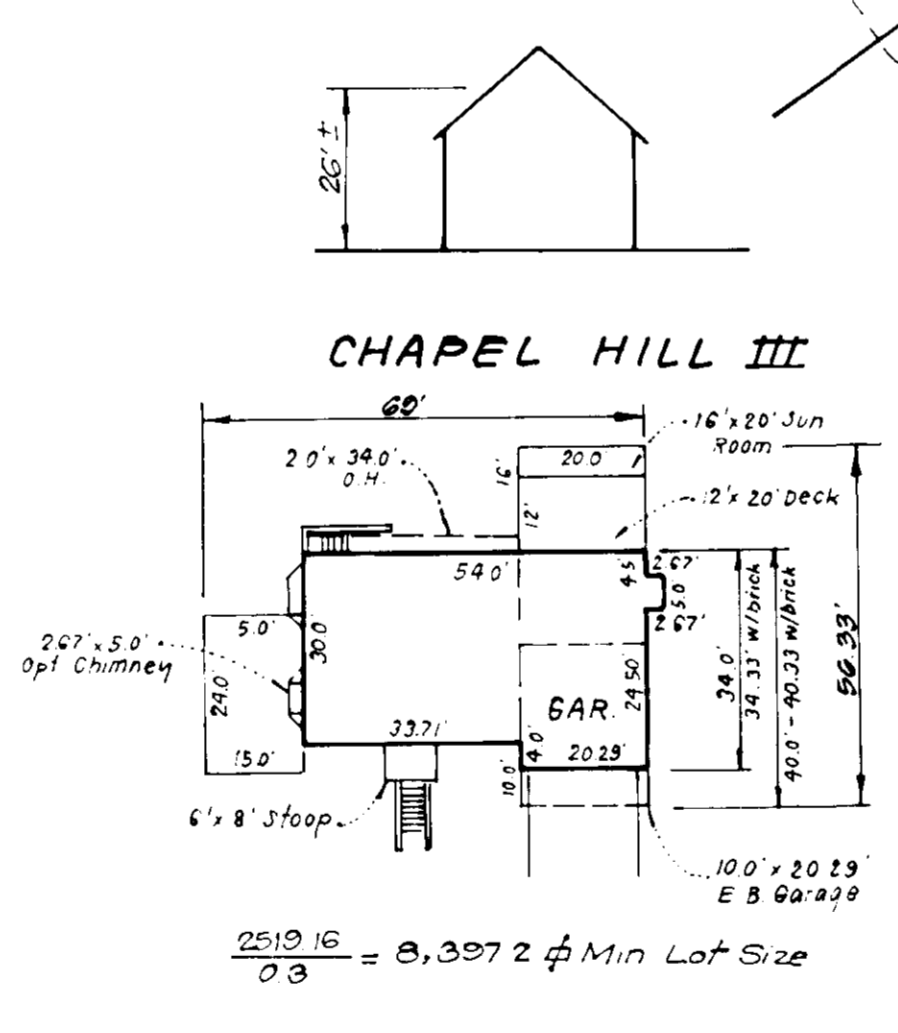
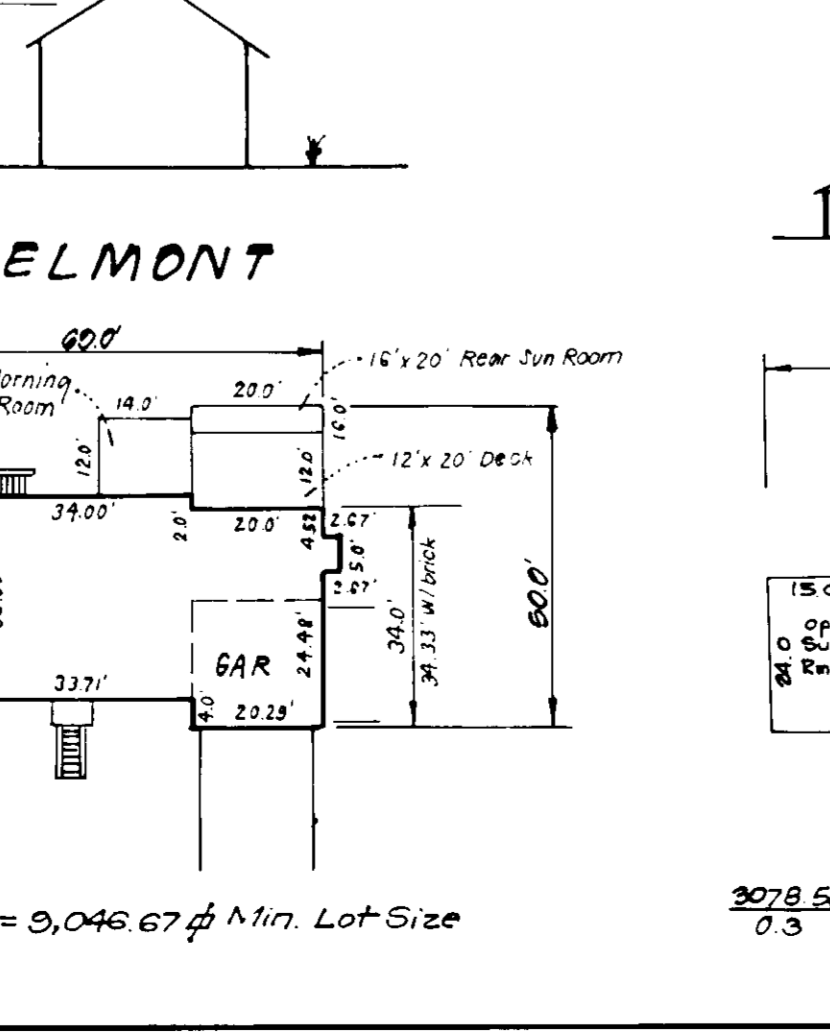
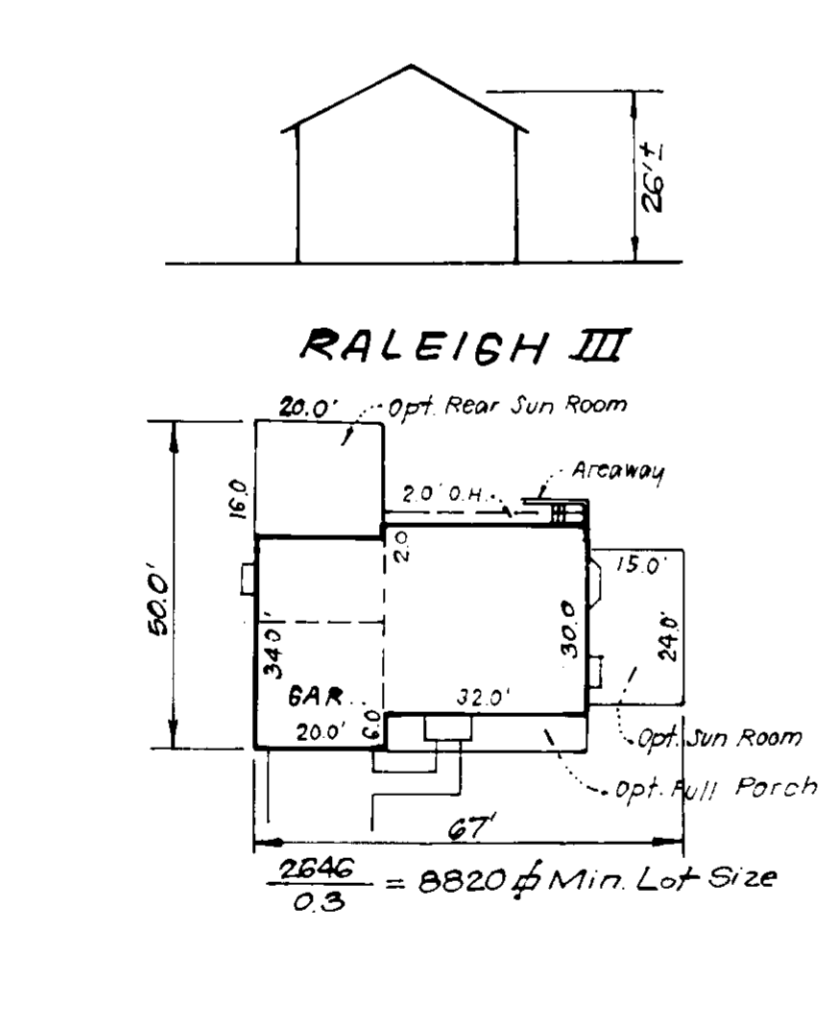
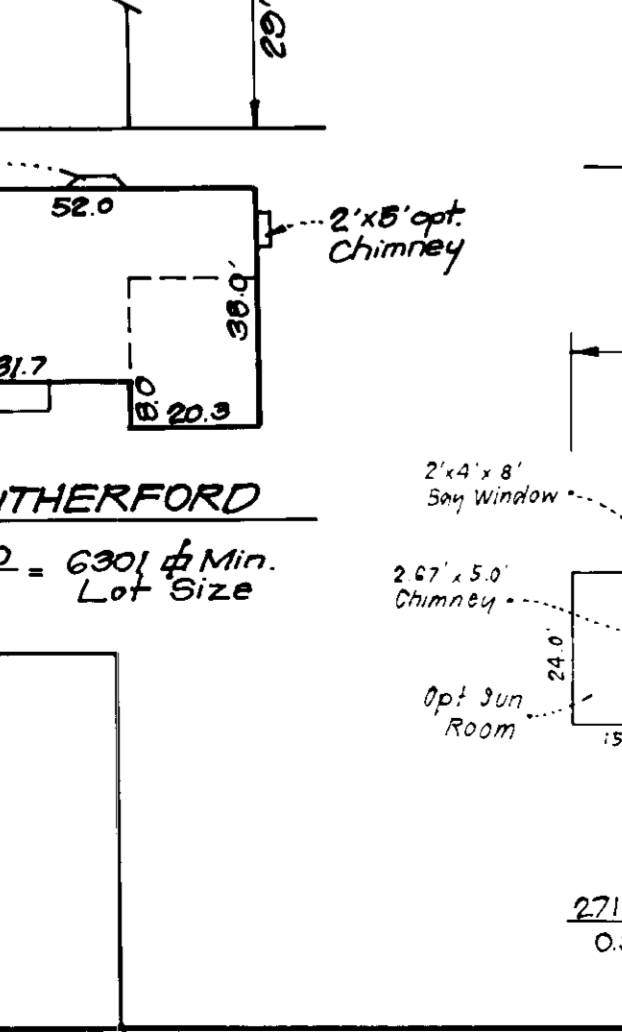
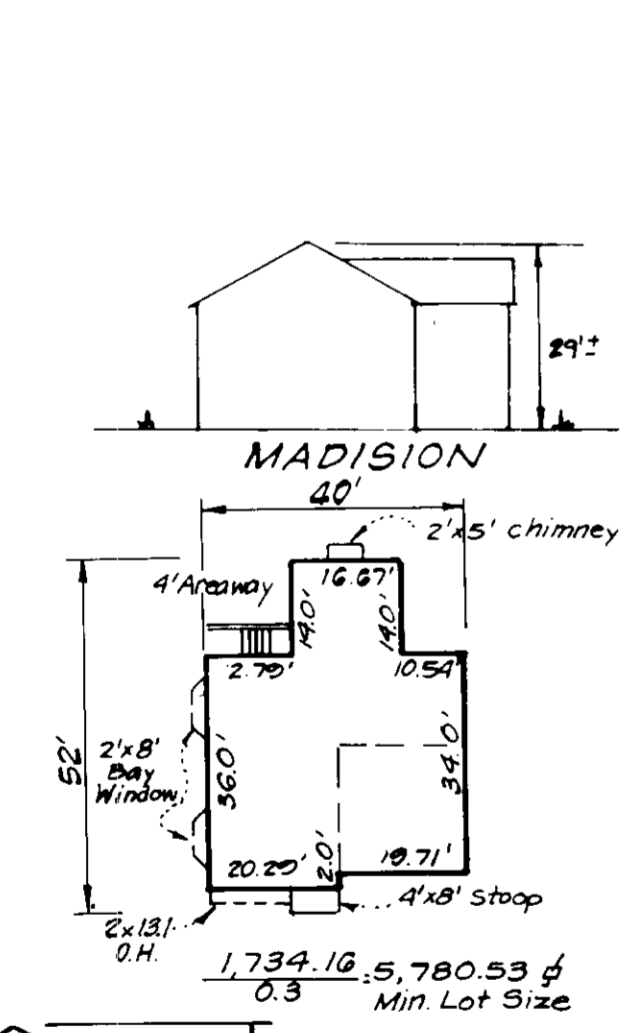
- A** Rutherford Adams Belmont (w/6 SR) Chapel Hill III (w/6 SR) Madison Potomac III (w/6 SR) Raleigh III (w/6 SR) Richmond Van Buren
- B** Rutherford Adams Belmont (w/6 SR) Chapel Hill III (w/6 SR) Kingsmill II (w/6 SR) Madison Potomac III (w/6 SR) Raleigh III (w/6 SR) Richmond Van Buren
- C** Rutherford w/ either 3 Car Gar. or 4 Pan. Gar. Ext. Adams Belmont (w/6 SR) Chapel Hill III (w/6 SR) Potomac III (w/6 SR) Raleigh III (w/6 SR) Richmond (w/6 SR or 3 Car) Van Buren (w/6 SR)



