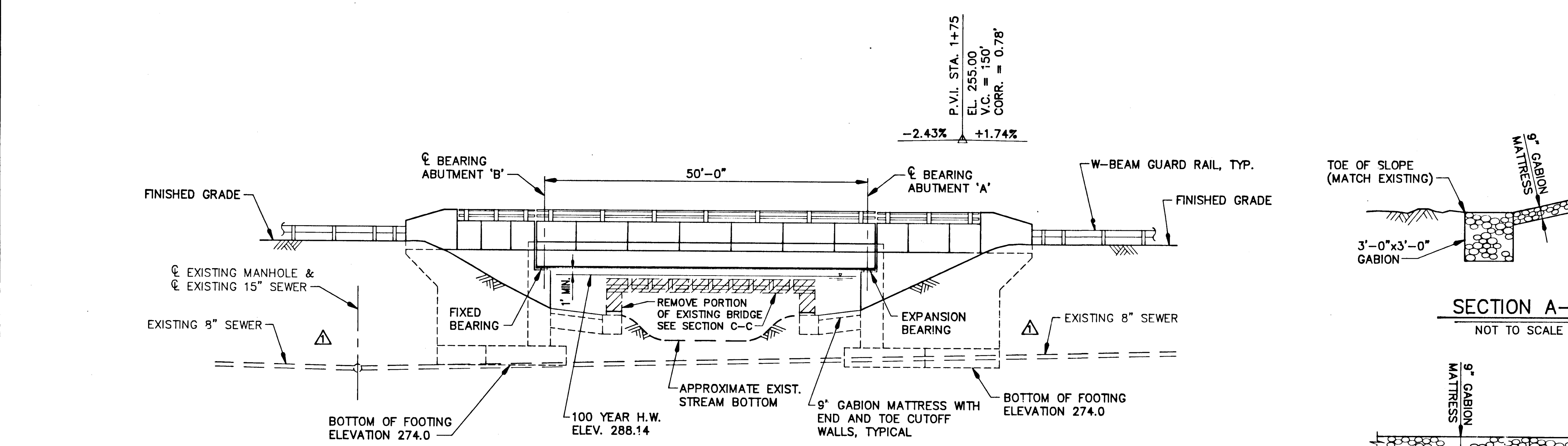
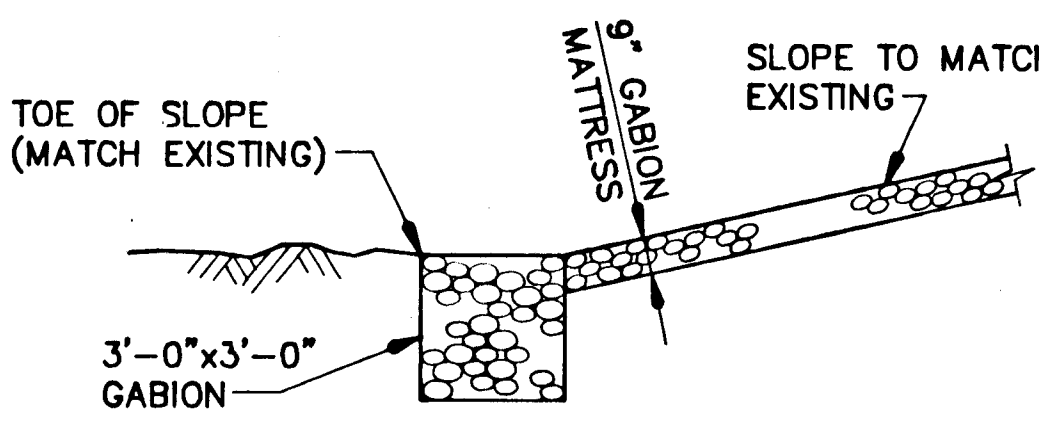
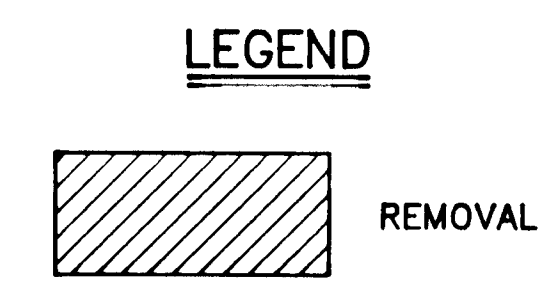


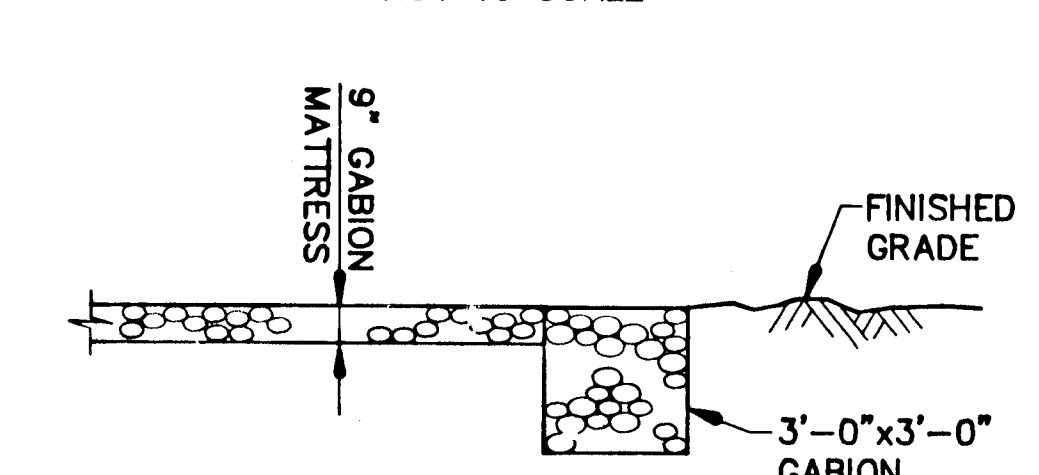
PLAN
SCALE: 1" = 10'



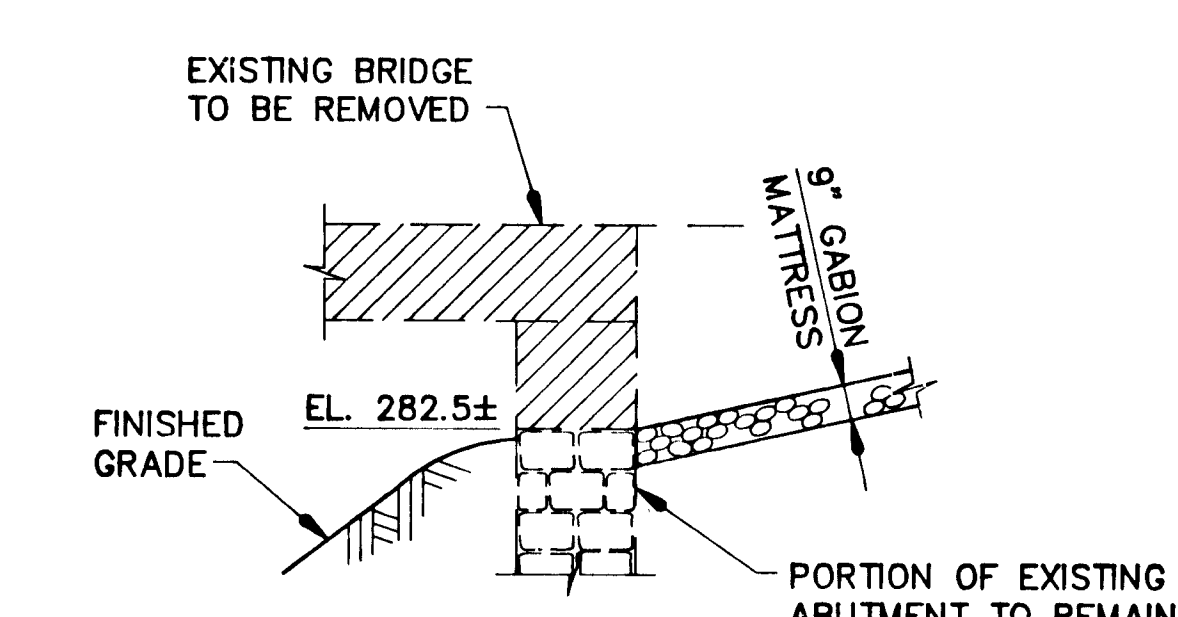
ELEVATION
SCALE: 1" = 10'



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE



SECTION C-C
NOT TO SCALE

GENERAL NOTES:

SPECIFICATIONS:

- S.H.A. SPECIFICATIONS DATED JANUARY, 1982
- SUPPLEMENT TO SPECIFICATIONS DATED JANUARY, 1988
- SUPPLEMENT TO THE JANUARY, 1988 SUPPLEMENT TO SPECIFICATIONS DATED FEBRUARY, 1990.
- REVISIONS THEREOF AND ADDITIONS THERETO AND SPECIAL PROVISIONS FOR MATERIALS AND CONSTRUCTION.

A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 1989 FOR DESIGN.

CONCRETE DESIGN: SERVICE LOAD DESIGN METHOD
 $F_c = 1,200$ P.S.I. EXCEPT THAT IN BRIDGE DECK SLABS SUPPORTED BY STRINGERS IT SHALL BE 1,350 P.S.I.

REINFORCING STEEL DESIGN: $F_s = 24,000$ P.S.I.

STRUCTURAL STEEL DESIGN: ELASTIC DESIGN METHOD.

LOADING: HS 20-44, A MD. TYPE 3 TRUCK WEIGHING 66,000 LBS., WITH PROVISIONS FOR FUTURE 2" WEARING SURFACE AND 15 P.S.F. FOR USE OF BRIDGE DECK FORMS.

CONCRETE: ALL CONCRETE FOR ABUTMENT BACKWALLS AND PARAPETS AT ABUTMENTS, AND ENTIRE SUPERSTRUCTURE SHALL BE MIX NO. 6 (4,500 P.S.I.). ALL OTHER STRUCTURE CONCRETE SHALL BE MIX NO. 3 (3,500 P.S.I.).

BRIDGE DECK AND PARAPETS SHALL BE COATED WITH POLY-SILOXANE (FOX INDUSTRIES FX425).

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO A.S.T.M. A-615 GRADE 60. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED, WITH THE EXCEPTION OF BARS AT THE TOP OF PIERS AND AT THE BOTTOM OF ALL FOOTINGS WHICH SHALL HAVE 3" MINIMUM COVER.

FOR TIES AND STIRRUPS; STANDARD CRSI BENDING TOLERANCES ARE MODIFIED TO PLUS (+) ZERO INCHES, MINUS (-) NORMAL CRSI BENDING TOLERANCES.

ONLY GRADE 60 CAN BE USED FOR THIS PROJECT.

REINFORCING STEEL IN THE FOLLOWING AREAS SHALL BE EPOXY COATED:

- ENTIRE SUPERSTRUCTURE (INCLUDING PARAPETS)
- ABUTMENT BACKWALLS
- ALL BEARING SEAT PADS
- ABUTMENT BRIDGE SEAT AREAS
- PARAPET PORTION OF WING WALLS

KEYS: ALL KEYS ARE NOMINAL SIZE.

STRUCTURAL STEEL: STRUCTURAL STEEL SHALL CONFORM TO A.S.T.M. A-709, $F_y = 50$ K.S.I. INCLUDING THE ADDITIONAL REQUIREMENTS FOR CHARPY V-NOTCH TESTING OF A.A.S.H.T.O. M-270 FOR PRIMARY LOAD CARRYING MEMBERS.

EXISTING STRUCTURE: EXISTING STRUCTURE SHOWN IN LONG DASHED LINES. PORTIONS OF EXISTING STRUCTURES SHOWN HATCHED, TO BE REMOVED.

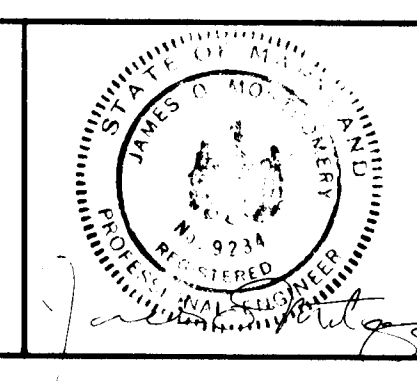
THE CONTRACTOR SHALL DELIVER THE EXISTING STEEL BEAMS, GUARDRAIL POSTS AND RAILING TO THE BUREAU OF HIGHWAY MAINTENANCE FACILITY ON MAYFIELD AVENUE.

DES: G.C.N.	DED	ADD SEWER, FOOTINGS AND NOTES	9/14/90
DRN: D.E.D.	DED	REVISED END BLOCK	9/14/90
CHK: C.T.K.			
DATE: 7/23/90	BY: NO.	REVISION	DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

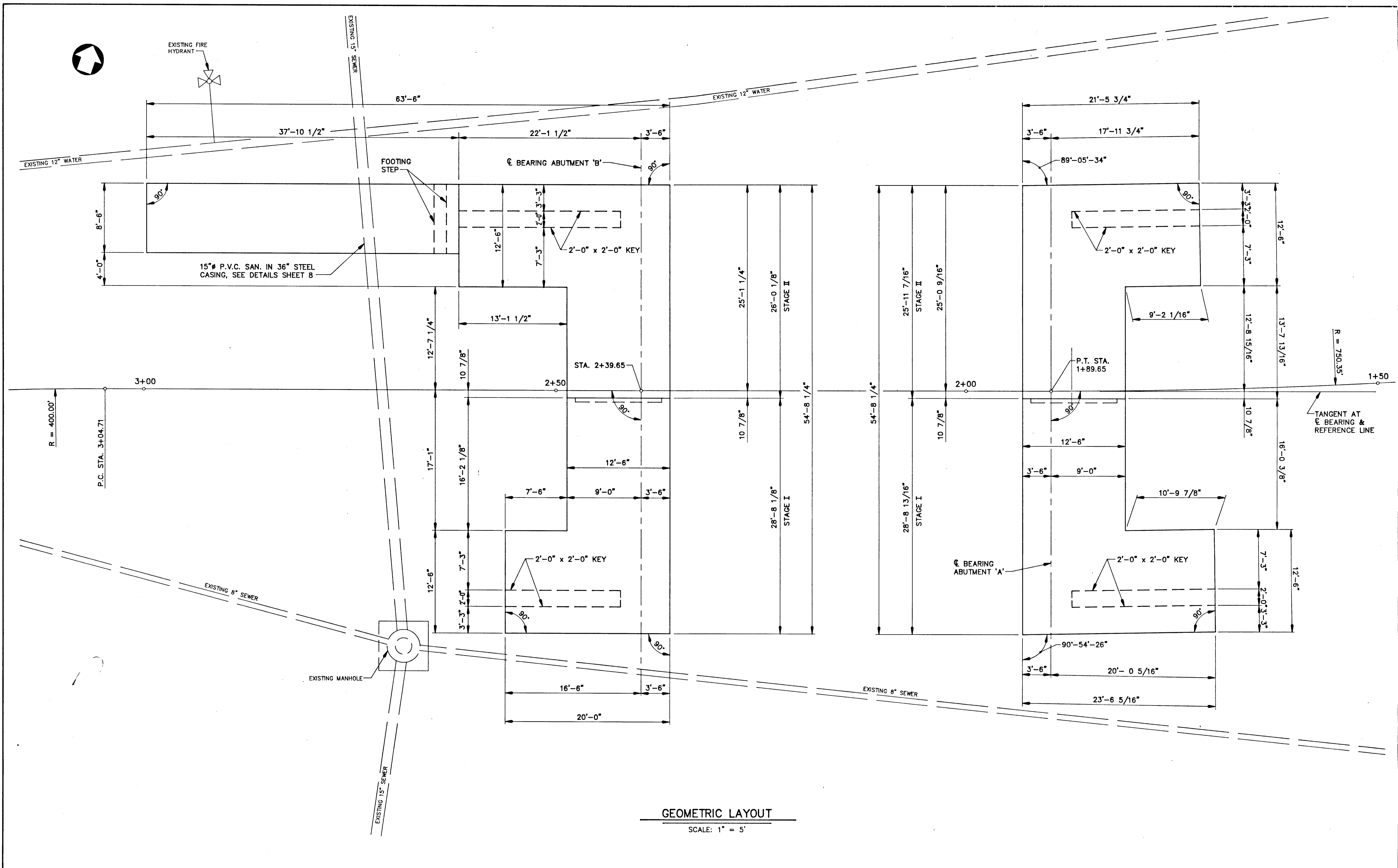
[Signatures]
10/24/90
10/22/90
10/16/90

WALLACE, MONTGOMERY & ASSOCIATES
1544 YORK ROAD
LUTHERVILLE, MARYLAND 21093
(301) 494-9093



REPLACEMENT OF LARK BROWN ROAD BRIDGE
OVER DORSEY RUN
PLAN AND ELEVATION
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 22



1376

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. [Signature] 10/24/90
DIRECTOR OF PUBLIC WORKS DATE

William H. Williams 10/10/90
CHIEF, BUREAU OF HIGHWAYS DATE

Michael S. Ray 10-22-90
CHIEF, BUREAU OF ENGINEERING DATE

Alan M. [Signature] 10/22/90
CHIEF, LAND DEVELOPMENT DIVISION DATE

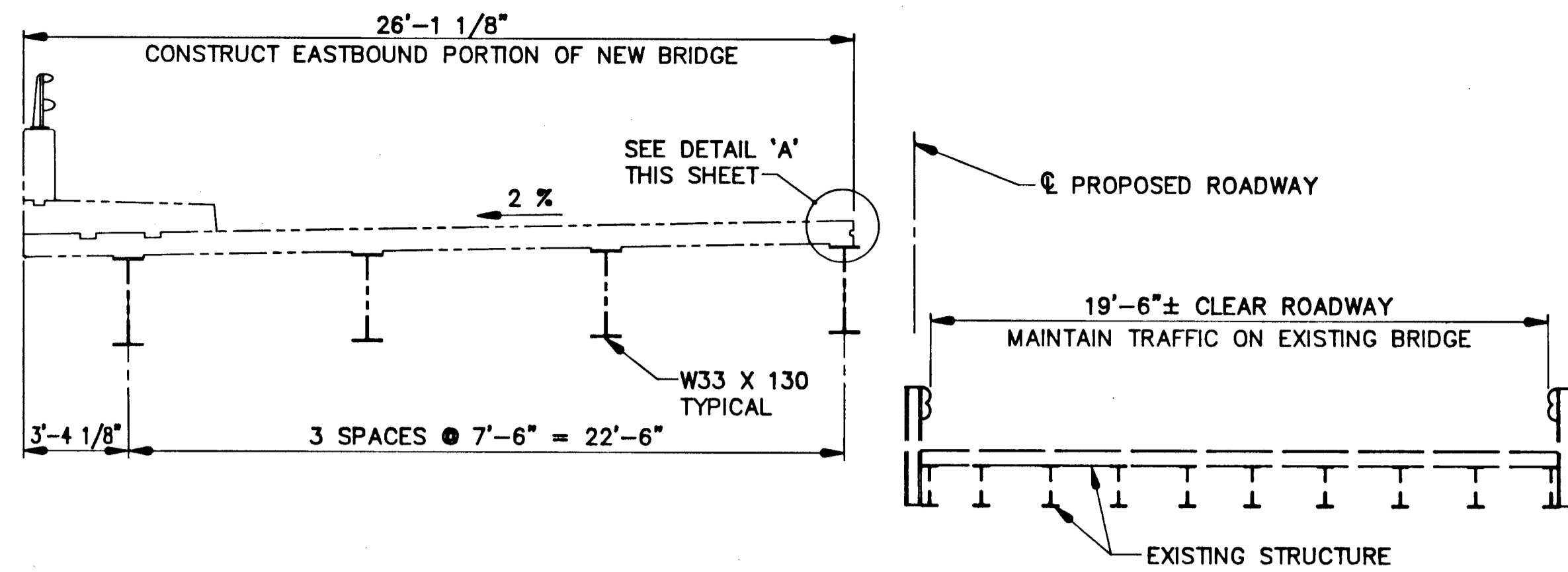
WALLACE, MONTGOMERY & ASSOCIATES
1544 YORK ROAD
LUTHERVILLE, MARYLAND 21093
(301) 494-9093



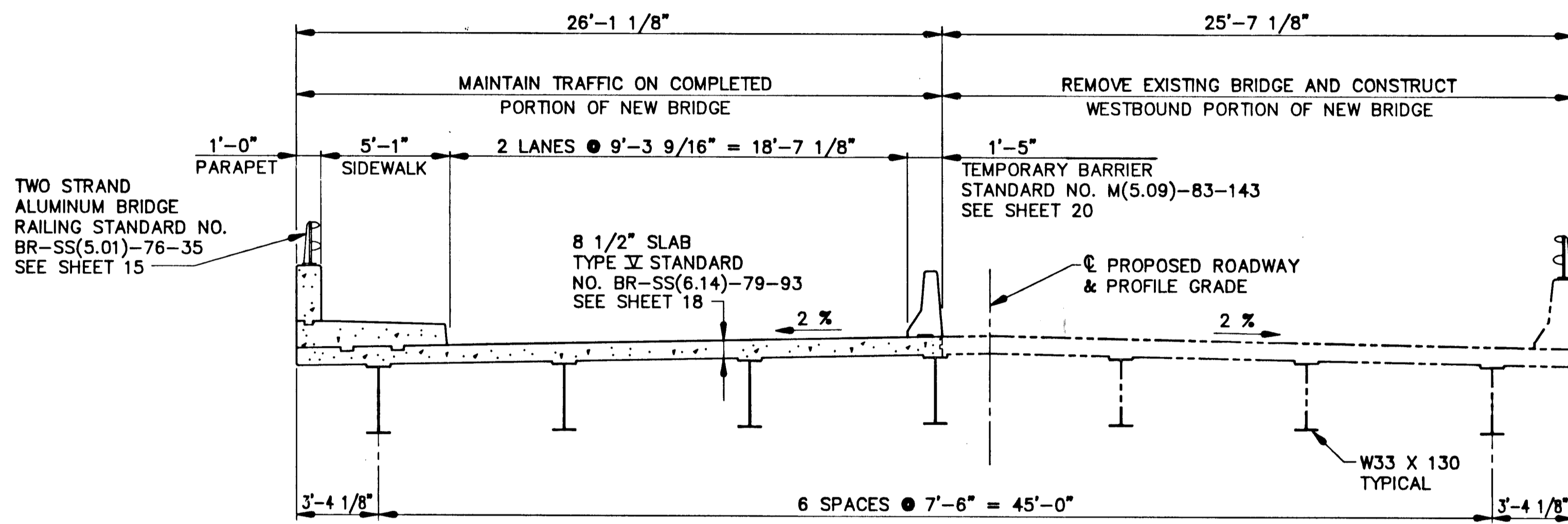
DES: G.C.N.					
DRN: S.W.S.					
CHK: C.T.K.					
DATE: 7/23/90	BY	NO.	REVISION	DATE	600' SCALE MAP NO. BLOCK NO.

REPLACEMENT OF LARK BROWN ROAD BRIDGE
OVER DORSEY RUN
GEOMETRIC LAYOUT
HOWARD COUNTY, MARYLAND

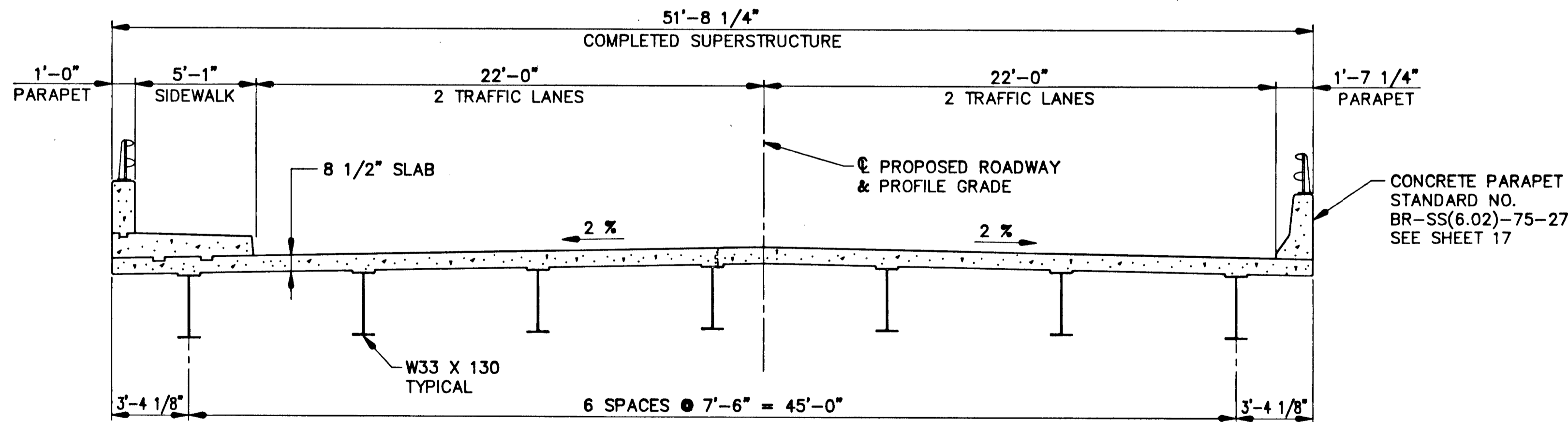
SCALE AS SHOWN
SHEET 2 OF 22



S T A G E I
SCALE: 1/4" = 1'-0"



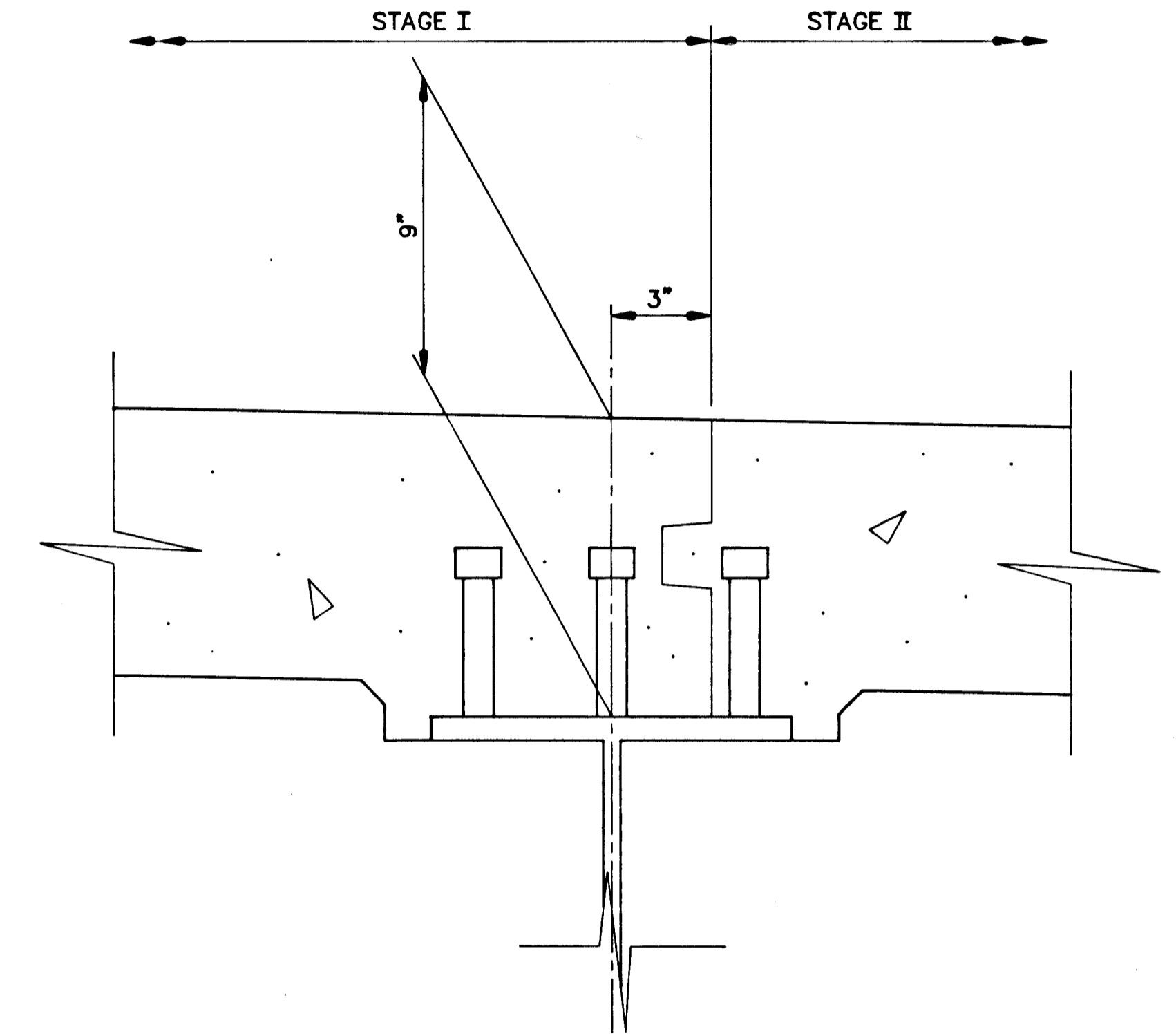
S T A G E II
SCALE: 1/4" = 1'-0"



S T A G E III
SCALE: 1/4" = 1'-0"

SEQUENCE OF CONSTRUCTION:

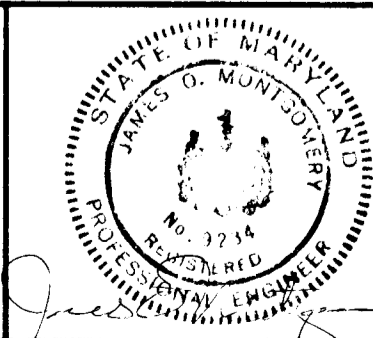
- STAGE I : MAINTAIN TRAFFIC ON EXISTING BRIDGE. CONSTRUCT EASTBOUND PORTION OF NEW BRIDGE
- STAGE II : SWITCH TRAFFIC FROM EXISTING BRIDGE TO COMPLETED PORTION OF NEW BRIDGE. REMOVE EXISTING BRIDGE AND CONSTRUCT WESTBOUND PORTION OF NEW BRIDGE.
- STAGE III : AFTER COMPLETING WESTBOUND PORTION OF NEW BRIDGE, SWITCH TRAFFIC ONTO COMPLETED BRIDGE.



DETAIL 'A'
SCALE: 3" = 1'-0"

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

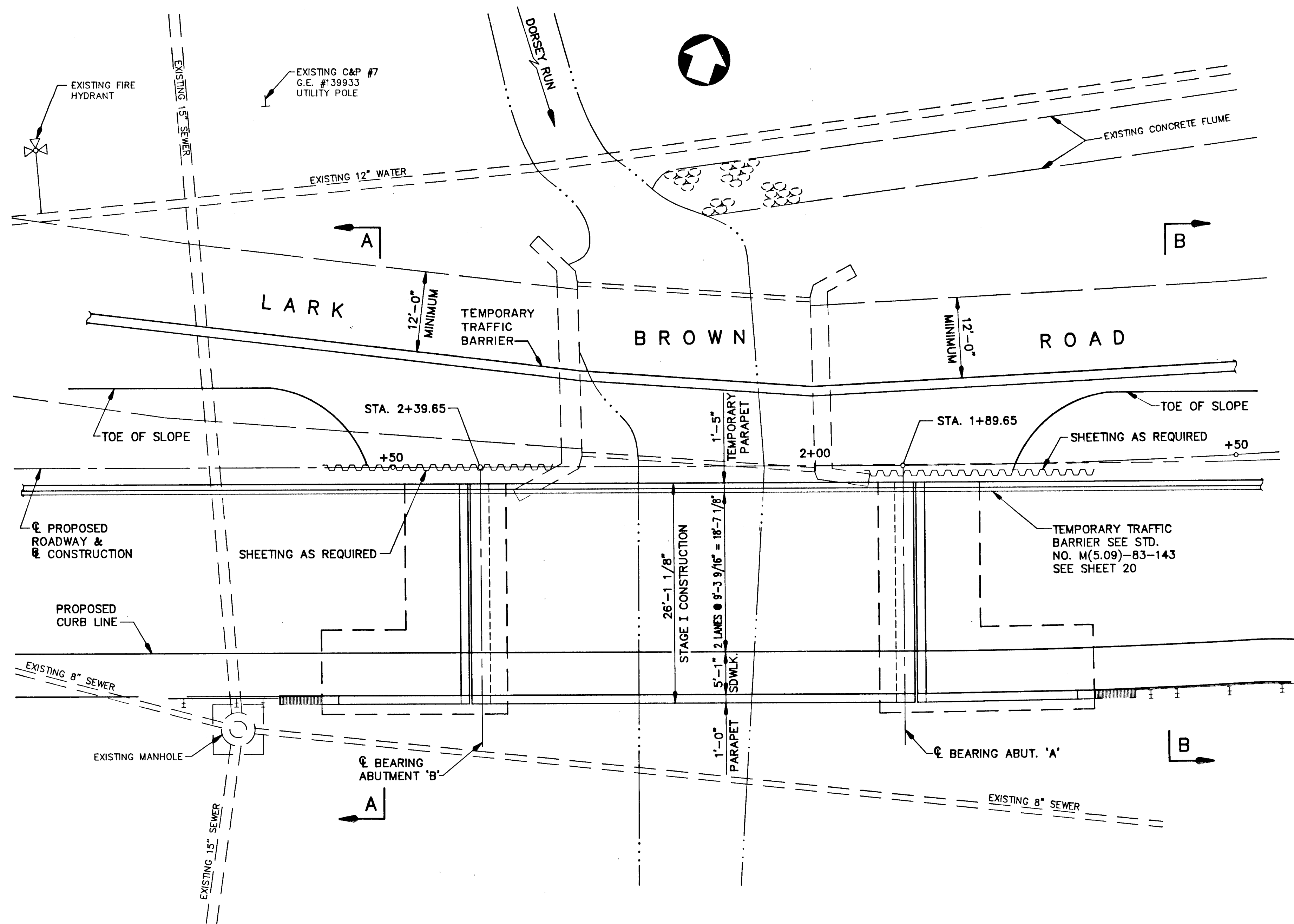
WALLACE, MONTGOMERY & ASSOCIATES
1544 YORK ROAD
LUTHERVILLE, MARYLAND 21093
(301) 494-9093



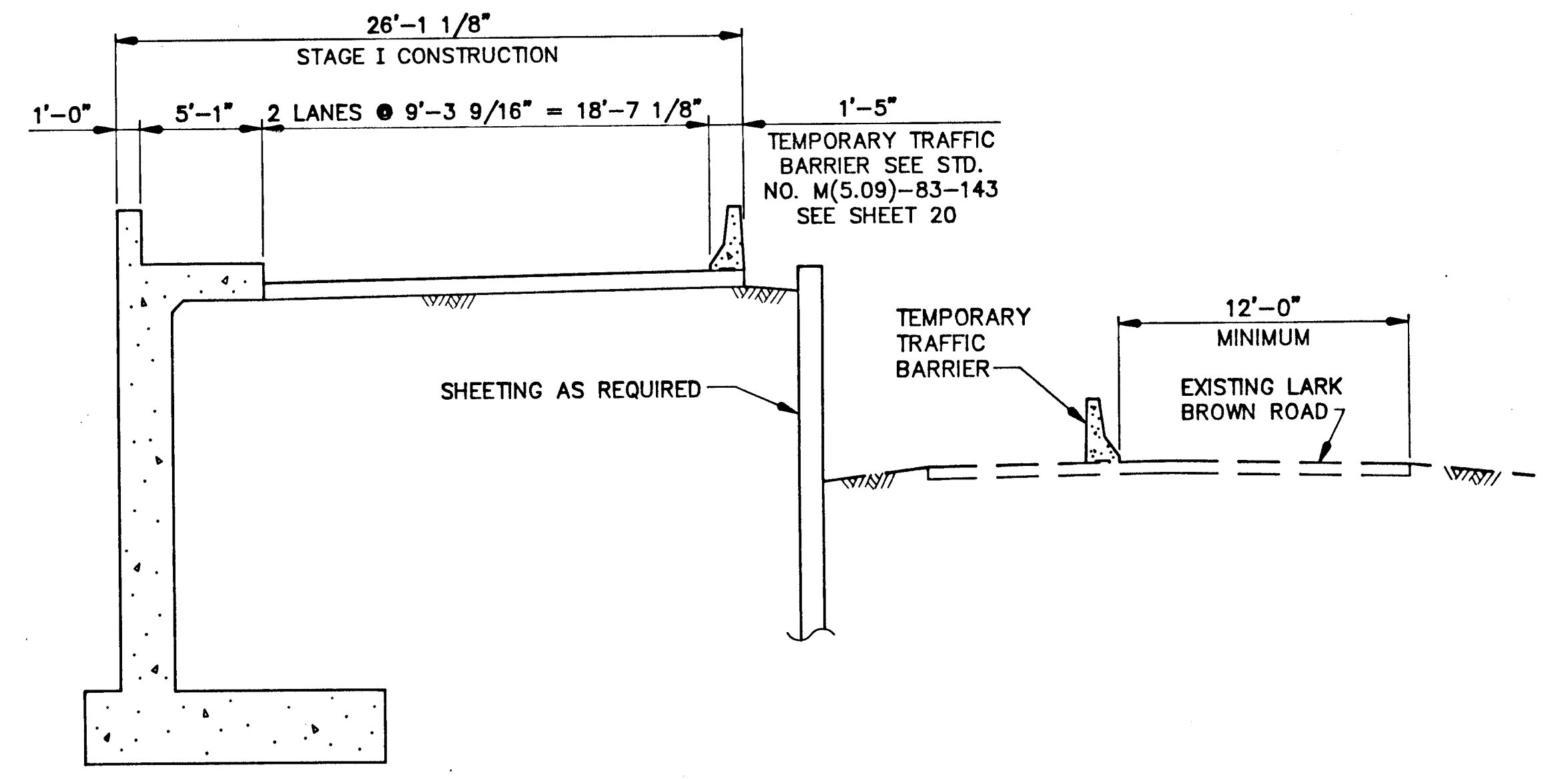
DES: G.C.N.
DRN: D.E.D.
CHK: C.T.K.
DATE: 7/23/90

REPLACEMENT OF LARK BROWN ROAD BRIDGE
OVER DORSEY RUN
CONSTRUCTION STAGING
HOWARD COUNTY, MARYLAND

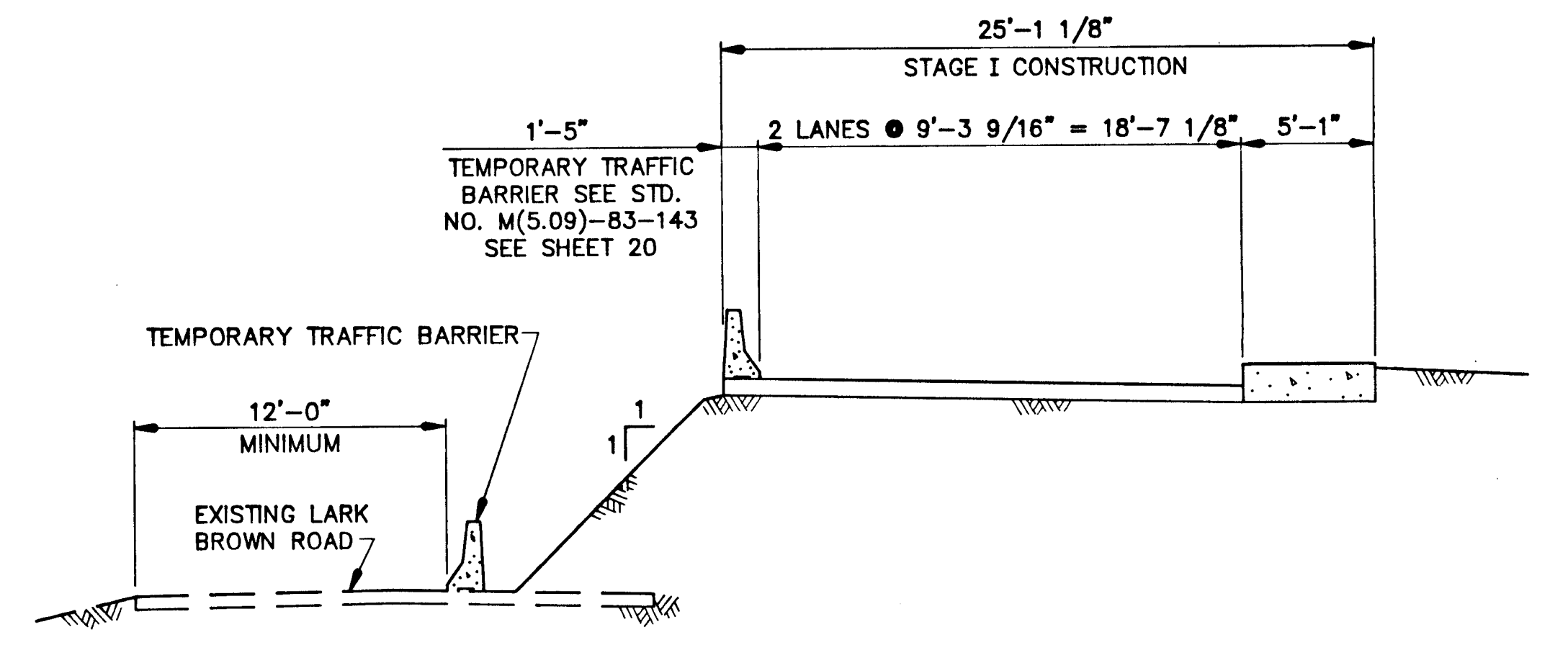
SCALE AS SHOWN
SHEET 3 OF 22



PLAN
SCALE: 1/8" = 1'-0"



SECTION A - A
SCALE: 3/16" = 1'-0"



SECTION B - B
SCALE: 3/16" = 1'-0"

SHEETING GENERAL NOTES

1. SHEETING SHOWN ON THESE DRAWINGS IS STRICTLY PICTORIAL AND IS NOT INTENDED TO REPRESENT ANY DESIGN INFORMATION ON THE PART OF THE ENGINEER. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGN OF ALL SHEETING INCLUDING THE EXACT LOCATION AND LIMITS OF SAME.
2. SIZES AND LOCATIONS OF EXISTING STRUCTURES, INCLUDING FOOTINGS, SUBSTRUCTURE, SUPERSTRUCTURE, ETC., ARE TO BE VERIFIED BY THE CONTRACTOR BY THE USE OF TEST PITS.
3. LOCATIONS OF UTILITIES ARE TO BE VERIFIED BY THE USE OF TEST PITS.
4. SHEETING IS TO BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER. SEE SPECIAL PROVISIONS.

