

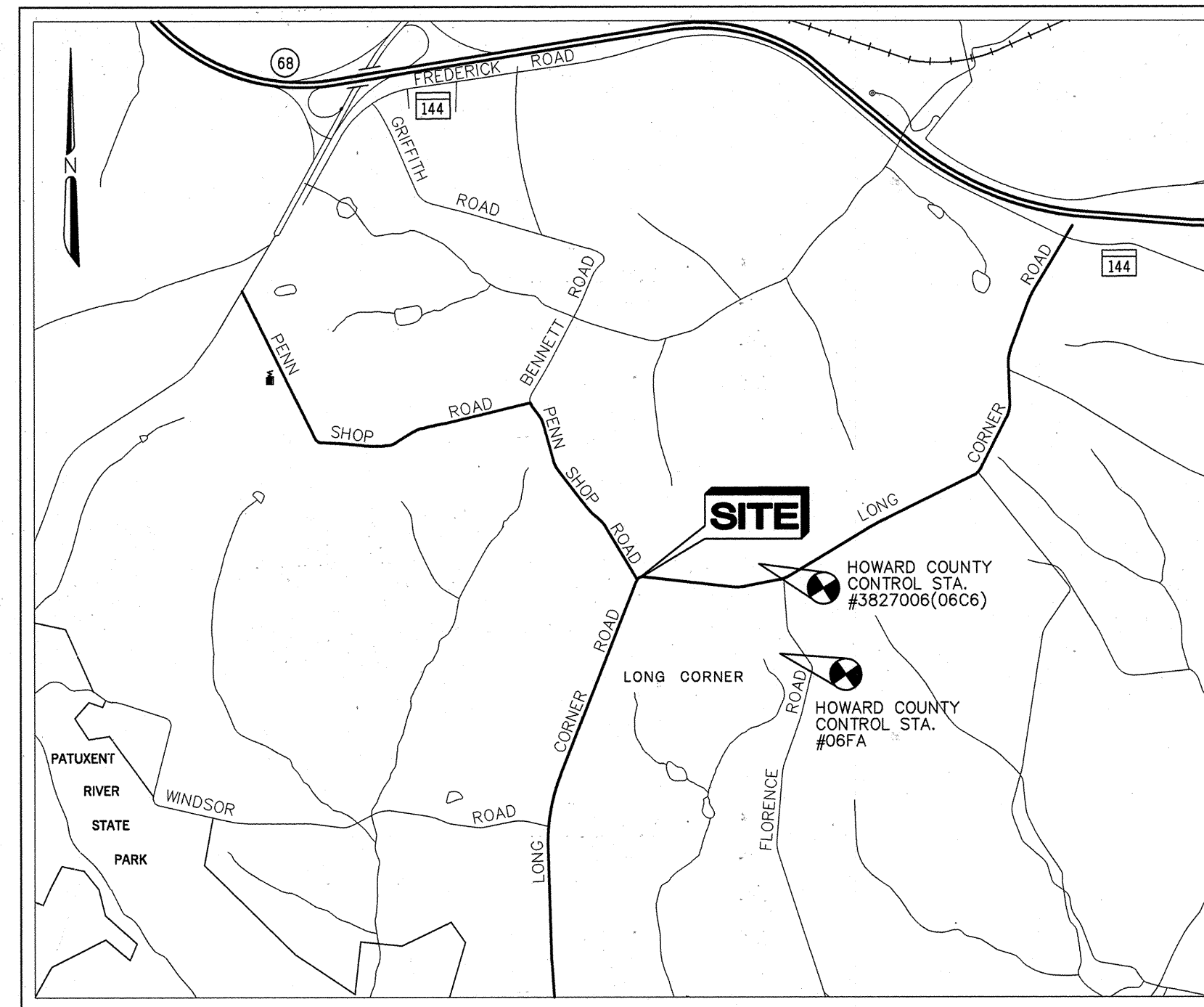
**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN SHEET
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8	TRAFFIC CONTROL PLAN
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12	PROFILE AND CROSS SECTIONS PENN SHOP ROAD

**GENERAL NOTES**

- ALL INFORMATION AND DETAILS ON THESE DRAWINGS SHALL BE AS DIRECTED BY THE HOWARD COUNTY ENGINEER AND THE MSHA PERMIT DIRECTOR.
  - ALL STATIONING AND DIMENSIONING ARE TO BE FIELD VERIFIED BY CONTRACTOR.
  - STORM DRAINAGE SLOPES ARE TO BE AS DIRECTED BY HOWARD COUNTY ENGINEER UNLESS OTHERWISE SHOWN ON PLANS.
  - APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS.
    - MISS UTILITY 1-800-257-7777
    - Allegheny Power - Electric 301-694-4482
    - Bell Atlantic - Telephone 410-224-9980
    - One Point Communications - Cable TV 301-618-4848
- THE CONTRACTOR SHALL CONTACT THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION OF ENGINEERING FOR VERIFICATION AND/OR INFORMATION REGARDING:
- PROPOSED/EXISTING RIGHT-OF-WAY.
  - UTILITY RELOCATION.
  - MAINTENANCE OF TRAFFIC DURING CONSTRUCTION.
  - EROSION/SEDIMENT CONTROL CERTIFICATION AND PERMIT
  - HORIZONTAL/VERTICAL SURVEY CONTROL.
  - GRADING PERMIT.
- SEE HOWARD COUNTY STANDARD DETAILS NO'S G-1.01 & G-1.02 FOR STANDARD SYMBOLS.
  - COORDINATES BASED ON NAD '27 HORIZONTAL AND NAVD '29 VERTICAL MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 3827006(06C6) AND NO. 06FA.
 

3827006(06C6)	N, 548394.993
	E, 758358.224
	ELEV. 856.055
06FA	N, 545997.668
	E, 758866.078
	ELEV. 807.512
  - MAINTENANCE OF TRAFFIC FOR BOTH LONG CORNER ROAD AND PENN SHOP ROAD SHALL BE CONTROLLED BY OFF-SITE DETOUR ROUTES. LOCAL TRAFFIC SHALL BE ABLE TO APPROACH WITH IN 500 FEET OF THE WORK ZONE. TWO LOCAL ON-SITE RESIDENCES SHALL HAVE FULL ACCESS AT ALL TIMES VIA LONG CORNER ROAD SOUTH APPROACH.
  - A STAGING AND STOCKPILE AREA TO BE DETERMINED BY CONTRACTOR AND APPROVED BY HOWARD COUNTY ENGINEER.
  - TOPOGRAPHIC SURVEY INFORMATION BASED ON FIELD SURVEY PERFORMED BY R.B.A. GROUP INC. DATED 4/22/98.



**LOCATION MAP**  
SCALE 1" = 2000'

CAPITAL PROJECT NO. J-4168

# Long Corner Road at Penn Shop Road

"ROUND-ABOUT INTERSECTION"  
HOWARD COUNTY, MARYLAND  
DEPARTMENT OF PUBLIC WORKS

**BENCH MARKS**

- **B.M. #3827006(06C6)** ELEV. 856.055  
 STAMPED (BRASS OR ALUMINUM) DISC SET ON TOP OF CONCRETE (3' DEEP)  
 CYLINDRIC BASE 2" BELOW TERRAIN SURFACE.
- **B.M. #06FA** ELEV. 807.512  
 STAMPED (BRASS OR ALUMINUM) DISC SET ON TOP OF CONCRETE (3' DEEP)  
 CYLINDRIC BASE 2" BELOW TERRAIN SURFACE.

EP-99-08

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND METS TECHNICAL REQUIREMENTS.

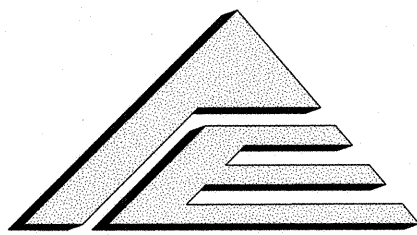
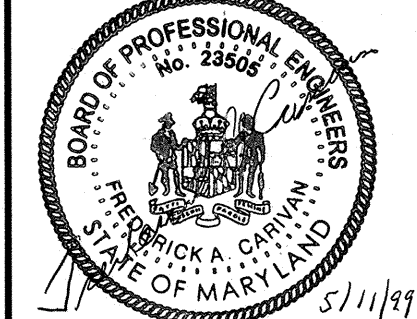
*Chief Summers* 3/19/00  
U.S. Natural Resources Conservation Service Date

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

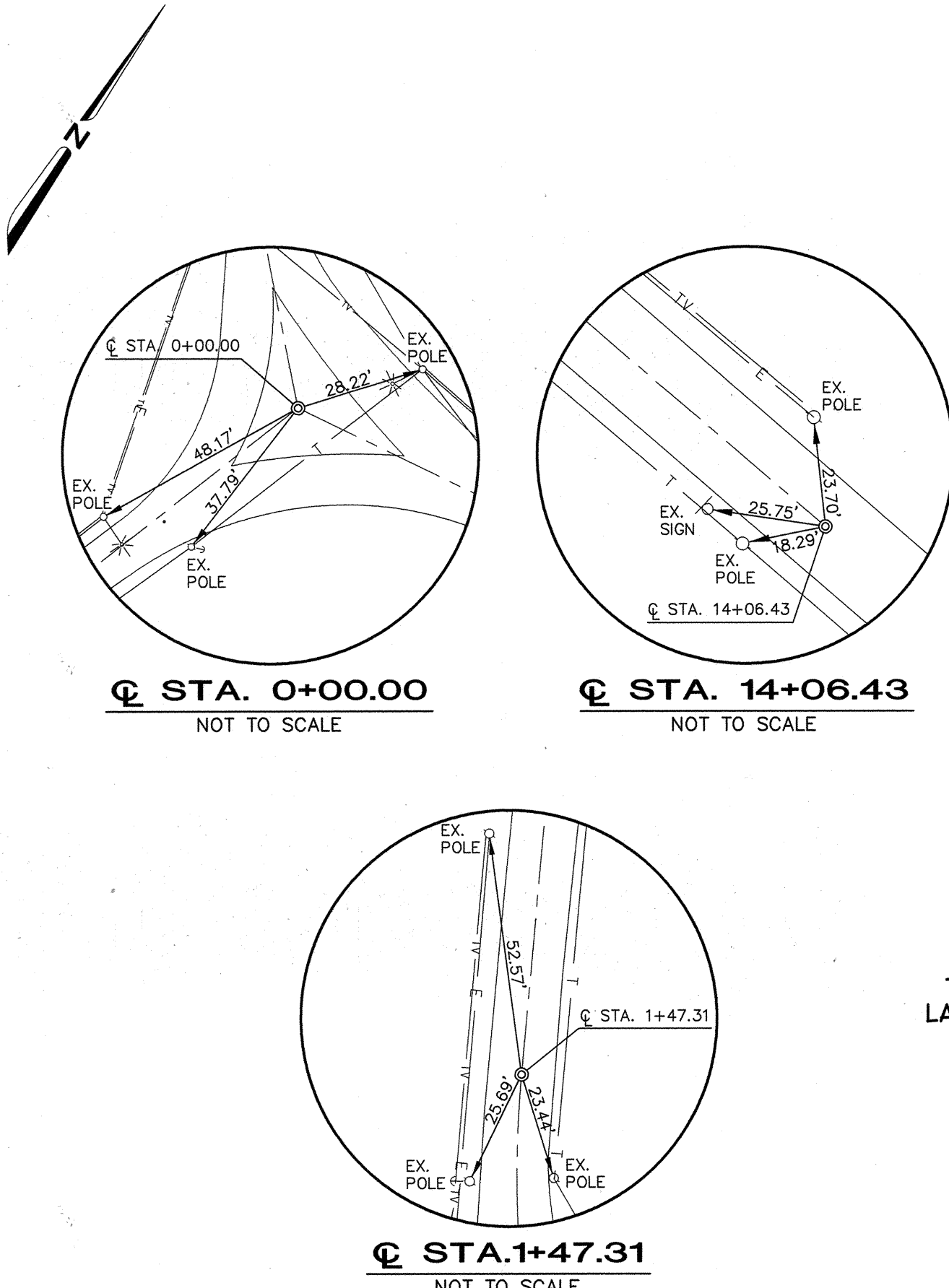
*John R. Roberts* 3/19/00  
Howard Soil Conservation District Date

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

*John R. Roberts* 3/19/00  
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT. DATE

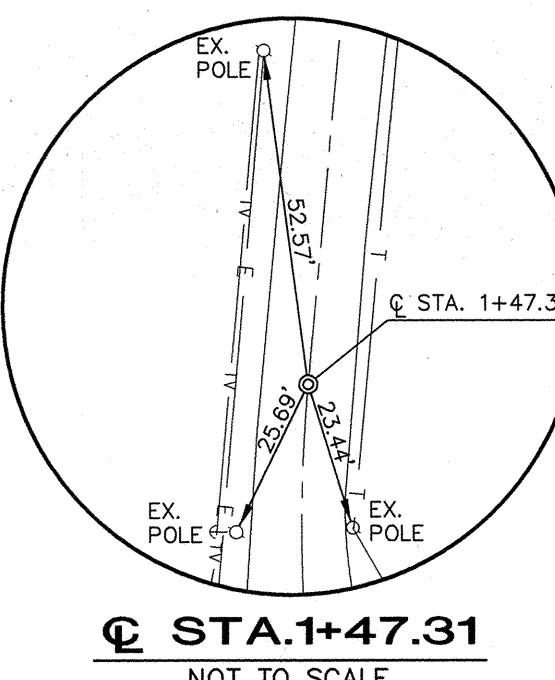
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>James P. Lewis</i> 2/25/00 DEPARTMENT OF PUBLIC WORKS DATE <i>Elizabeth Anderson-Cole</i> 2/28/00 CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION DATE		 <b>A/E GROUP, INC.</b> ENGINEERS • PLANNERS 181 E. Main Street Westminster, Maryland 21158 A/E Job No. 96-309-046		 BOARD OF PROFESSIONAL ENGINEERS STATE OF MARYLAND FREDERICK A. CHRYN No. 3856 5/11/99		DES: F.A.C. DRN: J.N.W. CHK: C.S.C. DATE: 4/99		CAPITAL PROJECT NO. <b>J-4168</b>		TITLE SHEET <b>Long Corner Road at Penn Shop Road</b>		SCALE AS SHOWN SHEET 1 OF 12
				BY NO. REVISION DATE		600' SCALE MAP NO. DATE:						





☉ STA. 0+00.00  
NOT TO SCALE

☉ STA. 14+06.43  
NOT TO SCALE



☉ STA. 1+47.31  
NOT TO SCALE

CURVE DATA								
CURVE NO.	P.C. COORDINATES		P.T. COORDINATES		Δ	R	T	L
	NORTH	EAST	NORTH	EAST				
1	548511.74	756649.95	548591.05	756590.74	16° 25' 53"	346.31'	50.00'	99.31'
2	548487.68	756745.96	548488.65	756854.12	14° 44' 25"	386.56'	50.00'	99.45'
3	548444.81	756718.76	548467.64	756763.38	39° 02' 38"	75.00'	26.22'	51.11'
4	548435.09	756705.83	548409.11	756682.09	41° 12' 41"	50.00'	18.80'	35.96'
5	548460.14	756639.23	548413.23	756641.94	36° 30' 18"	75.00'	24.74'	47.79'
6	548477.07	756635.87	548509.31	756623.46	40° 25' 16"	50.00'	18.41'	35.27'
7	548526.43	756689.63	548549.87	756642.73	41° 17' 19"	75.00'	28.26'	54.05'
8	548516.78	756711.84	548507.90	756747.87	43° 33' 53"	50.00'	19.98'	38.02'

CONSTRUCTION & GEOMETRY			
POINT NO.	NORTH	EAST	REMARK
A	548477.77	756683.87	ROUND-ABOUT CENTER
B	548487.68	756754.96	STA. 10+71.77
C	548488.65	756854.12	STA. 11+71.22
D	548460.76	757087.62	STA. 14+06.43
E	548511.74	756649.95	STA. 0+48
F	548591.05	756590.74	STA. 1+47.31
G	548714.65	756523.55	STA. 2+88
H	548109.58	756561.49	STA. 103+88

DRIVEWAY TABLE			
☉ STATION	WIDTH	STD. DETAIL	
11+52, RT.	13'	R-6.06	
101+40, LT.	11'	R-6.06	
102+42, LT.	12'	R-6.06	

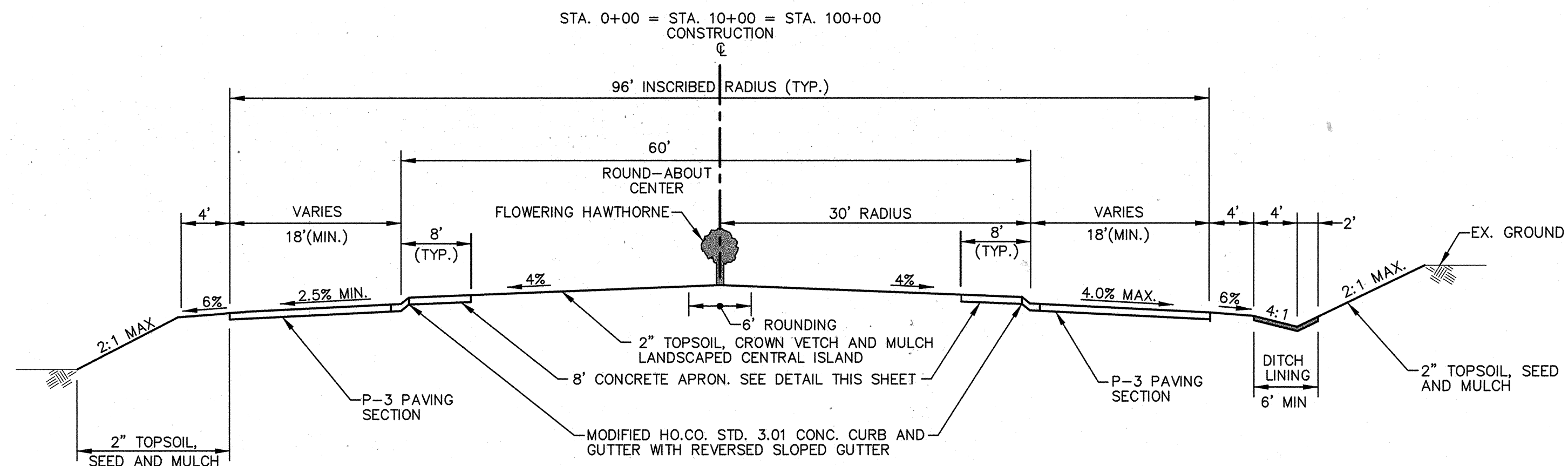
- REMOVE EXISTING TREE AS DIRECTED BY THE ENGINEER
  - STA. 0+11 48' RT. ----- 1 EA.
  - STA. 0+93 15' RT. ----- 1 EA.
  - STA. 0+97 18' RT. ----- 1 EA.
  - STA. 11+68 18' RT. ----- 1 EA.
- RELOCATE EXISTING UTILITY POLE (BY OTHERS)
  - \* STA. 0+92 LT. ----- 1 EA.
  - STA. 1+15 LT. ----- 1 EA.
  - STA. 2+19 LT. ----- 1 EA.
  - STA. 10+41 LT. ----- 1 EA.
  - \* STA. 11+61 LT. ----- 1 EA.
  - STA. 11+72 RT. ----- 1 EA.
  - \* STA. 100+72 LT. ----- 1 EA.
  - STA. 100+93 RT. ----- 1 EA.
  - STA. 101+30 LT. ----- 1 EA.
  - STA. 102+19 LT. ----- 1 EA.
  - \* MOUNT STREET LIGHTS AFTER RELOCATION
- REMOVE AND SALVAGE EXISTING SIGNS AS DIRECTED BY THE ENGINEERS
  - STA. 0+36 ----- 1 EA.
  - STA. 10+14 5' LT. ----- 1 EA.
  - STA. 10+17 9' LT. ----- 1 EA.
  - STA. 100+35 26' LT. ----- 1 EA.
  - STA. 100+89 14' LT. ----- 1 EA.
  - STA. 101+70 13' RT. ----- 1 EA.
- REMOVE AND REPLACE EXISTING FENCE AS DIRECTED BY THE ENGINEERS
  - STA. 11+61 60' LT. TO STA. 14+06 19' LT. --- 260 L.F.