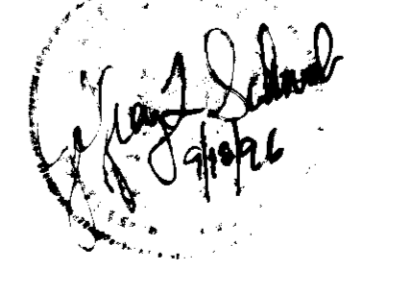
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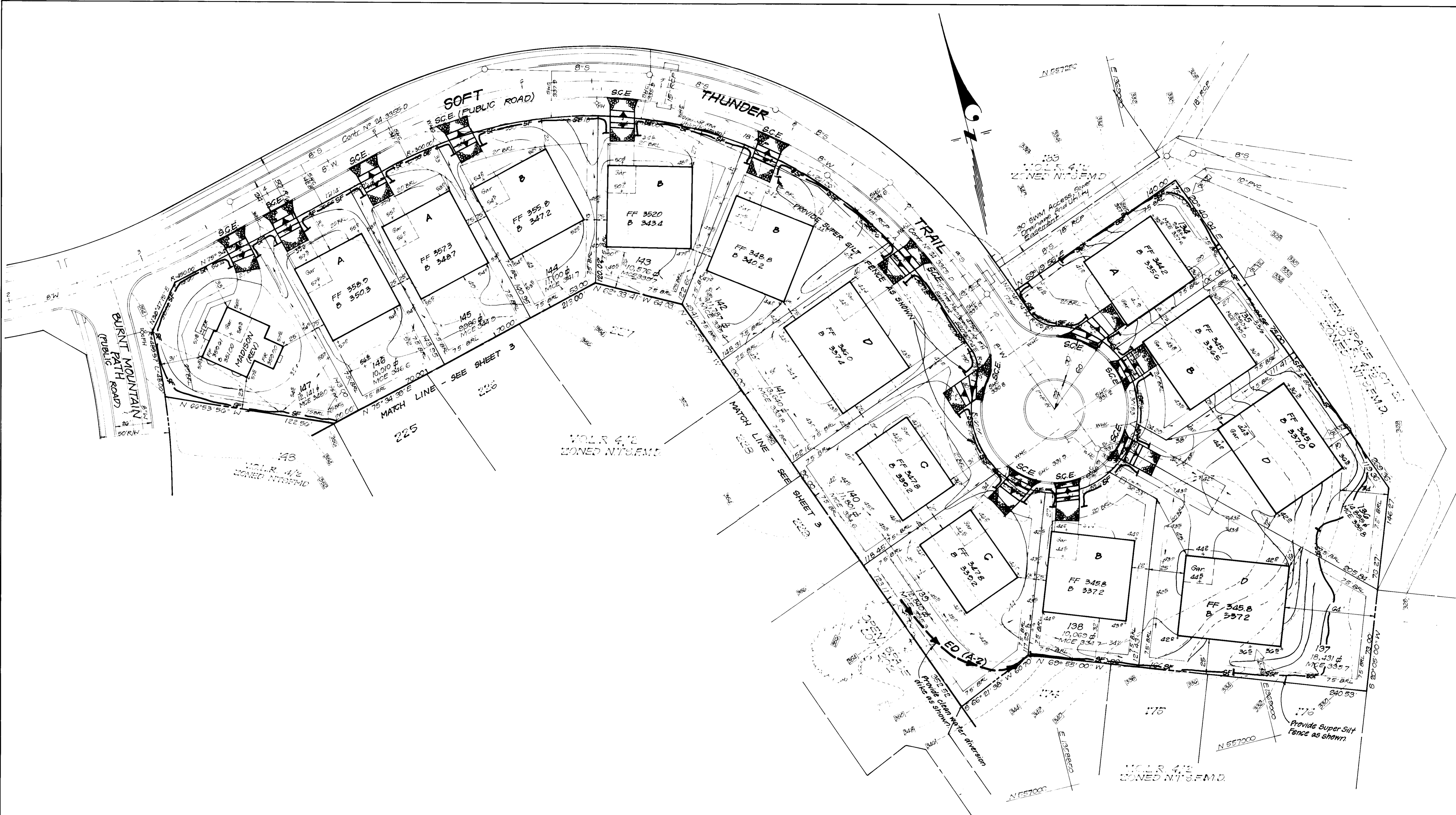
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division MK
 Chief, Division of Land Development and Research JPK
 Director



