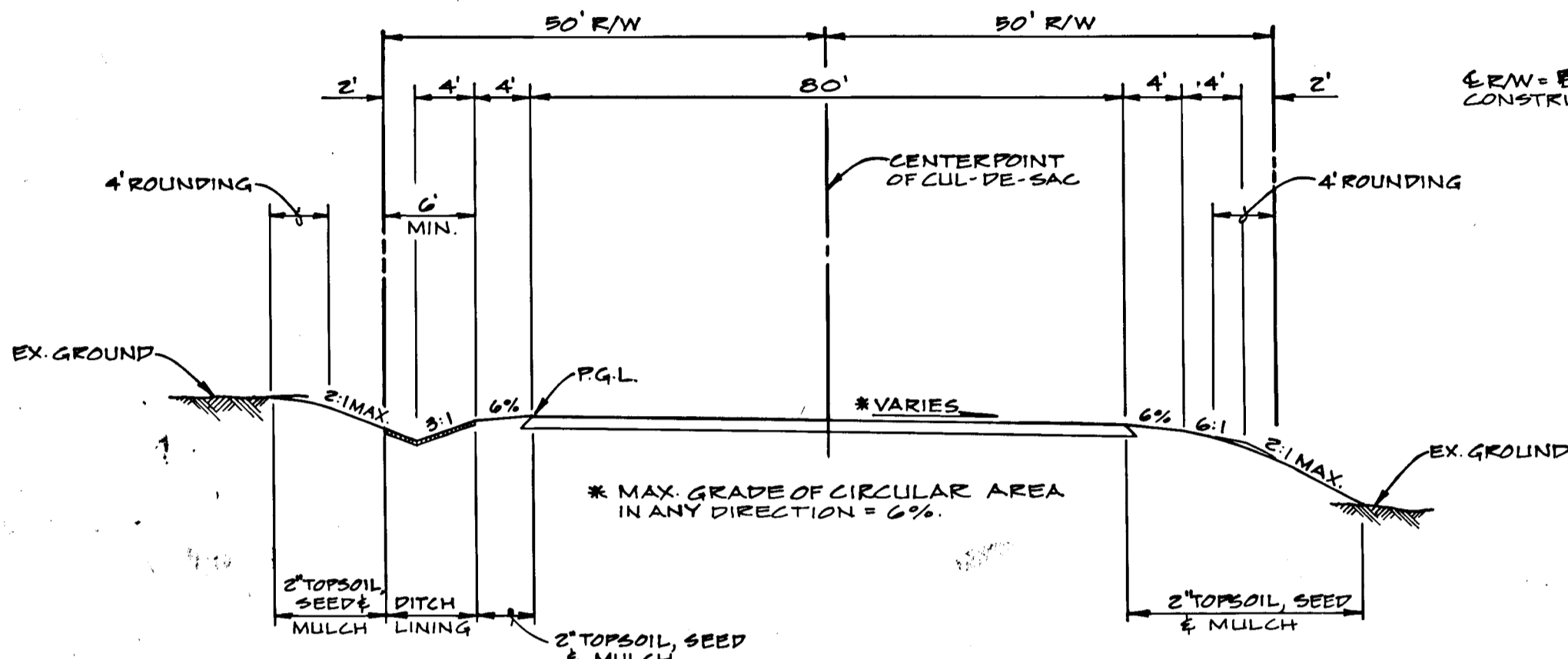
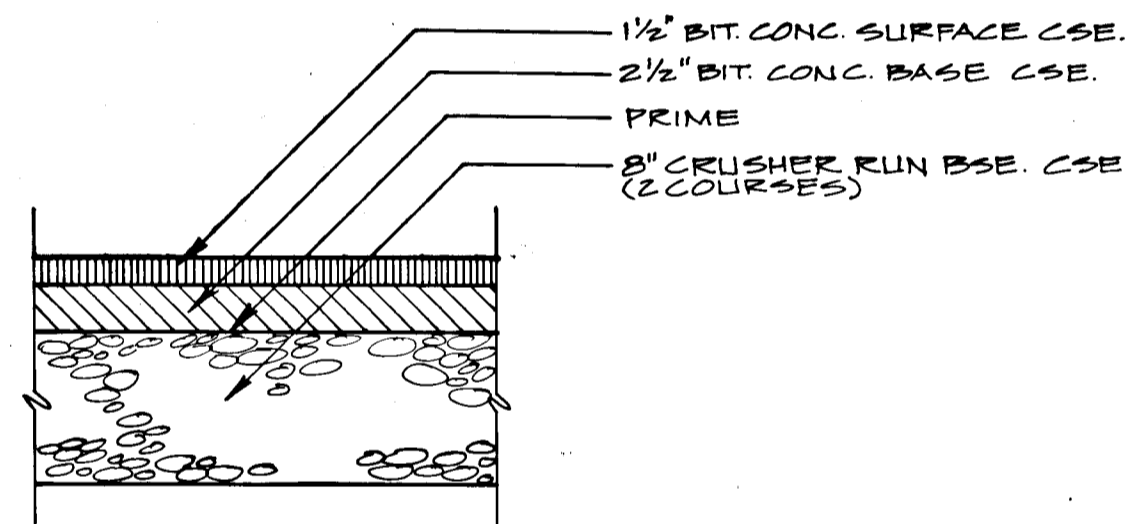


CURVE DATA				
	①	②	③	④
Δ	48°11'23"	276°22'46"	51°11'43"	282°23'26"
R	25.00'	50.00'	35.00'	40.00'
L	21.03'	241.19'	31.27'	197.15'
T	11.18'	—	16.77'	—
L.C.	20.41'	—	30.24'	—



