



Maryland Department of Transportation

STATE HIGHWAY ADMINISTRATION

PLANS OF PROPOSED RESURFACING AND RECONSTRUCTION OF MD. RTE. 732 FROM STATION 118+75 TO STATION 167+80 BROKEN LANE PKWY. TO 500 FT. EAST OF OLD COLUMBIA ROAD

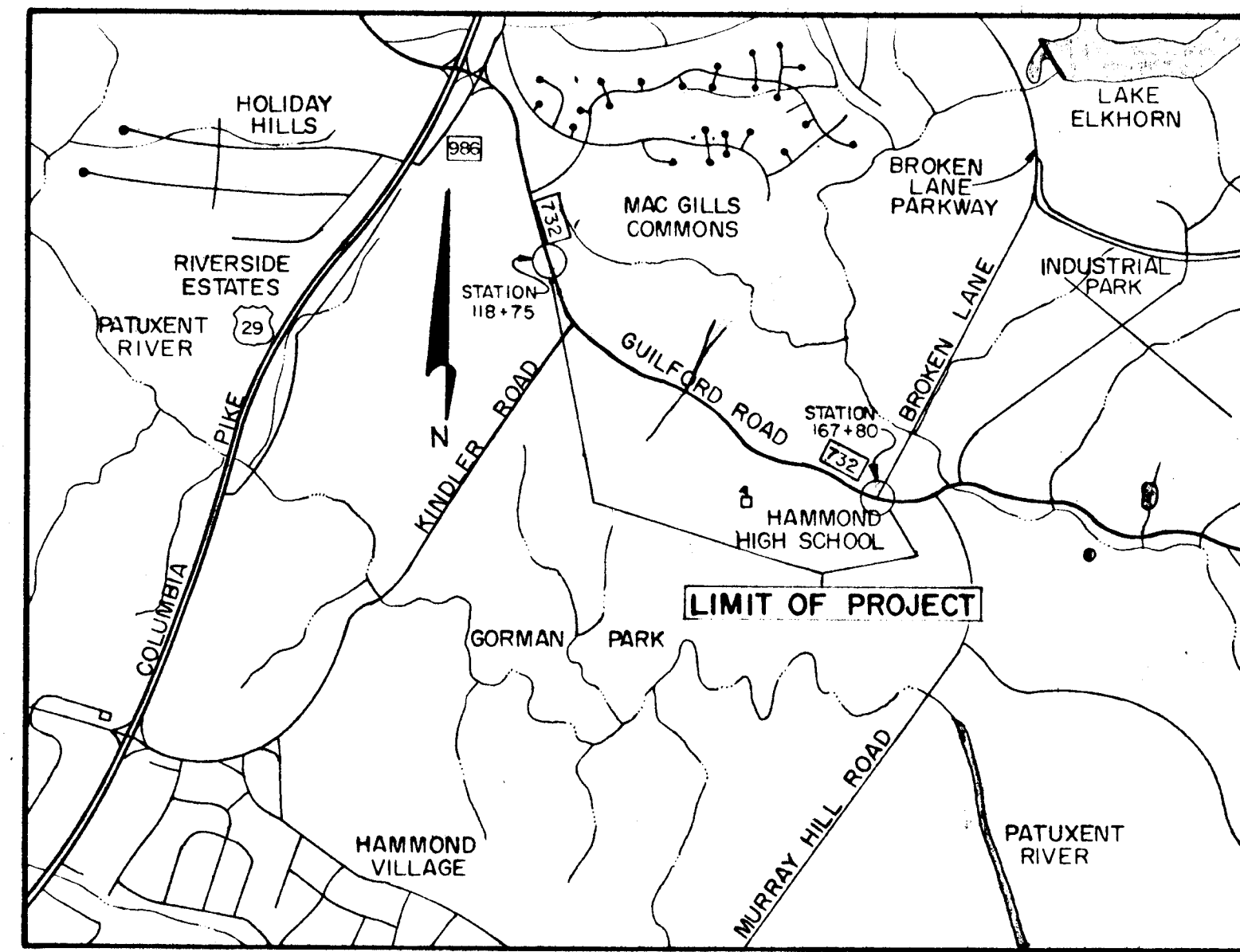
FEDERAL AID PROJECT NO.
S.H.A. CONTRACT NO.: HO 642-501-783

INDEX OF SHEETS

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1	TITLE SHEET
2	TYPICAL SECTIONS
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LEGEND

- RESURFACING
- RECONSTRUCTION



SCALE: 1" = 2000'
LOCATION MAP
PROJECT LENGTH: 4,905'
HOWARD COUNTY

"I/We hereby certify that any clearing, grading construction and/or development will be done pursuant to this plan and that any responsible personnel involved 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."

CONVENTIONAL SIGNS

STATE AND NATIONAL LINE	-----	CULVERTS	-----
COUNTY LINE	-----	RETAINING WALL	-----
CITY OR VILLAGE	-----	DROP INLET	-----
GUARD RAIL	-----	TROLLEY POLE	-----
FENCE LINE	-----	POWER POLE	-----
UNFENCED PROPERTY	-----	TELEPHONE OR TELEGRAPH POLE	-----
RIGHT OF WAY LINE	-----	MARSH	-----
TRAVELED WAY	-----	HEDGE	-----
RAILROADS	-----	GROUND ELEVATION	DATUM LINE 172.6
BASE OR SURVEY LINE	-----	GRADE ELEVATION	DATUM LINE 270.3

- DESIGN TRAFFIC DATA -

DESCRIPTION	1985	1990
A. D. T.	10,000	12,000
D. H. V.	10%	10%
DIRECTIONAL DISTRIBUTION D. H. V.	60%	60%
PERCENT TRUCKS - A. D. T.	9%	9%
PERCENT TRUCKS - D. H. V.	7%	7%
DESIGN SPEED	40	40

APPROVAL RECOMMENDED

DEPUTY CHIEF ENGINEER - MAINTENANCE

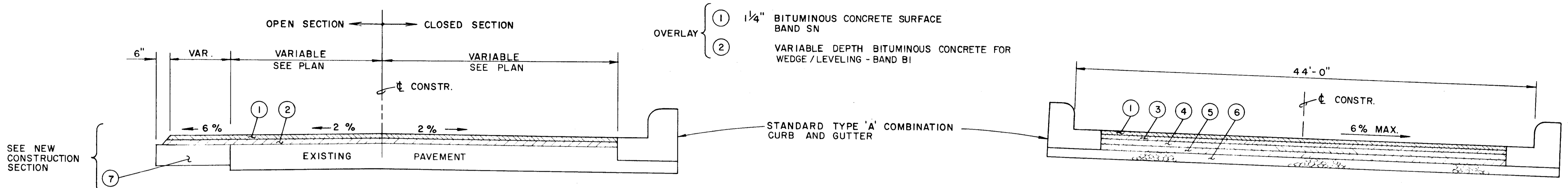
APPROVAL RECOMMENDED

12/3/86

ACTING DISTRICT ENGINEER

APPROVED

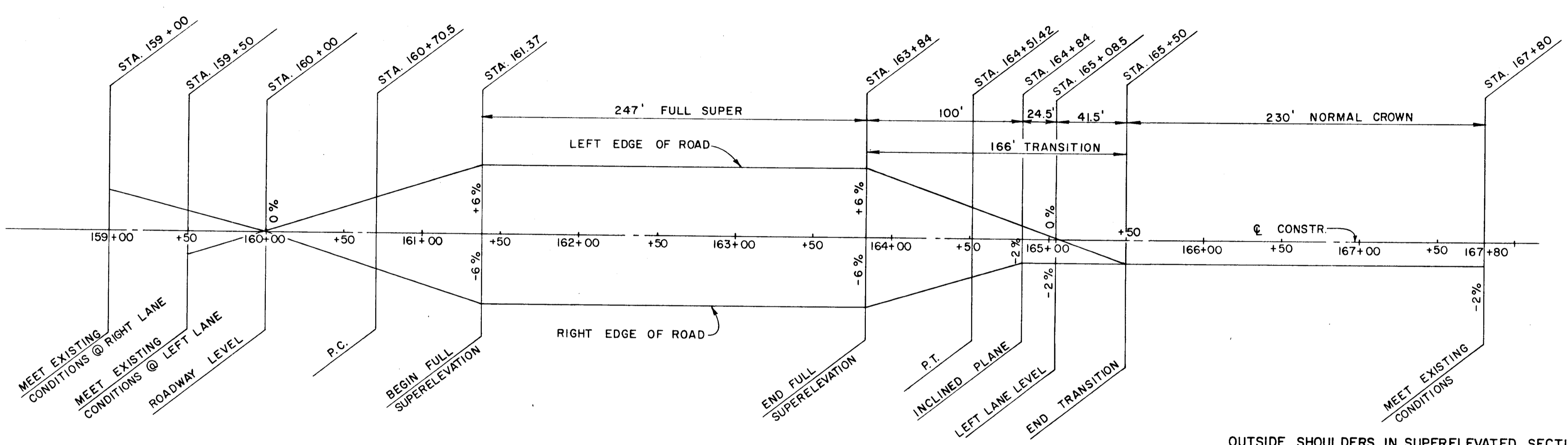
CHIEF ENGINEER



- ① 1/2" NOMINAL BITUMINOUS CONCRETE SURFACE - BAND SF
- ② 1/2" NOMINAL BITUMINOUS CONCRETE SURFACE - BAND SF
- ③ 2" NOMINAL BITUMINOUS CONCRETE BASE - BAND BI
- ④ 3" NOMINAL BITUMINOUS CONCRETE BASE - BAND BC
- ⑤ 6" SUB-BASE USING GRADED AGGREGATE SUB-BASE COURSE
- ⑥ 4" NOMINAL BITUMINOUS CONCRETE BASE WIDENING - BAND BC
- ⑦

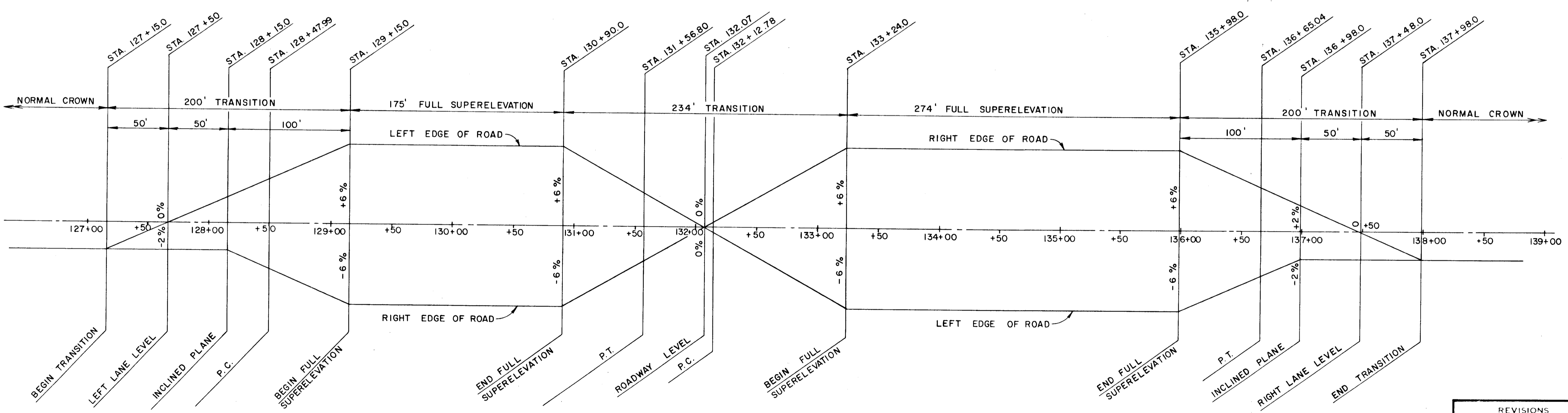
TYPICAL SECTION FOR OVERLAY & SHOULDER RECONSTRUCTION
NO SCALE

TYPICAL CLOSED SECTION FOR NEW CONSTRUCTION
NO SCALE



SUPERELEVATION DIAGRAM FROM STA. 159+00 TO STA. 167+80

OUTSIDE SHOULDERS IN SUPERELEVATED SECTIONS
 NOTE: a. WHERE S = 6% OR <, LOW SIDE SHOULDER = -6%
 b. WHERE S > 6%, LOW SIDE SHOULDER IS SLOPED SAME AS PAVEMENT
 c. WHERE S = 5%, OR <, HIGH SIDE SHOULDER = -2%
 d. WHERE S > 5% HIGH SIDE SHOULDER IS SLOPED TO PROVIDE A MAXIMUM ROLLOVER CROWN BREAK OF 7%



SUPERELEVATION DIAGRAM FROM STA. 127+15 TO STA. 137+98

SCALE: PLAN: 1 IN. = 50 FT.
 PROFILE: HOR. 1 IN. = 50 FT.; VERT. 1 IN. = 10 FT.

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION DISTRICT 7 SPECIAL PROJECTS	
	CONT. NO. HO-642-501-783	F.A.P. NO.
	PREL. TRAC BY	SHEET NO. 2 OF 4

STA. 118+75
BEGIN WORK THIS CONTRACT

STA. 118+86, 14' LT
EXIST. POLE TO BE RELOCATED
BY OTHERS.

STA. 118+81 TO 120+42 LT.
REMOVE EXIST. POST &
CABLE GUARD RAIL.

STA. 120+47 LT.
RELOCATE EXIST. ROAD SIGN

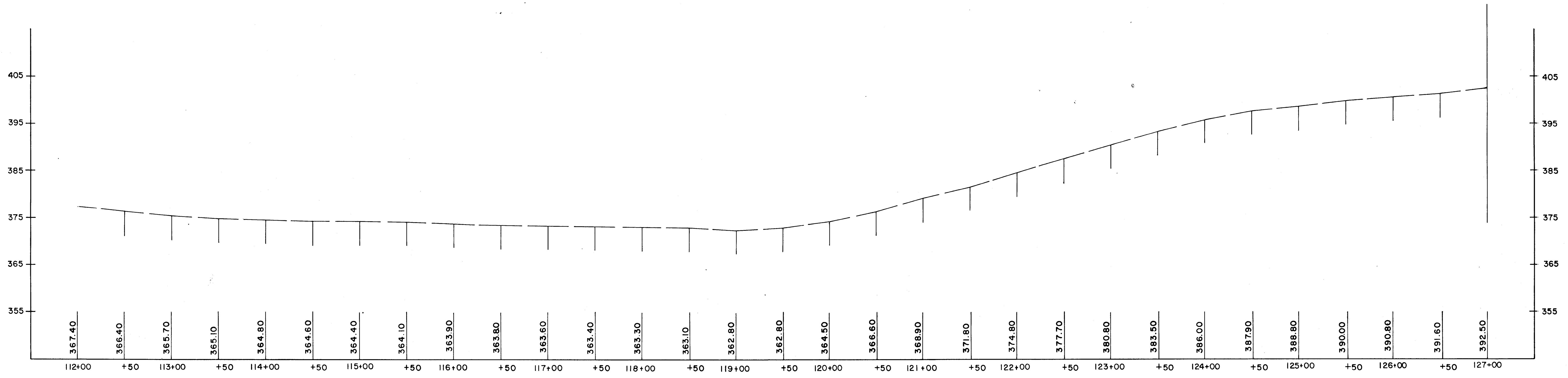
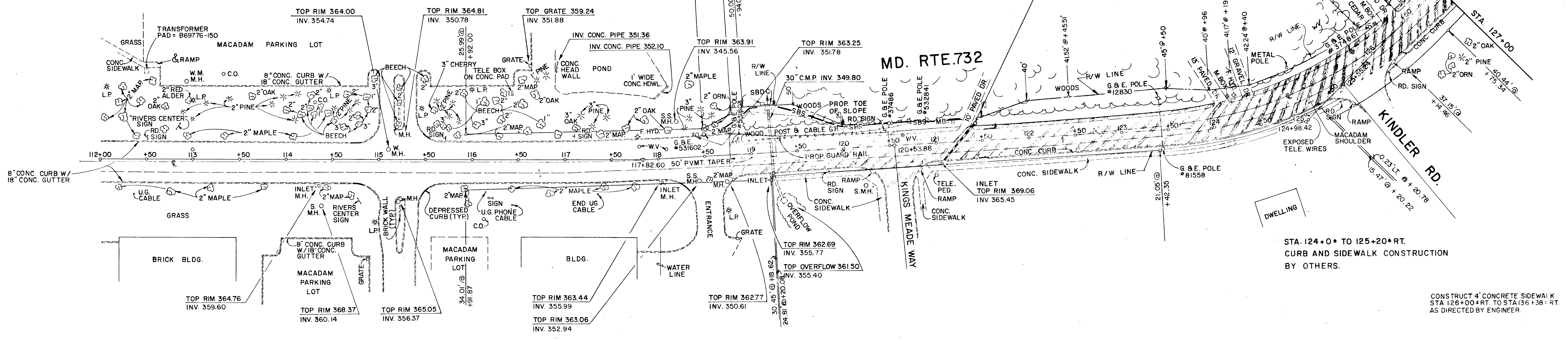
STA. 120+55 RT. EXTEND NEW
OVERLAY ON KINGS MEADE WAY
TO END OF CURB RADIUS.

STA. 118+75 TO 120+75 LT
CONST. W-BEAM TRAFFIC BARRIER
WITH (2) TYPE 2 END FLARE

STA. 119+20 LT.
EXTEND 30" CMP. (10 L.F., 16 GAGE)
TO TOE OF SLOPE WITH STANDARD
METAL END SECTION AS DIRECTED

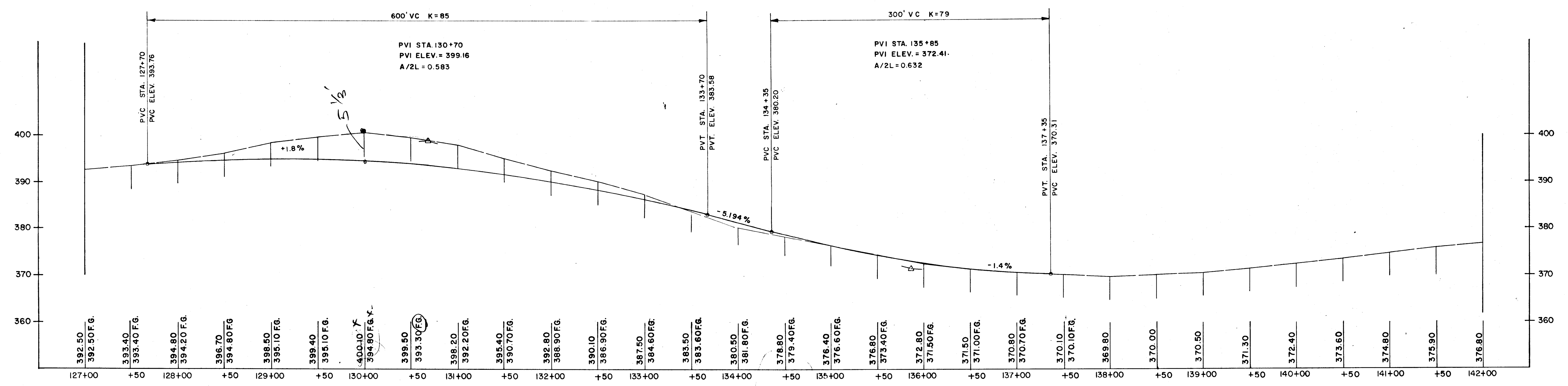
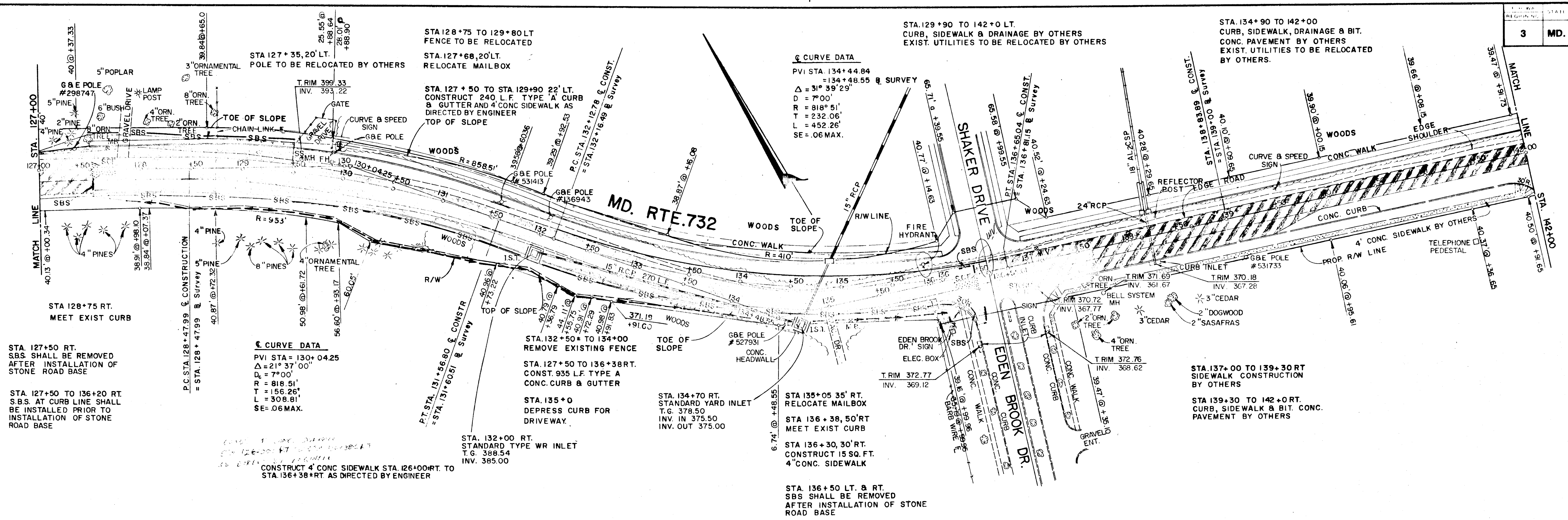
STA. 118+75 TO STA. 124+00 LT.
NEW SHOULDER RECONSTRUCTION

STA. 121+40 TO 124+00 LT.
SHOULDER RECONSTRUCTION TO
BE COMPLETED IN SAME DAY



SCALE { PLAN: 1 IN. = 50 FT.
PROFILE: HOR. 1 IN. = 50 FT.; VERT. 1 IN. = 10 FT.

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION DISTRICT 7 SPECIAL PROJECTS		
	CONT NO. HO-642-501-783	F A P NO.	SHEET NO. 3 OF 14
	PREL TRAC BY 7.7.W.	FINAL TRAC BY	



SCALE PLAN: 1 IN. = 50 FT.
 PROFILE: HOR. 1 IN. = 50 FT.; VERT. 1 IN. = 10 FT.