1396

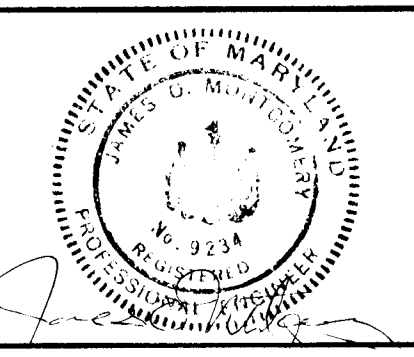
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 10/24/90
DIRECTOR OF PUBLIC WORKS

[Signature] 10/22/90
CHIEF, BUREAU OF ENGINEERING

[Signature] 10/16/90
CHIEF, BUREAU OF HIGHWAYS

WALLACE, MONTGOMERY & ASSOCIATES
1544 YORK ROAD
LUTHERVILLE, MARYLAND 21093
(301) 494-9093

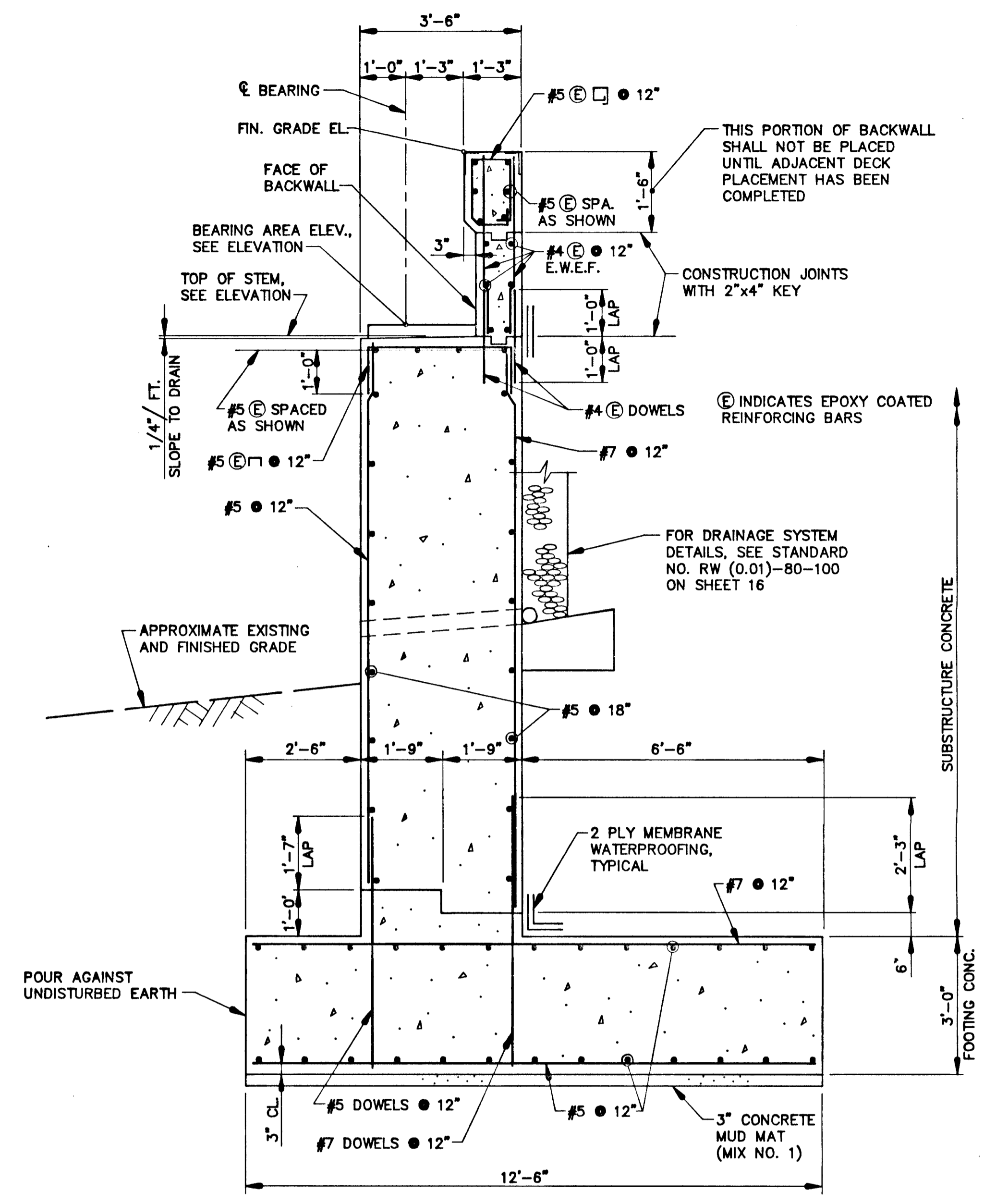
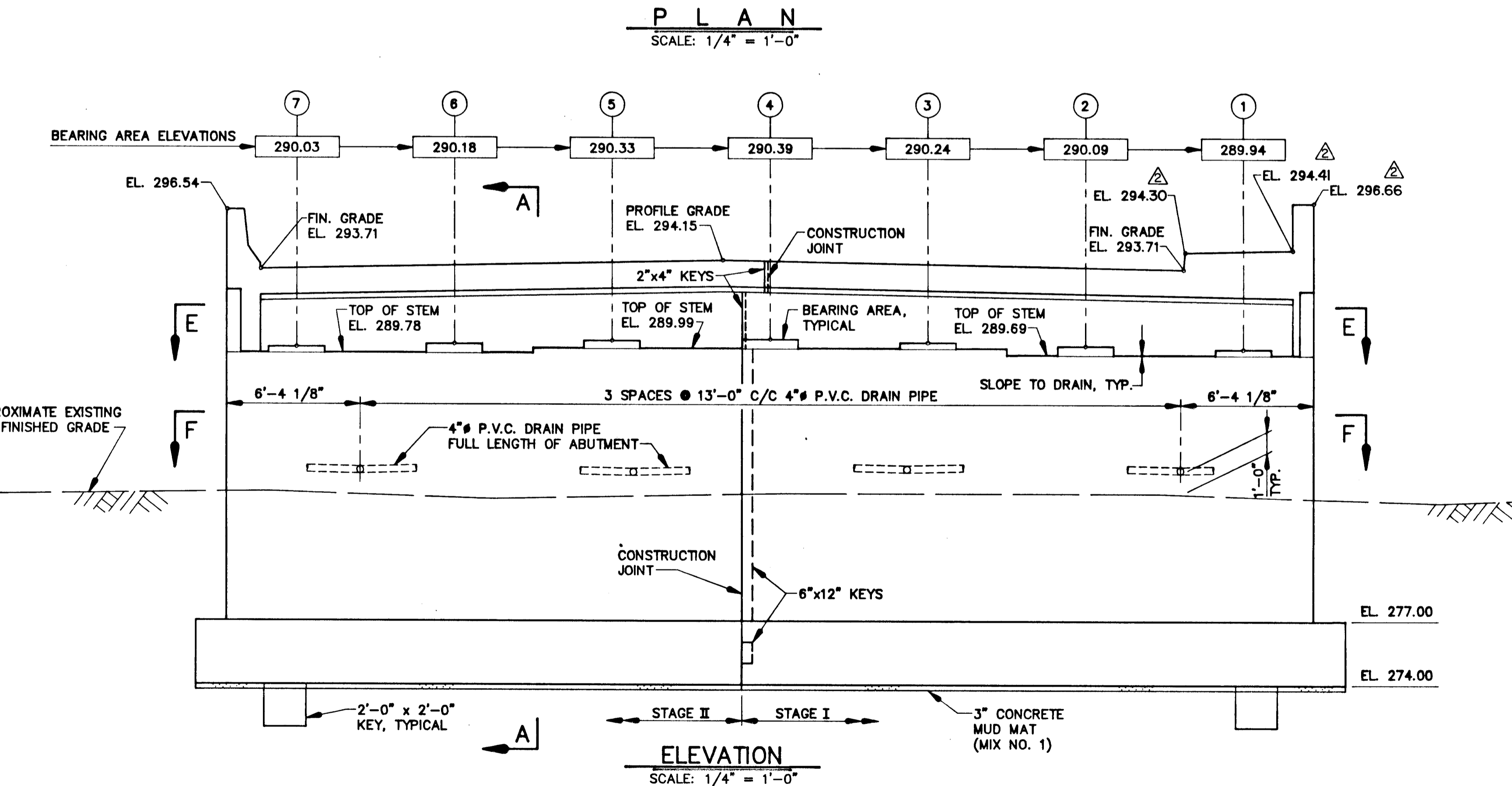
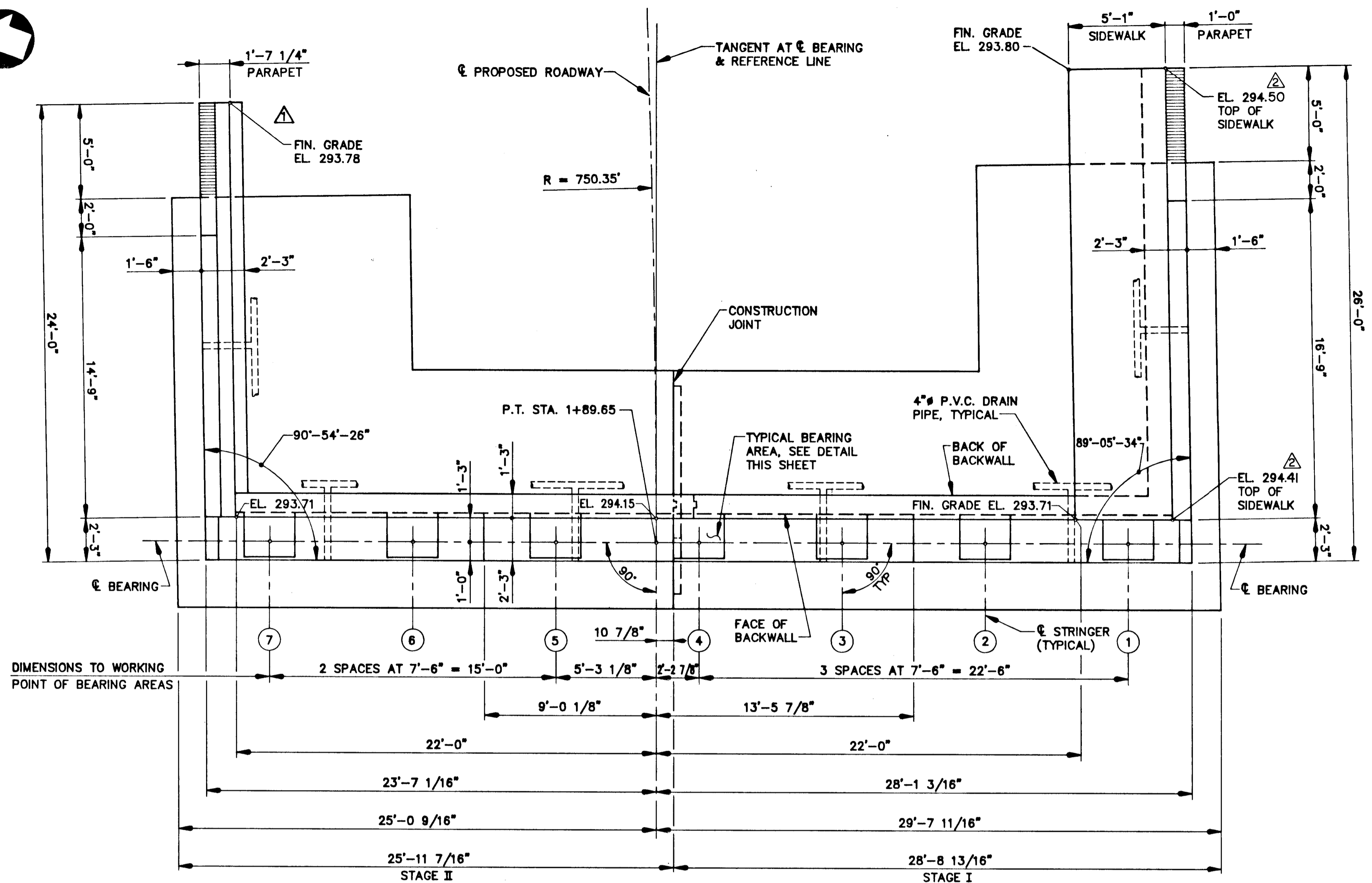


DES: G.C.N.			
DRN: S.W.S.			
CHK: C.T.K.			
DATE: 7/23/90	BY	NO.	REVISION

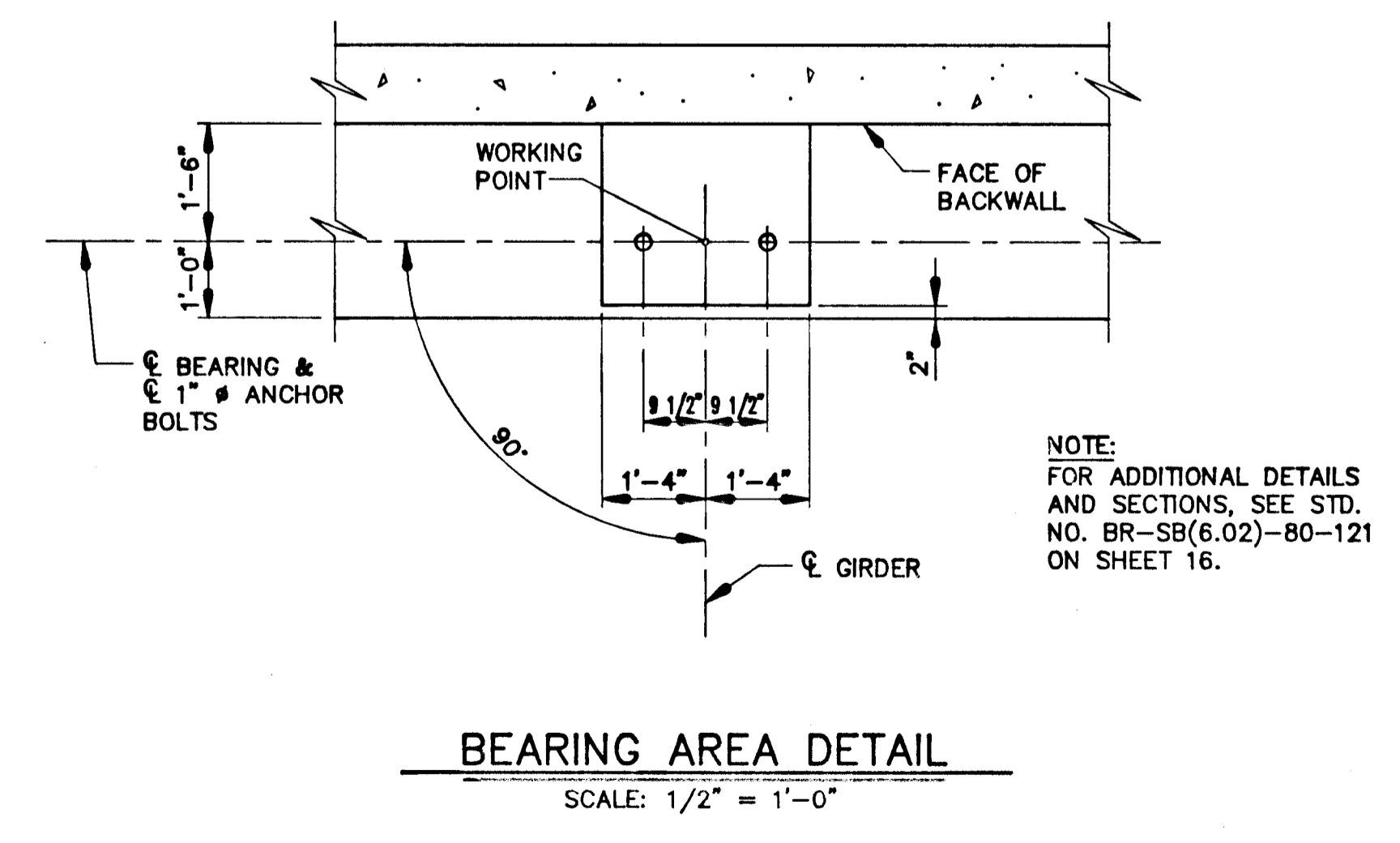
DATE	600' SCALE MAP NO.	BLOCK NO.
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REPLACEMENT OF LARK BROWN ROAD BRIDGE
OVER DORSEY RUN
STAGE I - PLAN AND SECTIONS
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 4 OF 22

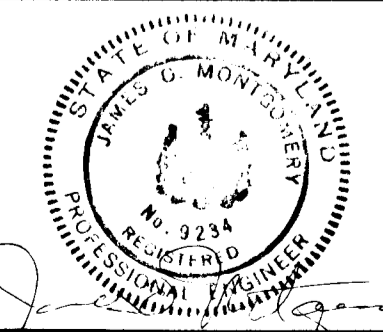


NOTES:
 FOR WING WALL ELEVATIONS AND DETAILS SEE SHEET 6.
 FOR SECTIONS E-E & F-F SEE SHEET 9.



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: [Signature] 10/24/90
 Chief, Bureau of Engineering: [Signature] 10-22-90
 Chief, Bureau of Highways: [Signature] 10/16/90
 Chief, Land Development Division: [Signature] 10/23/90

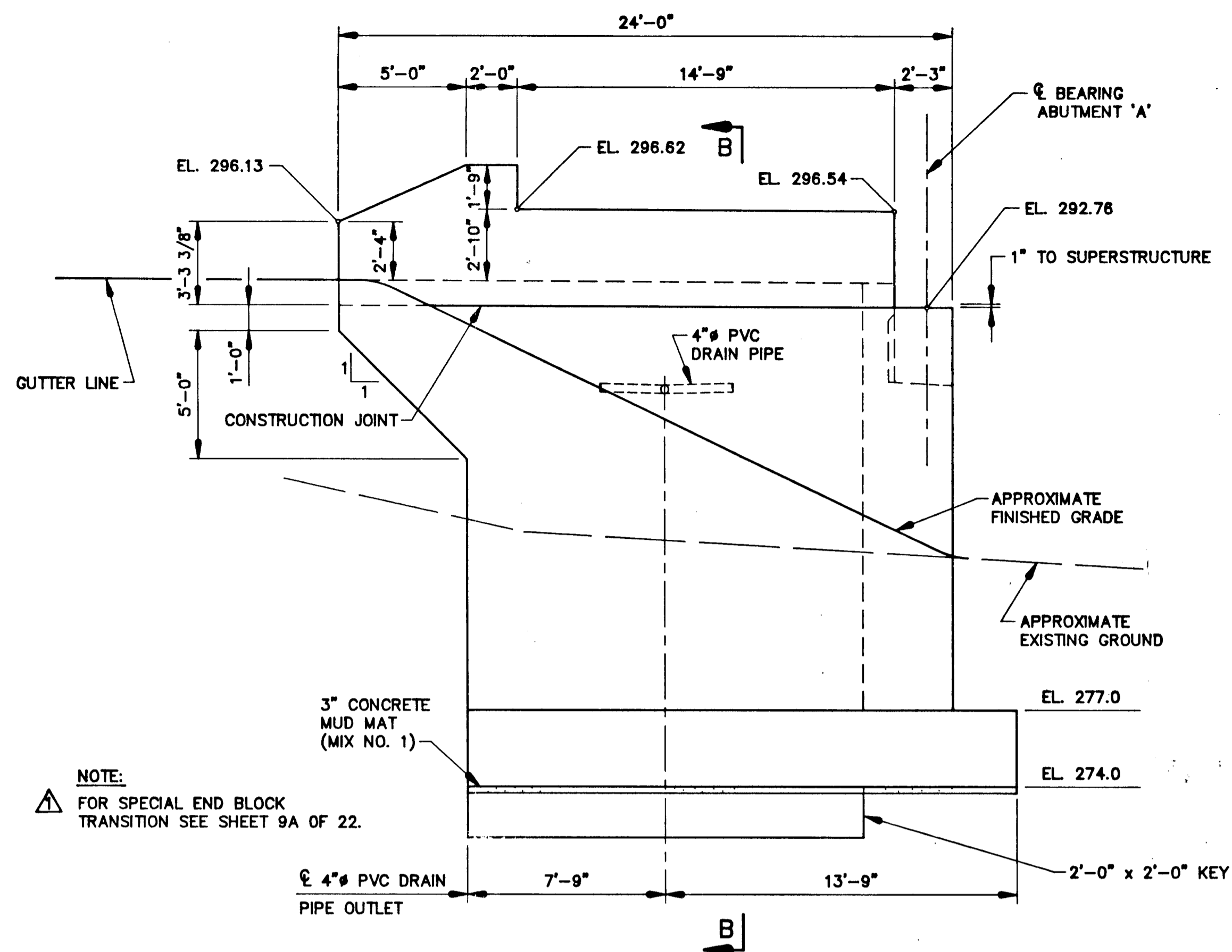
WALLACE, MONTGOMERY & ASSOCIATES
 1544 YORK ROAD
 LUTHERVILLE, MARYLAND 21093
 (301) 494-9093



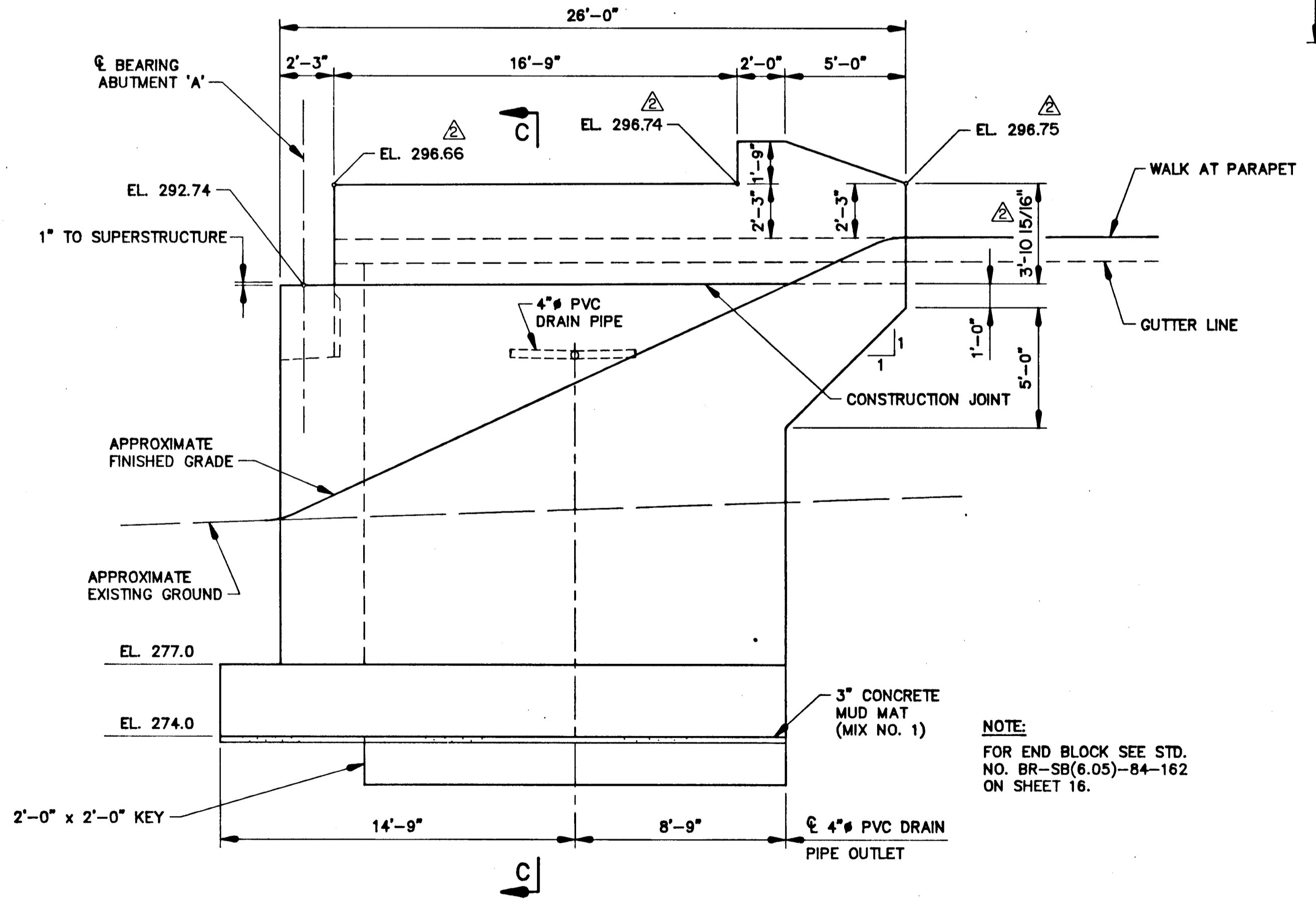
DES: G.C.N.	DED	REVISED END BLOCK	9/14/90
	DED	REVISED ELEVATIONS	10/10/90
DRN: S.W.S.			
CHK: C.T.K.			
DATE: 7/23/90	BY	NO.	REVISION

REPLACEMENT OF LARK BROWN ROAD BRIDGE
 OVER DORSEY RUN
 ABUTMENT 'A'
 HOWARD COUNTY, MARYLAND
 SCALE AS SHOWN
 SHEET 5 OF 22

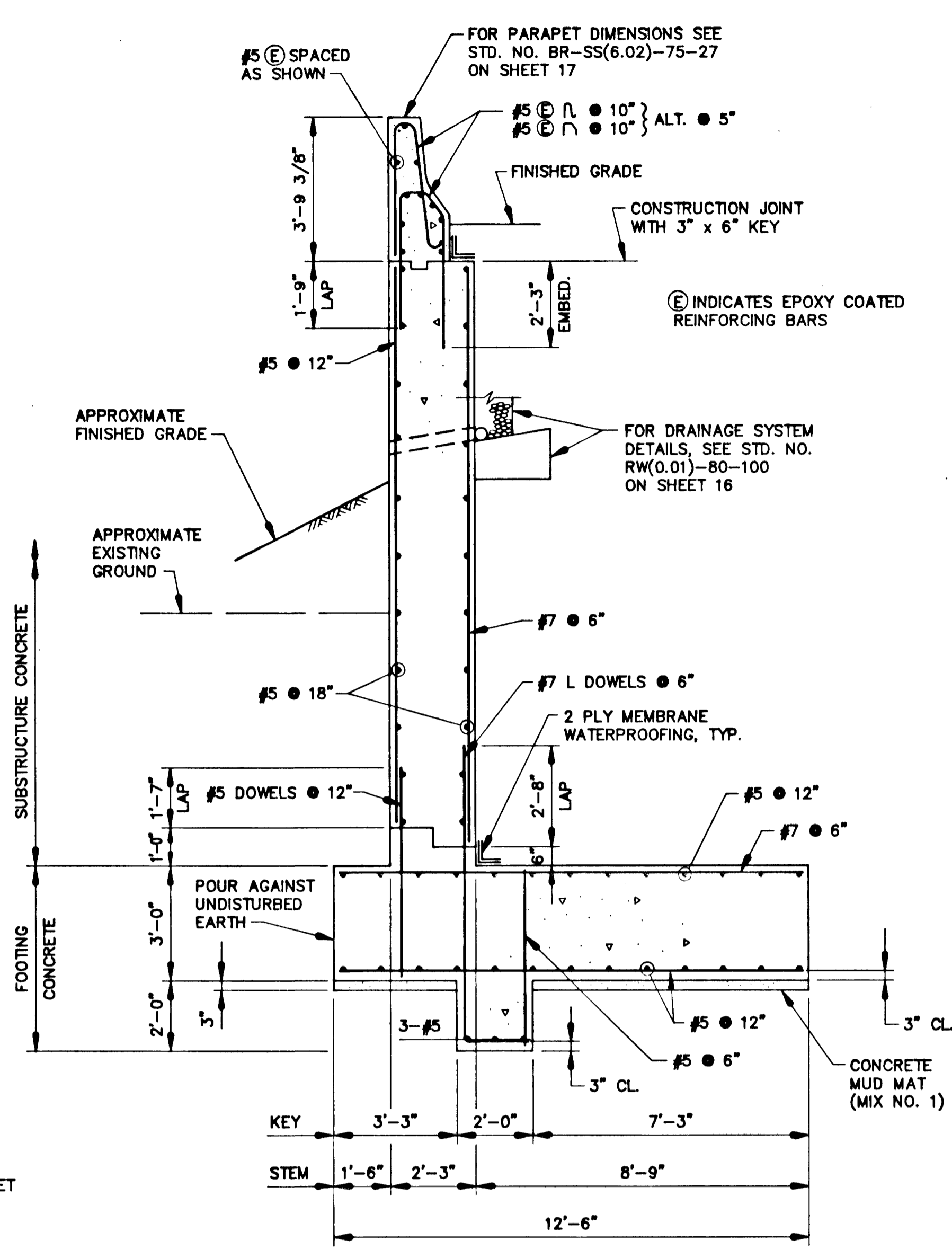
1306



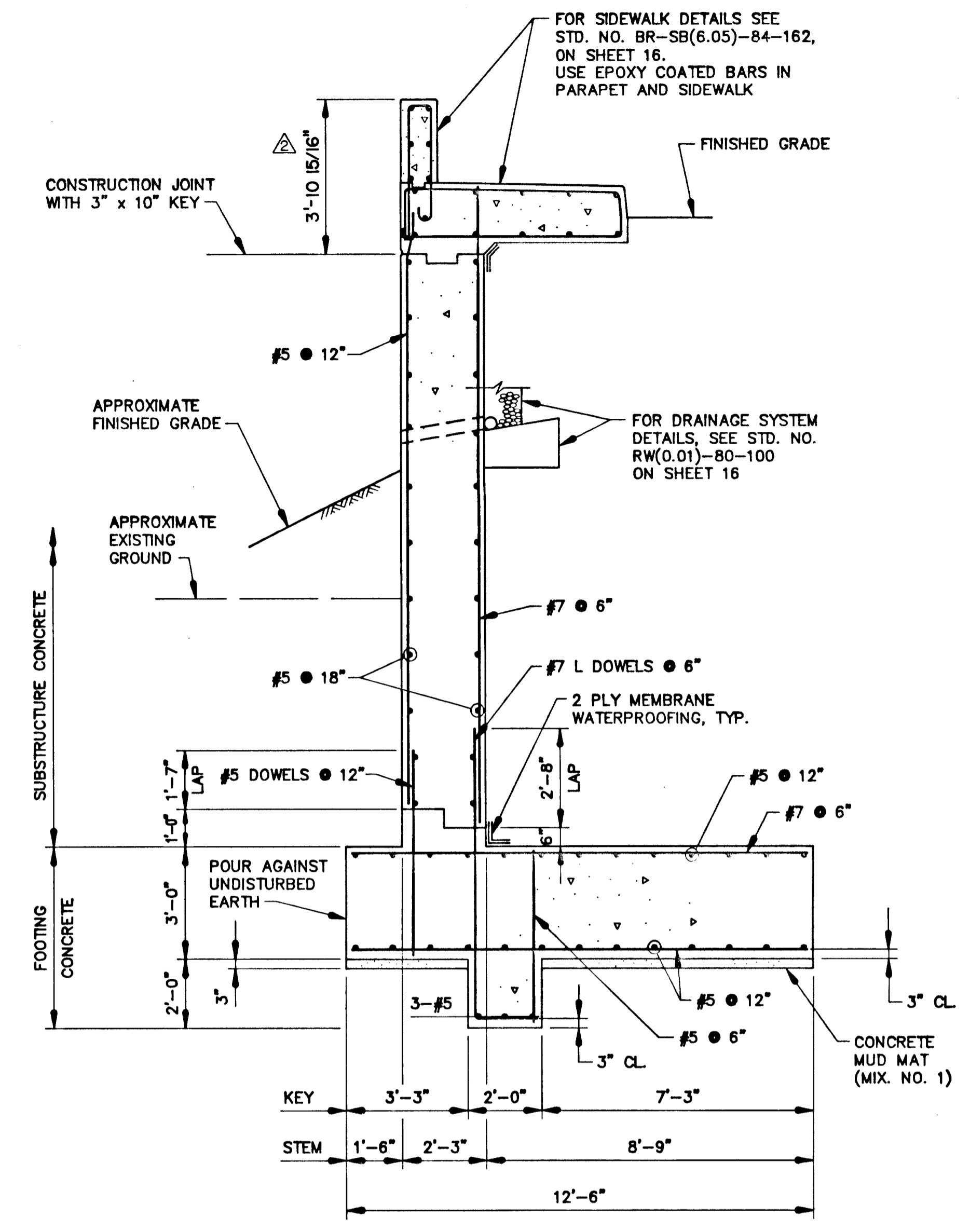
ELEVATION - NORTH WING WALL AT ABUTMENT 'A'
SCALE: 1/4" = 1'-0"



ELEVATION - SOUTH WING WALL AT ABUTMENT 'A'
SCALE: 1/4" = 1'-0"



SECTION B - B
SCALE: 3/8" = 1'-0"
MAXIMUM DESIGN FOUNDATION PRESSURE = 4.2 K.S.F.



SECTION C - C
SCALE: 3/8" = 1'-0"
MAXIMUM DESIGN FOUNDATION PRESSURE = 4.4 K.S.F.

15916

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

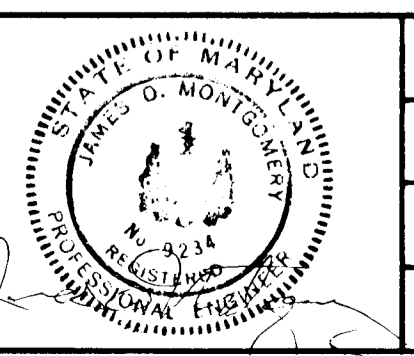
James W. Lewis 10/24/90
DIRECTOR OF PUBLIC WORKS DATE

William W. Wehrman 10/16/90
CHIEF, BUREAU OF HIGHWAYS DATE

William S. Reidy 10/22/90
CHIEF, BUREAU OF ENGINEERING DATE

William M. Logan 10/22/90
CHIEF, LAND DEVELOPMENT DIVISION DATE

WALLACE, MONTGOMERY & ASSOCIATES
1544 YORK ROAD
LUTHERVILLE, MARYLAND 21093
(301) 494-9093

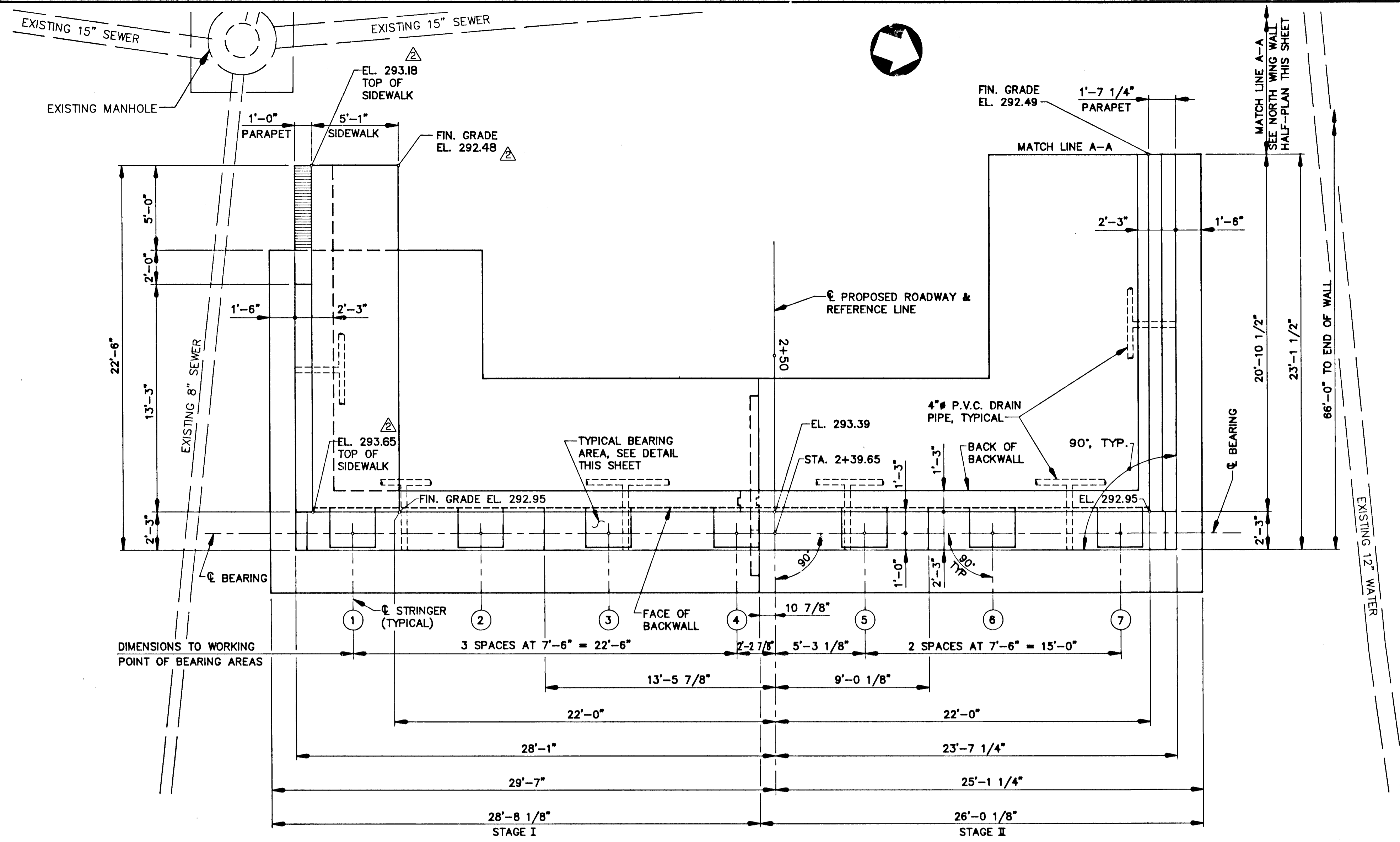


DES: G.C.N.	DED: [Symbol]	REVISED NOTE	9/14/90
DRN: S.W.S.	DED: [Symbol]	REVISED ELEVATIONS AND DIMENSION	10/10/90
CHK: C.T.K.			
DATE: 7/23/90	BY: NO.	REVISION	DATE

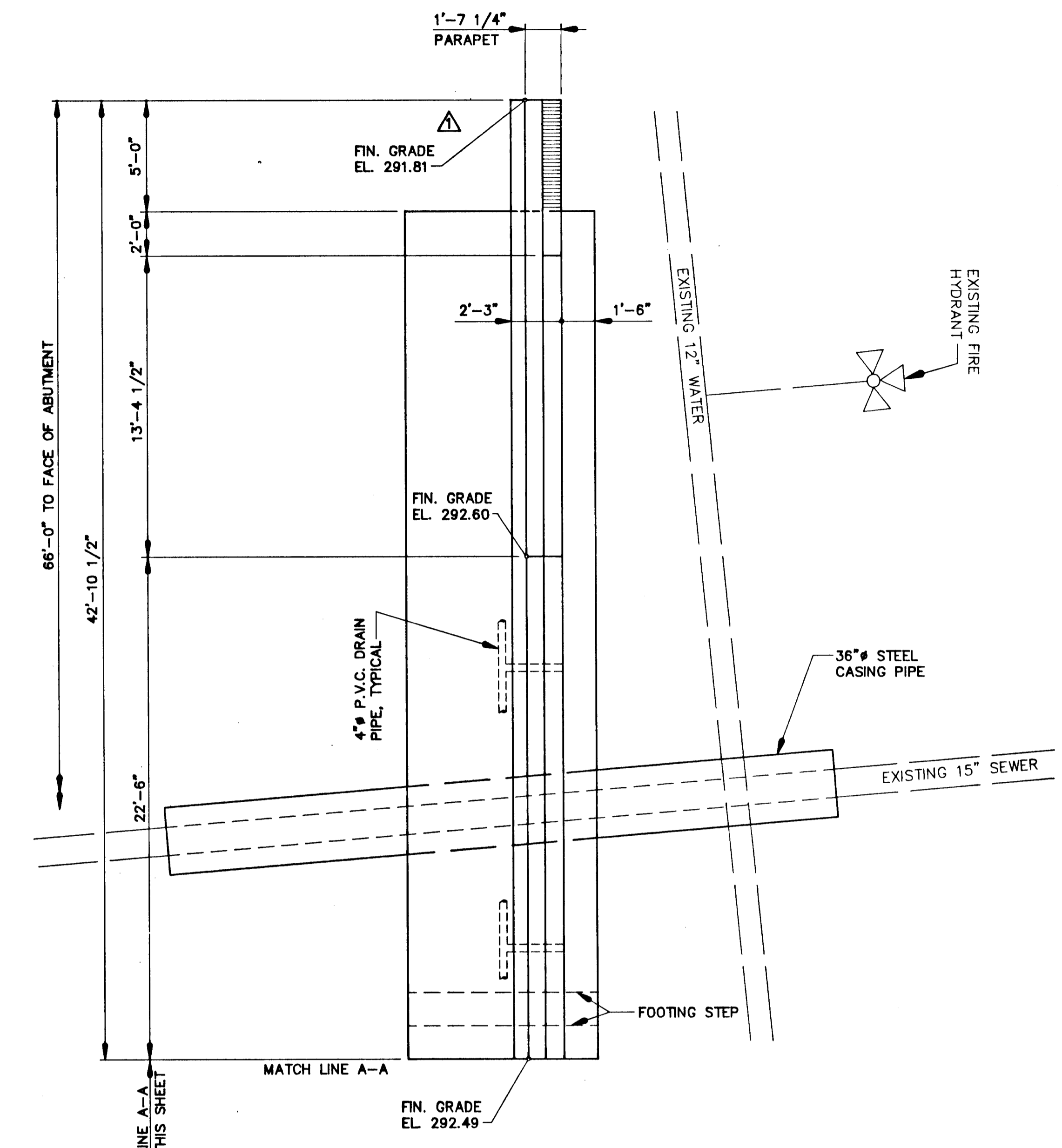
600' SCALE MAP NO.	BLOCK NO.
--------------------	-----------

REPLACEMENT OF LARK BROWN ROAD BRIDGE
OVER DORSEY RUN
ABUTMENT 'A' - WING WALLS AND DETAILS
HOWARD COUNTY, MARYLAND

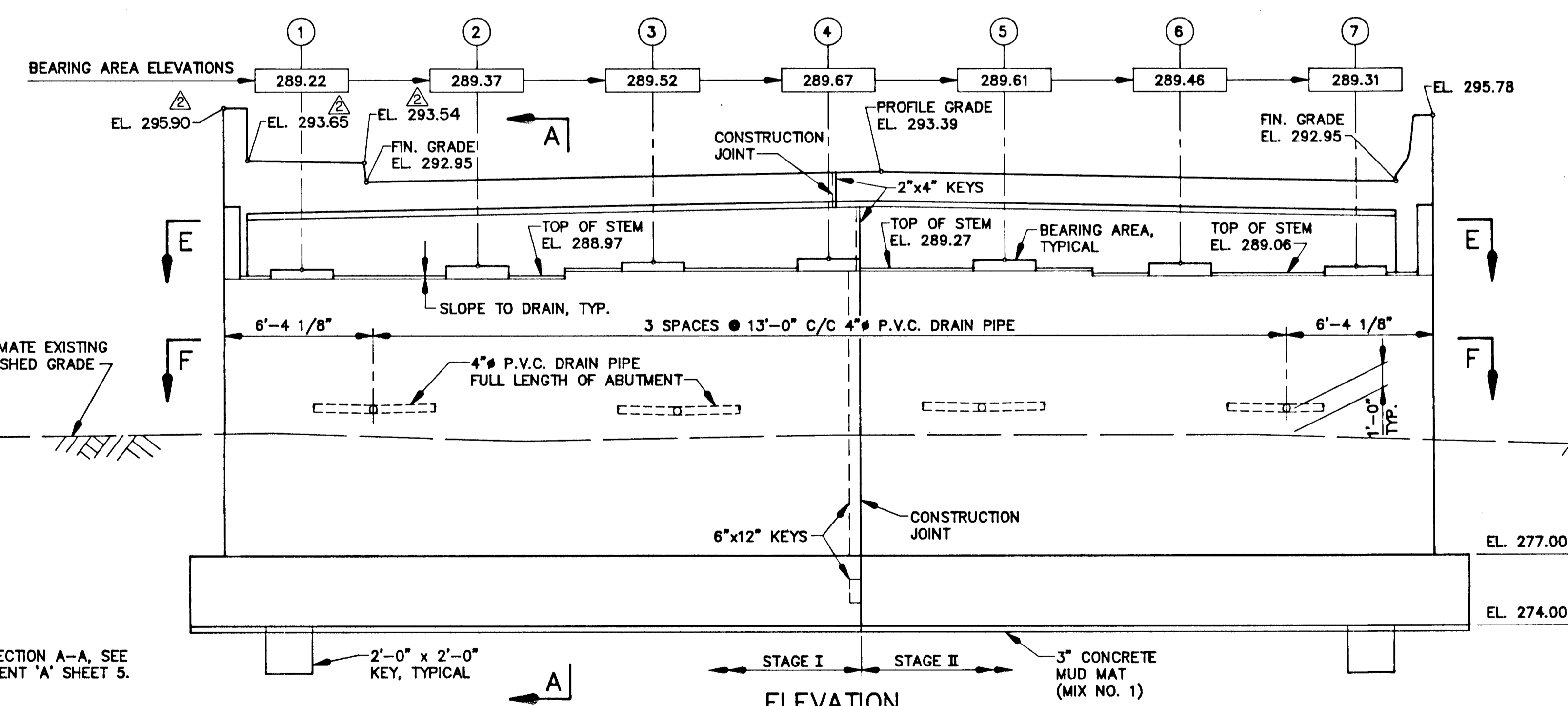
SCALE AS SHOWN
SHEET 6 OF 22



PLAN
SCALE: 1/4" = 1'-0"

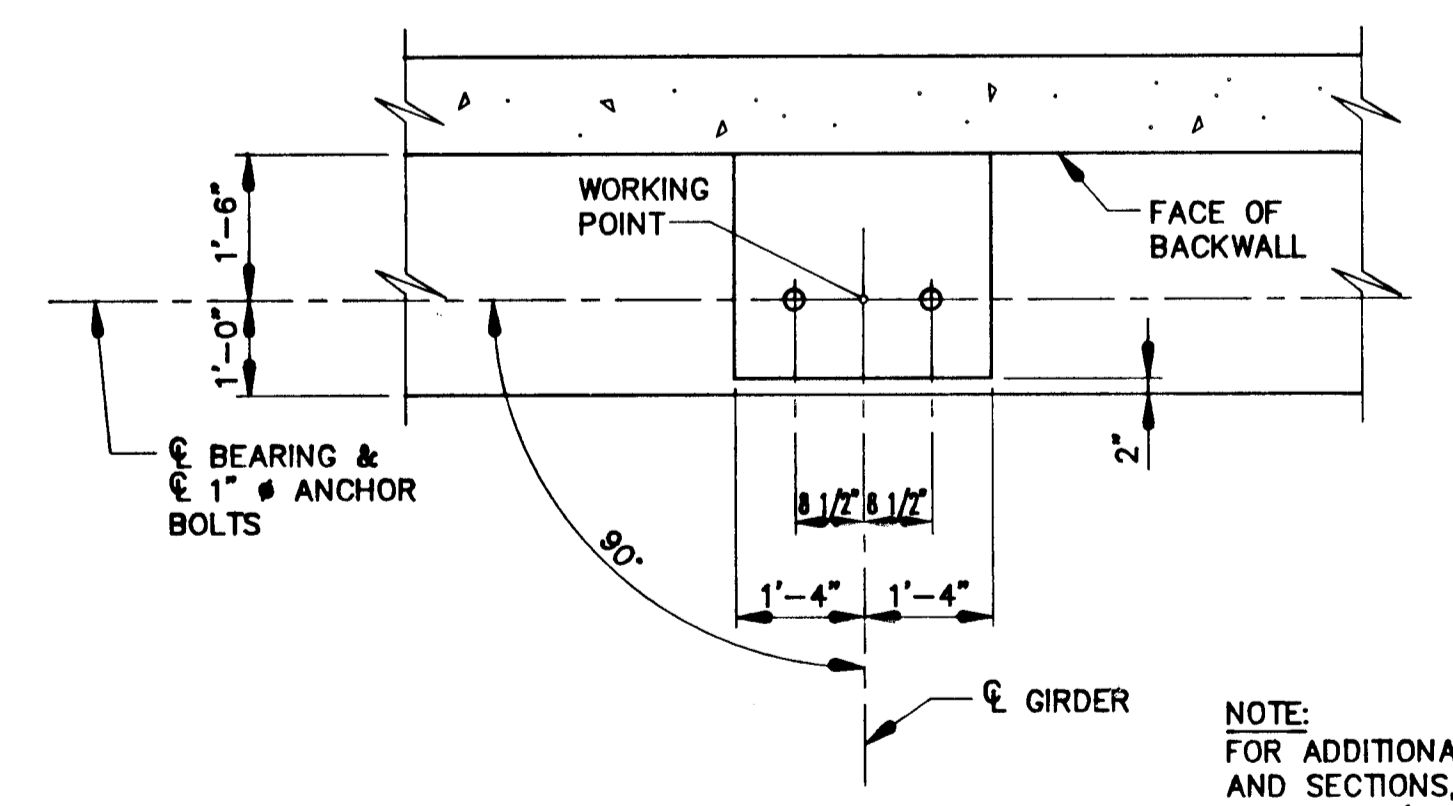


NORTH WING WALL HALF-PLAN
SCALE: 1/4" = 1'-0"



ELEVATION
SCALE: 1/4" = 1'-0"

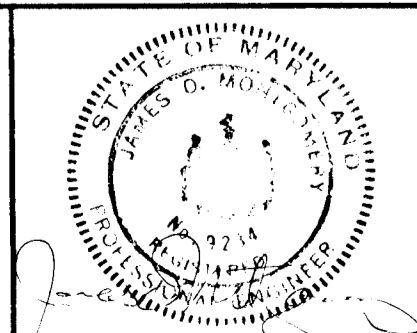
NOTES:
FOR WING WALL ELEVATIONS AND DETAILS SEE SHEET 8.
FOR SECTIONS E-E & F-F SEE SHEET 9.
FOR SECTION A-A SEE SHEET 5.