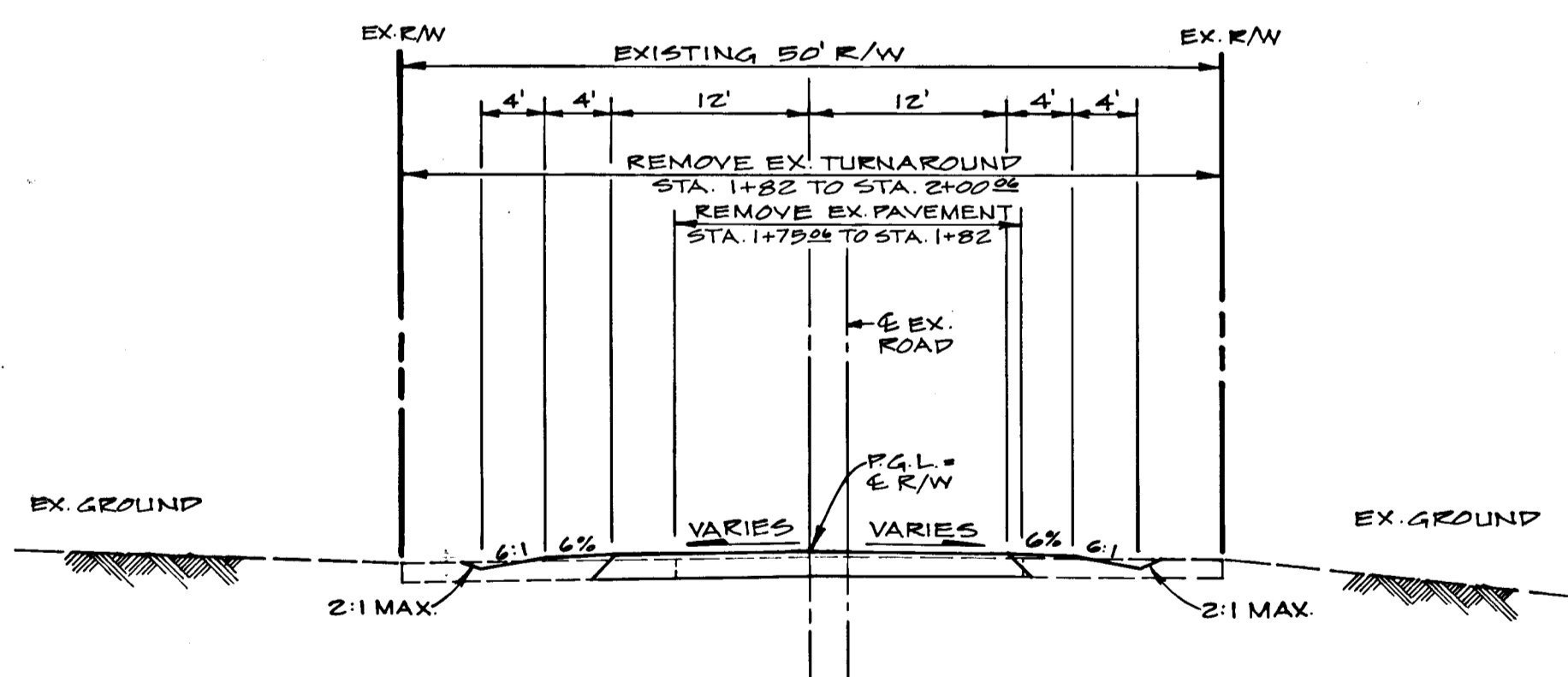
TYPICAL CUL-DE-SAC SECTION

RESIDENTIAL (24' APPROACH)
LINEAR STA. 0+00 TO LINEAR STA. 2+59.62
NOT TO SCALE



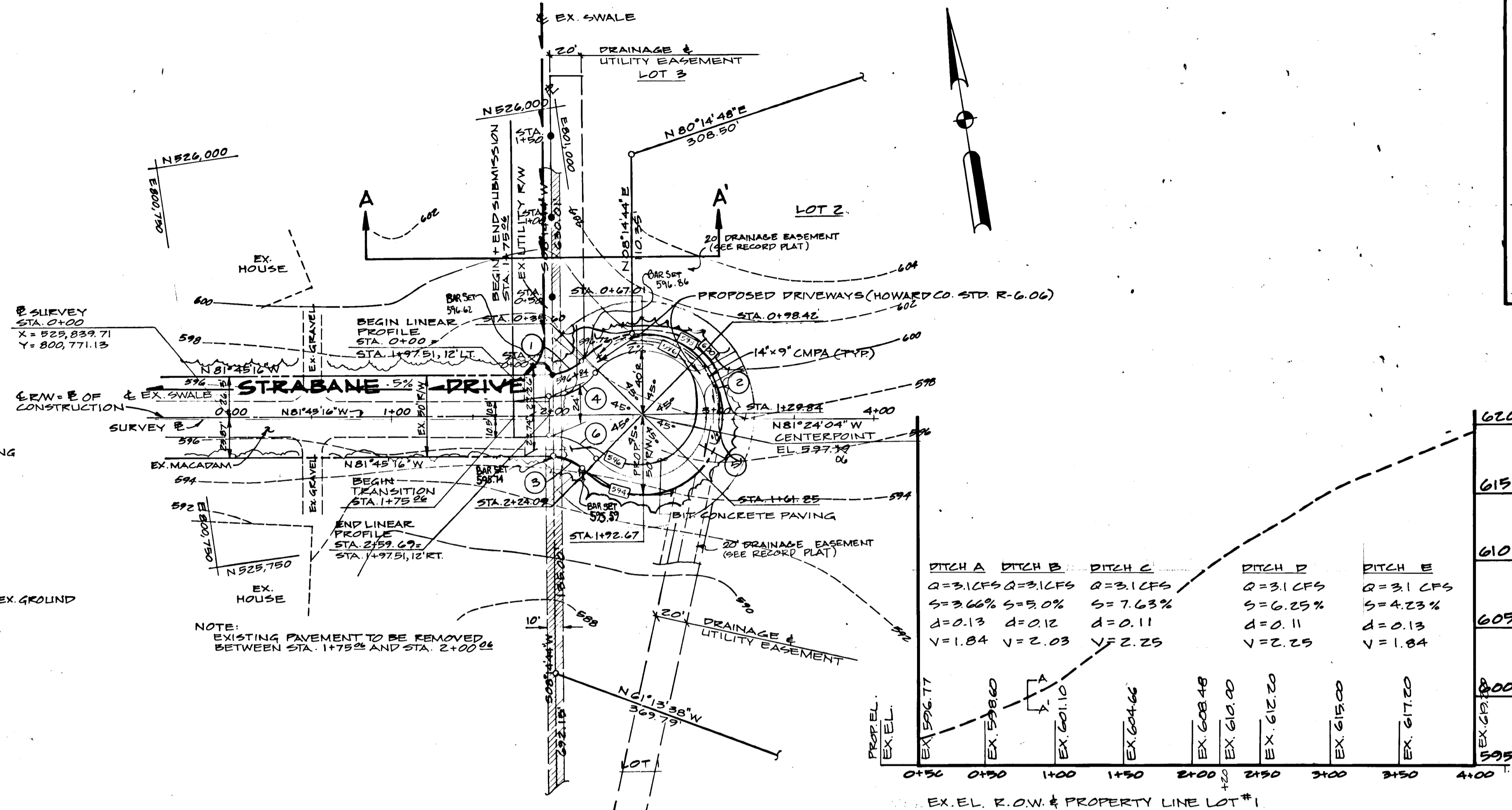
TYPICAL PAVING SECTION

NOT TO SCALE