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION DISTRICT 7 SPECIAL PROJECTS	
	CONT NO. HO-642-501-783	F.A.P. NO. _____
	PREL. TRAC. BY _____	SHEET NO. 4 OF 14
		FINAL TRAC. BY _____

STA 142+00 TO STA. 148+10 LT.
NEW SHOULDER RECONSTRUCTION

STA. 152+15 TO STA. 156+00 LT.
NEW SHOULDER RECONSTRUCTION -
TO BE COMPLETED IN THE SAME DAY

STA 143+68 - 6 ft. LT.
PLACE NEW STD. J INLET END
W/ REPLACEMENT GRATE FOR
EXISTING 12" Ø RCP

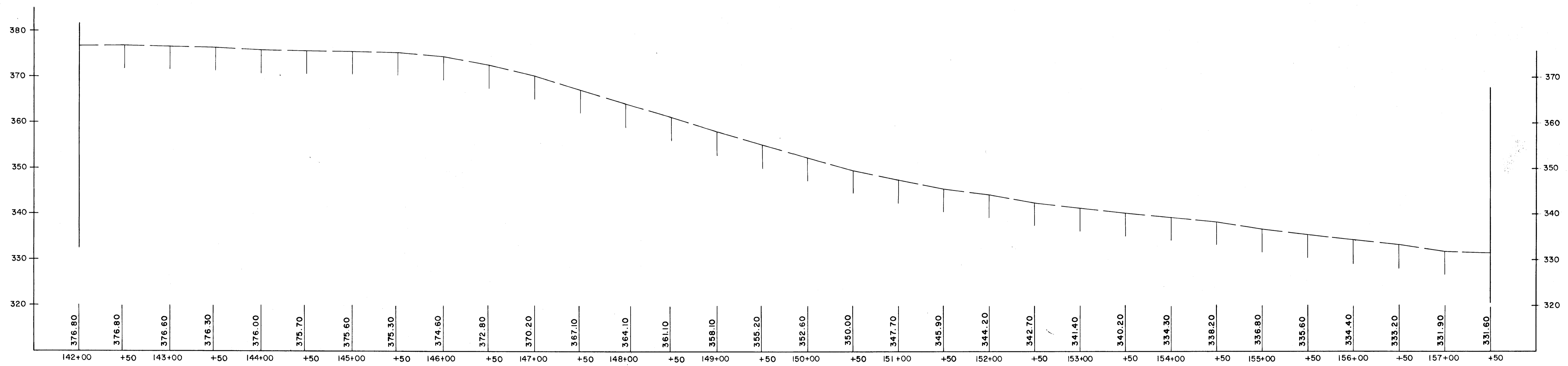
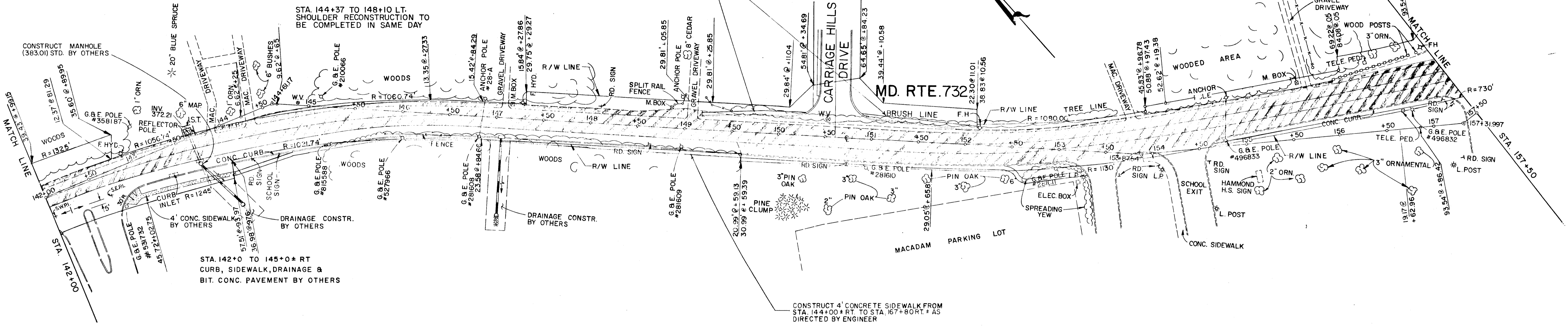
CONSTRUCT 4' CONCRETE SIDEWALK FROM
STA 149+15+LT TO STA. 150+40+LT. AND
STA 150+75+LT TO STA 152+15+ LT. AS
DIRECTED BY ENGINEER.

STA. 149+18 TO 152+15 LT
CURB, & BIT. CONC.
PAVEMENT BY OTHERS

STA 144+37 TO 148+10 LT.
SHOULDER RECONSTRUCTION TO
BE COMPLETED IN SAME DAY

STA 142+0 TO 145+0 RT
CURB, SIDEWALK, DRAINAGE &
BIT. CONC. PAVEMENT BY OTHERS

CONSTRUCT 4' CONCRETE SIDEWALK FROM
STA. 144+00+RT TO STA. 167+80+RT. AS
DIRECTED BY ENGINEER



SCALE PLAN: 1 IN. = 50 FT.
PROFILE: HOR. 1 IN. = 50 FT.; VERT. 1 IN. = 10 FT.

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION DISTRICT 7 SPECIAL PROJECTS	
	CONT NO. H0-642-501-783	F A P NO. _____ SHEET NO. 5 OF 14
	PREL TRAC BY 7.7.W	FINAL TRAC BY _____

CONSTRUCT 4' CONCRETE SIDEWALK FROM STA. 157+00+LT. TO STA. 157+50+LT., STA. 157+75+LT. TO STA. 165+70+LT., AND STA. 166+00+LT. TO STA. 169+50+LT. AS DIRECTED BY ENGINEER.

STA. 159+00 TO 167+80 RT.
 STA. 159+50 TO 165+50 LT.
 STD. TYPE A COMB. CURB & GUTTER
 STA. 160+40 TO 165+50 LT.
 S.B.S. AT CURB LINE SHALL BE INSTALLED PRIOR TO INSTALLATION OF STONE ROAD BASE.

STA. 163+40 TO 165+50.00 LT.
 REMOVE EXIST. CONC. CURB
 STA. 165+50 LT.
 MEET EXIST. CURB

TRANSITION CURB FROM STA. 159+00 TO STA. 160+50 TO MEET 44' STANDARD ROADWAY SECTION

STA. 159+00 TO 160+00
 REMOVE EXIST CURB
 STA. 159+00 LT. & RT.
 MEET EXIST CURB
 STA. 159+50 RT.
 RELOCATE MAILBOX

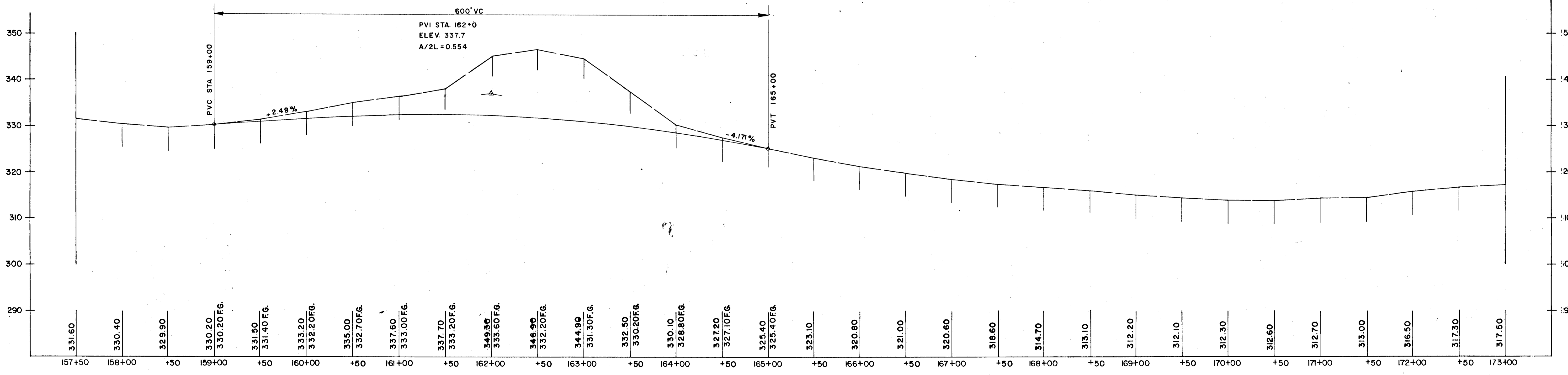
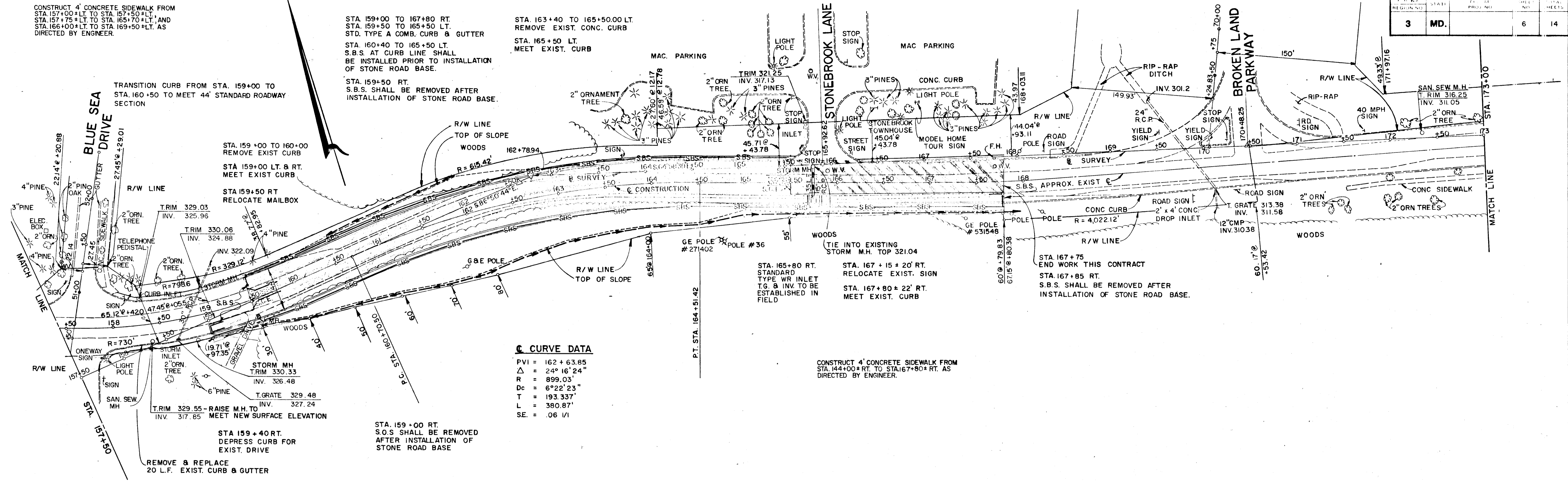
STA. 165+80 RT.
 STANDARD TYPE WR INLET T.G. & INV. TO BE ESTABLISHED IN FIELD
 STA. 167+15 ± 20' RT.
 RELOCATE EXIST. SIGN
 STA. 167+80 ± 22' RT.
 MEET EXIST. CURB

STA. 167+75
 END WORK THIS CONTRACT
 STA. 167+85 RT.
 S.B.S. SHALL BE REMOVED AFTER INSTALLATION OF STONE ROAD BASE.

CONSTRUCT 4' CONCRETE SIDEWALK FROM STA. 144+00+RT. TO STA. 167+80+RT. AS DIRECTED BY ENGINEER.

C CURVE DATA

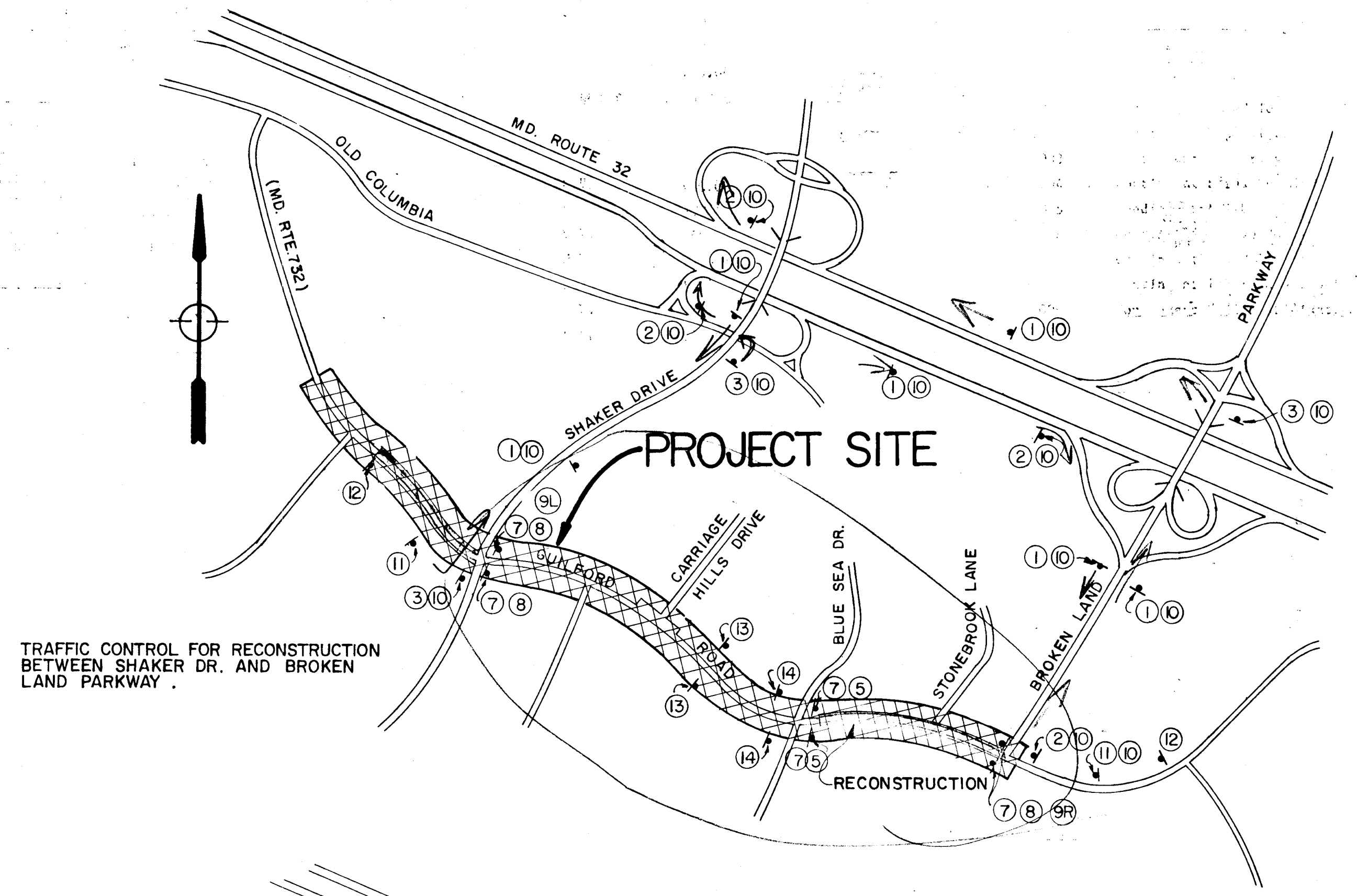
PVI	= 162 + 63.85
Δ	= 24° 16' 24"
R	= 899.03'
Dc	= 6° 22' 23"
T	= 193.337'
L	= 380.87'
SE	= .06 1/1



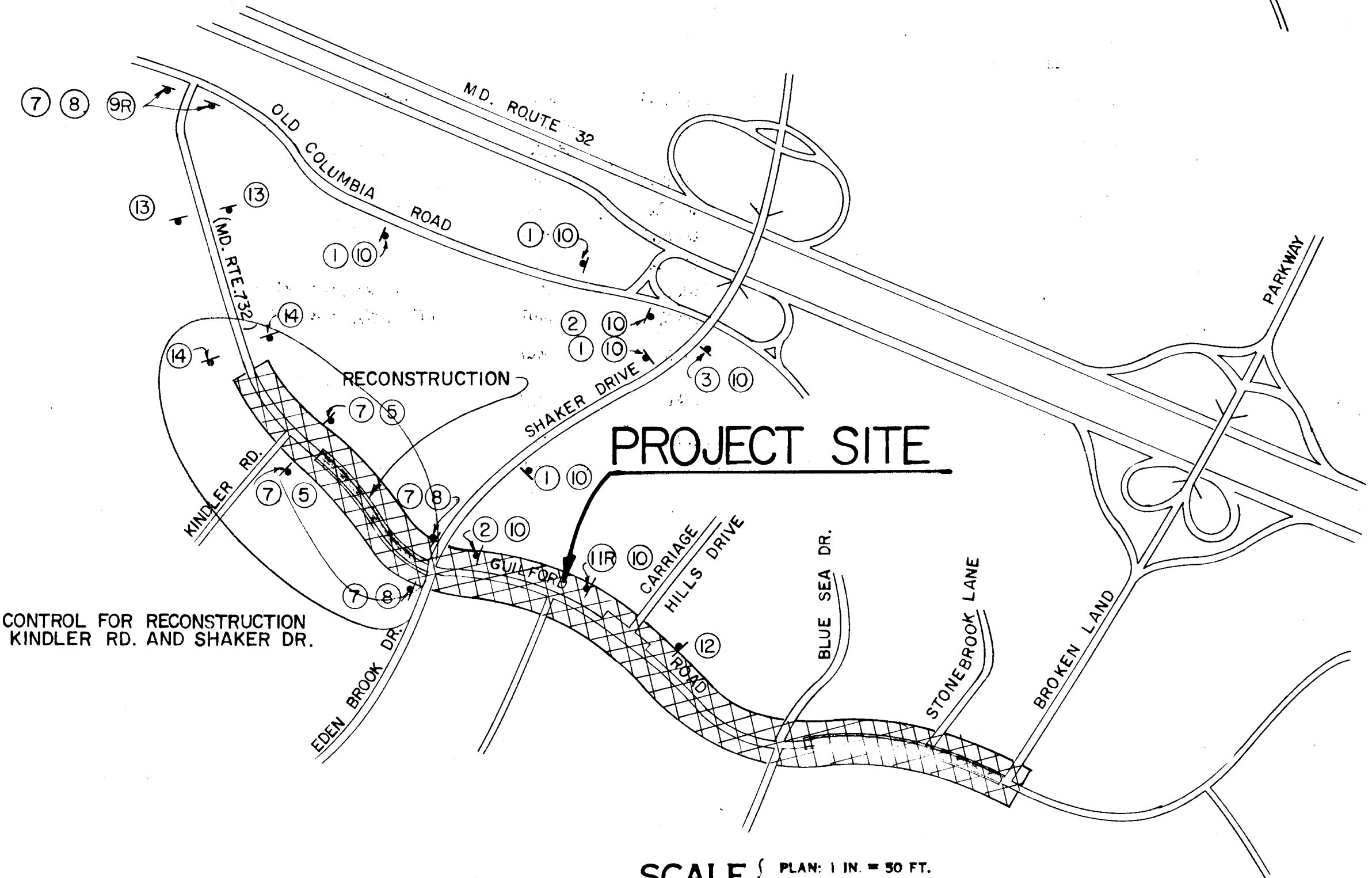
SCALE PLAN: 1 IN. = 50 FT. PROFILE: HOR. 1 IN. = 50 FT.; VERT. 1 IN. = 10 FT.

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION DISTRICT 7 SPECIAL PROJECTS
CONT NO. HO-642-501-783	F A P NO. _____ SHEET NO. 6 OF 14
PREL TRAC BY _____	FINAL TRAC BY _____

VICINITY MAP



TRAFFIC CONTROL FOR RECONSTRUCTION BETWEEN SHAKER DR. AND BROKEN LAND PARKWAY.



TRAFFIC CONTROL FOR RECONSTRUCTION BETWEEN KINDLER RD. AND SHAKER DR.

SCALE { PLAN: 1 IN. = 50 FT.
PROFILE: HOR. 1 IN. = 50 FT.; VERT. 1 IN. = 10 FT.

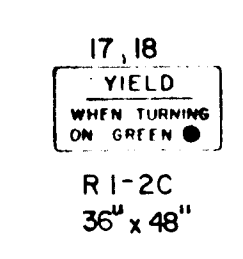
SIGN LEGEND		SIGN NUMBER
SIGN TYPE		
M4-9 30" x 24"	DETOUR ↓	①
M4-9R 30" x 24"	DETOUR →	②
M4-9L 30" x 24"	DETOUR ←	③
R11-2 48" x 30"	ROAD CLOSED	⑤
TYPE III BARRICADE		⑦
R11-4	ROAD CLOSED TO THRU TRAFFIC	⑧
M4-10	DETOUR →	⑨
3" LETTERS BLACK ON ORANGE 30" x 10"	GUILFORD RD.	⑩
M4-9 30" x 24"	DETOUR ↑	⑪
W20-2 48" x 48"	DETOUR 1500 FT.	⑫
W20-3 48" x 48"	ROAD CLOSED 1000 FT.	⑬
W20-3 48" x 48"	ROAD CLOSED 500 FT.	⑭

TRAFFIC CONTROL PLAN

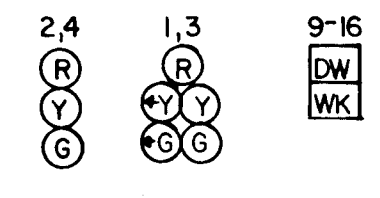
- All advance construction area warning signs and detour route signs shall be placed prior to commencing any roadway reconstruction work on this project.
- All standard regulatory and warning signs used for Maintenance of Traffic shall be in accordance with the "Manual on Uniform Traffic Control Device" (MUTCD latest edition), the Maryland Edition of the Booklet "Standard Highway Signs", and Section 814 of the MD S.H.A. Specifications. It shall be the responsibility of the contractor to procure the latest edition and supplements of each of these publications for his use.
- Both sections of roadway reconstruction cannot be done at the same time. The second section of roadway reconstruction cannot begin until the first section is able to carry traffic. A section is considered able to carry traffic as soon as the 3" nominal bituminous concrete base - band BC is in place. Appropriate ramps shall be constructed as required of band BC type material to allow traffic to safely travel from and to the reconstruction sections.
- Upon completing the roadway reconstruction for both sections such that they are able to carry traffic, the detour signs shall be removed. Remaining paving operations shall be on a "stage construction basis" and traffic shall be directed by flagging operations per standard MD-104.02 during construction hours. The construction area shall allow for two-way traffic during nonconstruction hours and lane closure between the hours of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. shall not be permitted.
- The detour route for the reconstruction between Kindler Road and Shaker Drive as indicated follows Shaker Drive and Old Columbia Road.
- The detour route for the reconstruction between Shaker Drive and Broken Land Parkway as indicated follows Broken Land Parkway, Maryland Route 32 and Shaker Drive.
- The contractor shall allow local traffic access for the entire project site during the complete construction period.