BEARING AREA DETAIL
SCALE: 1/2" = 1'-0"

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

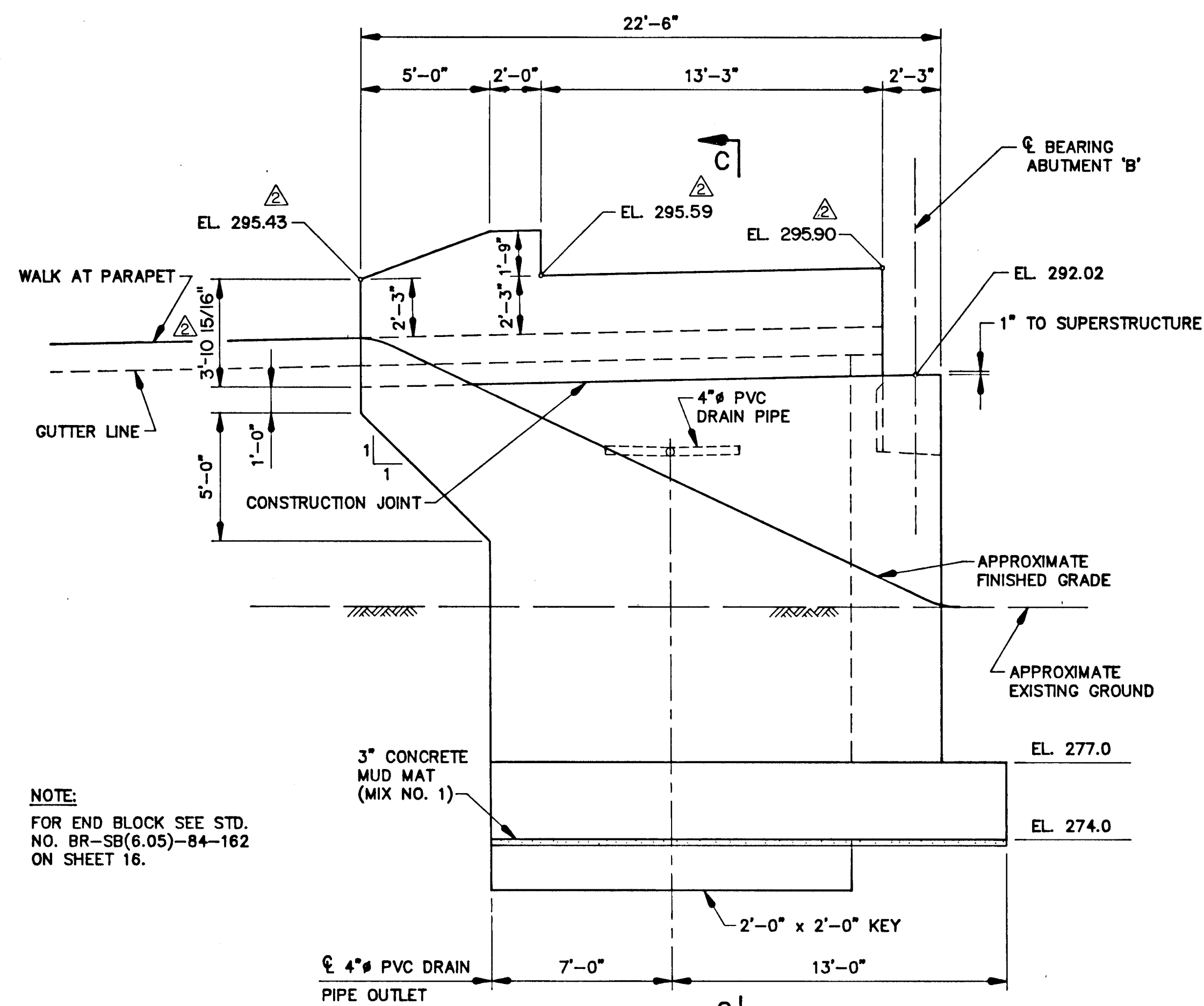
WALLACE, MONTGOMERY & ASSOCIATES
1544 YORK ROAD
LUTHERVILLE, MARYLAND 21093
(301) 494-9093



DES: G.C.N.	DED	REVISED END BLOCK	9/14/90
DRN: S.W.S.	DED	REVISED ELEVATIONS	10/10/90
CHK: C.T.K.			
DATE: 7/23/90	BY	NO.	REVISION

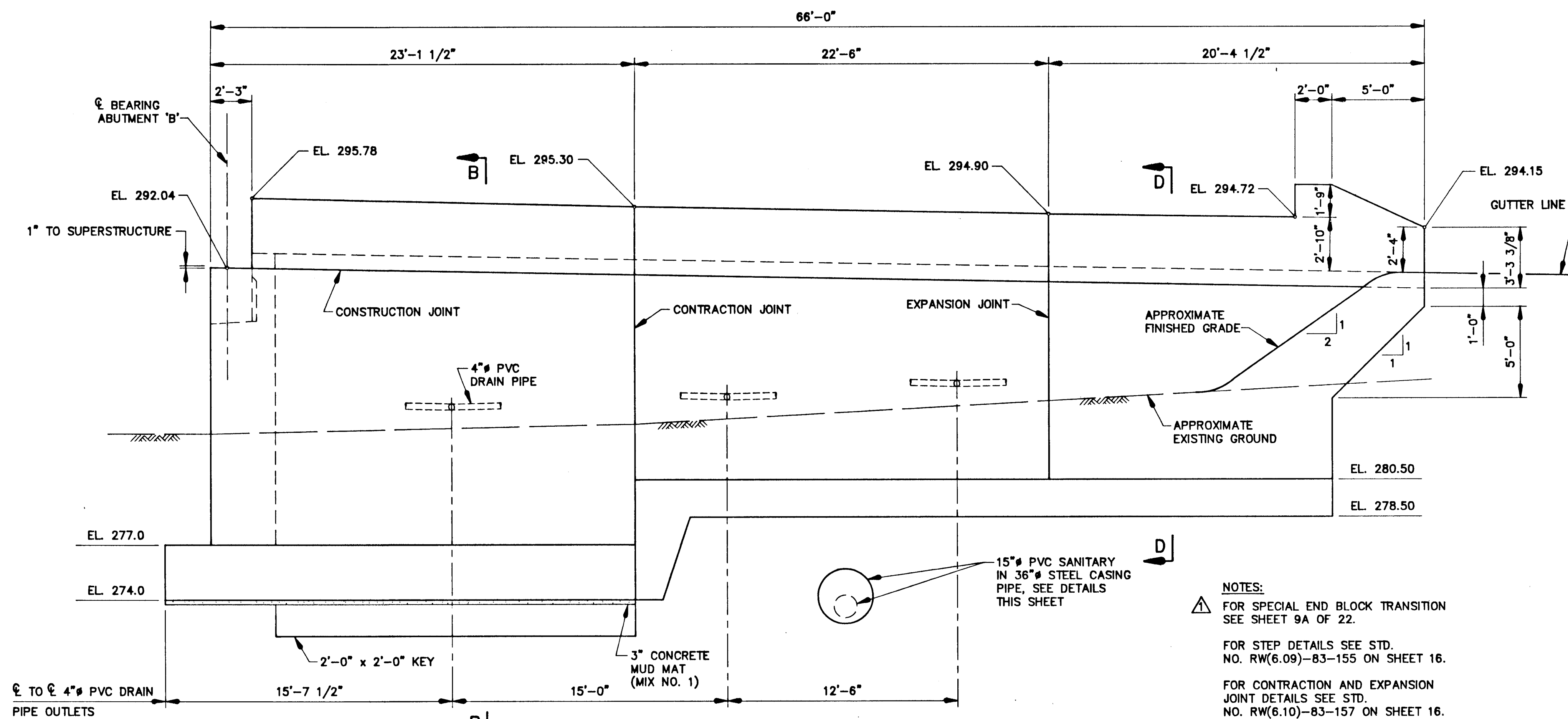
REPLACEMENT OF LARK BROWN ROAD BRIDGE
OVER DORSEY RUN
ABUTMENT 'B'
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 7 OF 22



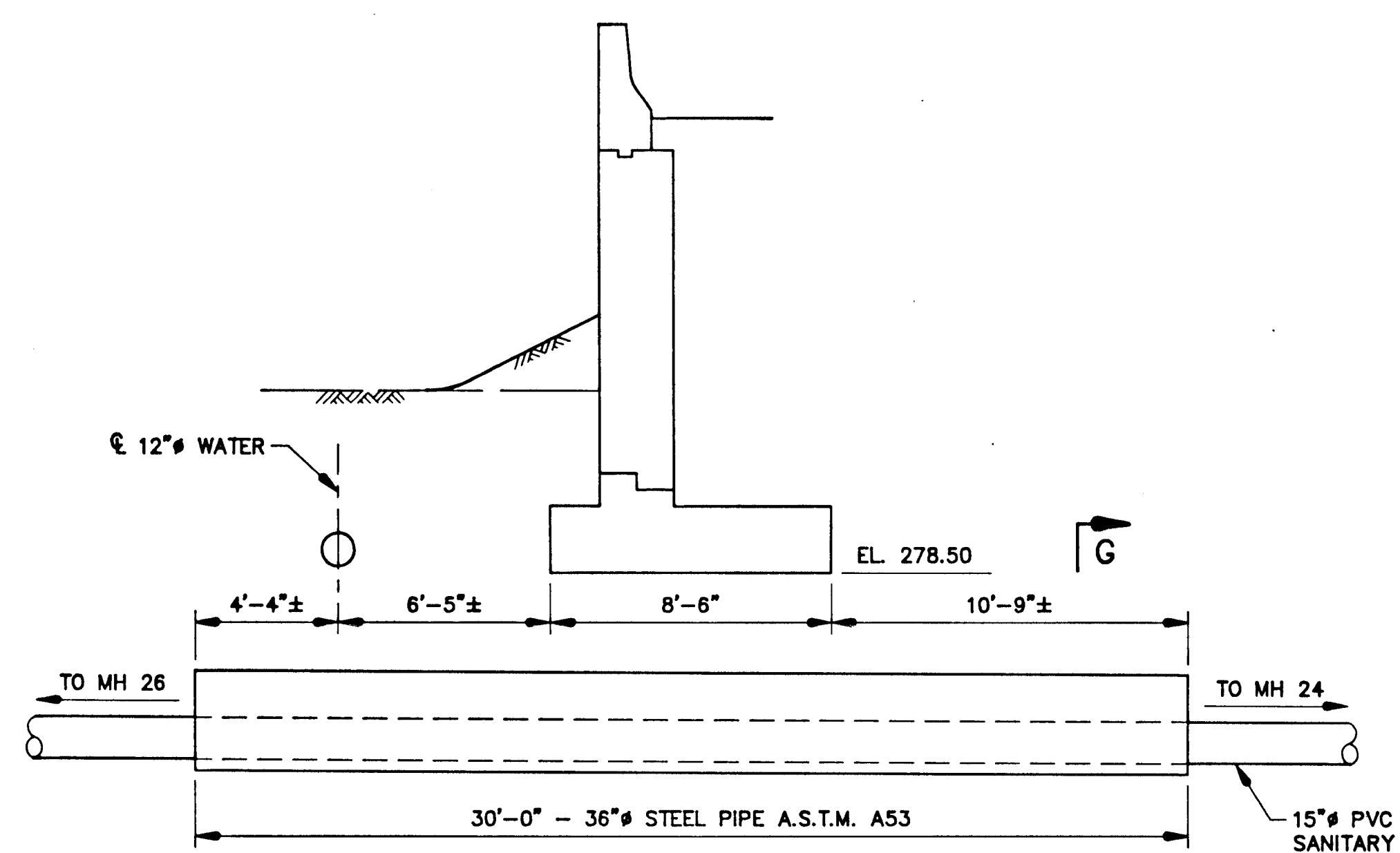
ELEVATION - SOUTH WING WALL AT ABUTMENT 'B'

SCALE: 1/4" = 1'-0"



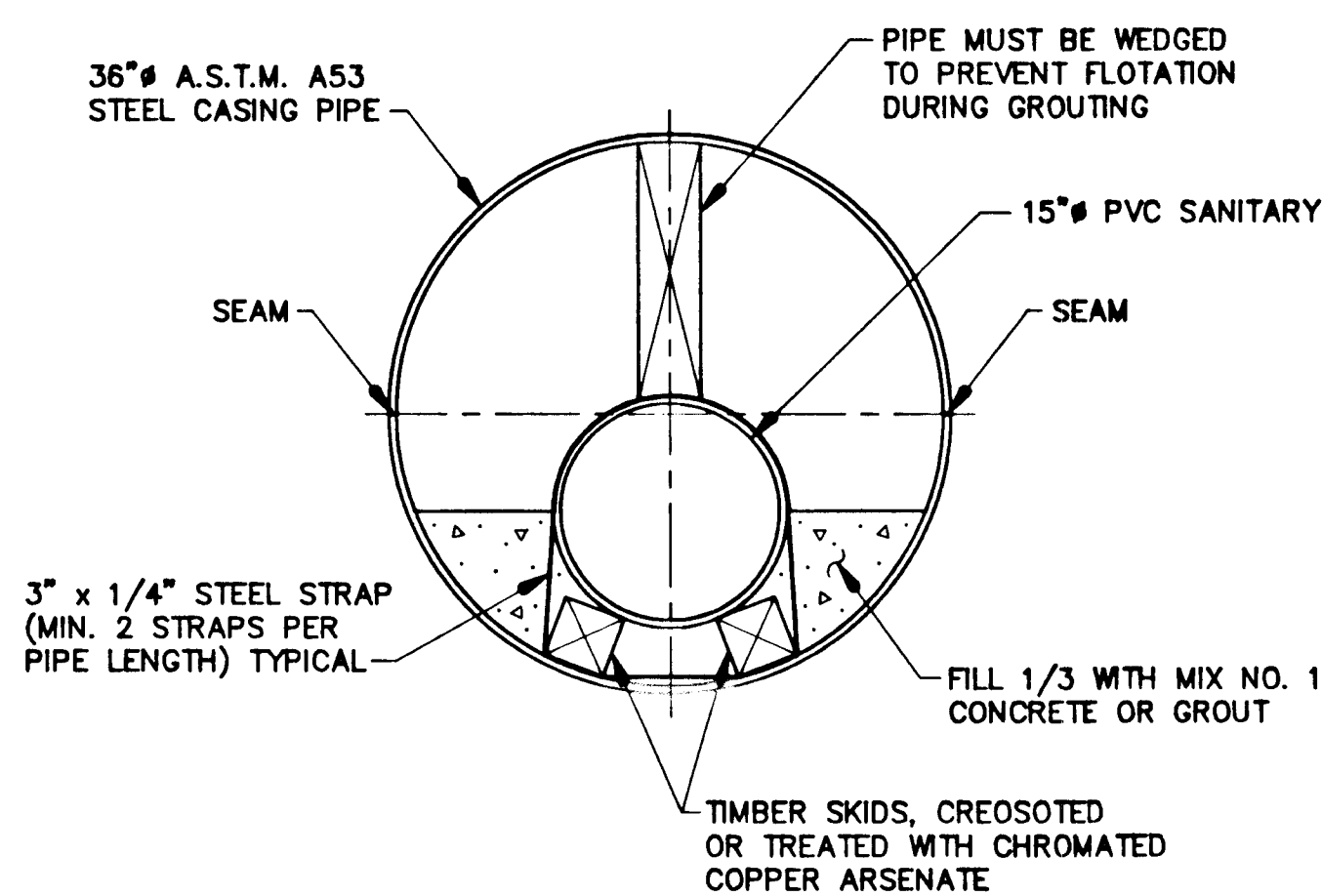
ELEVATION - NORTH WING WALL AT ABUTMENT 'B'

SCALE: 1/4" = 1'-0"



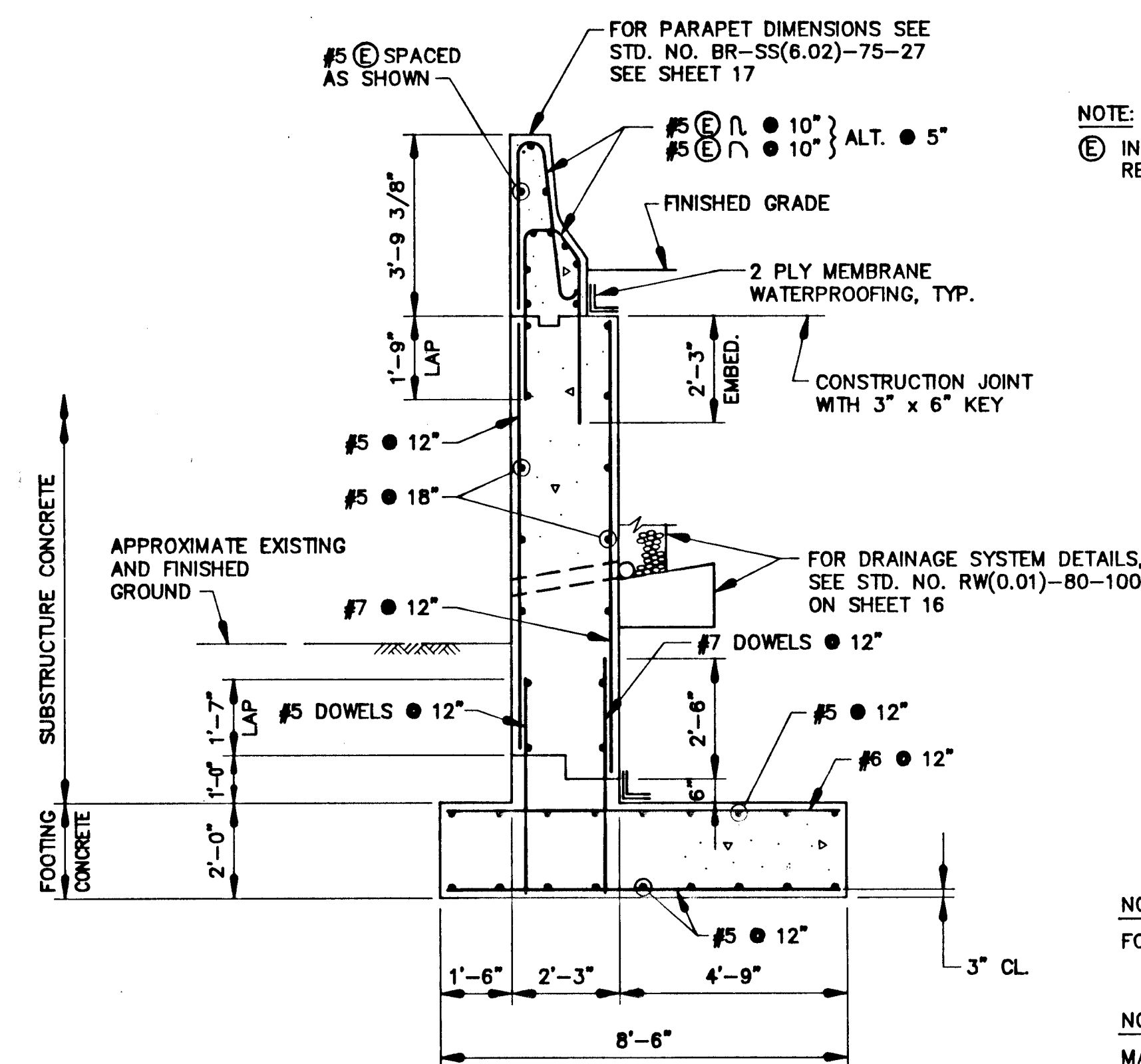
CASING PIPE DETAIL

SCALE: 1/4" = 1'-0"



SECTION G - G

NOT TO SCALE

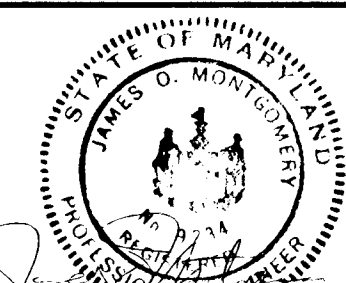


SECTION D - D

SCALE: 3/8" = 1'-0"

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

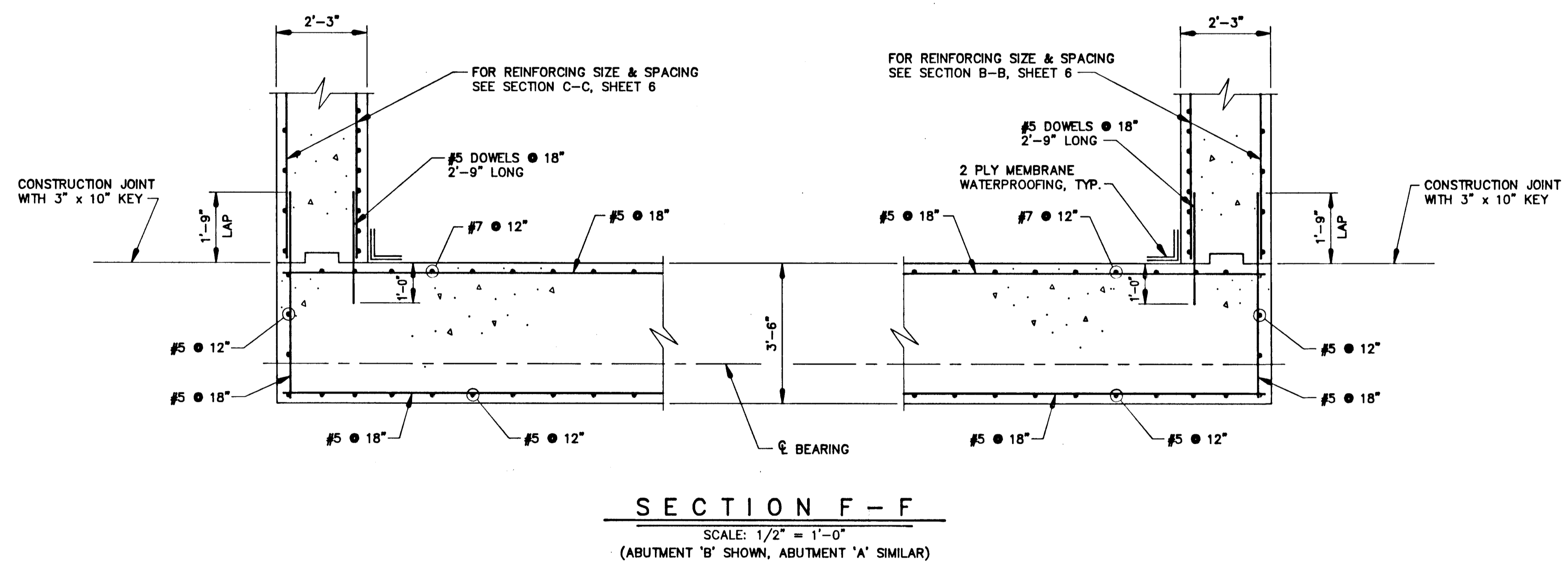
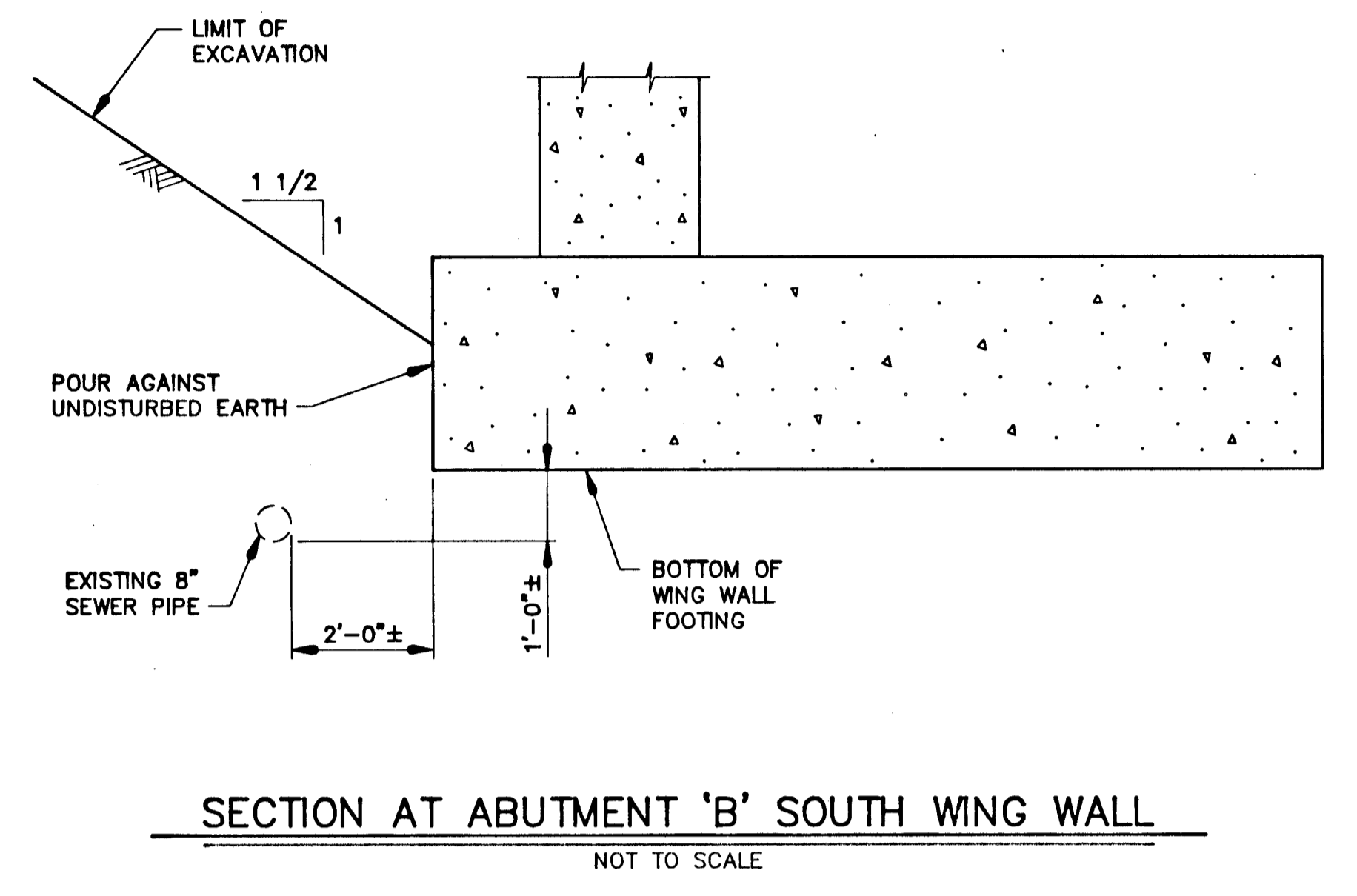
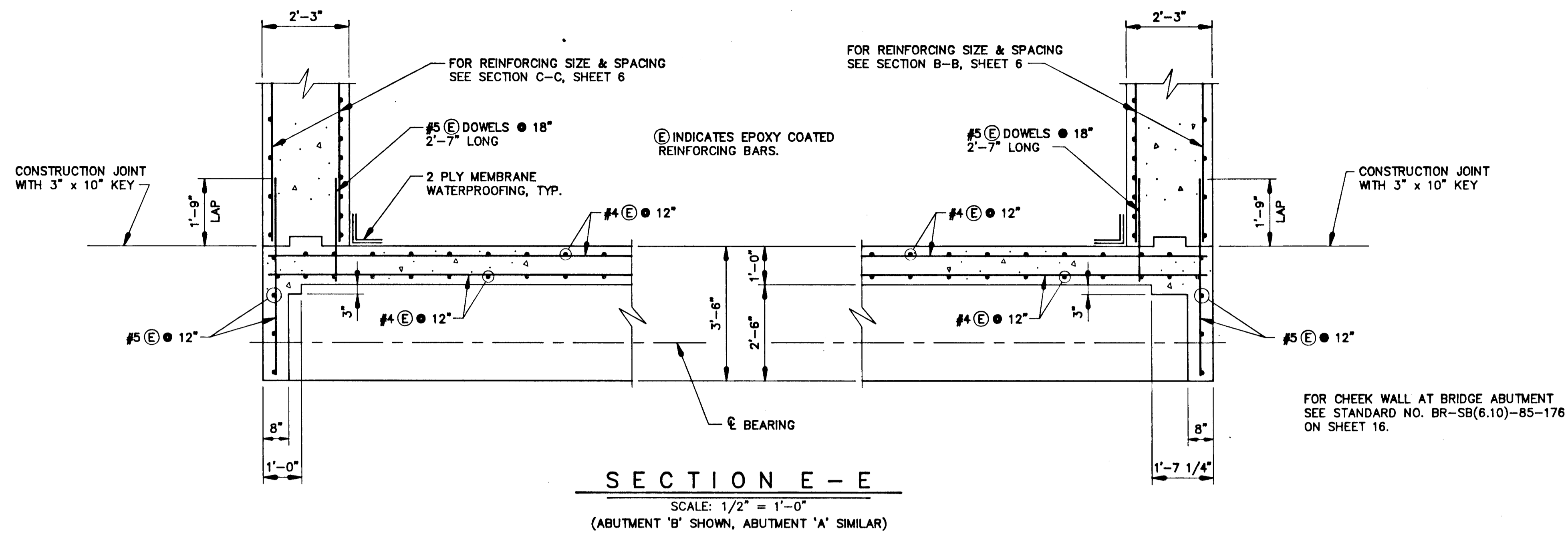
WALLACE, MONTGOMERY
& ASSOCIATES
1544 YORK ROAD
LUTHERVILLE, MARYLAND 21093
(301) 494-9093



DES: G.C.N.	DED: 9/14/90	REVISED NOTE
DRN: S.W.S.	10/10/90	REVISED ELEVATIONS AND DIMENSION
CHK: C.T.K.		
DATE: 7/23/90	BY: NO.	REVISION

REPLACEMENT OF LARK BROWN ROAD BRIDGE
OVER DORSEY RUN
ABUTMENT 'B' - WING WALLS AND DETAILS
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 8 OF 22

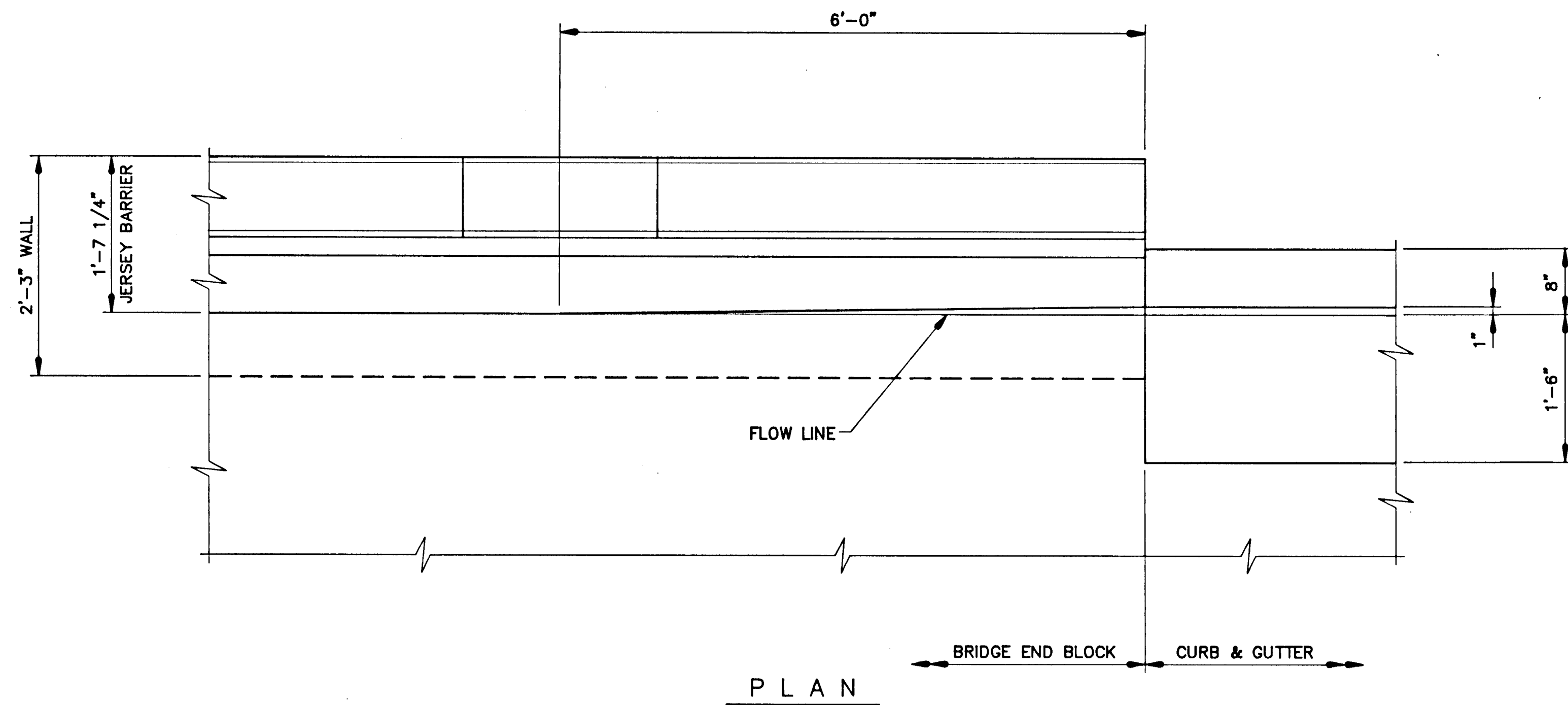


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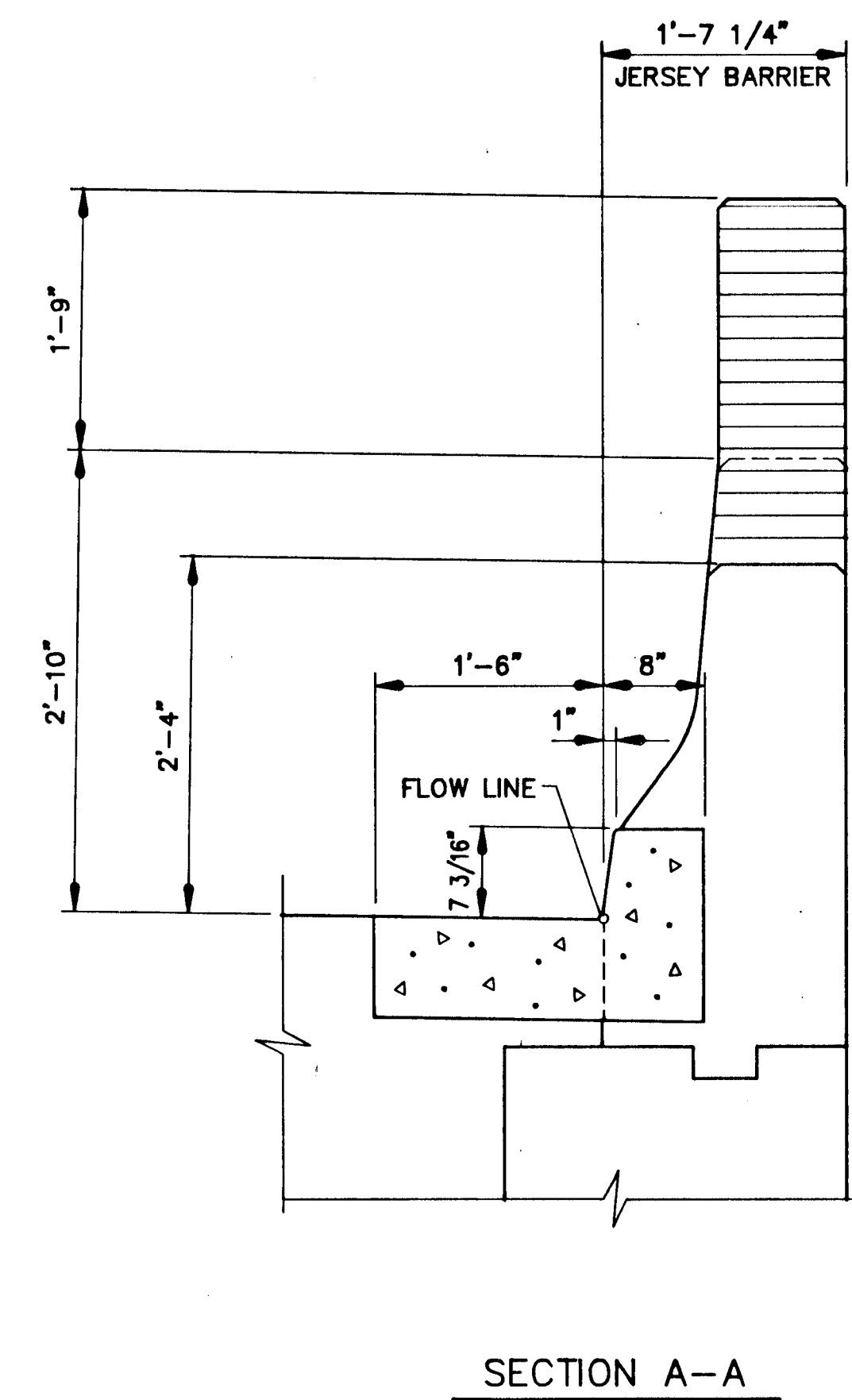
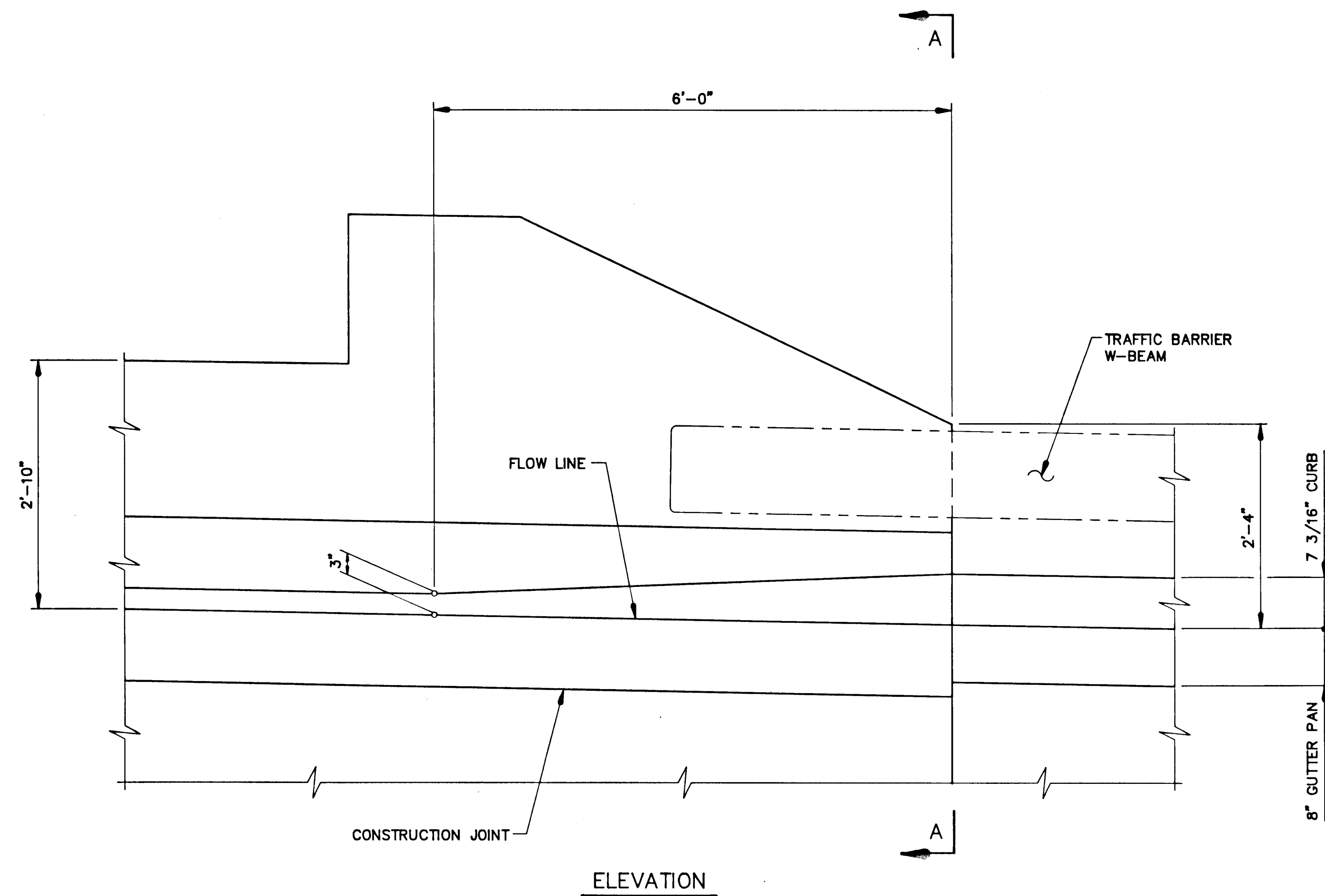
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Jana P. ...</i> 10/24/90 DIRECTOR OF PUBLIC WORKS <i>William W. ...</i> 10/18/90 CHIEF, BUREAU OF HIGHWAYS		WALLACE, MONTGOMERY & ASSOCIATES 1544 YORK ROAD LUTHERVILLE, MARYLAND 21093 (301) 494-9093				DES: G.C.N. DRN: D.E.D. CHK: C.T.K. DATE: 7/23/90		REVISION BY NO. REVISION DATE		600' SCALE MAP NO. BLOCK NO.		REPLACEMENT OF LARK BROWN ROAD BRIDGE OVER DORSEY RUN ABUTMENT DETAILS HOWARD COUNTY, MARYLAND		SCALE AS SHOWN SHEET 9 OF 22
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F-90-154 H011

F.R. 7/23/90



NOTES:
 SEE ROADWAY PLANS FOR PAVING AND CURB & GUTTER SECTIONS.
 FOR ADDITIONAL DETAILS SEE HOWARD COUNTY STANDARD R 7.07.
 FOR END BLOCK REINFORCING SEE STD. NO. BR-SB(6.01)-75-5 ON SHEET 16.



SPECIAL END BLOCK TRANSITION DETAILS Δ
 SCALE: 1" = 1'-0"

1396

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *James W. Weiland* 10/24/90
 Chief, Bureau of Engineering: *William B. Ray* 10/23/90
 Chief, Bureau of Highways: *James W. Weiland* 10/16/90
 Chief, Land Development Division: *John M. Logan* 10/24/90

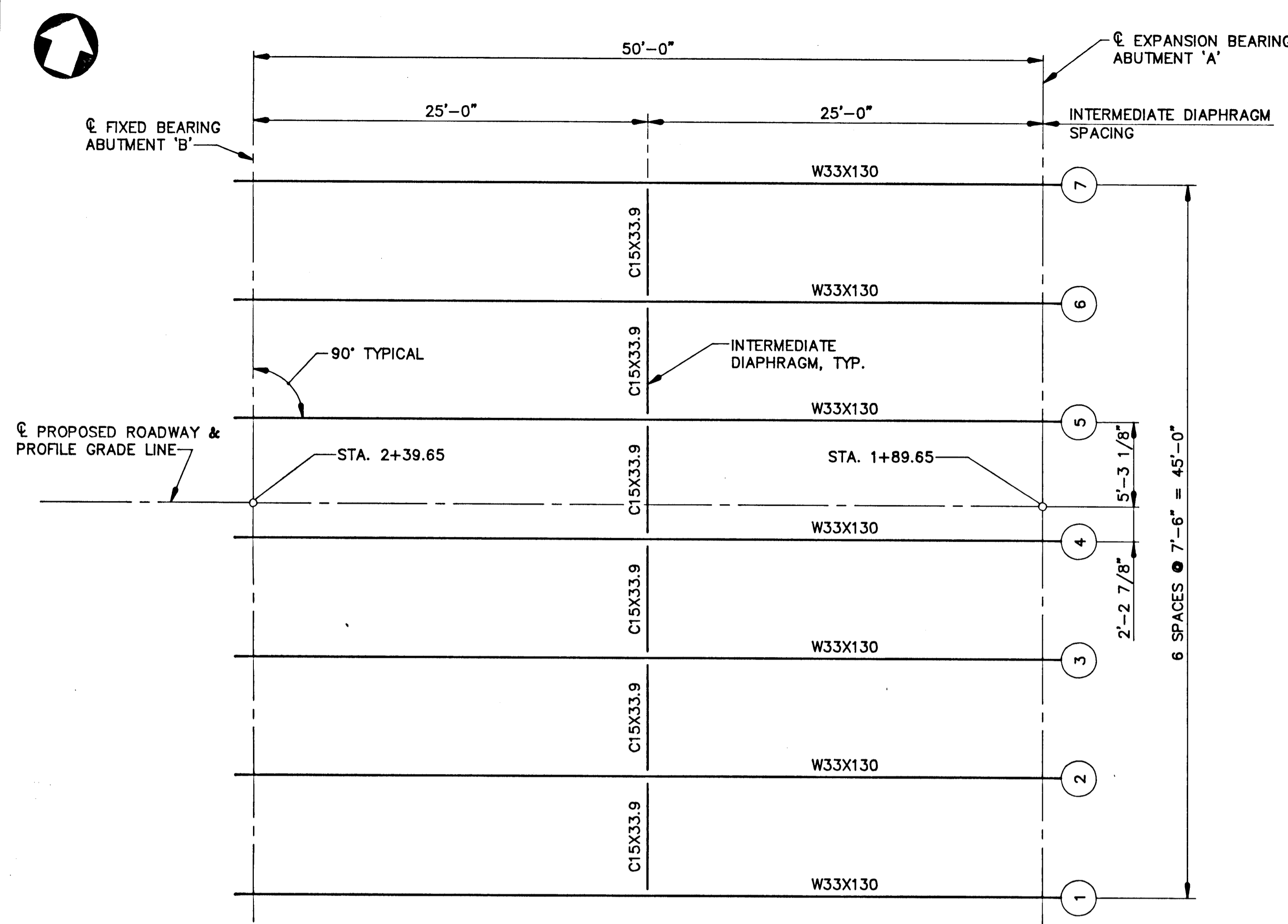
WALLACE, MONTGOMERY & ASSOCIATES
 1544 YORK ROAD
 LUTHERVILLE, MARYLAND 21093
 (301) 494-9093



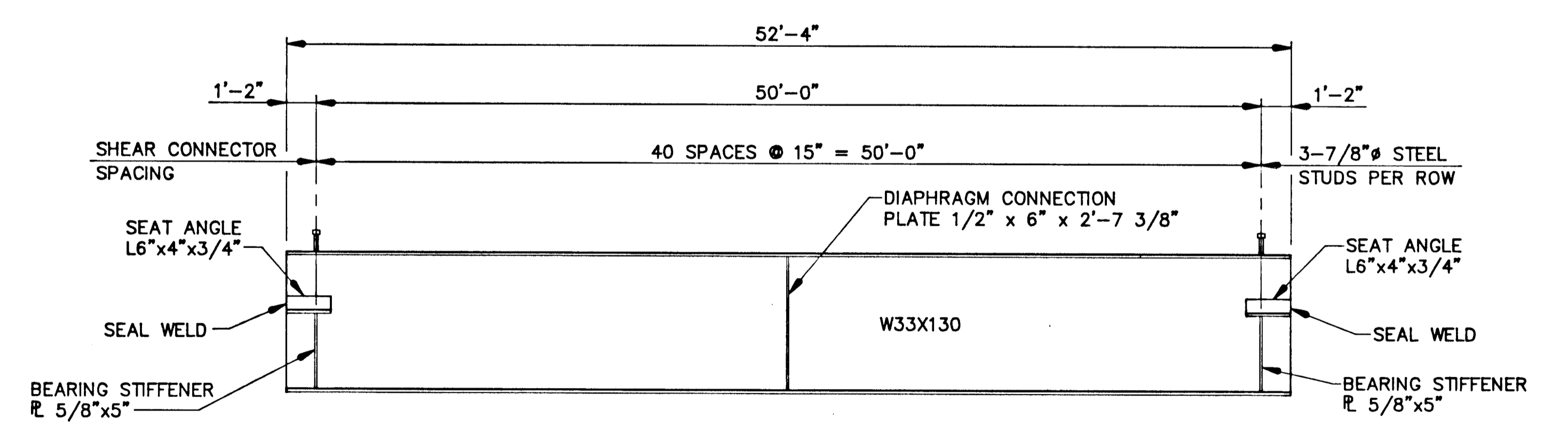
DES: G.C.N.	DED Δ	NEW SHEET	9/14/90
DRN: S.W.S.			
CHK: C.T.K.			
DATE: 9/14/90	BY NO.	REVISION	DATE

REPLACEMENT OF LARK BROWN ROAD BRIDGE
 OVER DORSEY RUN
 SPECIAL END BLOCK TRANSITION DETAILS
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 9A OF 22

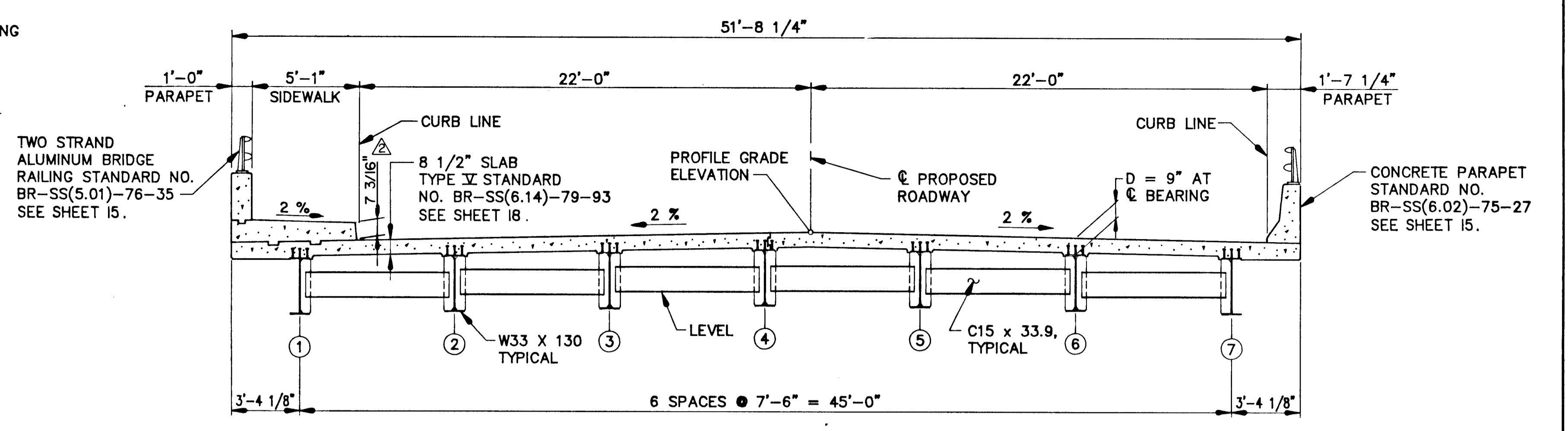


FRAMING PLAN
SCALE: 3/16" = 1'-0"

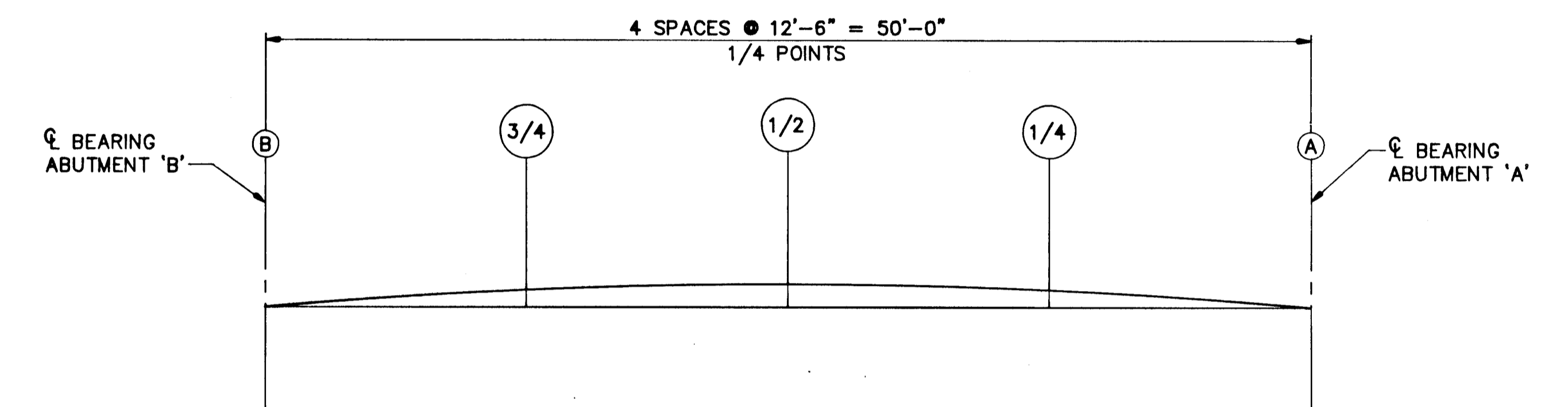


NOTE:
TOTAL NUMBER OF STEEL STUD SHEAR CONNECTORS FOR THIS BRIDGE IS 861.