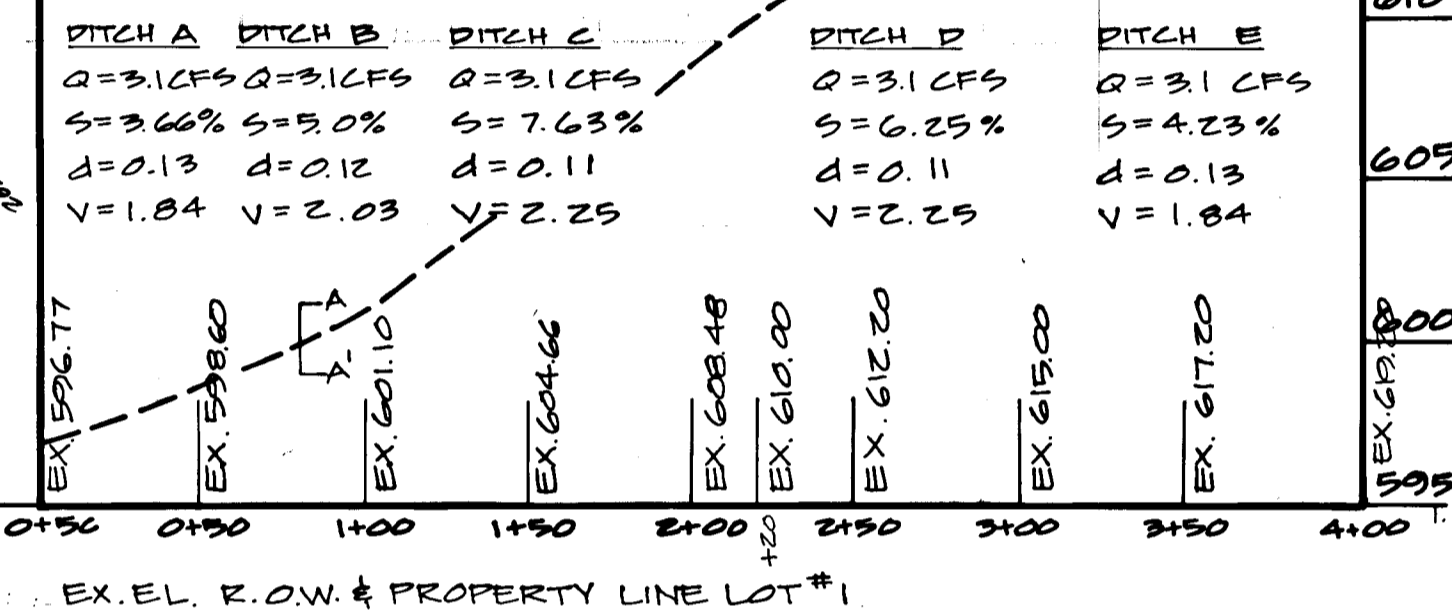
TYPICAL ROADWAY SECTION

R-ZONING - OPEN SECTION (RURAL)
STA. 1+75.00 TO STA. 1+97.00
NOT TO SCALE



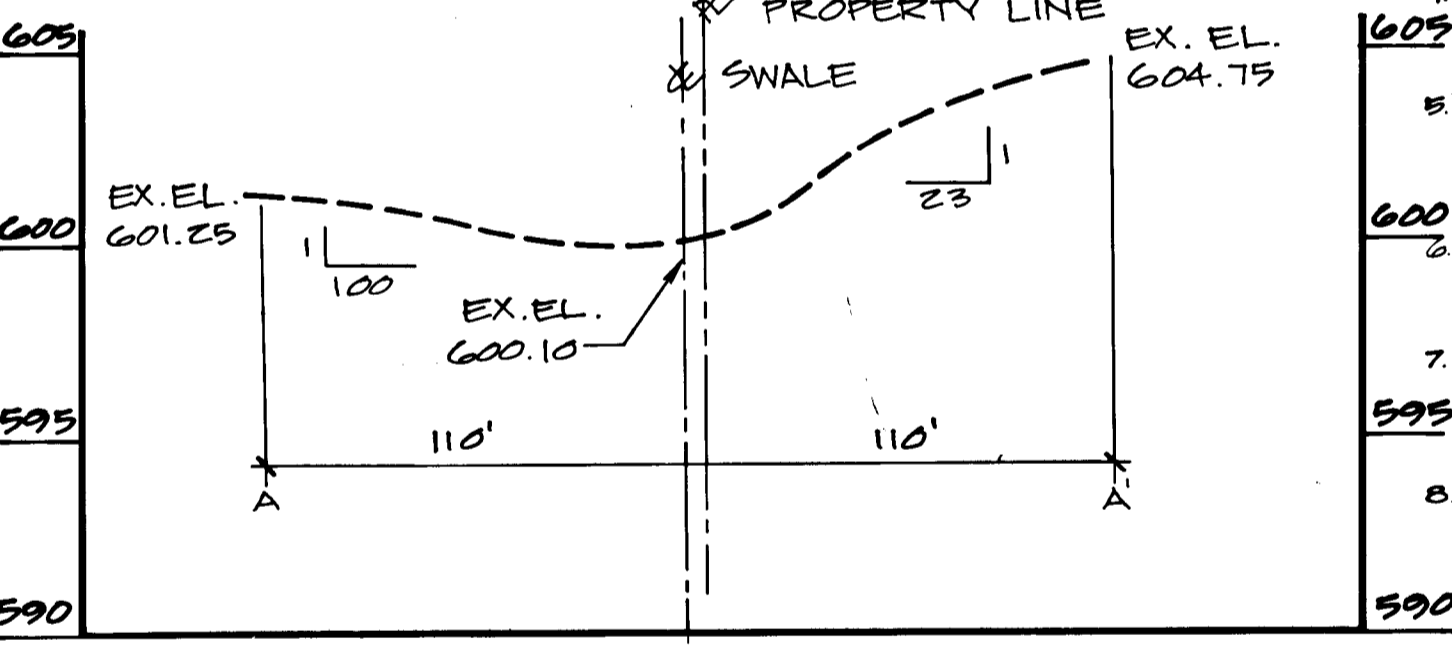
PLAN

SCALE: 1"=50'



EX. DITCH PROFILE

HOR. SCALE: 1"=60'
VERT. SCALE: 1"=6'