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION DISTRICT 7 SPECIAL PROJECTS
CONT NO. HG-642-501-783	F A P NO. _____ SHEET NO. 7 OF 14
PREL TRAC BY _____	FINAL TRAC BY _____

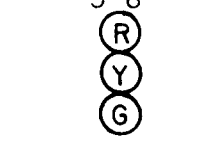
SIGNS



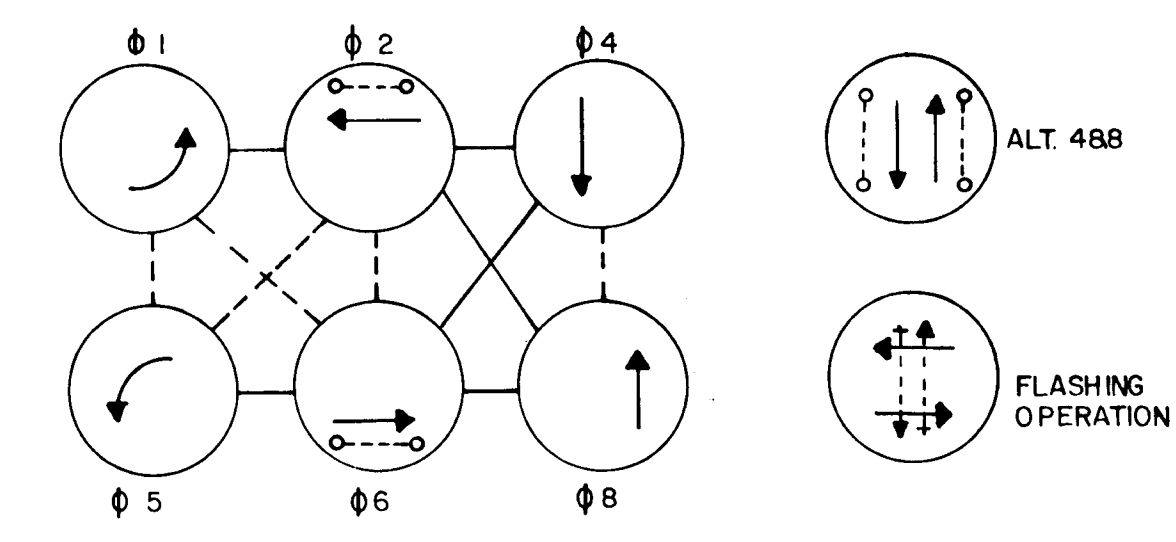
12" SIGNALS



8" SIGNALS



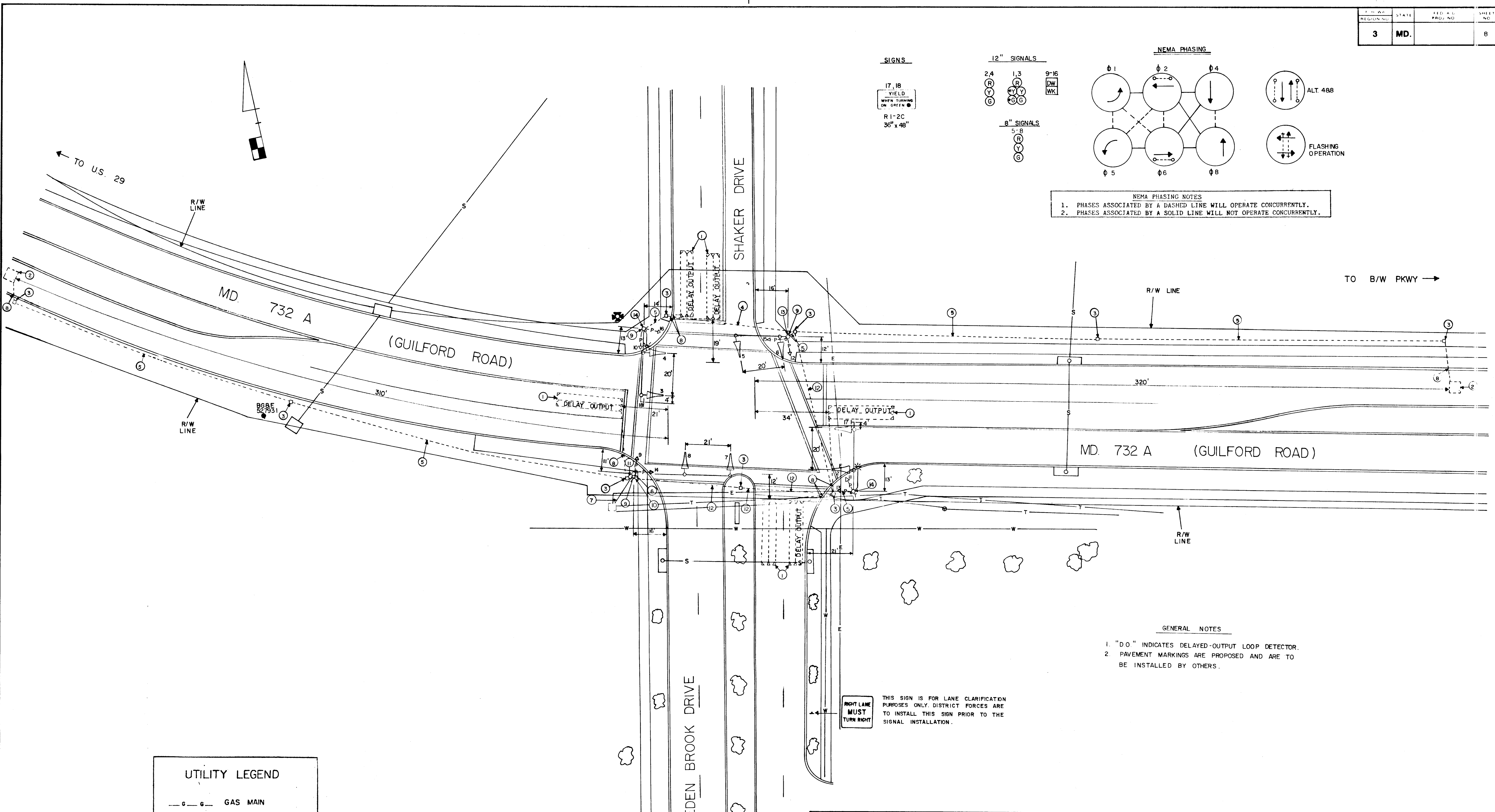
NEMA PHASINGS



NEMA PHASING NOTES
 1. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.
 2. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.

UTILITY LEGEND

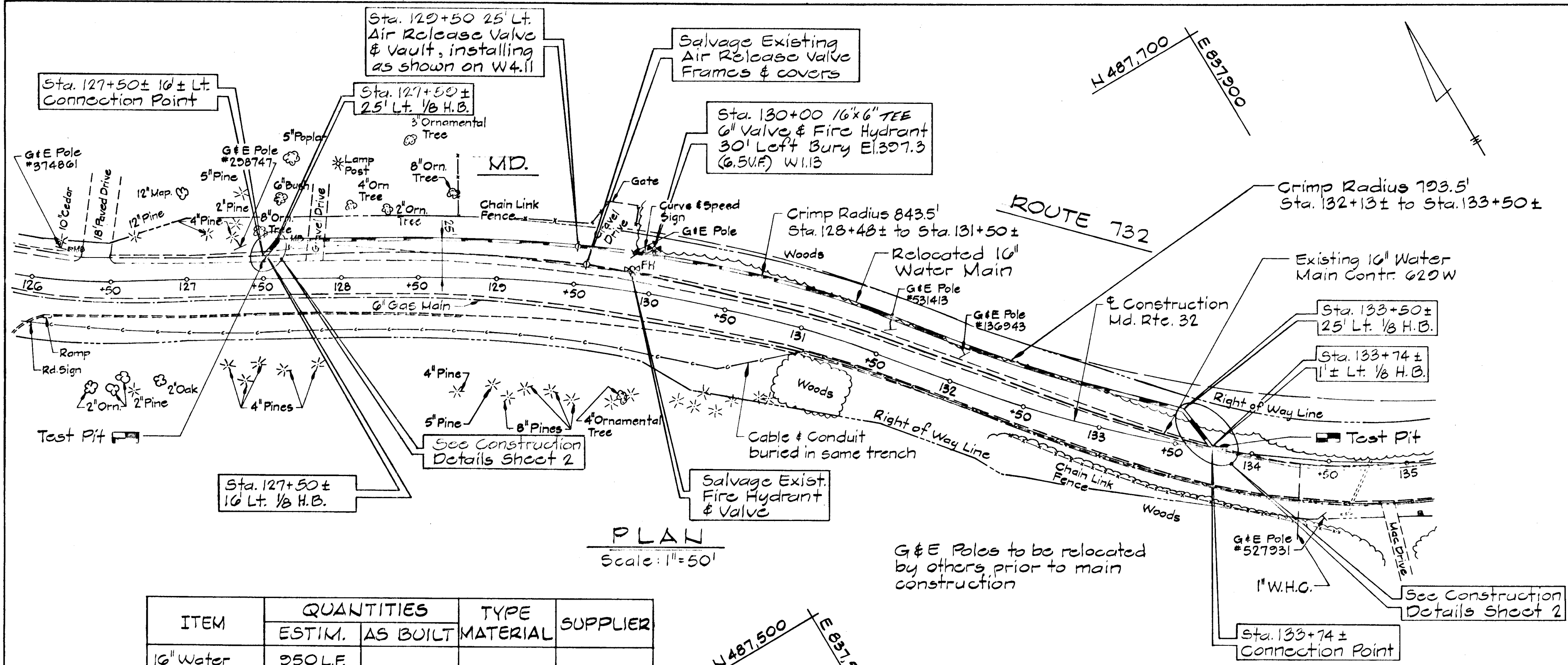
— G — G	GAS MAIN
— W — W	WATER MAIN
— S — S	SEWER MAIN
— E — E	ELECTRIC CABLES
— T — T	TELEPHONE CABLES
— A — A	AERIAL CABLES



GENERAL NOTES
 1. "D.O." INDICATES DELAYED-OUTPUT LOOP DETECTOR.
 2. PAVEMENT MARKINGS ARE PROPOSED AND ARE TO BE INSTALLED BY OTHERS.

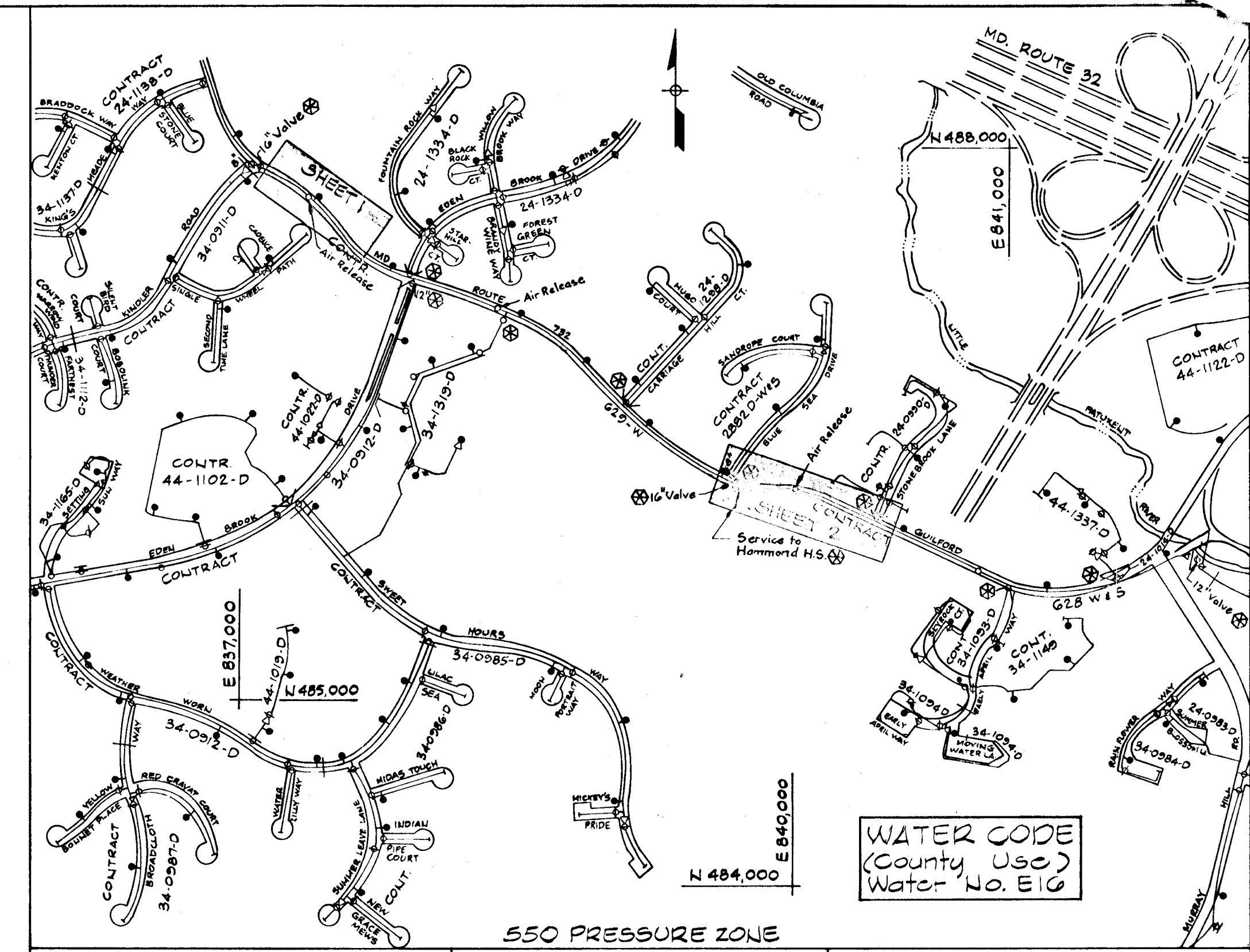
RIGHT LANE MUST TURN RIGHT
 THIS SIGN IS FOR LANE CLARIFICATION PURPOSES ONLY. DISTRICT FORCES ARE TO INSTALL THIS SIGN PRIOR TO THE SIGNAL INSTALLATION.

REVISIONS [] [] [] [] [] [] [] [] [] []	APPROVALS [Signature] CHIEF, SIGNAL DESIGN SECTION [Signature] ASST. DISTRICT ENGINEER, TRAFFIC [Signature] CHIEF, BUREAU OF TRAFFIC ENGINEERING [Signature] DEPUTY CHIEF ENGINEER, OFFICE OF TRAFFIC	MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION - OFFICE OF TRAFFIC BUREAU OF TRAFFIC ENGINEERING	
		MD. 732 A (GUILFORD ROAD) AND EDEN BROOK DRIVE / SHAKER DR COUNTY: HOWARD	DRAWN BY: GENE SIMMERS DES. BY: GENE SIMMERS CHK. BY: [Signature]
SCALE: 1" = 20' DATE: 11/8/86		F.A.P. NO. _____ S.H.A. NO. HO 642-501-783	SHEET NO. _____ 8 OF 14
		TS/FILE NO. 2245	



PLAN
Scale: 1"=50'

ITEM	QUANTITIES		TYPE MATERIAL	SUPPLIER
	ESTIM.	AS BUILT		
10" Water	950 L.F.			
6" Water	5 L.F.			
2 Air Release Valve & Vault	2 EA.			
1 Fire Hydrant, Tee & 6" Valve	1 EA.			



VICINITY MAP
Scale: 1"=600'

WATER CODE
(County Use)
Water No. E10

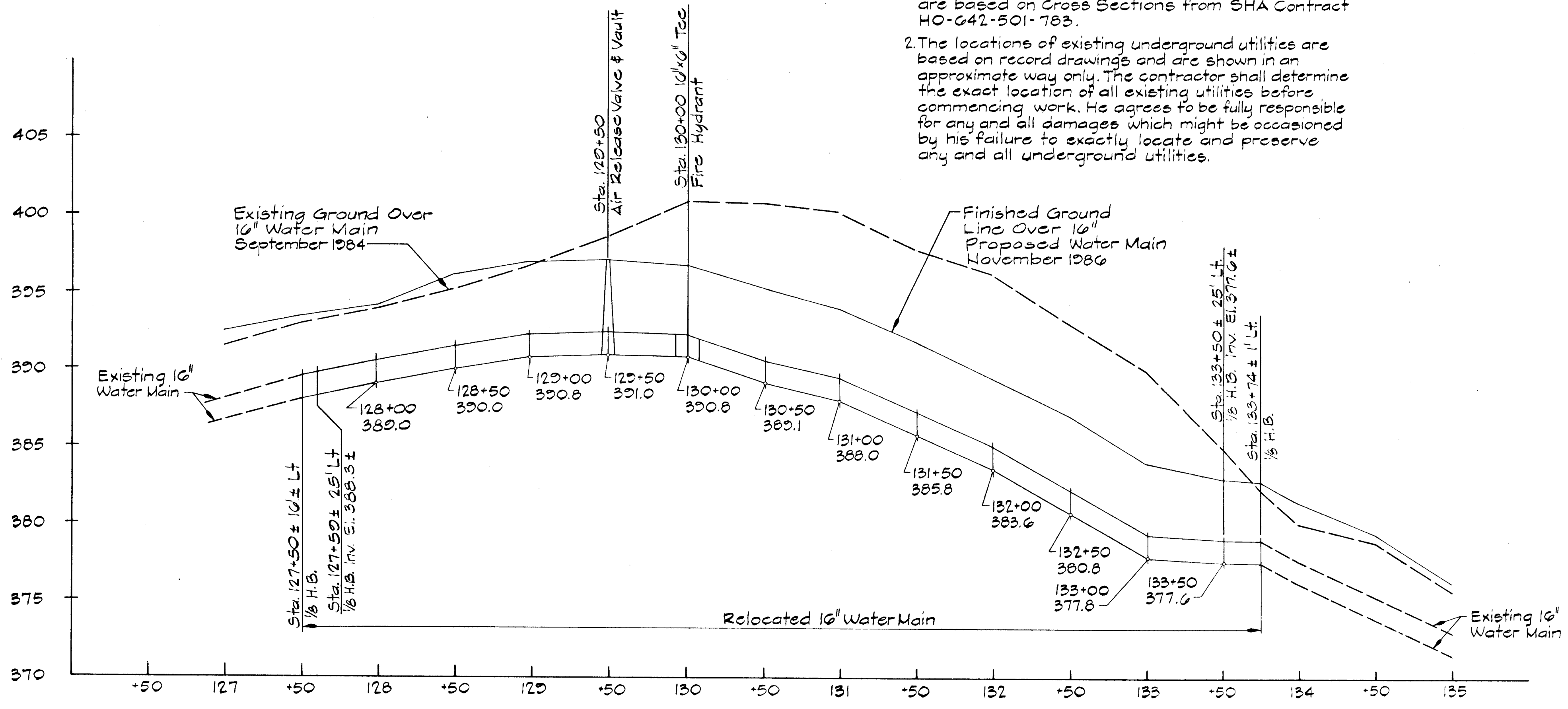
Type of Building: None
Number of Parcels: None
Number of Water House Conn.: None
Drainage Area: N/A

Values to be closed during connection of existing 10" Water Main to relocate 10" Water Main.

G & E Poles to be relocated by others prior to main construction

Notes:

- The existing and finished ground lines shown are based on Cross Sections from SHA Contract HO-642-501-783.
- The locations of existing underground utilities are based on record drawings and are shown in an approximate way only. The contractor shall determine the exact location of all existing utilities before commencing work. He agrees to be fully responsible for any and all damages which might be occasioned by his failure to exactly locate and preserve any and all underground utilities.



PROFILE
Scale: 1"=50' Horiz. & 1"=5' Vert.

GENERAL NOTES

- Approximate location of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the Contractor's expense.
- All horizontal controls based on Maryland State Coordinates.
- All vertical controls based on U.S.G.S. data.
- All pipe elevations shown are invert elevations.
- Clear all utilities by a minimum of 6".
- For details not shown on the drawings, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications and Details for Construction. The contractor shall have a copy of Volume IV on the job.
- Where test pits are to be made on existing utilities, they are noted by the symbol [] at the location of the test pit. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be verified by the Contractor to his own satisfaction. Any damage to existing facilities due to the Contractor's negligence shall be repaired at the Contractor's expense.
- The Contractor shall notify the following utilities or agencies at least five working days before starting work shown on these plans:
Baltimore Gas & Electric Co.-Contractor Service - 850-4620
Baltimore Gas & Electric Co.-Under Ground Damage Control - 850-9004
Baltimore Gas & Electric Co.-Trouble Shooting - 298-9001
Miss Utility - 1-552-0100
Bureau of Utilities, Howard County Department of Public Works - 952-2366
- Trees and shrubs are to be protected from damage to maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the Contractor.
- Contractor shall remove trees, stumps and roots along line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.
- All water mains to be D.I.P. Class 52 unless otherwise noted.
- Tops of all water mains to have a minimum of 3.5' cover unless otherwise noted.
- Valves adjacent to tees shall be strapped to tees.
- All fittings shall be buttressed or anchored with concrete in accordance with the Standard Details unless otherwise provided for on the drawings.
- Fire hydrants shall be set to the bury line elevations shown on the drawings. All fire hydrants shall be strapped and buttressed with concrete in accordance with Standard Details. Soil around the fire hydrant shall be compacted in accordance with Section 1003 from the Standard Specifications.
- The Contractor shall not operate any water main valves on the existing water system. Call Bureau of Utilities at 992-2366.
- All water house connections shall be for inside meter setting, unless otherwise noted on the plans or in the specifications.