OWNER / DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORP.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044



CLARK • FINEROCK & SACKETT, INC. ENGINEERS • PLANNERS • SURVEYORS 7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 • BALTO. • (301) 621-8100 - WASH		SCALE 1"=30' DRAWING 2 of 5 JOB NO. 95-106 FILE NO. 92-106X
DESIGNED MJP DRAWN BL PS CHECKED jmu DATE 2-18-96	SITE DEVELOPMENT PLAN LOTS 134-147 & 222-234 COLUMBIA VILLAGE OF LONG REACH SECTION 4 AREA 2 SIXTH (6TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND FOR: MV HOMES 2207 P. Base Highway, St. 30, Crofton, MD 21114	



OWNER / DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORP.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

Reviewed for: HOWARD S.C.D.
 and meets Technical Requirements
 Signature: [Signature] Date: 9/25/96
 U.S. Natural Resources 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 sediment and erosion 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."
 Name: Wayne C. Fluck DATE: B-8-96

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: [Signature] Date: 9/25/96
 Approved



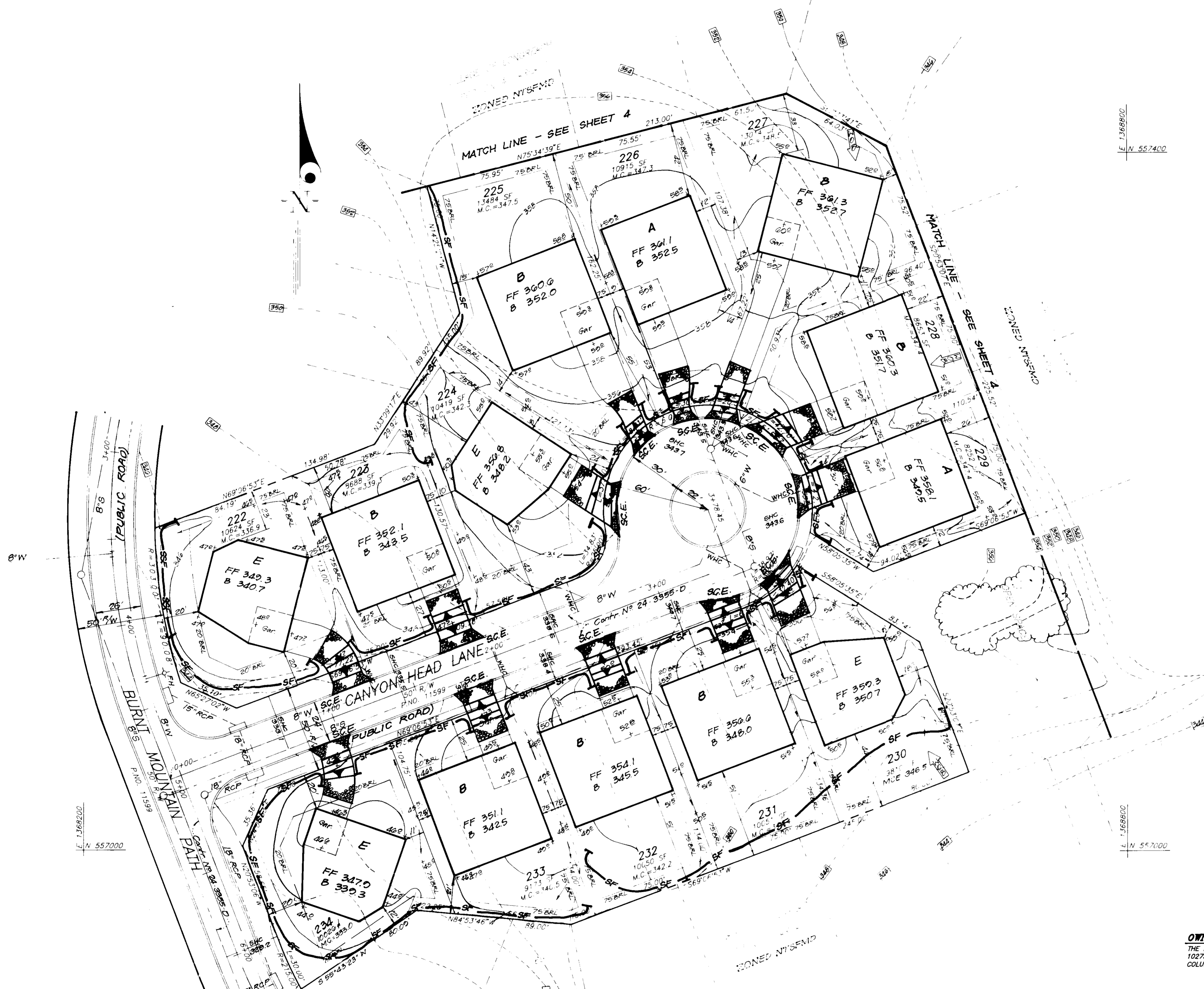
ENGINEER'S CERTIFICATE
 I hereby certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.
 Signature: [Signature] DATE: _____
 G. NELSON CLARK

APPROVED: DEPARTMENT OF PLANNING & ZONING
 Signature: [Signature] DATE: 9/25/96
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
 Signature: [Signature] DATE: 10/1/96
 CHIEF, DIVISION OF LAND DEVELOPMENT JA
 Signature: [Signature] DATE: 10/15/96
 DIRECTOR

CLARK • FINEROCK & SACKETT, INC. ENGINEERS • PLANNERS • SURVEYORS 1135 MASTRELL WAY • COLUMBIA, MD 21046 • TEL: 410-278-1000 • FAX: 410-278-1001 • WWW: WWW.CFSI.COM		
DESIGNED ZAL	SEDIMENT AND EROSION CONTROL PLAN LOTS 134-147 & 222-234 COLUMBIA VILLAGE OF LONG REACH SECTION 4 ARLA 2 SIXTH (6th) ELECTION DISTRICT HOWARD COUNTY, MARYLAND FOR: NV HOMES 2200 Defense Highway, Ste 301 Crofton, Md. 21114	SCALE 1"=30'
DRAWN BL PS		DRAWING 4 of 5
CHECKED LYM		JOB NO 95-106
DATE 8-8-96		FILE NO 92-106
		SE

LEGEND

- CONTOUR INTERVAL 2 FT.
- EXISTING CONTOUR
- PROPOSED CONTOUR
- DIRECTION OF DRAINAGE
- WALK-OUT BASEMENT
- EXISTING SEWER MAIN
- EXISTING WATER MAIN
- EXISTING STORM DRAIN
- EXISTING TREES TO REMAIN
- SILT FENCE
- SUPER SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- LIMIT OF DISTURBANCE



OWNER / DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORP.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

Reviewed for HOWARD S.C.D.
 and meets Technical Requirements
 J.M. Wolfeld 9/25/96
 Signature Date
 U.S. Natural Resources 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 sediment and erosion 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.

W.C. Fleck
 NAME DATE 8-8-96

ENGINEER'S CERTIFICATE
 I hereby certify that this plan for Sediment and Erosion 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.