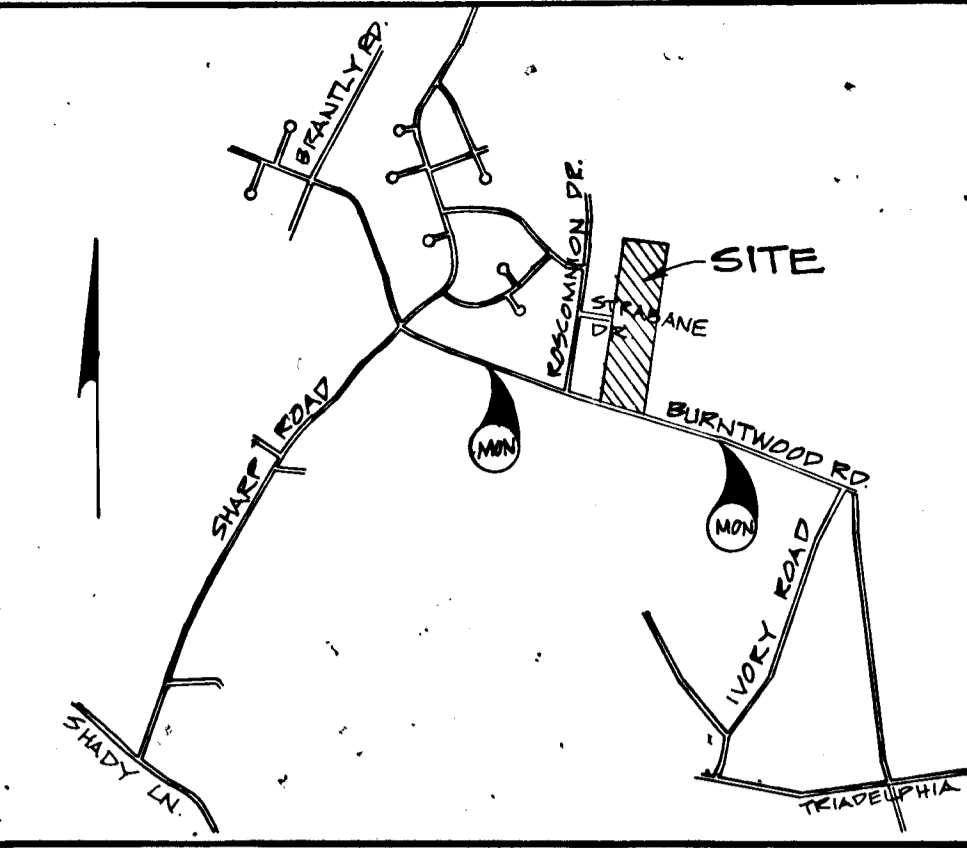


SWALE SECTION A-A'

HOR. SCALE: 1"=50'
VERT. SCALE: 1"=5'

LEGEND

- EX. GRADE AT EDGE OF PAVEMENT
 - EX. GRADE AT R/W
 - PROP. GRADE AT EDGE OF PAVEMENT
 - PROP. BOTTOM DITCH
- $Q = 3.1 \text{ CFS}$
 $a = 1.53 \text{ FT}^2$
 $P = 15.53 \text{ FT}$
 $V = 2.03 \text{ FT/S}$
 $d = 0.12 \text{ FT}$
 $S = 5.0\%$



VICINITY MAP

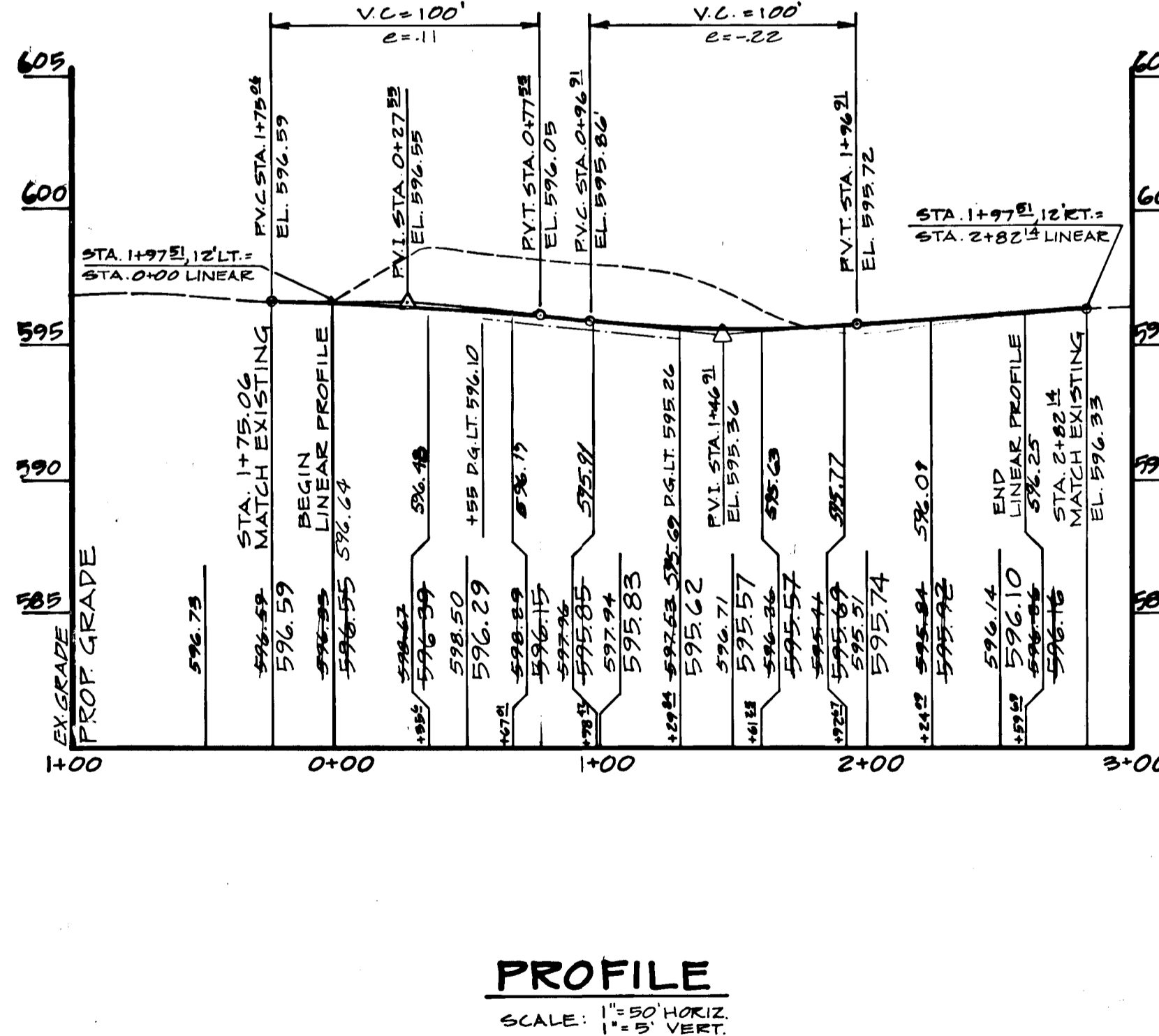
SCALE: 1"=2,000'

BENCH MARK DATA

- HOWARD CO. MON. 3234004 EL. 699.001
BEING A CONCRETE MONUMENT SET ON THE SOUTH SIDE OF BURNWOODS ROAD 24' OFF THE E. OF RP AND 42.80' S. E. OF CP#71 (SEE 215285)
N 524, 924, 409 E 802, 154, 070
- HOWARD CO. MON. 3234005 EL. 679.996
BEING A REINFORCING ROD (3/4") SET ON THE NORTH SIDE OF BURNWOODS ROAD 15' 2" OFF THE E. OF RD AND 55' 40" FROM THE BRICK "GLENELG HIGH SCHOOL" SIGN ACROSS STREET. E. MON. IS ALIGNED WITH THE WEST FACE OF THIS SIGN.
N 523, 559, 172 E 779, 525, 212