S.H.A. DRAWING NO. _____
S.H.A. CONTRACT HO-642-501-783

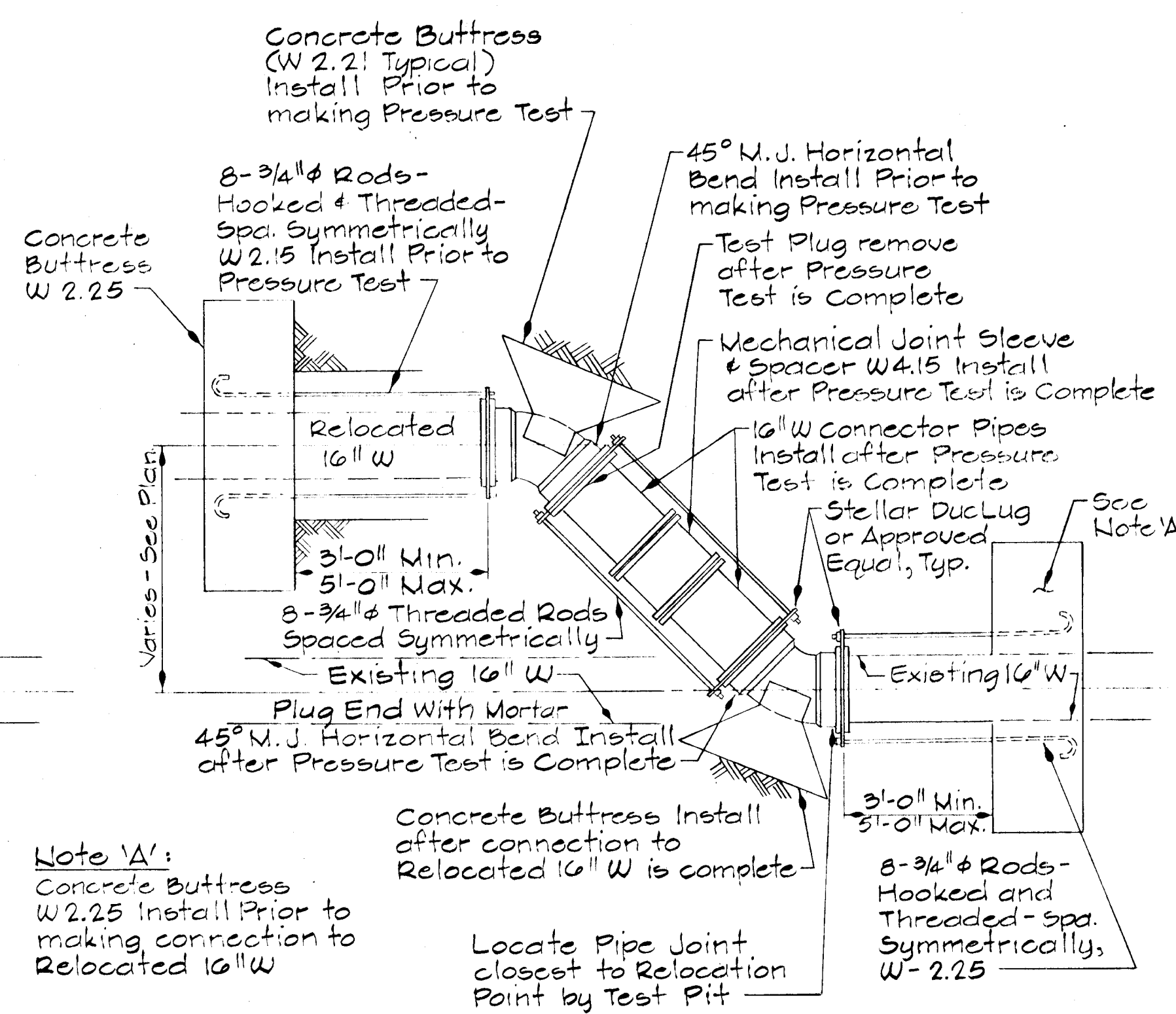
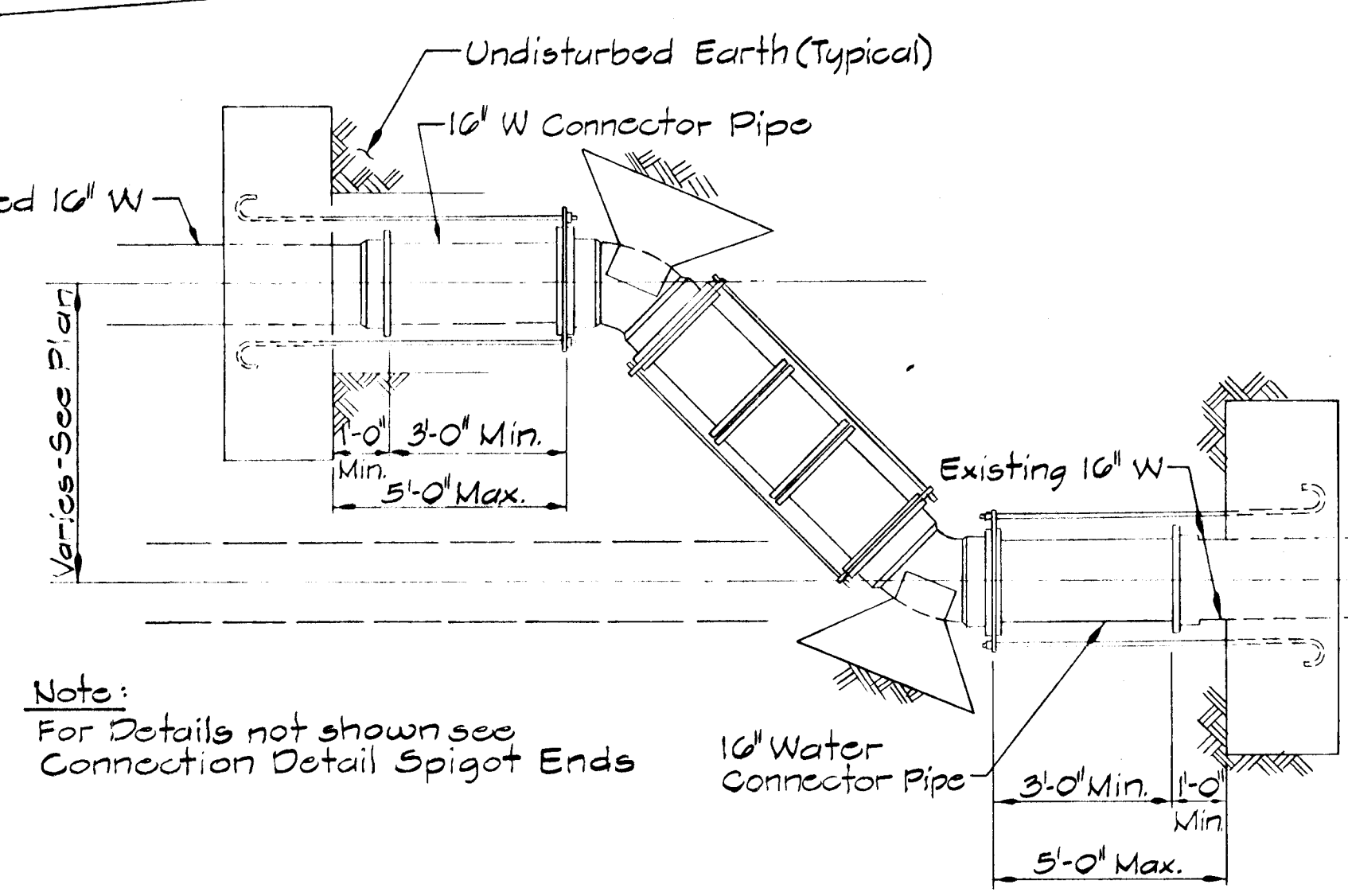
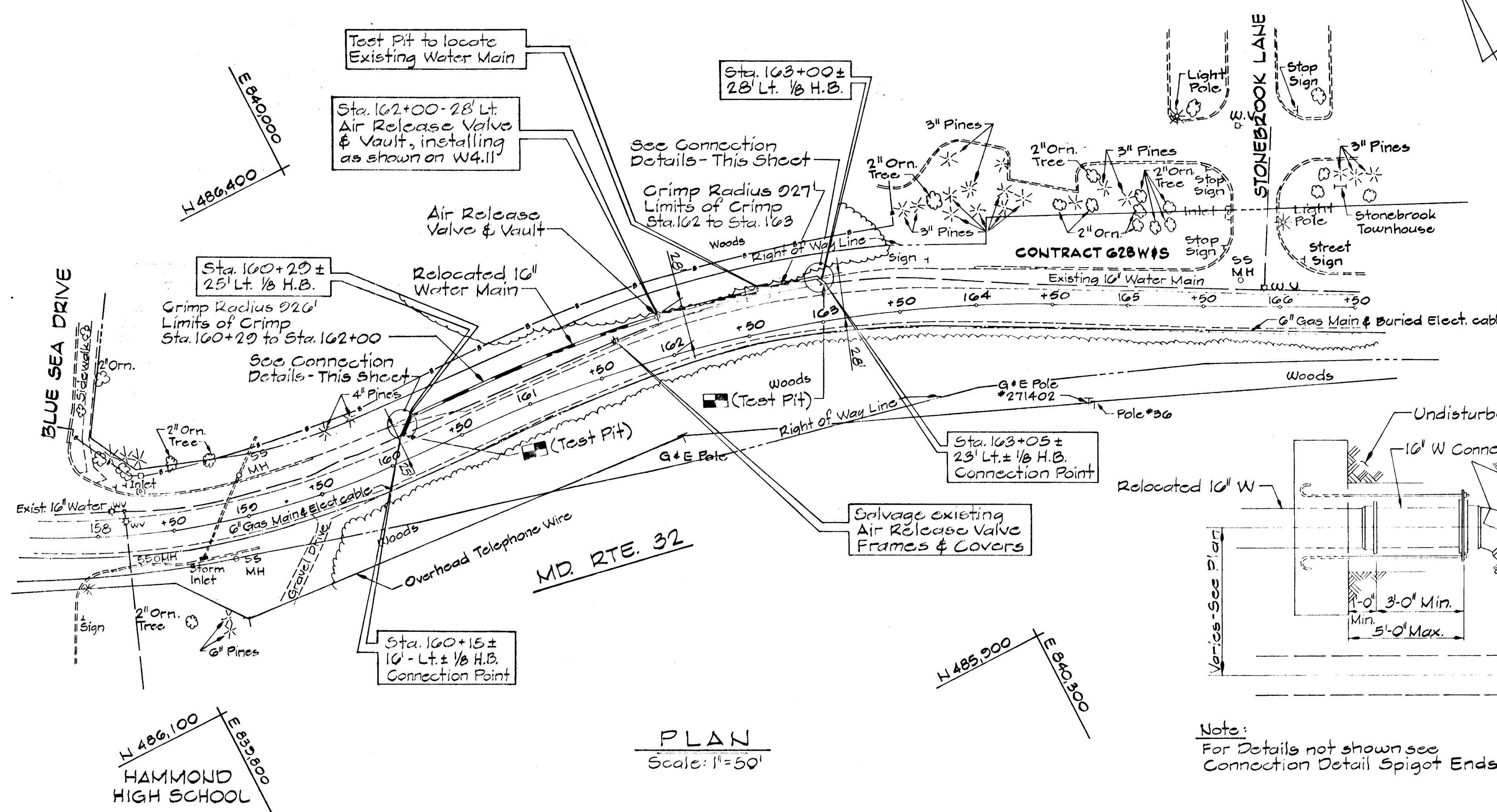
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
12/27/86
12/27/86

WALLACE, MONTGOMERY & ASSOCIATES
9 W. 29TH STREET
BALTIMORE, MARYLAND 21218
(301) 235-7600

DES: J.C.W.
DRN: D.E.D.
CHK: J.C.W.
DATE: 12-5-86

BY NO. REVISION DATE 600' SCALE MAP NO. 42 BLOCK NO. 7 & B

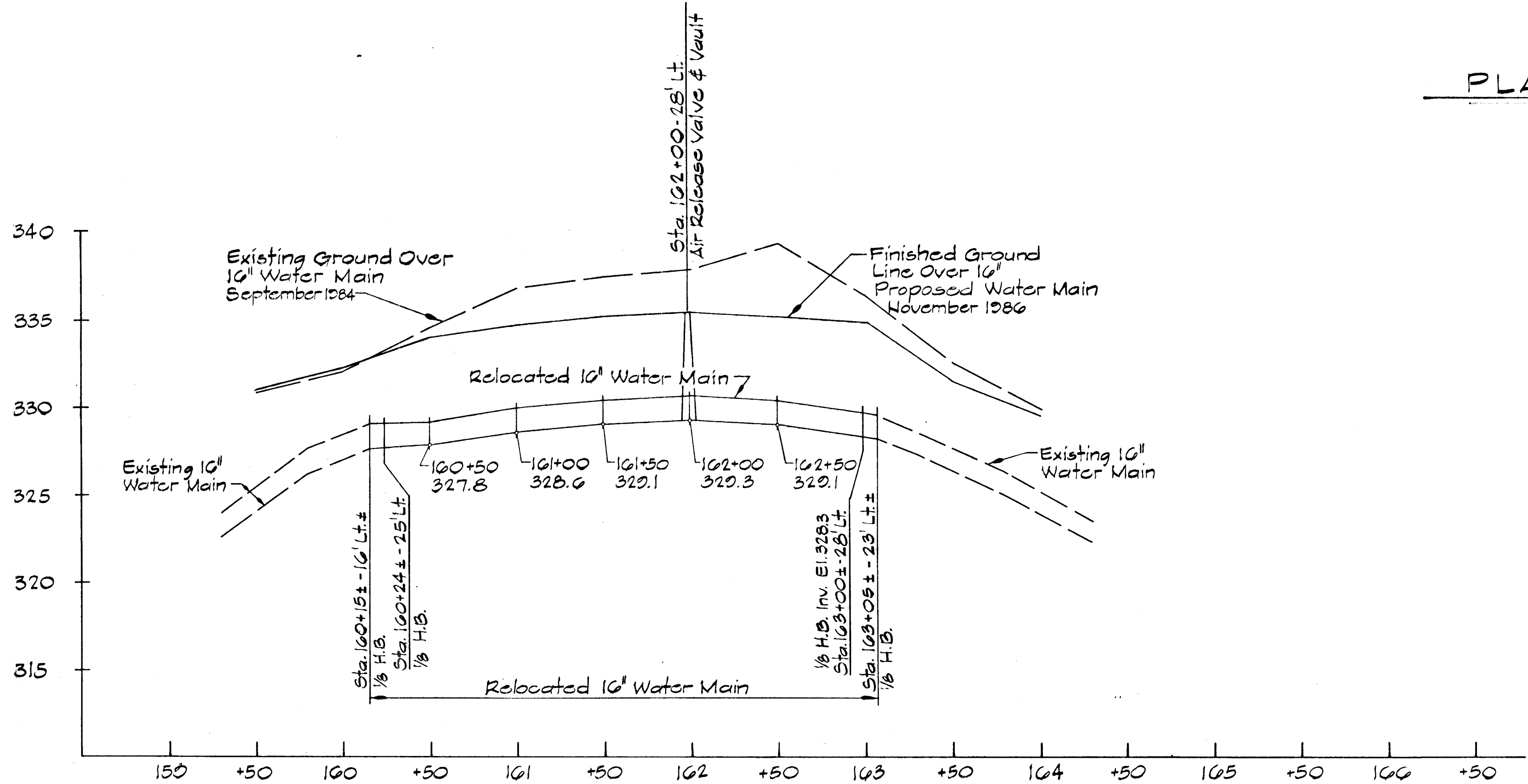
ROUTE 732 WATER RELOCATIONS
CAPITAL PROJECT W-8156
CONTRACT NO. 44-1578
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 9 OF 14



Note:
For Details not shown see
Connection Detail Spigot Ends

Note 'A':
Concrete Buttress
W 2.25 Install Prior to
making connection to
Relocated 10" W

Locate Pipe Joint
closest to Relocation
Point by Test Pit



Note:

Bell End and/or Spigot End Connection Details may be used interchangeably at a Connection between the existing and relocated 10" water main as required to fit existing and/or relocated water main joint configuration.

CONSTRUCTION PROCEDURE

1. Test Pit to locate pipe joints in existing 10" Water Lines that are closest to relocation points.
2. Install relocated 10" Water Line as shown, pressure test and perform bacteriological exam.
3. Connections between Existing and relocated water line must be performed between Midnight Saturday and Seven A.M. next Sunday in order that water service can be restored in existing and relocated sections of water mains by 7 A.M. Sunday. Customers served by affected sections of existing water main must be given 72 hours notice. Howard County must be given seven days notice of scheduled connections between existing and relocated water mains.
4. After existing water main is shut down by Howard County drain existing water main as required to make connections to sections or section of relocated water main.
5. Remove sections of existing water main as required to construct connections.
6. Construct connections using details shown on connection plans.
7. When connections are complete fill section or sections of relocated water main and restore water service.

S.H.A. DRAWING NO. _____
S.H.A. CONTRACT HO-642-501-783

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Michael A. ...
DIRECTOR OF PUBLIC WORKS
DATE 12/23/86

...
CHIEF, BUREAU OF ENGINEERING
DATE

...
CHIEF, UTILITY DIVISION
DATE

WALLACE, MONTGOMERY
& ASSOCIATES
9 W. 29TH STREET
BALTIMORE, MARYLAND 21218
(301) 235-7600

John A. Wallace

DES: J.C.W.					
DRN: D.E.D.					
CHK: J.C.W.					
DATE: 12-5-86	BY:	NO.:	REVISION:	DATE:	

600' SCALE MAP NO. 42 BLOCK NO. 748

ROUTE 732 WATER RELOCATIONS
CAPITAL PROJECT W-8156
CONTRACT NO. 44-1578
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 10 OF 14

GENERAL NOTES

3	MD.		11	14
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SPECIAL NOTES AND/OR DETAILS

1) DESCRIPTION
 THIS WORK SHALL CONSIST OF THE APPLICATION OF MEASURES THROUGHOUT THE LIFE OF THE PROJECT TO CONTROL EROSION AND MINIMIZE THE SEDIMENTATION OF RIVERS, STREAMS AND IMPOUNDMENTS (LAKES, RESERVOIRS, BAYS AND COASTAL WATERS). THE MEASURES SHALL INCLUDE BUT ARE NOT LIMITED TO THE USE OF BERMS, DIKES, DAMS, SEDIMENT BASINS AND/OR TRAPS, FILTERS, SILT FENCES, EROSION STOPS, SURFACE ROUGHENING, MATS & NETS, AGGREGATE, MULCH, GRASSES, SLOPE DRAINS AND OTHER APPROVED METHODS. EROSION AND SEDIMENT CONTROL MEASURES AS DESCRIBED HEREIN AND APPROVED BY M.R.A. SHALL BE APPLIED TO ERODIBLE MATERIAL EXPOSED BY ANY ACTIVITY ON THIS PROJECT.

EROSION AND SEDIMENT CONTROL MEASURES SHALL BE COORDINATED WITH THE CONSTRUCTION OF THE PERMANENT DRAINAGE FACILITIES SUCH AS PIPES, CULVERTS, HEADWALLS, DITCH PAVING, FLUMES, ETC., WHICH SHALL BE CONSTRUCTED CONCURRENT WITH THE COMMENCEMENT OF THE GRADING OPERATION TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS EROSION AND SEDIMENT CONTROL.

2) TEMPORARY CONTROLS
 IN ACCORDANCE WITH NATURAL RESOURCES ARTICLE, TITLE 8, SUBTITLE 11, SEDIMENT CONTROL, ANNOTATED CODE OF MARYLAND REGULATIONS, AND GENERAL PROVISIONS 7.12 OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, THE CONTRACTOR WILL PROVIDE TEMPORARY POLLUTION CONTROL MEASURES FOR THE PURPOSE OF CORRECTING CONDITIONS THAT DEVELOP DURING CONSTRUCTION NOT FORESEEN DURING THE DESIGN OF THE PROJECT AND FOR THE PURPOSE OF PROVIDING CONTINUOUS EROSION AND SEDIMENT CONTROL FOR THE DURATION OF THE PROJECT.

3) STANDARDS AND SPECIFICATIONS
 STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS TITLED "STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS", DATED JANUARY 1982, AND REVISIONS THEREOF, AND ADDITIONS THERETO INCLUDED IN THESE CONTRACT DOCUMENTS.

THE 1983 "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" (AND AMENDMENTS) WILL BE A ACCEPTABLE REFERENCE FOR THIS PROJECT.

THIS INFORMATION MUST BE PRESENT ON THE PROJECT AT ALL TIMES.

4) DEFINITIONS
CLEARING: SHALL MEAN THE CLEARING OF TREES, BRUSH, SHRUBS, DOWN TIMBER, LOGS, LIMBS, RUBBISH, AND ANY OTHER VEGETATION (EXCEPT WHERE EXCLUDED BY THE DEFINITION FOR GRUBBING), AS WELL AS THE REMOVAL OF FENCES AND INCIDENTAL STRUCTURES.

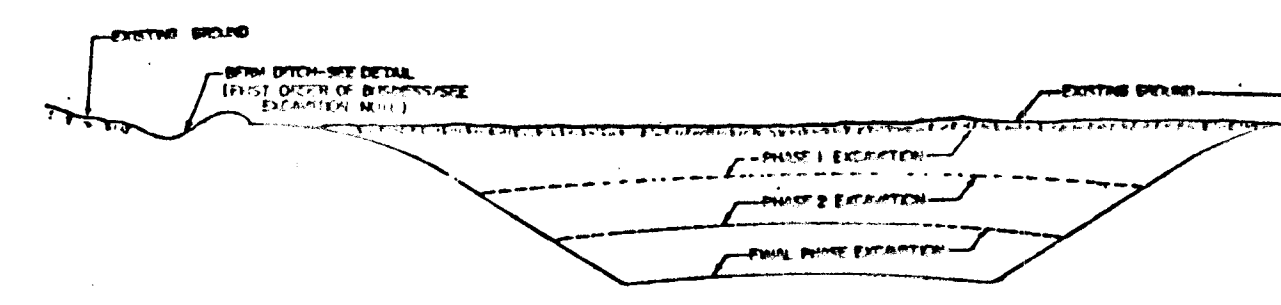
GRUBBING: SHALL MEAN THE REMOVAL FROM THE GROUND OF ALL STUMPS, ROOTS AND STUBS, BRUSH, FOREST LITTER, ORGANIC MATERIAL AND DEBRIS.

DISTURBED AREA: SHALL MEAN AN AREA WHERE GRUBBING AND/OR GRADING HAS BEEN INITIATED.

5) CLEARING AND GRUBBING
 EROSION AND SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED AT THE BEGINNING OF THE GRUBBING PORTION OF THIS OPERATION. GRUBBING WILL BE RESTRICTED TO THE GRADING UNIT CURRENTLY ACTIVE. SEE SECTION 201.03.03 OF THE SPECIFICATIONS FOR THE DEFINITION OF A "GRADING UNIT".

6) EXCAVATION
 IF BERM DITCHES ARE TO BE USED IN A CUT SECTION, THEY WILL BE EXCAVATED AND STABILIZED AS THE FIRST ORDER OF BUSINESS.

ALL CUT AND FILL SLOPES SHALL BE DRESSED, PREPARED, SEEDED AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED OR FILLS PLACED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 15 FEET.



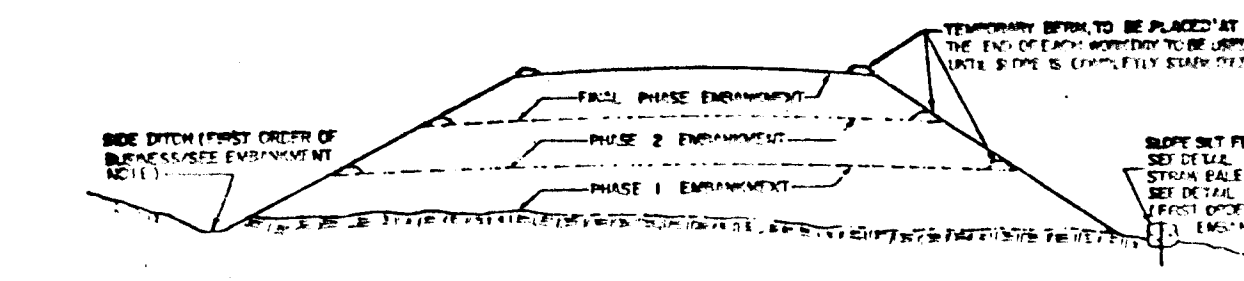
CONSTRUCTION SEQUENCE: 1. EXCAVATE AND STABILIZE BERM, SIDE AND OUTLET DITCHES.
 2. PERFORM PHASE 1 EXCAVATION, DRESS, SEED & MULCH SLOPES WITH PERMANENT SEED & MULCH.
 3. PERFORM PHASE 2 EXCAVATION, DRESS, SEED & MULCH WITH PERMANENT SEED & MULCH.
 4. PERFORM FINAL PHASE EXCAVATION, DRESS, SEED & MULCH SLOPES, WITH PERMANENT SEED & MULCH. STABILIZE SURFACE DRAIN DITCHES, OVERSEED PHASE 1 & 2. SLOPES, IF REQUIRED, AS DETERMINED BY THE ENGINEER

PHASING PLAN - CUT SECTION

NOTE: ONCE THE EXCAVATION BEGINS WITHIN A SPECIFIC AREA, THE OPERATION SHALL BE CONTINUOUS THROUGH THE COMPLETION OF THE GRADING AND PLACEMENT OF PERMANENT SEED & MULCH. ANY INTERRUPTIONS IN THIS OPERATION OF 14 DAYS OR MORE MUST BE APPROVED IN WRITING BY THE ENGINEER IN ADVANCE. ANY VIOLATION OF THIS REQUIREMENT WILL RESULT IN THE CONTRACTOR ASSUMING THE RESPONSIBILITY OF PLACING TEMPORARY STABILIZATION AT HIS OWN COST.