**LIMIT OF WORK AT LONG CORNER ROAD STA. 102+73.00**

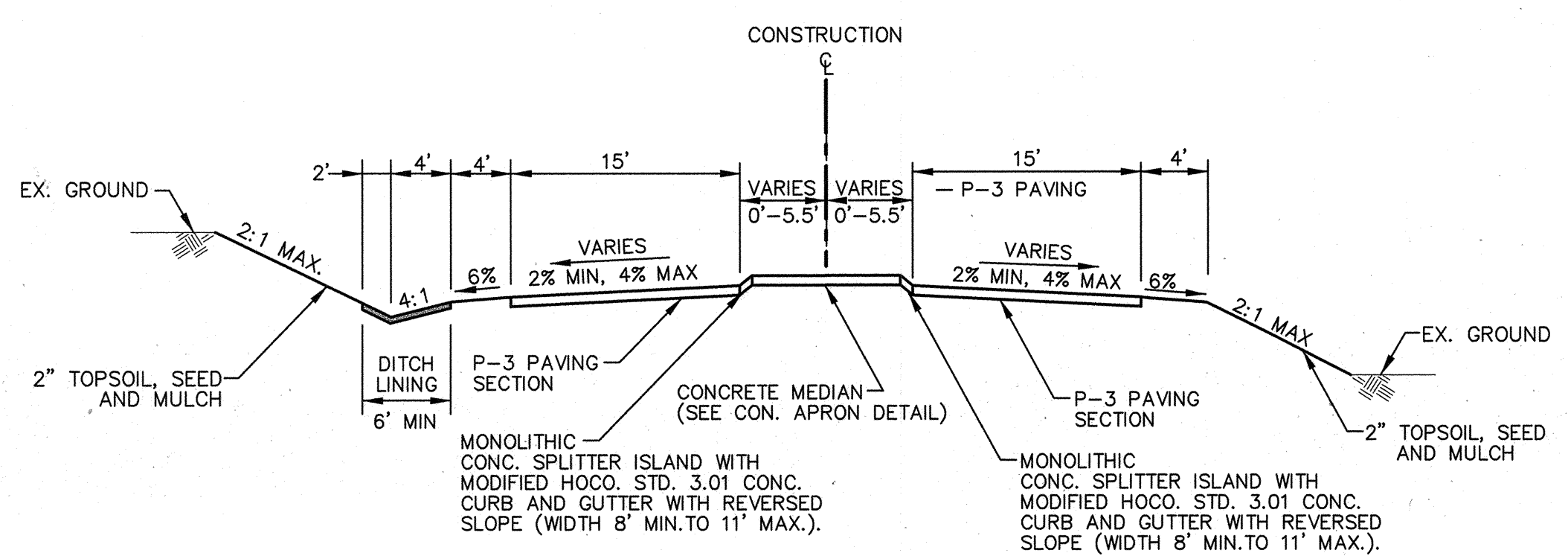
**LIMIT OF WORK AT LONG CORNER ROAD STA. 12+96.22**

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>James M. Shaw</i> 2/28/00 DEPARTMENT OF PUBLIC WORKS DATE <i>SA Galia</i> 2/28/00 CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION DATE		A/E GROUP, INC. ENGINEERS • PLANNERS 181 E. Main Street Westminster, Maryland 21158 A/E Job No. 96-309-046		DES: F.A.C. DRN: J.N.W. CHK: C.S.C. DATE: 4/99		CAPITAL PROJECT NO. <b>J-4168</b> 600' SCALE MAP NO. _____ DATE: _____		PLAN SHEET <b>Long Corner Road at Penn Shop Road</b> SCALE AS SHOWN SHEET 2 OF 12	
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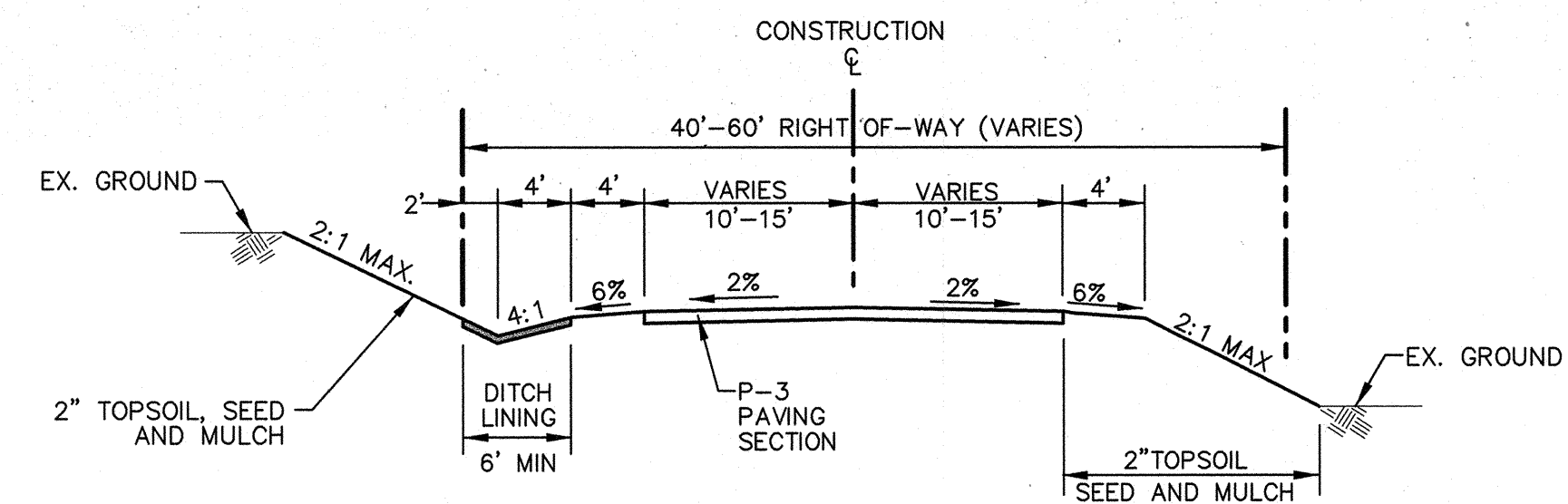




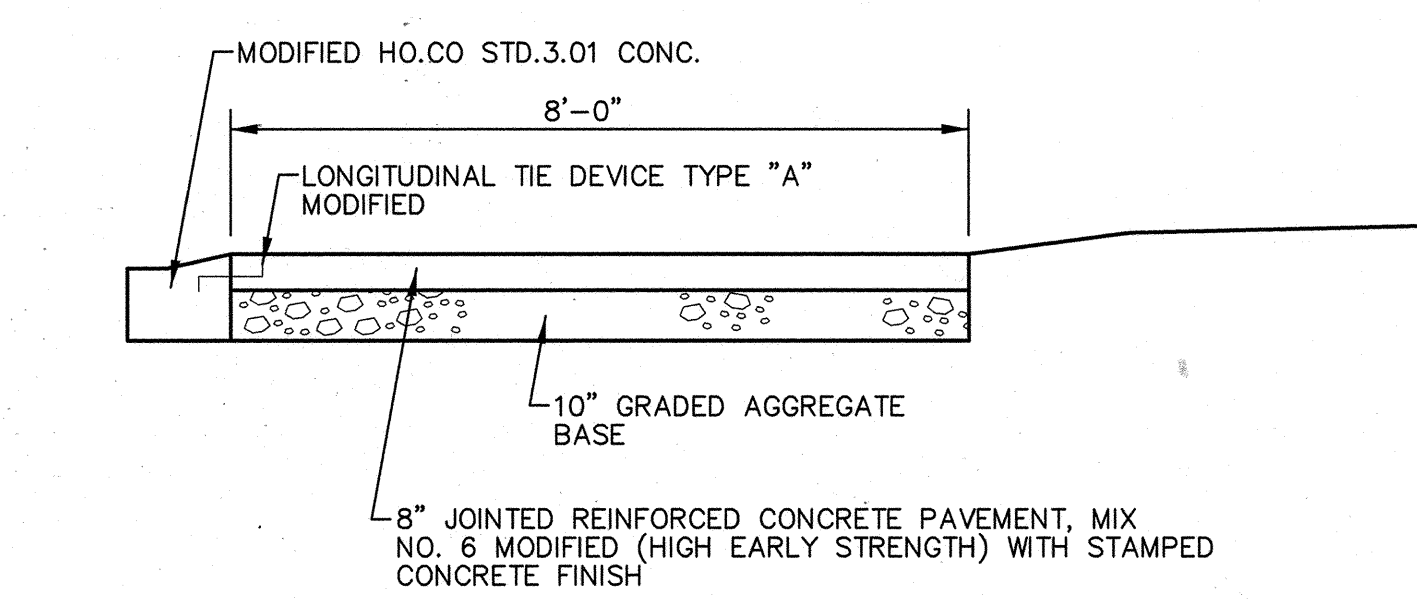
**TYPICAL SECTION**  
NOT TO SCALE  
LONG CORNER ROAD AT PENN SHOP ROAD  
INTERSECTION ROUND-ABOUT



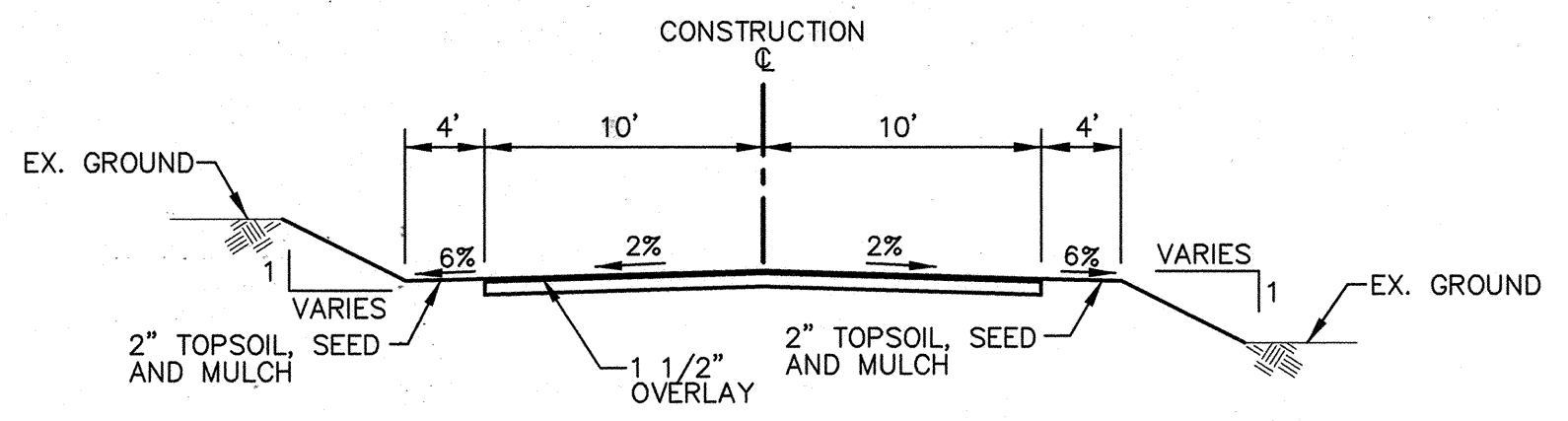
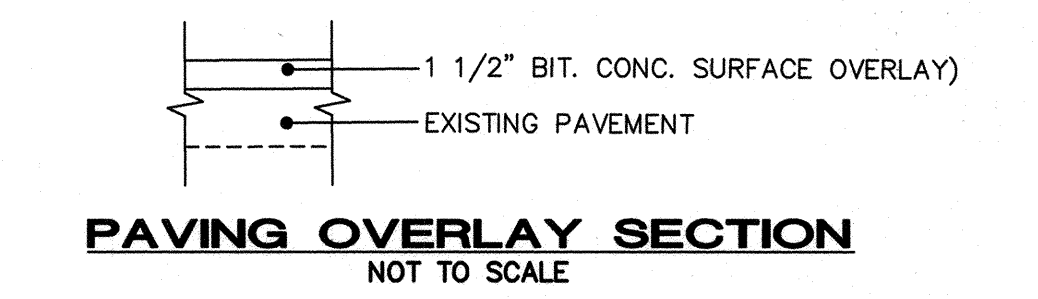
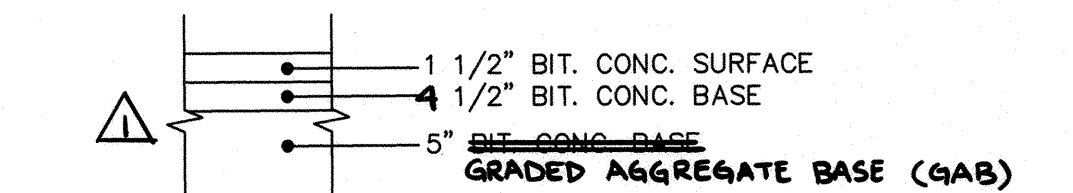
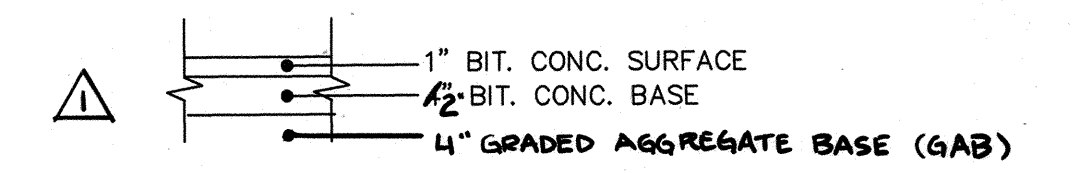
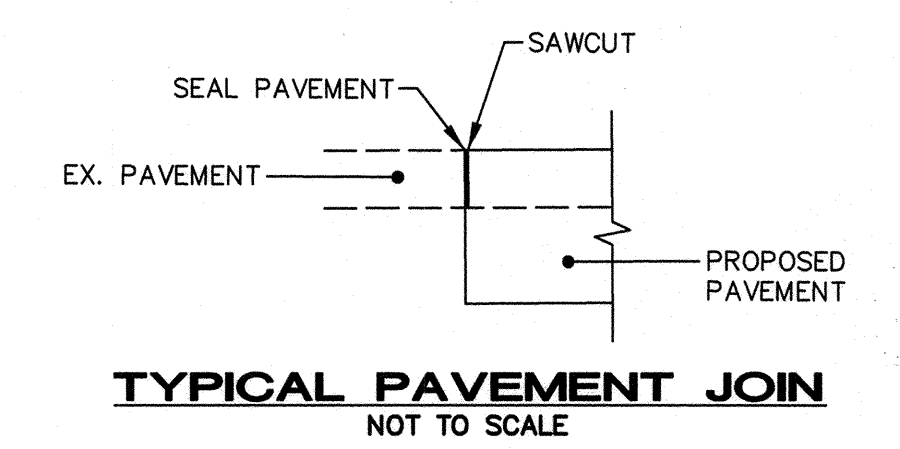
**TYPICAL SECTION**  
NOT TO SCALE  
FLARE/DECEL LANE  
LONG CORNER ROAD AND PENN SHOP ROAD  
STA. 0+48.00 TO STA. 1+00.00  
STA. 10+48.00 TO STA. 11+00.00  
STA. 100+48.00 TO STA. 100+88.00  
(SEE PLAN FOR LIMIT OF P-3 PAVING)



**TYPICAL SECTION**  
NOT TO SCALE  
LANE TRANSITION  
LONG CORNER ROAD AND PENN SHOP ROAD  
STA. 1+00.00 TO STA. 2+48.00  
STA. 11+00.00 TO STA. 12+71.22  
STA. 100+88.00 TO STA. 102+48.00



**CONCRETE APRON DETAIL**  
NOT TO SCALE



**TYPICAL OVERLAY SECTION**  
NOT TO SCALE  
LONG CORNER ROAD AND PENN SHOP ROAD  
STA. 2+48.00 TO STA. 2+73.00  
STA. 12+71.22 TO STA. 12+96.22  
STA. 102+48.00 TO STA. 102+73.00

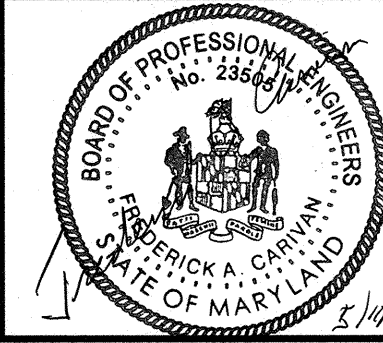
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. Lee* 2/22/00 DATE  
CHIEF, BUREAU OF ENGINEERING

*Robert J. Ryan* 2/28/00 DATE  
CHIEF, BUREAU OF HIGHWAYS

*Erica* 2/28/00 DATE  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION

**A/E GROUP, INC.**  
ENGINEERS + PLANNERS  
181 E. Main Street  
Westminster, Maryland 21158  
A/E Job No. 96-309-046



DES: F.A.C.	LP	revised paving section to GAB section	4/9/01
DRN: J.N.W.			
CHK: C.S.C.			
DATE: 4/99	BY: NO.	REVISION	DATE

CAPITAL PROJECT NO.  
**J-4168**

600' SCALE MAP NO. \_\_\_\_\_ DATE: \_\_\_\_\_

TYPICAL SECTIONS  
**Long Corner Road at Penn Shop Road**

SHEET  
3 OF 12

SCALE  
AS  
SHOWN



**SEDIMENT CONTROL NOTES**

1. 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 (410-313-1855).
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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THEREOF.
3. FOLLOWING INITIAL SOIL DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER 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 7, 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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. G). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL 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	N/A
AREA DISTURBED	0.73 ACRES
AREA TO BE ROOFED OR PAVED	0.44 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.29 ACRES
TOTAL CUT	1200 CU. YDS.
TOTAL FILL	240 CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION	TO BE DETERMINED BY CONTRACTOR (SITE WITH A CURRENT ACTIVE GRADING PERMIT)

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 CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY 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. 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.