STRINGER ELEVATION
NOT TO SCALE



TYPICAL SECTION
SCALE: 1/4" = 1'-0"



STRINGER		Bearing Abutment 'B'	DEFLECTION AND CAMBER SCHEDULE			Bearing Abutment 'A'
			3/4	1/2	1/4	
1-4	a	0	1/16	1/8	1/16	0
	b	0	7/16	5/8	7/16	0
	c	0	1/16	1/8	1/16	0
	TOTAL DEFL.	0	9/16	7/8	9/16	0
	V.C.	0	3/4	1 1/16	3/4	0
5-7	REQ. CAMBER	0	1 5/16	1 15/16	1 5/16	0
	a	0	1/16	1/8	1/16	0
	b	0	7/16	5/8	7/16	0
	c	0	0	0	0	0
	TOTAL DEFL.	0	1/2	3/4	1/2	0
V.C.	0	3/4	1 1/16	3/4	0	
REQ. CAMBER	0	1 1/4	1 13/16	1 1/4	0	

NOTES:
 a = DEFLECTION DUE TO WEIGHT OF STRUCTURAL STEEL.
 b = DEFLECTION DUE TO WEIGHT OF REINFORCED CONCRETE SLAB.
 c = DEFLECTION DUE TO WEIGHT OF PARAPET AND/OR SIDEWALK.
 TOTAL DEFLECTION IS THE SUM OF a, b AND c.
 V.C. DENOTES VERTICAL CURVE ADJUSTMENT.
 REQUIRED CAMBER IS THE SUM OF a, b, c AND V.C.
 ALL ORDINATES ARE GIVEN IN INCHES.
 ALL GIRDERS SHALL BE CAMBERED FOR DEAD LOAD DEFLECTION AND VERTICAL CURVE CAMBER TO THE DIMENSIONS SHOWN ON THESE PLANS.
 THE CAMBER TOLERANCE IS NOTHING UNDER TO ONE HALF (1/2") INCH OVER.

1396

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James W. Wilson 10/24/90
DIRECTOR OF PUBLIC WORKS DATE

William W. Woodland 10/16/90
CHIEF, BUREAU OF HIGHWAYS DATE

William W. Woodland 10/22/90
CHIEF, BUREAU OF ENGINEERING DATE

William W. Woodland 10/24/90
CHIEF, LAND DEVELOPMENT DIVISION DATE

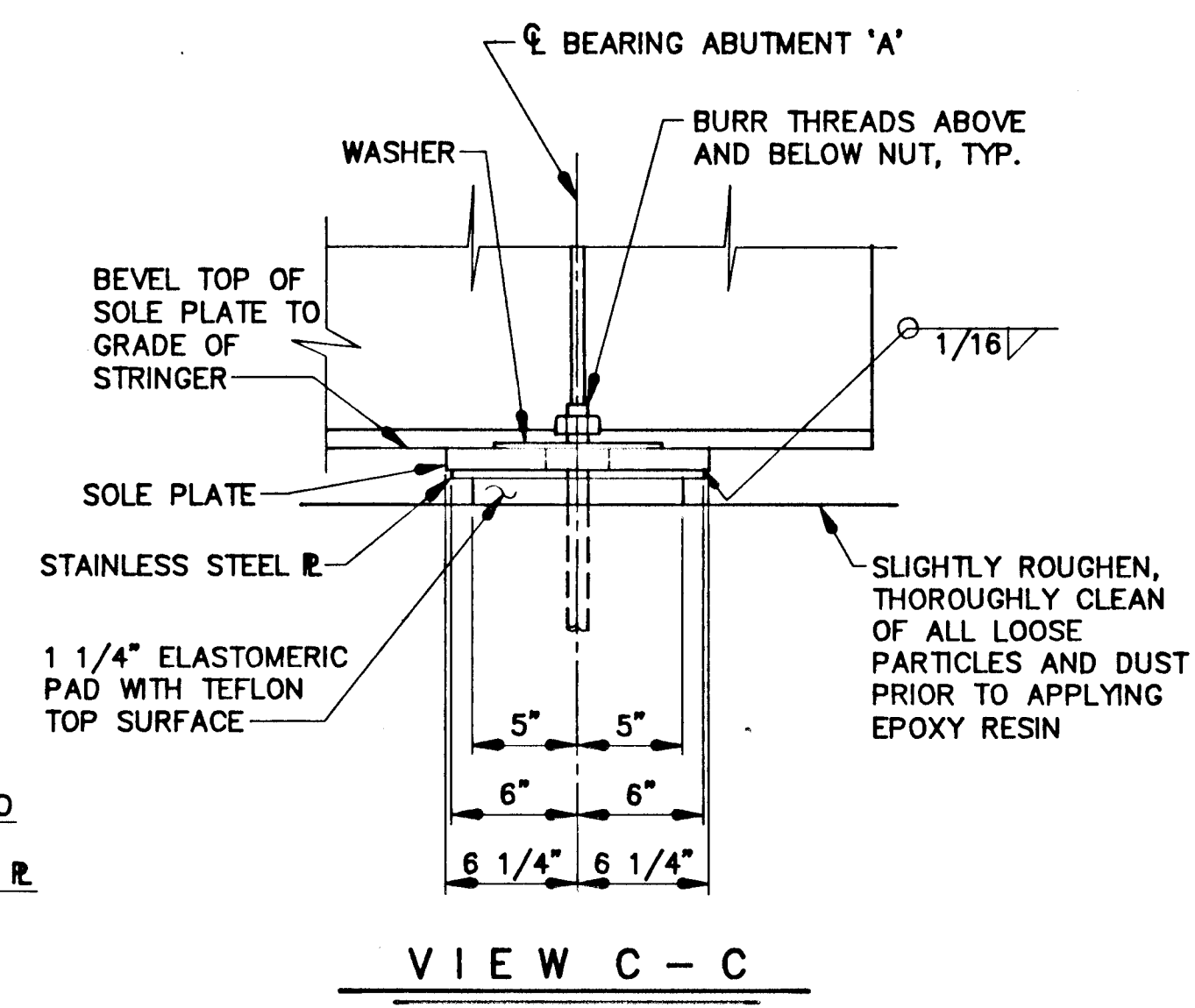
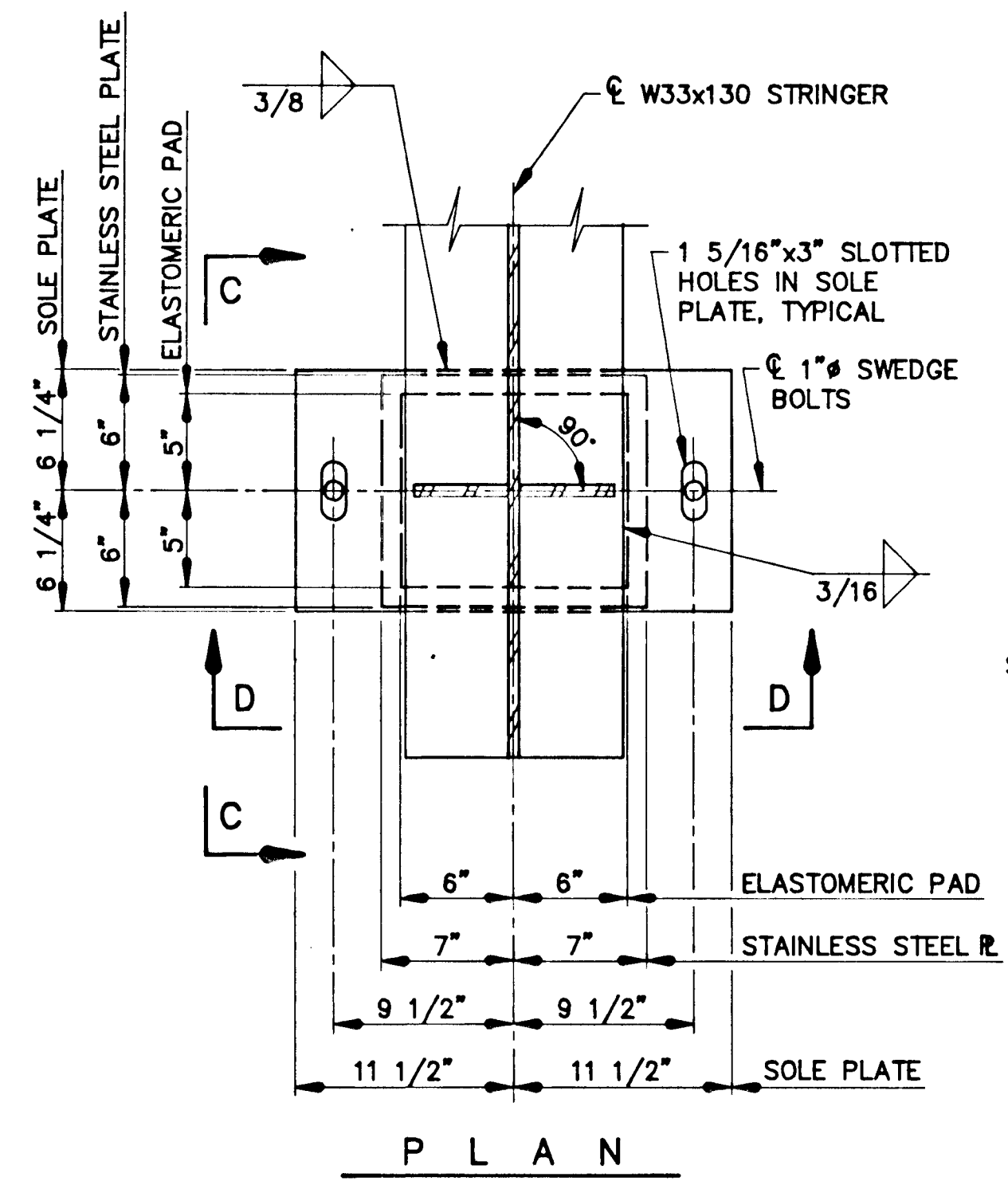
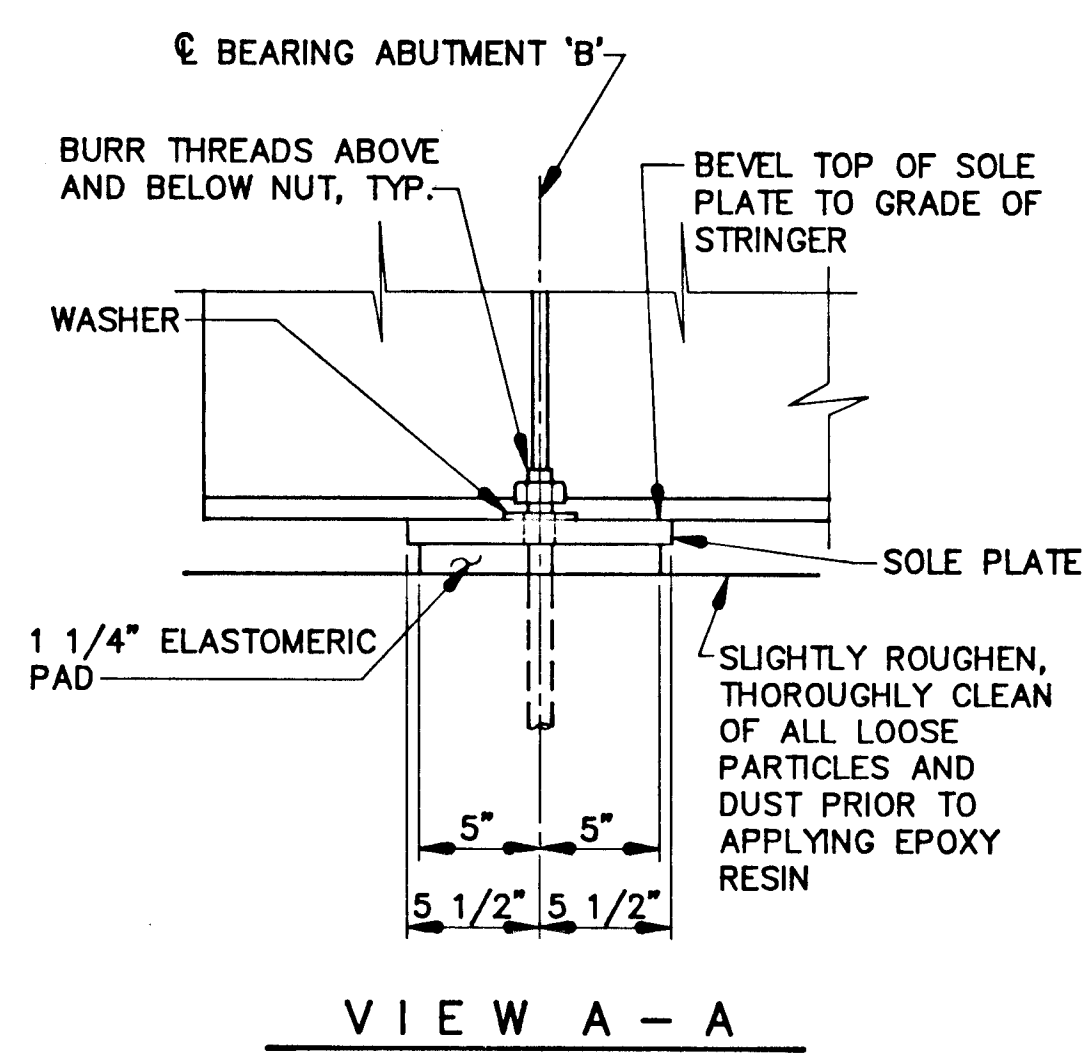
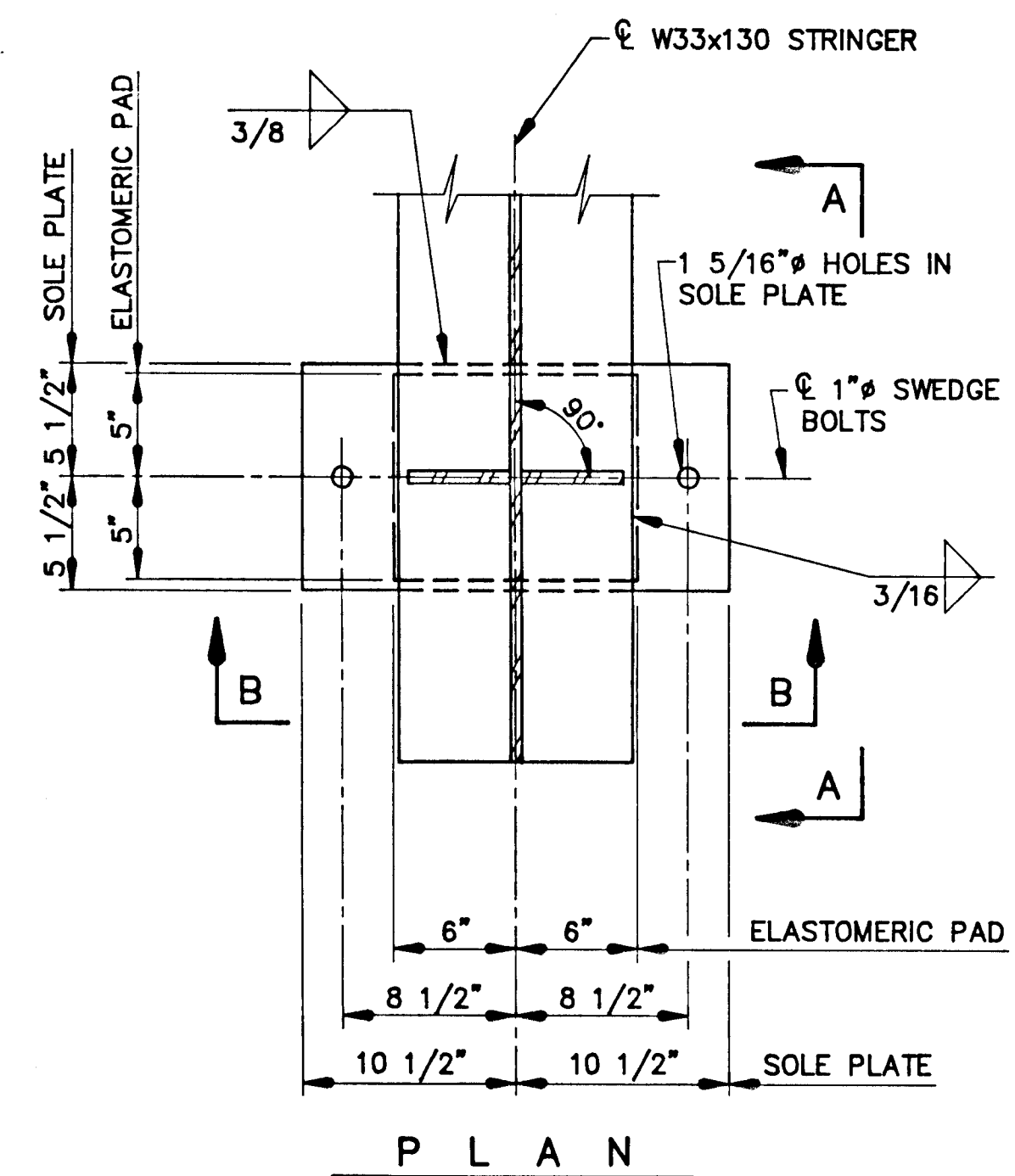
WALLACE, MONTGOMERY & ASSOCIATES
1544 YORK ROAD
LUTHERVILLE, MARYLAND 21093
(301) 494-9093



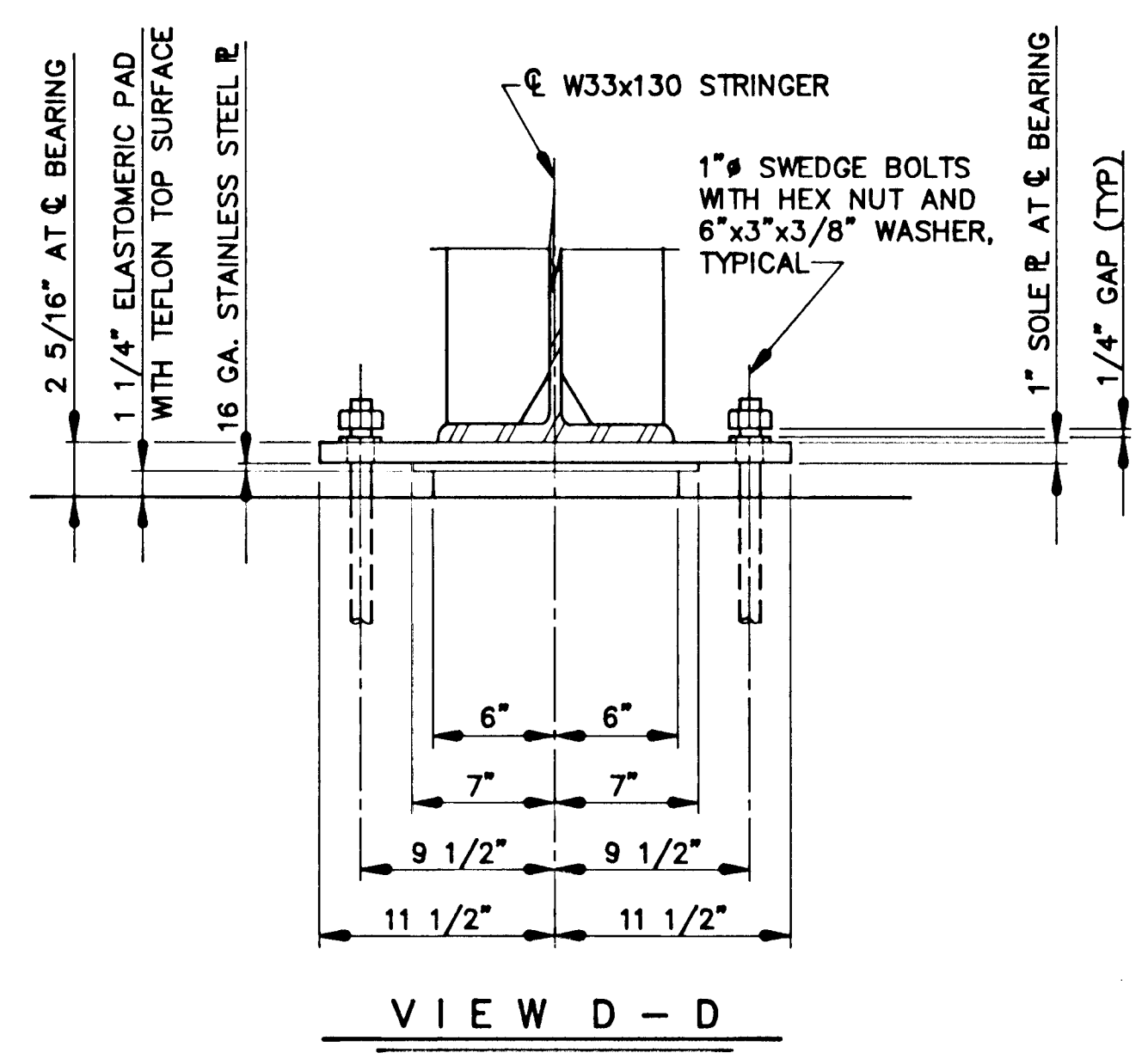
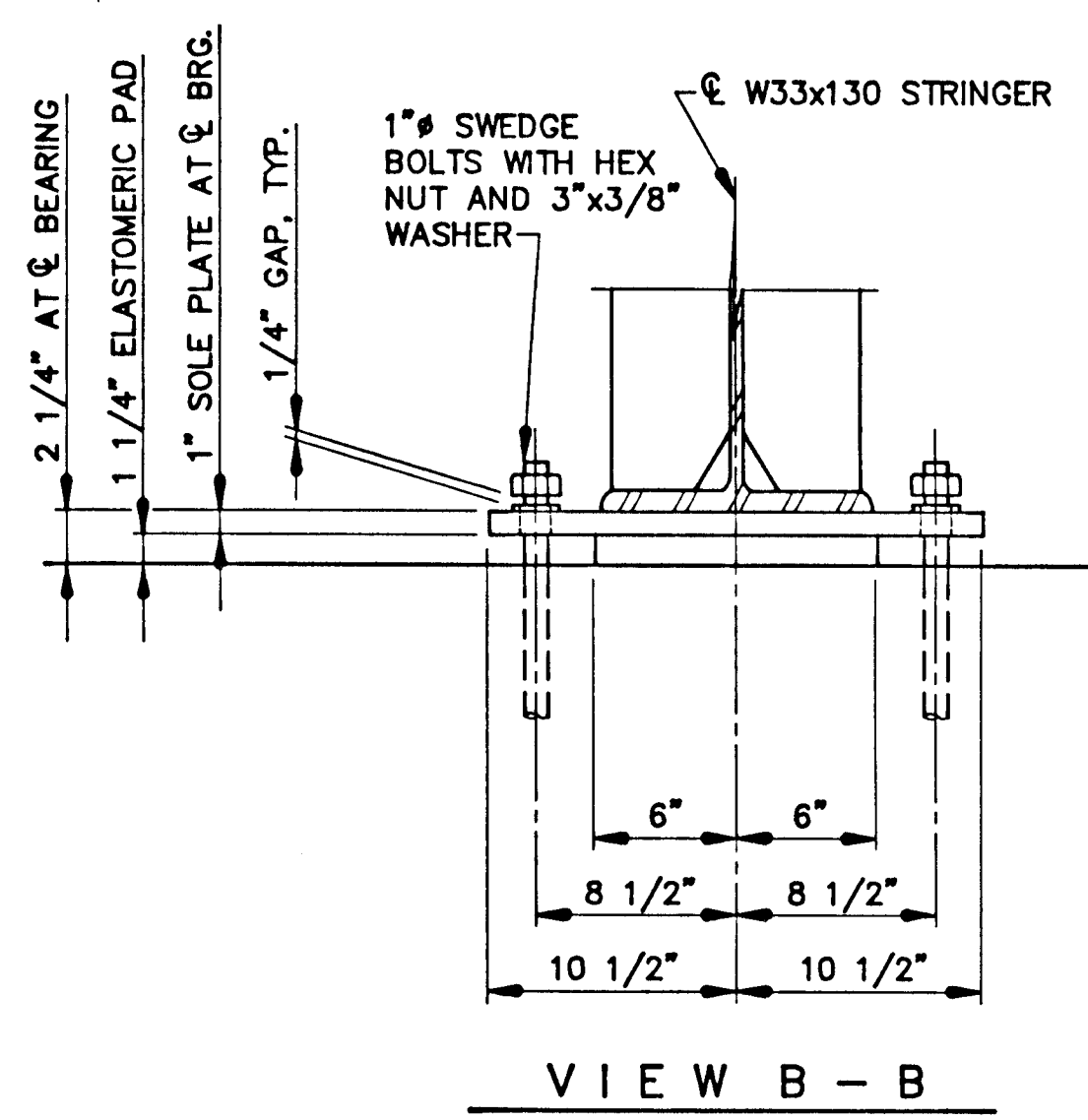
DES: G.C.N	DED	REVISED CURB HEIGHT	10/19/90
DRN: S.W.S.			
CHK: C.T.K.			
DATE: 7/23/90	BY: NO.	REVISION	DATE

REPLACEMENT OF LARK BROWN ROAD BRIDGE
OVER DORSEY RUN
SUPERSTRUCTURE DETAILS
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 10 OF 22



- BEARING NOTES:**
1. STAINLESS STEEL MATING SURFACE SHALL BE A.I.S.I. TYPE 304 QUARTER HARD 2B FINISH. STAINLESS STEEL PLATES SHALL NOT BE PAINTED.
 2. APPLY EPOXY RESIN ON FULL CONTACT AREA BETWEEN:
 - A. ELASTOMERIC PAD AND CONCRETE SURFACE.
 - B. ELASTOMERIC PAD AND T.F.E. SURFACE.
 - C. SOLE PLATE AND ELASTOMERIC PAD AT FIXED BEARING.
 3. USE EPOXY RESIN BONDING COMPOUND WHEN AIR TEMPERATURE IS 70°F OR HIGHER, USE EPOXY RESIN PATCHING COMPOUND WHEN AIR TEMPERATURE IS BETWEEN 30°F AND 70°F.
 4. EXPANSION BEARING AT ABUTMENT 'A'. FIXED BEARING AT ABUTMENT 'B'.



FIXED BEARING

SCALE: 1 1/2" = 1'-0"

EXPANSION BEARING

SCALE: 1 1/2" = 1'-0"

1375

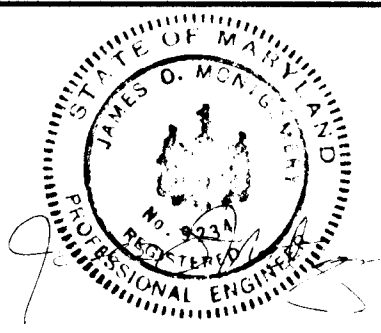
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James H. ... 10/24/90
DIRECTOR OF PUBLIC WORKS DATE

William W. ... 10/16/90
CHIEF, BUREAU OF HIGHWAYS DATE

William W. ... 10/24/90
CHIEF, LAND DEVELOPMENT DATE

WALLACE, MONTGOMERY & ASSOCIATES
1544 YORK ROAD
LUTHERVILLE, MARYLAND 21093
(301) 494-9093



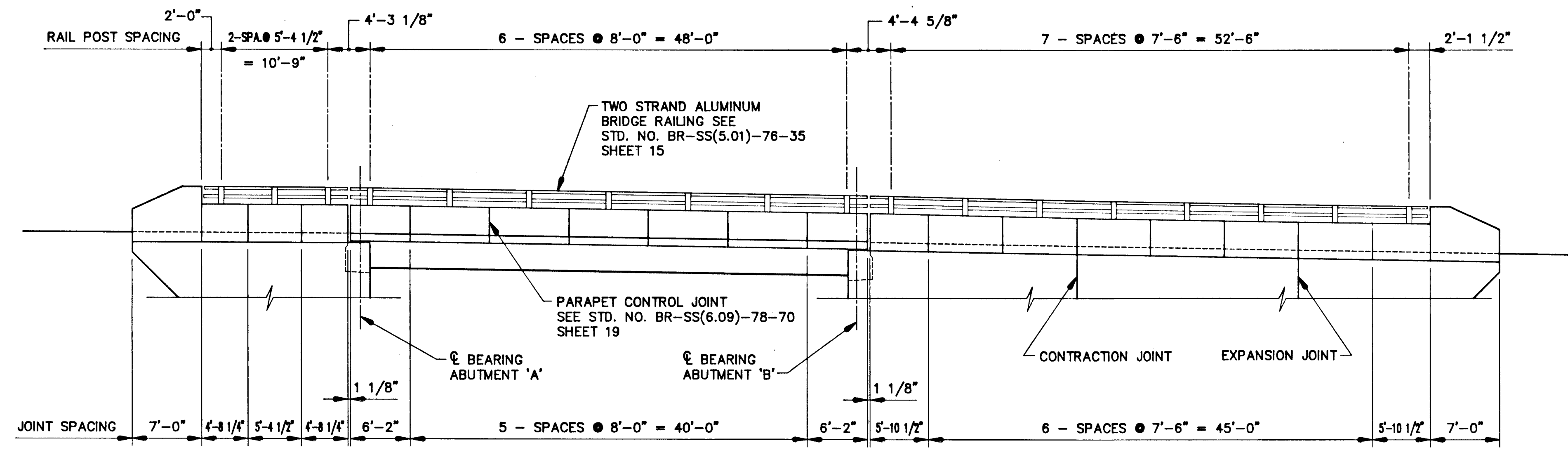
DES: C.T.K.					
DRN: S.W.S.					
CHK: J.O.M.					
DATE: 7/23/90	BY	NO.	REVISION	DATE	600' SCALE MAP NO. BLOCK NO.

REPLACEMENT OF LARK BROWN ROAD BRIDGE
OVER DORSEY RUN
BEARING DETAILS
HOWARD COUNTY, MARYLAND

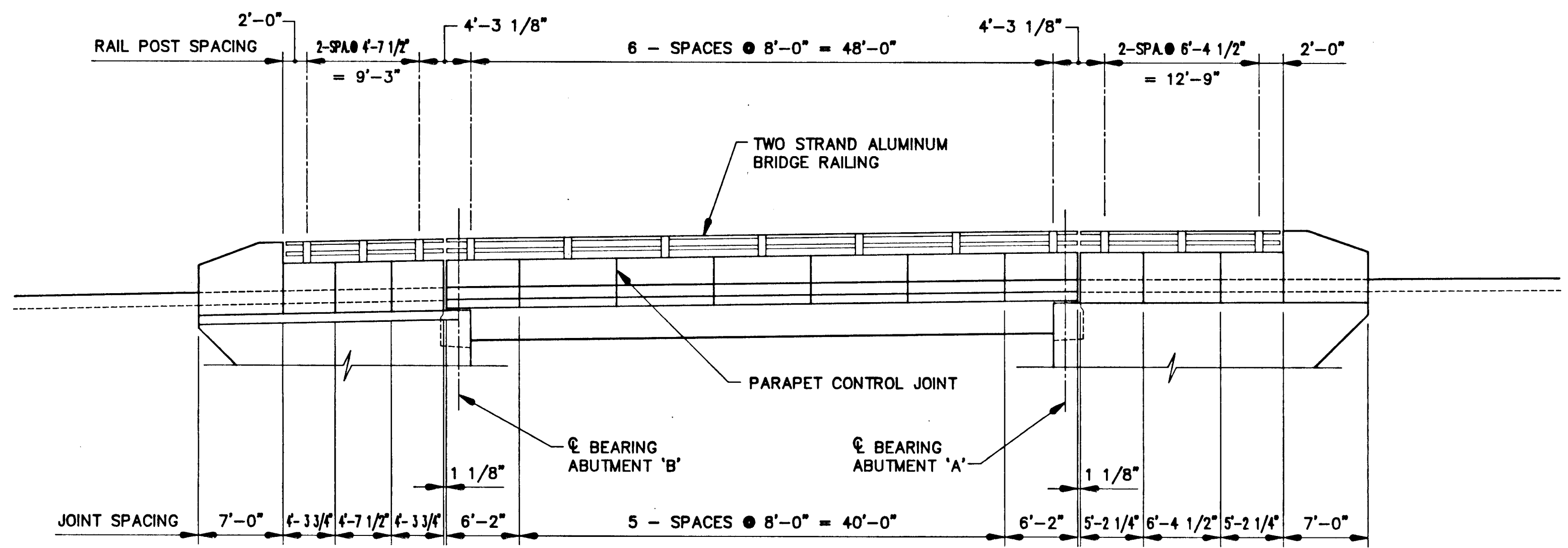
SCALE AS SHOWN
SHEET 11 OF 22

F-90-154 HO 11

S.R. & F.R. 7/25/90



NORTH BRIDGE FACE
CONTROL JOINT AND RAIL POST SPACING
 SCALE: 1/8" = 1'-0"



SOUTH BRIDGE FACE
CONTROL JOINT AND RAIL POST SPACING
 SCALE: 1/8" = 1'-0"

1301

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

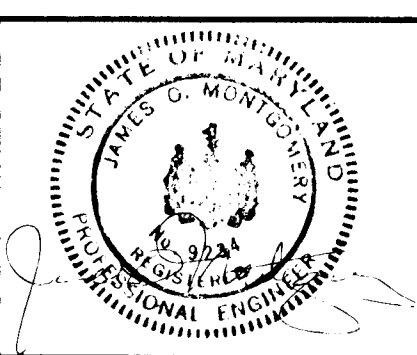
James W. ... 10/24/90
 DIRECTOR OF PUBLIC WORKS DATE

William W. Wheland 10/16/90
 CHIEF, BUREAU OF HIGHWAYS DATE

William W. Wheland 10-22-90
 CHIEF, BUREAU OF ENGINEERING DATE

John M. ... 10/24/90
 CHIEF, LAND DEVELOPMENT DIVISION DATE

WALLACE, MONTGOMERY & ASSOCIATES
 1544 YORK ROAD
 LUTHERVILLE, MARYLAND 21093
 (301) 494-9093



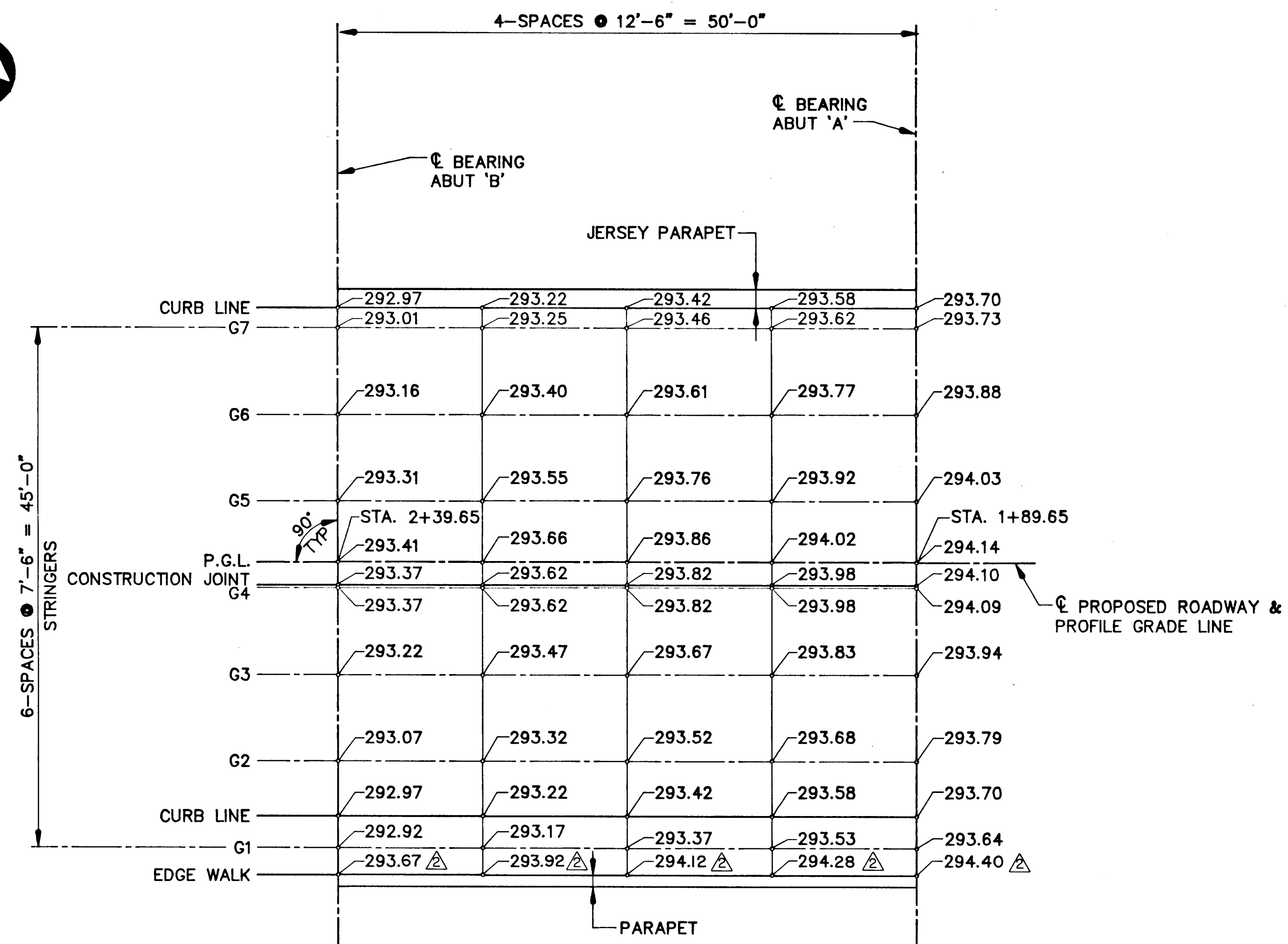
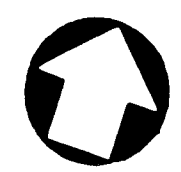
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DRN: D.E.D.					
CHK: J.O.M.					
DATE: 7/23/90	BY	NO.	REVISION	DATE	600' SCALE MAP NO. _____ BLOCK NO. _____

REPLACEMENT OF LARK BROWN ROAD BRIDGE
 OVER DORSEY RUN
 CONTROL JOINT AND RAIL POST SPACING
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 12 OF 22

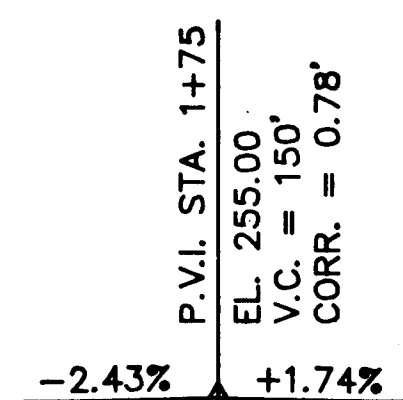
F-90-154 H011

FR 10/26/90



NOTE:
 1. FOR THE LOCATIONS OF ELEVATIONS SEE TYPICAL SECTION, THIS SHEET.
 2. FINISHED GRADE ELEVATIONS SHOWN ARE TOP OF PROPOSED CONCRETE DECK, EXCEPT AT EDGE OF WALK.

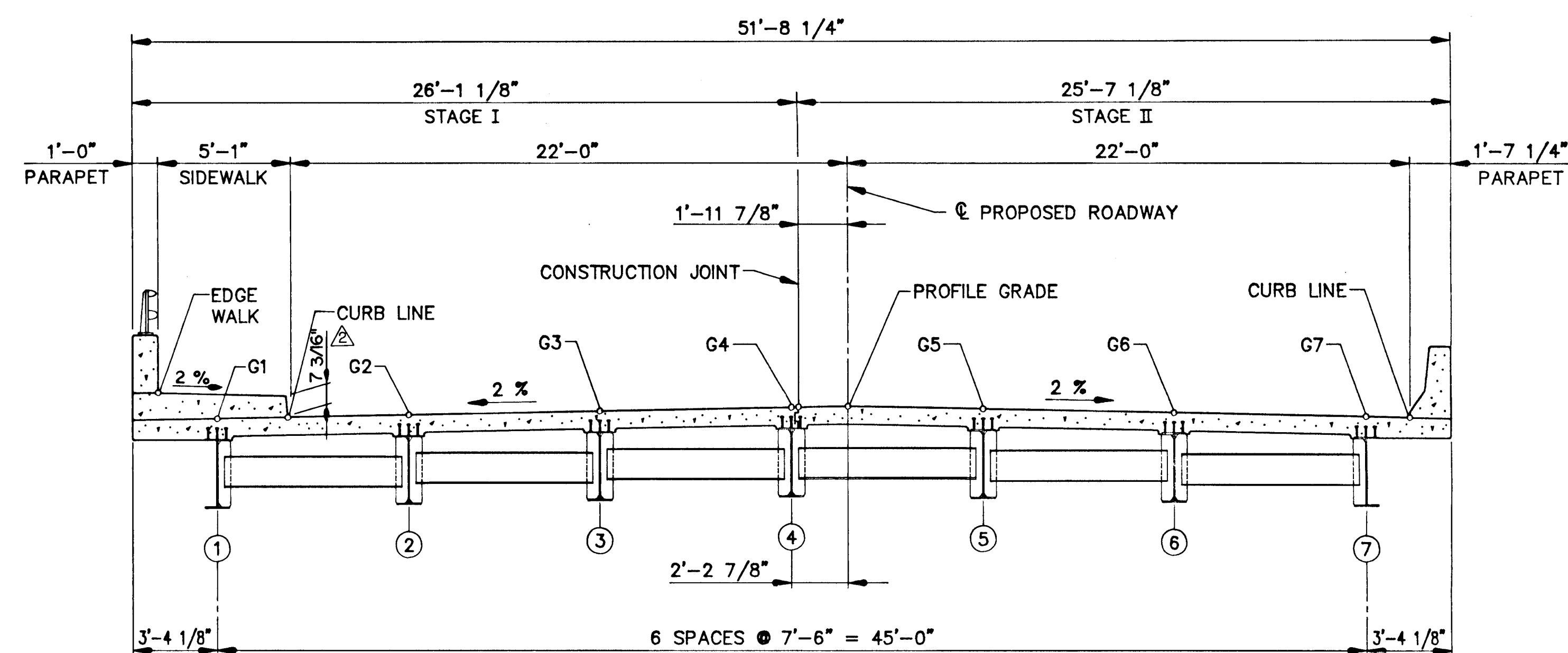
PLAN



VERTICAL CURVE

FINISHED ROADWAY ELEVATIONS

SCALE: 1/8" = 1'-0"

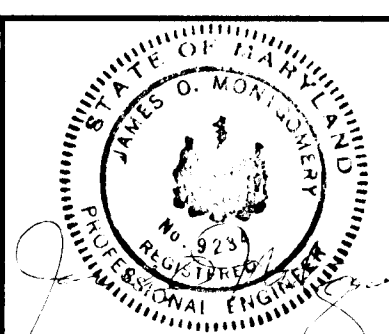


TYPICAL SECTION

SCALE: 1/4" = 1'-0"

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *James W. Weiland* 10/16/90
 Chief, Bureau of Engineering: *William R. Reay* 10/22/90
 Chief, Land Development Division: *John M. Jones* 10/23/90