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
2. TOPO TAKEN FROM A SURVEY BY THE R.D.A. GROUP, DATED AUGUST, 1984.
3. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
4. DEVIATIONS FROM THESE PLANS AND SPECIFICATIONS WITHOUT THE WRITTEN CONSENT OF THE CIVIL ENGINEER MAY CAUSE THE WORK TO BE UNACCEPTABLE.
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6. CONTRACTOR SHALL USE DIMENSIONS SHOWN. SCALING OF THESE PLANS IS DISCOURAGED UNLESS DIRECTED BY CIVIL ENGINEER.
7. ADJUSTMENTS TO THE SEQUENCE OF CONSTRUCTION ON SHEET SHALL BE APPROVED BY THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS PRIOR TO SUCH ADJUSTMENTS.
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9. THERE MAY BE ADDITIONAL UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR LOCATIONS SHOWN AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF CONSTRUCTION AND NOTIFY THE ENGINEER.
10. CONTRACTOR TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE PLANS:
 - "MISS UTILITY" - 1-800-297-7777
 - BALTIMORE GAS & ELECTRIC COMPANY (301) 234-5691
 - C & P TELEPHONE CO. (301) 393-3645



PROFILE

SCALE: 1"=50' HORIZ.
1"=5' VERT.

BRUNING 44-132 691 59

HOWARD COUNTY OFFICE OF PLANNING AND ZONING
 DATE: 9/18/87
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DATE: 9/24/87
 CHIEF, LAND DEVELOPMENT DIVISION
 DATE: 9/24/87
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 10/28/87
 CHIEF, BUREAU OF ENGINEERING

PREPARED BY
RBA
 5485 HARPER'S FARM ROAD, SUITE 200
 COLUMBIA, MARYLAND 21044
 301/730-7950



DES: FL	CLS	1	REVISE SIGNING BLKS & VICINITY MAP	9-3-87
DRN: CLS	JAM	Z	REVISED DRAINAGE & UTILITY EASEMENT	3-7-88
CHK: JC				
DATE: 6-15-87	BY	NO.	REVISION	DATE

600' SCALE MAP NO.	BLOCK NO.
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PLAN / PROFILE SHEET
GLENELG UNITED METHODIST CHURCH
 STRABANE DRIVE
 TAX MAP 22 - PARCEL 33
 3rd ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

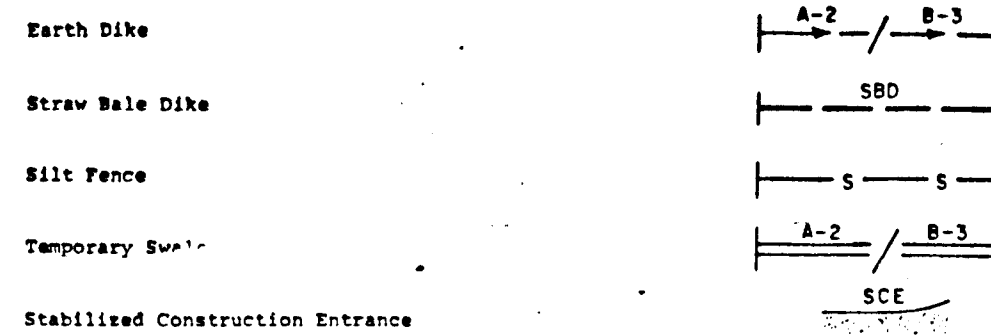
SCALE AS SHOWN
 SHEET 2 OF 3

AS-BUILT 12-10-88 F-87-08

CURVE DATA				
	(1)	(2)	(3)	(4)
Δ	48°11'23"	276°22'46"	51°11'43"	282°23'26"
R	25.00'	50.00'	35.00'	40.00'
L	21.03'	241.19'	31.27'	197.15'
T	11.18'	—	16.77'	—
L.C.	20.41'	—	30.24'	—

SEDIMENT CONTROL

LIST OF STANDARD SYMBOLS



1. Provide the following certification blocks on sediment control plans:
 () By the Developer:
 "I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project."
 Signature of Developer _____ Date _____
 Print name below signature _____

() By the Engineer:
 I certify that this plan for erosion and sediment control represents a practical and viable 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 of Engineer _____ Date _____
 Print name below signature _____

() Reviewed for HOWARD S.C.D.
 and meets Technical Requirements.

Signature of S.C.D. _____ Date _____
 Print name below signature _____

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

Signature of District Director _____ Date _____
 Print name below signature _____

SEQUENCE OF CONSTRUCTION

1. Notify the Howard County Soil Conservation District and the Howard County Bureau of Licenses, Inspection and Permits at least 48 hours before any work begins.
2. Clear and grub for sediment and erosion control measures or devices only.
3. Install all sediment and erosion control measures and devices.
4. Notify Howard County Department of Permits and Licenses, Sediment Control Division, upon completion of said installation.
5. With the approval of Howard County Department of Permits and Licenses and the sediment control inspector, clear and grub remainder of site.
6. Make the appropriate removals to existing site conditions.
7. Begin earthwork operations beginning with topsoil removal and stockpiling.
8. Start major grading, maintain positive drainage to sediment control structures.
9. Stabilize rough graded areas.
10. During road construction maintain all sediment control measures.
11. Install all utilities.
12. Place base stone on paving subgraded areas.
13. Stabilize all remaining disturbed areas outside of paved areas.
14. Complete paving.
15. Grade to proposed finished grades stabilize with permanent seed mix.
16. After obtaining permission from the sediment control inspector, remove all erosion control devices and stabilize those areas.