**NOTES:**

1. CONTRACTOR TO PROVIDE STONE CONSTRUCTION ENTRANCES IN THE WORK ZONES DURING ALL PHASES OF CONSTRUCTION. SEE DETAIL NO. 24 ON SHEET 5 OF 12.
2. PROVIDE E.C.M. DITCH LINING FOR ALL SWALES WHERE RIP-RAP LINING IS NOT INDICATED.
3. AS DIRECTED BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR ADDITIONAL STONE CHECK DAMS MAY BE REQUIRED.

**SEQUENCE OF CONSTRUCTION**

1. OBTAIN PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTOR TO PROCEED. (1 DAY)
2. INSTALL ALL DETOUR SIGNING AND WORK ZONE SIGNING. (2 DAYS)
3. INSTALL SEDIMENT CONTROL MEASURES SHOWN ON PLANS. (2 DAYS)
4. EXCAVATE FOR THE CONSTRUCTION OF ROUND-ABOUT AND APPROACHES STABILIZE THE WORKZONE WITH D.G.A.B. MATERIAL. INSTALL TEMPORARY SEED AND MULCH TO ALL SLOPE AREAS THAT ARE DISTURBED DURING CONSTRUCTION. THE CONTRACTOR SHALL NOT EXPOSE EARTH THAT CANNOT BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 24 HOURS. (7 DAYS)
5. ADJUST ALL UTILITIES TO LINE AND GRADE AS SHOWN ON THE PLANS. (2 DAYS)
6. PLACE PERMANENT STABILIZATION ON EARTH SLOPES. (2 DAYS)
7. INSTALL TWO BITUMINOUS CONCRETE BASE COURSES ON ROUND-ABOUT AND APPROACHES. (3 DAYS)
8. PLACE BITUMINOUS CONCRETE SURFACE COURSE. (2 DAYS)
9. PLACE SIGNING, STRIPING AND PAVEMENT MARKINGS. (2 DAYS)
10. REMOVE SEDIMENT CONTROL DEVICES WITH APPROVAL FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. (1 DAY)

**LEGEND**

- [Hatched Box] - FULL DEPTH CONSTRUCTION
- [Diagonal Lines] - MILL AND RESURFACE
- [Cross-hatched Box] - EXISTING PAVEMENT TO BE REMOVED
- [Dotted Box] - REVERTIBLE GRADING EASEMENT
- C--- - TOP OF CUT
- F--- - LIMIT OF FILL
- SF--- - SILT FENCE
- [Circle with X] - TEMPORARY STONE OUTLET SEDIMENT TRAP
- A-2--- - EARTH DIKE
- [Hatched Box] - STABILIZED CONSTRUCTION ENTRANCE
- --- - LIMIT OF DISTURBANCE
- --- - EROSION CONTROL MATTING

**LIMIT OF WORK AT PENN SHOP ROAD STA. 2+73.00**

**RICHARD BURROUGHS AND E. HAYES PROPERTY L. 1096, F. 112 LOT 1, PARCEL 23 PLAT NO. 5127**

STA. 0+00 PENN SHOP ROAD = STA. 10+00 LONG CORNER ROAD (NE) = STA. 100+00 LONG CORNER ROAD (S)

PROPOSED R.O.W.  
STABILIZED CONSTRUCTION ENTRANCE MAY BE RELOCATED AT THE APPROVAL OF THE SEDIMENT AND EROSION CONTROL INSPECTOR

**LIMIT OF WORK AT LONG CORNER ROAD STA. 12+96.22**

**PLAN**  
SCALE: 1" = 30'

**KELLY PROPERTY PARCEL 237 PLAT NO. 10196**

**STANG PROPERTY PLAT NO. 4165**

**HERMAN O. JR. AND JANE G. LUBBE'S PROPERTY PARCEL 227 L. 3521, F. 707**

**JAMES E. AND HELEN A. COCITA PROPERTY PARCEL 228 L. 947, F. 249**

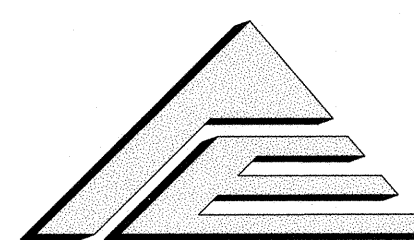
**ENGINEER CERTIFICATE**  
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
*Frederick A. Carvion* 2/1/00  
SIGNATURE OF ENGINEER DATE  
Frederick A. Carvion

**DEVELOPER'S CERTIFICATE**  
"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 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."  
*Paul S. Sisson* 2/28/00  
SIGNATURE OF DEVELOPER DATE  
Paul S. Sisson

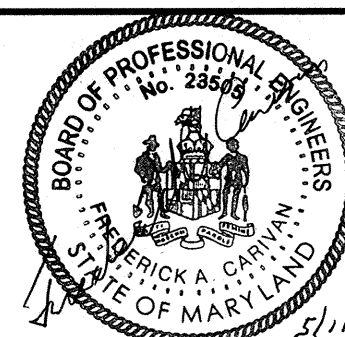
**LIMIT OF WORK AT LONG CORNER ROAD STA. 102+73.00**

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND

*James J. Sisson* 2/28/00  
DEPARTMENT OF PUBLIC WORKS DATE  
*Paul S. Sisson* 2/28/00  
CHIEF, BUREAU OF ENGINEERING DATE  
*Robert M. Sisson* 3-1-00  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION DATE  
CHIEF, BUREAU OF HIGHWAYS DATE



**A/E GROUP, INC.**  
ENGINEERS • PLANNERS  
181 E. Main Street  
Westminster, Maryland 21158  
A/E Job No. 96-309-046



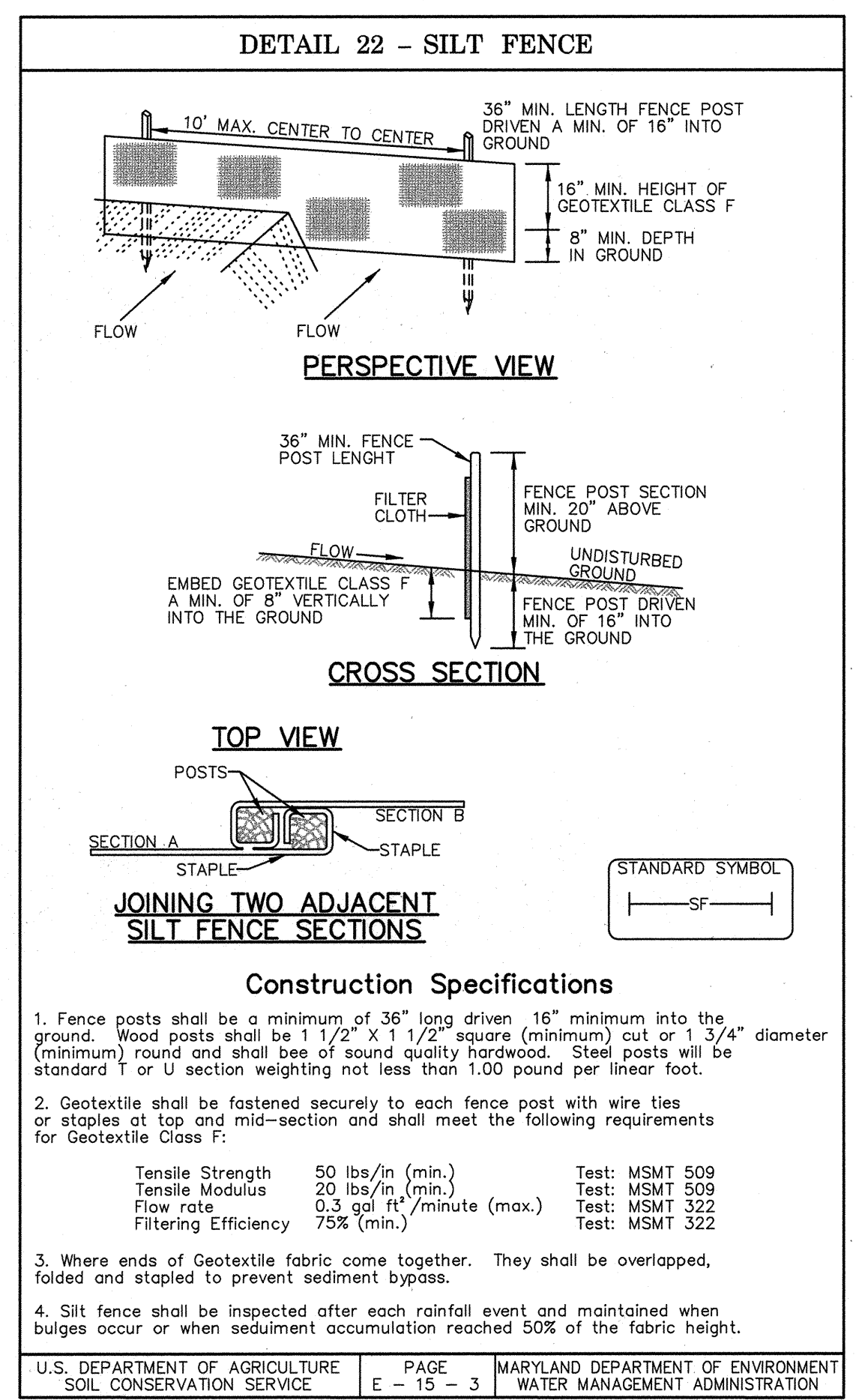
DES: F.A.C.	LP	NOTE for grading revision on the Burroughs property
DRN: J.N.W.		
CHK: C.S.C.		
DATE: 4/99	BY: NO.	REVISION
		DATE

**CAPITAL PROJECT NO.**  
**J-4168**

**SEDIMENT AND EROSION CONTROL PLAN**  
**Long Corner Road at Penn Shop Road**

SCALE AS SHOWN  
SHEET 4 OF 12





### SILT FENCE

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE      PAGE E-15-3A      MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

## STANDARD AND SPECIFICATIONS FOR TOPSOIL

Definition and Purpose

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

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

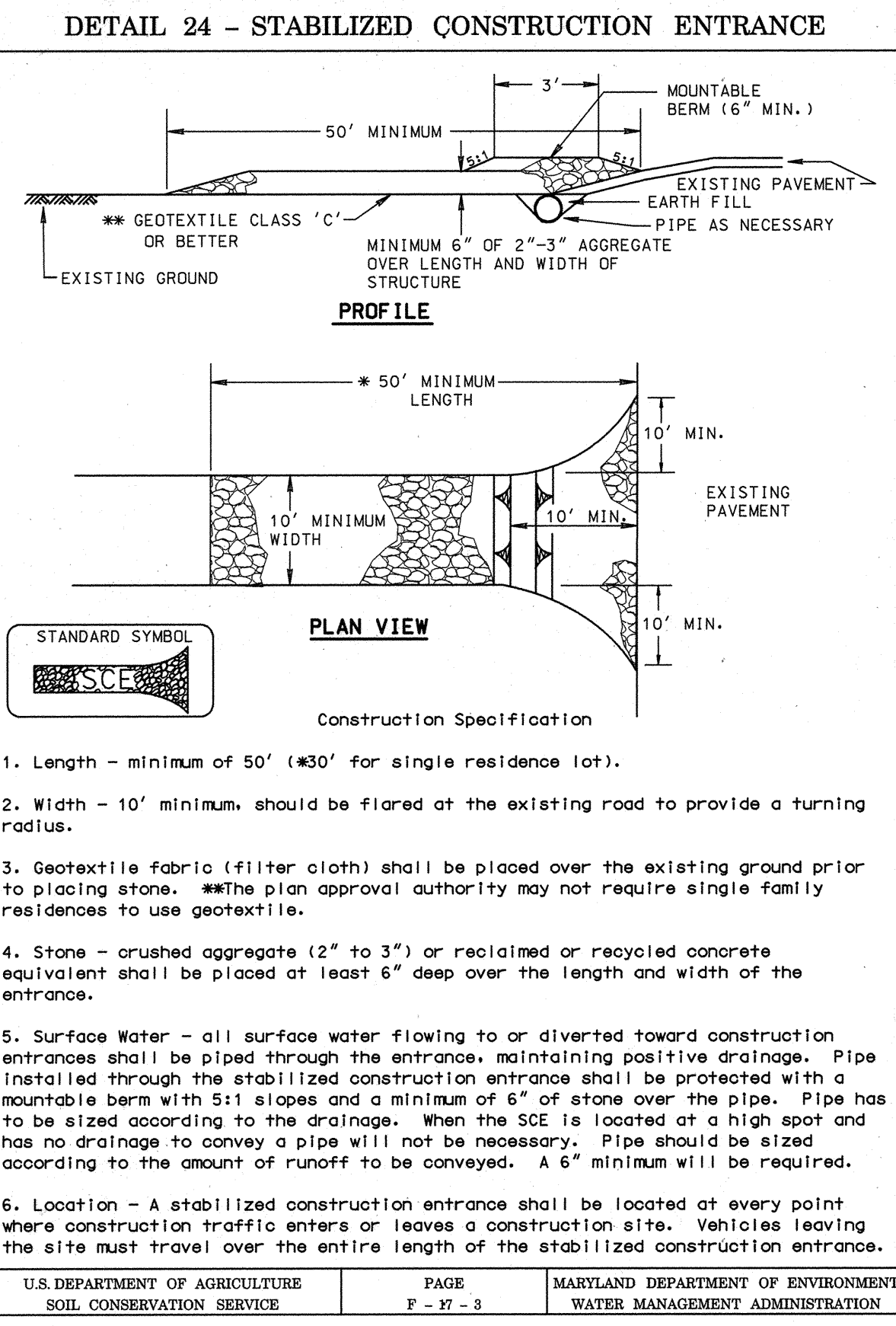
Conditions Where Practice Applies

- 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 consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have that appropriate stabilization shown on the plans.