WALLACE, MONTGOMERY & ASSOCIATES
 1544 YORK ROAD
 LUTHERVILLE, MARYLAND 21093
 (301) 494-9093

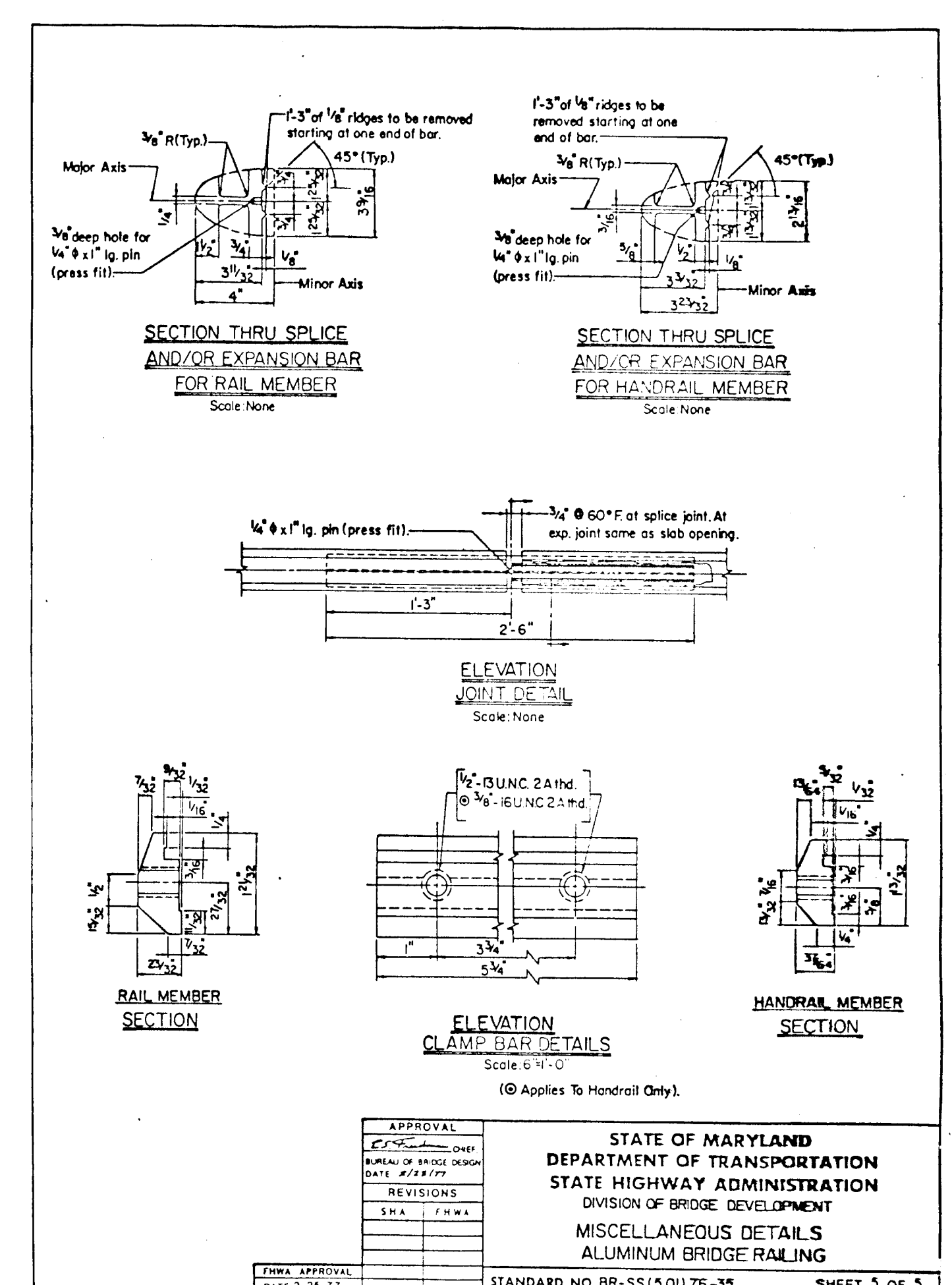
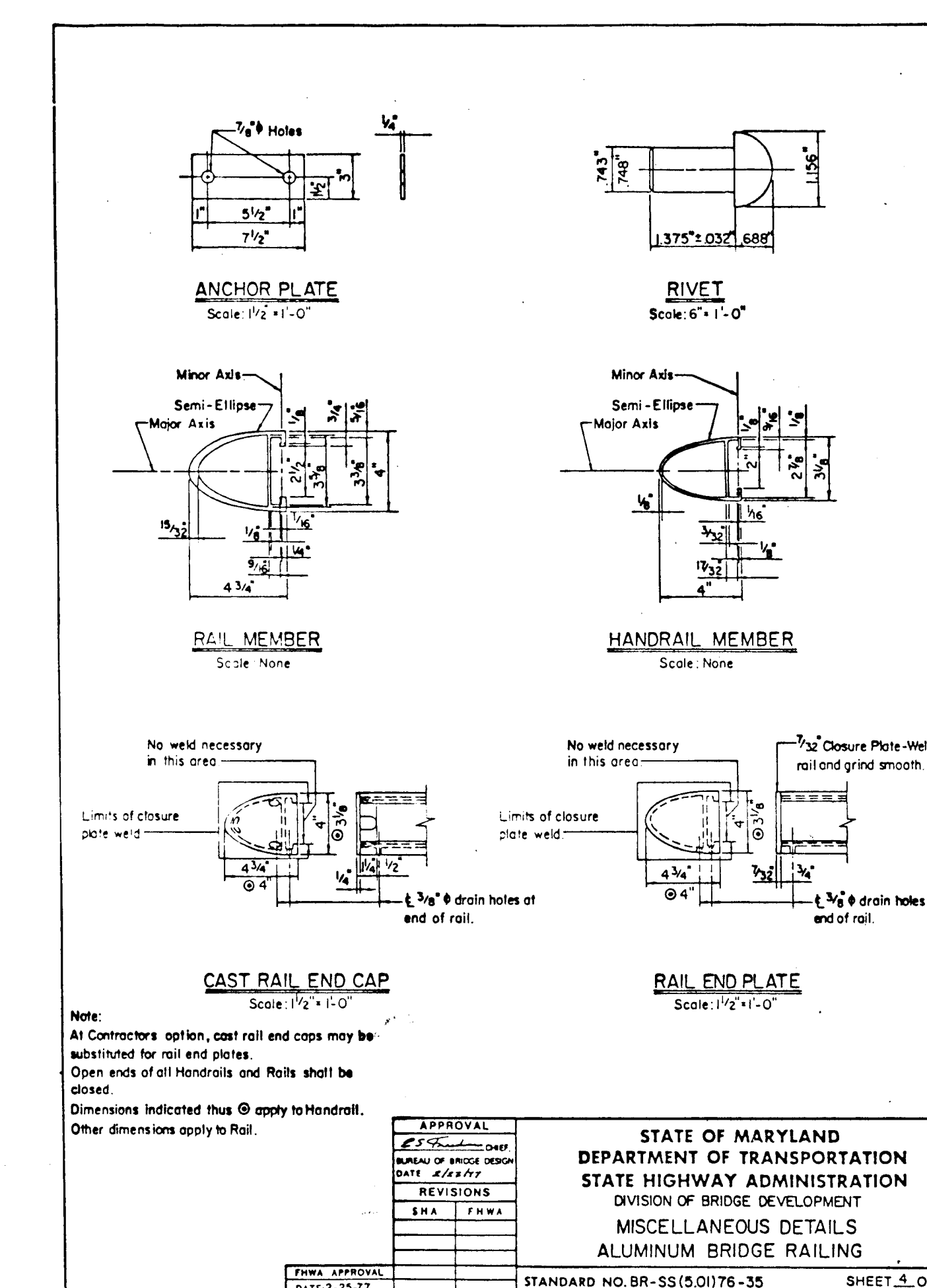
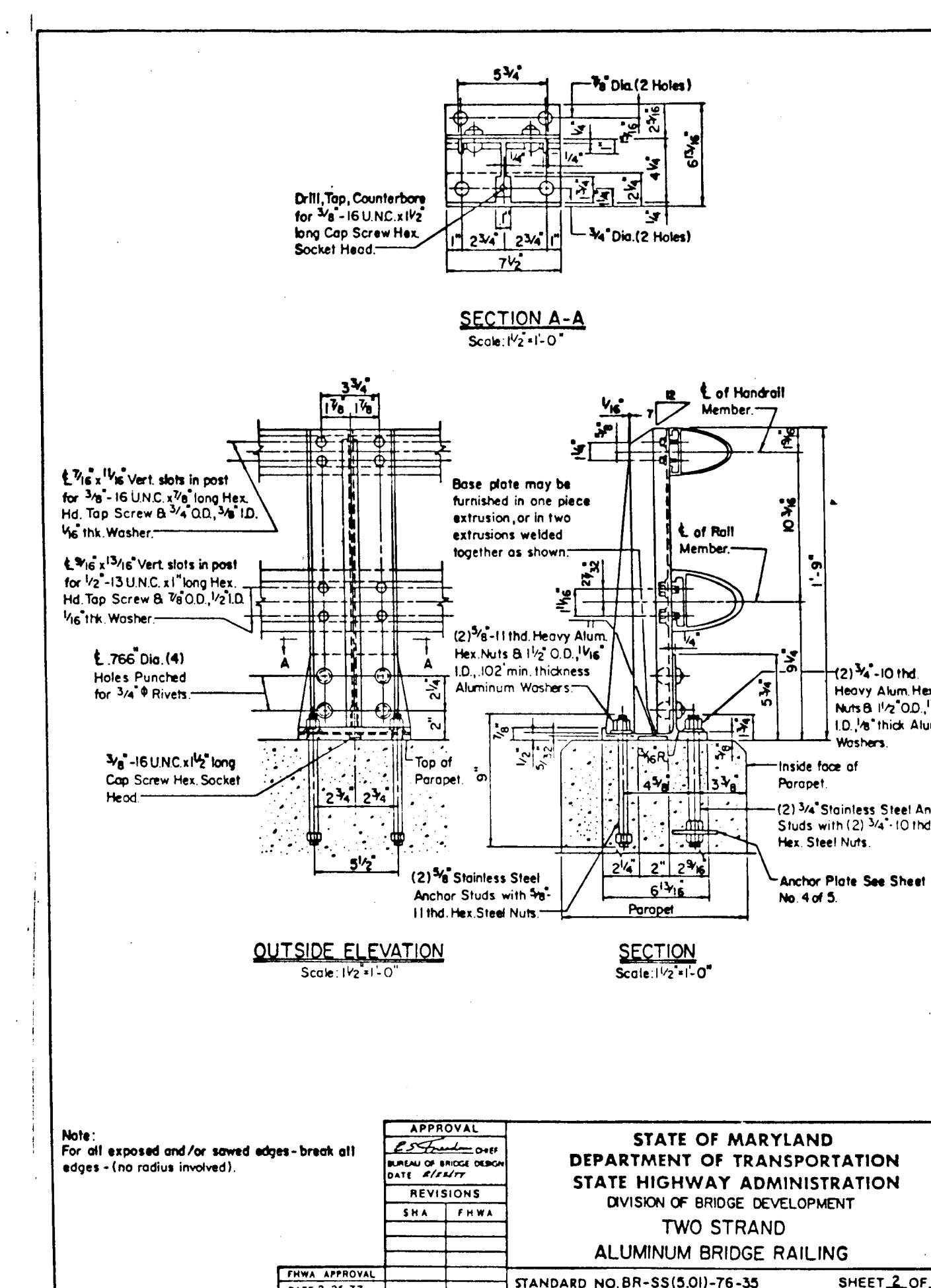
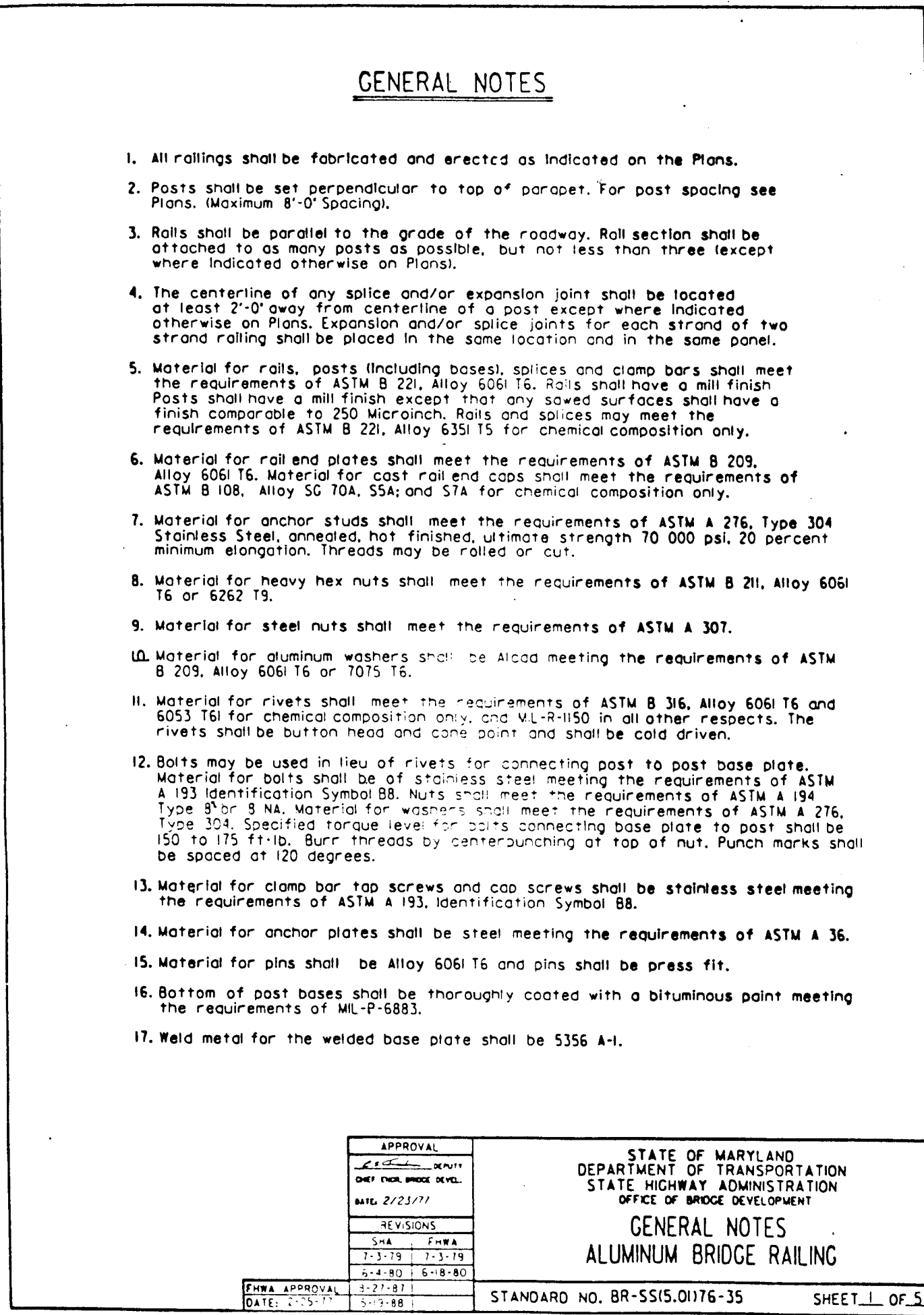
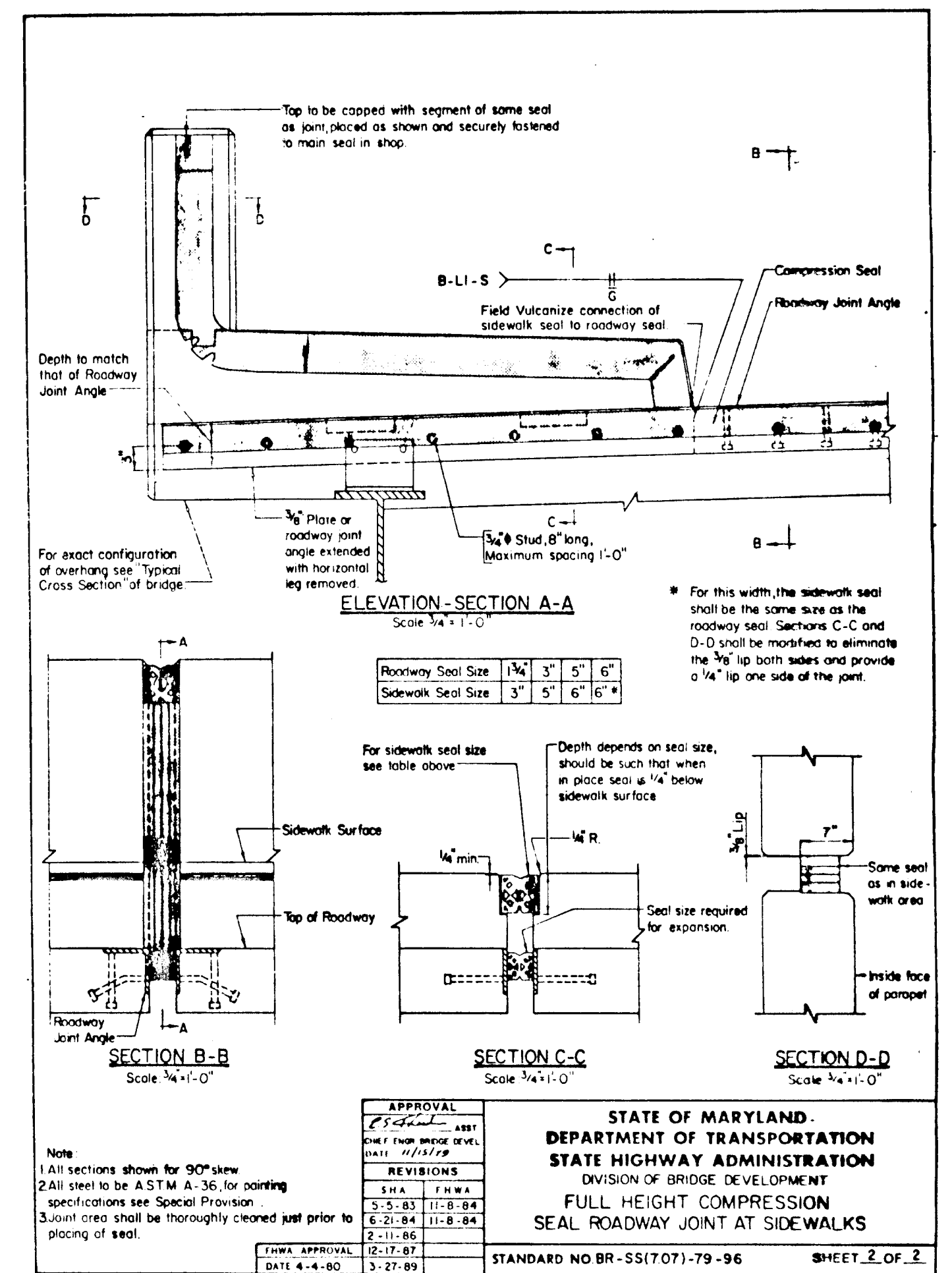
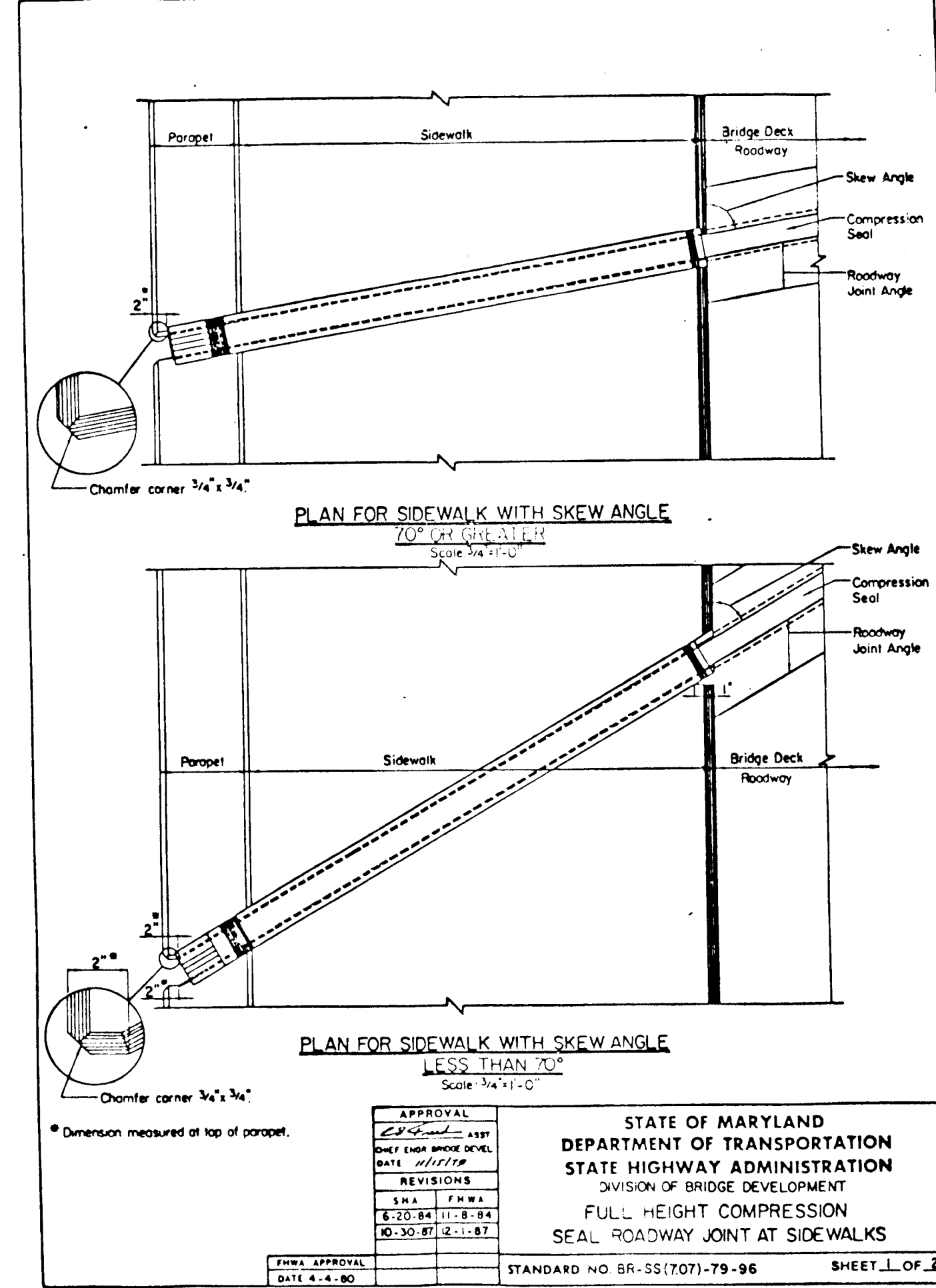
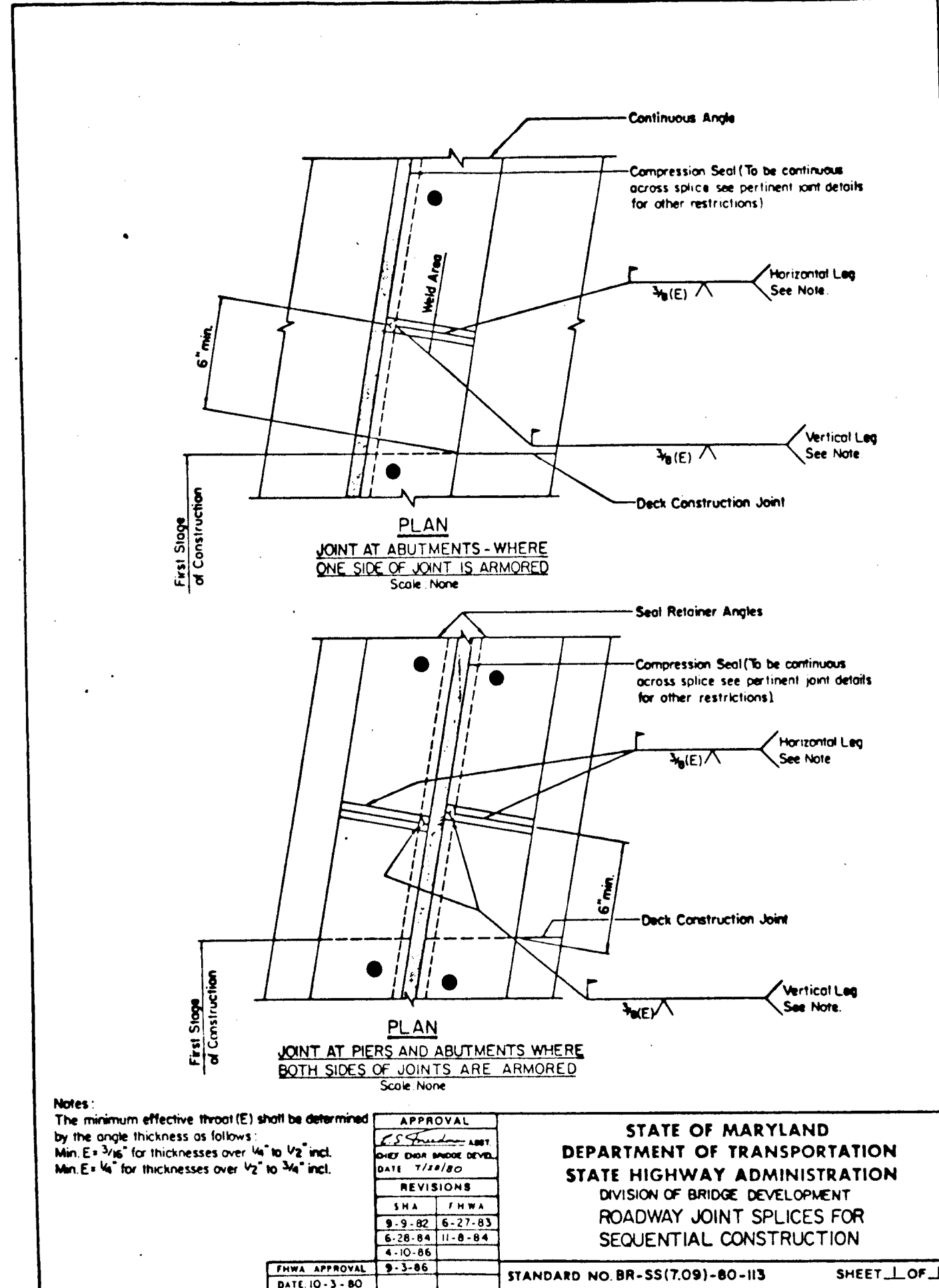
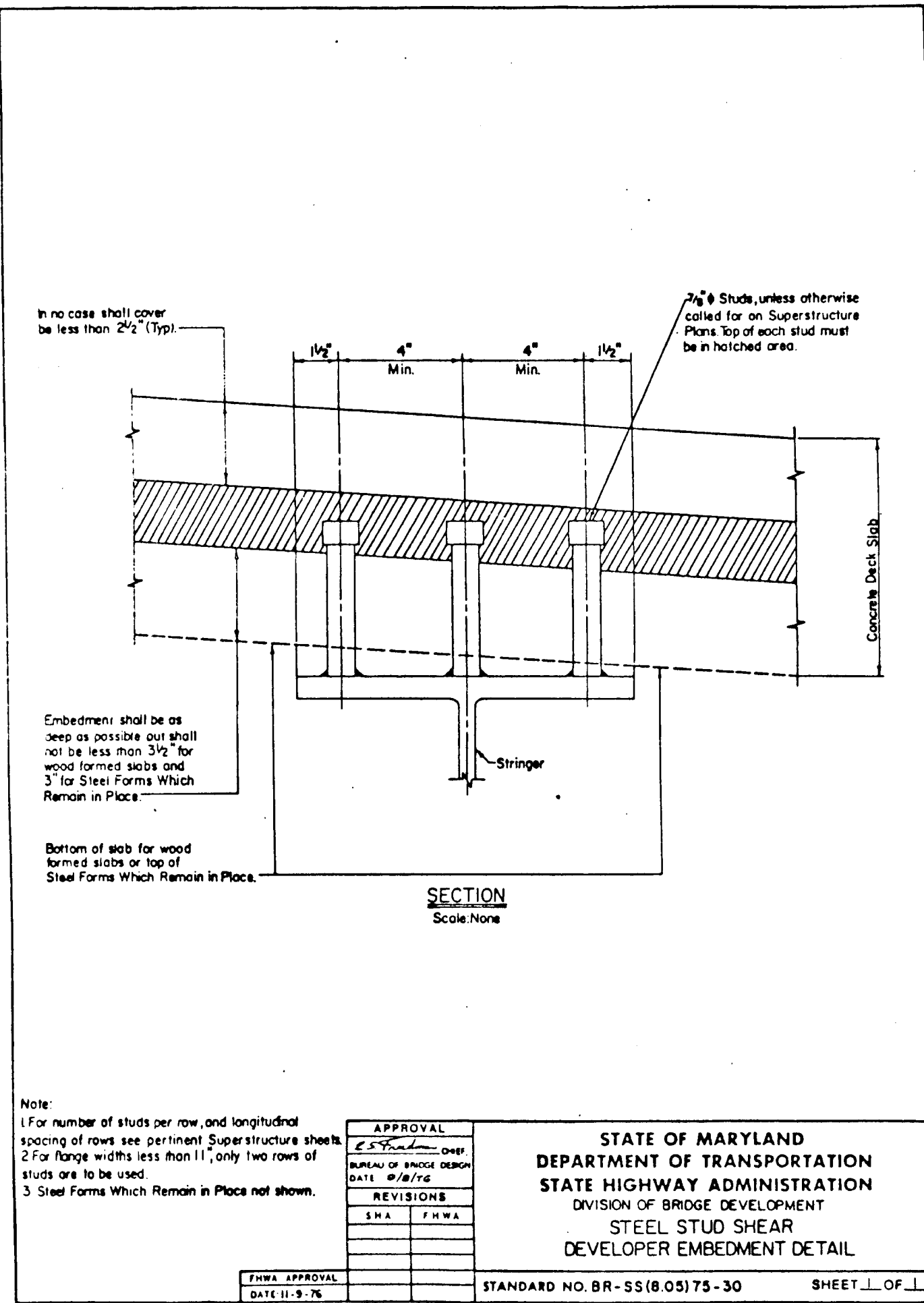


DES: G.C.N	DED:	REVISED CURB HEIGHT AND ELEVATIONS	10/10/90
DRN: S.W.S.			
CHK: C.T.K.			
DATE: 7/23/90	BY: NO.	REVISION	DATE

REPLACEMENT OF LARK BROWN ROAD BRIDGE
 OVER DORSEY RUN
 FINISHED ROADWAY ELEVATIONS
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 13 OF 22

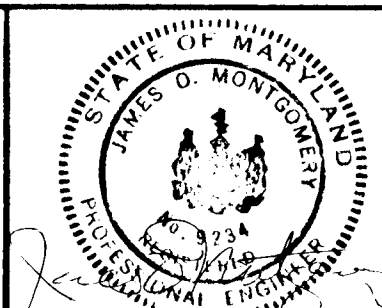
F-90-154 HO II



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James M. Lewis 10/22/90
DIRECTOR OF PUBLIC WORKS DATE
Dr. William W. Weiland 10/16/90
CHIEF, BUREAU OF HIGHWAYS DATE

James M. Lewis 10/22/90
CHIEF, BUREAU OF ENGINEERING DATE
James M. Lewis 10/22/90
CHIEF, CLAD DEVELOPMENT DIVISION DATE

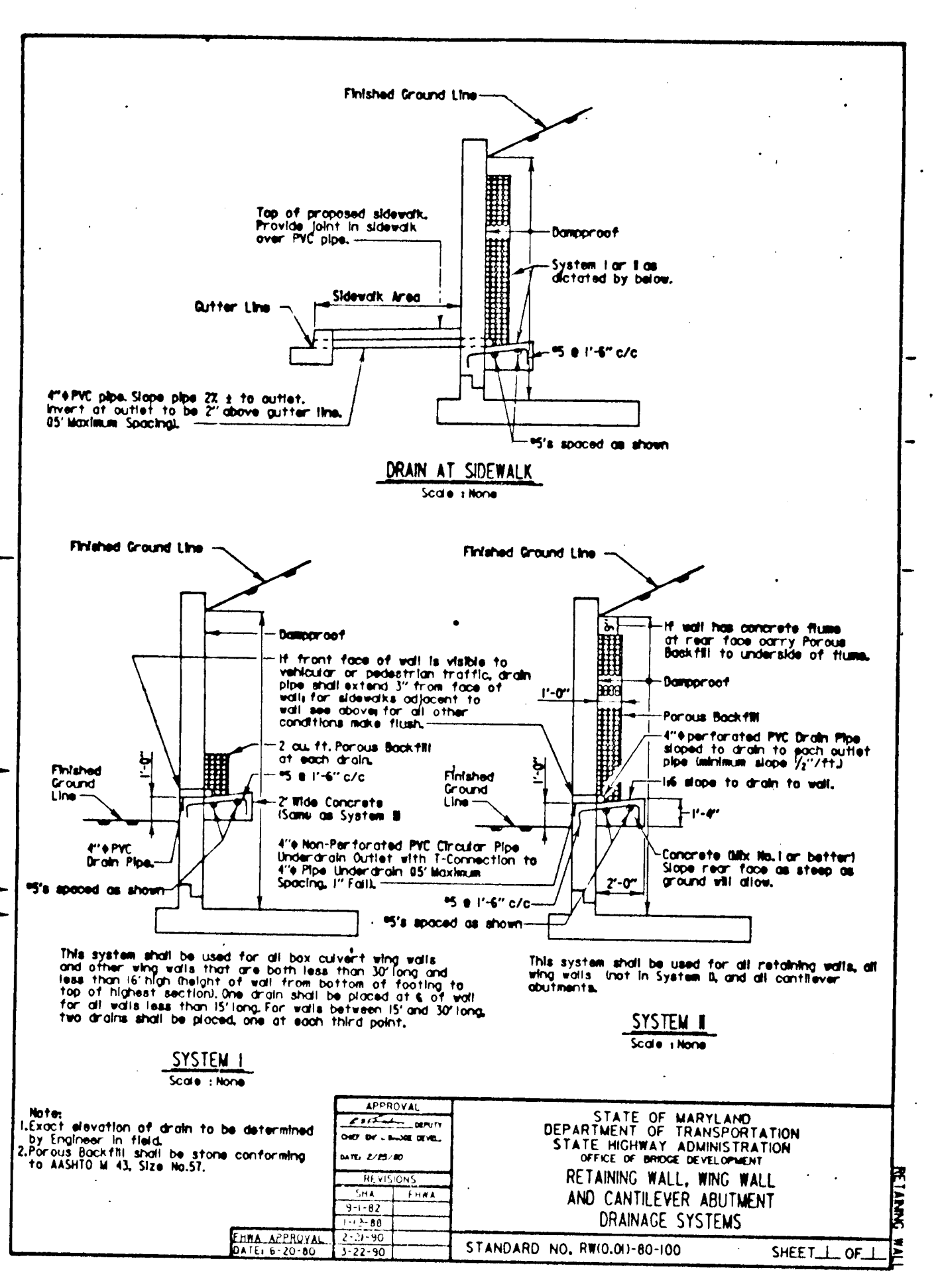
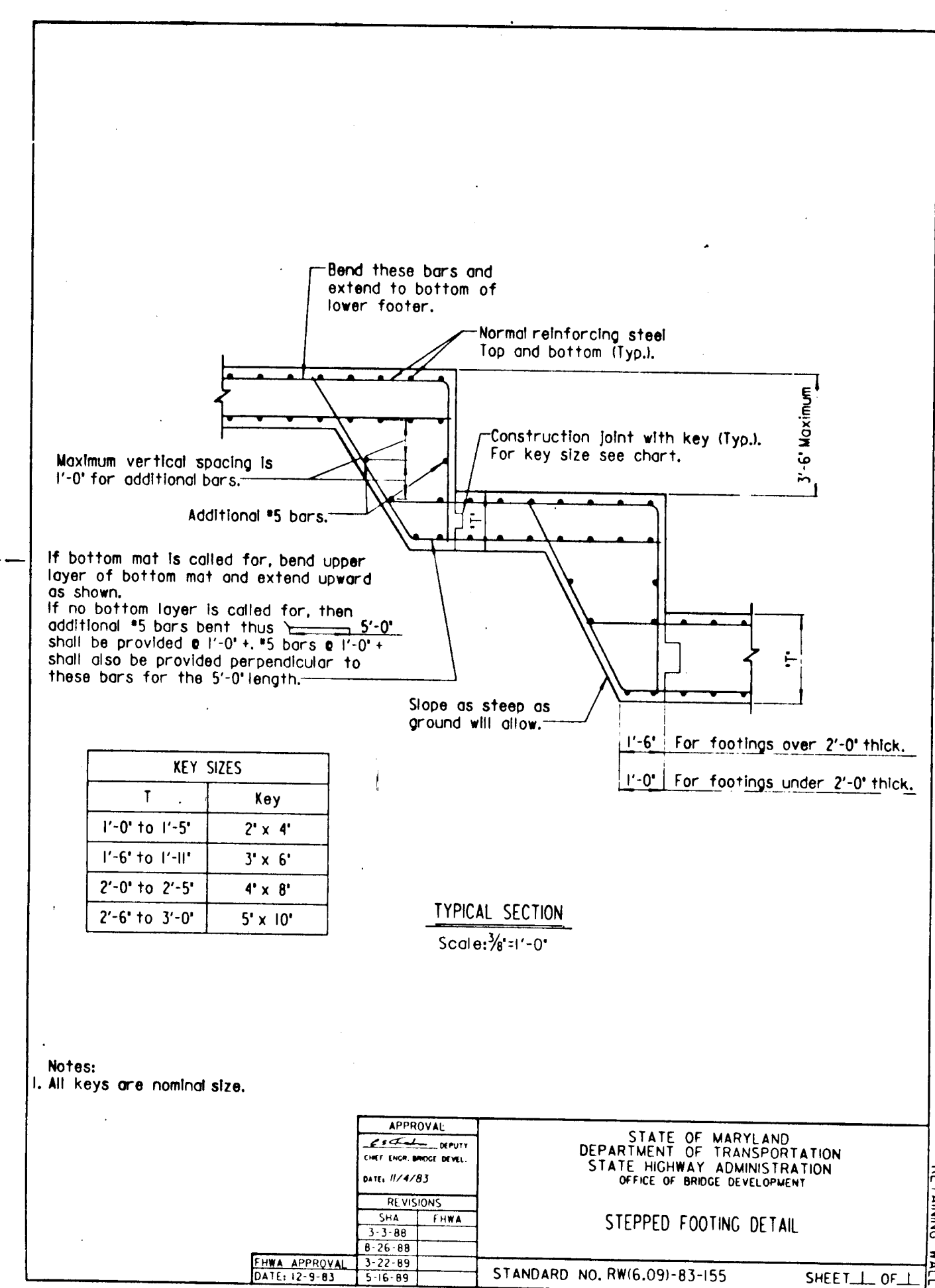
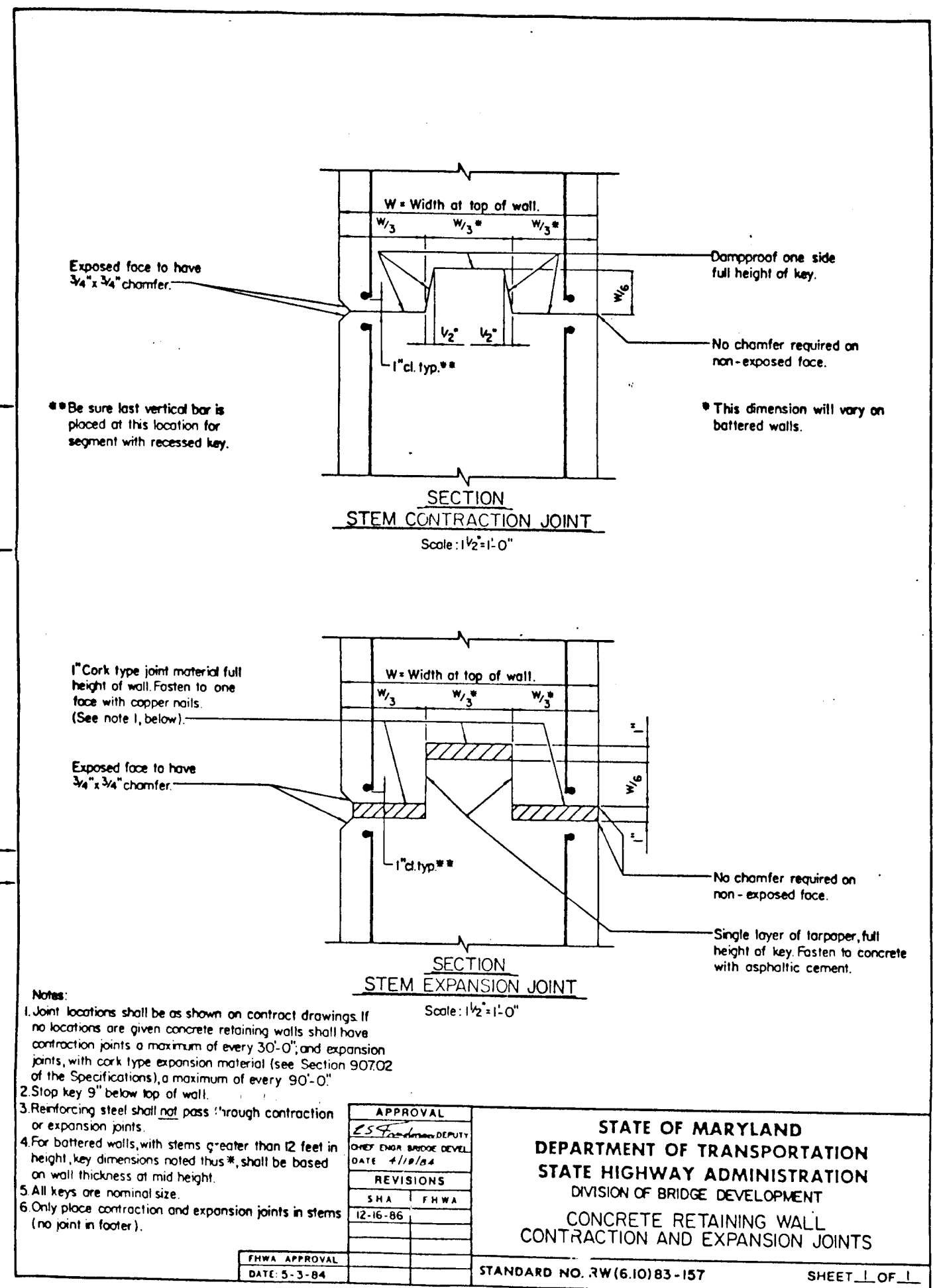
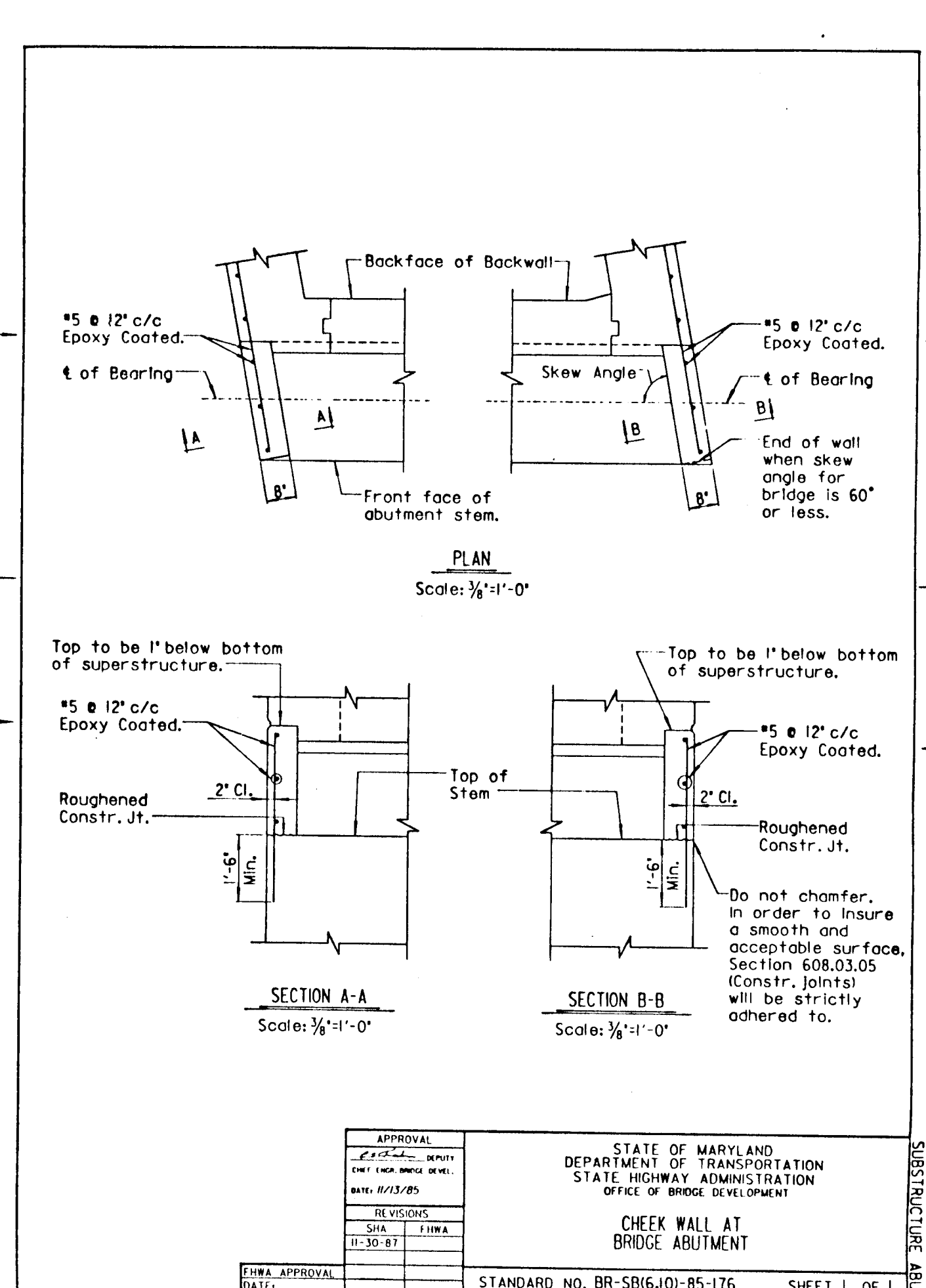
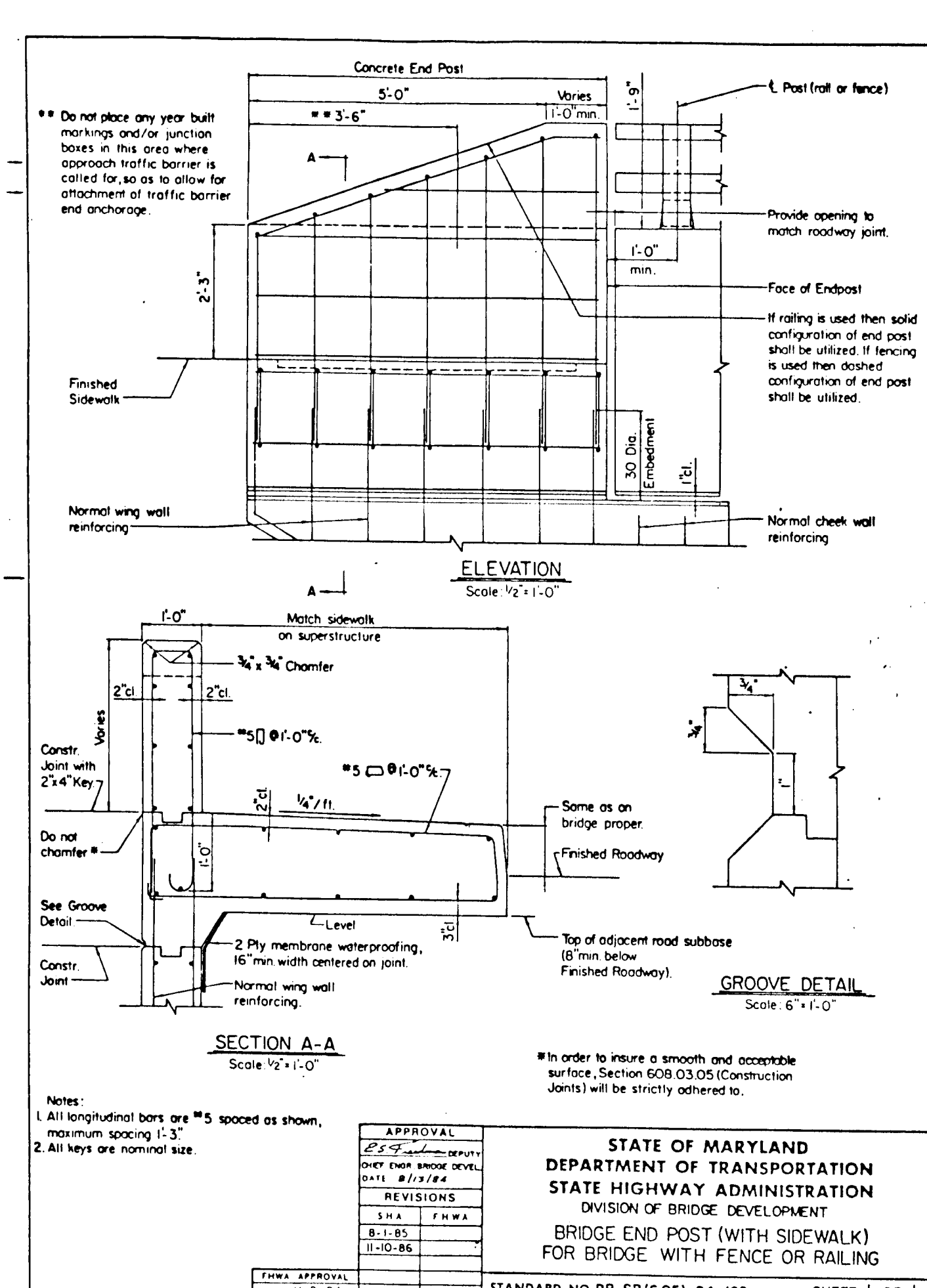
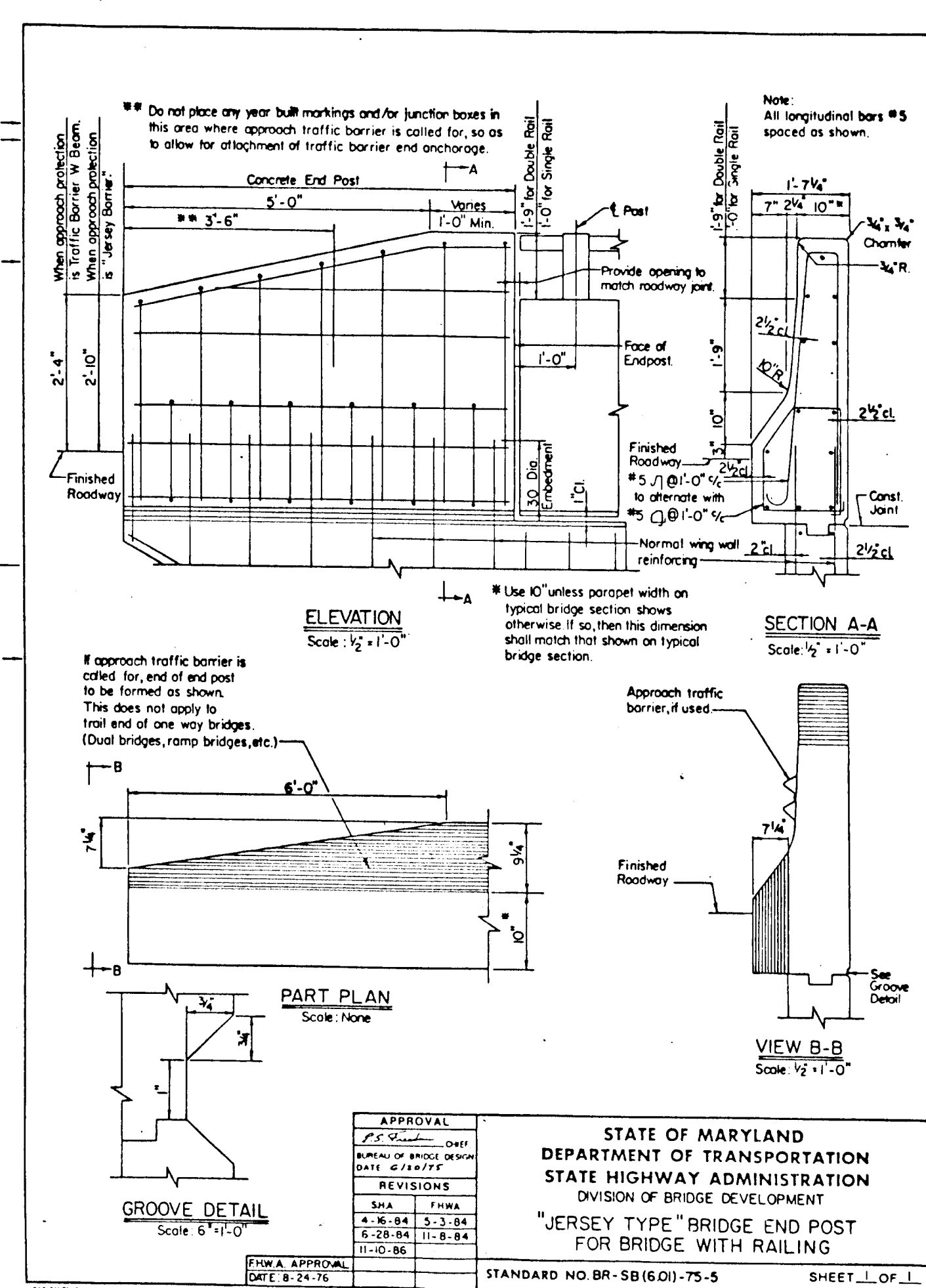
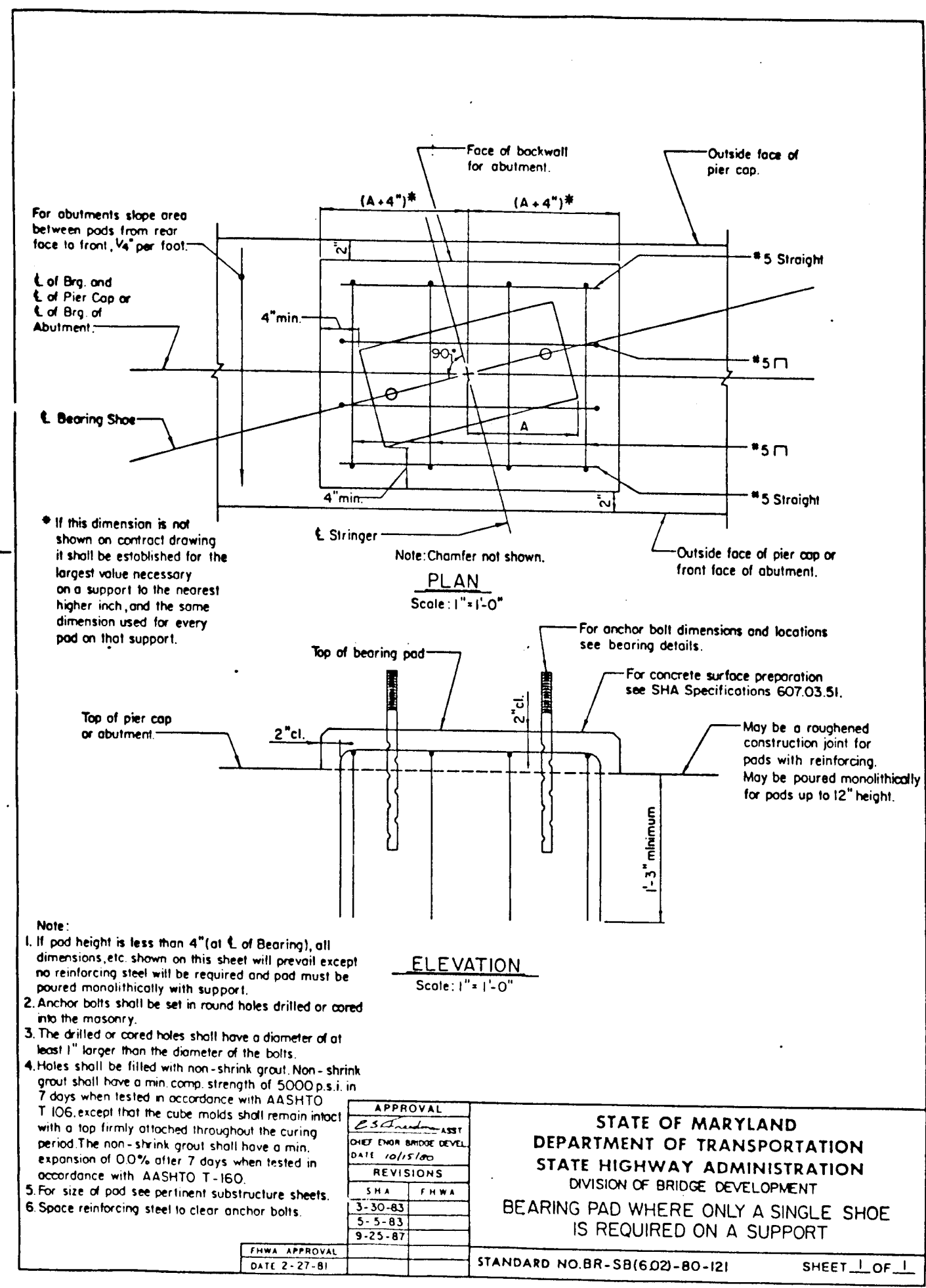


DES:					
DRN:					
CHK:					
DATE: 7/23/90	BY	NO.	REVISION	DATE	600' SCALE MAP NO. BLOCK NO.