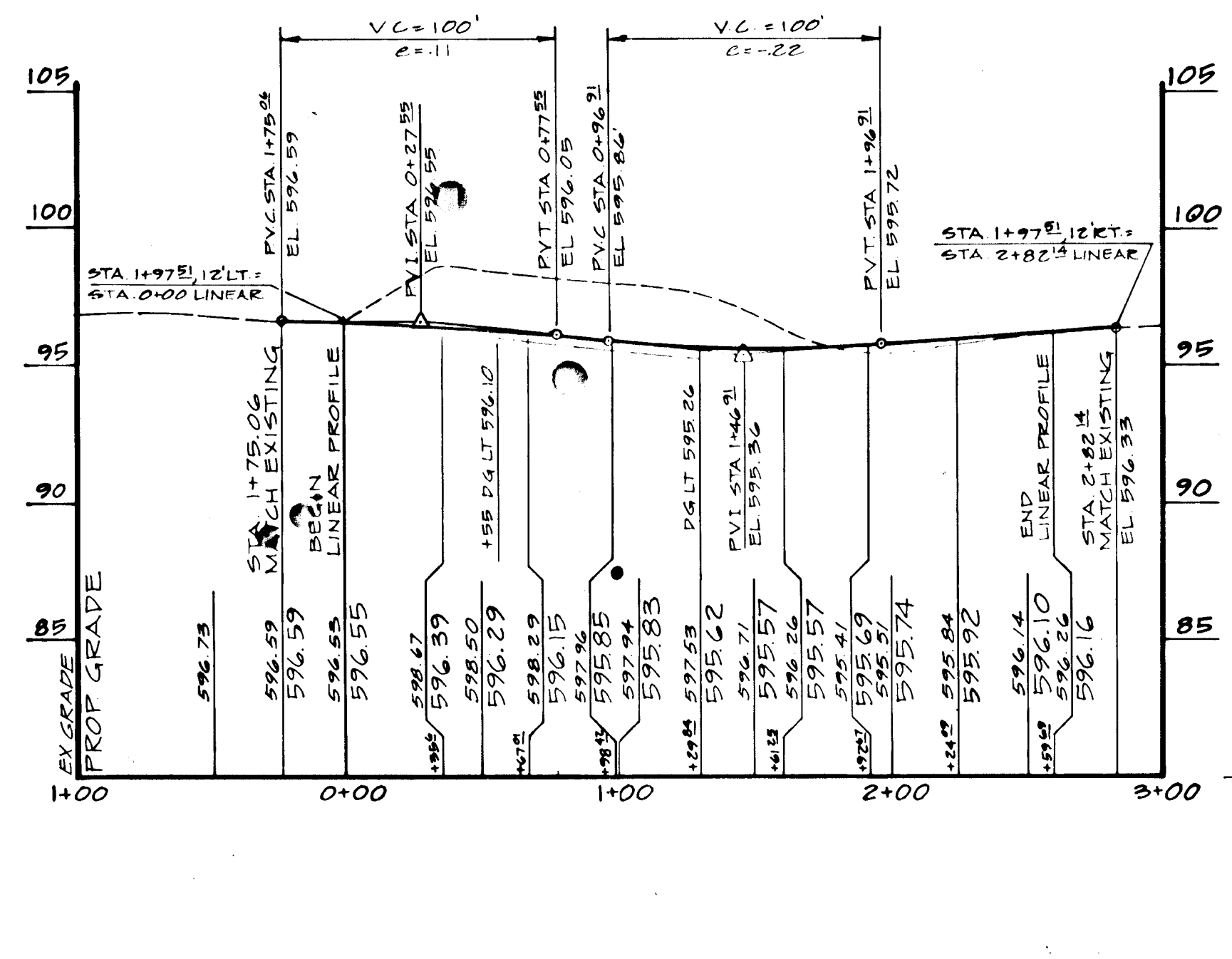
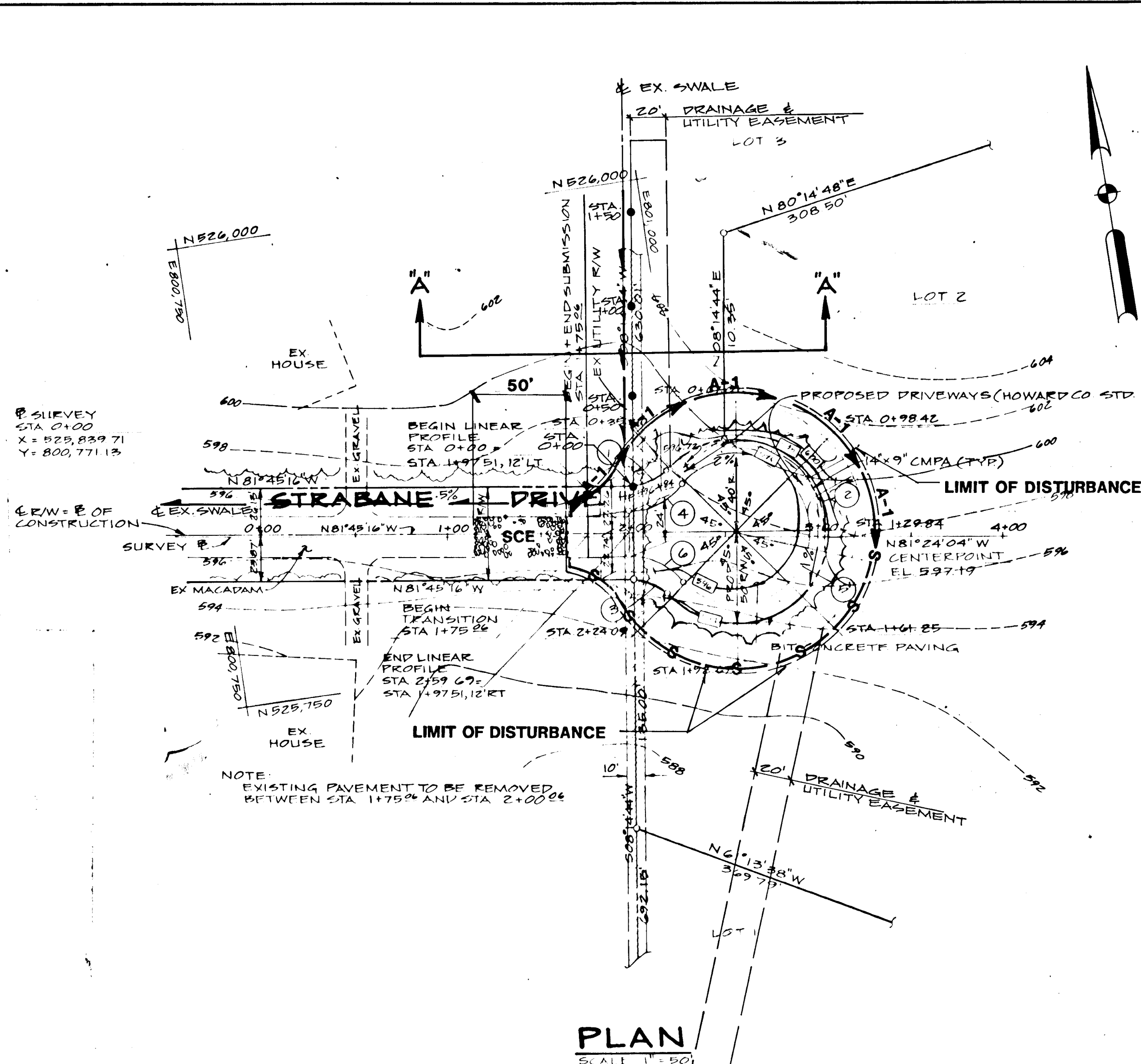
TEMPORARY SEEDING MIX

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. (482-2413)
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 sited 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. 52) and (Sec. 54), temporary seedings (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: 11.868 Acres
 Area Disturbed: 11.868 Acres
 Area to be reseeded or mulched: 11.868 Acres
 Area to be vegetatively stabilized: 11.868 Acres
 Total Cost: 223,000.00
 Total Seed: 223,000.00
 Office to waste/borrow area location shall be determined by owner with approved sediment control plan.
8. Any sediment control practice which is distributed by grading activity for placement of utilities must be repaired on the same day of disturbance.