Construction and Material Specifications

- Topsoil salvaged from 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 Experimental 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 soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting texture subsoils and shall contain less than 5% by volume of cinders, stone, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 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 disturbed in a 4" - 8" 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 seeded preparation.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE      PAGE E-15-3A      MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

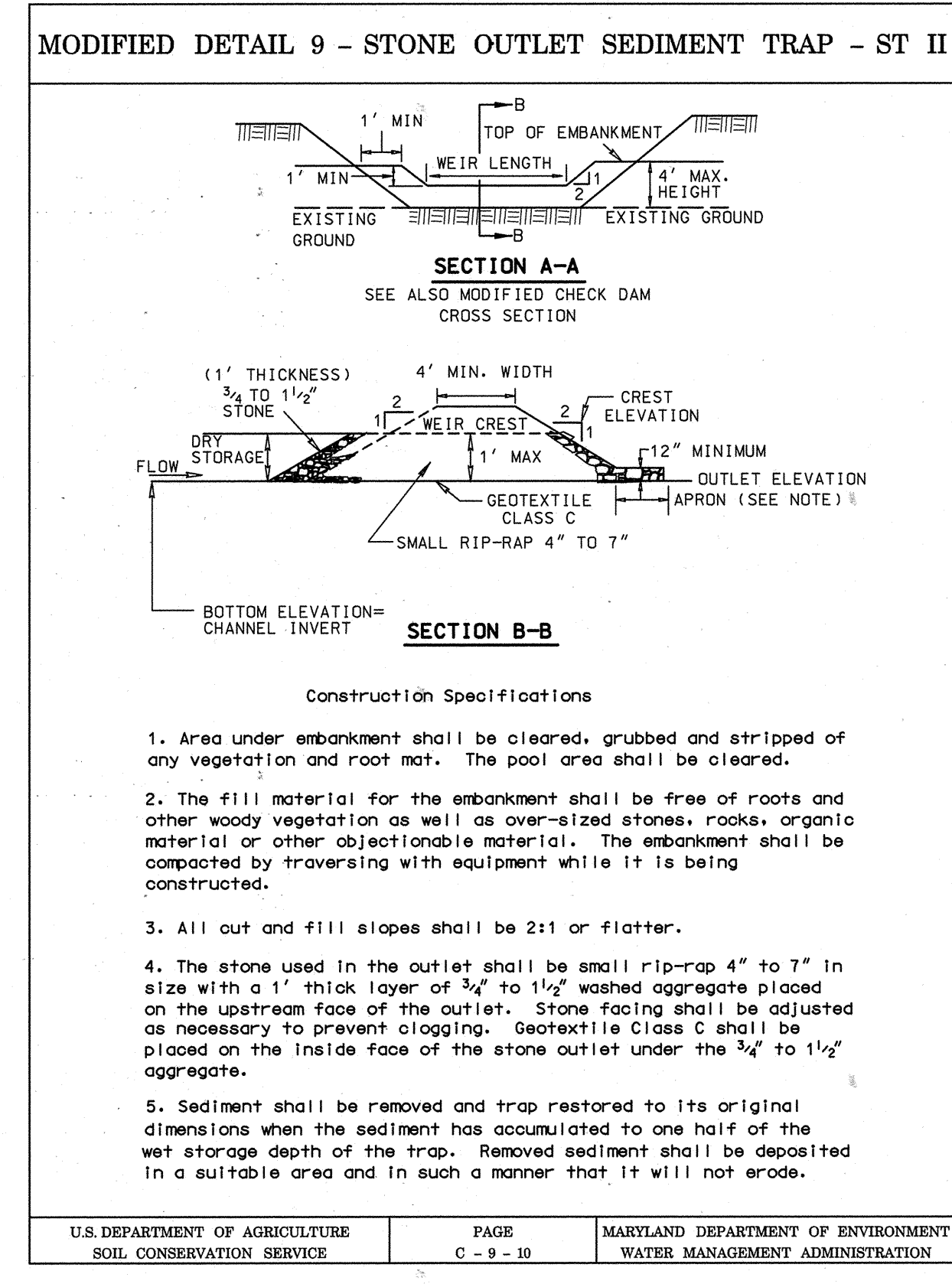


### STABILIZED CONSTRUCTION ENTRANCE

Construction Specification

- 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 berm 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 point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

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### STONE OUTLET SEDIMENT TRAP - ST II

- The structure shall be inspected periodically and after each rain and repairs made as needed.
- Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentration inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.
- The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.
- Refer to Section D for specifications concerning trap dewatering.
- Minimum trap depth shall be measured from the weir elevation.
- The elevation of the top of any dike directing water into the trap must equal or exceed the elevation of the trap embankment.
- Geotextile Class C shall be placed over the bottom and sides of the outlet channel prior to the placement of stone. Sections of filter cloth must overlap at least 1' with the section nearest the entrance placed on top. The filter cloth shall be embedded at least 6" into existing ground at the entrance of the outlet channel.
- Outlet - An outlet shall be provided, including a means of conveying the discharge in an erosion free manner to an existing stable channel.

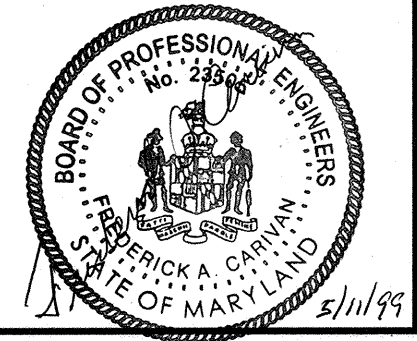
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE      PAGE C-9-10A      MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND

2/24/00      DATE  
 DEPARTMENT OF PUBLIC WORKS      CHIEF, BUREAU OF ENGINEERING

2/28/00      DATE  
 CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION      CHIEF, BUREAU OF HIGHWAYS

**A/E GROUP, INC.**  
ENGINEERS • PLANNERS  
181 E. Main Street  
Westminster, Maryland 21158  
A/E Job No. 96-309-046



DES: F.A.C.				
DRN: J.N.W.				
CHK: C.S.C.				
DATE: 4/99				
BY	NO.	REVISION	DATE	

CAPITAL PROJECT NO.  
**J-4168**

600' SCALE MAP NO. \_\_\_\_\_ DATE: \_\_\_\_\_

SEDIMENT AND EROSION CONTROL DETAILS  
**Long Corner Road at Penn Shop Road**

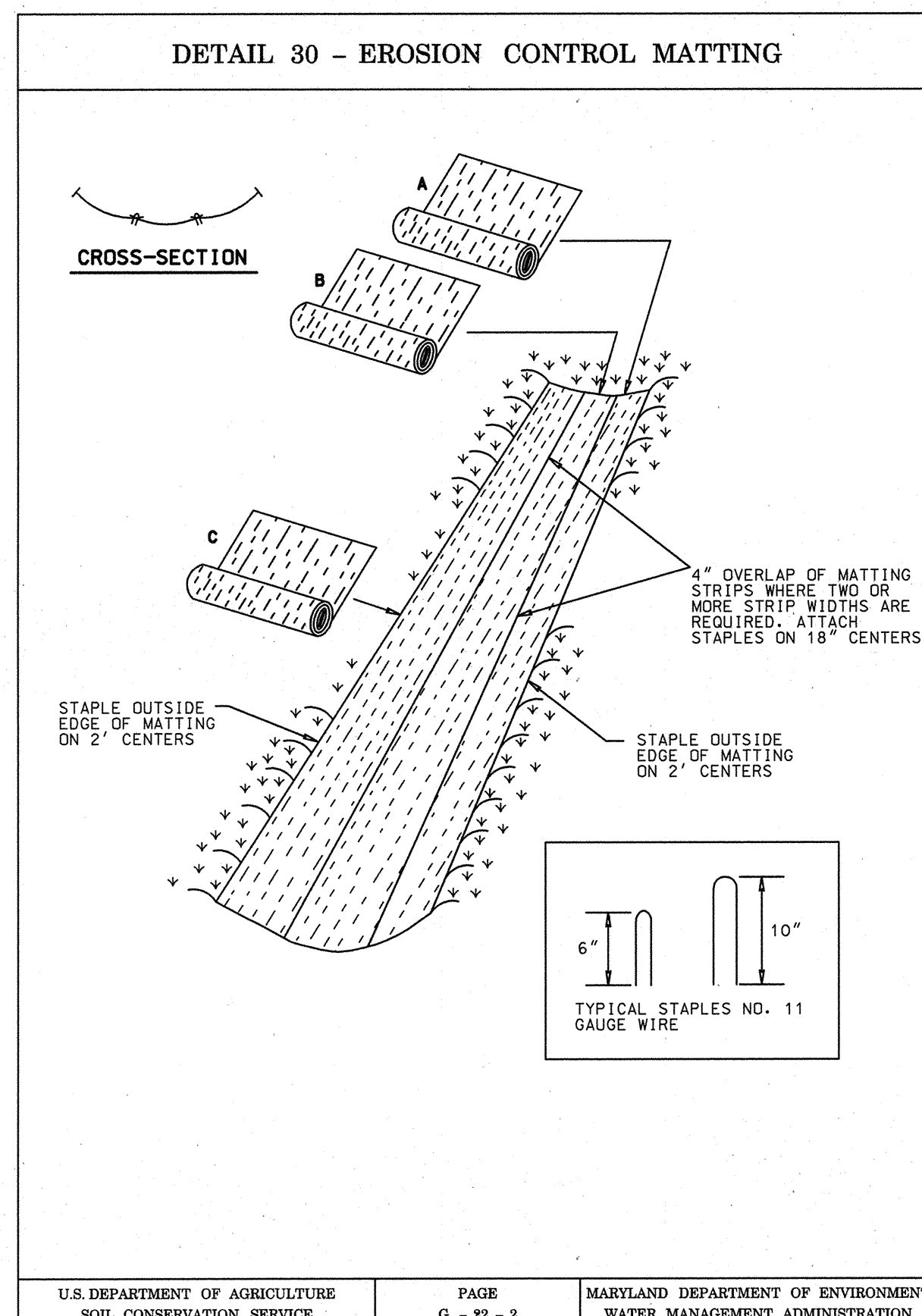
SCALE AS SHOWN  
SHEET 5 OF 12



Section I - Vegetative Stabilization Methods and Materials

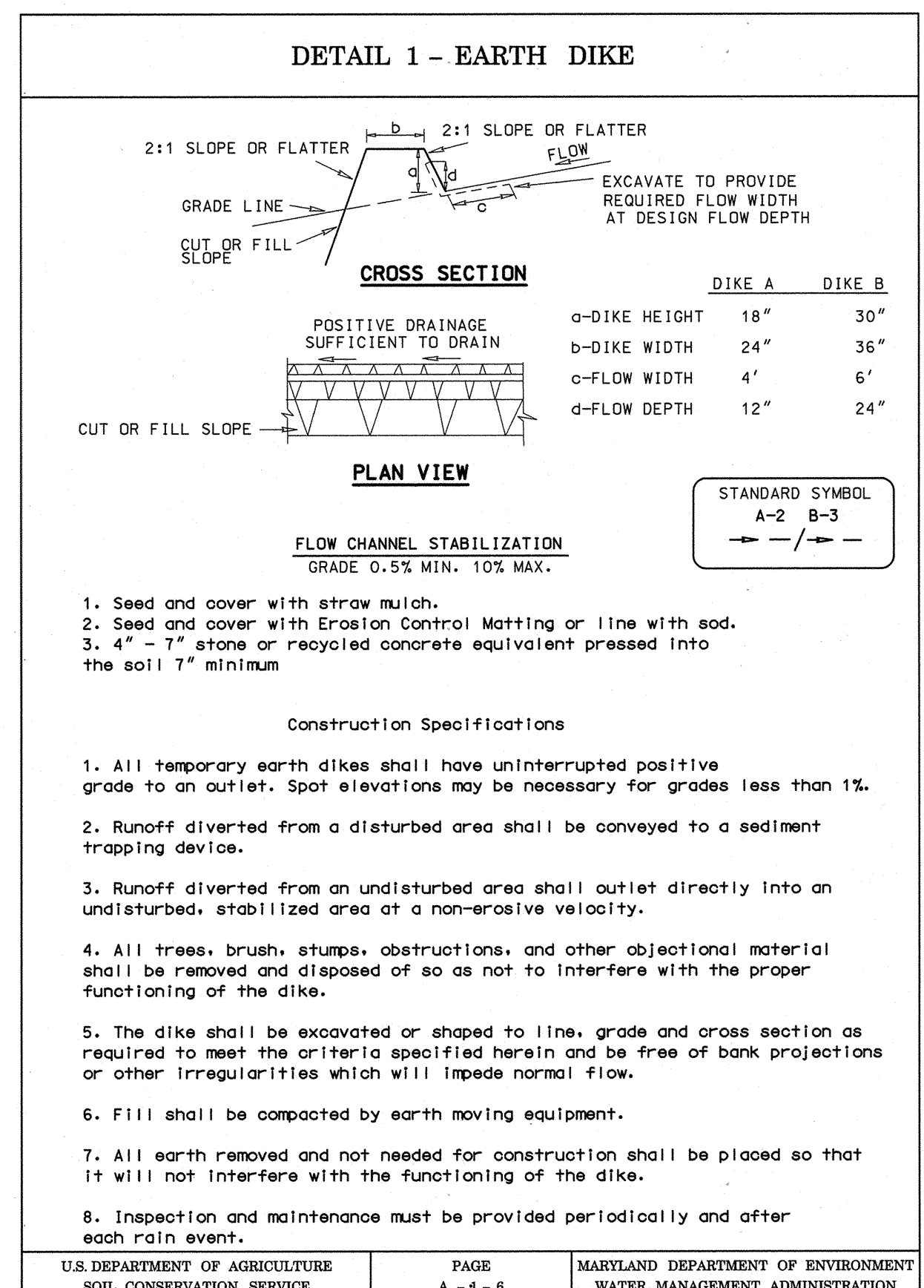
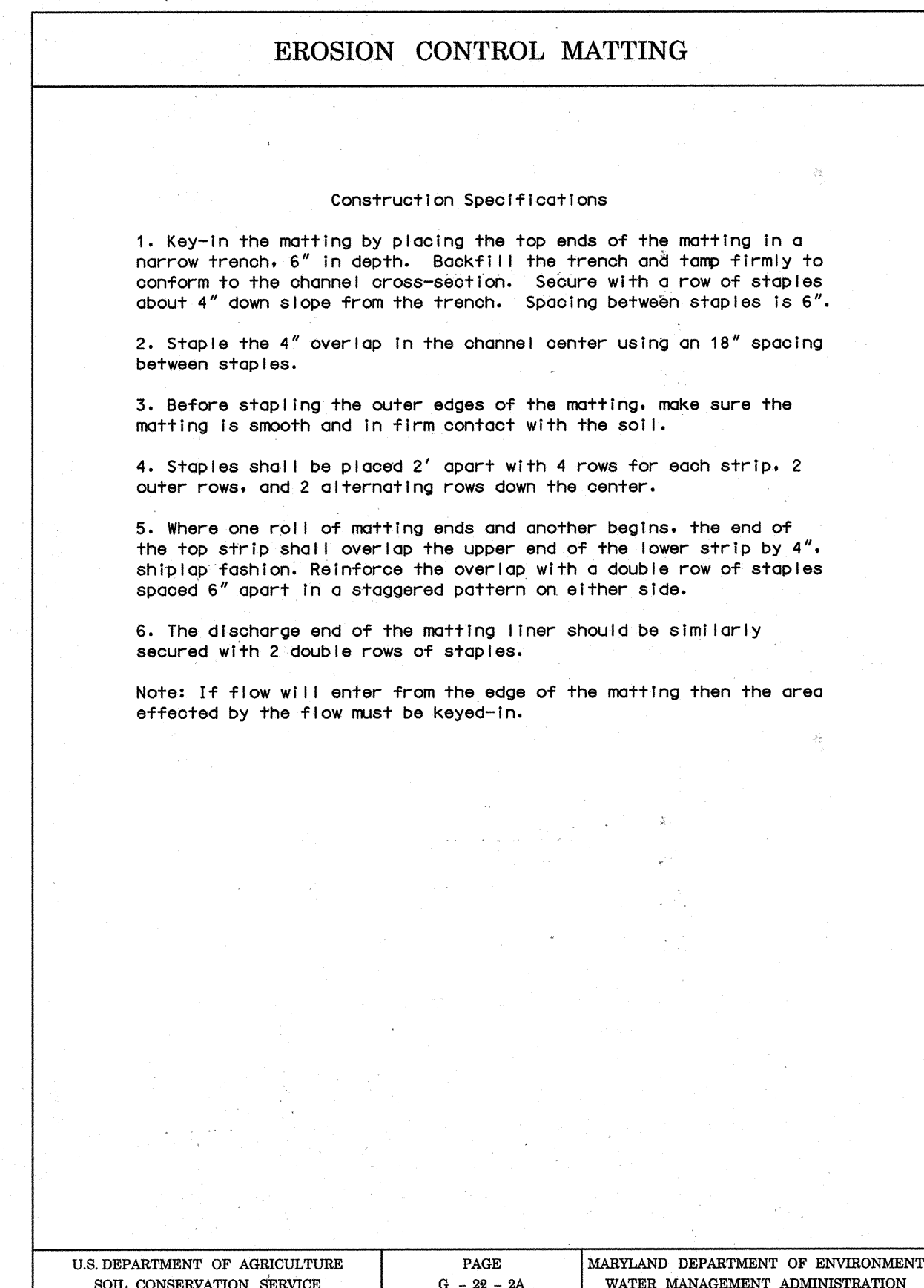
- A. Site Preparation
- Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
  - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
  - Schedule required soil tests to determine soil amendment composition and application rates for site having disturbed area over 5 acres.
- B. Soil Amendments (Fertilizer and Lime Specifications)
- Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
  - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the producer.
  - Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98-100% will pass through a #20 mesh sieve.
  - Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
- C. Seedbed Preparation
- Temporary Seeding
    - Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
    - Apply fertilizer and lime as prescribed on the plans.
    - Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.
  - Permanent Seeding
    - Minimum soil conditions required for permanent vegetative establishment:
      - Soil pH shall be between 6.0 and 7.0.
      - Soluble salts shall be less than 500 parts per million (ppm).
      - The soil shall contain less than 40% clay but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serotia lespedeza is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
      - Soil shall contain 1.5% minimum organic matter by weight.
      - Soil must contain sufficient pore space to permit adequate root penetration.
      - If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
    - Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3 - 5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
    - Apply soil amendments as per soil test or as included on the plans.
    - Mix soil amendments into the top 3 - 5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface.

Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1 - 3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.