REPLACEMENT OF LARK BROWN ROAD BRIDGE
OVER DORSEY RUN
STANDARD DETAILS
HOWARD COUNTY, MARYLAND

SCALE
1" = 1'-0"
SHEET
15 OF 22

F-90-154 H011



1396

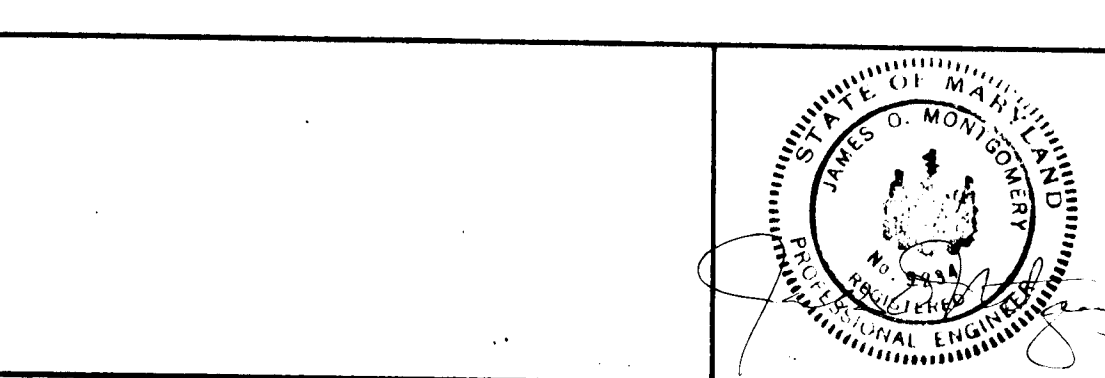
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. [Signature] 10/24/90
DIRECTOR OF PUBLIC WORKS DATE

Michael W. [Signature] 10/22/90
CHIEF, BUREAU OF ENGINEERING DATE

Francis W. [Signature] 10/16/90
CHIEF, BUREAU OF HIGHWAYS DATE

Chad [Signature] 10/24/90
CHIEF, LAND DEVELOPMENT DIVISION DATE

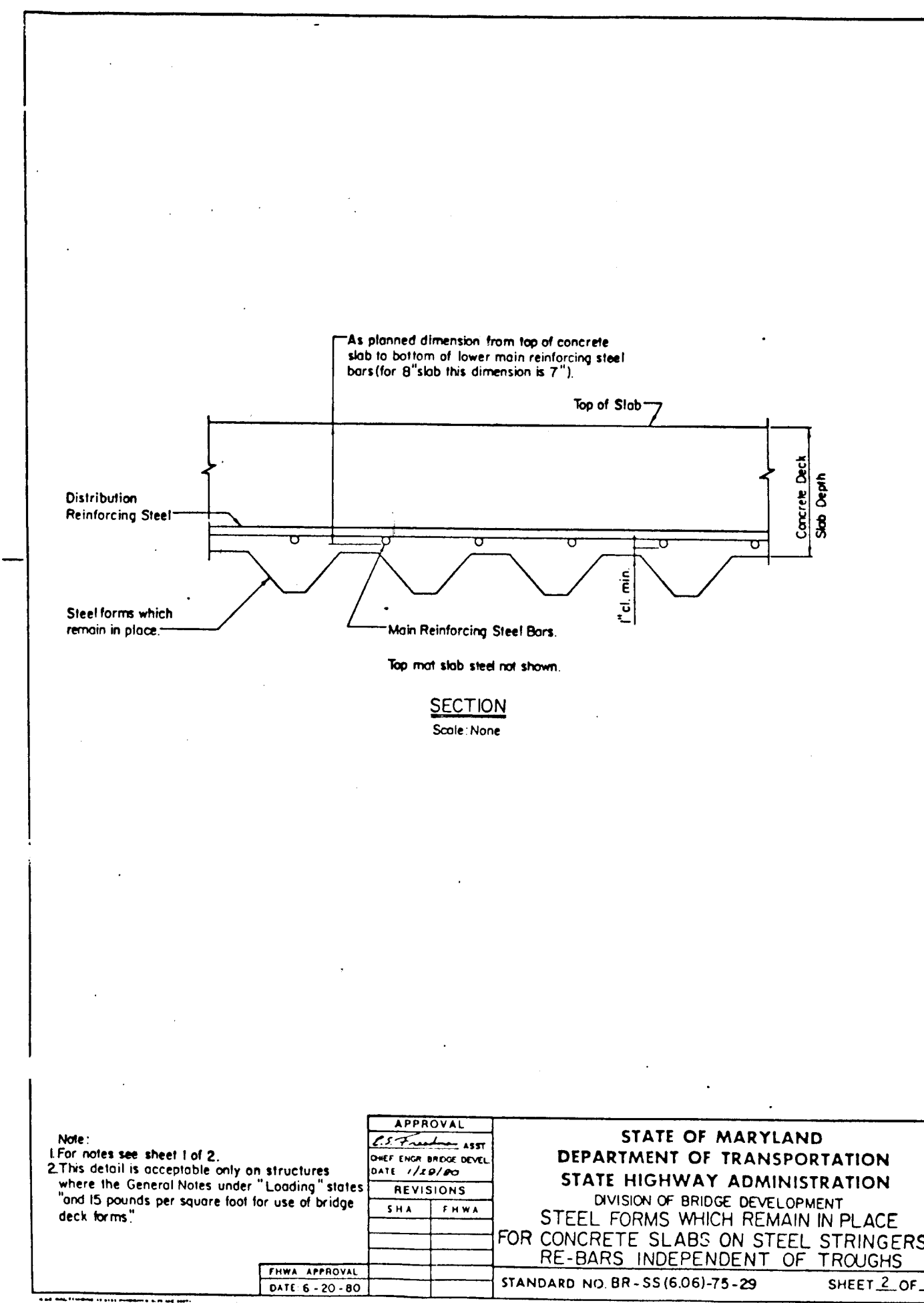
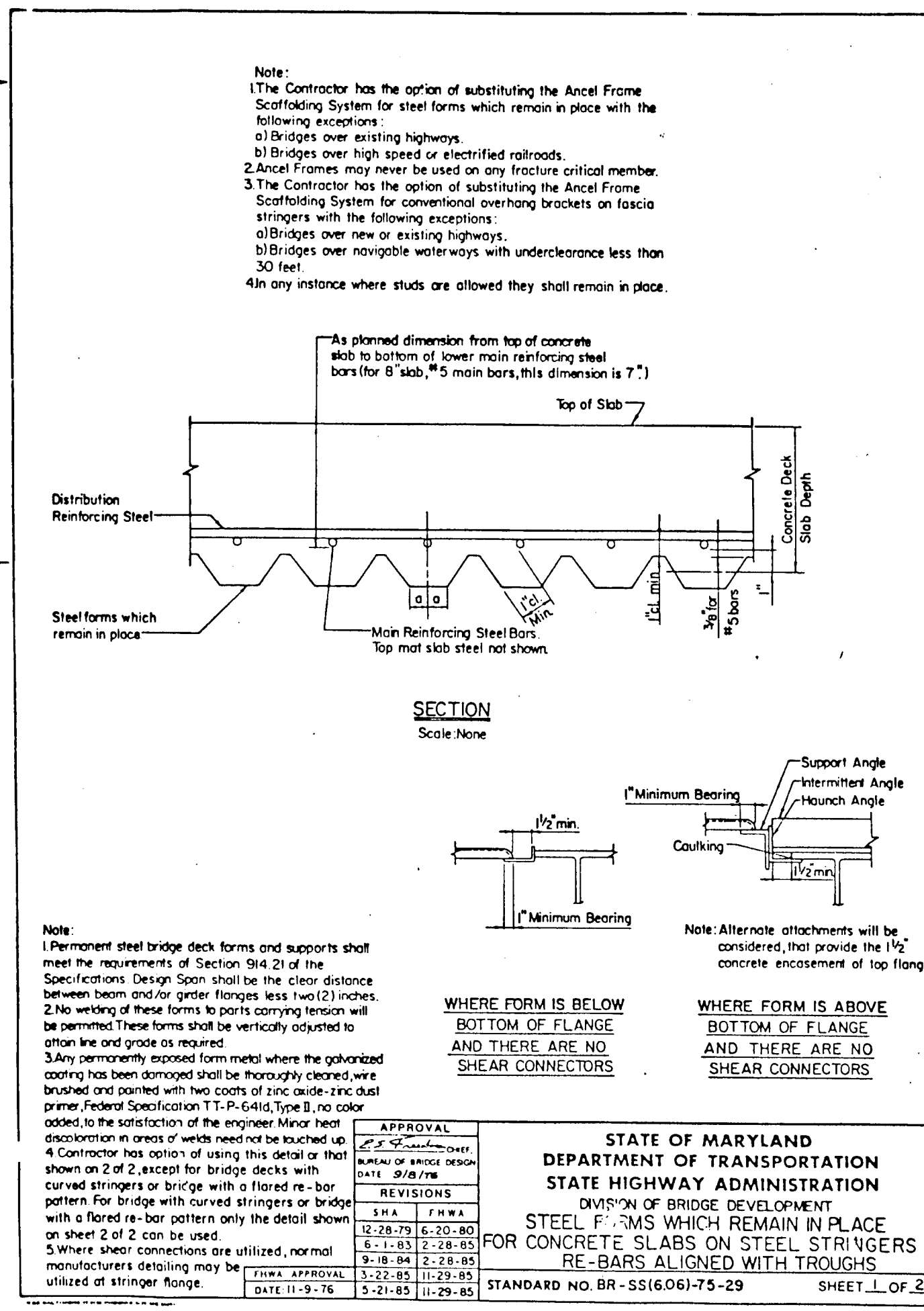
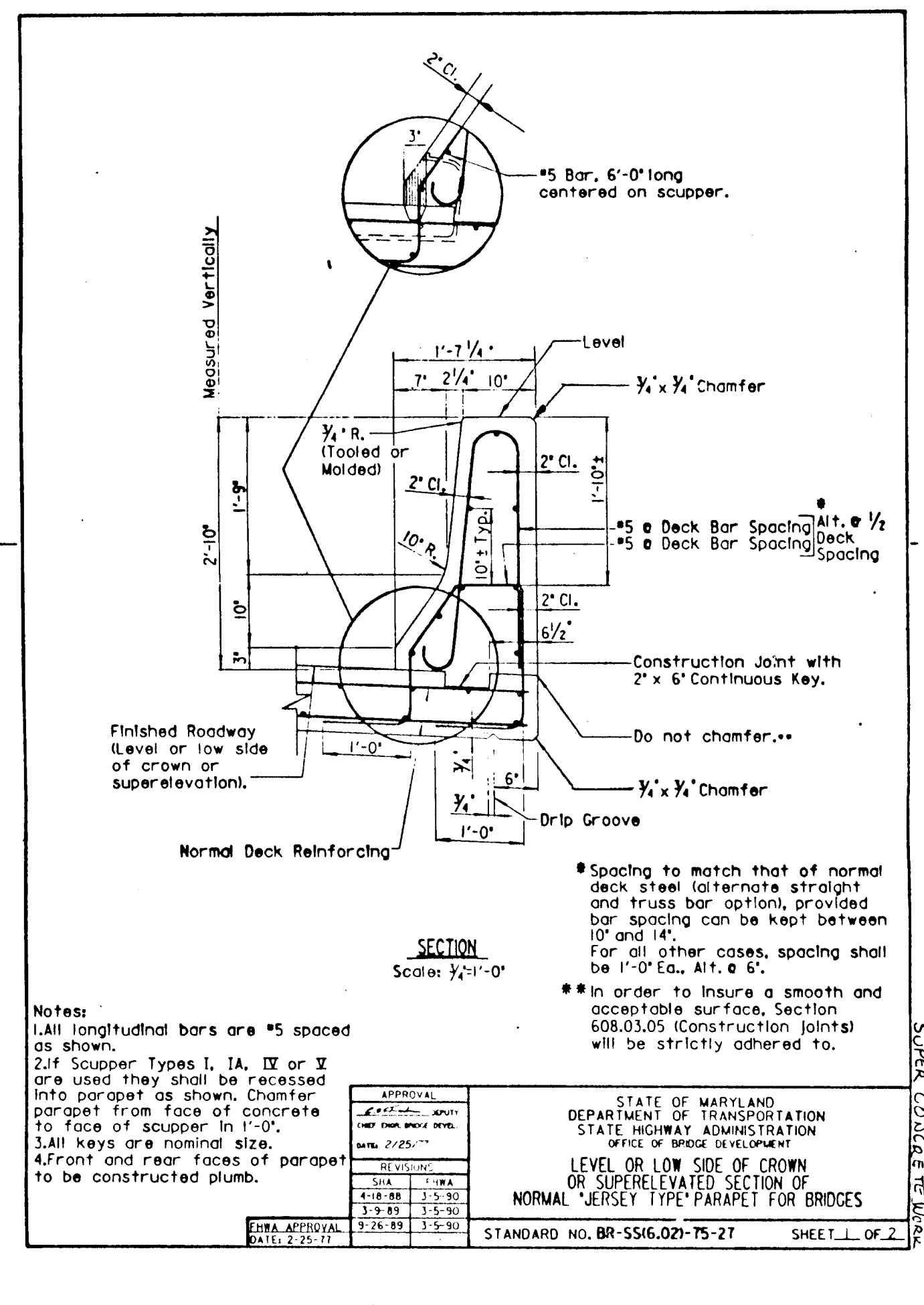
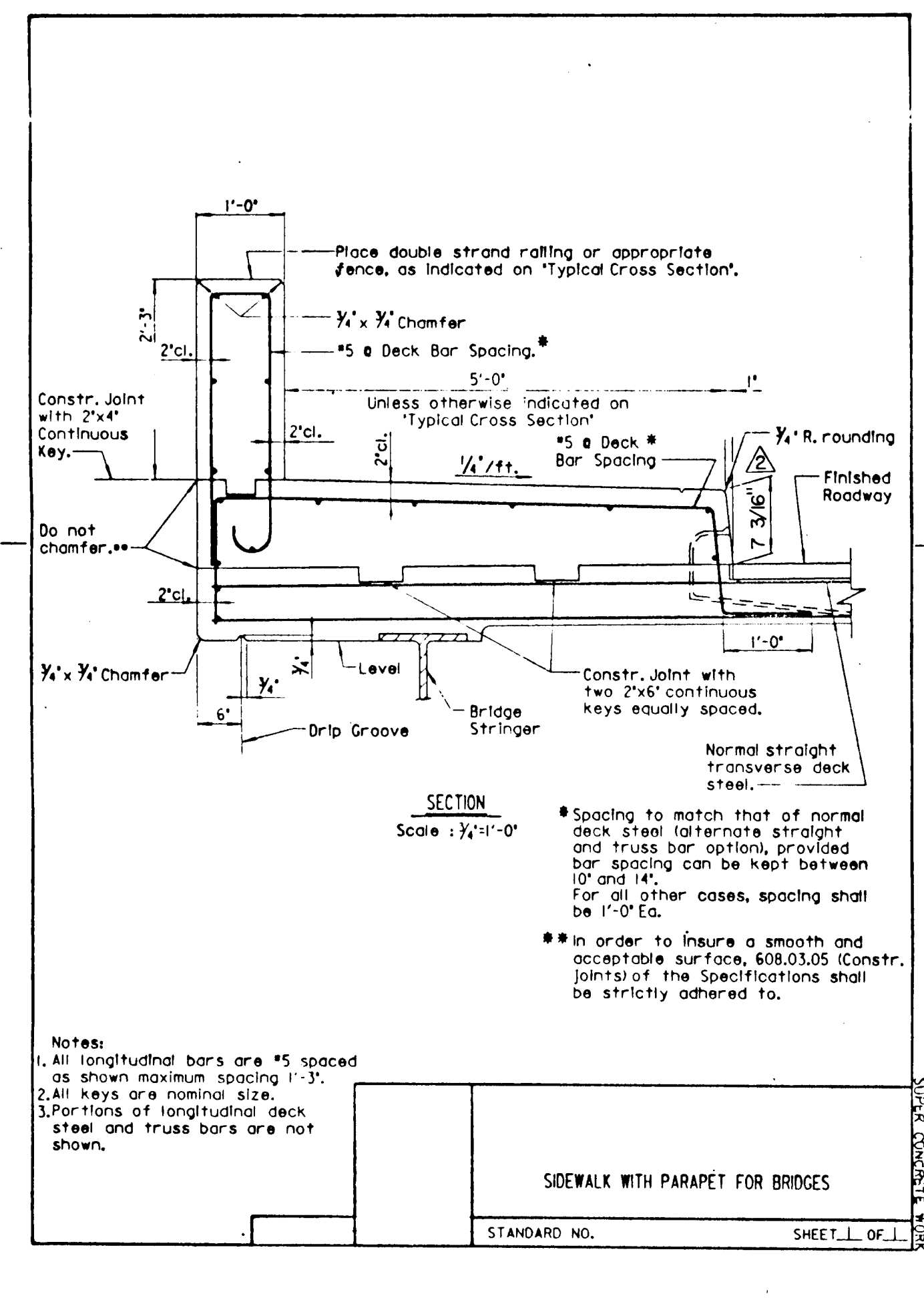
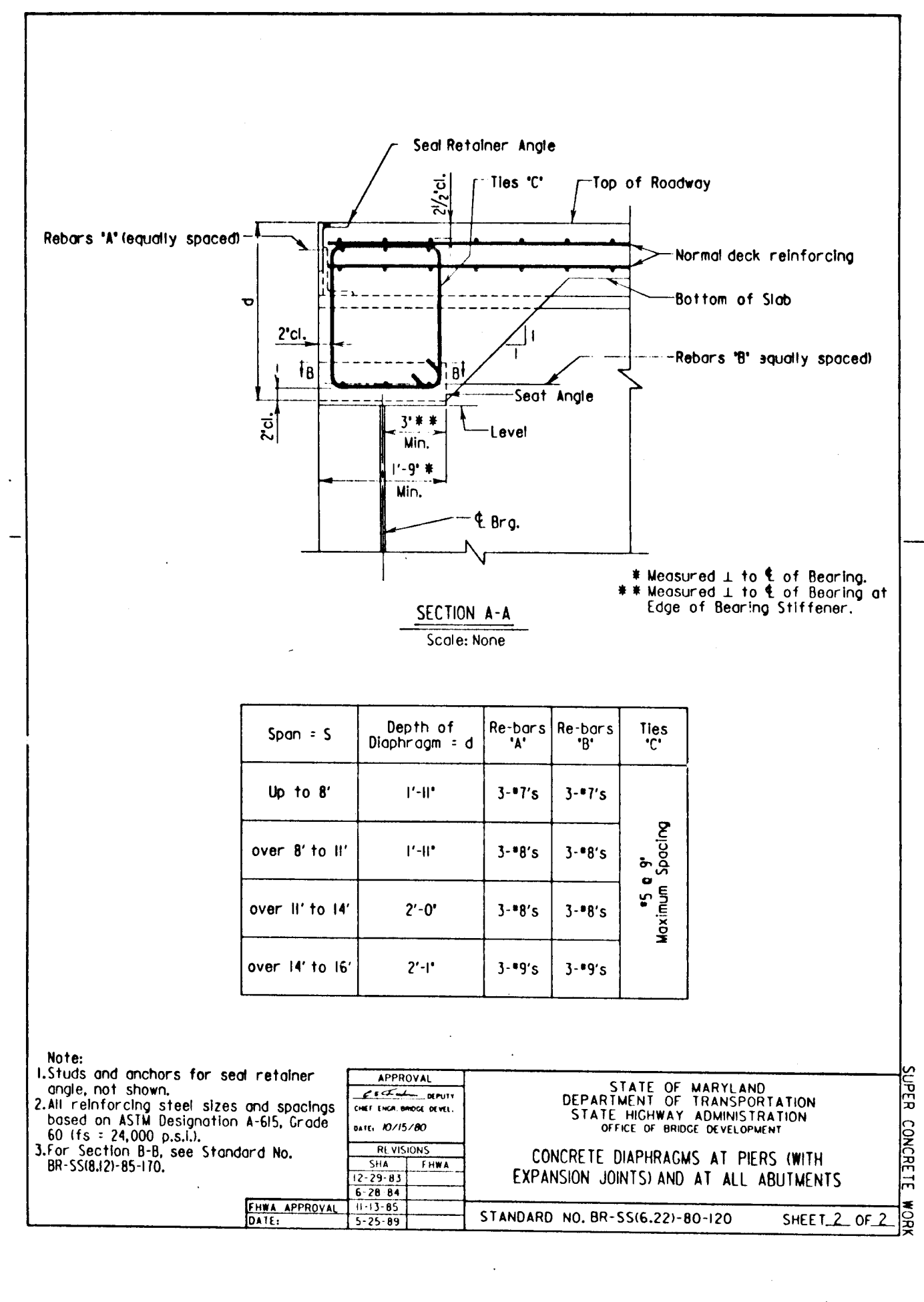
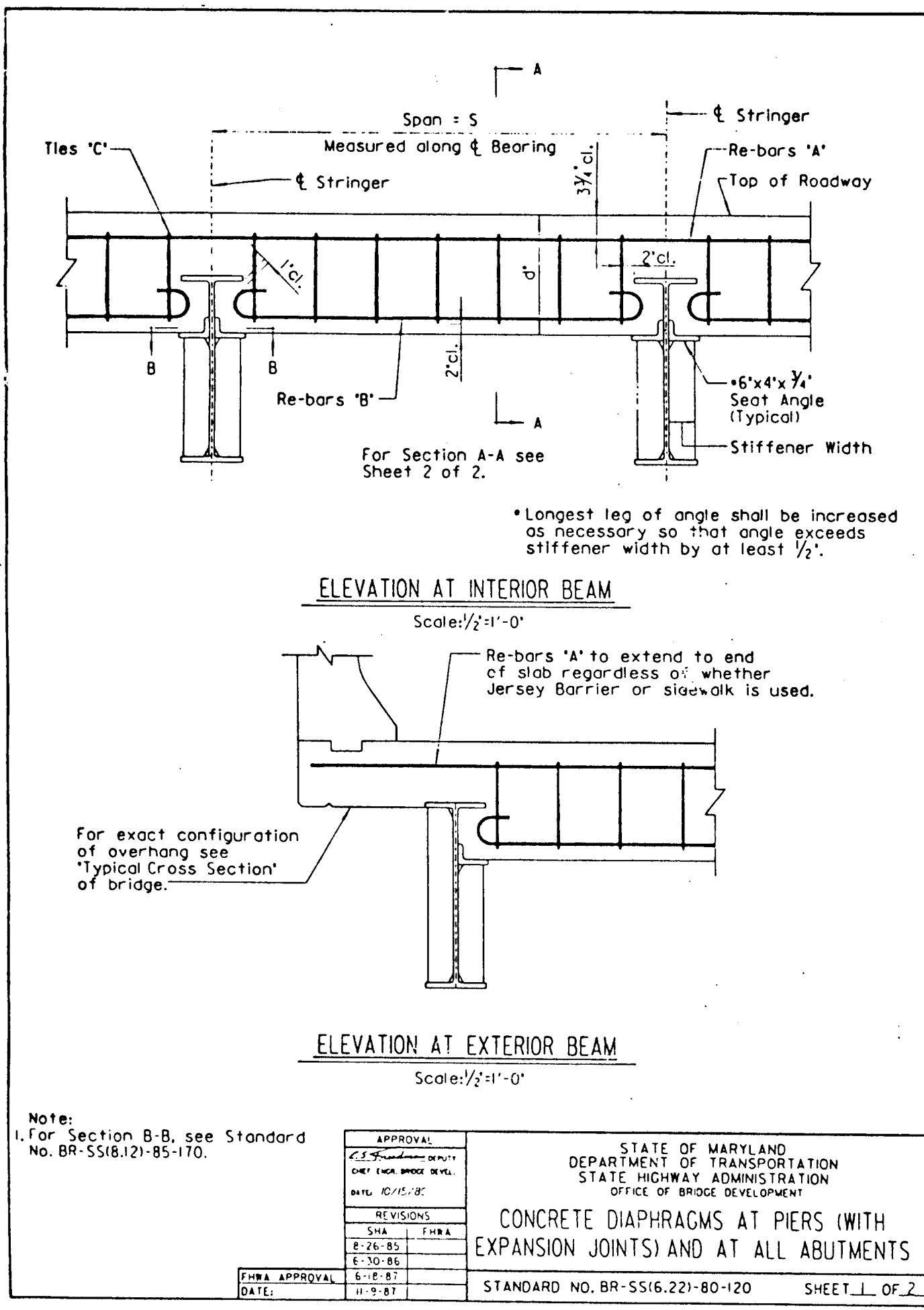


DES:	
DRN:	
CHK:	
DATE: 7/23/90	
BY NO.	
REVISION	
DATE	
600' SCALE MAP NO.	
BLOCK NO.	

REPLACEMENT OF LARK BROWN ROAD BRIDGE
OVER DORSEY RUN
STANDARD DETAILS
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 16 OF 22



1306

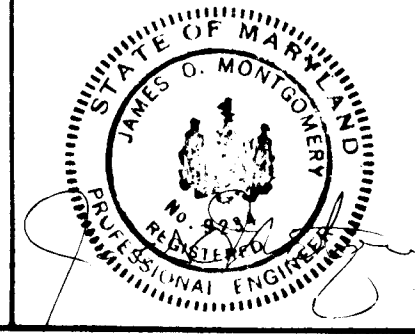
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James M. Sun 10/24/90
DIRECTOR OF PUBLIC WORKS DATE

W. S. ... 10-22-90
CHIEF, BUREAU OF ENGINEERING DATE

Lawrence W. Williams 10/16/90
CHIEF, BUREAU OF HIGHWAYS DATE

... 10/16/90
CHIEF, LAND DEVELOPMENT DIVISION DATE



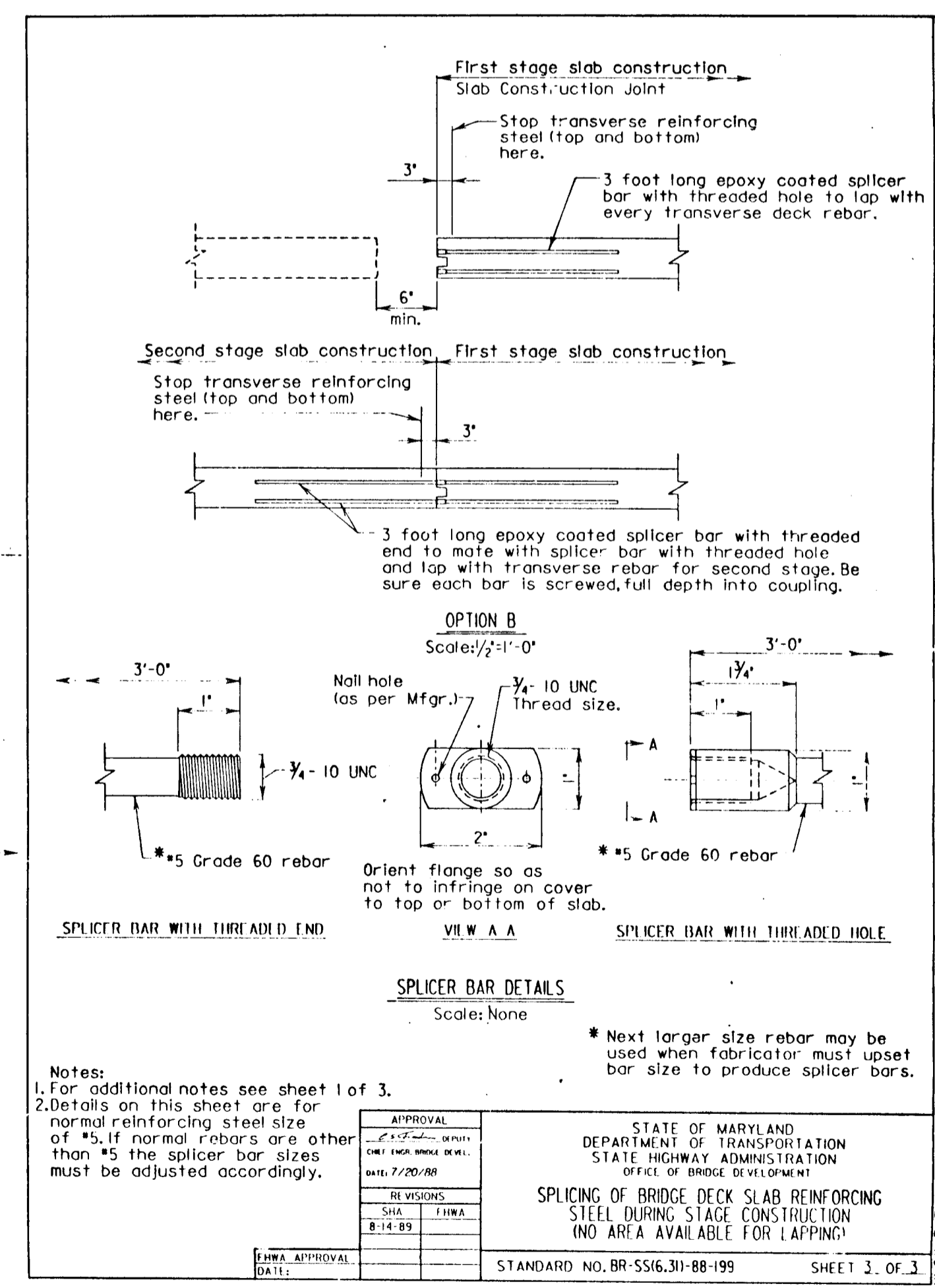
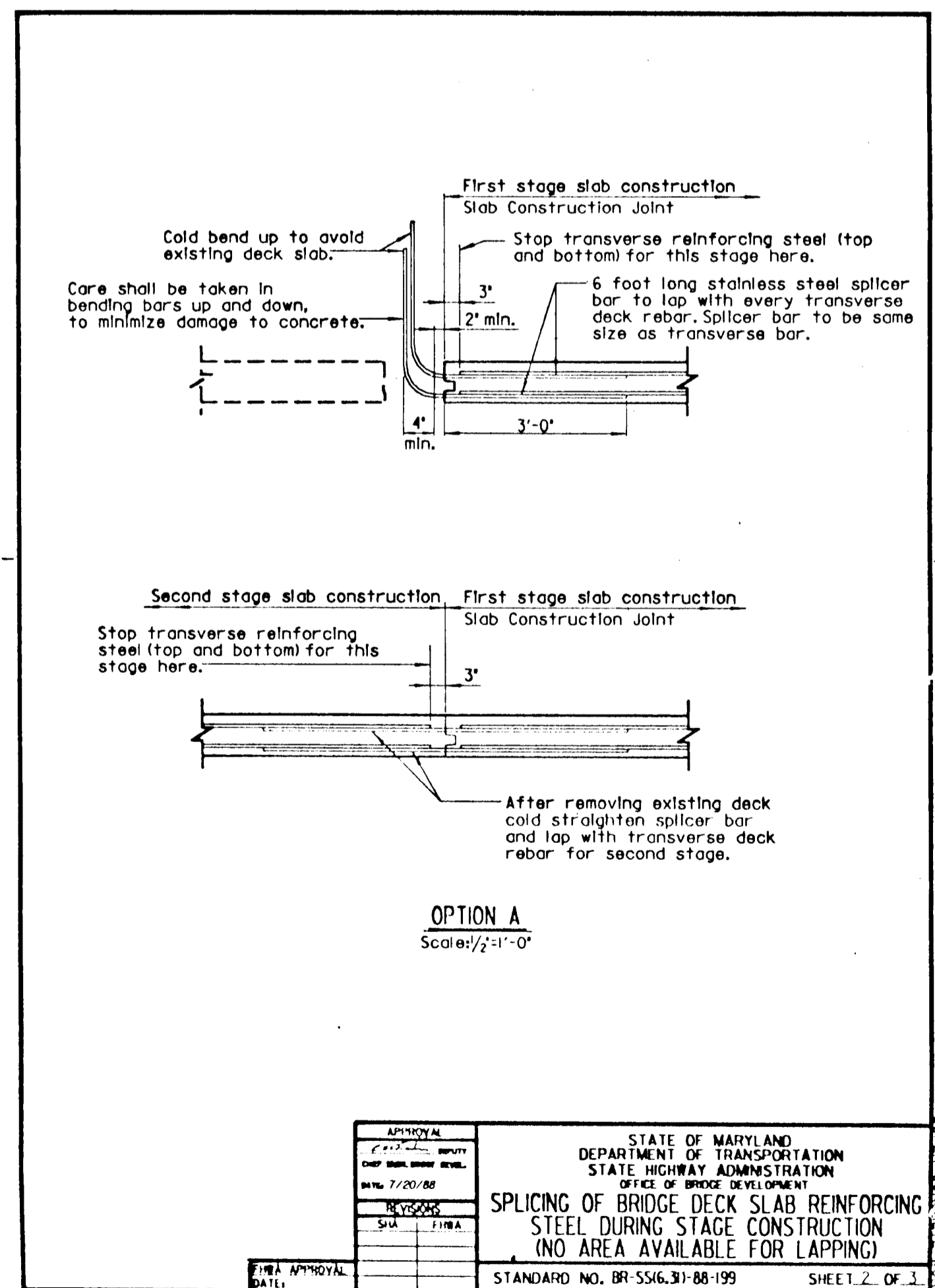
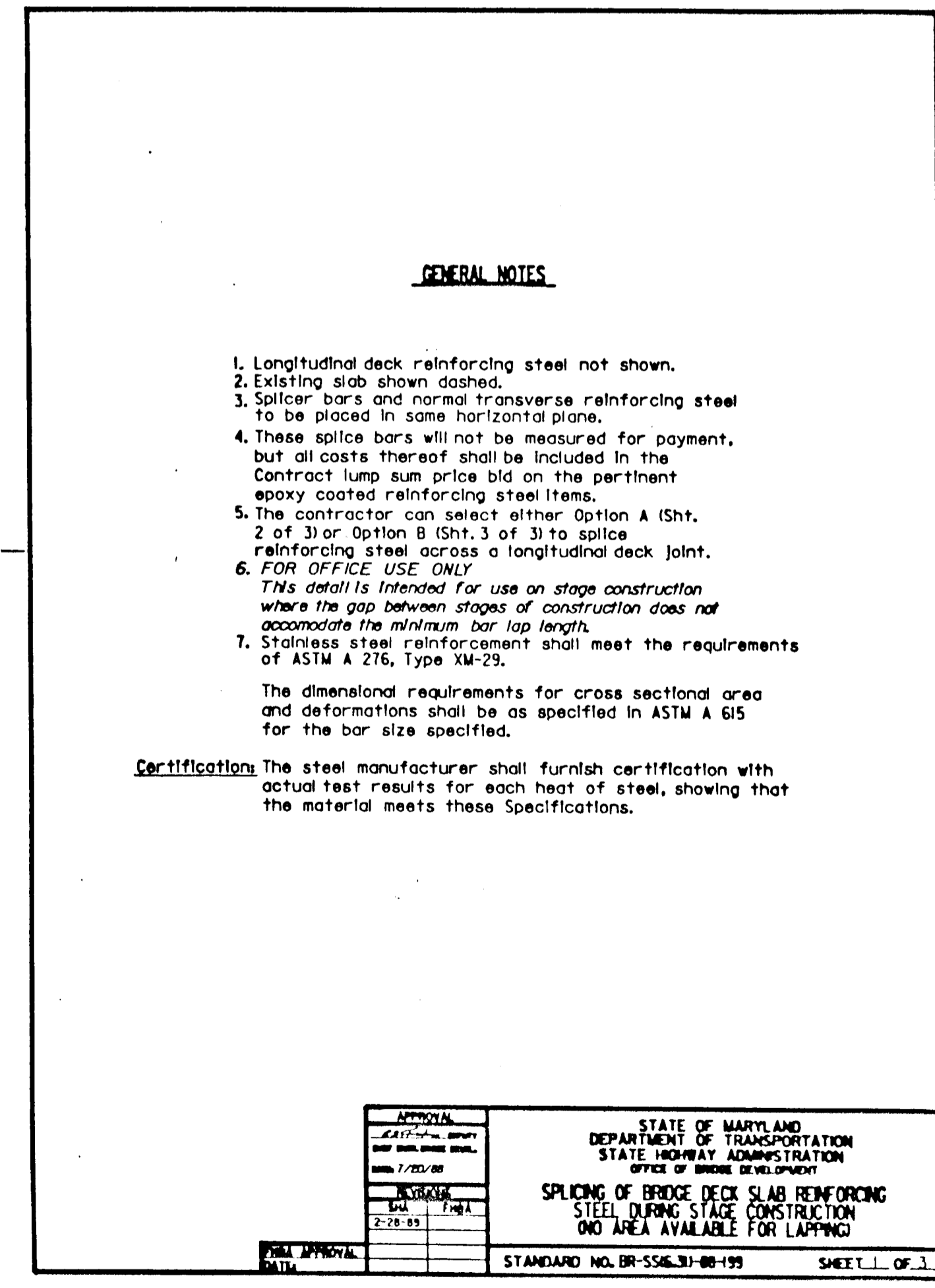
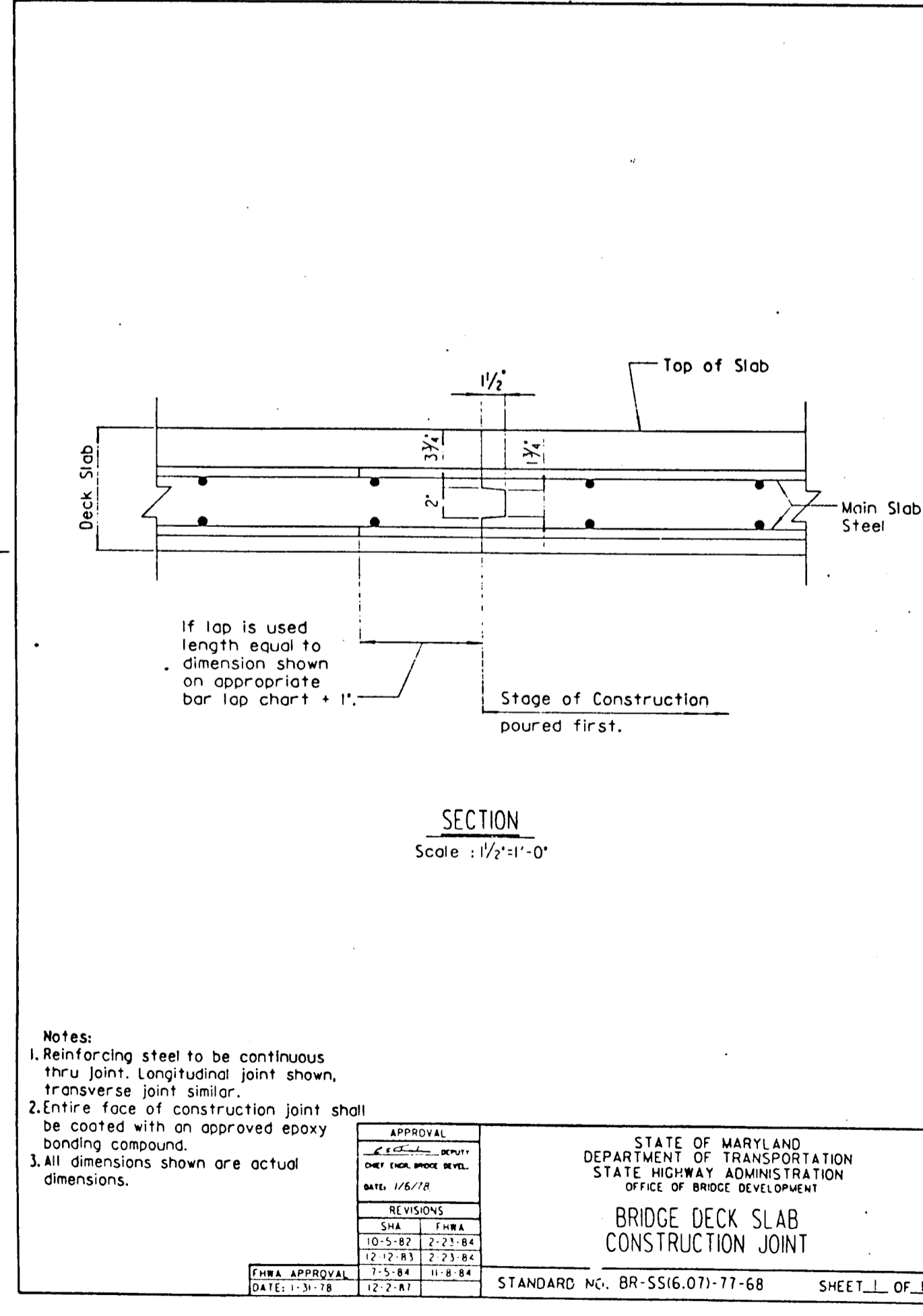
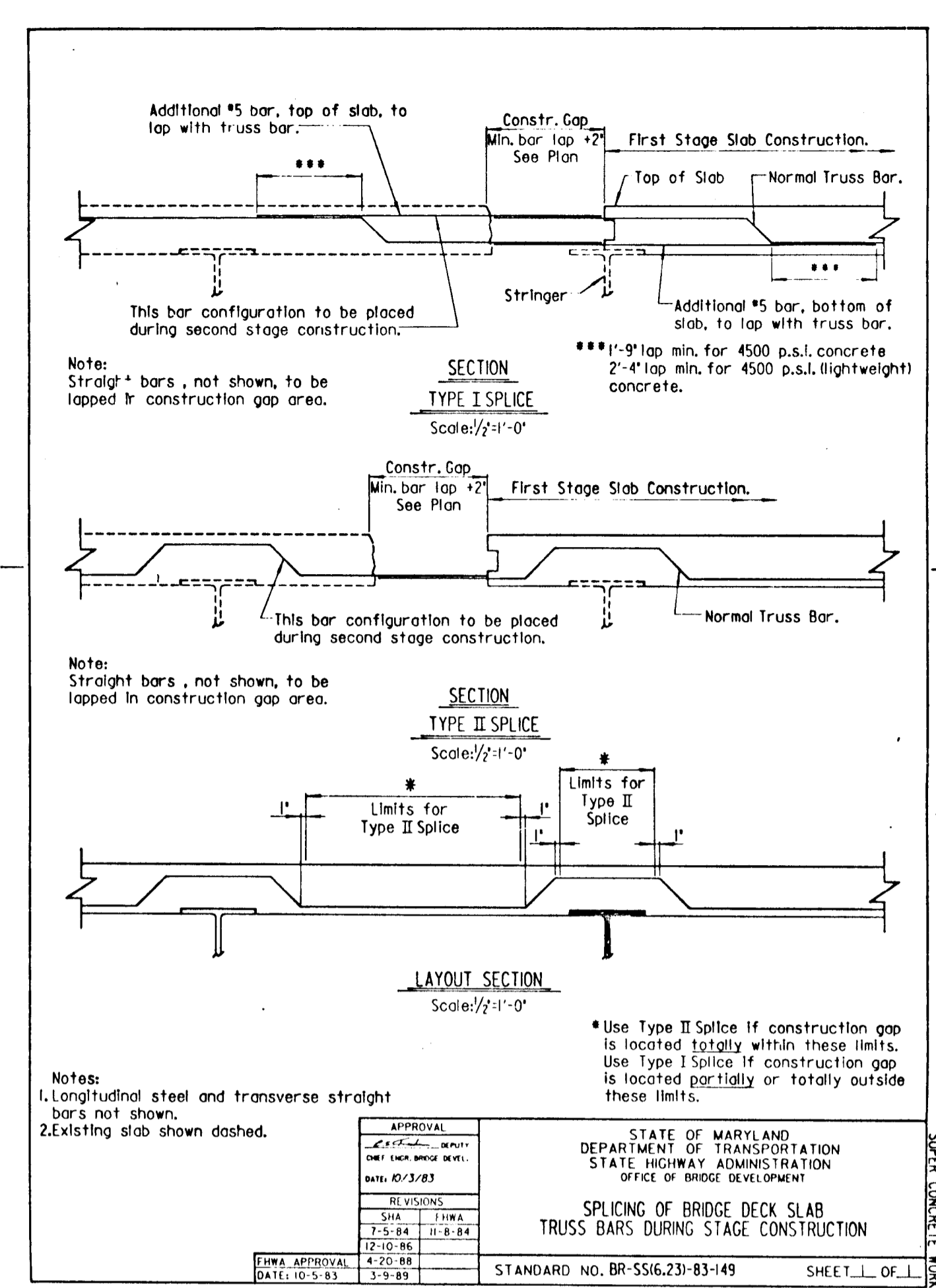
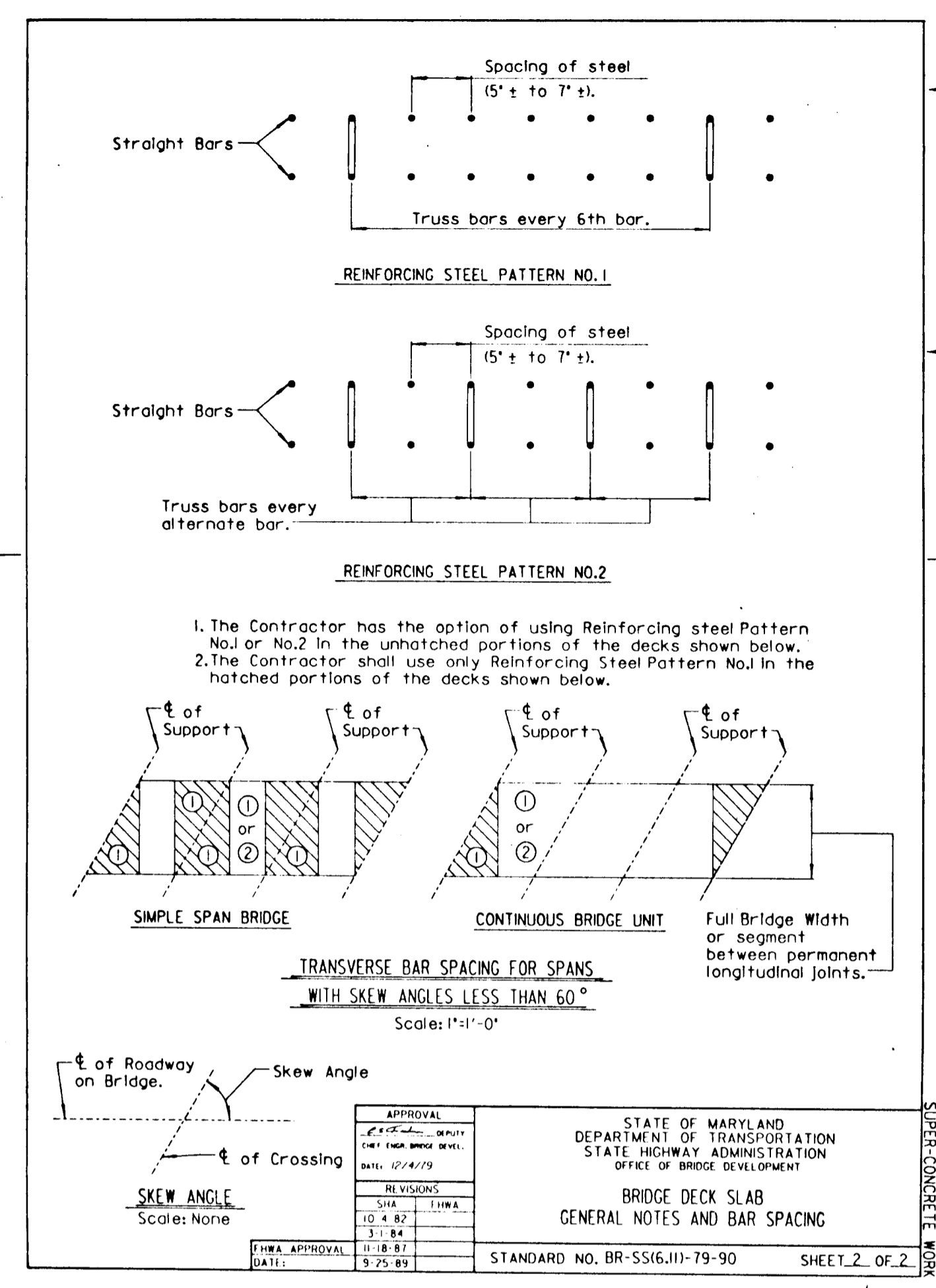
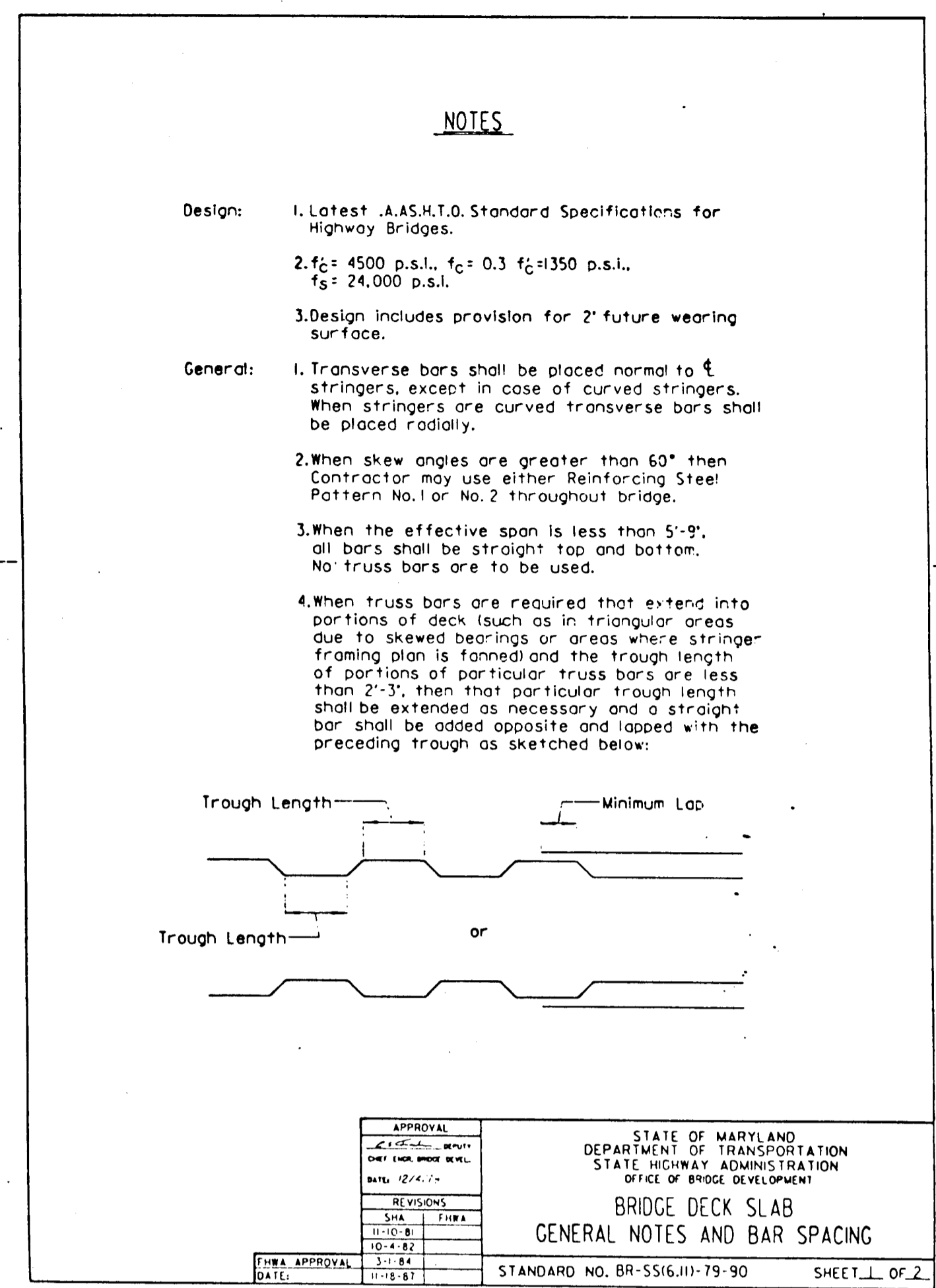
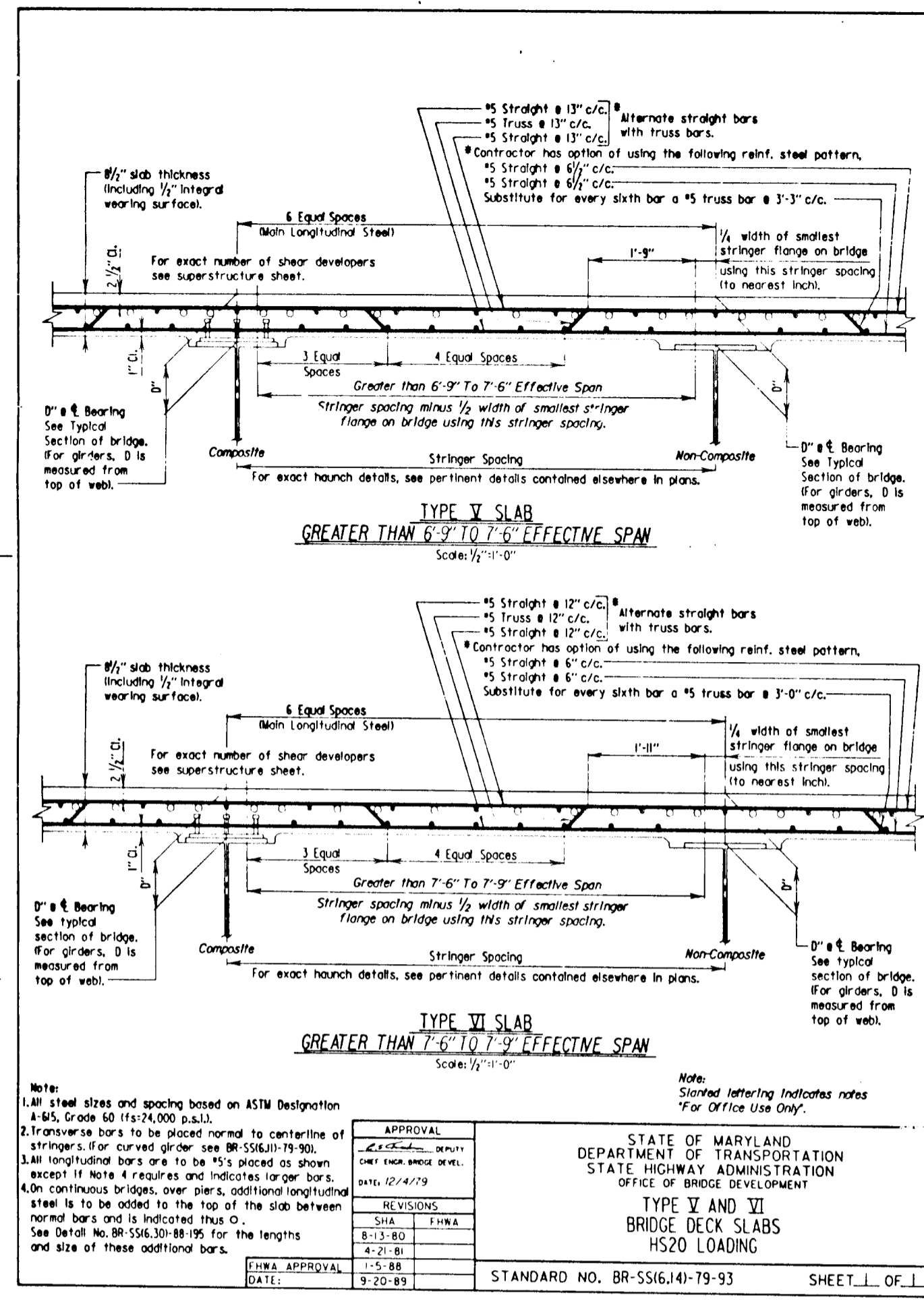
DES:	DED	REVISED CURB HEIGHT	10/90
DRN:			
CHK:			
DATE: 7/23/90	BY NO	REVISION	DATE 600' SCALE MAP NO BLOCK NO