7) EMBANKMENT
 THE FIRST ORDER OF BUSINESS WILL BE THE EXCAVATION AND STABILIZATION OF SIDE DITCHES AND PLACEMENT OF PERIMETER CONTROLS (STRAW BALES, SILT FENCE, ETC.). THE EMBANKMENT WILL BE MADE IN LIFTS MEETING THE SAME HEIGHT REQUIREMENTS AS PREVIOUSLY STATED FOR CUT SECTIONS. THE SLOPES WILL BE DRESSED AND STABILIZED IMMEDIATELY FOLLOWING THE COMPLETION OF THE INTERMEDIATE STAGE(S).

AT THE END OF EACH WORK DAY TEMPORARY BERMS (EARTH) WILL BE CONSTRUCTED ALONG THE TOP EDGE(S) OF THE EMBANKMENT TO INTERCEPT SURFACE RUNOFF.



CONSTRUCTION SEQUENCE: 1. EXCAVATE AND STABILIZE SIDE DITCH AND/OR INSTALL PROPOSED CONTROLS AT THE TOE OF SLOPE.
 2. PLACE PHASE 1 EMBANKMENT, PROVIDE TEMPORARY SEEDING OR STRAW MULCH.
 3. PLACE PHASE 2 EMBANKMENT, DRESS, PROVIDE TEMPORARY SEEDING OR STRAW MULCH.
 4. PLACE FINAL PHASE EMBANKMENT, DRESS, PREPARE & PLACE PERMANENT SEED & MULCH ON THE ENTIRE SLOPE.

PHASING PLAN - FILL SECTION

8) STABILIZATION/LIMITS OF DISTURBANCE
 OTHER THAN LISTED BELOW, ONE (1) GRADING UNIT (750,000 SQ. FT.) OF AREA THAT HAS BEEN GRUBBED CAN BE ACTIVELY GRADED AT ONE TIME. WHEN ONE GRADING UNIT OR PART OF ONE UNIT OF GRUBBED AND GRADED AREA HAS BEEN STABILIZED, THEN ANOTHER UNIT OF EQUAL CLEARED AREA CAN BE GRUBBED AND GRADED. AREAS ARE TO BE PERMANENTLY OR TEMPORARILY STABILIZED WHEN SITE DEVELOPMENT WORK, GRADING, OR OTHER EARTH DISTURBING ACTIVITIES CEASE TO BE CONTINUOUS FOR A PERIOD TO EXCEED 14 CALENDAR DAYS. PERIMETER CONTROL, DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ANY OTHER SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITHIN 7 CALENDAR DAYS FOLLOWING GRADING OR CONSTRUCTION OF THESE AREAS.

EARTHWORK BALANCE, THAT IS BORROW FROM A CUT USED AS FILL AT A LOCATION DISTANT FROM THE CUT, CONSIDERATION WILL BE ALLOWED FOR GREATER THAN ONE UNIT OF GRUBBED AND GRADED AREA; IN SUCH CASES, ONE UNIT OF CUT AND ONE GRADING UNIT OF FILL WILL BE ALLOWED TO BE GRUBBED AND GRADED. GREATER THAN ONE UNIT OF GRUBBED AND GRADED AREA SHALL BE ALLOWED FOR INTERCHANGE CONSTRUCTION. WHEN WET SOIL CONDITIONS ARE ENCOUNTERED, THE CONTRACTOR WILL BE ALLOWED TO GRUB AND GRADE ANOTHER UNIT PROVIDING THE INITIAL UNIT HAS BEEN PROPERLY STABILIZED.

NO SLOPE SHALL BE LEFT DISTURBED WITHOUT BENEFIT OF SURFACE ROUGHENING FOR MORE THAN 5 DAYS.

THE MOST STRINGENT REQUIREMENTS FOR STABILIZATION UNDER EXCAVATION, EMBANKMENT OR STABILIZATION/LIMITS OF DISTURBANCE WILL BE PREFERENTIALLY ENFORCED.

9) MAINTENANCE
 SEDIMENT TRAPS, SEDIMENT BASINS, DITCHES, STRAW BALES, SILT FENCES, STONE OUTLET STRUCTURES, EARTH BERMS, ETC. SHALL BE MAINTAINED DURING THE WINTER MONTHS AND OTHER TIMES WHEN THE PROJECT IS CLOSED DOWN. THE MAINTENANCE INTERVAL SHALL BE AS SPECIFIED IN THE DOT/SHA STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS AND PLANS OR WHEN DIRECTED BY THE ENGINEER.

TRAPS WILL BE CLEANED WHEN THEY ARE 50% FILLED. SILT FENCE, STONE OUTLET STRUCTURES AND STRAW BALES SHALL HAVE SEDIMENTATION REMOVED WHEN IT REACHES 50% THE HEIGHT OF THE CONTROL DEVICE. THESE SPOILS WILL BE REMOVED FROM THE PROJECT SITE.

CONTROLS WILL BE INSPECTED IMMEDIATELY FOLLOWING RAIN STORMS. THE CONTRACTOR WILL IMMEDIATELY REPAIR CONTROLS WHEN DAMAGED.

10) STOCKPILE MATERIAL
 SALVAGED TOPSOIL WILL BE PLACED ON WELL DRAINED LAND AWAY FROM LIVE STREAMS AND IN ACCORDANCE WITH APPROVED EROSION AND SEDIMENT CONTROL MEASURES. IT SHALL BE PLACED IN PILES OF NEAT CONFIGURATIONS AND COVERED WITH TEMPORARY SEED IMMEDIATELY AFTER FINAL SHAPING OF THE PILE IN ACCORDANCE WITH SECTION 703 OF THE DOT/SHA STD. SPECS. THE CONTRACTOR WILL PROVIDE AN ADEQUATE QUANTITY OF STRAW BALES OR SILT FENCE TO CONTROL THE PERIMETER OF THE STOCKPILE UNTIL SUCH TIME VEGETATION IS ESTABLISHED. IF HE ELECTS, THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, MAY CONSTRUCT AN EARTH BERM IN LIEU OF STRAW BALES OR SILT FENCE. THE COST OF THESE CONTROLS WILL BE INCIDENTAL TO THE APPROPRIATE SALVAGED TOPSOIL ITEM(S).

11) EXCAVATED MATERIAL
 MATERIAL EXCAVATED FOR THE CONSTRUCTION OF SEDIMENT TRAPS WILL NOT BE STOCKPILED IN THE AREA OF THE TRAP. IT WILL EITHER BE PLACED IN AN EMBANKMENT OR WASTED. EXCAVATION FROM CUTS TO BE USED FOR EMBANKMENTS WILL NOT BE STOCKPILED UNLESS PERIMETER CONTROLS UTILIZED. COSTS FOR THESE CONTROLS WILL BE BORNE BY THE CONTRACTOR.

12) DEWATERING DISCHARGE
 SEDIMENT - LADEN DEWATERING DISCHARGE MUST BE DIRECTED TO AN APPROVED SEDIMENT TRAPPING MEASURE PRIOR TO RELEASE FROM THE SITE.

13) TEMPORARY SLOPE DRAINS
 ALL TEMPORARY SLOPE DRAINS WILL DISCHARGE INTO THE BACK OF SEDIMENT TRAPS OR DITCHES DISCHARGING INTO TRAPS.

14) INLET SEDIMENT TRAPS
 ALL INLET SEDIMENT TRAPS MUST BE USED IN CONJUNCTION WITH A TEMPORARY SEDIMENT TRAP (T.S.T.). TYPICALLY THE T.S.T. WILL BE PLACED 25 FT. (MAX.) UPGRADE OF THE INLET SEDIMENT TRAP.

15) FILTER CLOTH
 FILTER CLOTH WILL BE USED WITH ALL RIPRAP DITCHES (BY TYPE), TEMP. STONE OUTLET STRUCTURES (T.S.O.S.), INLET SEDIMENT TRAPS (I.S.T.) AND STABILIZED CONSTRUCTION ENTRANCES (S.C.E.). WITH TYPES I & II RIPRAP, T.S.O.S., I.S.T. AND LIGHT DUTY S.C.E., TYPE 'A' FILTER CLOTH WILL BE USED. TYPE 'B' FILTER CLOTH WILL BE USED WITH TYPE III RIPRAP AND HEAVY DUTY S.C.E.

A LIGHT DUTY S.C.E. IS USED WHERE MOST TRAVEL WILL BE SINGLE AXLE VEHICLES WITH AN OCCASIONAL MULTI-AXLE TRUCK AND THE AREA HAS BEEN GRADED TO OR NEAR SUBGRADE. A HEAVY DUTY S.C.E. IS WHERE THE AREA IS ROUGH GRADED AND THE MAJORITY OF THE TRAFFIC IS MULTI-AXLED.

WHEN BEING USED WITH RIPRAP OR T.S.O.S. THE MAXIMUM DROP HEIGHT FOR THE STONE WILL BE 1 FT. TO PREVENT TEARING OF THE CLOTH.

THE FILTER CLOTH WILL BE A WOVEN OR NONWOVEN FABRIC CONSISTING ONLY OF CONTINUOUS CHAIN POLYMERIC FILAMENTS OR YARNS OF POLYESTER. THE FABRIC BE INERT TO COMMONLY ENCOUNTERED CHEMICALS, HYDRO-CARBONS, MILDEW, ROT RESISTANT AND CONFORM TO THE FOLLOWING PROPERTIES:

FABRIC PROPERTY	TYPE 'A'	TYPE 'B'	TEST METHOD
GRAB TENSILE STRENGTH	700 LBS.	220 LBS.	ASTM D-1682
ELONGATION @ FAILURE	50 %	60 %	ASTM D-1682
MULLEN BURST STRENGTH	190 LBS.	430 LBS.	ASTM D-3786
PUNCTURE STRENGTH	40 LBS.	125 LBS.	ASTM D-751 MOD.
EQUIVALENT OPENING	40-80	40-80	US ST'D. SIEVE
SIZE			CW - 02215
AGGREGATE DEPTH (S.C.E.)	6 IN. (MIN.)	10 IN. (MIN.)	- - -

FABRIC NOT MEETING THESE SPECIFICATIONS MAY ONLY BE USED WHEN DESIGN PROCEDURE AND SUPPORTING DOCUMENTATION ARE SUPPLIED TO DETERMINE AGGREGATE DEPTH AND FABRIC STRENGTH.

EROSION AND SEDIMENT CONTROL DETAIL SHEET

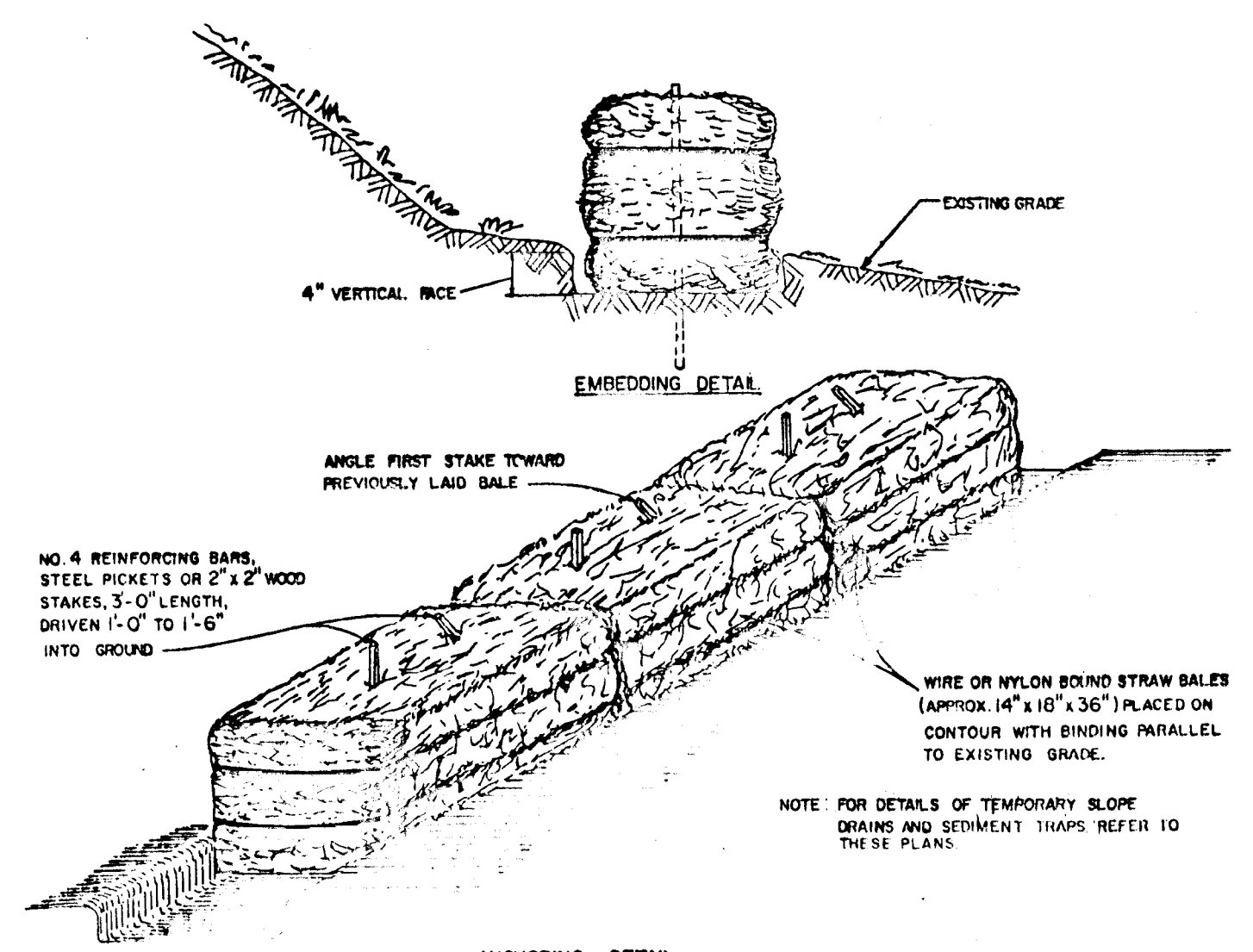
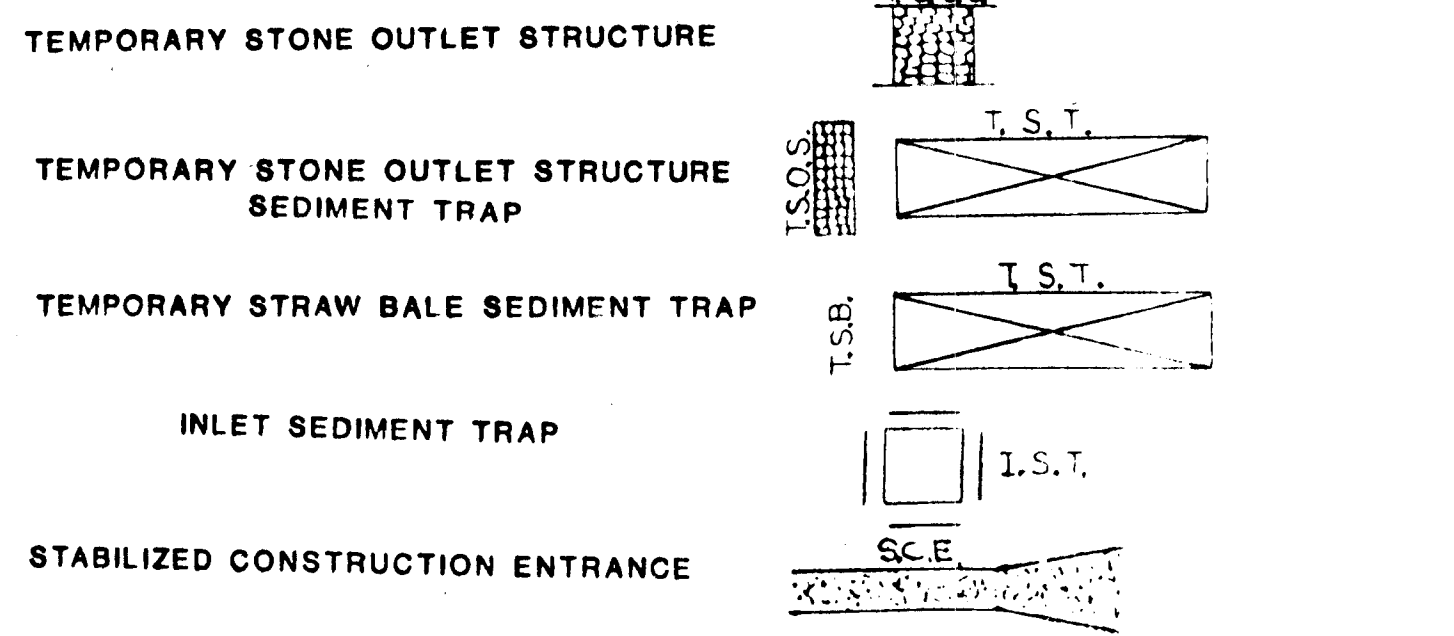
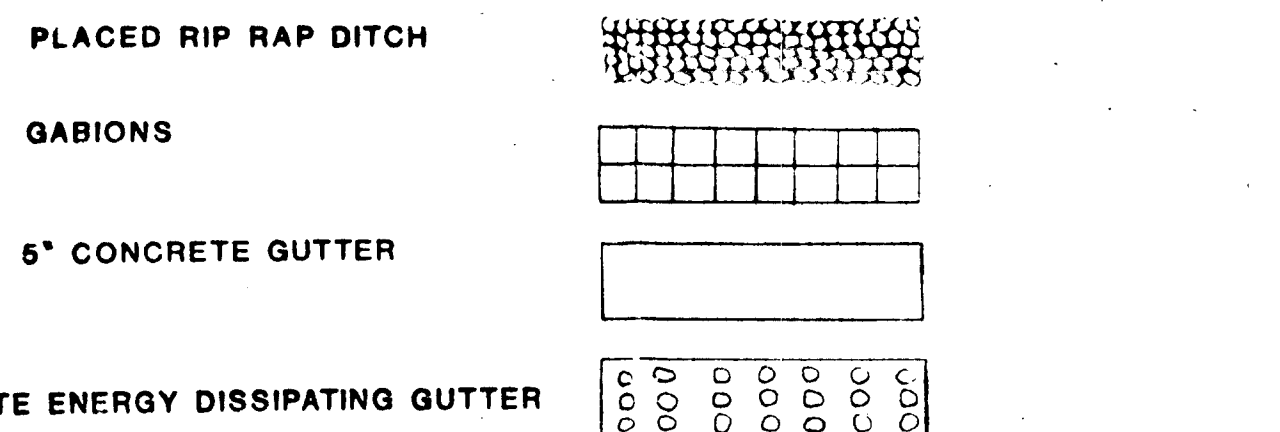
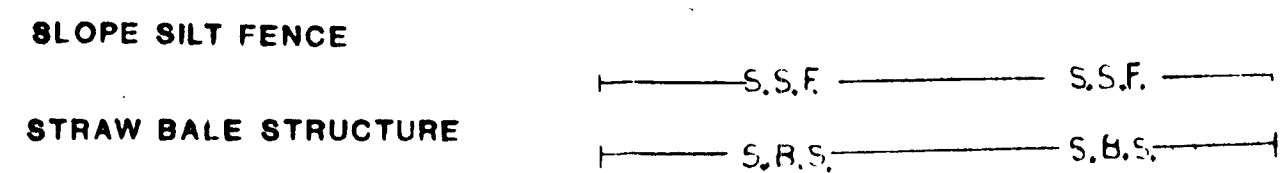
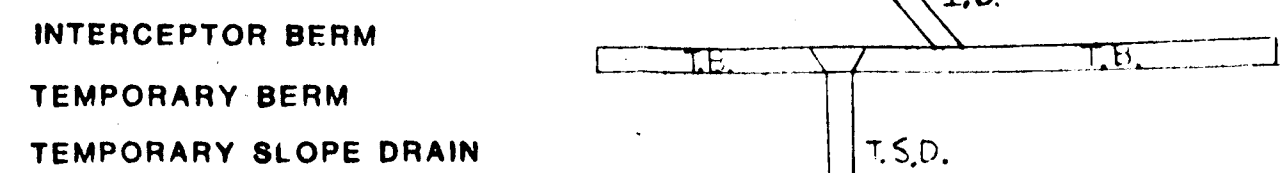
SHEET NO. 1

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION District 7 Special Projects
CONT NO. 10-42-501-183 F A P NO.	SHEET NO. 1 OF 14
PREL TRAC BY	FINAL TRAC BY