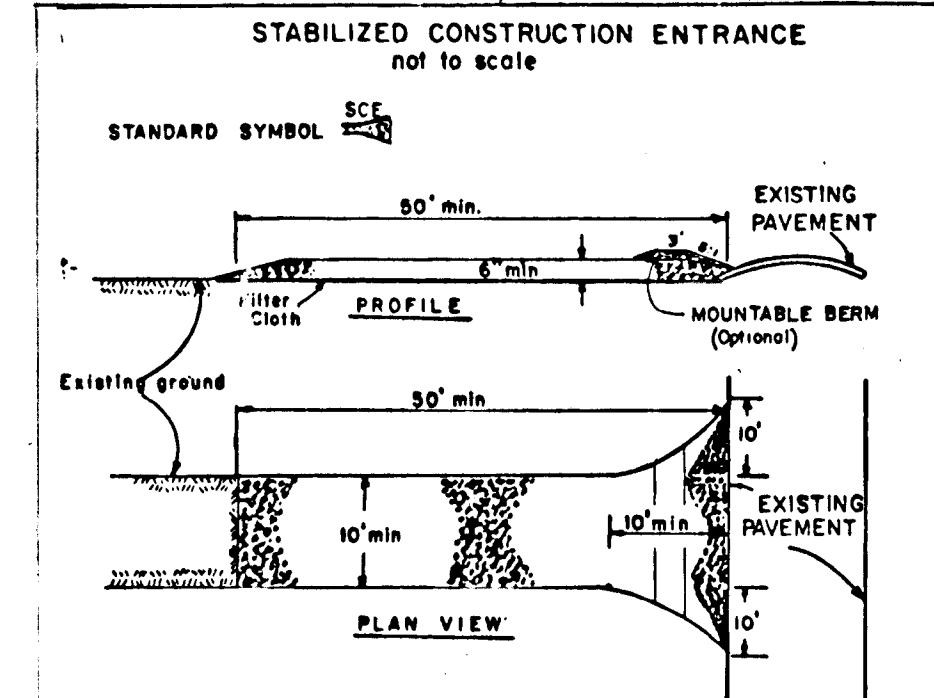
TEMPORARY METHOD FOR DUST CONTROL

- Mulches** - See standards for critical area stabilization with mulches only. Chemical mulch binders may be used instead of asphalt to bind mulch material. Binders such as Curasol or Terratack should be used according to manufacturer's recommendations.
- Vegetative Cover** - See standards for temporary vegetative cover.
- Seal-on Adhesives** - On mineral soils (not effective on muck soils). Keep traffic off these areas.

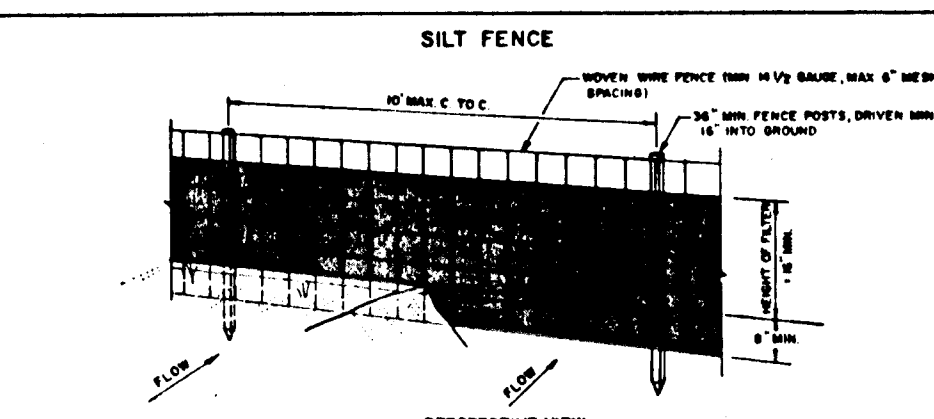
Water Dilution	Type of Nozzle	Apply Gallons/Ac.
Anionic asphalt emulsion	7:1 Coarse Spray	1,200
Latex emulsion	121:2:1 Fine Spray	235
Resin-in-water emulsion	4:1 Fine Spray	300
- Tillage** - to roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12' apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effect.
- Irrigation** - This is generally done as an emergency treatment. Site is irrigated with water until the surface is moist. Repeat as needed.
- Barriers** - Solid board fences, snow fences, burlap fences, crate walls, bales of hay and similar material can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 15 times their height are effective in controlling soil blowing.
- Calcium Chloride** - Apply at rate that will keep surface moist. May need reapplication.



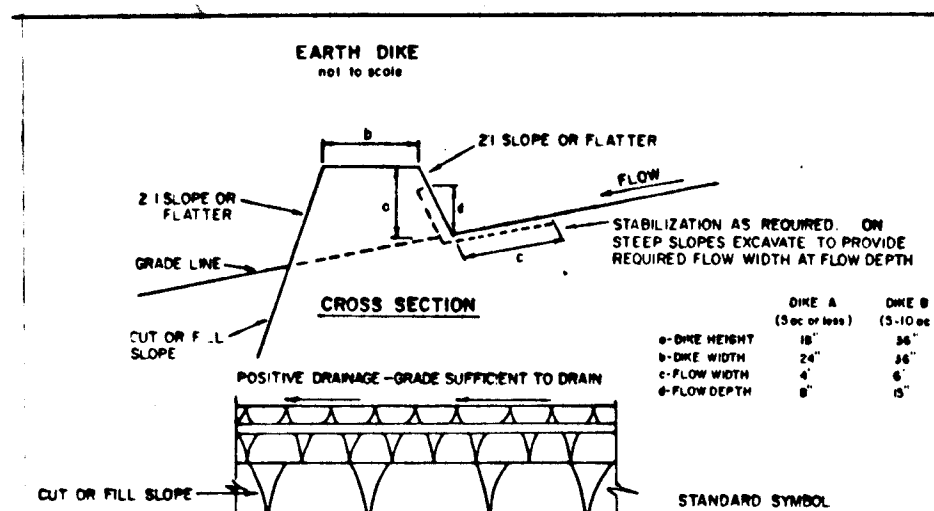
PROFILE
SCALE: 1" = 50' HORIZ
1" = 5' VERT