REPLACEMENT OF LARK BROWN ROAD BRIDGE
OVER DORSEY RUN
STANDARD DETAILS
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 17 OF 22

F-90-154 HO 22

S.R. & P.



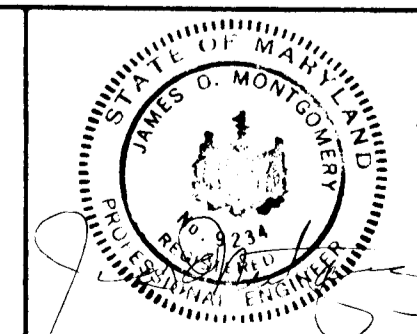
1376

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. Lee 10/24/90
DIRECTOR OF PUBLIC WORKS DATE

Richard E. Riley 10-22-90
CHIEF, BUREAU OF ENGINEERING DATE

Draville W. Weiland 10/16/90
CHIEF, LAND DEVELOPMENT DIVISION DATE



DES:		REVISION	
DRN:		DATE	7/23/90
CHK:		BY	NO
DATE:	7/23/90	REVISION	
DATE:	600' SCALE MAP NO	BLOCK NO.	

REPLACEMENT OF LARK BROWN ROAD BRIDGE
OVER DORSEY RUN
STANDARD DETAILS
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 18 OF 22

F-70-154 HO 11

S.R. & F.R. 7/23

Bar Size	LOCATION CATEGORY		
	A	B	C
#4	2'-5"	1'-9"	1'-5"
#5	3'-0"	2'-2"	1'-9"
#6	3'-7"	2'-7"	2'-1"
#7	4'-10"	3'-6"	2'-9"
#8	6'-5"	4'-7"	3'-8"
#9	8'-1"	5'-9"	4'-8"
#10	10'-3"	7'-4"	5'-10"
#11	12'-7"	9'-0"	7'-2"

*** LOCATION CATEGORY**
 A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as; in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6 inches apart.
 C - All bars not in Category A spaced 6 inches or more apart.

Note:
 1. When bar lap is not specified on the plans, the above dimensions shall be used.
 2. These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
 3. These bar laps only apply where the General Notes indicate "Reinforcing Steel Design: f_y 24,000 psi."

APPROVAL	DATE
REVISIONS	
DATE	

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 DIVISION OF BRIDGE DEVELOPMENT
 BAR LAP DIMENSIONS FOR
 GRADE 60 REINFORCING STEEL
 IN MIX NO. 3 (3500 PSI) CONCRETE

STANDARD NO. M16.071-81-127 SHEET 1 OF 1

Bar Size	LOCATION CATEGORY					
	A	B	C	D	E	F
#4	1'-5"	1'-0"	1'-0"	8"	11"	7"
#5	1'-9"	1'-3"	1'-0"	9"	11"	8"
#6	2'-2"	1'-6"	1'-3"	11"	1'-4"	9"
#7	2'-11"	2'-1"	1'-8"	1'-1"	1'-6"	11"
#8	3'-11"	2'-9"	2'-3"	1'-3"	1'-9"	1'-0"
#9	4'-10"	3'-5"	2'-9"	1'-5"	1'-11"	1'-2"
#10	6'-7"	4'-4"	3'-6"	1'-7"	2'-2"	1'-4"
#11	7'-6"	5'-4"	4'-4"	1'-9"	2'-5"	1'-5"

*** LOCATION CATEGORY**
 A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as; in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6" inches apart.
 C - All bars not in Category A spaced 6" inches or more apart with at least 3" clear cover measured in the direction of the spacing.
 D - All bars terminating with a standard 180° hook with side cover (normal to plane of hook) not less than 2 1/2" and for 90° hook, cover on bar extension beyond hook not less than 2" in.
 E - All bars not in Category D with hook enclosed vertically or horizontally within ties or stirrup-ties spaced along the full development length not greater than 3d where d is the diameter of the hooked bar.
 F - All bars in Category D with hook enclosed vertically or horizontally within ties or stirrup-ties spaced along the full development length not greater than 3d where d is the diameter of the hooked bar.

Note:
 1. When development length is not specified on the plans, the above dimensions shall be used.
 2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 3. These development lengths only apply where the general notes indicate "Reinforcing Steel Design: f_y 24,000 PSI."
 4. If depth of member does not allow bar development length indicated in Categories A, B and C, then hook shall be added to all bars not conforming as per D, E & F.

APPROVAL	DATE
REVISIONS	
DATE	

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 DIVISION OF BRIDGE DEVELOPMENT
 DEVELOPMENT LENGTH DIMENSIONS FOR
 GRADE 60 REINFORCING STEEL
 IN MIX NO. 3 (3500 PSI) CONCRETE

STANDARD NO. M16.081-86-178 SHEET 1 OF 1

Bar Size	LOCATION CATEGORY		
	A	B	C
#4	2'-5"	1'-9"	1'-5"
#5	3'-0"	2'-2"	1'-9"
#6	3'-7"	2'-7"	2'-1"
#7	4'-4"	3'-1"	2'-6"
#8	5'-8"	4'-0"	3'-3"
#9	7'-2"	5'-1"	4'-1"
#10	9'-0"	6'-6"	5'-2"
#11	11'-1"	7'-11"	6'-4"

*** LOCATION CATEGORY**
 A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as; in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6 inches apart.
 C - All bars not in Category A spaced 6 inches or more apart.

Note:
 1. When bar lap is not specified on the plans, the above dimensions shall be used.
 2. These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
 3. These bar laps only apply where the General Notes indicate "Reinforcing Steel Design: f_y 24,000 psi."

APPROVAL	DATE
REVISIONS	
DATE	

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 DIVISION OF BRIDGE DEVELOPMENT
 BAR LAP DIMENSIONS FOR
 GRADE 60 REINFORCING STEEL
 IN MIX NO. 6 (4500 PSI) CONCRETE

STANDARD NO. M16.051-80-122 SHEET 1 OF 1

Bar Size	LOCATION CATEGORY					
	A	B	C	D	E	F
#4	1'-5"	1'-0"	1'-0"	7"	9"	6"
#5	1'-9"	1'-3"	1'-0"	8"	1'-0"	7"
#6	2'-2"	1'-6"	1'-3"	10"	1'-2"	8"
#7	2'-7"	1'-10"	1'-6"	11"	1'-4"	9"
#8	3'-5"	2'-5"	2'-0"	1'-1"	1'-8"	11"
#9	4'-3"	3'-0"	2'-5"	1'-3"	1'-9"	1'-0"
#10	5'-3"	3'-9"	3'-0"	1'-4"	1'-11"	1'-1"
#11	6'-7"	4'-8"	3'-9"	1'-6"	2'-2"	1'-3"

*** LOCATION CATEGORY**
 A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as; in footings, pier caps, etc.
 B - All bars not in Category A spaced less than 6" inches apart.
 C - All bars not in Category A spaced 6" inches or more apart with at least 3" clear cover measured in the direction of the spacing.
 D - All bars terminating with a standard 180° hook with side cover (normal to plane of hook) not less than 2 1/2" and for 90° hook, cover on bar extension beyond hook not less than 2" in.
 E - All bars not in Category D with hook enclosed vertically or horizontally within ties or stirrup-ties spaced along the full development length not greater than 3d where d is the diameter of the hooked bar.
 F - All bars in Category D with hook enclosed vertically or horizontally within ties or stirrup-ties spaced along the full development length not greater than 3d where d is the diameter of the hooked bar.

Note:
 1. When development length is not specified on the plans, the above dimensions shall be used.
 2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
 3. These development lengths only apply where the general notes indicate "Reinforcing Steel Design: f_y 24,000 PSI."
 4. If depth of member does not allow bar development length indicated in Categories A, B and C, then hook shall be added to all bars not conforming as per D, E & F.

APPROVAL	DATE
REVISIONS	
DATE	

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 DIVISION OF BRIDGE DEVELOPMENT
 DEVELOPMENT LENGTH DIMENSIONS FOR
 GRADE 60 REINFORCING STEEL
 IN MIX NO. 6 (4500 PSI) CONCRETE

STANDARD NO. M16.101-86-180 SHEET 1 OF 1

10"x10"x8" or 10"x12"x8" Galv. C.I. Junction Box with cover 10.2 Electrical Mfg. Co., Spring City Electrical Mfg. Co., or Grause Hinds as approved by the Engr. Provide holes in box for 4" conduit. All surfaces of conduits, boxes, fittings etc. that are not exposed are to be coated with one coat of RIC-B-5 tar.

Note: Details shown are for single rail; double rail and fencing details are similar. On bridges with no fencing or railing see General Plan and Elevation for parapet control joint spacing.

Scale: 1/2" = 1'-0"

SECTION A-A
 Scale: None

DETAIL OF VERTICAL ARCHITECTURAL DUMMY CONTROL JT. FOR END POSTS
 Scale: None

Use this detail only when grooves are shown on General Plan and Elevation.

Note:
 1. Place vertical paraffin joint at center of every roll panel. Joints shall be formed by placing alternate sections.
 2. The placement of adjacent sections shall have a 40 hour delay between placements.
 3. A paraffin coating shall be applied at every joint.
 4. No reinforcing steel shall pass through joint.
 5. Conduit may be either PVC or Galvanized Pipe.

APPROVAL	DATE
REVISIONS	
DATE	

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 OFFICE OF BRIDGE DEVELOPMENT
 PARAPET CONTROL JOINTS AND
 CONDUIT PLACEMENT

STANDARD NO. BR-SS16.091-78-70 SHEET 1 OF 2

Do not chamfer

Do not chamfer

Do not chamfer

Do not chamfer

1/4" Radius Groove

1/4" Radius Groove

SECTION B-B
 Scale: 3/8" = 1'-0"

SECTION C-C
 Scale: Full

Paraffin Joint

1/4" R.

Note:
 1. Paraffin joint shown hatched.
 2. Railing and/or fencing not shown.

APPROVAL	DATE
REVISIONS	
DATE	

STATE OF MARYLAND
 DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION
 OFFICE OF BRIDGE DEVELOPMENT
 PARAPET CONTROL JOINTS AND
 CONDUIT PLACEMENT

STANDARD NO. BR-SS16.091-84(78)-70 SHEET 2 OF 2

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James P. ... 10/24/90
 Director of Public Works

Ch. ... 10/22/90
 Chief, Bureau of Engineering

Travis W. ... 10/16/90
 Chief, Bureau of Highways

Ch. M. ... 10/24/90
 Chief, Land Development Division

Professional Engineer
 State of Maryland
 License No. ...

DES:	
DRN:	
CHK:	
DATE: 7/23/90	
BY NO.	
REVISION	
DATE	
600 SCALE MAP NO.	
BLOCK NO.	

REPLACEMENT OF LARK BROWN ROAD BRIDGE
 OVER DORSEY RUN
 STANDARD DETAILS
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 19 OF 22

F-90-154 H011

GENERAL NOTES

MATERIALS

Concrete: All concrete shall meet the requirements of Mix No. 6 (4500 p.s.i.)
 Reinforcing Steel: All wire fabric shall be 4" x 4" - W4 x W4.
 Structural Steel: All structural steel shall meet the requirements of ASTM, A-36 or better.
 Anchor Bolts: All anchor bolts shall be as indicated in details. If not specified this shall be A.S.T.M. - A 325.
 Coating: Face adjacent to roadway and top of precast barrier to be coated with two coats of white epoxy paint. Cost of coatings to be included in bid price for the barrier, or item which includes barrier.

METHODS OF ANCHORAGE CONNECTION TO CONCRETE DECKS

EXISTING BRIDGE DECK TO BE REMOVED.
 Holes for anchor bolts in existing bridge deck shall be drilled. Use 1/4" bolts with 5/16" x 5/16" x 3/4" square washers under existing deck slab, as shown. Bolts shall be of sufficient length that when nut is tight, all the threads of the nut are engaged. Provide Type 'A' plain washer SAE N (narrow) for each 1/4" bolt at connection plate.

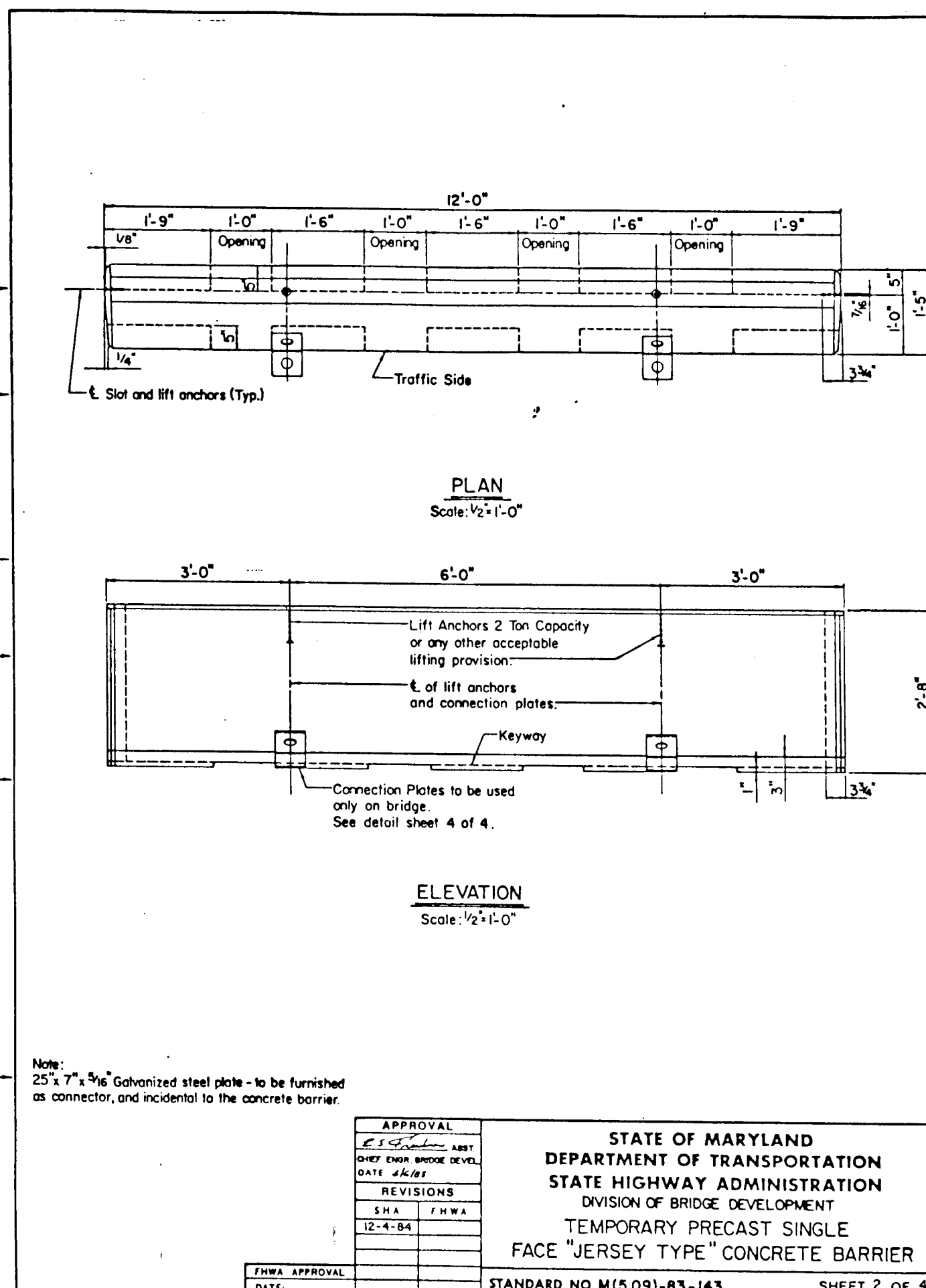
EXISTING BRIDGE DECK TO REMAIN.
 Holes for anchor bolts in existing bridge deck shall be cored. Use 1/4" bolts with 5/16" x 5/16" x 3/4" square washers under existing deck slab, as shown. Bolts shall be of sufficient length that when nut is tight, all the threads of the nut are engaged. Provide Type 'A' plain washer SAE N (narrow) for each 1/4" bolt at connection plate. The Contractor is alerted, that it is the intent, that as little damage as possible will be done to the reinforcing steel in the bridge deck. Therefore, the Contractor shall locate the reinforcing steel and space the bolts to miss the reinforcing steel, all as directed by the Engineer. Fill all core holes with epoxy grout after barrier is removed. (See below for grout composition).

NEW BRIDGE DECK.
 1/4" bolt to be placed in an epoxy coated open coil anchor insert (cast in slab) whose minimum working load tension strength is 16,000# and shear strength is 13,000# with a minimum length of 7 1/2". Call to be spaced for 5/16" N.C. thread bolt. No insert shall be longer than slab depth, minus 1". Provide Type 'A' plain washer SAE N (narrow) for each 1/4" bolt at connection plate. Fill all inserts with epoxy grout after barrier is removed. (See below for grout composition).

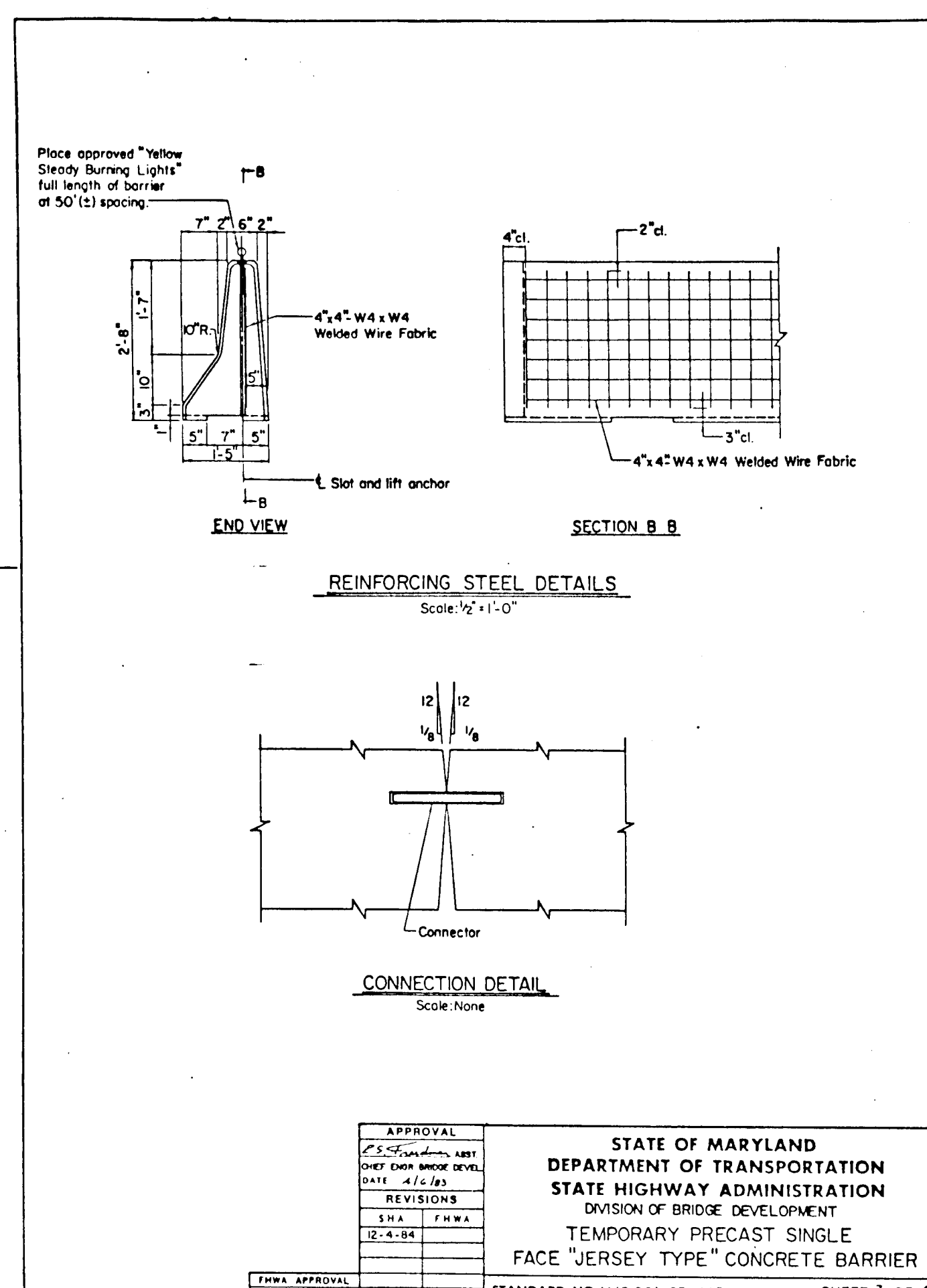
GROUT COMPOSITION

Any areas of bridge decks to remain in place, damaged as a result of anchoring temporary concrete barrier (anchor holes, etc.) shall be repaired to the satisfaction of the Engineer using an epoxy grout. Epoxy grout shall consist of sand and epoxy, mixed by volume according to manufacturers recommendations. The epoxy grout shall be capable of developing a minimum compressive strength of 6,500 p.s.i. in 72 hours when tested in accordance with MSMT 501. Sand for epoxy grout shall conform to the Specifications Subsection 903.11.

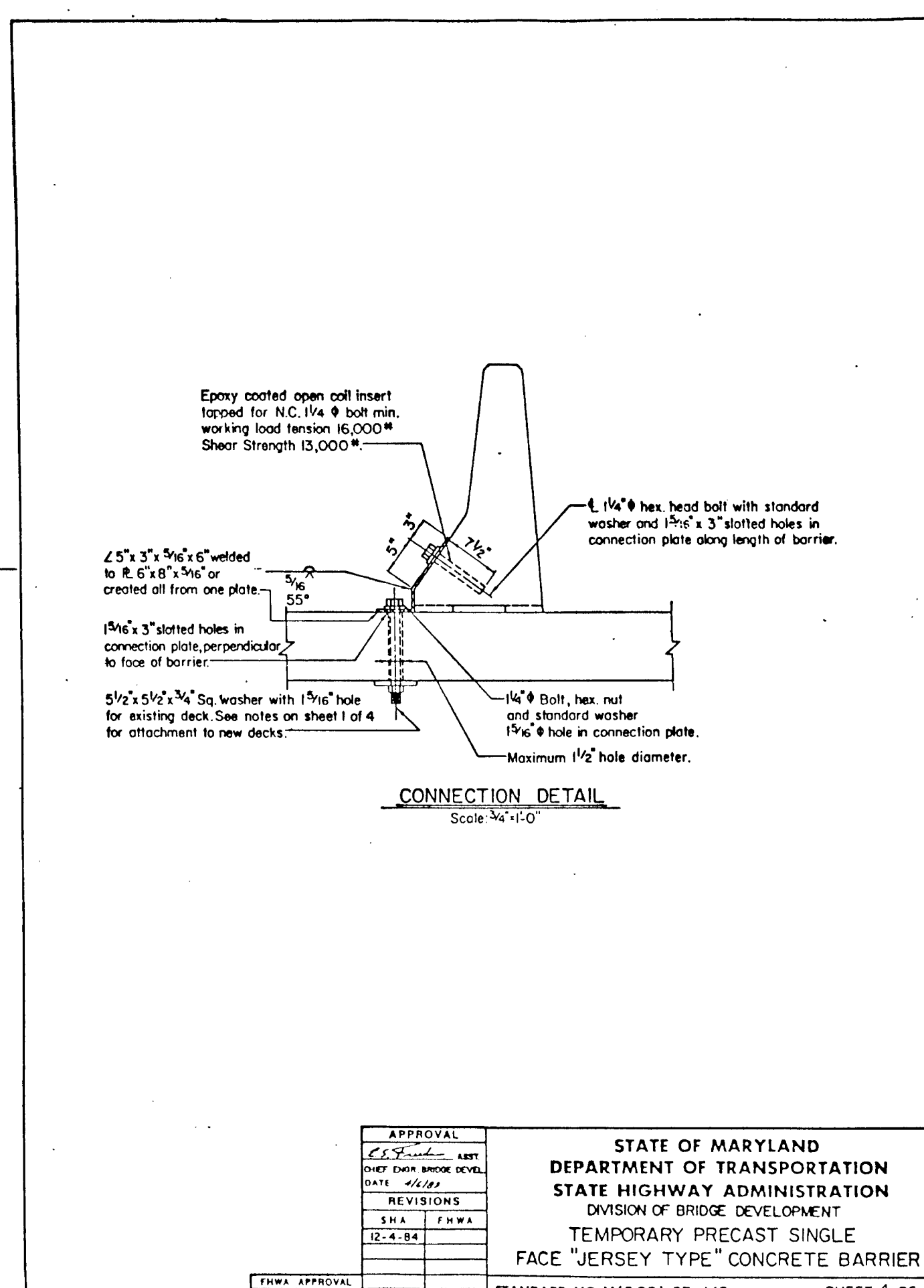
APPROVAL	STATE OF MARYLAND
DATE: 10-16-90	DEPARTMENT OF TRANSPORTATION
REVISIONS	STATE HIGHWAY ADMINISTRATION
SHA F.H.W.A.	DIVISION OF BRIDGE DEVELOPMENT
8-29-83	TEMPORARY PRECAST SINGLE
12-4-84	FACE "JERSEY TYPE" CONCRETE BARRIER
DATE: 10-16-90	STANDARD NO. M(5.09)-83-143
	SHEET 1 OF 4



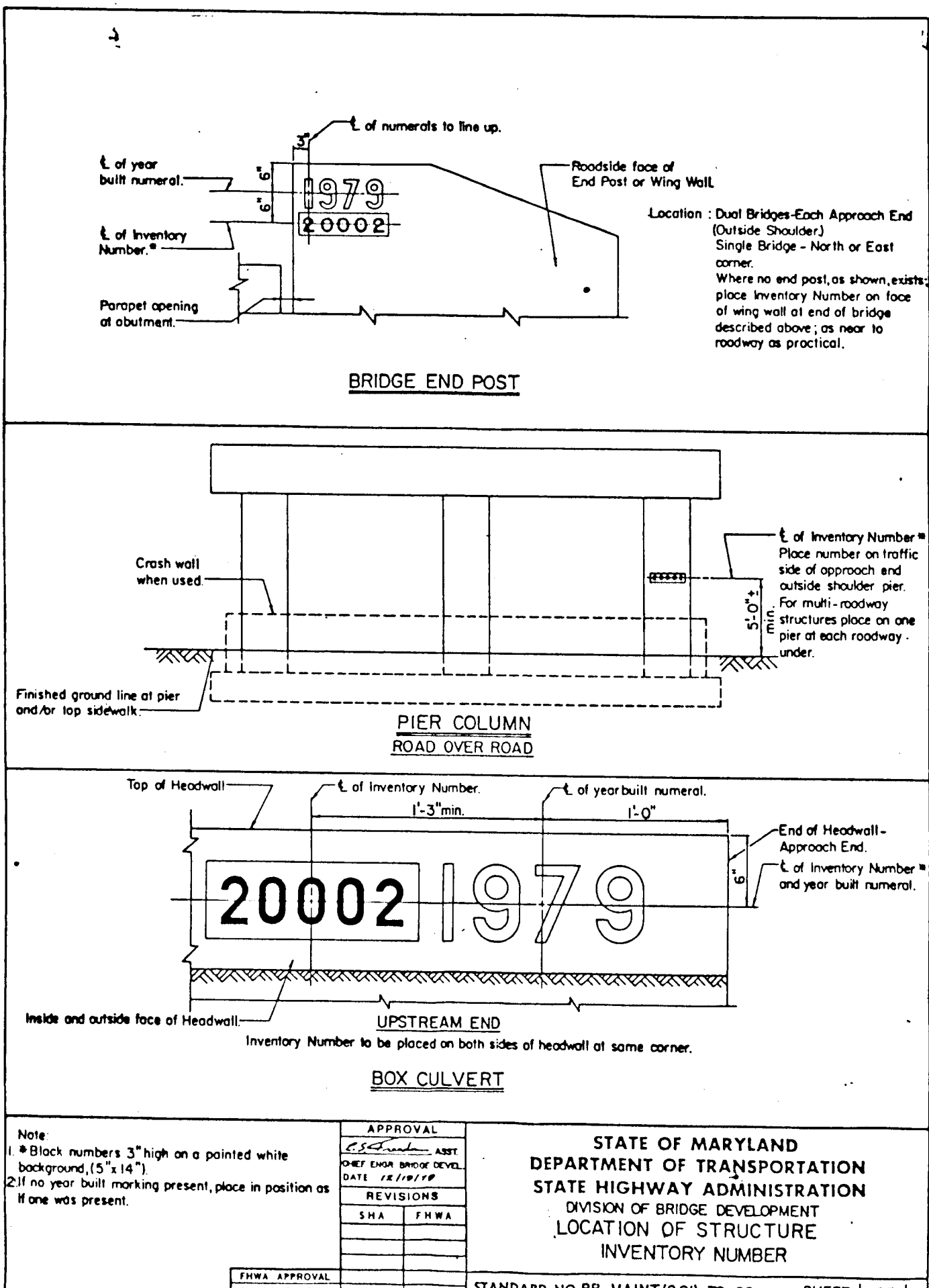
APPROVAL	STATE OF MARYLAND
DATE: 10-16-90	DEPARTMENT OF TRANSPORTATION
REVISIONS	STATE HIGHWAY ADMINISTRATION
SHA F.H.W.A.	DIVISION OF BRIDGE DEVELOPMENT
12-4-84	TEMPORARY PRECAST SINGLE
DATE: 10-16-90	FACE "JERSEY TYPE" CONCRETE BARRIER
	STANDARD NO. M(5.09)-83-143
	SHEET 2 OF 4



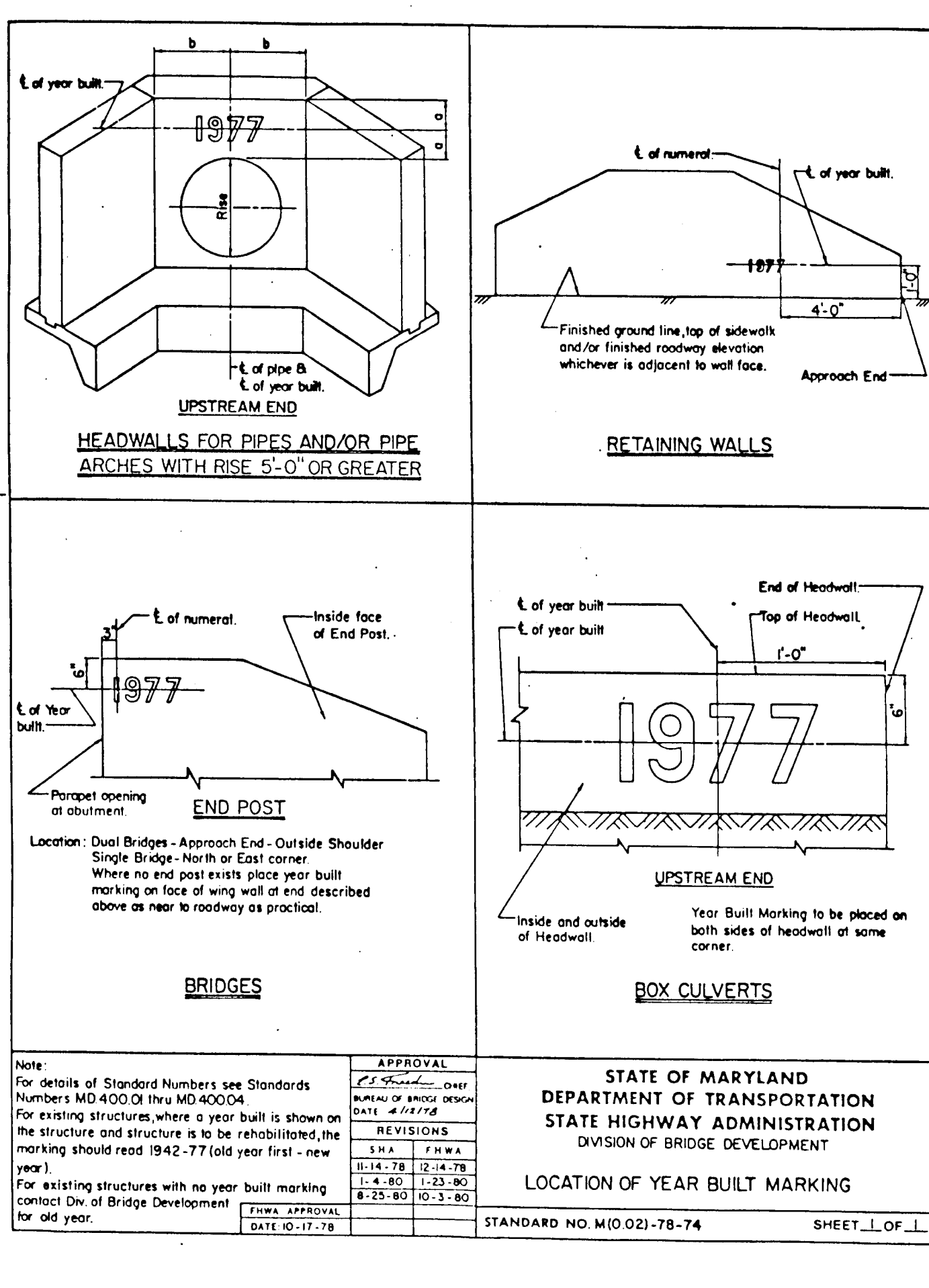
APPROVAL	STATE OF MARYLAND
DATE: 10-16-90	DEPARTMENT OF TRANSPORTATION
REVISIONS	STATE HIGHWAY ADMINISTRATION
SHA F.H.W.A.	DIVISION OF BRIDGE DEVELOPMENT
12-4-84	TEMPORARY PRECAST SINGLE
DATE: 10-16-90	FACE "JERSEY TYPE" CONCRETE BARRIER
	STANDARD NO. M(5.09)-83-143
	SHEET 3 OF 4



APPROVAL	STATE OF MARYLAND
DATE: 10-16-90	DEPARTMENT OF TRANSPORTATION
REVISIONS	STATE HIGHWAY ADMINISTRATION
SHA F.H.W.A.	DIVISION OF BRIDGE DEVELOPMENT
12-4-84	TEMPORARY PRECAST SINGLE
DATE: 10-16-90	FACE "JERSEY TYPE" CONCRETE BARRIER
	STANDARD NO. M(5.09)-83-143
	SHEET 4 OF 4



APPROVAL	STATE OF MARYLAND
DATE: 10-16-90	DEPARTMENT OF TRANSPORTATION
REVISIONS	STATE HIGHWAY ADMINISTRATION
SHA F.H.W.A.	DIVISION OF BRIDGE DEVELOPMENT
10-16-90	LOCATION OF STRUCTURE
DATE: 10-16-90	INVENTORY NUMBER
	STANDARD NO. BR-MAINT(0.01)-79-99
	SHEET 1 OF 1



APPROVAL	STATE OF MARYLAND
DATE: 10-16-90	DEPARTMENT OF TRANSPORTATION
REVISIONS	STATE HIGHWAY ADMINISTRATION
SHA F.H.W.A.	DIVISION OF BRIDGE DEVELOPMENT
10-16-90	LOCATION OF YEAR BUILT MARKING
DATE: 10-16-90	
	STANDARD NO. M(0.02)-78-74
	SHEET 1 OF 1

1300

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works: *Thomas W. Weiland* 10/16/90
 Chief, Bureau of Engineering: *John M. Morgan* 10/22/90
 Chief, Land Development Division: *John M. Morgan* 10/22/90

DES: _____
 DRN: _____
 CHK: _____
 DATE: 7/23/90

BY: _____ NO: _____

REVISION: _____

DATE: _____ BLOCK NO: _____

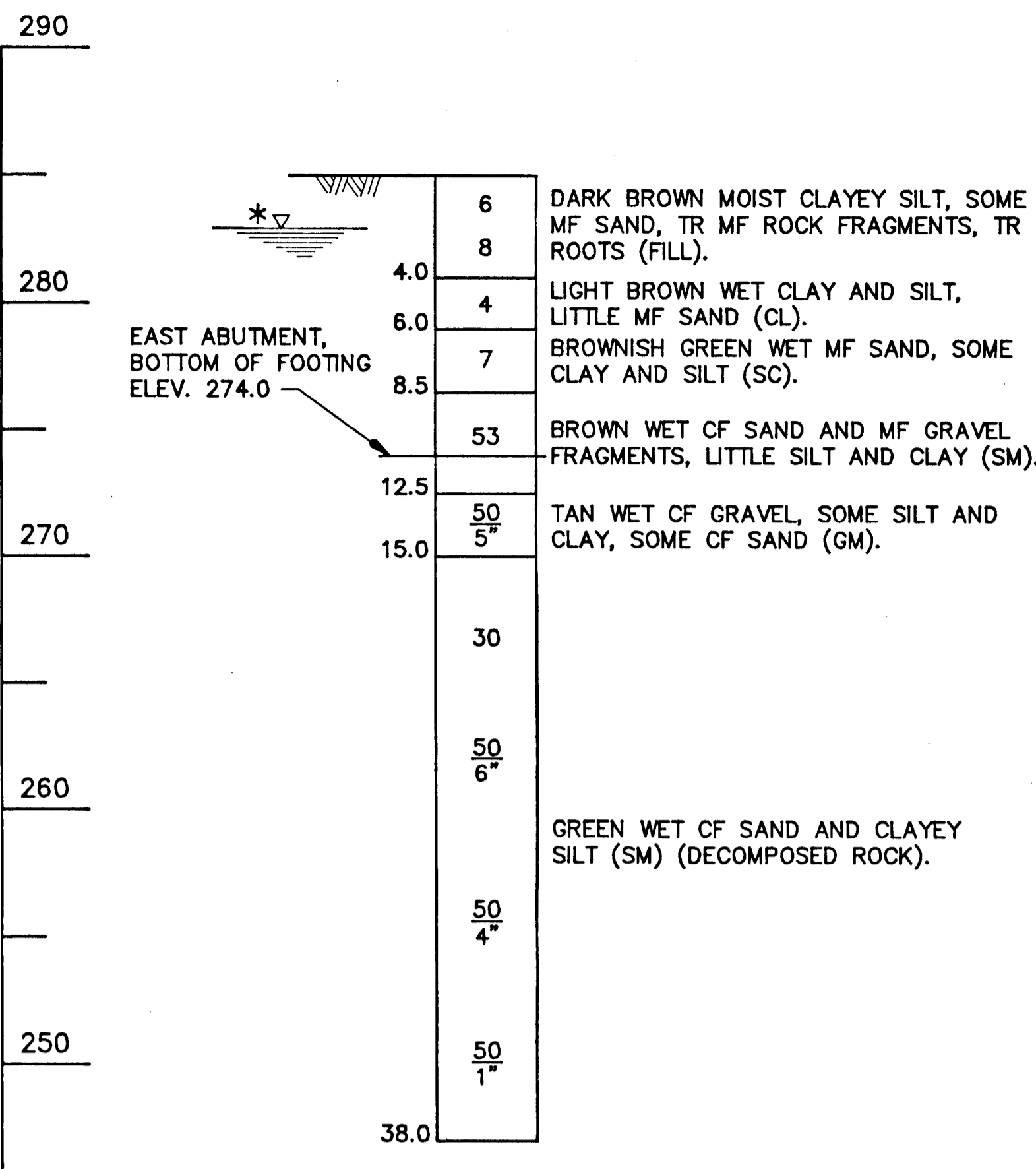
REPLACEMENT OF LARK BROWN ROAD BRIDGE
 OVER DORSEY RUN
 STANDARD DETAILS
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 20 OF 22

F-90-154 H011

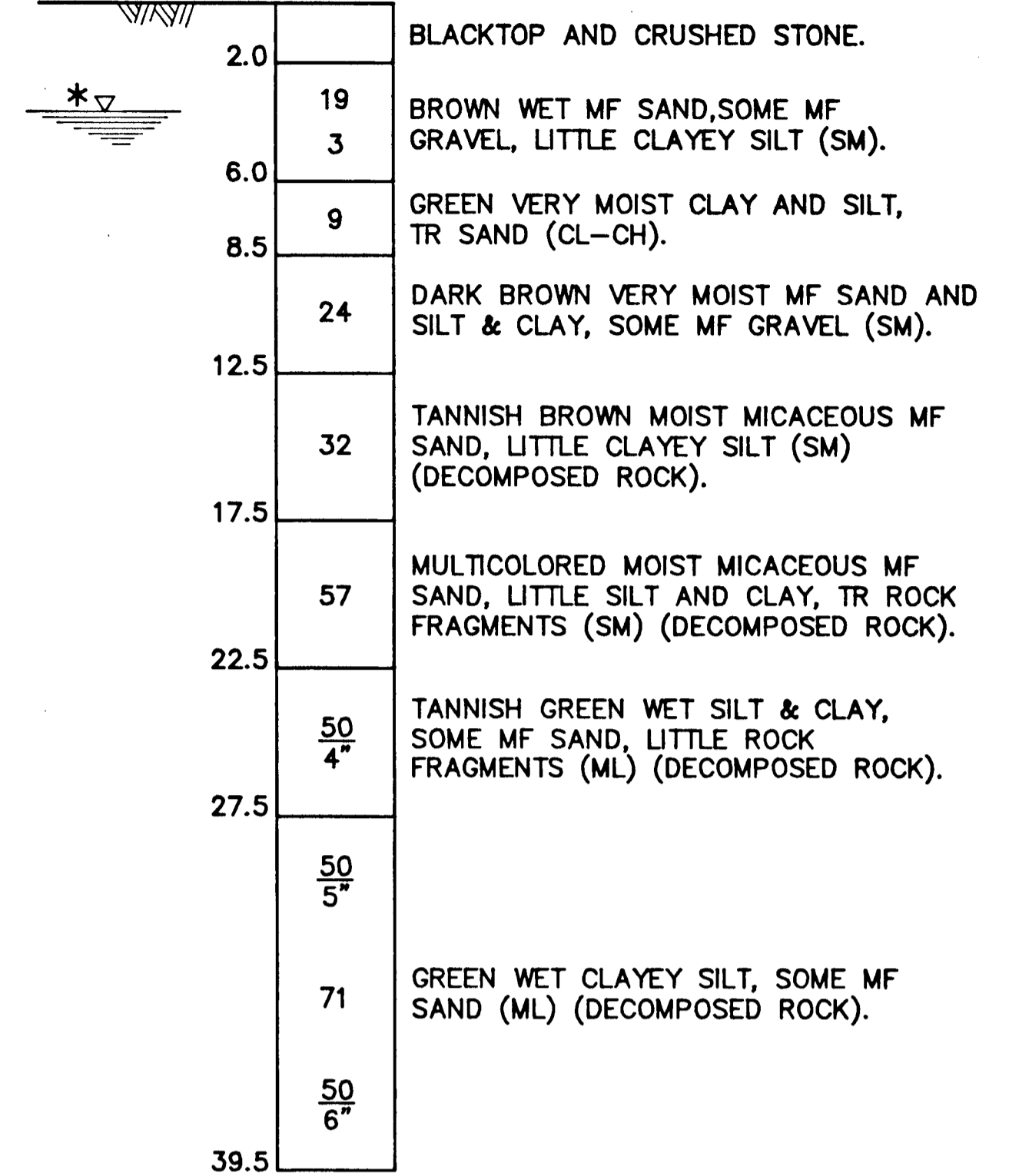
S.E. & E.E. 7/23



NOTE:
AT COMPLETION OF BORING, WATER AT 4.1',
HOLE CAVED AT 36.0'.
* 24 HRS. AFTER COMPLETION, WATER AT
2.0'; HOLE CAVED AT 14.0'.