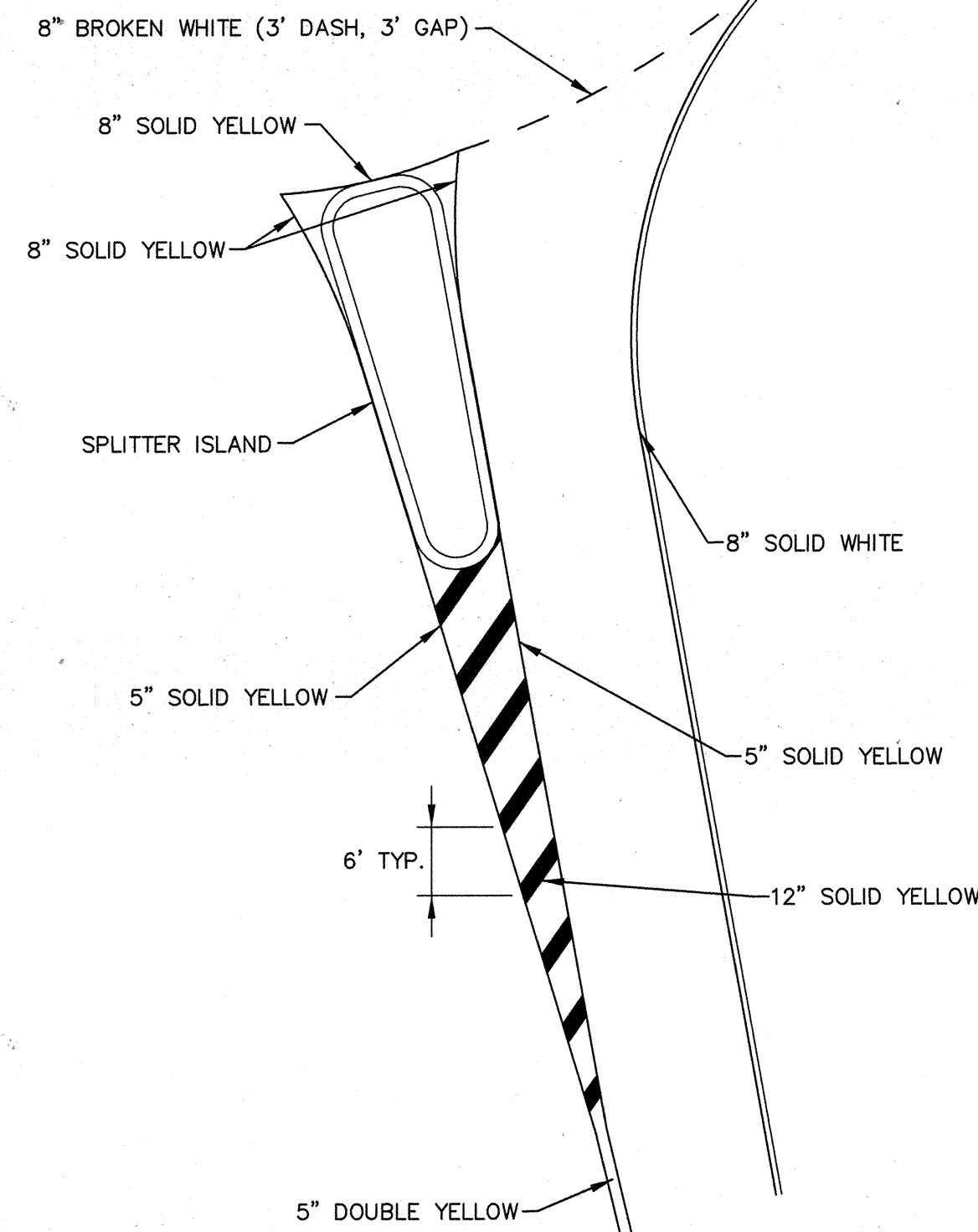
- D. Seed Specifications
- All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job. Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
  - Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculant shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80 F. can weaken bacteria and make the inoculant less effective.
- E. Methods of Seeding
- Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or a cultipacker seeder.
    - If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen; maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorous): 200 lbs/ac; K20 (potassium): 200 lbs/ac.
    - Lime - use only ground agricultural limestone. (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
    - Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
  - Dry Seeding: This includes use of conventional drop or broadcast spreaders.
    - Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 25 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
    - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
  - Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
    - Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
    - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
- F. Mulch Specifications (In order of preference)
- Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
  - Wood Cellulose Fiber Mulch (WCFM)
    - WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
    - WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.

- WCFM, including dy, shall contain no germination or growth inhibiting factors.
  - WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
  - WCFM material shall contain no elements or compounds at concentration levels that will be phytotoxic.
  - WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum. Note: Only sterile straw mulch should be used in areas where one species of grass is desired.
- G. Mulching Seeded Areas
- Mulch shall be applied to all seeded areas immediately after seeding.
  - If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
  - When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
  - Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
- H. Securing Straw Mulch (Mulch Anchoring)
- Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
    - A mulch anchoring tool is a tractor drawing implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. The practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
    - Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
    - Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. The remainder of area should appear to be uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70, Petrosel, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.

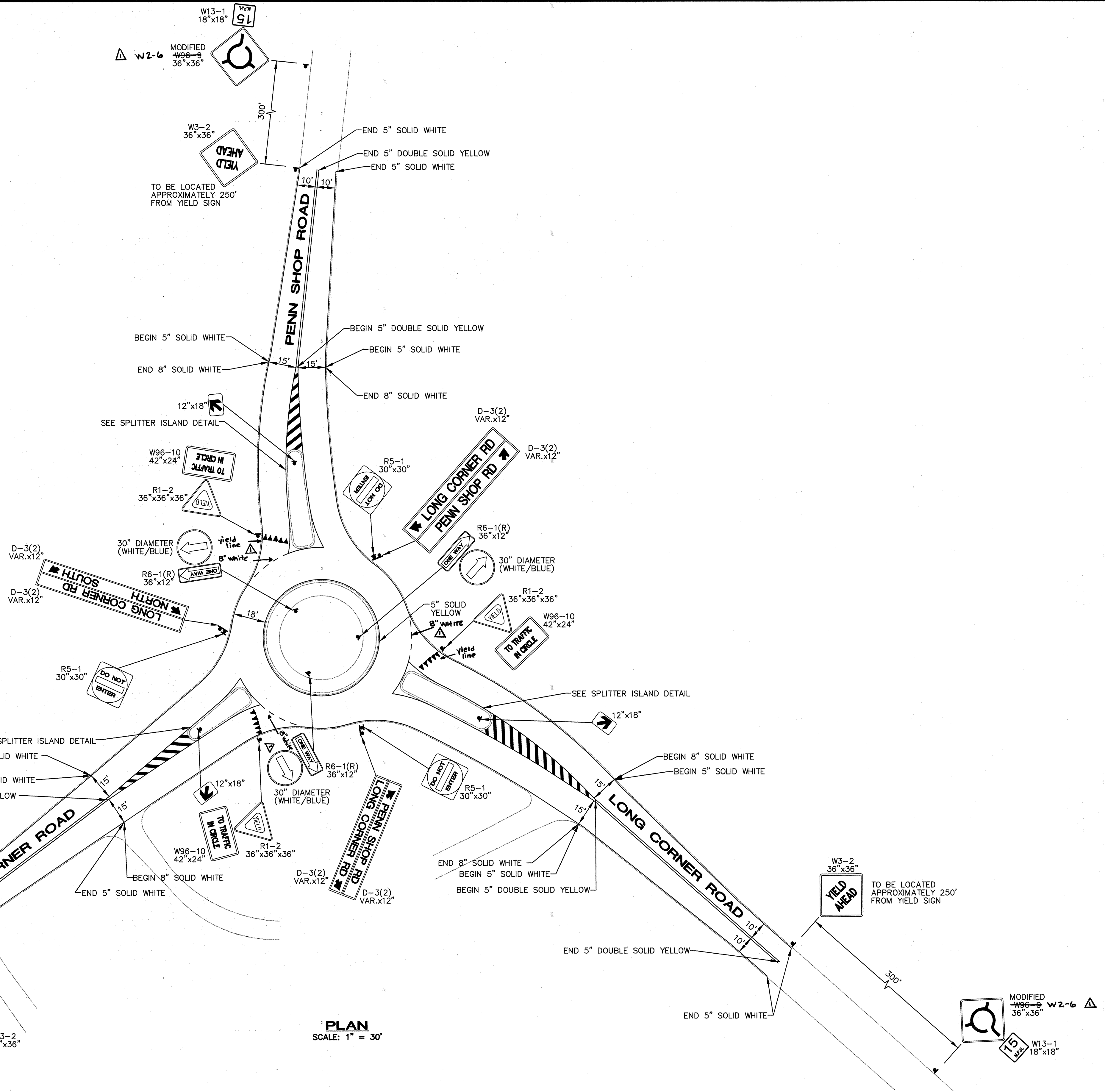


<p><b>DEPARTMENT OF PUBLIC WORKS</b> HOWARD COUNTY, MARYLAND</p> <p><i>James J. Sullivan</i> 2/29/00 CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION</p> <p><i>Robert J. Seaman</i> 2/28/00 CHIEF, BUREAU OF ENGINEERING</p> <p><i>Robert M. Snelko</i> 3-1-00 CHIEF, BUREAU OF HIGHWAYS</p>	<p><b>A/E GROUP, INC.</b> ENGINEERS • PLANNERS 181 E. Main Street Westminster, Maryland 21158 A/E Job No. 96-309-046</p>		<p>DES: F.A.C.</p> <p>DRN: J.N.W.</p> <p>CHK: C.S.C.</p> <p>DATE: 4/99</p>	<p>BY: NO. _____</p> <p>REVISION _____</p> <p>DATE: _____</p>	<p>CAPITAL PROJECT NO.</p> <p style="font-size: 24pt; font-weight: bold;">J-4168</p> <p>600' SCALE MAP NO. _____ DATE: _____</p>	<p>SEDIMENT AND EROSION CONTROL DETAILS</p> <p style="font-size: 24pt; font-weight: bold;">Long Corner at Penn Shop Road</p>	<p>SCALE AS SHOWN</p> <p>SHEET 6 OF 12</p>
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**SPLITTER ISLAND MARKING DETAIL**  
NOT TO SCALE



**PLAN**  
SCALE: 1" = 30'

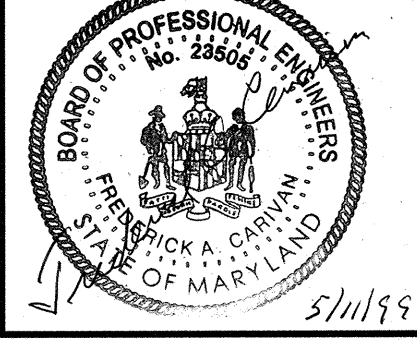
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James M. Slu* 2/28/00  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION

*Robert J. Seaman* 2/28/00  
CHIEF, BUREAU OF ENGINEERING

*Walter* 3-1-00  
CHIEF, BUREAU OF HIGHWAYS

**A/E GROUP, INC.**  
ENGINEERS • PLANNERS  
181 E. Main Street  
Westminster, Maryland 21158  
A/E Job No. 96-309-046



DES: F.A.C.	LP	△	Add yield lines, 8" white, and Roundabout sign	4/99
DRN: J.N.W.				
CHK: C.S.C.				
DATE: 4/99	BY: NO.	REVISION	DATE	

CAPITAL PROJECT NO.  
**J-4168**

600' SCALE MAP NO. \_\_\_\_\_ DATE: \_\_\_\_\_

SIGNING AND MARKING PLAN  
**Long Corner at Penn Shop Road**

SHEET 7 OF 12

SCALE AS SHOWN




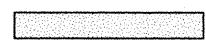



**GENERAL NOTES**

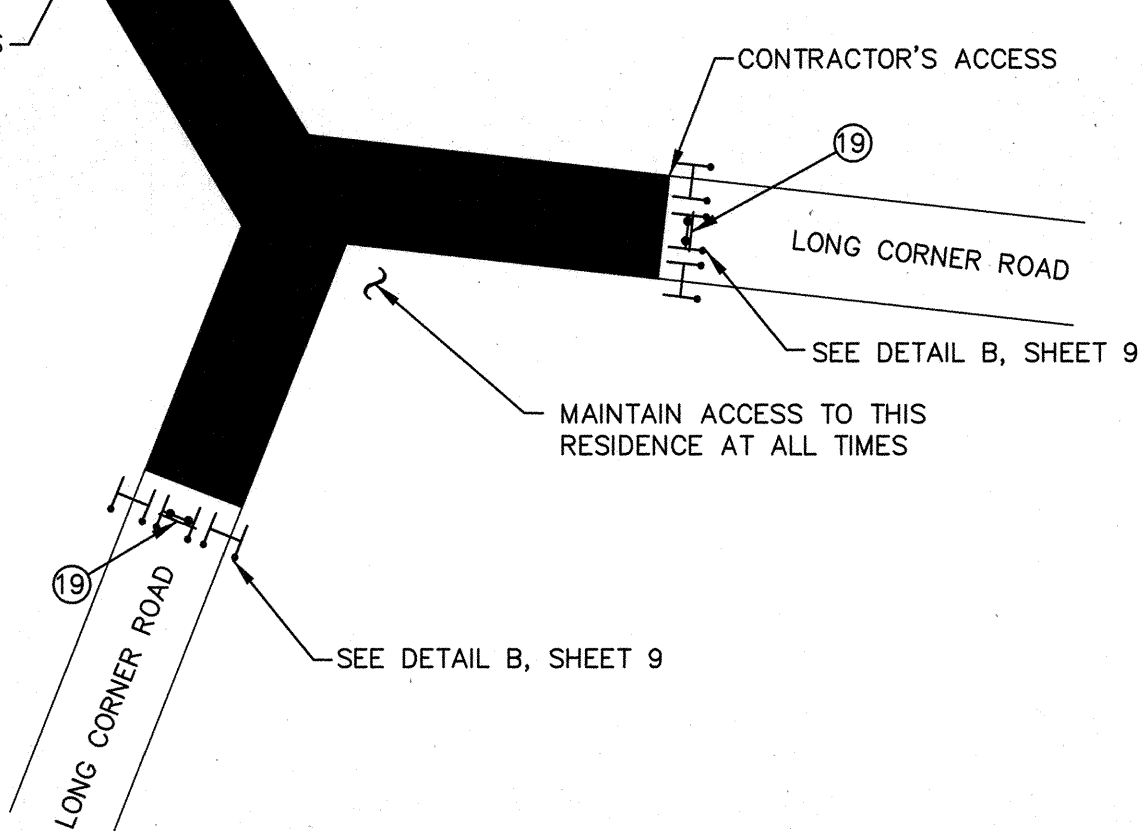
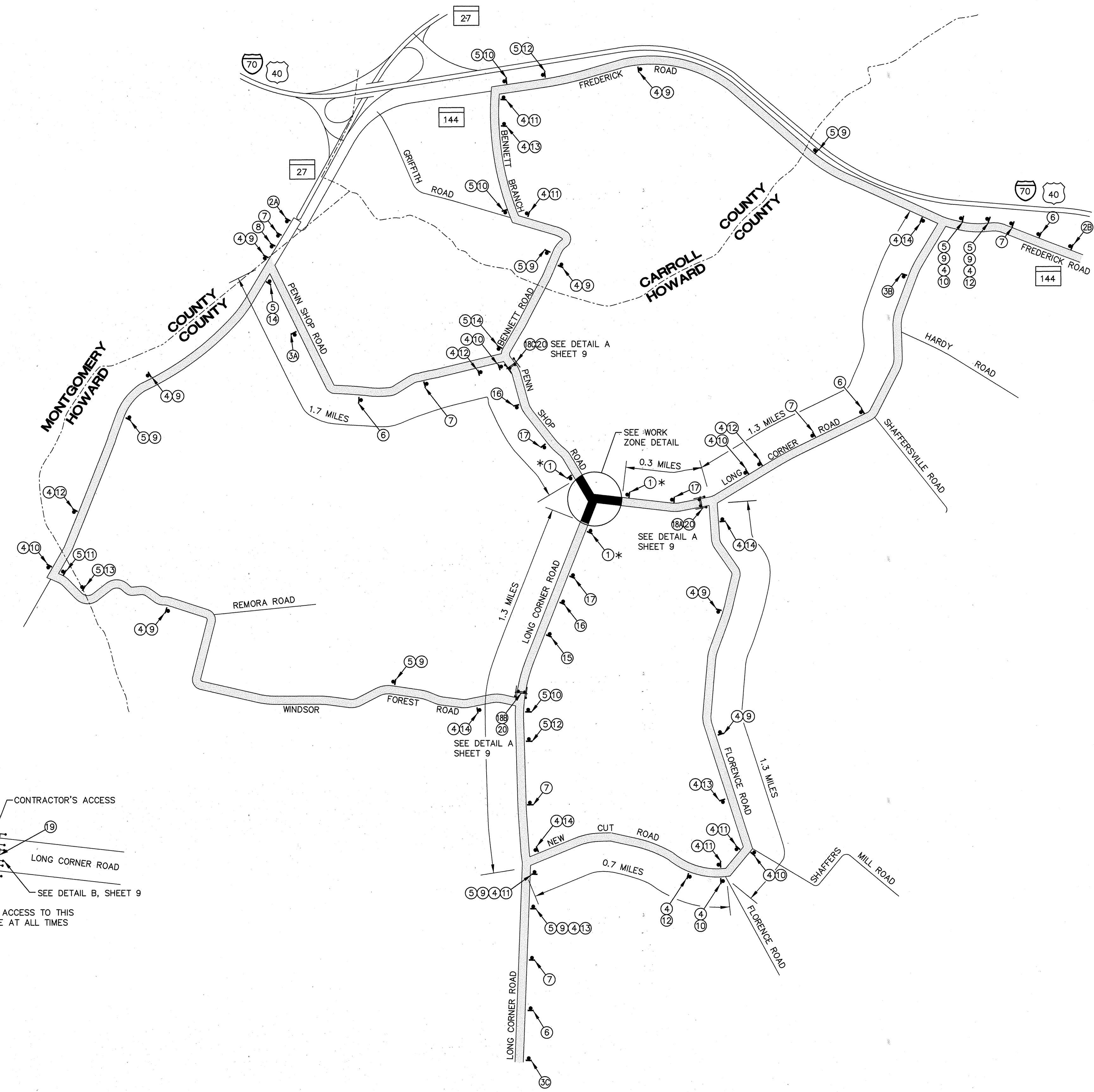
1. HOWARD COUNTY TRAFFIC ENGINEERING AND SHA SHALL REVIEW PROPOSED SIGN LOCATIONS IN THE FIELD PRIOR TO ANY SIGN INSTALLATIONS.
2. ALL SIGNS SHALL BE MOUNTED ON 4"x4" WOODEN POSTS.
3. ALL SIGN DISTANCES MAY BE ADJUSTED TO FIT FIELD CONDITIONS WITH THE ENGINEERS APPROVAL.
4. THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN TRAFFIC CONTROL SIGNS AND DEVICES. MAINTAIN TRAFFIC DURING HOURS OF CONSTRUCTION AND AT ALL OTHER TIMES IN ACCORDANCE WITH THE METHODS INDICATED ON THESE DRAWINGS. CONTRACT SPECIFICATIONS AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MARYLAND SHA SPECIFICATIONS STANDARD NO. MD-107.002, THE MD MUTCD AND/OR AS DIRECTED.
5. SIGNS LARGER THAN 10 SQUARE FEET IN TOTAL AREA SHALL BE INSTALLED ON TWO 4"x4" WOODEN POSTS.
6. ALL SIGNS NOT IN USE SHALL BE EITHER COVERED WITH AN OPAQUE MATERIAL APPROVED BY THE COUNTY OR REMOVED FROM THE SITE IMMEDIATELY UPON COMPLETION OF USE.
- \* 7. SIGN NO. 1 SHALL BE PLACED 14 DAYS PRIOR TO ROAD CLOSING AND REMOVED ONCE ROAD IS CLOSED.
8. THE POSSIBILITY EXISTS THAT ONE OR MORE SIGNS MAY HAVE TO BE MOUNTED ON WOODEN STANDS.
9. THE CONTRACTOR SHALL MEET WITH THE ENGINEER, LOCAL POLICE AND RESIDENTS OF LONG CORNER ROAD AND PENN SHOP ROAD, WITHIN THE LIMIT OF WORK, ONE WEEK PRIOR TO SETTING UP THE DETOUR AND ROAD CLOSURE TO ADVISE THEM OF HIS WORK SCHEDULE. THE CONTRACTOR SHALL THEN ADVISE THE RESIDENCES BI-WEEKLY ON PROGRESS.
10. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS ON LONG CORNER ROAD AND PENN SHOP ROAD WITHIN THE WORK ZONE.
11. THE CONTRACTOR SHALL SCHEDULE THE WORK SUCH THAT THE DETOUR SYSTEM SHALL BE IN EFFECT FOR THE SHORTEST TIME PRACTICAL. THE CONTRACTOR SHALL PRESENT A SCHEDULE OF WORK TO THE COUNTY PRIOR TO THE START OF THE WORK. THAT SCHEDULE WILL BE REVIEWED TO MINIMIZE THE DETOUR TIME.
12. THE CONTRACTOR AND COUNTY SHALL MEET WITH REPRESENTATIVES OF THE FAITH TABERNAACLE CHURCH ONE WEEK (AT LEAST TWO DAYS PRIOR TO THEIR NEXT SERVICE) PRIOR TO SETTING UP THE DETOUR. EACH FRIDAY, AFTER WORK BEGINS, THE CONTRACTOR SHALL INFORM THE CHURCH REPRESENTATIVES OF THE PROGRESS OF THE JOB, UNTIL THE WORK IS COMPLETE.