G. NELSON CLARK
 NAME DATE



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

John R. Polunco 9/25/96
 Approved

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Richard Blair, Chief, Development Engineering Division, MK, Date 9/26/96
 Richard Blair, Chief, Division of Land Development and Research, Date 10/16/96
 [Signature], Director, Date 11/17/96

CLARK • FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS
 7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALTO • (301) 621-8100 WASH

DESIGNED ZAL	SEDIMENT AND EROSION CONTROL PLAN LOTS 134-147 & 222-234 COLUMBIA VILLAGE OF LONG REACH SECTION 4 AREA 2 SIXTH (6th) ELECTION DISTRICT HOWARD COUNTY, MARYLAND FOR: NV HOMES #200 DEFENSE HIGHWAY SUITE 301 CRAFTON MD 21114	SCALE 1"=30'
DRAWN ZH PS		DRAWING 3025
CHECKED KM		JOB NO 96-106
DATE 8-8-96		FILE NO 96-106 ^{BE}

SEDIMENT AND EROSION CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECS. FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within:
 - 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1
 - 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 perimeters in accordance with Vol. 1, Chapter 7, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above, in accordance with the 1994 MARYLAND STANDARDS AND SPECS. FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings, sod, temporary seeding and mulching (Sec G). 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:	0.04 AC
Area Disturbed:	0.04 AC
Area to be roofed or paved:	1.00 AC
Area to be vegetatively stabilized:	2.70 AC
Total Cut:	
Offsite Wash/Borrow Area Location:	
- 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 DPM 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 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.
- Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized within one working day, whichever is shorter.
- The total amount of silt fence = **2340 LF**
The total amount of silt fence = **702 LF**

CONSTRUCTION SEQUENCE:

	NO. OF DAYS
1. Obtain grading permit.	7
2. Install tree protection fence.	7
3. Install sediment and erosion control devices and stabilize.	30
4. Excavate for foundations, rough grade and temporarily stabilize.	10
5. Construct structures, sidewalks and driveways.	10
6. Final grade and stabilize in accordance with SDC and Specs.	10
7. Upon approval of the sediment control inspector, remove sediment and erosion control devices and stabilize.	7

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, disking or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use one of the following schedules:

- Preferred—Apply 2 tons per acre dolomitic limestone (92 lbs./100 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 the 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 apply 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 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 unrattled 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.

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

TEMPORARY SEEDING NOTES

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

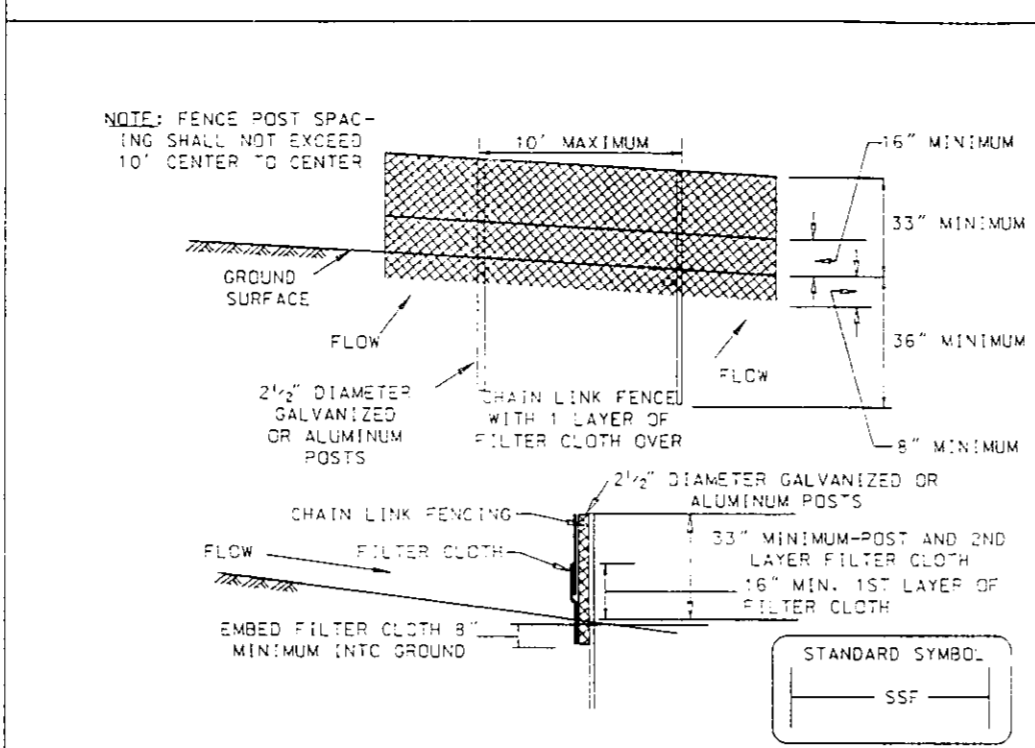
SOIL AMENDMENTS: Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq.ft.)