BORING AND DRIVE TEST B-1

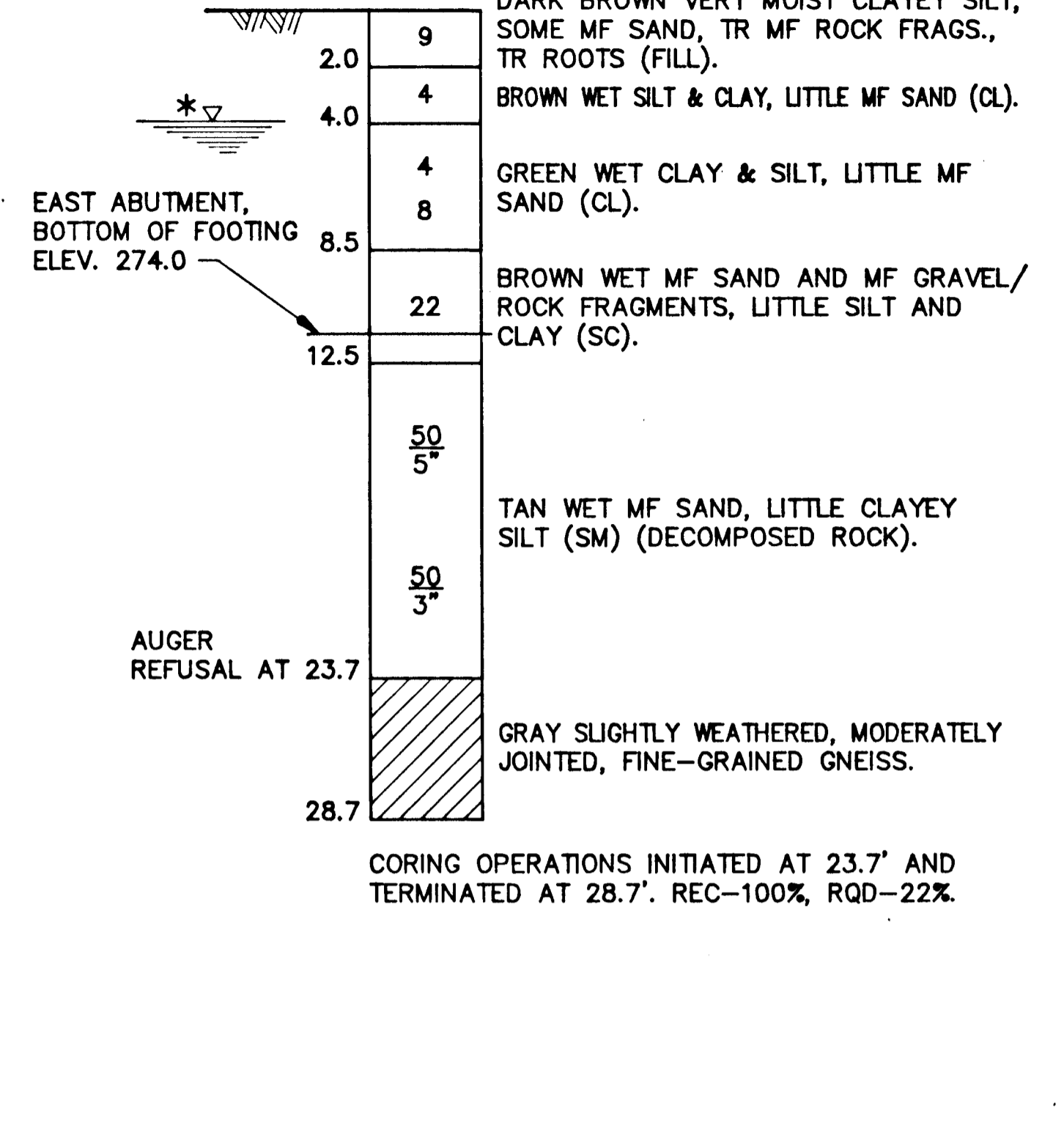
SCALE: 1" = 5' (VERTICAL)



NOTE:
AT COMPLETION OF BORING, WATER AT 5.0',
HOLE CAVED AT 33.7'.
* 24 HRS. AFTER COMPLETION, WATER AT
3.7'; HOLE CAVED AT 21.8'.

BORING AND DRIVE TEST B-2

SCALE: 1" = 5' (VERTICAL)

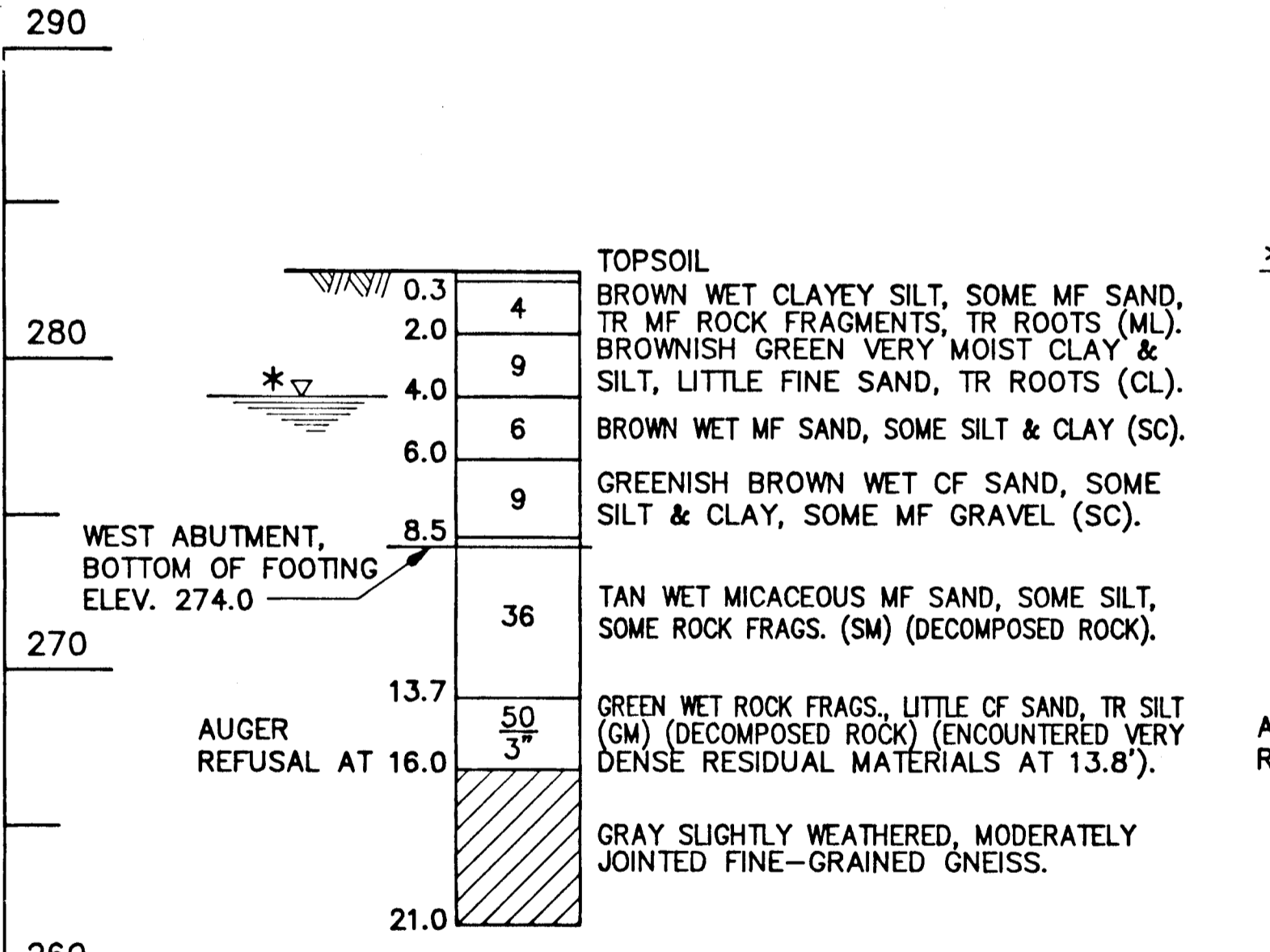


NOTE:
AT COMPLETION OF BORING, WATER AT 4.5',
HOLE CAVED AT 18.9'.
* 24 HRS. AFTER COMPLETION, WATER AT
3.9'; HOLE CAVED AT 12.9'.

BORING AND DRIVE TEST B-3

SCALE: 1" = 5' (VERTICAL)

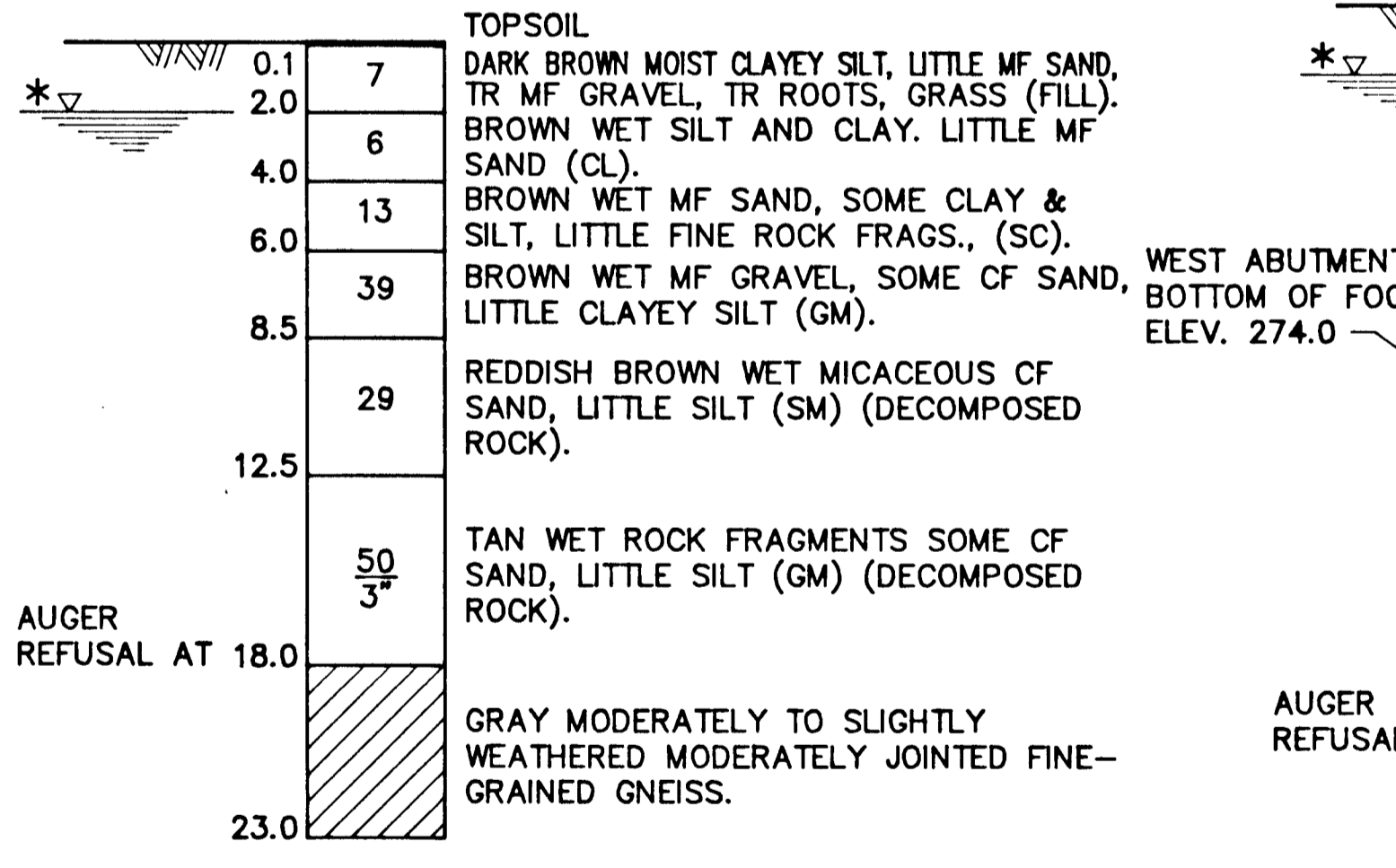
- NOTES:**
- BORINGS B-1 THROUGH B-6 WERE PERFORMED BY THE ROBERT B. BALTER COMPANY, DURING MARCH, 1990.
 - FIGURES IN COLUMNS ON BORING PROFILES ARE STANDARD PENETRATION TEST (SPT) RESULTS, WHICH REPRESENT THE NUMBER OF BLOWS REQUIRED TO DRIVE A STANDARD 2" O.D. SAMPLING SPOON ONE FOOT, UNLESS OTHERWISE NOTED, WITH A 140 LB. HAMMER FREELY FALLING 30".
 - METHOD OF BURMISTER SOIL CLASSIFICATION IS EXPLAINED ON IDENTIFICATION OF SOIL SAMPLES.
 - UNIFIED SOIL CLASSIFICATION DESIGNATIONS BASED UPON VISUAL EXAMINATION.
 - SOILS DESCRIBED AS "DECOMPOSED ROCK" ON THE BORING PROFILES REPRESENT SOILS WHICH EXHIBIT THE REMNANT STRUCTURE OF THE ROCK.
 - SOILS DESCRIBED AS "FILL" ON THE BORING PROFILES REPRESENT MATERIALS WHICH APPEAR TO HAVE BEEN PLACED BY MECHANICAL MEANS RATHER THAN NATURAL MEANS.
 - ROCK RECOVERY (REC): RATIO OF THE LENGTH OF ACTUAL ROCK CORE RECOVERED TO THE LENGTH OF THE CORE RUN.
 - ROCK QUALITY DESIGNATION (RQD): RATIO OF INTACT ROCK CORE PIECES GREATER THAN 4 INCHES IN LENGTH TO THE LENGTH OF THE CORE RUN.



*NOTE:
AT COMPLETION OF BORING, WATER AT 4.0',
HOLE CAVED AT 13.7'.
-BORING BACKFILLED BY OTHERS.

BORING AND DRIVE TEST B-4

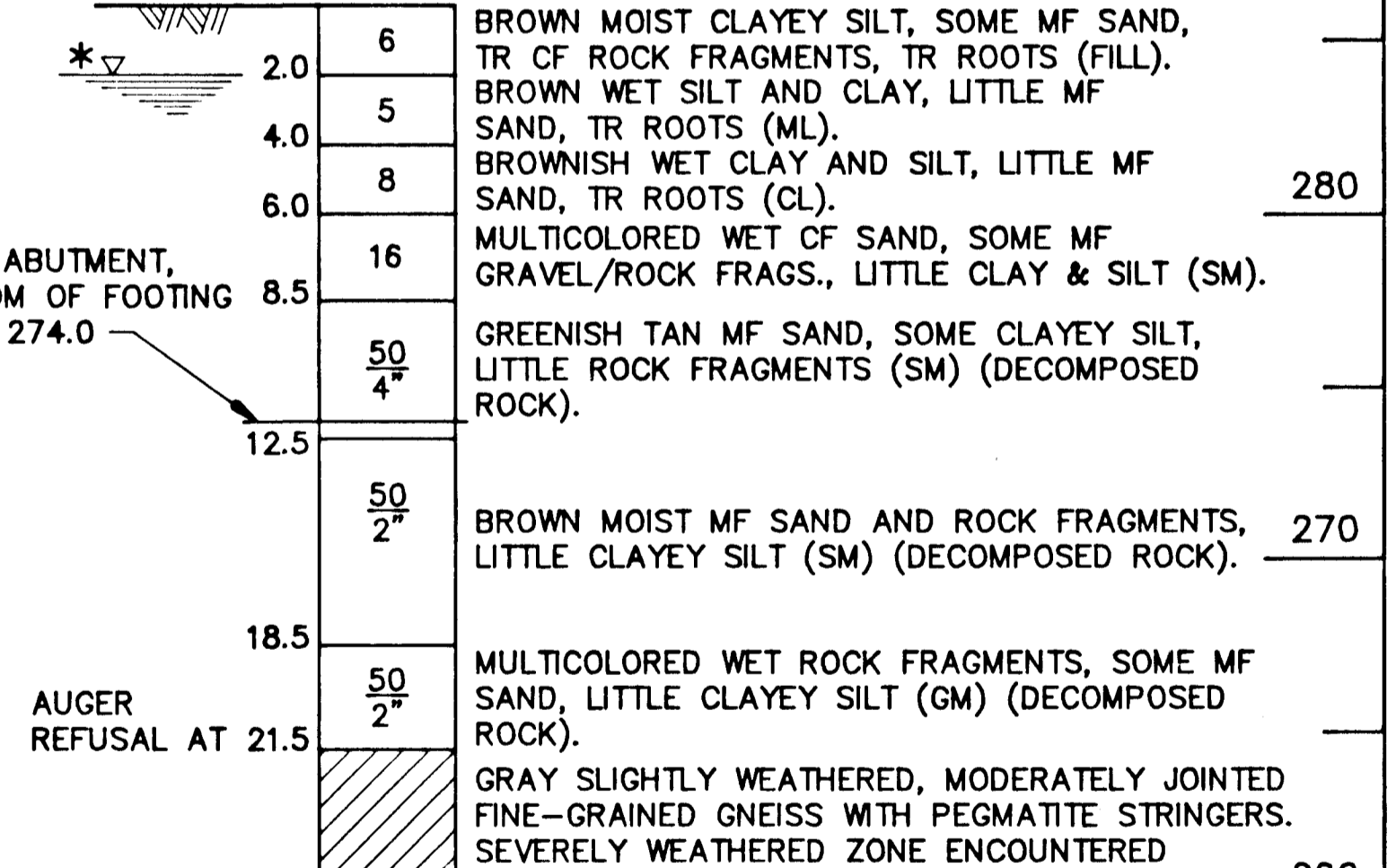
SCALE: 1" = 5' (VERTICAL)



*NOTE:
AT COMPLETION OF BORING, WATER AT 2.0',
HOLE CAVED AT 8.5'.
-BORING BACKFILLED BY OTHERS.

BORING AND DRIVE TEST B-5

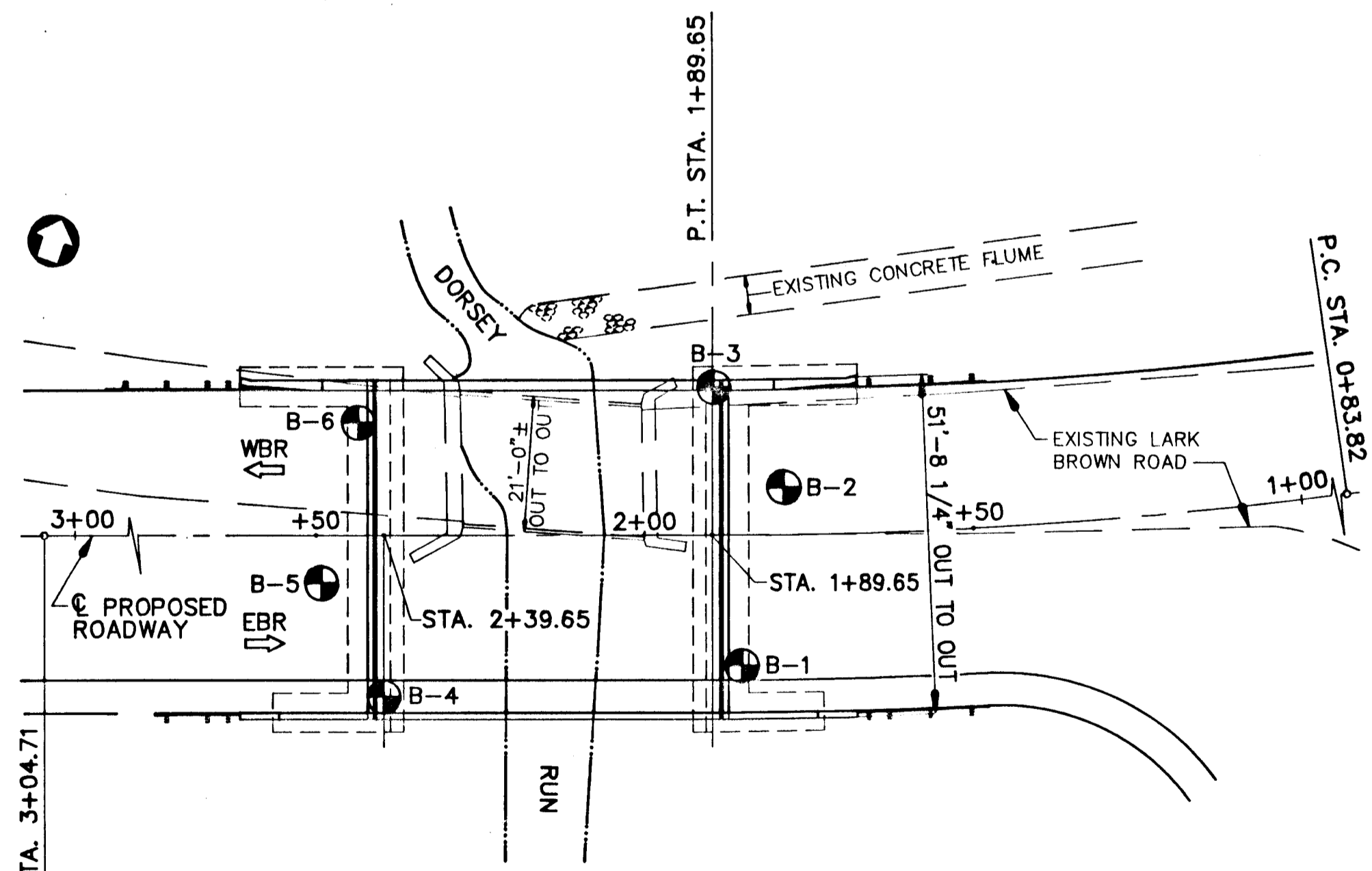
SCALE: 1" = 5' (VERTICAL)



*NOTE:
AT COMPLETION OF BORING, WATER AT 4.8',
HOLE CAVED AT 18.2'.
* 24 HRS. AFTER COMPLETION, WATER AT
2.0', HOLE CAVED AT 14.0'.

BORING AND DRIVE TEST B-6

SCALE: 1" = 5' (VERTICAL)

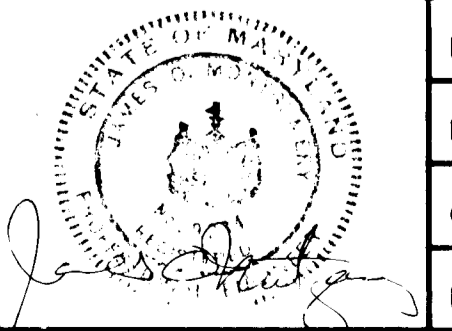


BORINGS AND DRIVE TEST LOCATION PLAN

SCALE: 1" = 20'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
James W. Weiland 10/16/90
Chief, Bureau of Highways
19916

WALLACE, MONTGOMERY & ASSOCIATES
1544 YORK ROAD
LUTHERVILLE, MARYLAND 21093
(301) 494-9093

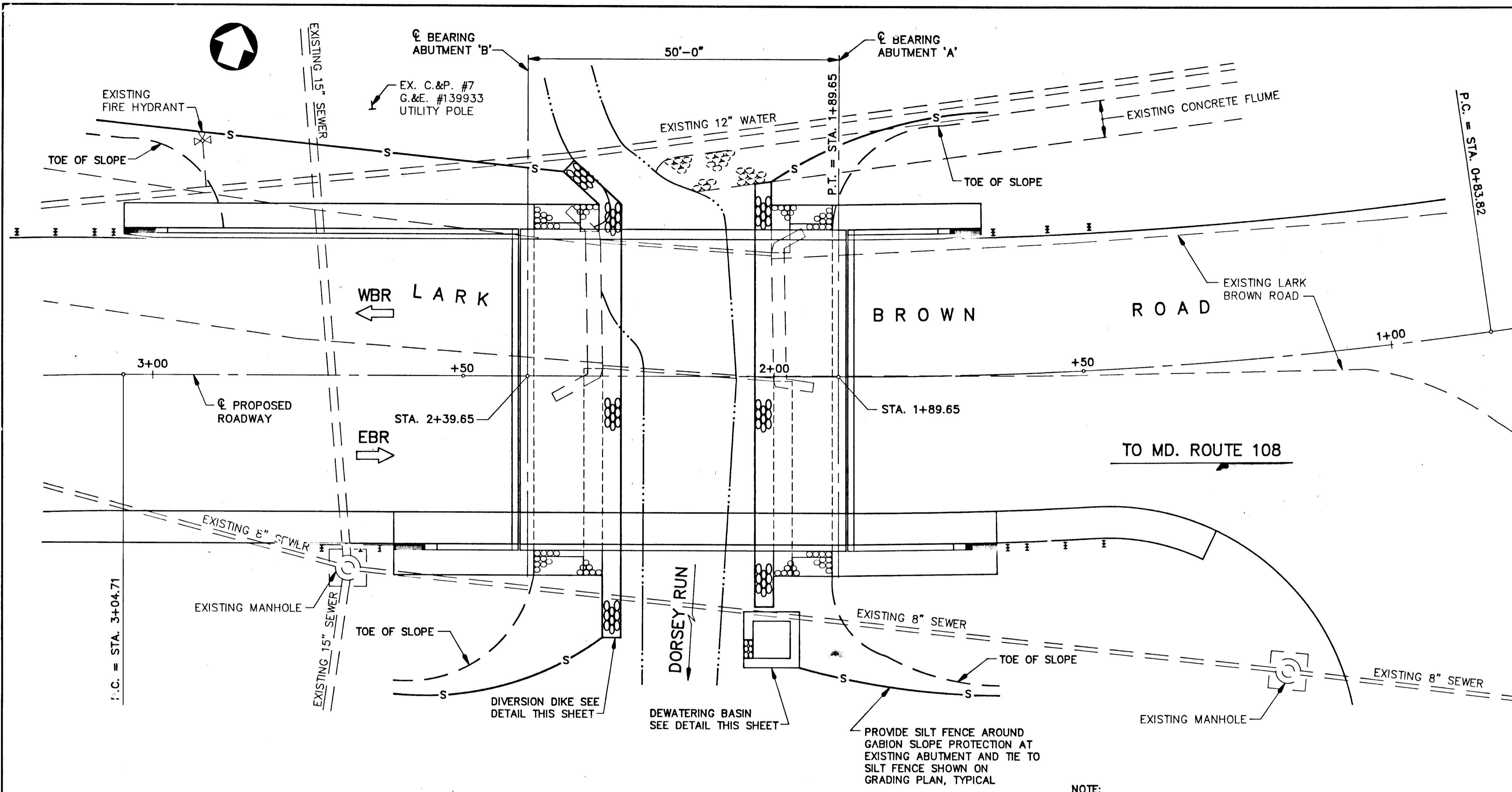


DES: G.C.N.	
DRN: S.W.S.	
CHK: C.T.K.	
DATE: 7/23/90	
BY: NO.	
REVISION	
DATE	
600' SCALE MAP NO.	
BLOCK NO.	

REPLACEMENT OF LARK BROWN ROAD BRIDGE
OVER DORSEY RUN
BORINGS AND DRIVE TESTS
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 21 OF 22

F-90-154 H011

S.R. & P.R. 7/23/90



PLAN
SCALE: 1" = 10'

NOTE:
FOR EROSION AND SEDIMENT CONTROL DETAILS
NOT SHOWN SEE GRADING PLANS.

GENERAL NOTES

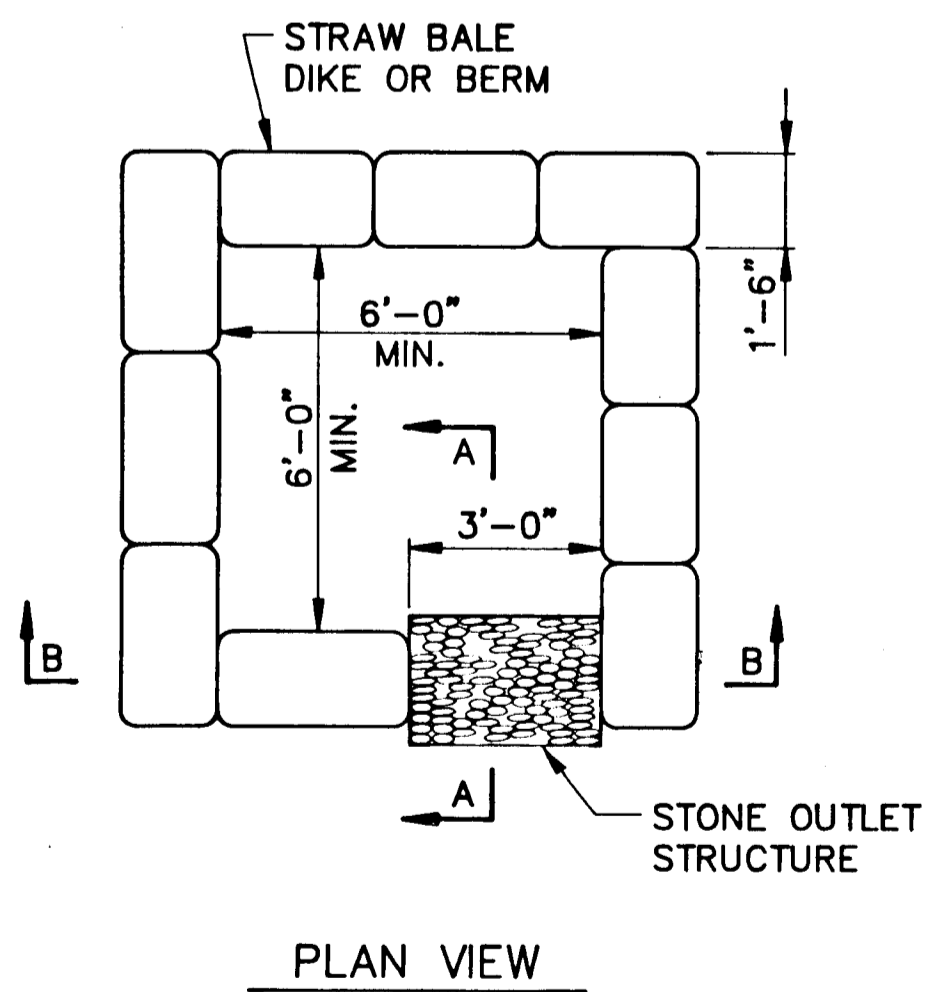
1. THESE STREAM MAINTENANCE DETAILS ARE SUGGESTED METHODS OF CONSTRUCTION ONLY. THE CONTRACTOR HAS THE OPTION OF SUBMITTING A PLAN OF HIS OWN DESIGN TO THE ENGINEER AND W.R.A. FOR APPROVAL. EROSION AND SEDIMENT CONTROL DETAILS ARE ESSENTIAL FOR THESE CONSTRUCTION OPERATIONS.
2. EXTREME CARE SHALL BE TAKEN TO PREVENT ANY DEBRIS FROM THE DEMOLITION FROM FALLING INTO THE STREAM. ANY DEBRIS WHICH FALLS INTO THE STREAM SHALL BE REMOVED IMMEDIATELY.
3. ALL EXCAVATED MATERIALS SHALL BE DISPOSED OF IN AN S.C.D. APPROVED DISPOSAL AREA OUTSIDE THE 100 YEAR FLOODPLAIN UNLESS OTHERWISE APPROVED ON THE PLANS BY THE W.R.A.
4. ALL DEWATERING OF THE CONSTRUCTION AREA SHALL BE PUMPED TO A DEWATERING BASIN PRIOR TO REENTERING THE STREAM.
5. SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED IN ACCORDANCE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN AND THE INSPECTING AUTHORITY APPROVES THEIR REMOVAL.
6. ALL DISTURBED AREAS SHALL BE TEMPORARILY STABILIZED WITHIN 7 DAYS OF THE INITIAL DISTURBANCE.
7. ALL CONSTRUCTION SHALL REMAIN WITHIN THE COUNTY'S RIGHT-OF-WAY LINE AND EASEMENT AREAS.
8. IN THE EVENT IT IS NECESSARY TO CROSS ANY STREAM DURING THE CONSTRUCTION PROCESS, THE CROSSING AS OUTLINED IN THE "1983 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN MARYLAND." THE CONTRACTOR SHALL OBTAIN A TEMPORARY WATERWAY CROSSING PERMIT FROM W.R.A. BY CONTACTING "WATERWAY PERMITS DIVISION" (301-974-2265). THE CONTRACTOR MUST RECEIVE APPROVAL FROM THE ENGINEER PRIOR TO SUBMITTING THE PERMIT APPLICATION.

CONSTRUCTION SEQUENCE

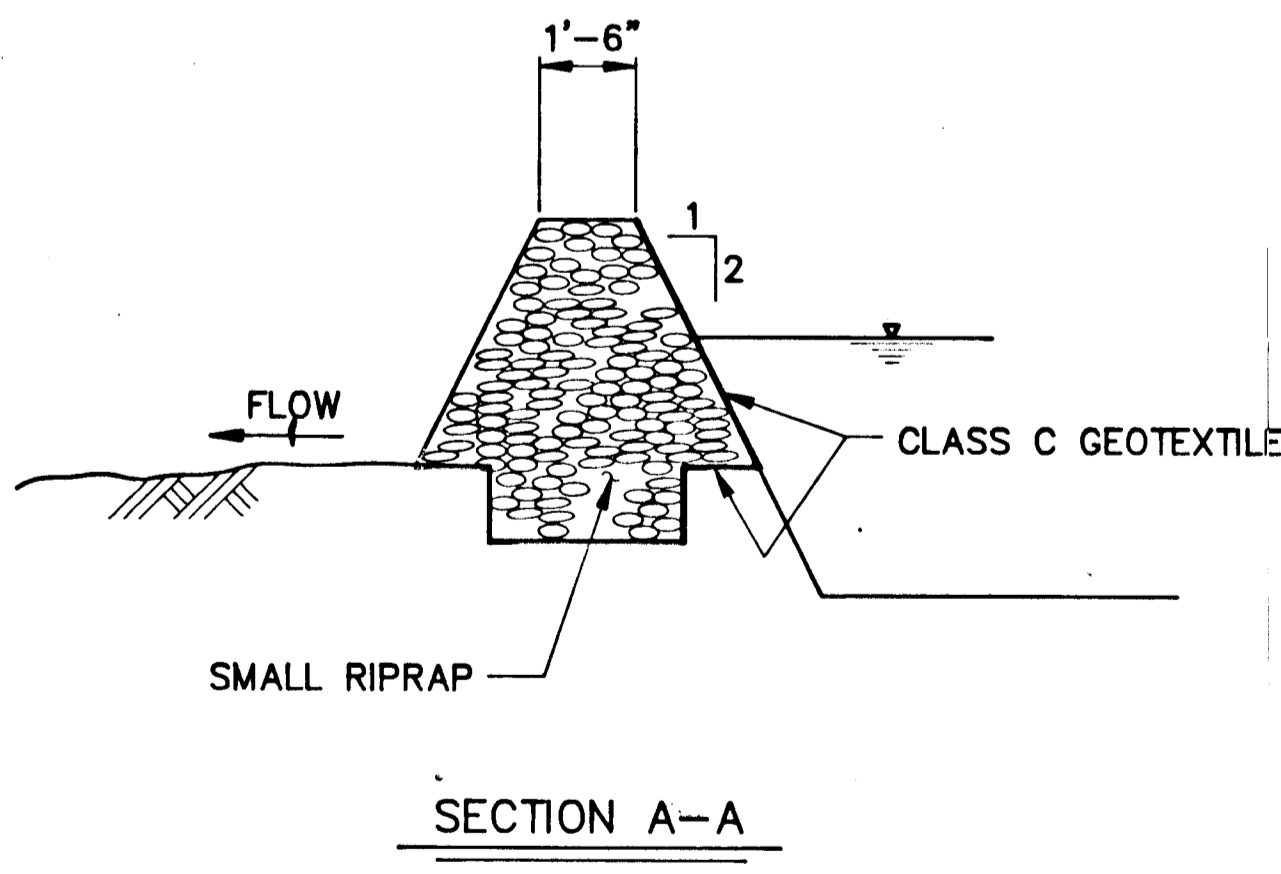
1. CLEAR CONSTRUCTION AREA OF ALL TREES AND BRUSH. SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO GRUBBING.
2. CONSTRUCT DEWATERING PIT.
3. INSTALL SILT FENCE.
4. CONSTRUCT DIVERSION DIKE AS SHOWN, PLACING THE SAND BAGS FROM UPSTREAM WORKING TOWARDS DOWNSTREAM.
5. CONSTRUCT STAGE I OF THE PROPOSED BRIDGE.
6. DIVERT TRAFFIC ON TO STAGE I CONSTRUCTION.
7. REMOVE EXISTING BRIDGE SUPERSTRUCTURE.
8. REMOVE PORTIONS OF EXISTING BRIDGE SUBSTRUCTURE.
9. CONSTRUCT STAGE II OF THE PROPOSED BRIDGE.
10. GRADE AND SHAPE STREAM BANKS AND CONSTRUCT GABION SLOPE PROTECTION.
11. BACKFILL DEWATERING PIT AND COMPLETE FINAL GRADING, TOP SOIL, SEEDING, ETC.
12. REMOVE DIVERSION DIKE STARTING FROM THE DOWNSTREAM WORKING TOWARDS THE UPSTREAM.
13. REMOVE SILT FENCES.
14. SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED AND THE INSPECTING AUTHORITY APPROVES THEIR REMOVAL. ALL GROUND CONTOURS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION UNLESS SPECIFICALLY APPROVED OTHERWISE.

MATERIAL SPECIFICATIONS

1. RIPRAP: RIPRAP SHALL CONSIST OF 4-8 INCH WASHED STONE OR GRAVEL.
2. FILTER FABRIC: THE FILTER CLOTH SHALL BE A WOVEN OR NONWOVEN FABRIC CONSISTING ONLY OF CONTINUOUS CHAIN POLYMER FILAMENTS OR YARNS OF POLYESTER. THE FABRIC SHALL BE INERT TO COMMONLY ENCOUNTERED CHEMICALS, HYDRO-CARBONS, MILDEW, AND ROT RESISTANT. NO. 6 STONE (AASHTO 57) MAY BE USED ON THE INNER-FACE FOR FILTERING INSTEAD OF FABRIC.
3. STRAWBALES: STRAWBALES SHALL MEET THE CRITERIA AS SPECIFIED IN THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
4. SANDBAGS: SANDBAGS SHALL CONSIST OF MATERIALS WHICH ARE RESISTANT TO ULTRA-VIOLET RADIATION, TEARING AND PUNCTURE AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL (I.E., SAND, FINE GRAVEL, ETC.).
5. SHEETING: SHEETING SHALL CONSIST OF POLYETHYLENE OR OTHER MATERIAL WHICH IS IMPERVIOUS AND RESISTANT TO PUNCTURE AND TEARING.

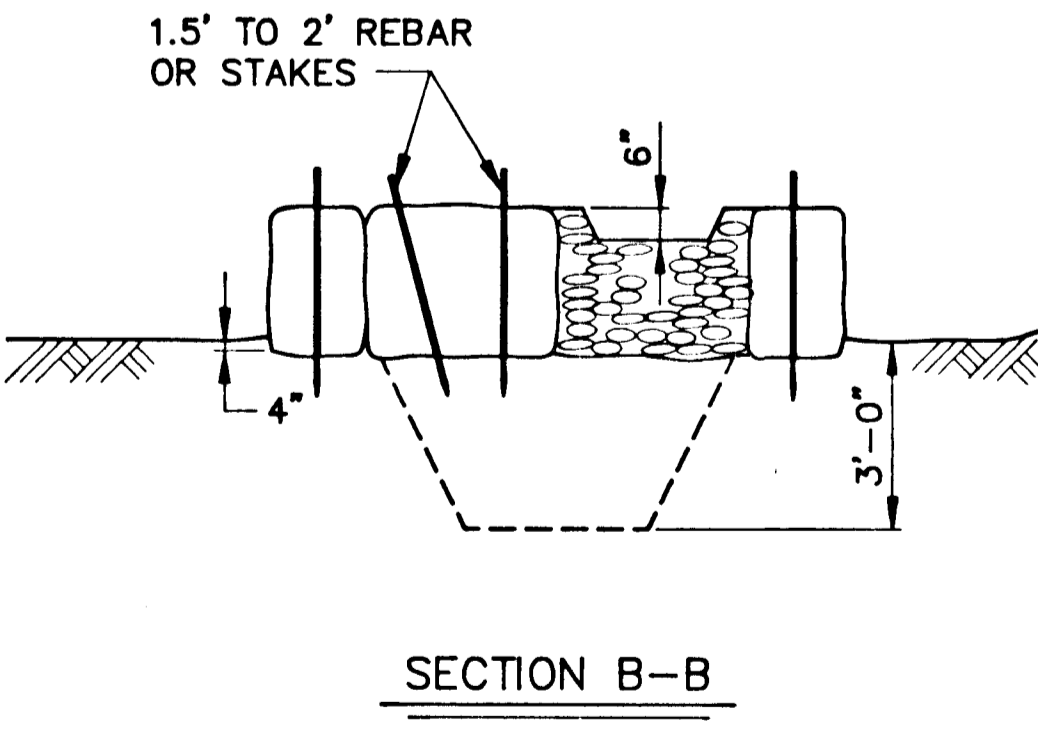


PLAN VIEW



SECTION A-A

DEWATERING BASIN DETAILS
NOT TO SCALE



SECTION B-B

DIVERSION DIKE DETAIL
NOT TO SCALE

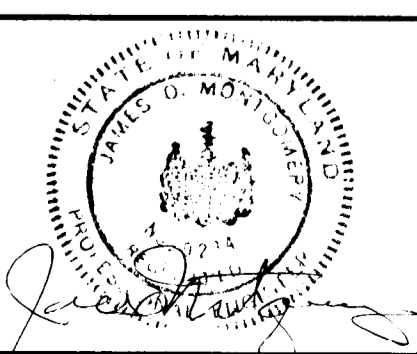
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Thomas W. Weiland 10/16/90
DIRECTOR OF PUBLIC WORKS DATE

William W. Weiland 10/16/90
CHIEF, BUREAU OF HIGHWAYS DATE

John M. Sanger 10/24/90
CHIEF, LAND DEVELOPMENT DIVISION DATE

WALLACE, MONTGOMERY & ASSOCIATES
1544 YORK ROAD
LUTHERVILLE, MARYLAND 21093
(301) 494-9093



DES: G.C.N.					
DRN: D.E.D.					
CHK: C.T.K.					
DATE: JULY, 1990	BY	NO.	REVISION	DATE	600' SCALE MAP NO. _____ GLO 'K' NO. _____

REPLACEMENT OF LARK BROWN ROAD BRIDGE
OVER DORSEY RUN
EROSION AND SEDIMENT CONTROL PLAN
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 22 OF 22