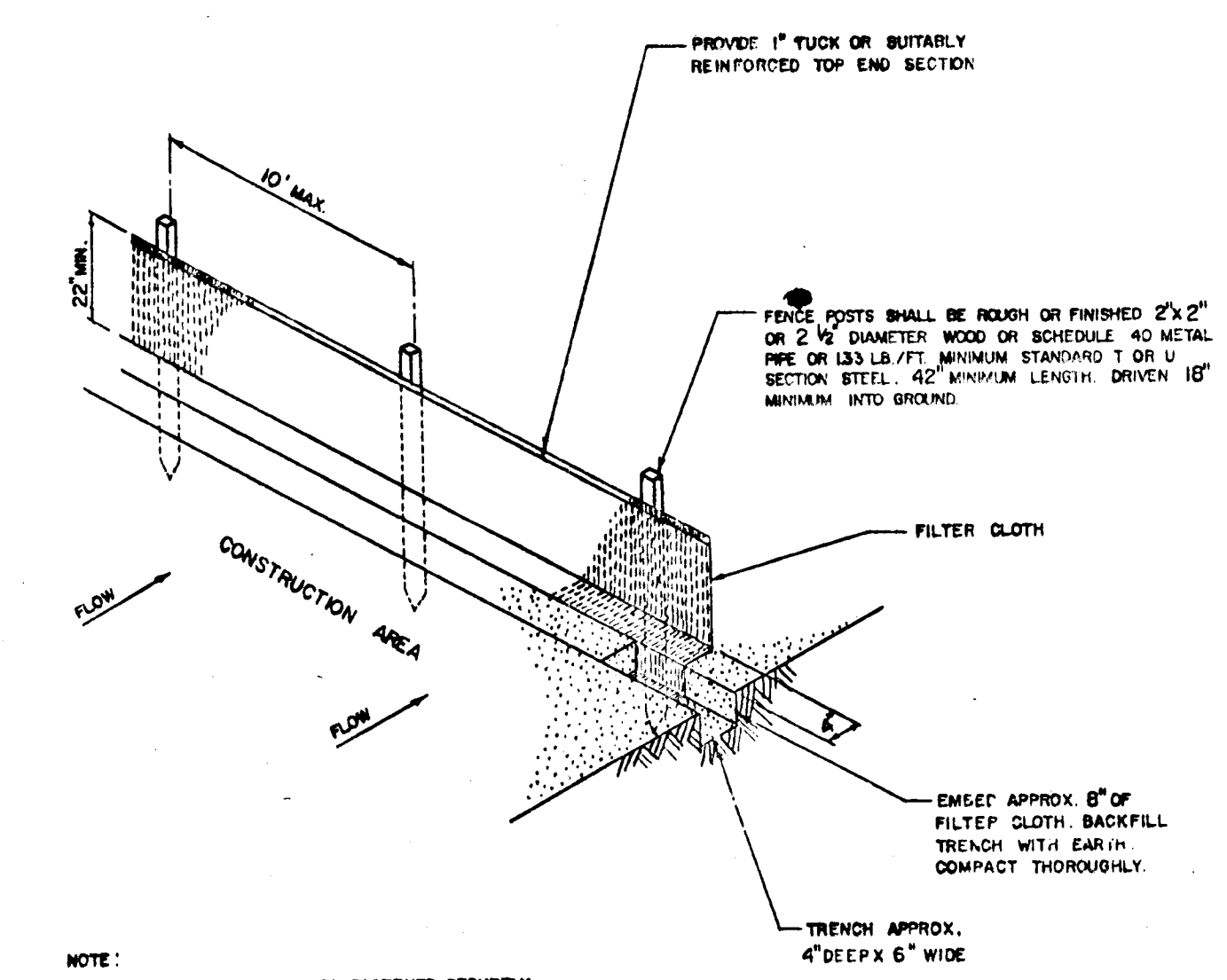
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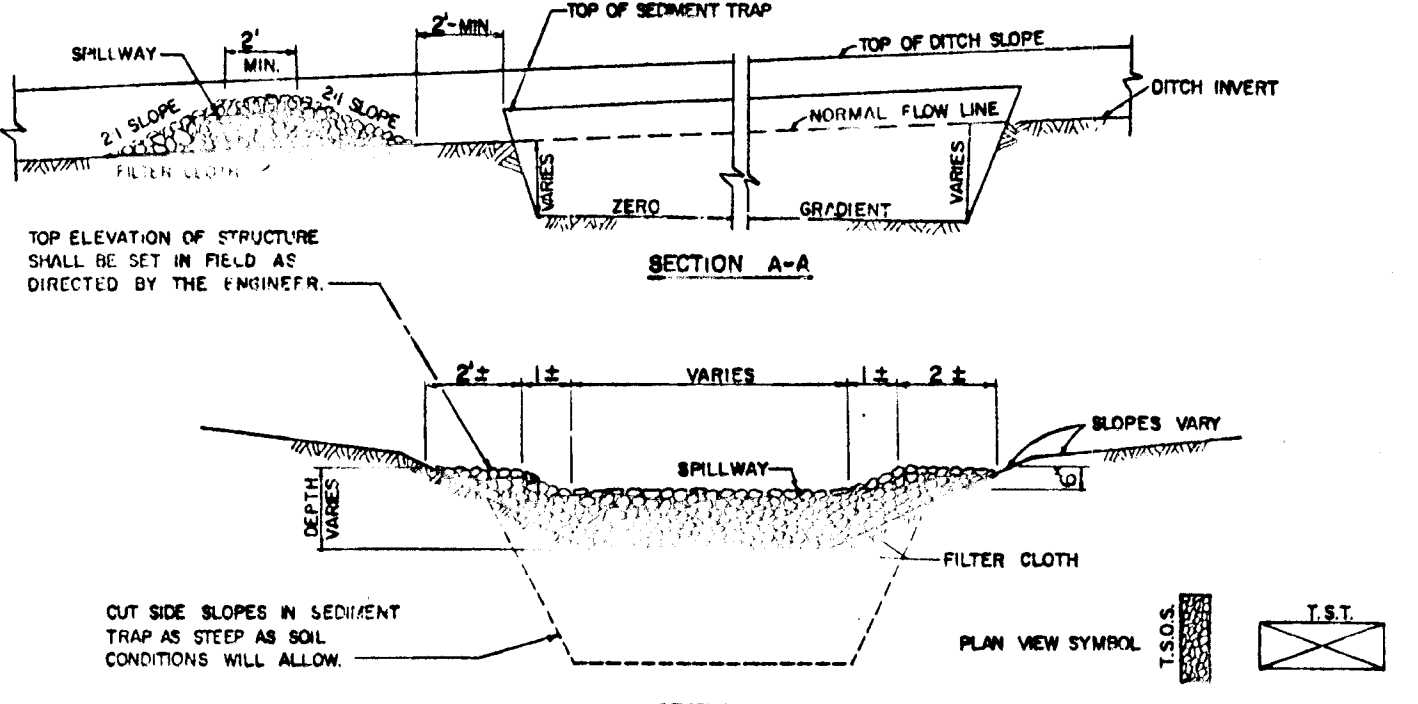
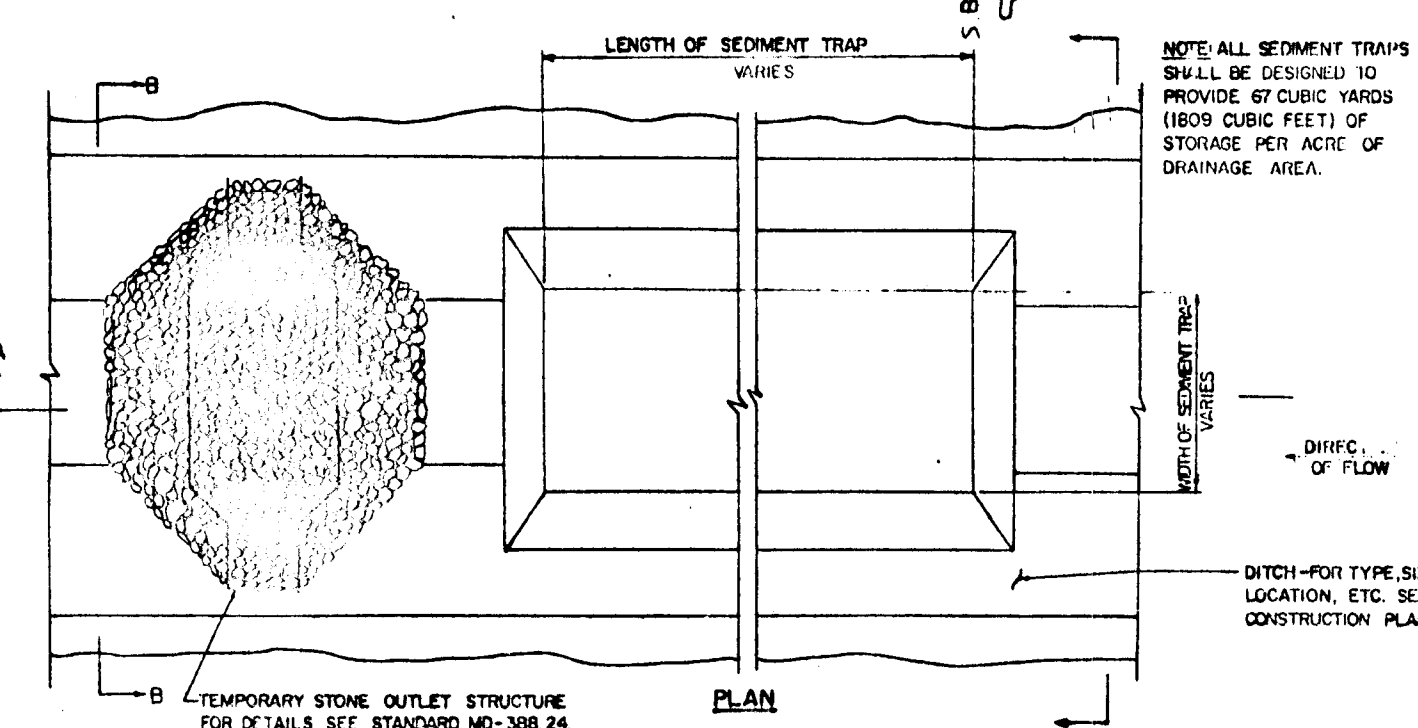
- GENERAL NOTES**
- BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
 - EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
 - BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES, PICKETS, OR REBARS DRIVEN THROUGH THE BALES. THE FIRST SECURING DEVICE IN EACH BALE SHALL BE ANGLED TOWARD THE PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
 - DUE TO THE BIODEGRADABLE NATURE OF THE STRAW BALES INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
 - BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO NOT TO BLOCK OR IMPED STORM FLOW OR DRAINAGE.



- NOTE:**
- FILTER CLOTH FABRIC TO BE FASTENED SECURELY TO FENCE POST BY USE OF WIRE TIES OR HOG RINGS.
 - 3 FASTENERS PER POST.

ON SLOPES, IN THE OPINION OF THE ENGINEER, CONTROLS AT THE TOE OF FILL SLOPES (STRAW BALES AND/OR SILT FENCE) AND OTHER CONTROLS SUCH AS INCREMENTAL STABILIZATION, TEMPORARY BERMS, ETC. ARE NOT EFFECTIVELY CONTROLLING EROSION THE FOLLOWING WILL BE IMPLEMENTED IMMEDIATELY:

- MAXIMUM ALLOWABLE SLOPE LENGTH CONTRIBUTING RUNOFF TO A STRAW BALE STRUCTURE OR SLOPE SILT FENCE ARE LISTED BELOW:
- | STRAW BALES | | SILT FENCE | |
|-------------|--------------|-------------|--------------|
| SLOPE RATIO | SLOPE LENGTH | SLOPE RATIO | SLOPE LENGTH |
| 2:1 | 25' | 2:1 | 50' |
| 2 1/2:1 | 50' | 3:1 | 75' |
| 3:1 | 75' | 4:1 | 125' |
| 3 1/2:1 | 100' | 5:1 | 175' |
| 4:1 | 125' | 5:1 | 200' |
- WHERE SLOPE GRADIENT CHANGES THROUGH THE DRAINAGE AREA, THE STEEPEST SLOPE SECTION SHALL BE USED.
 - MAXIMUM DRAINAGE AREA FOR OVERLAND FLOW TO A CONTROL SHALL NOT EXCEED 1/4 ACRE PER 100 FEET OF THAT CONTROL.

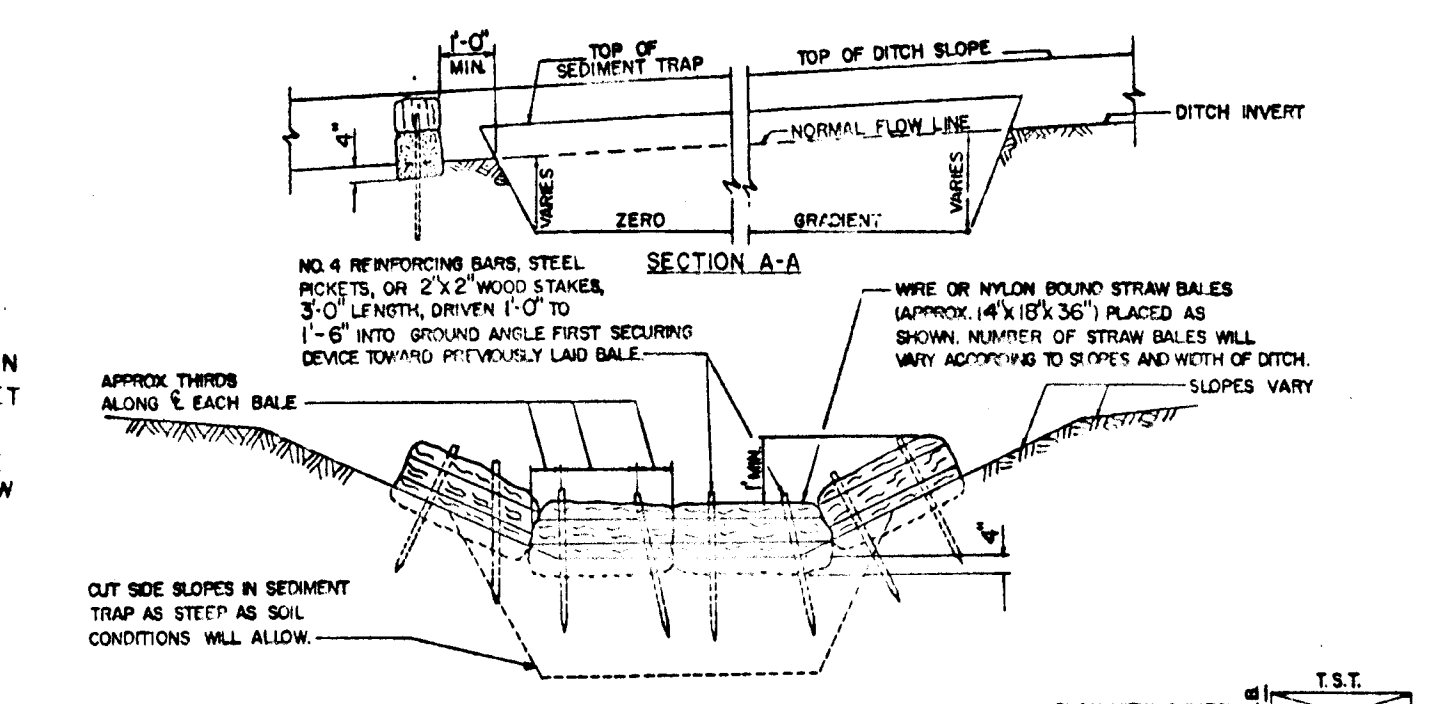
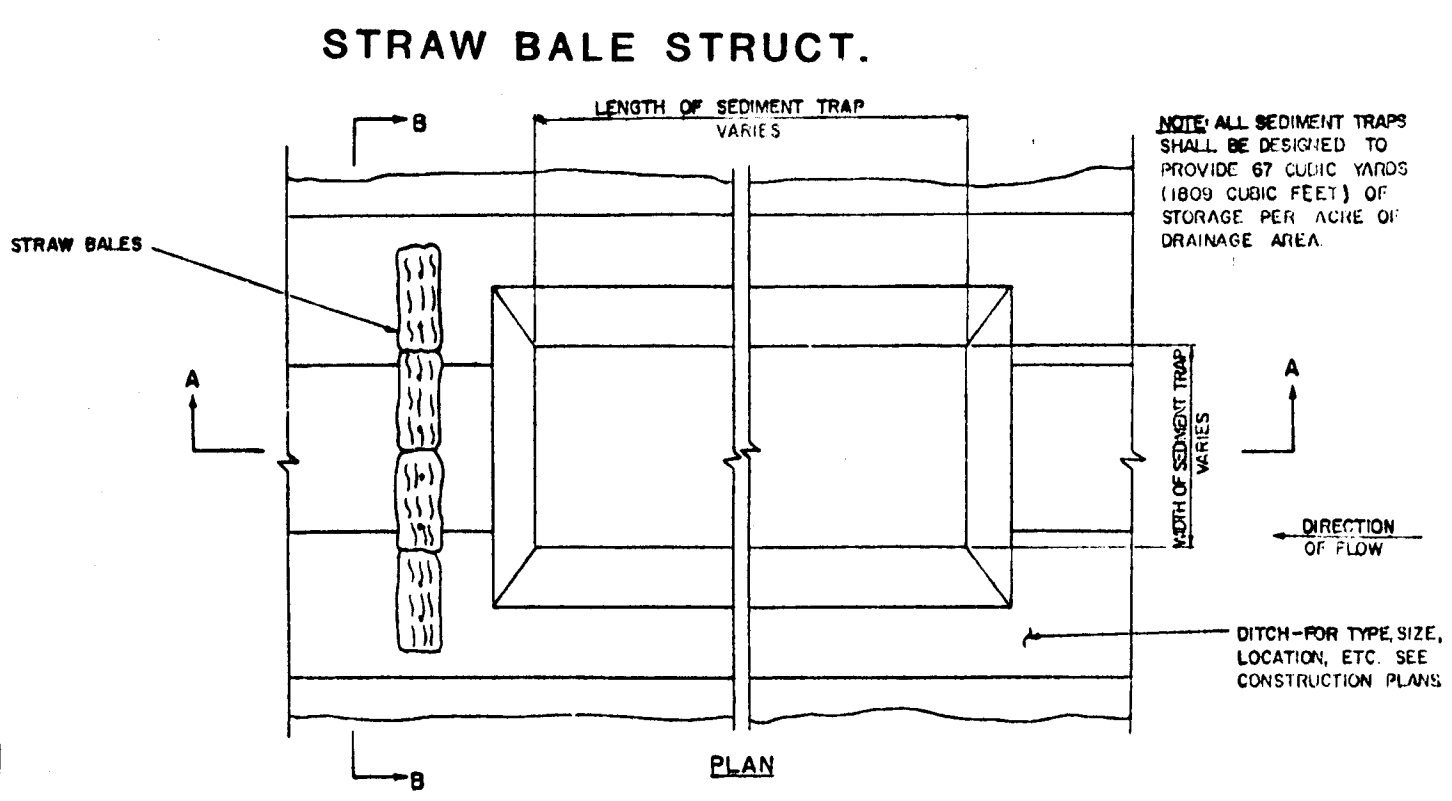


SEDIMENT TRAP MATRIX	DRAINAGE AREA	L	W	CAPACITY C.F.
1/2 ACRE	40'	10'	5'	1,000
1 ACRE	75'	10'	5'	1,875
1 1/2 ACRE	110'	10'	5'	2,750
2 ACRES	145'	10'	5'	3,625

NOTE: ALL DIMENSIONS ARE BASED UPON AN AVERAGE DEPTH OF 2 1/2 FEET AND PROVIDING, AS A MINIMUM, 1,809 CUBIC FEET OF STORAGE PER ACRE OF RUNOFF LAND ARE MEASURED ALONG THE BOTTOM OF THE TRAP.

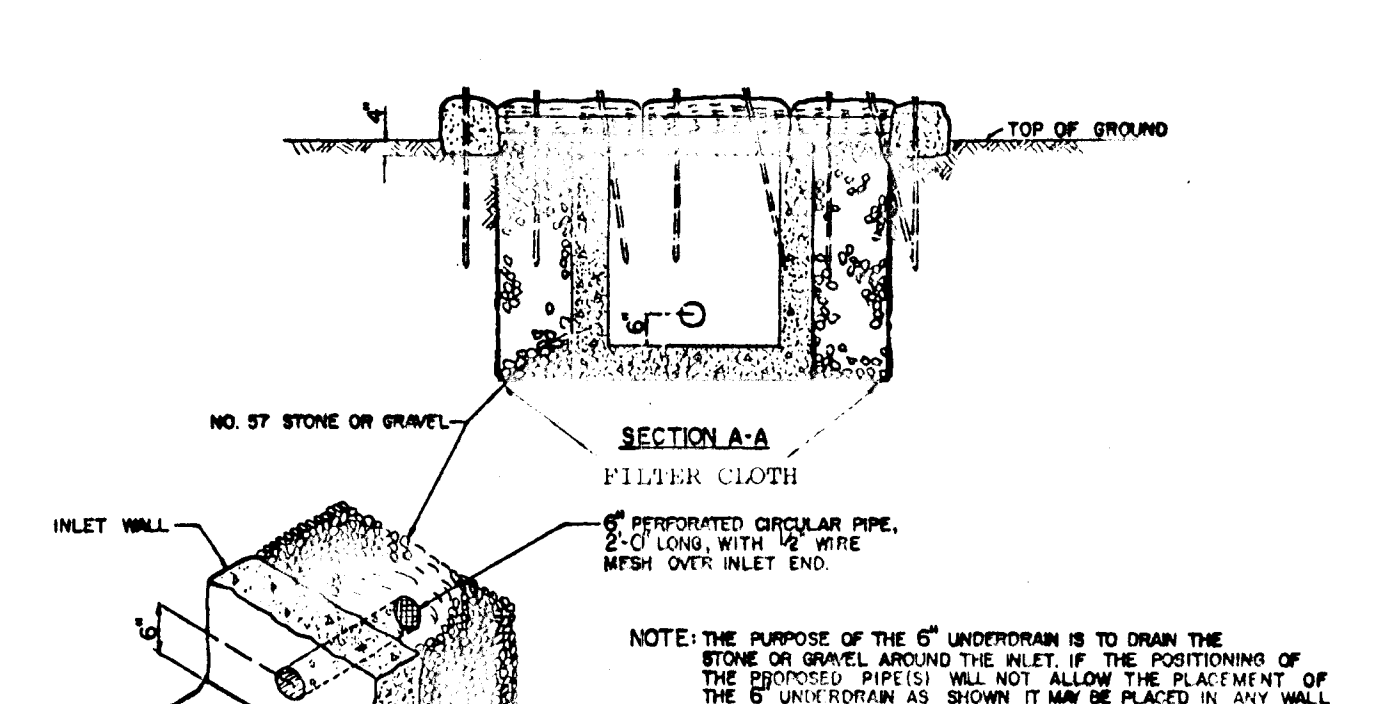
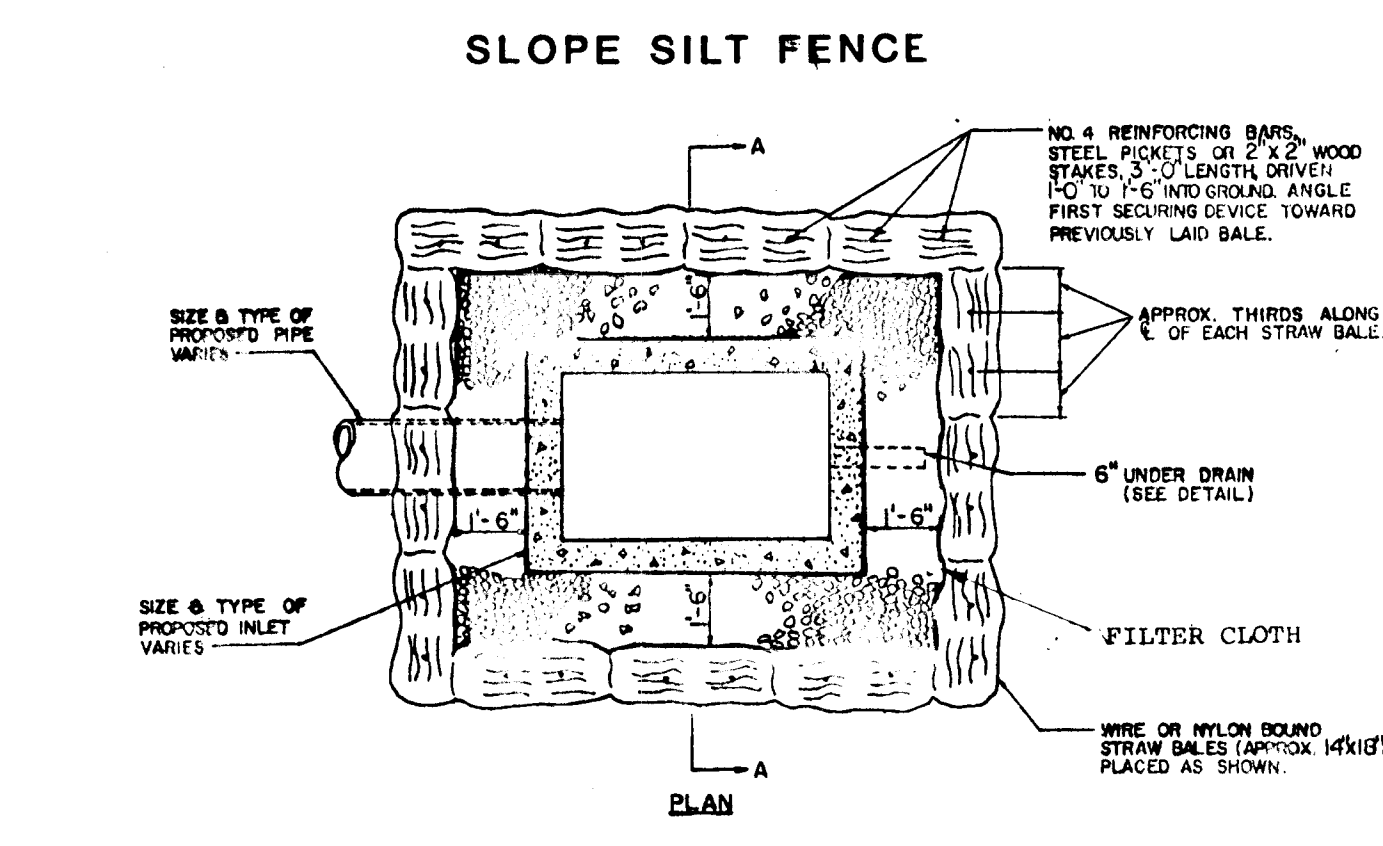
- GENERAL NOTES:**
- INTENDED FOR USE IN EXISTING, PROPOSED AND TEMPORARY DITCHES OF ALL TYPES AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.
 - FOR LOCATIONS OF TEMPORARY STONE OUTLET STRUCTURE - SEDIMENT TRAPS REFER TO CONSTRUCTION PLANS.
 - THE STONE OUTLET STRUCTURES SHALL BE INSPECTED AFTER EACH RAIN, AND THE STONE SHALL BE REPLACED WHEN THE OUTLET STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO WEAR, CONSTRUCTION TRAFFIC DAMAGE, SILT ACCUMULATION AMONG THE STONE, ETC. HOWEVER, IN ANY CASE, THE SILT SHALL BE CLEANED OUT WHEN TRAP IS 50% FULL.
 - STONE OUTLET STRUCTURE AND SEDIMENT TRAP SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPED STORM FLOW OR DRAINAGE.