SEEDING: For periods March 1 thru April 30 and 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 1 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 unrattled 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.

REFER TO THE 1993 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

DETAIL 23 - SUPER SILT FENCE



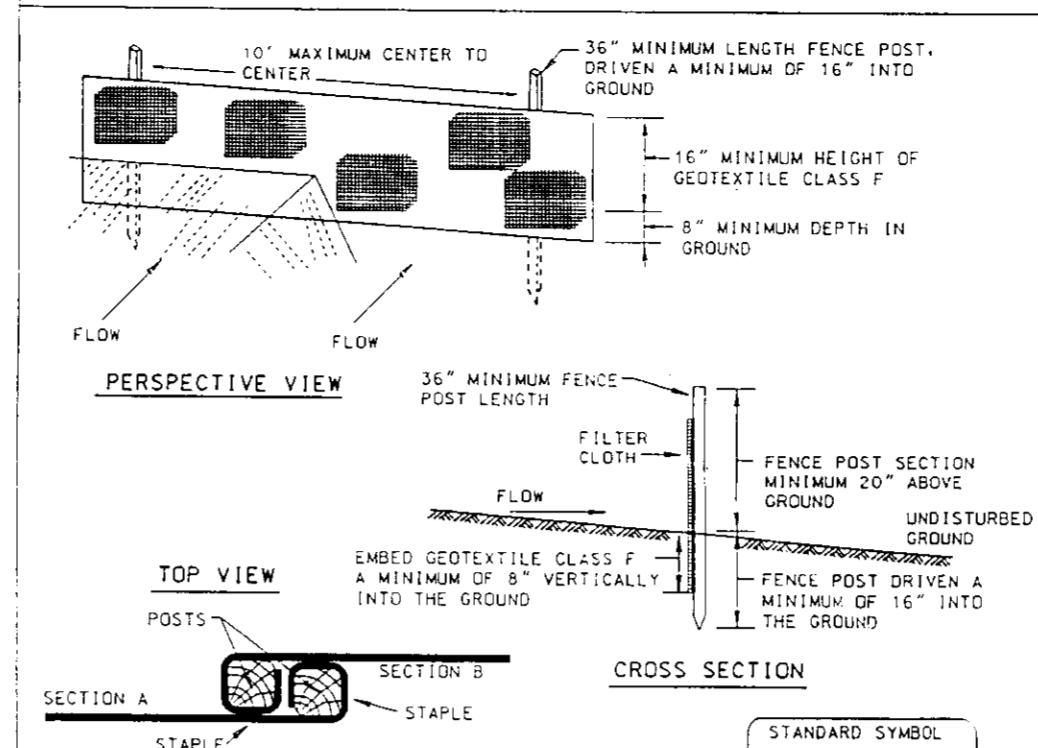
Construction Specifications

Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6 foot fence shall be used, substituting 42 inch fabric and 6 foot length posts.

- The poles do not need to set in concrete.
- Chain link fence shall be fastened securely to the fence posts with wire ties or staples.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
- Filter cloth shall be embedded a minimum of 6" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt buildups removed when "bubbles" develop in the silt fence.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 28 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 22 - SILT FENCE



Construction Specifications

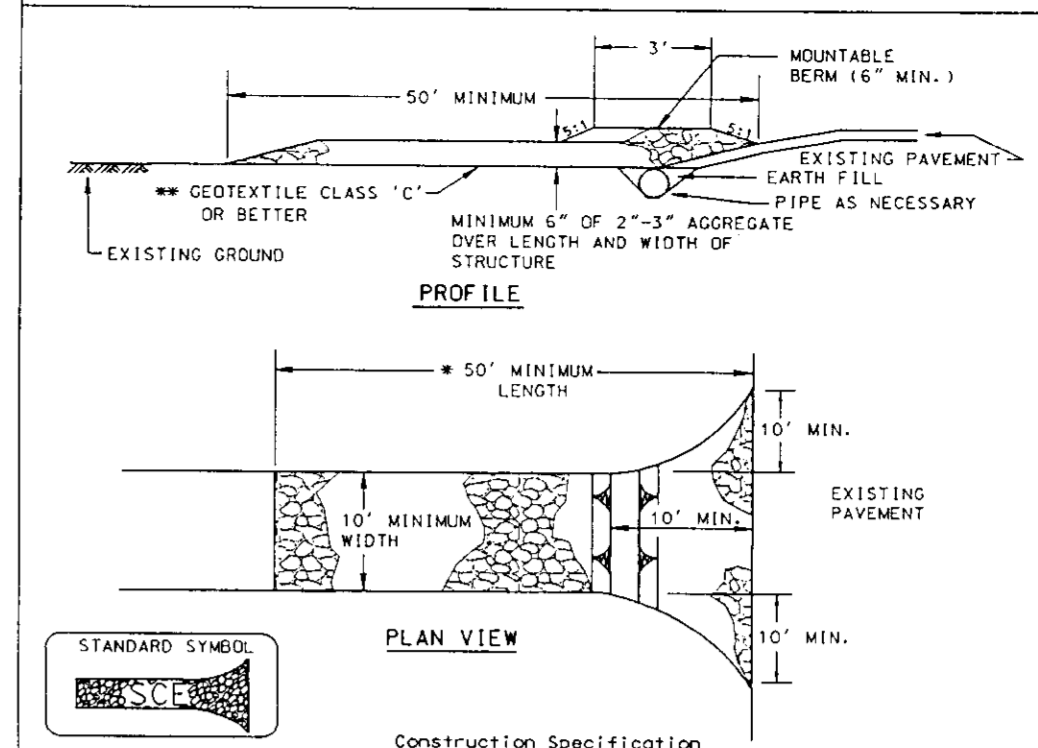
Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 1/2" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.

- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 1/2" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.
- Geotextile shall be fastened securely to each fence post with wire ties or staples of top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/ft (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/ft (min.)	Test: MSMT 509
Flow Rate	0.3 gal/1 1/2" minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 18 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specifications

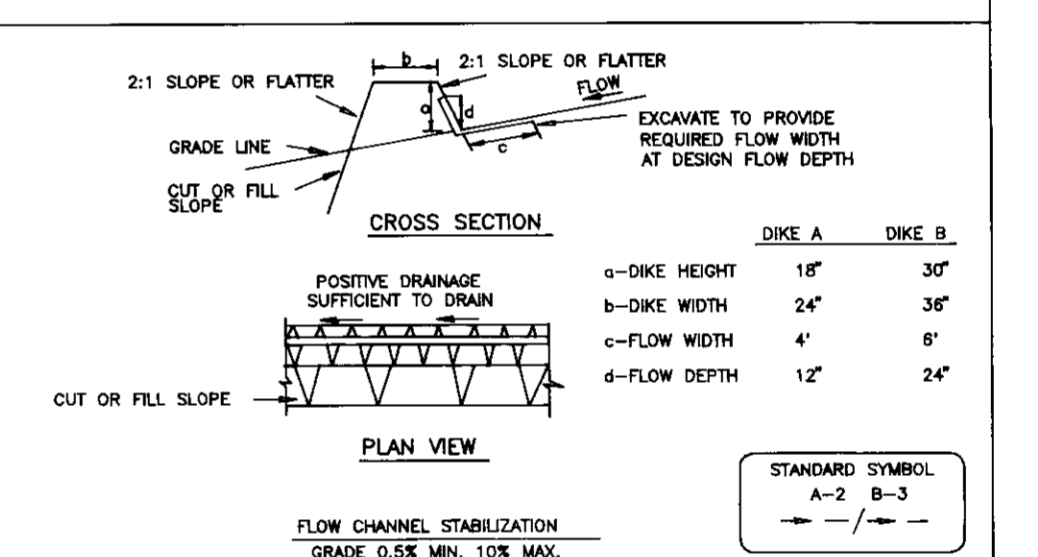
Length - minimum of 50' (±30' for single residence lot).

Width - 10' minimum, should be flared at the existing road to provide a turning radius.

- Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residences to use geotextile.
- Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
- Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable curb with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
- Location - A stabilized construction entrance shall be located at every spot where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 27 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 1 - EARTH DIKE



Construction Specifications

1. Seed and cover with straw mulch.

2. Seed and cover with Erosion Control Matting or lime with sod.

3. 6" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum.

- Temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
- Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
- Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
- All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
- The dike 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.
- Fill shall be compacted by earth moving equipment.
- All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
- Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A - 1 - 6	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition
Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose
To provide a suitable soil medium for vegetable growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

- This practice is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
- For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special stabilization and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization, shown on the plans.

Construction and Material Specifications

- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or a soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 and 1/2" in diameter.
 - Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.
 - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- For sites having disturbed areas under 5 acres:
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
- Topsoil Application
 - When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
 - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
 - Topsoil shall be uniformly distributed in a 4" - 6" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

OWNER / DEVELOPER

THE HOWARD RESEARCH AND DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

ENGINEER'S CERTIFICATE

I hereby certify that this plan for Sediment and Erosion 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.

G. NELSON CLARK
DATE

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 sediment and erosion 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."

W. C. Fitch
NAME
8-8-96
DATE

Reviewed for HOWARD S.C.D. and meets Technical Requirements
Signature Date
Natural Resources Conservation Service

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

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division MK 9/2/96
Chief, Division of Land Development and Research JA 9/10/96
Director V. D. Taylor 11/1/96

CLARK • FINEFROCK & SACKETT, INC.
ENGINEERS • PLANNERS • SURVEYORS
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DESIGNED ZAL	SEDIMENT AND EROSION CONTROL DETAILS LOTS 134-147 & 222-234 COLUMBIA VILLAGE OF LONG REACH SECTION 4 AREA 2 SIXTH (6TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE -
DRAWN ZH		DRAWING 5 of 5
CHECKED KTM		JOB NO 96-106
DATE 8-8-96	FOR: NV HOMES 2200 DEFENSE HIGHWAY SUITE 301 GROFTON, MD 21114	FILE NO 96-106-SE