**PHASE I**

- I. SET UP SIGNING AND CHANNELIZING DEVICES AS SHOWN ON SHEETS 8 AND 9. THE WORK ZONE SHALL BE ENTIRELY CLOSED TO TRAFFIC. THE CONTRACTOR SHALL USE THE LONG CORNER ROAD EAST APPROACH OR THE PENN SHOP ROAD NORTH APPROACH FOR SITE ACCESS.
- II. THE ENTIRE REPLACEMENT THROUGH FINAL STRIPING, SIGNING, TOPSOIL AND SEEDING SHALL BE FINISHED BEFORE THE INTERSECTION IS OPEN TO TRAVEL.
- III. ALL DETOUR AND TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE REMOVED IN ONE WORK DAY, BEGINNING WITH THE SIGNS AT THE WORK SITE.

**LEGEND**





-  - ROAD CLOSED
-  - RURAL AREA ROADS/ DETOUR ROUTE
-  - POST MOUNTED SIGN
-  - SIGN MOUNTED ON TYPE III LIGHTED BARRICADE
-  - TYPE III LIGHTED BARRICADE

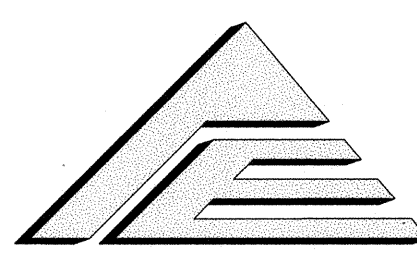


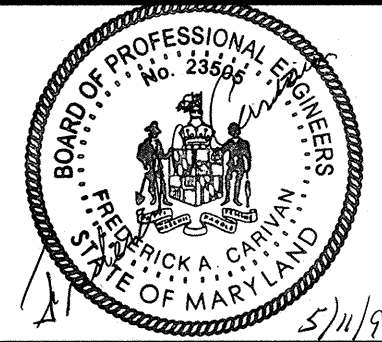
**WORK ZONE DETAIL**  
NOT TO SCALE

**SITE LOCATION PLAN**  
NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

 2/28/00  
 DEPARTMENT OF PUBLIC WORKS DATE  
 2/28/00  
 CHIEF, BUREAU OF ENGINEERING DATE  
 2/28/00  
 CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION DATE  
 3-1-00  
 CHIEF, BUREAU OF HIGHWAYS DATE


**A/E GROUP, INC.**  
 ENGINEERS • PLANNERS  
 181 E. Main Street  
 Westminster, Maryland 21158  
 A/E Job No. 96-309-046



DES: F.A.C.			
DRN: J.N.W.			
CHK: C.S.C.			
DATE: 4/99	BY	NO.	REVISION

CAPITAL PROJECT NO.  
**J-4168**

TRAFFIC CONTROL PLAN  
**Long Corner at Penn Shop Road**

SCALE AS SHOWN  
SHEET 8 OF 12



SIGN NO.	SIGN	SIZE	TEXT/BACKGROUND	SIGN NO.	SIGN	SIZE	TEXT/BACKGROUND	SIGN NO.	SIGN	SIZE	TEXT/BACKGROUND
1	<b>NOTICE</b> <b>INTERSECTION TO BE CLOSED ON OR ABOUT / / 99</b> <b>INFO CALL 313-2214</b>	6" LETTERS 4" LETTERS 4" LETTERS 4" LETTERS 4" LETTERS	BLACK/YELLOW BLACK/WHITE WHITE/BLUE	4	<b>Long Corner Rd</b>	D3-2 30"x8"	BLACK/WHITE	14	<b>END DETOUR</b>	M4-8A 24"x18"	BLACK/ORANGE
2A	<b>NOTICE</b> <b>PENN SHOP ROAD CLOSED AT LONG CORNER RD 1 3/4 MILES EAST</b> <b>DETOUR AHEAD TO LONG CORNER RD</b>	6" LETTERS 4" LETTERS 6" LETTERS 4" LETTERS 4" LETTERS 4" LETTERS	BLACK/YELLOW BLACK/WHITE BLACK/WHITE BLACK/WHITE BLACK/ORANGE	5	<b>Penn Shop Rd</b>	D3-2 30"x8"	BLACK/WHITE	15	<b>ROAD CLOSED 1/2 MILE</b>	W20-3 36"x36" (SHA ROADS) 48"x48"	BLACK/ORANGE
2B	<b>NOTICE</b> <b>LONG CORNER RD CLOSED AT PENN SHOP RD 1 3/4 MILES SOUTH</b> <b>DETOUR AHEAD</b>	6" LETTERS 4" LETTERS 6" LETTERS 4" LETTERS 4" LETTERS	BLACK/YELLOW BLACK/WHITE BLACK/WHITE BLACK/ORANGE	6	<b>DETOUR 1/2 MILE</b>	W20-2 36"x36" (SHA ROADS) 48"x48"	BLACK/ORANGE	16	<b>ROAD CLOSED 1500 FT</b>	W20-3 36"x36" (SHA ROADS) 48"x48"	BLACK/ORANGE
3A	<b>NOTICE</b> <b>PENN SHOP RD CLOSED AT LONG CORNER RD 1 1/2 MILES</b> <b>DETOUR AHEAD</b>	6" LETTERS 4" LETTERS 6" LETTERS 4" LETTERS 4" LETTERS	BLACK/YELLOW BLACK/WHITE BLACK/ORANGE	7	<b>DETOUR 1500 FT</b>	W20-2 36"x36" (SHA ROADS) 48"x48"	BLACK/ORANGE	17	<b>ROAD CLOSED 800 FT</b>	W20-3 36"x36" (SHA ROADS) 48"x48"	BLACK/ORANGE
3B	<b>NOTICE</b> <b>LONG CORNER RD CLOSED AT PENN SHOP RD 1 1/2 MILES</b> <b>DETOUR AHEAD</b>	6" LETTERS 4" LETTERS 6" LETTERS 4" LETTERS 4" LETTERS	BLACK/YELLOW BLACK/WHITE BLACK/ORANGE	8	<b>DETOUR 800 FT</b>	W20-2 36"x36" (SHA ROADS) 48"x48"	BLACK/ORANGE	18A	<b>ROAD CLOSED 1/4 MILE AHEAD LOCAL TRAFFIC ONLY</b>	R11-3A 60"x30"	BLACK/WHITE PLACED ON TYPE III BARRICADE W/2 HIGH INTENSITY FLASHERS PER BARRICADE
3C	<b>NOTICE</b> <b>LONG CORNER RD CLOSED AT PENN SHOP RD 2 MILES</b> <b>DETOUR AHEAD</b>	6" LETTERS 4" LETTERS 6" LETTERS 4" LETTERS 4" LETTERS	BLACK/YELLOW BLACK/WHITE BLACK/ORANGE	9	<b>DETOUR</b> ↑	M4-9 30"x24"	BLACK/ORANGE	18B	<b>ROAD CLOSED 0.6 MILES AHEAD LOCAL TRAFFIC ONLY</b>	R11-3A 60"x30"	BLACK/WHITE PLACED ON TYPE III BARRICADE W/2 HIGH INTENSITY FLASHERS PER BARRICADE
				10	<b>DETOUR</b> ←	M4-9L 30"x24"	BLACK/ORANGE	18C	<b>ROAD CLOSED 0.4 MILES AHEAD LOCAL TRAFFIC ONLY</b>	R11-3A 60"x30"	BLACK/WHITE PLACED ON TYPE III BARRICADE W/2 HIGH INTENSITY FLASHERS PER BARRICADE
				11	<b>DETOUR</b> →	M4-9R 30"x24"	BLACK/ORANGE	19	<b>ROAD CLOSED</b>	R11-2 48"x30"	BLACK/WHITE PLACED ON TYPE III BARRICADE W/2 HIGH INTENSITY FLASHERS PER BARRICADE
				12	<b>DETOUR</b> ↙	M4-9 30"x24"	BLACK/ORANGE	20	<b>DETOUR</b> ←	M4-10L 18"x48"	BLACK/WHITE
				13	<b>DETOUR</b> ↘	M4-9 30"x24"	BLACK/ORANGE				

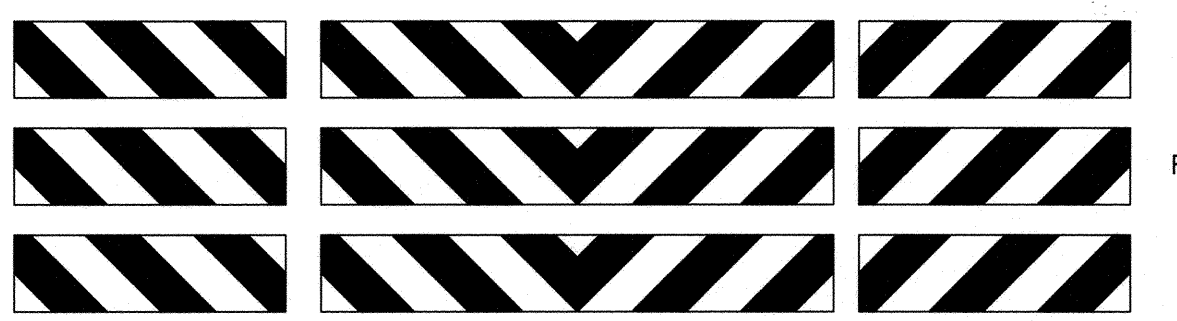
NOTE:  
WHEN USING "ROAD NAME" SIGN WITH A DETOUR SIGN,  
ALWAYS PLACE ROAD NAME PANEL ON TOP.

**BARRICADE PANEL DETAIL 'A'**

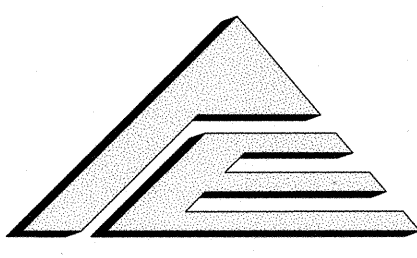
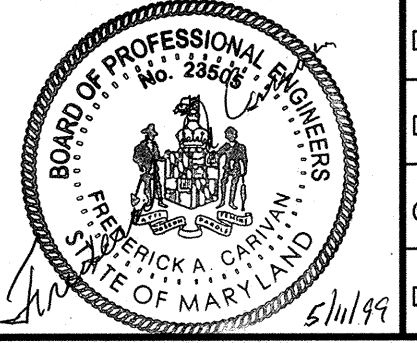


NOTE:  
PLACE ON TYPE III BARRICADE.

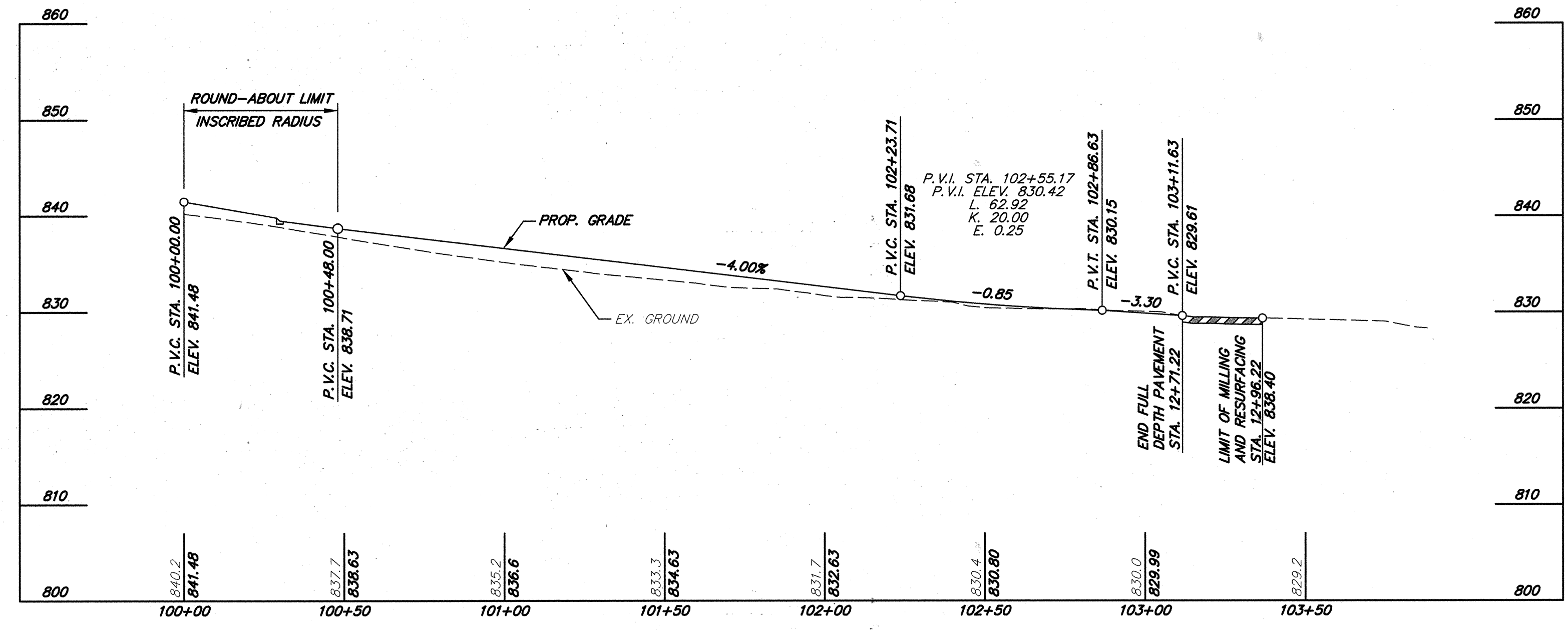
**BARRICADE PANEL DETAIL 'B'**



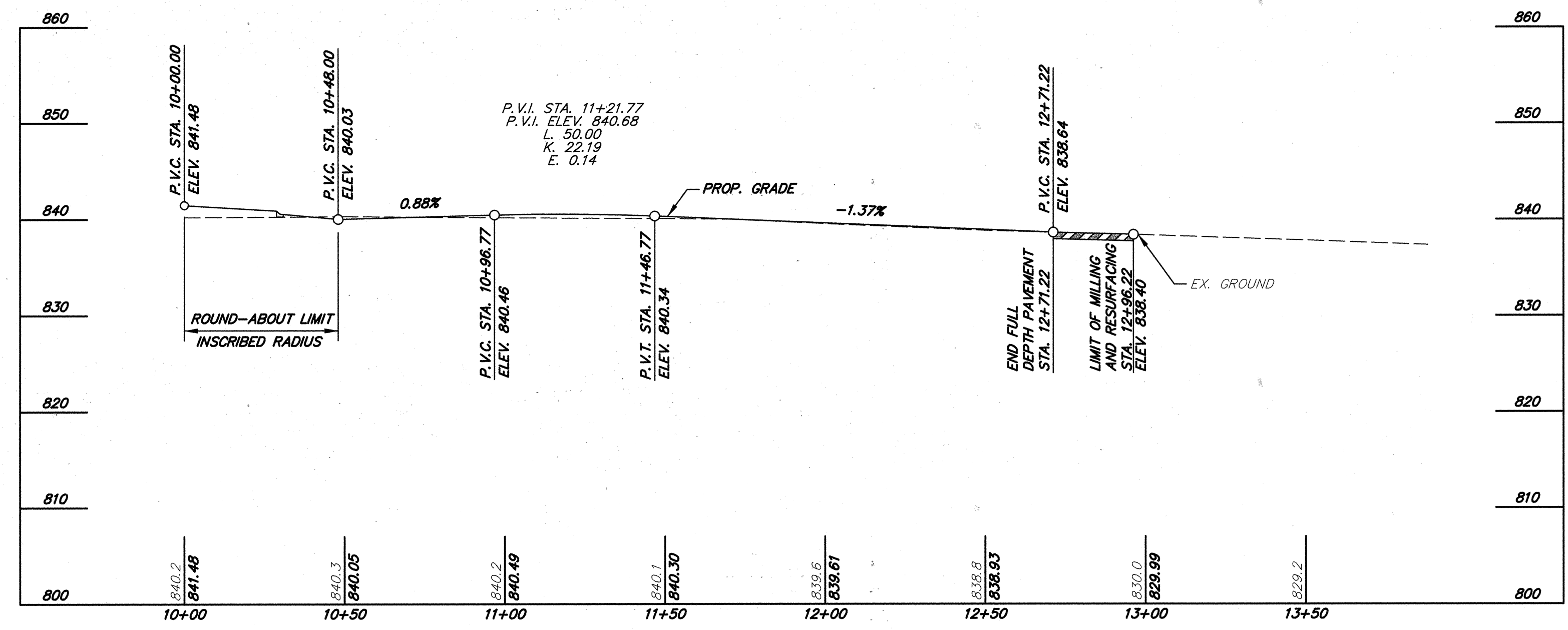
NOTE:  
PLACE ON 3-TYPE III BARRICADES.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>James P. Shive</i> 2/28/00 DEPARTMENT OF PUBLIC WORKS DATE CHIEF, BUREAU OF ENGINEERING <i>garcia</i> 2/28/00 CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION DATE		 <b>A/E GROUP, INC.</b> ENGINEERS • PLANNERS 181 E. Main Street Westminster, Maryland 21158 A/E Job No. 96-309-046		 DES: F.A.C. DRN: J.N.W. CHK: C.S.C. DATE: 4/99		CAPITAL PROJECT NO. <b>J-4168</b>		TRAFFIC CONTROL PLAN SIGNS <b>Long Corner at Penn Shop Road</b>		SCALE AS SHOWN SHEET 9 OF 12	
BY NO. REVISION DATE				600' SCALE MAP NO. DATE:							