T.S.O.S.-SEDIMENT TRAP



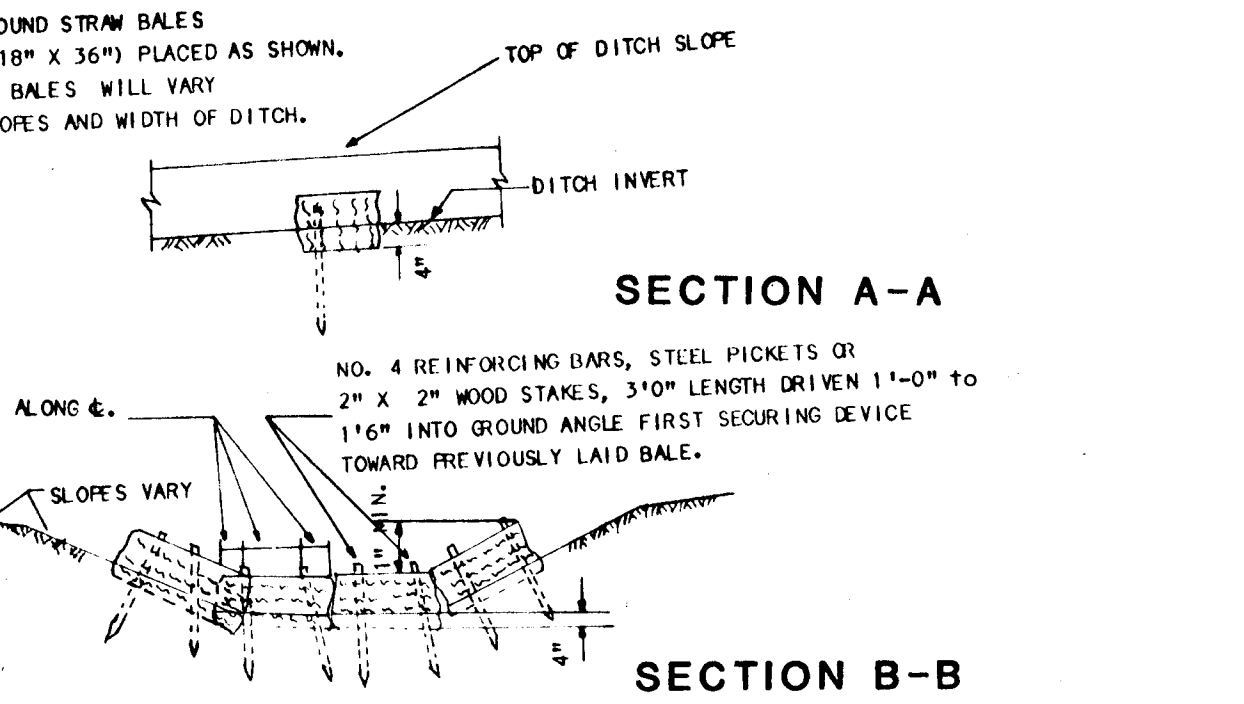
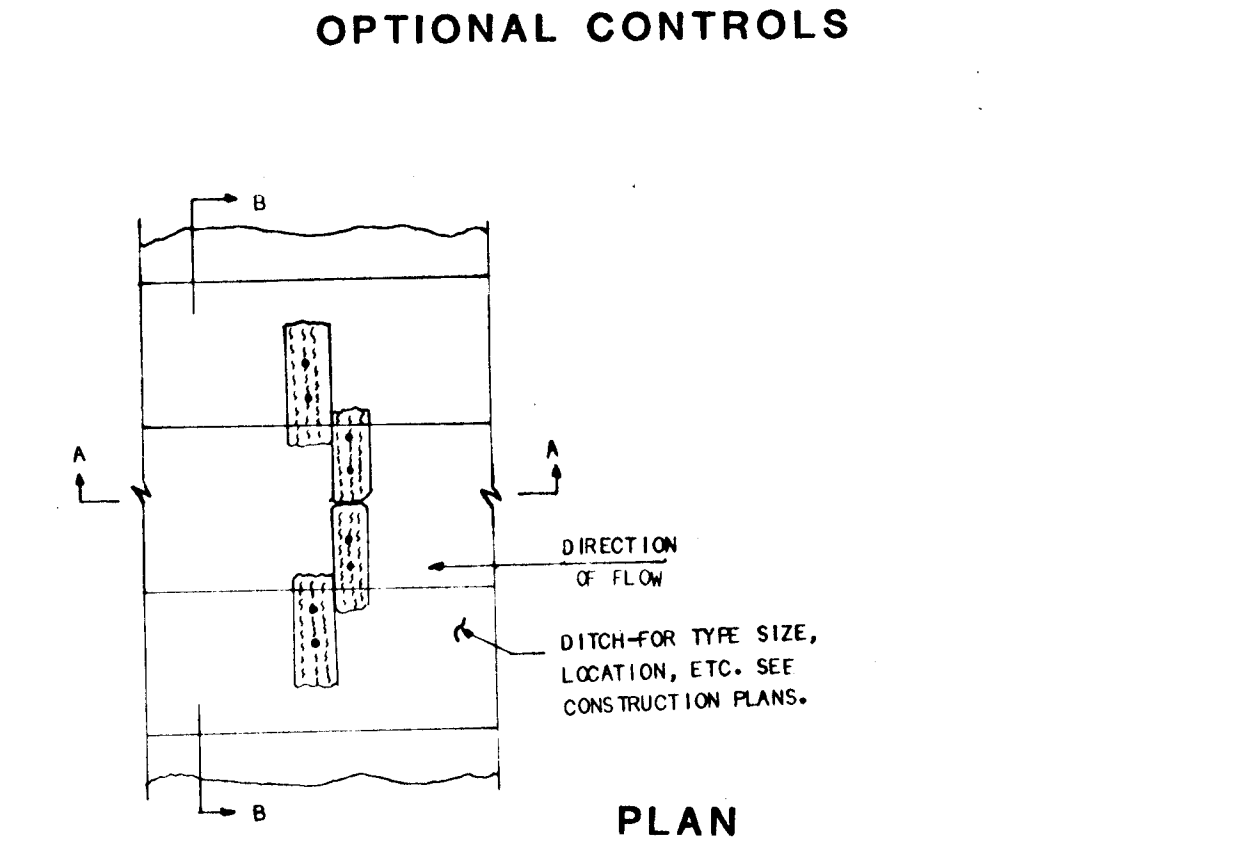
- GENERAL NOTES:**
- INTENDED FOR USE IN EXISTING, PROPOSED AND TEMPORARY DITCHES OF ALL TYPES AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.
 - FOR LOCATIONS OF TEMPORARY STRAW BALE-SEDIMENT TRAPS REFER TO CONSTRUCTION PLANS.
 - EACH STRAW BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4" AND SHALL BE SECURELY ANCHORED IN PLACE.
 - INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
 - STRAW BALES AND SEDIMENT TRAP SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPED STORM FLOW OR DRAINAGE.

T.S.B.-SEDIMENT TRAP



- GENERAL NOTES:**
- INTENDED FOR USE IN EXISTING, PROPOSED AND TEMPORARY DITCHES OF ALL TYPES AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.
 - FOR LOCATIONS OF TEMPORARY STRAW BALE-SEDIMENT TRAPS REFER TO CONSTRUCTION PLANS.
 - EACH STRAW BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4" AND SHALL BE SECURELY ANCHORED IN PLACE.
 - INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
 - STRAW BALES AND SEDIMENT TRAP SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPED STORM FLOW OR DRAINAGE.

INLET SEDIMENT TRAP



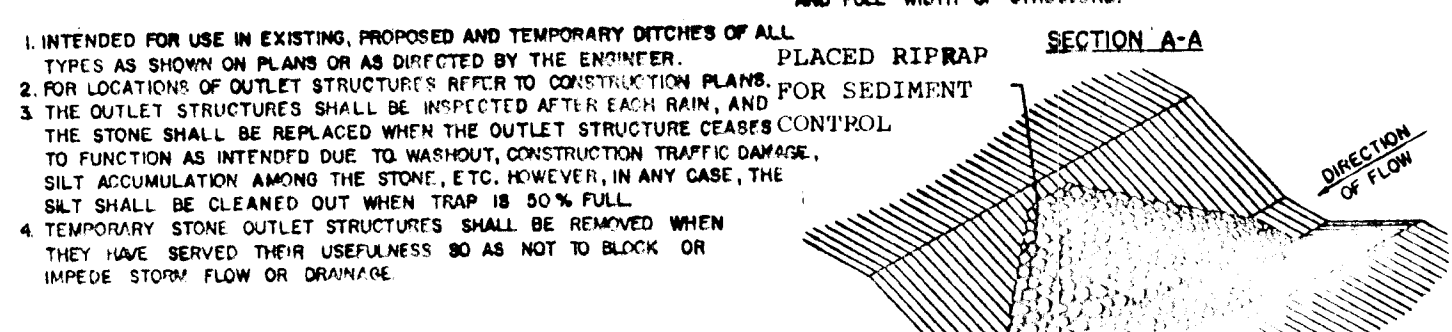
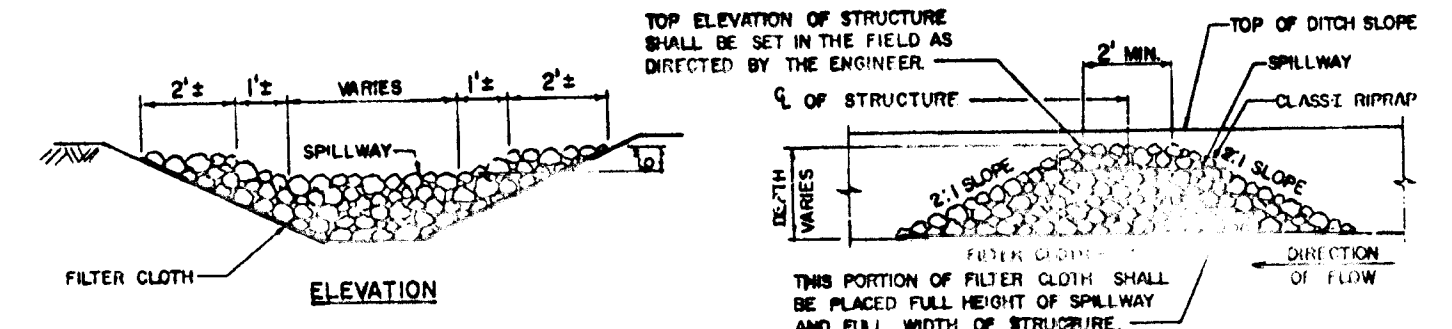
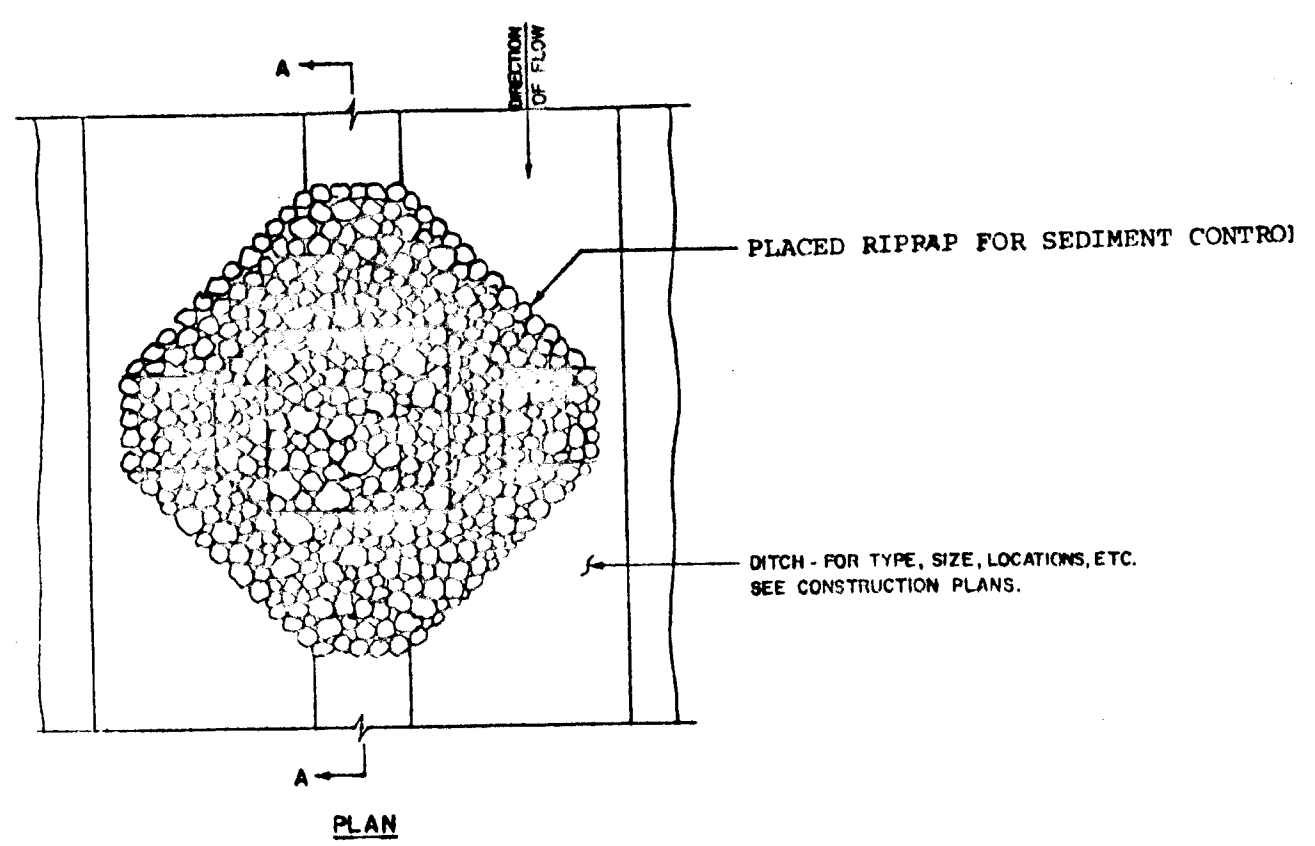
- GENERAL NOTES:**
- INTENDED FOR USE IN EXISTING, PROPOSED AND TEMPORARY DITCHES OF ALL TYPES WHERE THE CONSTRUCTION OF A SEDIMENT TRAP WOULD CREATE A TRAFFIC HAZARD OR WHERE DIRECTED BY THE ENGINEER.
 - FOR LOCATIONS OF STRAW BALES REFER TO CONSTRUCTION PLANS.
 - INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
 - "STRAW BALES" SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPED STORM FLOW OR DRAINAGE.

STRAW BALE DITCH CHECK

EROSION AND SEDIMENT CONTROL DETAIL SHEET

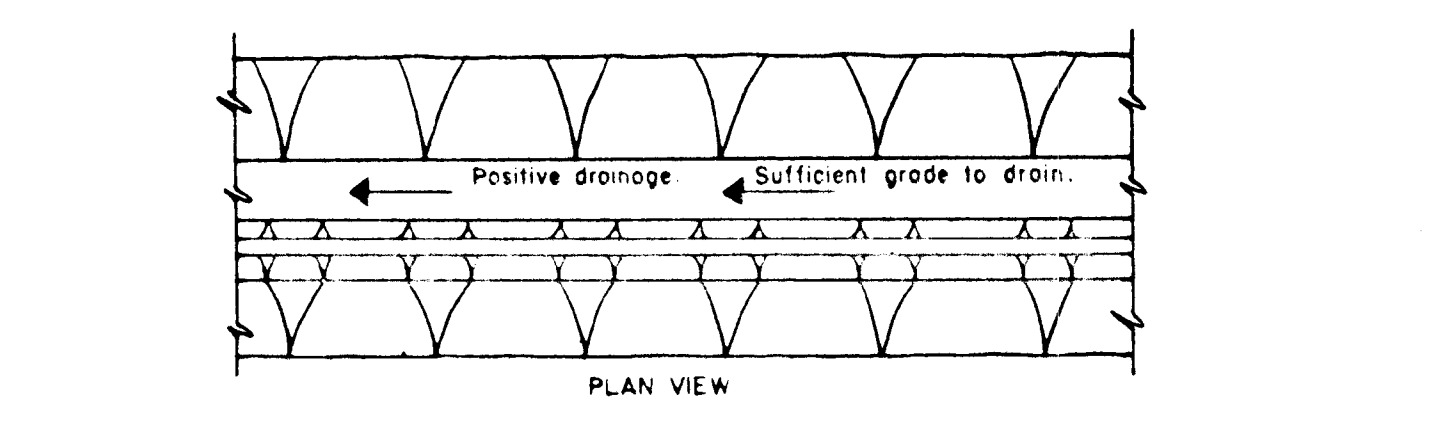
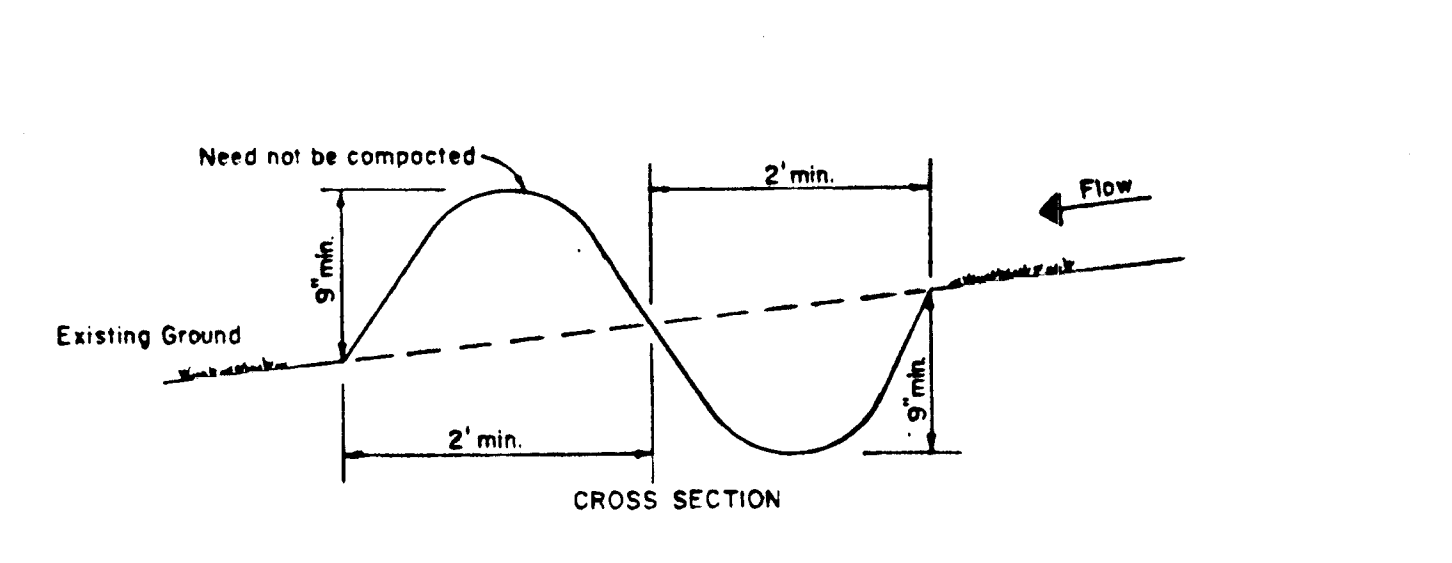
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NOT TO SCALE

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION District 7 Special Projects
CONT. NO. 140-94-100-100	F.A.P. NO. SHEET NO 12 OF 14
PREL. TRAC. BY	FINAL TRAC. BY



1. INTENDED FOR USE IN EXISTING, PROPOSED AND TEMPORARY DITCHES OF ALL TYPES AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.
 2. FOR LOCATIONS OF OUTLET STRUCTURES REFER TO CONSTRUCTION PLANS FOR SEDIMENT CONTROL.
 3. THE OUTLET STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN, AND THE STONE SHALL BE REPLACED WHEN THE OUTLET STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO WEAROUT, CONSTRUCTION TRAFFIC DAMAGE, SILT ACCUMULATION AMONG THE STONE, ETC. HOWEVER, IN ANY CASE, THE SILT SHALL BE CLEANED OUT WHEN TRAP IS 90% FULL.
 4. TEMPORARY STONE OUTLET STRUCTURES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPED STORM FLOW OR DRAINAGE.