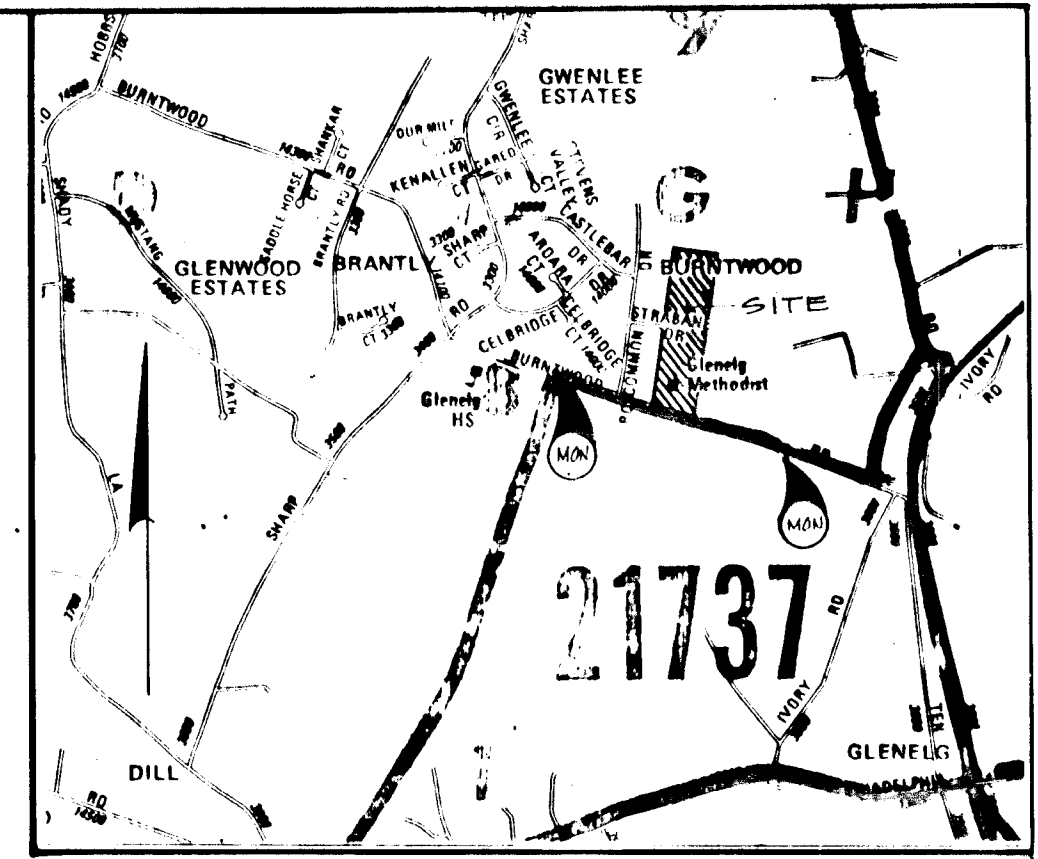
- CONSTRUCTION SPECIFICATIONS**
1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
 2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
 3. Thickness - Not less than six (6) inches.
 4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress of areas 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 mounded berm with 3:1 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 conditions 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 - Trucks 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.



- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**
1. WHEN WIRE FENCE IS FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
 2. FILTER CLOTH TO BE FASTENED SECURELY TO WIRE FENCE WITH WIRE TIES OR STAPLES EVERY 24" AT TOP AND MID SECTION.
 3. WHEN TWO SECTIONS OF FILTER CLOTH MEET EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
 4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BAGS" DEVELOP IN THE SILT FENCE.
- POSTS:** STEEL TYPED "U" OR "I" TYPE OF 2" W/40X60
FENCE: WIRE FENCE 14 GA. 6" H. P.E.S. OPENING
FILTER CLOTH: FILTER CLOTH SHALL BE 100% POLYPROPYLENE LINED WITH APPROVED SOIL.
PRE-FABRICATED UNIT: GEOTEXTILE (DRAINAGE OR APPROVED SOIL).



- CONSTRUCTION SPECIFICATIONS**
1. ALL DIKES SHALL BE COMPACTED 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. EARTH DIKES 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. FLOWS SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR DELUVEY BATH WHEN EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT SEVERELY 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 SHOWN ON THE CHART BELOW.
- | TYPE OF TREATMENT | DIKE A | DIKE B |
|-------------------|-------------------------------|--|
| 1 | 5-3:00 SEED AND STRAW MULCH | SEED AND STRAW MULCH |
| 2 | 3-3:00 SEED AND STRAW MULCH | SEED USING JUTE, OR EXCLUSIONS, SOO 2" STONE |
| 3 | 5-3:00 SEED WITH JUTE, OR SOO | LINED RIP-RAP 4" 8" |
| 4 | 8-3:00 LINED RIP-RAP 4" 8" | ENGINEERING DESIGN |
- A. STONE TO BE 2" INCH STONE, OR RECYCLED CONCRETE EQUIVALENT. IN A LAYER AT LEAST 3" INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
 B. RIP-RAP TO BE 4" INCHES IN SIZE AT LEAST 8" INCHES IN THICKNESS AND PRESSED INTO THE SOIL.
 C. EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
 7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.



VICINITY MAP
SCALE: 1" = 2,000'

BENCH MARK DATA

HOWARD CO. MON. 3234004 EL. 699.001
 BEING A CONCRETE MONUMENT SET ON THE SOUTH SIDE OF BLUNTWOODS ROAD, 24.6' OFF THE E. OF RD AND 42.80' S.E. OF CP#71 (GE 215285)
 N 524, 924 409 E 802, 154 070

HOWARD CO. MON. 3234005 EL. 579.996
 BEING A REINFORCING ROD (3/4") SET ON THE NORTH SIDE OF BLUNTWOODS ROAD, 15.2' OFF THE E. OF RD AND 55.40' FROM THE BRICK "GLENELG HIGH SCHOOL" SIGN ACROSS STREET 4' FROM 15' IS ALIGNED WITH THE WEST FACE OF THIS SIGN
 N 529, 599.172 E 799, 565.212

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
2. TOPS TAKEN FROM A SURVEY BY THE RBA GROUP, DATED AUGUST, 1984.
3. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
4. DEVIATIONS FROM THESE PLANS AND SPECIFICATIONS WITHOUT THE PRIOR WRITTEN CONSENT OF THE CIVIL ENGINEER MAY CAUSE THE WORK TO BE UNACCEPTABLE.
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 "MISS UTILITY" - 1-800-297-7777
 BALTIMORE GAS & ELECTRIC COMPANY (301) 234-5691
 C & P TELEPHONE CO. (301) 593-3448

SEDIMENT & EROSION CONTROL SHEET

HOWARD COUNTY OFFICE OF PLANNING AND ZONING Chief, Division of Land Development and Zoning Administration Date: 9-15-87	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS Chief, Bureau of Engineering Date: 9-15-87	PREPARED BY THE RBA GROUP 5485 HARPER'S FARM ROAD, SUITE 200 COLUMBIA, MARYLAND 21044 301/730-7950	DES: FL DRN: CLS CHK: JC DATE: 6-15-87	JAM I REVISED DRAINAGE AND UTILITY BASEMENT 3-7-87	SCALE AS SHOWN SHEET 3 OF 3
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