**LONG CORNER ROAD (SOUTH)  
PROFILE**  
SCALE: 1" = 30'  
1" = 10'



**LONG CORNER ROAD (NORTHEAST)  
PROFILE**  
SCALE: 1" = 30'  
1" = 10'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

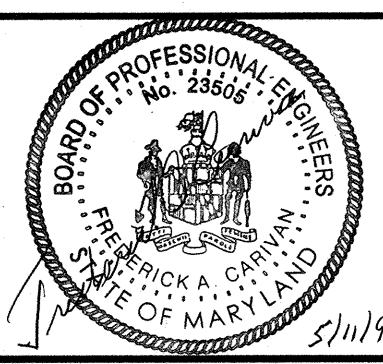
*James P. Lee* 2/28/00  
DEPARTMENT OF PUBLIC WORKS DATE

*Robert J. Seaman* 2/28/00  
CHIEF, BUREAU OF ENGINEERING DATE

*Ed Scalin* 2/28/00  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION DATE

*Richard M. Powell* 3-1-00  
CHIEF, BUREAU OF HIGHWAYS DATE

**A/E GROUP, INC.**  
ENGINEERS • PLANNERS  
181 E. Main Street  
Westminster, Maryland 21158  
A/E Job No. 96-309-046



DES:	F.A.C.		
DRN:	J.N.W.		
CHK:	C.S.C.		
DATE:	4/99		
BY:	NO.	REVISION	DATE:

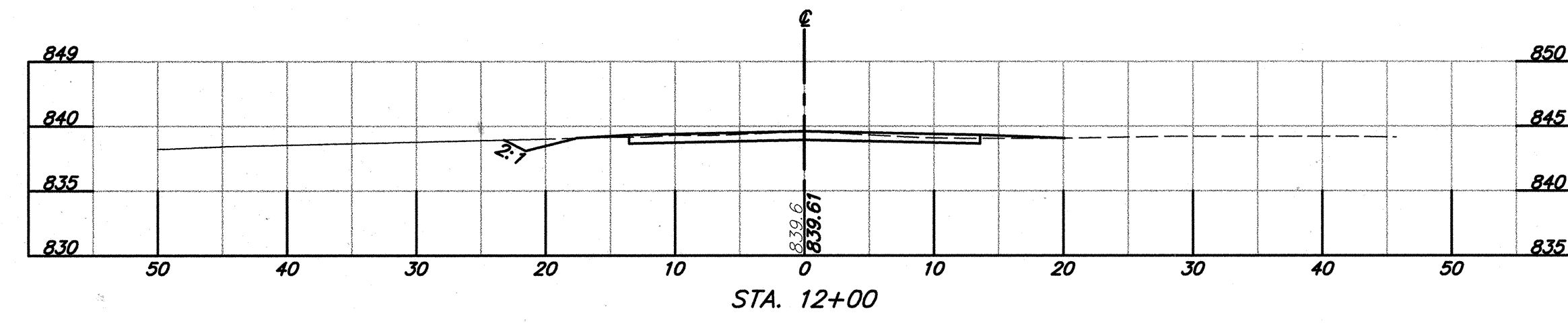
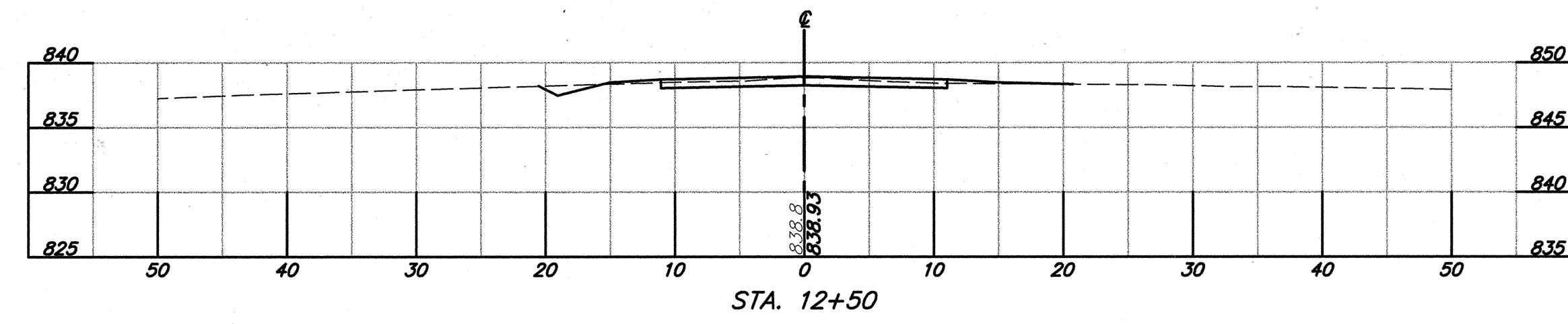
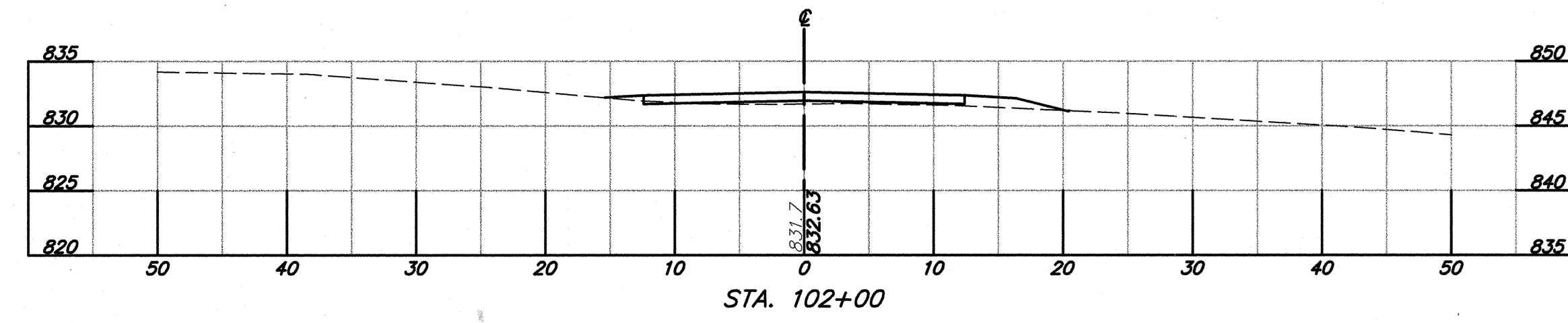
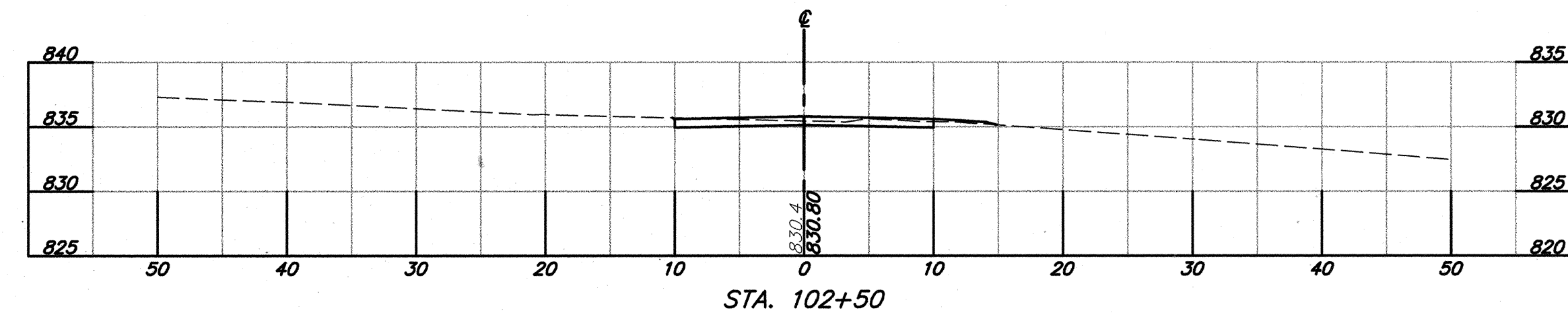
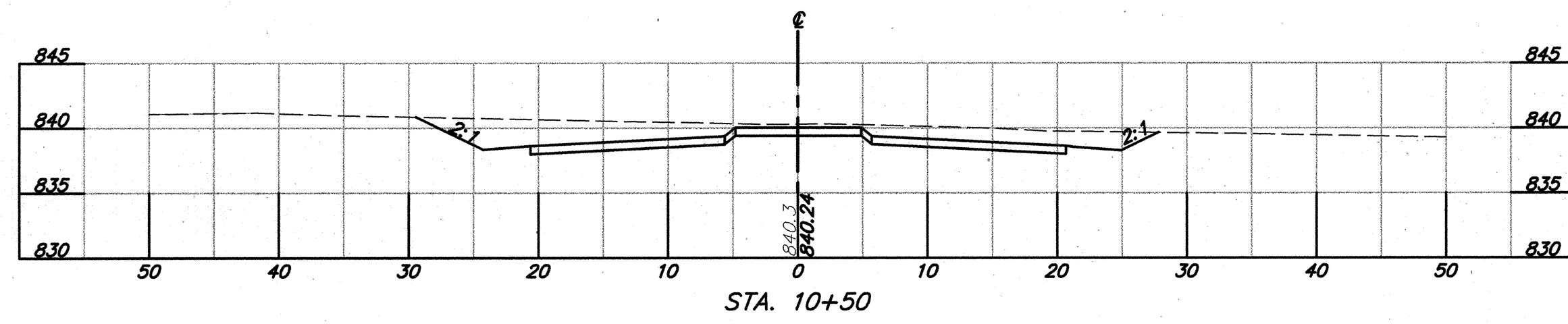
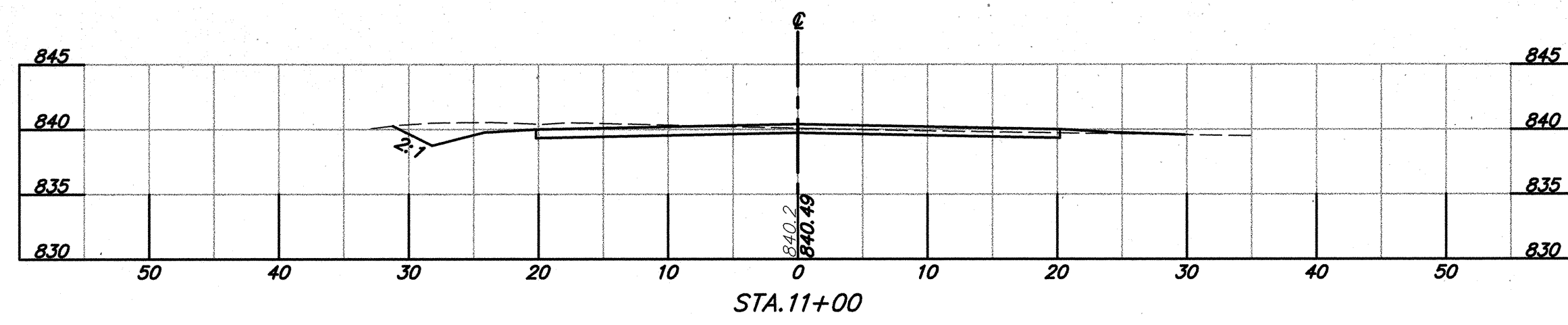
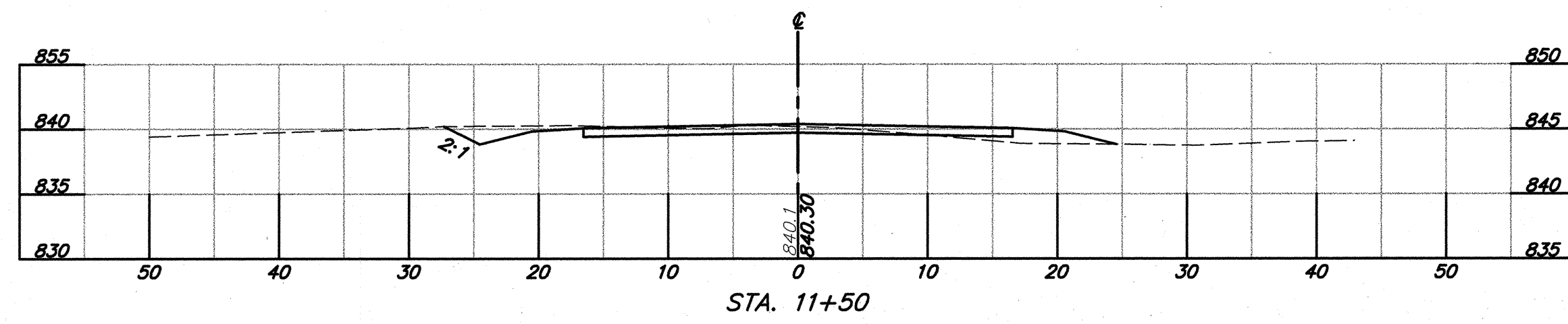
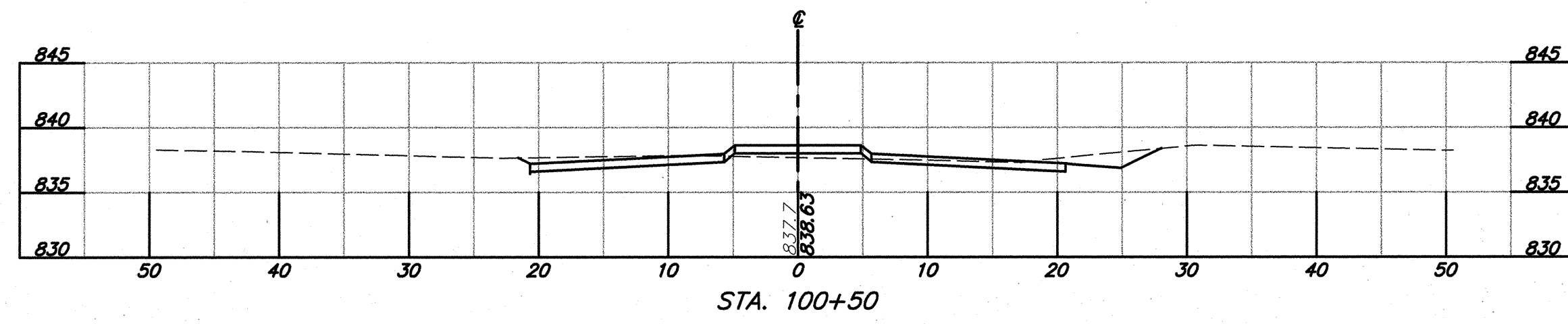
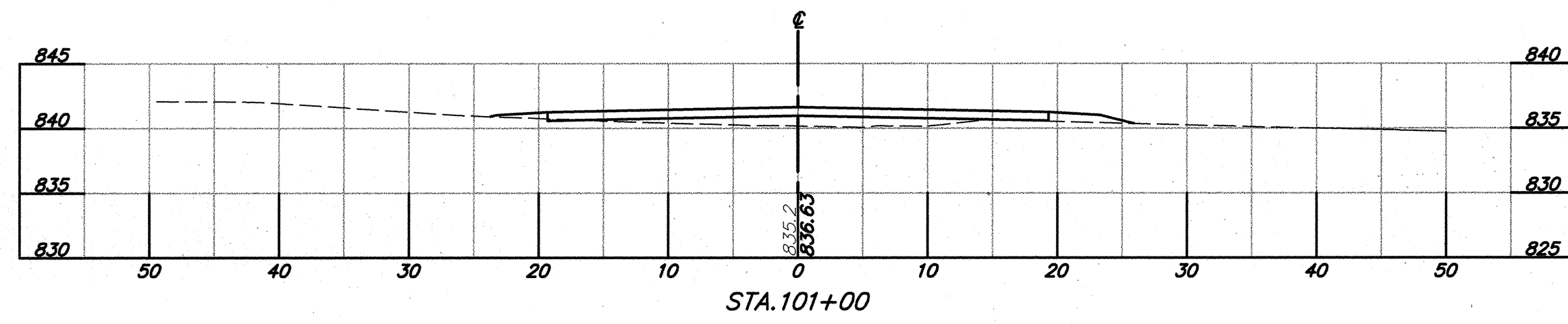
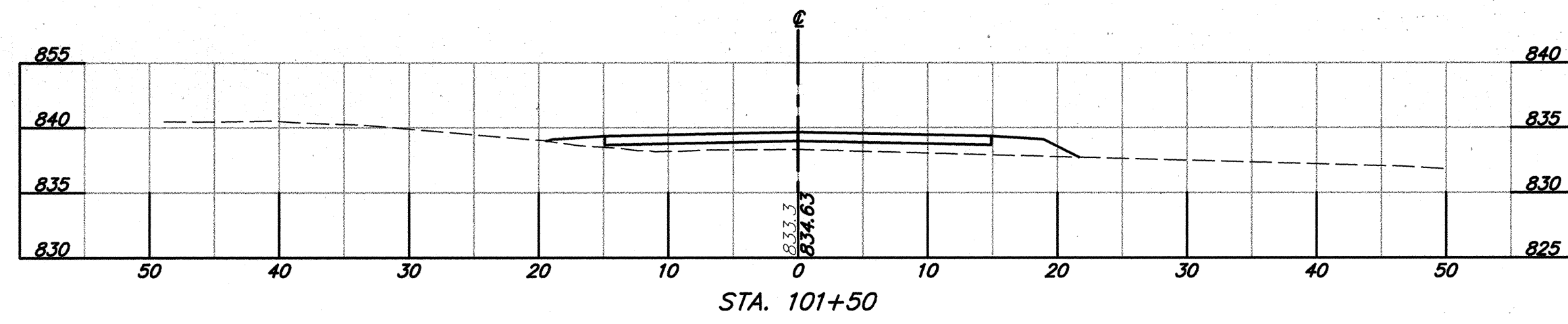
CAPITAL PROJECT NO.  
**J-4168**