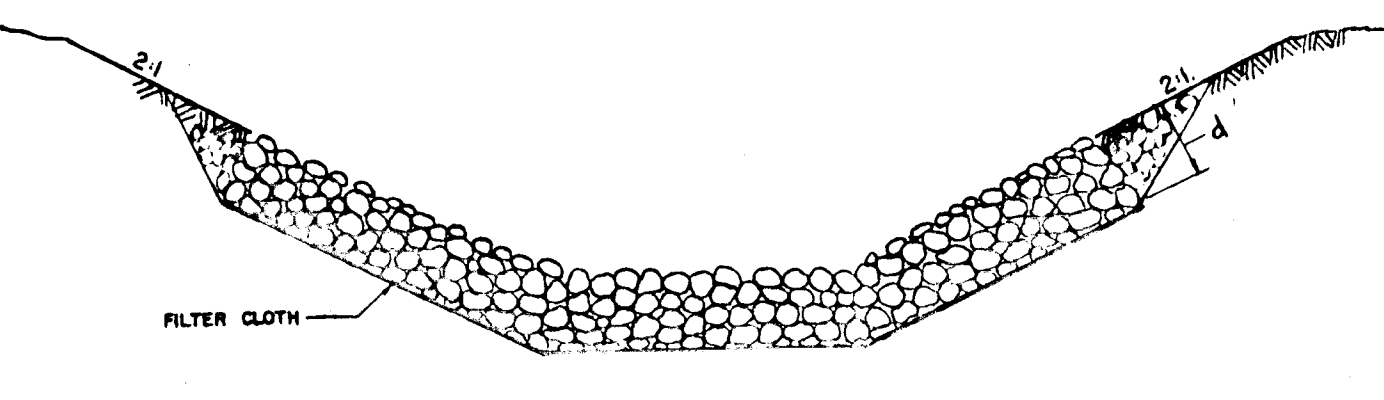
TEMP. STONE OUTLET STRUCTURE



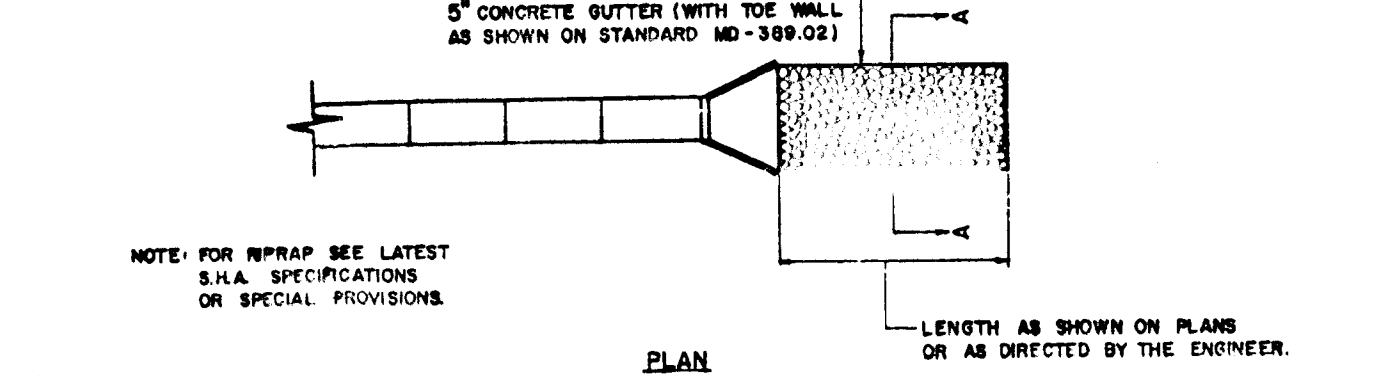
NOTE: TO BE USED AT THE TOP OF CUT SLOPES WHERE "BERM DITCHES ARE SPECIFIED".

- CONSTRUCTION SPECIFICATIONS**
1. ALL PERIMETER DIKE/SWALE SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
 2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
 3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSION VELOCITY.
 4. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED IN THE STANDARD.
 5. STABILIZATION OF THE AREA DISTURBED BY THE DIKE AND SWALE SHALL BE DONE IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SEED AND STRAW MULCH, AND SHALL BE DONE WITHIN 10 DAYS.
 6. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

PERIMETER DIKE/SWALE



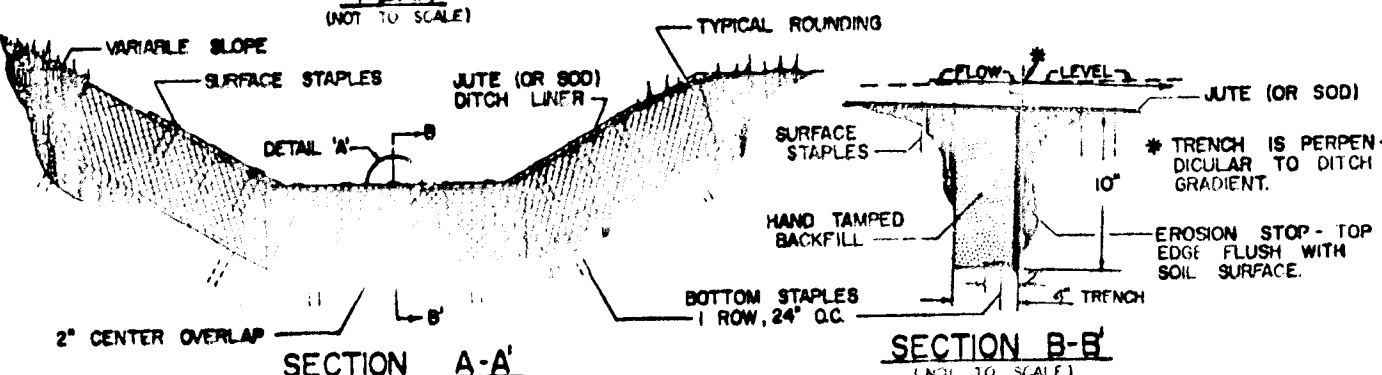
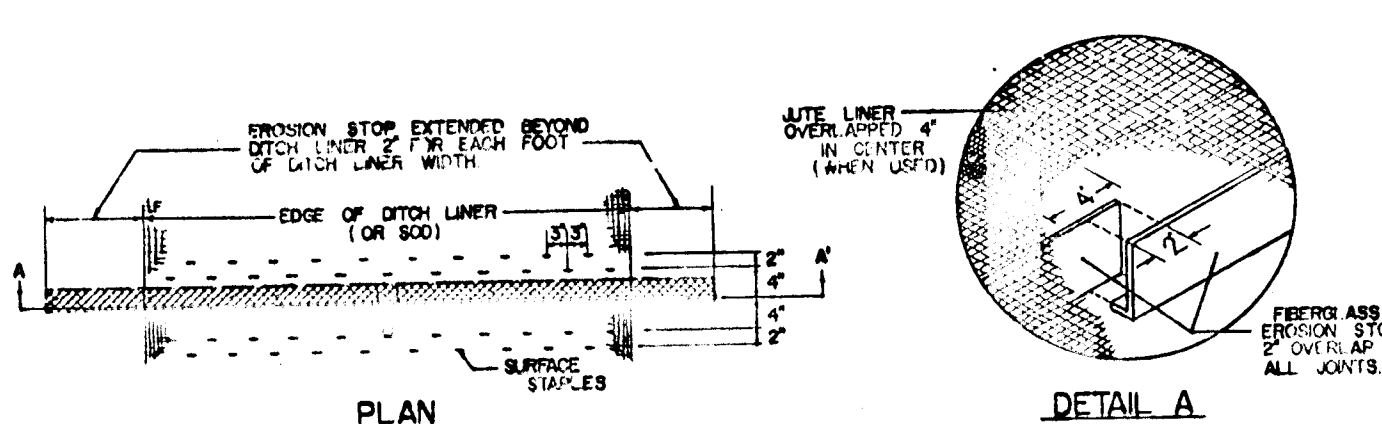
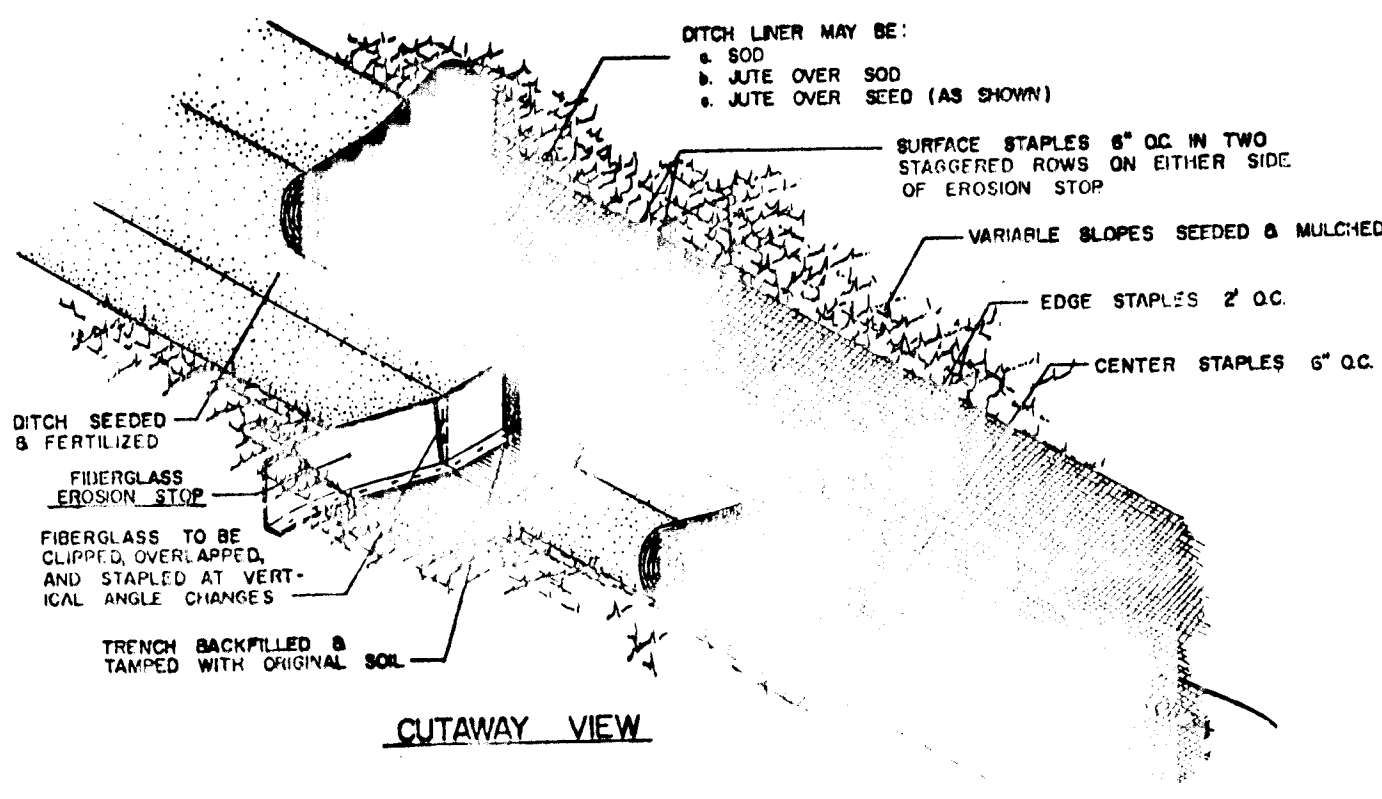
CLASS RIP/RAP
 CLASS 1 d=1.2'
 CLASS 2 d=2.0'
 CLASS 3 d=2.9'



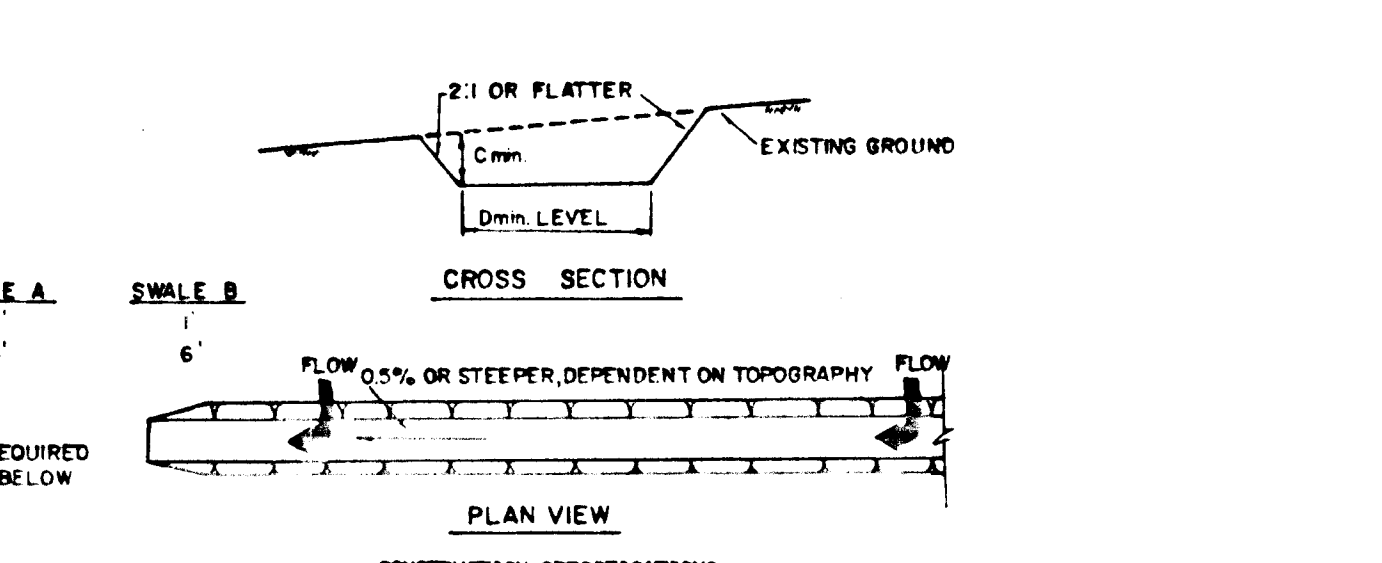
NOTE: FOR RIPRAP SEE LATEST S.A. SPECIFICATIONS OR SPECIAL PROVISIONS.

GENERAL NOTE:
 ALL DIMENSIONS AND LOCATIONS NOT INDICATED FOR ITEMS APPEARING ON THIS SHEET OR ON THE PLANS, SHALL BE DIRECTED BY THE ENGINEER.

PLACED RIPRAP DITCH



FIBERGLASS EROSION STOP

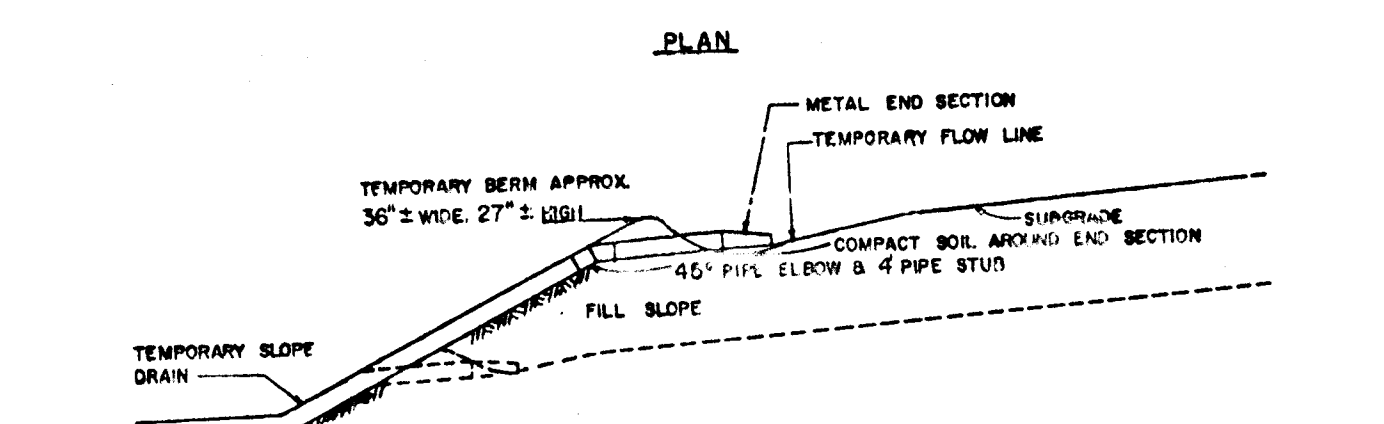
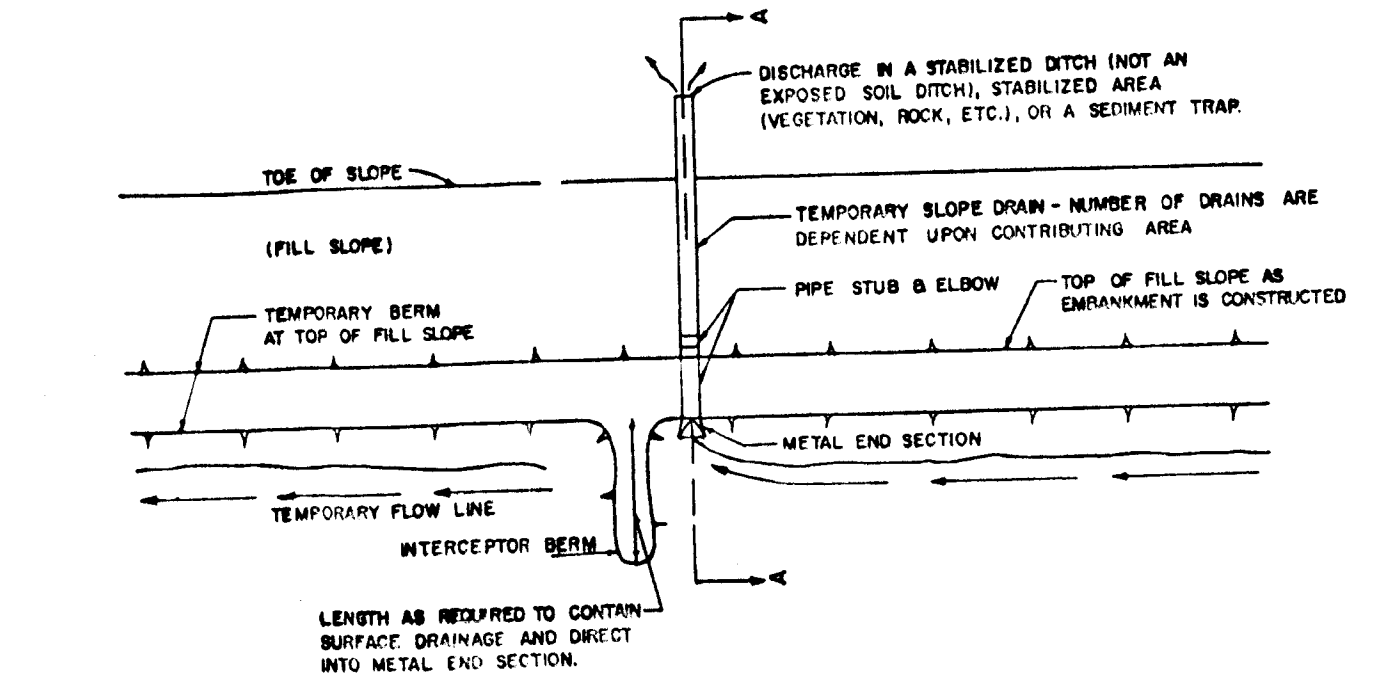


CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSION VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE 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 IMPED NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED ON CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE CHART BELOW:

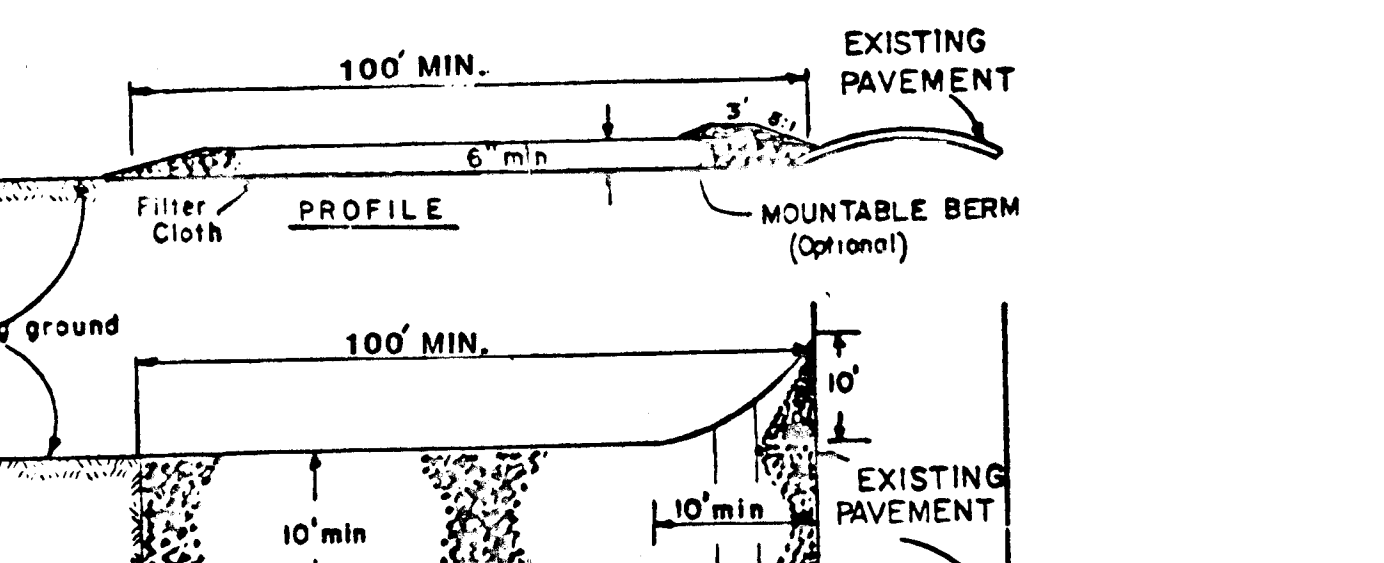
TYPE OF TREATMENT	CHANNEL SWALE	FLOW CHANNEL STABILIZATION	
		A (5 AC OR LESS)	B (5 AC - 10 AC)
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED USING JUTE, OR EXCELSTOR; SOB; 2" STONE	SEED USING JUTE OR EXCELSTOR
3	5.1-8.0%	SEED WITH JUTE OR EXCELSTOR; SOB	LINED RIP-RAP 4-8"
4	8.1-20%	LINED RIP-RAP 4-8"	ENGINEERED DESIGN

TEMP. SWALE



TEMPORARY SLOPE DRAIN SHALL BE USED AT THE TOP OF FILL SLOPE AS EMBANKMENT IS CONSTRUCTED TO PREVENT EXCESSIVE EROSION UNTIL SHOULDERS ARE CONSTRUCTED AND THE SLOPES ARE SEEDING AND MULCHED.

TEMP. SLOPE DRAIN



CONSTRUCTION SPECIFICATIONS

1. Stone Size - Use AASHTO 57 Stone or Approved Equal.
2. Length - As required, but not less than 100 feet.
3. Thickness - Not less than six (6) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Cost of the filter cloth will be incidental to the stone.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.
10. This entrance will be constructed at locations shown on the plans and/or where directed by the Engineer.
11. Basis of payment - This work will be paid for by the ton of "Graded Aggregate for Sub-base for Maintenance of Traffic" which shall include a material, labor, tools incidentals as required to complete the work specified.

STAB. CONSTR. ENTR.

EROSION AND SEDIMENT CONTROL DETAIL SHEET

SHEET NO. 3
 NOT TO SCALE

REVISIONS	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION
CONT. NO.	F. A. P. NO.
PREL. TRAC. BY	FINAL TRAC. BY