600' SCALE MAP NO. \_\_\_\_\_ DATE: \_\_\_\_\_

PROFILES LONG CORNER ROAD  
**Long Corner Road at  
Penn Shop Road**

SCALE AS SHOWN  
SHEET 10 OF 12



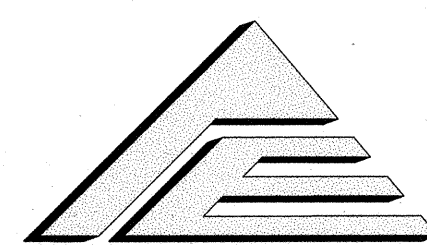


**LONG CORNER ROAD CROSS SECTION**

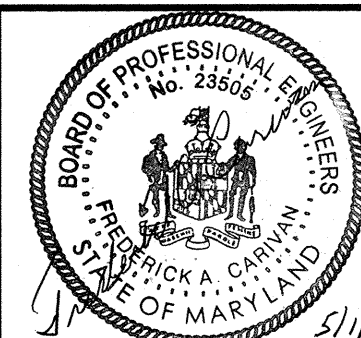
SCALE: HORIZ. 1" = 10'  
VERT. 1" = 10'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. Lane* 2/29/00 DATE  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION  
*Robert J. Sporn* 2/28/00 DATE  
CHIEF, BUREAU OF ENGINEERING  
*Michael J. ...* 3-1-00 DATE  
CHIEF, BUREAU OF HIGHWAYS



**A/E GROUP, INC.**  
ENGINEERS • PLANNERS  
181 E. Main Street  
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DES: F.A.C.			
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CHK: C.S.C.			
DATE: 4/99	BY	NO.	REVISION

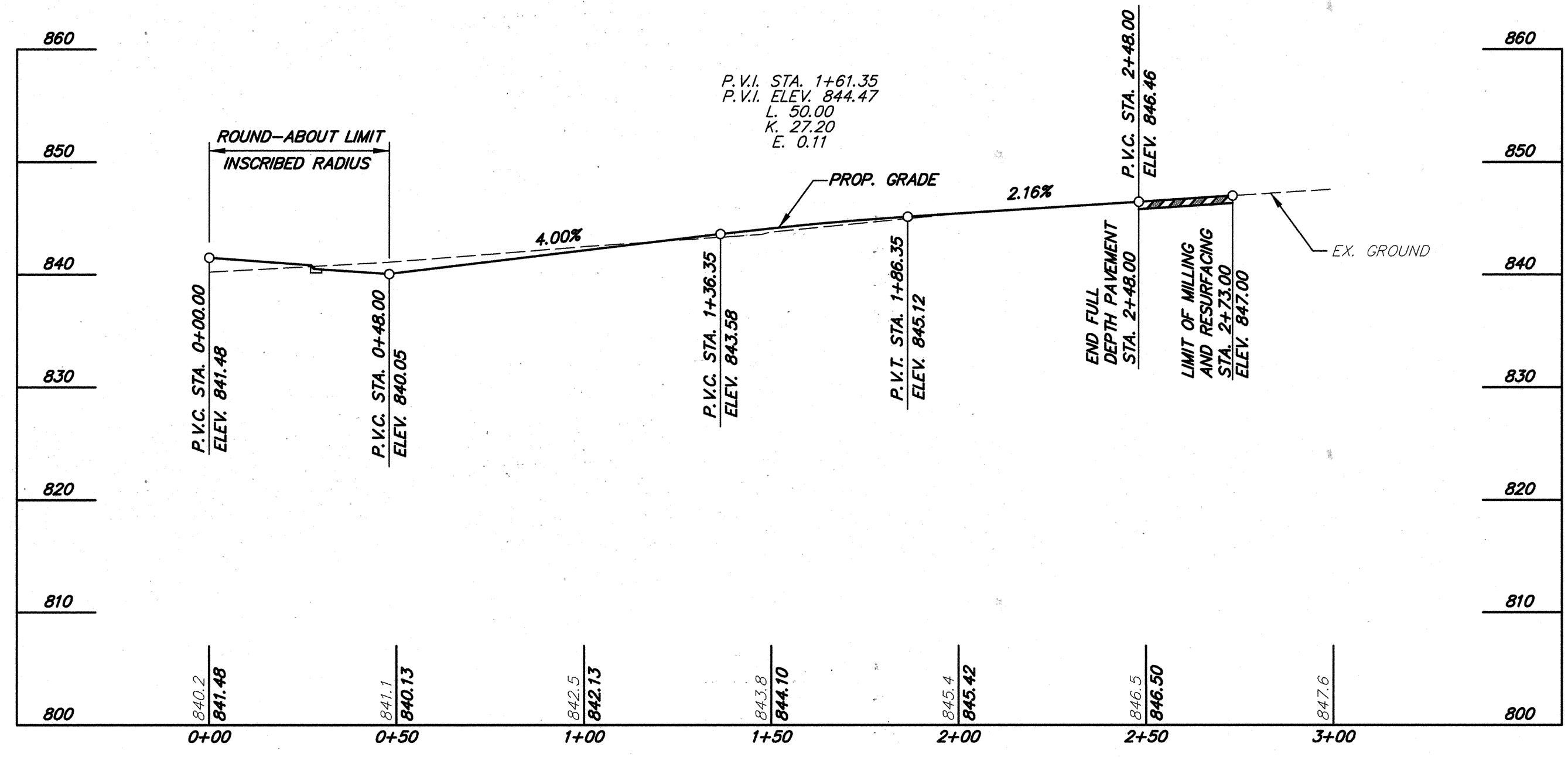
CAPITAL PROJECT NO.  
**J-4168**

CROSS SECTIONS LONG CORNER ROAD  
**Long Corner Road at  
Penn Shop Road**

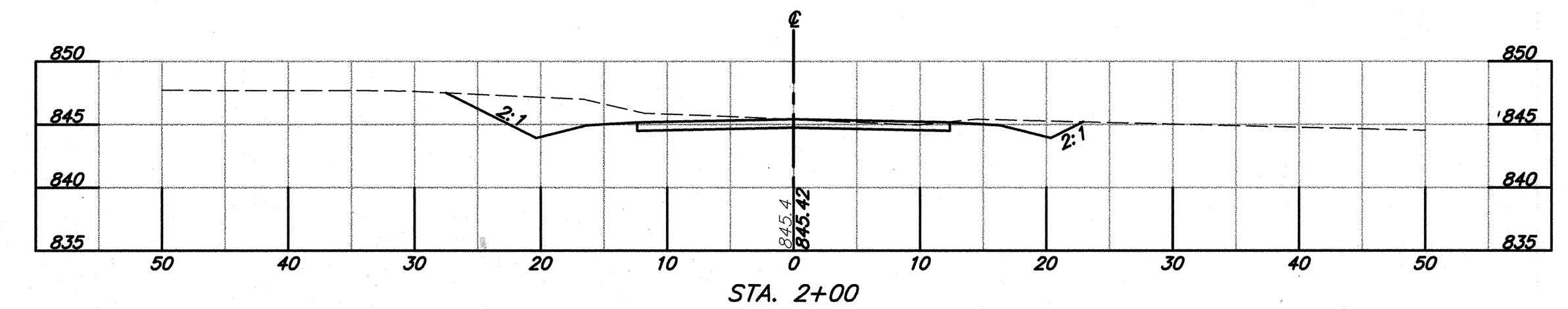
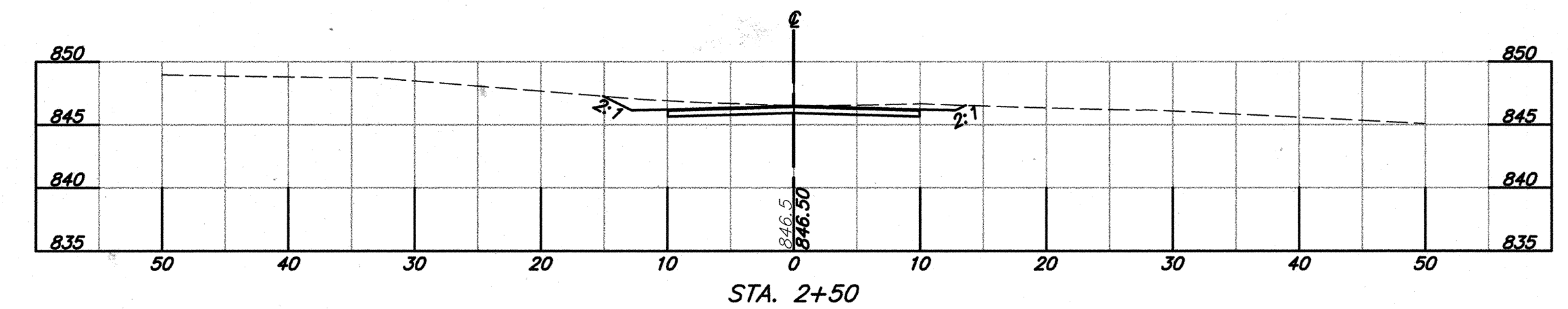
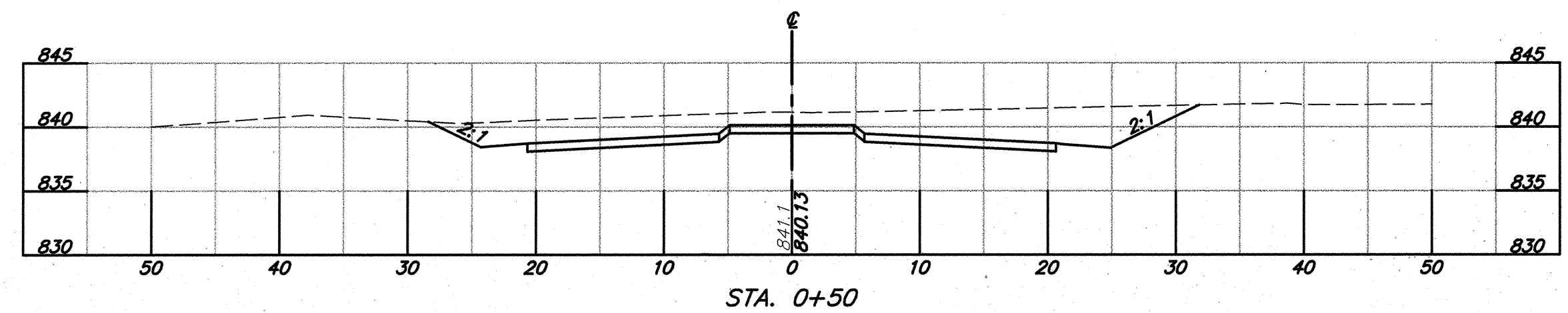
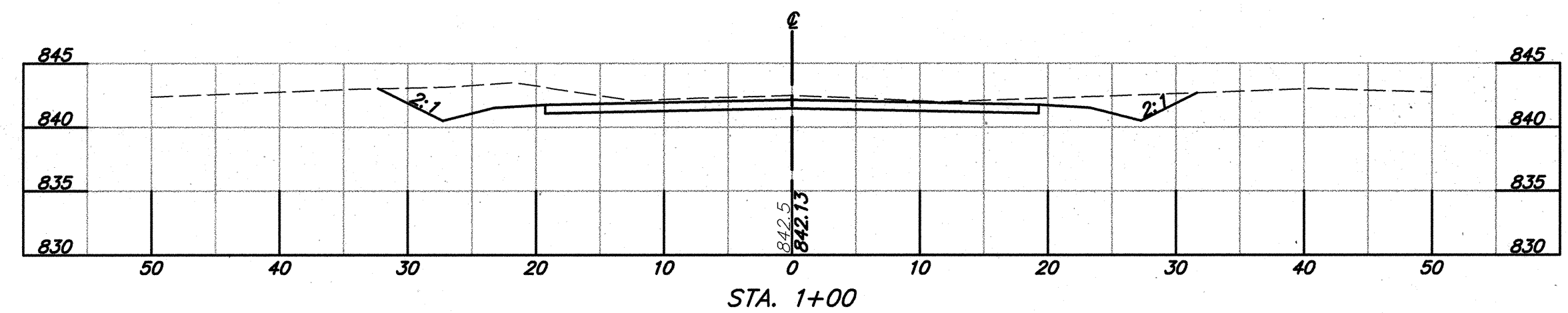
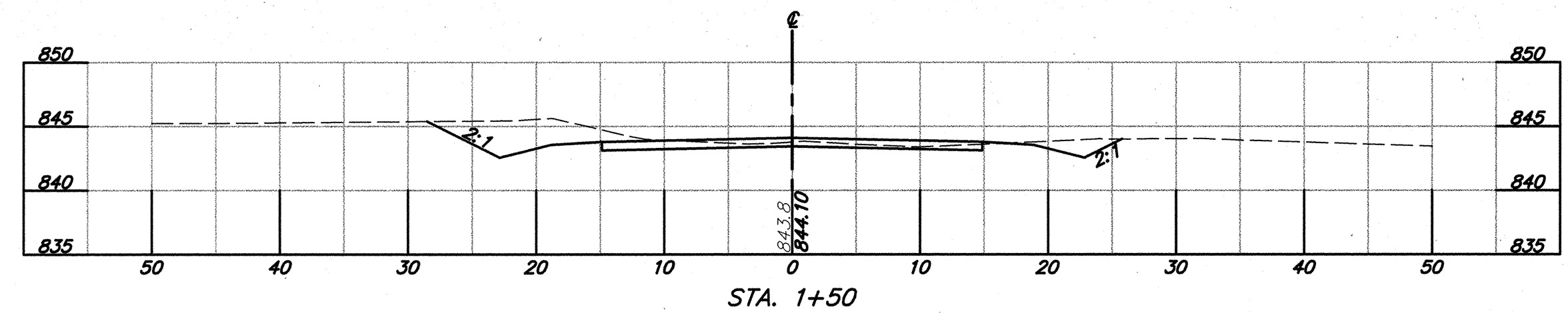
SCALE AS SHOWN  
SHEET 11 OF 12

600' SCALE MAP NO. \_\_\_\_\_ DATE: \_\_\_\_\_





**PENN SHOP ROAD  
PROFILE**  
SCALE: 1" = 30'  
1" = 10'



**PENN SHOP ROAD CROSS SECTION**  
SCALE: HORIZ. 1" = 10'  
VERT. 1" = 10'

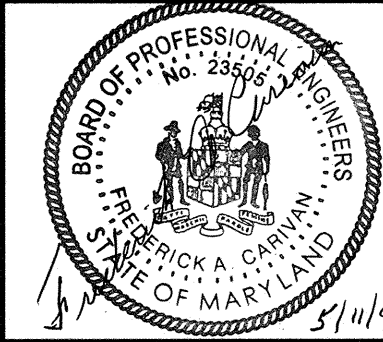
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James B. Lee* 2/28/00  
DEPARTMENT OF PUBLIC WORKS DATE  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DIVISION

*Robert J. Sporn* 2/28/00  
CHIEF, BUREAU OF ENGINEERING DATE

*Richard M. Hauke* 3-1-00  
CHIEF, BUREAU OF HIGHWAYS DATE

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CAPITAL PROJECT NO.  
**J-4168**

600' SCALE MAP NO. \_\_\_\_\_ DATE: \_\_\_\_\_

PROFILE AND CROSS SECTIONS PENN SHOP ROAD

**Long Corner Road at Penn Shop Road**

SCALE AS SHOWN

SHEET 12 OF 12